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## **APPENDIX 2**

### **TRANSPORTATION AND TRAFFIC STUDY**

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# Columbia Way Environmental Assessment Transportation and Traffic Study Report

Final Report

April 30, 2021

Prepared for:





April 30, 2021

RVA 195072

Arash Olia, Ph.D., P.Eng.  
Acting Manager, Transportation  
Town of Caledon  
6311 Old Church Rd,  
Caledon, ON  
L7C 1J6

**Attention: Arash Olia, Ph.D., P. Eng., Manager, Transportation Engineering**

Re: Columbia Way Environmental Assessment  
Transportation and Traffic Study FINAL Report

R.V. Anderson Associates Limited (RVA) was retained by the Town of Caledon (Town) to undertake an Environmental Assessment (EA) for the Columbia Way corridor to identify and develop required corridor improvements in response to existing and future projected needs.

RVA has undertaken a Transportation and Traffic Study to analyze the existing and future needs of the corridor, including its intersections and options for the accommodation of active transportation facilities into the preferred design.

RVA is pleased to submit herein our Transportation and Traffic Study Report, presenting our methodology, analysis, identified opportunities for improvement, and recommendations with respect to transportation operations and safety along the study area corridor.

If there is any query related to this report, please feel free to contact the undersigned at 905-818-2542 or by email at [AMildenberger@rvanderson.com](mailto:AMildenberger@rvanderson.com).

Yours very truly,

**R.V. ANDERSON ASSOCIATES LIMITED**

Adam Mildenberger, B.A., C.E.T.  
Transportation Planner

Nick Palomba, P.Eng.  
Manager, Transportation

AM:NP:SY  
Encls. Transportation and Traffic Study Report



# Columbia Way Environmental Assessment Transportation and Traffic Study Report

Final Report

Town of Caledon

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**RVA 195072**  
**April 30, 2021**

## Columbia Way Environmental Assessment

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## EXECUTIVE SUMMARY

As part of the Municipal Class Environmental Assessment (EA) that R. V. Anderson Associates Limited (RVA) is undertaking for the Columbia Way corridor, RVA has completed this Transportation and Traffic Study Report for existing and future conditions.

Based on the findings of this Study, the following improvements are recommended:

1. Extend the existing storage length for the westbound left-turn on Columbia Way at Regional Road 50 from 30 metres to approximately 90 metres to mitigate queue spillback during peak hours.
2. Introduce an urban cross-section along Columbia Way which will eliminate the student pick-up/drop-off occurring on the shoulder at the St. Michael Catholic Secondary School.
3. Consider an auxiliary left-turn lane along Columbia Way in the eastbound direction at the school's primary inbound access (centre driveway) to alleviate some of the noted congestion during peak school periods.
4. Introduce auxiliary left-turn lanes on all four approaches at the intersection of Columbia Way and Kingsview Drive, when the intersection is re-constructed to accommodate the new north approach. Introducing left-turn lanes for the existing east and south approaches are beneficial interim measures to mitigate some existing and future identified queuing, that may be considered by the Town.
5. Introduce additional chevron signs (Wa-9), maintain the yellow painted centreline, consider implementing rumble strips along the centreline in advance and through the S-bend, consider partial/full illumination, and cut-back the encroaching vegetation, at the S-bend in order to improve multi-modal road user safety.
6. Introduce Slippery When Wet warning signs (Wc-5) and Deer Crossing signs (Wc-11) approximately 150 metres west of Caledon King Townline (facing westbound traffic) and approximately 115 metres east of Forest Gate Avenue (facing eastbound traffic), per OTM guidelines (approximately 225 metres in advance of the wooded area and S-bend in the road alignment).
7. Introduce Be Prepared to Stop warning signage with flashing beacons approximately 225 metres in advance of the intersection, facing eastbound traffic, per OTM guidelines.
8. The Town complete a follow-up Spot Speed Study approximately one year after completion of the road improvements, in order to re-assess speed compliance and determine if additional traffic calming features are warranted.
9. Construct 3.0-metre-wide paved multi-use path with raised barrier curb and grassy boulevard between the path and roadway, along the entire southern side of Columbia

- Way from Regional Road 50 to Forest Gate Avenue, for shared accommodation of pedestrian and cyclists.
10. Construct a signalized midblock pedestrian crossing on Columbia Way, at the neighbourhood trailhead (an extension of the Humber Valley Heritage Side Trail) approximately 280 metres west of Westchester Boulevard, with a multi-use path connection on the north side connecting the crossing to the school.
  11. Consider the introduction of a single lane roundabout at the intersection of Columbia Way and Mount Hope Road.

## 1.0 INTRODUCTION

R.V. Anderson Associates Limited (RVA) was retained by the Town of Caledon (Town) to undertake an Environmental Assessment (EA) for the Columbia Way corridor, from Highway 50 (western extent) to Caledon King Townline South (eastern extent), to identify and develop required corridor improvements in response to existing and future projected needs.

In support of the EA, RVA has undertaken this Transportation and Traffic Study, to analyze the existing and future needs of the corridor, including its intersections and active transportation facilities from multi-modal operational and safety perspectives, and propose recommended improvement options to be incorporated into the preferred preliminary design. This report presents our methodology, analysis, identified opportunities for improvement, and recommendations with respect to transportation operations and safety along the study area corridor.

## 2.0 STUDY AREA

### 2.1 Adjacent Lands and Existing Development

The surrounding area includes primarily residential development south of Columbia Way from Regional Road 50 to just over half a kilometer east of Mount Hope Road. St. Michael Catholic Secondary School is situated on the north side of Columbia Way just east of Regional Road 50, and the remaining surrounding lands are predominantly agricultural uses, greenfield, and woodlands. An aerial of the surrounding lands is shown in **Figure 1**.



Figure 1: Aerial of Study Area

### 2.1.1 Roadway Configuration

Columbia Way is an east-west oriented collector road under the jurisdiction of the Town of Caledon, with a posted regulatory speed limit of 40 km/h in the vicinity of the school and 60 km/h for the remainder of the corridor.

The road has noticeable curves in its horizontal alignment, with a moderate curve between Regional Road 50 and Mount Hope Road, and a significant s-curve between Forest Gate Avenue and Caledon-King Townline as shown in **Figure 2**. Its vertical alignment is generally level between Regional Road 50 and Mount Hope Road, with a noticeable downgrade travelling east from Mount Hope Road through the s-curve, followed by a significant upgrade to Caledon-King Townline.



Figure 2: Columbia Way approaching S-curve

Columbia Way has a rural cross-section with one lane per direction as shown in **Figure 3**, no-on-street parking, gravel shoulders of varying width throughout the corridor, and shared hydro and illumination poles predominantly on the north side of the roadway. Guide rail systems are incorporated into the right-of-way and school zone signage is installed in approach to St. Michael Catholic Secondary School from both directions.



Figure 3: Columbia Way rural cross-section

Columbia Way is not a designated truck route, with truck traffic restricted at Regional Road 50 and at Caledon-King Townline using regulatory signage.

The only auxiliary turn lane along the corridor is the westbound left-turn lane on Columbia Way at Regional Road 50, having an approximate 30 metre storage and 90 metre taper length.

### 2.1.2 Active Transportation

Active transportation facilities within the corridor include sidewalk on the south side from Regional Road 50 to Kingsview Drive and from Westchester Boulevard to Forest Gate Avenue, and gravel path on the south side from Kingsview Drive to Westchester Boulevard. With generally no development situated on the north side of Columbia Way, active transportation facilities are generally confined to the south side of the road, with designated and signal controlled pedestrian

crossings provided at the signalized intersection at Regional Road 50 and at Kingsview Drive, providing a pedestrian connection across Columbia Way to the high school.

There is currently a north-south path network south of Columbia Way, with a connection to Columbia Way approximately midway between the school and Westchester Boulevard, and multiple connections to the surrounding residential neighbourhoods and their respective local roads.

There are no designated bicycle facilities within the study area road network.

### **2.1.3 Transit Operations**

GO Transit operates Route #38 (Malton GO) on Regional Road 50, with near side stops in both the northbound and southbound directions at the intersection of Regional Road 50 and Columbia Way. Connections are provided to Mayfield Road at Regional Road 50 Park n Ride, Highway 7 at Regional Road 50, and at the Malton GO Station. GO buses currently depart from the southbound stop on weekdays at 5:04 a.m. and 5:59 a.m. and arrive at the northbound stop on weekdays at 5:02 p.m. and 7:02 p.m.; service is not provided on weekends.

## **2.2 Study Area Intersections**

The study area is the Columbia Way corridor from its intersection at Regional Road 50 (western extent) to its intersection at Caledon King Townline South (eastern extent), and consists of the following study area intersections:

### **2.2.1 Regional Road 50 (RR 50) at Columbia Way**

The intersection of Regional Road 50 (RR50) at Columbia Way is signalized. The north and south approaches consist of a left-turn lane, right-turn lane and through lane. The east approach consists of one left-turn lane and one shared through/right-turning lane. The west approach consist of one shared through/left/right-turn lane.

### **2.2.2 Kingsview Drive at Columbia Way**

The three-legged intersection of Columbia Way at Kingsview Drive is signalized. The south approach consists of one shared left/right-turning lane. The east approach consists of one shared through/left-turn lane. The west approach consists of one shared through/right-turn lane.

### **2.2.3 Westchester Boulevard at Columbia Way**

The three-legged intersections of Westchester Boulevard and Forest Gate Avenue at Columbia Way are stop-controlled. The east approaches consist of one shared through/left-turning lane, the west approaches consist of one shared through/right-turning lane and the south approaches consists of one shared left/right-turn lane.

## 2.2.4 Mount Hope Road at Columbia Way

The four-legged intersection of Mount Hope Road at Columbia Way is stop-controlled. Each approach consists of one shared left/through/right-turn lane.

## 2.2.5 Caledon King Townline South at Columbia Way

The three-legged intersection of Caledon King Townline at Columbia Way is stop-controlled. The south approach consists of one shared through/left-turn lane, the west approach consists of a shared left/right-turn lane while the north approach consists of a shared through/right-turn lane.

# 3.0 TRAFFIC DEVELOPMENT

## 3.1 Turning Movement Counts

Turning Movement Counts (TMCs) were collected at all study area intersections on weekdays in September and December 2019, and are provided in **Appendix A**. Weekday counts were conducted from 7:00 a.m. to 10:00 a.m., 11:00 a.m. to 1:00 p.m., and 3:00 p.m. to 6:00 p.m. The counts captured the intersection movements of all vehicles (cars, trucks, bicycles) and pedestrian crossings at the intersections.

Based on a review of the TMCs, the weekday a.m. and p.m. peak hours were determined to be generally from 7:45 a.m. to 8:45 a.m. and from 3:00 p.m. to 4:00 p.m., although the Forest Gate Avenue intersection had peak hours starting at 7:30 a.m. and 3:45 p.m., and the Caledon King Townline South intersection had peak hours starting at 7:15 a.m. and 4:00 p.m.

A Turning Movement Diagram (TMD) for the 2019 intersection turning movement volumes during the weekday a.m. and p.m. peak hours is shown in **TMD-1**, provided in **Appendix B**.

## 3.2 Corridor Growth

A Traffic Growth Projections Memo was provided to and approved by Town Staff for the basis of the analysis, presenting our approach and findings for projecting existing 2020 and future 2022 and 2032 intersection volumes based on the 2019 counts. Future intersection volumes have been forecasted by applying a growth rate of 2.0% per annum for volumes along Columbia Way and a growth rate of 2.5% per annum along Regional Road 50 and Caledon King Townline South. Since the intersecting side-streets along Columbia Way service generally built-out subdivisions, a nominal growth rate of 0.5% per annum was assumed for entering/exiting vehicles.

TMDs illustrating 2020, 2022, and 2032 intersection turning movement volumes due to corridor growth along (exclusive of planned background developments along the study corridor) during the weekday a.m. and p.m. peak hours are shown in **TMD-2**, **TMD-3**, and **TMD-4**, respectively, provided in **Appendix B**.

### 3.3 Background Developments

One background development has been identified for inclusion in the future conditions analysis; based on the current state of development for the subject site, it is anticipated it will not be built-out by the 2022 horizon year, but will likely be completed by 2032. Therefore, traffic volumes estimated to be generated by the site will be captured in the 2032 horizon year scenario only.

The completed and approved Traffic Impact Study report for the background development has been provided by the Town and is dated February 2017. The development is located on the northern side of Columbia Way, with an access opposite Kingsview Drive (adjacent to the St. Michaels Catholic Secondary School) and Highway 50. It will consist of a commercial/retail development with a total GFA of 74,885 ft<sup>2</sup> and is projected to generate a total of 196 trips during the weekday a.m. peak hour and 396 trips during the weekday p.m. peak hour.

A TMD illustrating the background development site trips assigned to the study area intersections during the weekday a.m. and p.m. peak hours is shown in **TMD-5**, provided in **Appendix B**.

### 3.4 Projected 2032 Intersection Volumes

The 2032 weekday a.m. and p.m. peak hour intersection volumes have been estimated by combining the 2032 corridor growth projections and the background development traffic as discussed above. A TMD illustrating the 2032 intersection volumes during the weekday a.m. and p.m. peak hours is shown in **TMD-6**, provided in **Appendix B**.

## 4.0 TRAFFIC OPERATIONS

### 4.1 Intersection Analysis Methodology

The industry standard Synchro macroscopic traffic analysis software was utilized to analyse the intersections. Key performance measures such as Level of Service (LOS), volume-to-capacity ratio (v/c ratio), and 95<sup>th</sup> percentile queuing were reported, and are defined below:

- **Average vehicle control delay** is used to characterize LOS for the entire intersection, an approach, or movement. Delay quantifies the variations in travel time and is also a surrogate measure of driver discomfort and fuel consumption.
- **V/c ratio** quantifies the degree to which the capacity of each signal phase is utilized by a defined lane group.
- **95<sup>th</sup> percentile queue** is the queue length which is expected to be exceeded only 5% of the time; it is common practice to identify preferred storage length requirements for auxiliary turn lanes at signalized intersections based on estimated peak hour 95<sup>th</sup> percentile queuing.

**Table 1** identifies the control delay thresholds (seconds of delay per vehicle) for each LOS based on Highway Capacity Manual (HCM) methodology.

*Table 1: Characteristics of Level of Service at Intersections*

LEVEL OF SERVICE (LOS)	CONTROL DELAY (seconds / vehicle)	
	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
<b>A</b>	≤ 10	≤ 10
<b>B</b>	> 10 to 20	> 10 to 15
<b>C</b>	> 20 to 35	> 15 to 25
<b>D</b>	> 35 to 55	> 25 to 35
<b>E</b>	> 55 to 80	> 35 to 50
<b>F</b>	> 80	> 50

Existing signal timing plans for the two signalized study area intersections were provided by the Town for use in the analysis; the signal timing plans are provided in **Appendix C**.

#### 4.2 Intersection Analysis Results

The following sub-sections present the intersection analysis results for the study area intersections during the weekday a.m., and p.m. peak hours under existing and future conditions. The provided signal timing plans were utilized in the existing conditions analysis scenarios, whereas optimized timing plans (optimization of Total Splits in order to reduce overall delay) were applied to future conditions analysis scenarios, were required.

The HCM output reports from the intersection analysis is provided in **Appendix D**.

### 4.2.1 Regional Road 50 at Columbia Way

Table 2: Regional Road 50 at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	EBLTR	0.03	C	<1 veh	0.03	C	<1 veh	-
	WBTR	0.66	D	<b>73m</b>	0.29	C	15m	30m
	WBL	0.39	C	14m	0.17	C	<1 veh	-
	NBL	0.01	B	<1 veh	-	B	<1 veh	120m
	NBT	0.20	A	37m	0.51	B	86m	-
	NBR	0.17	A	9m	0.25	B	9m	140m
	SBL	0.25	B	28m	0.20	C	13m	75m
	SBT	0.45	B	91m	0.24	B	35m	-
SBR	0.00	A	<1 veh	-	A	<1 veh	25m	
Future 2022	EBLTR	0.02	B	<1 veh	0.03	C	<1 veh	-
	WBL	0.50	B	<b>44m</b>	0.30	C	16m	30m
	WBTR	0.35	B	10m	0.17	C	<1 veh	-
	NBL	0.01	B	<1 veh	0.00	B	<1 veh	120m
	NBT	0.28	A	32m	0.53	B	90m	-
	NBR	0.23	A	9m	0.26	B	9m	140m
	SBL	0.31	B	25m	0.22	C	14m	75m
	SBT	0.62	B	81m	0.24	B	37m	-
SBR	0.01	A	<1 veh	0.00	A	<1 veh	25m	
Future 2032	EBLTR	0.03	B	<1 veh	0.05	C	8m	-
	WBL	0.66	C	<b>80m</b>	0.64	D	<b>89m</b>	30m
	WBTR	0.38	B	12m	0.24	C	<1 veh	-
	NBL	0.02	C	<1 veh	0.01	B	<1 veh	120m
	NBT	0.43	B	72m	0.81	C	180m	-
	NBR	0.33	B	13m	0.37	B	11m	140m
	SBL	0.62	C	54m	0.60	E	40m	75m
	SBT	0.84	C	192m	0.34	B	51m	-
SBR	0.01	B	<1 veh	0.00	A	<1 veh	25m	

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with most movements not exceeding LOS “C” (20-35 seconds of delay), and no critical queueing concerns. Only a few movements reported LOS “D” (35-55 seconds of delay), and one movement LOS “E” (55-80 seconds of delay) in the 2032 horizon year; this is not considered a major concern requiring mitigation.

Under existing conditions, the westbound left-turn movement is reporting a 95<sup>th</sup> percentile queue of 73 metres during the weekday a.m. peak hour. Given provided storage for this left-turn lane is approximately only 30 metres, it is expected that some queue spillback may be occurring during the weekday p.m. peak hour. This is not overly concerning, given this is the 95<sup>th</sup> percentile queue (only occurs 5% of the time during the peak hour), with the average queue reported at 46 metres.

Under future 2022 conditions with additional corridor growth, the queue is expected to be noticeably reduced to more acceptable levels with the implementation of signal timing

optimizations. The 95<sup>th</sup> percentile queue is reported at only 44 metres, with the average queue well within the storage capacity at 22 metres.

Under future 2032 conditions with further corridor growth and additional traffic from the adjacent commercial development, the 95<sup>th</sup> percentile queue is expected to increase to approximately 80 metres and 89 metres (generally consistent with existing conditions) during the weekday a.m. and p.m. peak hours, respectively, despite signal timing optimizations. The average queue is reported at 50 metres and 35 metres during the weekday a.m. and p.m. peak hours, respectively.

It is common practice to recommend storage lengths for auxiliary turn lanes at signalized intersections be sufficiently long so as to accommodate the 95<sup>th</sup> percentile queue during peak hours. Therefore, it is recommended the existing storage length be increased from 30 metres to approximately 90 metres in order to mitigate the projected queue spillback during peak hours.

#### 4.2.2 Kingsview Drive at Columbia Way

Table 3: Kingsview Drive at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	EBTR	0.27	A	51m	0.31	B	69m	-
	WBTL	0.48	A	111m	0.22	B	44m	-
	NBLTR	0.47	C	29m	0.17	C	9m	-
Future 2022	EBTR	0.28	A	54m	0.33	B	72m	-
	WBTL	0.50	A	120m	0.23	B	46m	-
	NBLTR	0.48	C	29m	0.18	C	10m	-
Future 2032	EBTR	0.39	B	71m	0.57	C	101m	-
	WBTL	0.74	C	177m	0.47	C	72m	-
	NBLTR	0.82	E	62m	0.45	D	40m	-
	SBTLR	0.39	D	26m	0.53	D	51m	-
Future 2032 (With Left-Turning Lanes)	EBL	0.04	C	5m	0.06	C	8m	15m
	EBTR	0.45	C	84m	0.55	C	93m	-
	WBL	0.38	C	39m	0.12	C	11m	15m
	WBTR	0.58	C	118m	0.42	C	61m	-
	NBL	0.13	D	21m	0.13	C	17m	15m
	NBTR	0.42	D	24m	0.28	C	23m	-
	SBL	0.08	D	12m	0.14	C	19m	15m
SBTR	0.25	D	17m	0.46	D	29m	-	

The 2032 future conditions analysis scenario reflects the future introduction of the north approach at the intersection, providing an access to the planned commercial development as described in this report.

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with most movements not exceeding LOS “D” (35-55 seconds of delay), and no critical queuing concerns. The northbound approach reported

LOS “E” (55-80 seconds of delay) in the 2032 horizon year, although this is not considered a major concern requiring mitigation.

The westbound approach is currently reporting a 95<sup>th</sup> percentile queue of 111 metres (average queue of 72 metres) during the weekday a.m. peak hour, which is reported to grow to approximately 177 metres (average queue of 119 metres) by the 2032 horizon year. These queue lengths are extending to the school driveways to the east, which may contribute to periods of congestion fronting the school during the weekday a.m. peak hour, as has been reported by the public under existing conditions.

Furthermore, the 95<sup>th</sup> percentile queue for the northbound left-turn lane is reported to grow to approximately 62 metres during the a.m. peak hour by the 2032 horizon year, extending to the Coleman Court / Taylorwood Avenue intersection to the south.

Under ultimate future conditions, with build-out of the commercial development to the north, it is expected left-turn lanes will be introduced for the north and west approaches, accommodating outbound and inbound site traffic, respectively. This creates an opportunity to introduce opposing left-turn lanes in the east and south approaches, due to the need for proper lane alignment through the intersection, as well as in response to the projected queueing concerns previously discussed.

A sensitivity analysis was undertaken to assess the operational impacts of introducing auxiliary left-turn lanes at all approaches for the 2032 horizon year. As shown in the table above, queue lengths are expected to noticeably improve at the subject intersection at the 2032 horizon year with the introduction of left-turn lanes, likely also reducing the levels of congestion on Columbia Way fronting the school.

It is recommended that left-turn lanes be introduced on all four approaches at the intersection of Columbia Way and Kingsview Drive, when the intersection is re-constructed to accommodate the new north approach. Interim measures, such as introducing left-turn lanes for the exiting east and south approaches, are also an option for consideration by the Town.

### 4.2.3 Westchester Boulevard at Columbia Way

Table 4: Westchester Boulevard at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	NBLR	0.39	C	<1 veh	0.17	B	<1 veh	-
	WBL	0.05	A	<1 veh	0.02	A	<1 veh	-
Future 2022	NBLR	0.43	C	<1 veh	0.18	B	<1 veh	-
	WBL	0.05	A	<1 veh	0.02	A	<1 veh	-
Future 2032	NBLR	0.55	D	<1 veh	0.23	B	<1 veh	-
	WBL	0.05	A	<1 veh	0.02	A	<1 veh	-

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with movements not exceeding LOS “D” (25-35 seconds of delay), and no critical queueing concerns.

### 4.2.4 Mount Hope Road at Columbia Way

Table 5: Mount Hope Road at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	NBLTR	0.15	B	<1 veh	0.07	B	<1 veh	-
	EBL	0.03	A	<1 veh	0.04	A	<1 veh	-
	WBL	-	A	<1 veh	0.01	A	<1 veh	-
	SBLTR	0.18	B	<1 veh	0.06	B	<1 veh	-
Future 2022	NBLTR	0.16	B	<1 veh	0.07	B	<1 veh	-
	EBL	0.03	A	<1 veh	0.05	A	<1 veh	-
	WBL	-	A	<1 veh	0.02	A	<1 veh	-
	SBLTR	0.19	B	<1 veh	0.07	B	<1 veh	-
Future 2032	NBLTR	0.23	C	<1 veh	0.09	C	<1 veh	-
	EBL	0.04	A	<1 veh	0.05	A	<1 veh	-
	WBL	-	A	<1 veh	0.02	A	<1 veh	-
	SBLTR	0.21	B	<1 veh	0.08	B	<1 veh	-

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with movements not exceeding LOS “C” (15-25 seconds of delay), and no critical queueing concerns.

#### 4.2.5 Forest Gate Avenue at Columbia Way

Table 6: Forest Gate Avenue at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	NBLR	0.30	B	<1 veh	0.11	B	<1 veh	-
	WBL	0.01	A	<1 veh	0.04	A	<1 veh	-
Future 2022	NBLR	0.32	B	<1 veh	0.11	B	<1 veh	-
	WBL	0.01	A	<1 veh	0.04	A	<1 veh	-
Future 2032	NBLR	0.38	C	<1 veh	0.14	B	<1 veh	-
	WBL	0.01	A	<1 veh	0.05	A	<1 veh	-

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with movements not exceeding LOS “C” (15-25 seconds of delay), and no critical queueing concerns.

#### 4.2.6 Caledon King Townline South at Columbia Way

Table 7: Caledon King Townline South at Columbia Way - Intersection Analysis Results

SCENARIO	MOVEMENT	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
Existing 2020	NBLR	0.10	A	<1 veh	0.08	A	<1 veh	-
	EBLR	0.49	C	<1 veh	0.21	B	<1 veh	-
Future 2022	NBLR	0.10	A	<1 veh	0.08	A	<1 veh	-
	EBLR	0.53	C	<1 veh	0.22	B	<1 veh	-
Future 2032	NBLR	0.17	A	<1 veh	0.14	A	<1 veh	-
	EBLR	0.89	<b>F (55s)</b>	9m	0.42	C	<1 veh	-

The intersection is expected to operate acceptably under existing and future conditions, with ample reserve capacity, acceptable levels of delay with most movements not exceeding LOS “C” (15-25 seconds of delay), and no critical queueing concerns.

The eastbound approach is reporting LOS “F” (55 seconds) of delay during the a.m. peak hour in 2032, however 95<sup>th</sup> percentile queue is considered nominal at only 1-2 vehicles and the v/c ratio indicates the movement is not at-capacity. During the a.m. peak hour, there is projected to be a sizeable southbound volume of approximately 600 vehicles on Caledon King Townline South travelling through the intersection, with approximately 283 vehicles turning right from Columbia Way onto Caledon King Townline South that are “gap seeking” the southbound flow. Given the arrival pattern of southbound vehicles on Caledon King Townline South is likely random (with no traffic signals to the north to create traffic platooning and more sizeable gaps in the traffic flow) it is anticipated completing the right-turn movement from Columbia Way will become increasingly

challenging if volumes continue to increase as per the 2032 projections, with delays of almost 1 minute as indicated in the modelling.

### 4.3 Roundabout Operations

As discussed in Section 6.2 of this report, there are potential opportunities to introduce a roundabout(s) along the corridor as methods to affect driver behaviour and manage operating speeds.

Therefore, roundabout capacity analysis has been completed for the following candidate intersections:

- Westchester Boulevard at Columbia Way;
- Mount Hope Road at Columbia Way; and
- Forest Gate Avenue at Columbia Way.

Roundabout capacity analysis was conducted for each intersection utilizing the Arcady roundabout capacity analysis software. Similar to the signalized capacity analysis, v/c ratios, level of service, and 95<sup>th</sup> percentile queues are reported based on HCM methodology; the results are presented in **Table 8**. The Arcady output reports for the roundabout analysis are provided in **Appendix H**.

Table 8: Arcady Roundabout Analysis - 2032 Horizon Year

INTERSECTION	APPROACH	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (VEH)	V/C	LOS	95TH % QUEUE (VEH)
Westchester Boulevard at Columbia Way	Westbound	0.45	A	2 veh	0.19	A	1 veh
	Eastbound	0.27	A	1veh	0.36	A	3 veh
	Northbound	0.20	A	1 veh	0.12	A	1 veh
Mount Hope Road at Columbia Way	Westbound	0.31	A	2 veh	0.18	A	1 veh
	Southbound	0.13	A	1 veh	0.04	A	1 veh
	Eastbound	0.27	A	1 veh	0.33	A	2 veh
	Northbound	0.07	A	1 veh	0.04	A	1 veh
Forest Gate Avenue at Columbia Way	Westbound	0.19	A	1 veh	0.19	A	1 veh
	Eastbound	0.25	A	1 veh	0.25	A	1 veh
	Northbound	0.21	A	1 veh	0.08	A	1 veh

The results of the roundabout capacity analysis indicate that all potential roundabouts are anticipated to operate acceptably with substantial reserve capacity, low levels of delay (less than 10 seconds delay), and negligible levels of queueing. This roundabout capacity analysis indicates that roundabouts at all three intersection locations are anticipated to operate acceptably during peak hours in the 2032 horizon year.

In reviewing the spot speed data (as evaluated in more detail in Section 6.2 of this report), the Mount Hope Road intersection is anticipated to deliver the most effective speed reductions as it

is centrally located within the study corridor where approaching speeds have the greatest propensity for surpassing the posted speed limit. Introducing a roundabout at this intersection would result in reduced speeds both entering and exiting the roundabout and approaching the school area to the west and S-bend the east.

Furthermore, introducing the roundabout at this intersection is anticipated to result in lower operating speeds in the vicinity of the proposed pedestrian crossing at the trailhead to the west. Although introducing a pedestrian facility (i.e., multi-use path) along the north side of Columbia Way is currently only proposed between the school and the proposed pedestrian crossing at the trailhead, the proposed roundabout at Mount Hope Road provides an opportunity for an additional future crossing location across Columbia Way.

#### **4.4 School Traffic Operations**

Based on consultation with school staff, short periods of traffic congestion are experienced along Columbia Way fronting the school during peak school arrival/dismissal periods.

There are frequent incidents of vehicles stopping in the gravel shoulder on the south side of Columbia Way to pick-up/drop-off (PUDO) students, which is considered both a safety and operational concern. A potential mitigation measure will be the introduction of an urban cross-section, which will eliminate the PUDO occurring in the shoulder thus improving operations and safety fronting the school.

Furthermore, there has been concerns raised over vehicles turning left into the school from Columbia Way being queued on the roadway and as a result blocking eastbound through traffic on Columbia Way.

Once the future commercial development at the northeast corner of the intersection of Columbia Way at Regional Road 50 is built-out, it is planned that the new north approach opposite Kingsview Drive will serve that commercial development and likely the school as well. This will most likely result in a re-assessment and reconfiguration of the school's accesses and site layout, which may provide opportunities to improve operations on Columbia Way through access consolidation and/or reconfiguration.

As an additional potential improvement option, an auxiliary left-turn lane along Columbia Way at the school's primary inbound access (centre driveway) may alleviate some of noted disruptions to through traffic during peak school periods.

## 5.0 TRAFFIC SIGNALS

### 5.1 Signal Operations

As per the results of the intersection capacity analysis, minor improvements (i.e. signal timing optimizations) to the existing signalized intersections on Columbia Way may be required to maintain acceptable operating conditions under the future horizon years. It is recommended the Town review intersection operations on a reoccurring basis to identify opportunities to optimize signal timings in response to potential changing travel patterns and/or projected growth in demand. Beyond the recommended extension of the storage length for the westbound left-turn movement on Columbia Way at Regional Road 50, additional geometric improvements are not recommended at the study area intersections based on the results of the intersection capacity analysis.

### 5.2 Signal Warrants

Although the results of the intersection analysis indicate acceptable operating conditions at the unsignalized study area intersections under future conditions, RVA has completed Ontario Traffic Manual (OTM) signal warrants for each unsignalized study area intersection using projected 2032 intersection volumes, to confirm if signals will be warranted based on OTM warrant methodology.

The results of the signal warrants are shown below in **Table 9**, indicating that signals are not warranted at the unsignalized study area intersections due to insufficient peak hour intersection volumes. As per OTM methodology, the required threshold is increased from 100% to 120% due to the increased uncertainty associated with peak hour volume projections for a future horizon year. Completed signal warrant sheets are provided in **Appendix E**. Further details concerning the signal warrant procedure can be found in *OTM Book 12 Traffic Signals*.

Table 9: OTM Signal Warrants

INTERSECTION	JUSTIFICATION 1 (MINIMUM VEHICLE VOLUME)			JUSTIFICATION 2 (DELAY TO CROSS TRAFFIC)		
	1A	1B	120% SATISFIED? <sup>1</sup>	2A	2B	120% SATISFIED? <sup>1</sup>
Westchester Boulevard at Columbia Way	57%	29%	NO	50%	135%	NO
Mount Hope Road at Columbia Way	50%	26%	NO	41%	113%	NO
Forest Gate Avenue at Columbia Way	38%	16%	NO	33%	122%	NO
Caledon King Townline at Columbia Way	80%	51%	NO	62%	183%	NO

1. The lowest sectional percent (1A or 1B, 2A or 2B) governs the entire warrant.

## 6.0 TRAFFIC SAFETY AUDIT & TRAFFIC CALMING REVIEW

The following sections present the methodology and findings from the completed Traffic Safety Audit and Traffic Calming Review for the study area corridor.

### 6.1 Traffic Safety Audit

#### 6.1.1 Traffic Safety Audit Methodology

The field investigation was a key component of our assessment, allowing the project team to review the site under typical operating conditions. The following elements were reviewed within the study area:

**Conformance, Consistency, and Condition:** Relating to traffic control devices (signs, pavement markings etc.), safety devices (guide rail systems, end treatments etc.), and all other roadway features present within the roadway environment on the day of the field investigation, including physical evidence of traffic collisions.

**Roadway Geometrics and Geometric Characteristics:** Relating to horizontal and vertical alignment (visibility all for road users including sight line review as required); cross-section, lane configuration, and lane continuity; pavement and shoulder condition as well as identification of any pavement edge drop-offs; driveway / side street accessibility; and corner clearance and visibility.

**Traffic Control Devices:** Relating to signs, pavement markings, and other related devices.

**Safety Devices:** Relating to guide rail systems and end treatments within the roadway clear zone; and potential unprotected in-road and / or roadside hazards.

**Illumination and Delineation Devices:** Relating to roadway illumination; and reflective guidance devices (guideposts, post mounted delineators, etc.).

**Site Operations and Road User Interactions:** Relating to road user operations and interactions from the perspective of all users; human factors (positive guidance principals); traffic speed and classification; and traffic patterns and behaviour from the perspective of all road users.

**Positive Guidance Review:** Relating to positive guidance of existing devices.

A list of engineering measures was developed based on issues identified through our field investigation and review of applicable Town and industry documents, engineering judgement, and our Project Team's experience conducting transportation and road safety assessments for similar sized municipal clients in a similar rural context.

Historical collision data for all study area intersections from 2015 to 2019 inclusively, was provided by the Town and analyzed. The data includes key characteristics of the reported collisions, based

on information recorded in Motor Vehicle Accident Reports (MVARs), providing an opportunity to analyze the data for historical trends or patterns that could be contributing to each intersection’s respective collision history.

### 6.1.2 Traffic Safety Audit Findings

This section presents the opportunities for improvement identified during the field investigation and collision data analysis.

A total of 32 collisions have been reported over the five-year period within the study area corridor. Collision data sheets summarizing key characteristics of the historical collision trends are provided in **Appendix F**.

**Table 10** summarizes the key collision characteristics identified at each intersection and midblock segment based on the assessment of collision data.

*Table 10: Key Collision Characteristics*

INTERSECTION	RECORDED COLLISIONS	KEY COLLISION CHARACTERISTICS
Kingsview Drive at Columbia Way	2	No notable trends were identified. One rear-end collision and one turning movement collision.
Westchester Boulevard at Columbia Way	1	No notable trends were identified.
Mount Hope Road at Columbia Way	4	No notable trends were identified. Three right-angled collisions and one single-motor-vehicle collisions.
Forest Gate Avenue at Columbia Way	1	No notable trends were identified.
Caledon King Townline Road at Columbia Way	6	No notable trends were identified. Variety of collision types.
MIDBLOCK SEGMENT	RECORDED COLLISIONS	KEY COLLISION CHARACTERISTICS
Between Kingsview Drive and Westchester Boulevard	6	No notable trends were identified. Variety of collision types.
Between Westchester Boulevard and Mount Hope Road	1	No notable trends were identified
Between Forest Gate Avenue and Caledon King Townline	11	Seven single-motor-vehicle collisions (in which 50% occurred during wet road conditions), four head-on collisions, and most collisions (7) occurring during night hours.

Generally, the collision data for most of the study area did not identify major safety concerns, unexpected over representation of particular collisions types, or concerns with respect to collision severity (i.e., injuries, fatalities), and no pedestrian-related collisions were reported.

### Columbia Way between Forest Gate Avenue and Caledon King Townline

However, the section of Columbia Way between Forest Gate Avenue to Caledon King Townline Road, which comprises the S-bend, reported 11 collisions over the five-year period, which is noteworthy. Of these 11 collisions, 50% were single motor vehicle collisions (in which 50% of those were during “wet” road conditions), the remaining 50% were head-on collisions, and most collisions (7) occurred during night hours. These collision trends are consistent with what would be expected along a section of roadway with a series of major horizontal curves and a rolling vertical alignment along a rural corridor, with no illumination, potential drainage concerns, and potential wildlife activity.

As shown in **Figure 4**, there are Sharp Reverse Curve warning signs (Wa-5R) in approach to the S-bend from both directions of travel, however the use of some Chevron signs (Wa-9) is quite limited and considered insufficient at both curves as shown in **Figure 5**. It is recommended additional Chevron signs be introduced at both curves per OTM guidelines.



Figure 4: Reverse Curve Warning Signs



Figure 5: Insufficient Chevron Signage on S-bend

As per the applicable OTM warrant, Slippery When Wet warning signs (Wc-5) are warranted along this section of the corridor. Therefore, it is recommended such signs be installed on Columbia Way approximately 150 metres west of Caledon King Townline (facing westbound traffic) and

approximately 115 metres east of Forest Gate Avenue (facing eastbound traffic), per OTM guidelines (approximately 225 metres in advance of the S-bend in the road alignment).

Three (3) deer-related collisions were also recorded in this vicinity of the study area. Therefore, it is recommended Deer Crossing signs (Wc-11) be installed on Columbia Way approximately 150 metres west of Caledon King Townline (facing westbound traffic) and approximately 115 metres east of Forest Gate Avenue (facing eastbound traffic), per OTM guidelines (approximately 225 metres in advance of the wooded area).

Although not depicted in the photos in Figure 5 given ongoing resurfacing along Columbia Way, there is currently a painted yellow centreline along Columbia Way through the S-bend. It is recommended the centreline be adequately maintained as a countermeasure to head-on collisions through the S-bend. An additional related countermeasure the Town may consider includes rumble strips along the centreline in advance and through the S-bend (noise concerns with rumble strips and nearby residents would have to be considered), as well as partial or full illumination through the S-bend. Although this provides an added safety benefit, concerns by nearby residents could be raised due to the noise generated by rumble strips when travelled upon.

The existing encroachment of vegetation along the road through the S-bend currently restricts sightlines, reducing the stopping sight distance available to motorists. Cutting vegetation back from the road so as to improve sightlines will have a positive effect on multi-modal road user safety through the S-bend.

### **Caledon King Townline at Columbia Way**

Of the 6 collisions reported at the intersection of Caledon King Townline and Columbia Way, 2 involved turning vehicles and 3 were single motor vehicle collisions. The intersection currently has a skewed west approach resulting in awkward eastbound right-turn and northbound left-turn movements due to the acute angle, and reduced visibility. Furthermore, the northwest corner of the intersection has a very large radius that can induce high turning speeds. Although the recommended sightline distance of 150 metres (per the Transportation Association of Canada) for this intersection is considered achievable for vehicle's turning from Columbia Way onto Caledon King Townline, there are opportunities to improve intersection operations and safety through alignment modifications to the west approach with improved stop bar positioning (i.e., closer to the intersection to improve visibility).

There is a notable crest in Columbia Way's vertical alignment in close proximity to the intersection, situated approximately 80 metres west of the intersection. Motorist visibility of the approaching intersection is impeded by the crest. It is expected that motorists approaching the intersection may not have visibility of the intersection until approximately 100 metres from the intersection. This is generally similar to the recommended stopping sight distance of 105 metres (per the Transportation Association of Canada) for this stretch of road (60 km/h posted speed, assumed

70 km/h design speed). However, if any queueing is present at the intersection, the available stopping distance is reduced as a consequence thus creating a potential safety concern. One (1) of the six (6) reported collisions was a rear-end collision in the eastbound direction. For these reasons, in lieu of reducing the severity of the crest, the Town may consider installing BE PREPARED TO STOP warning signage with flashing beacons approximately 225 metres in advance of the intersection per OTM guidelines.

Although not related to the reported collision history at the intersection, both the existing and projected 2032 turning movement traffic volumes warrant an auxiliary left-turn lane in the northbound direction on Caledon King Townline, per the MTO Left-turn Lane Warrant. Introducing a left-turn lane along Caledon King Townline would likely result in a notable length of widening south of the intersection (to accommodate storage, deceleration, and taper) and north of the intersection (for proper lane alignment through the intersection).

## 6.2 Traffic Calming Review

### 6.2.1 Traffic Calming Review Methodology

Spot speed studies are used to determine the speed distribution of traffic at a specific location, with the collected data used to determine vehicle speed percentiles. The two most common speed percentiles calculated from spot speed data are the 50th and 85th percentiles:

**The 50th percentile** is the average speed observed, with half of the observed vehicles below and half above the 50<sup>th</sup> percentile speed.

**The 85th percentile** is the speed at which 85% of the observed vehicles are travelling at or below. The 85<sup>th</sup> percentile is typically used in evaluating posted speed limits, as the general assumption is 85% of drivers are travelling at a speed they perceive to be safe, meaning the 85<sup>th</sup> percentile speed is normally assumed to be the highest safe speed for a roadway section.

The Town has provided RVA with spot speed data for several locations along Columbia Way, collected in December 2019. The spot speed studies were conducted utilizing Automatic Traffic Recorder (ATR) devices, with each ATR deployment consisting of two parallel pneumatic tubes fastened to the roadway surface, measuring the direction of flow, traffic speed, and vehicle classification. The collected spot speed data sheets are provided in **Appendix G**.

### 6.2.2 Traffic Calming Review Findings

A map illustrating the locations of the observed directional 85th percentile speeds and the existing posted maximum speed limits in the study area, as well as locations of current signals and stop controls for traffic on Columbia Way, is shown in **Figure 6**.

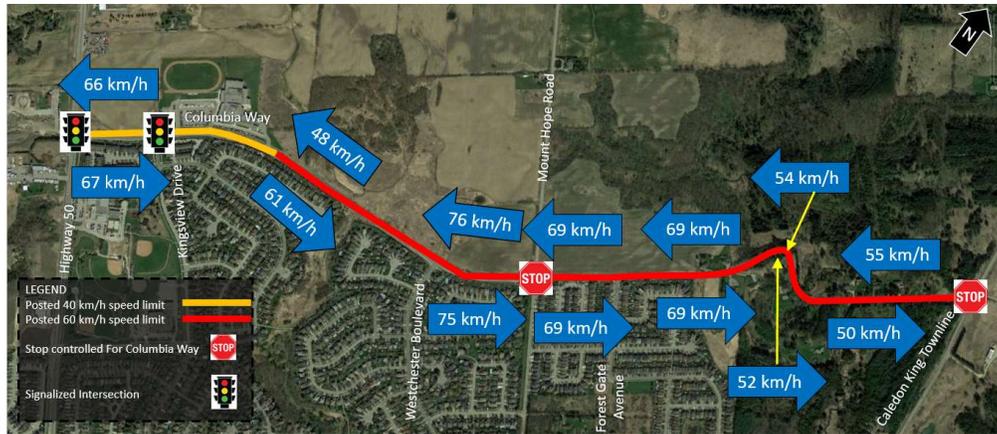


Figure 6: Observed 85th Percentile Speeds and Posted Speed Limits

As shown in **Table 11**, the results of the spot speed studies can be summarized as follows:

- Operating speeds (85<sup>th</sup> percentile speed) on Columbia Way from Regional Road 50 to west of Westchester Boulevard (western portion of the study area) are generally exceeding the posted speed limit by at least 15 km/h. This section has a posted speed limit of 40 km/h (fronting the school) that transitions to 60 km/h just east of the school;
- Operating speeds east of Westchester Boulevard to the S-bend are approximately 7-10 km/h above the 60 km/h posted speed limit; and
- Operating speeds from east of the S-bend to Caledon King Townline are approximately 5-10 km/h below the 60 km/h posted speed limit.

Table 11: Summary of Posted Speed Limits vs 85th Percentile Speeds

LOCATION	POSTED SPEED LIMIT	OPERATING SPEED (+/- POSTED SPEED LIMIT)	
		EASTBOUND	WESTBOUND
West of Kingsview Drive	40 km/h	+17 km/h	+16 km/h
East of Kingsview Drive	40 km/h	+21 km/h	+8 km/h
West of Westchester Boulevard	60 km/h	+15 km/h	+16 km/h
East of Westchester Boulevard	60 km/h	+10 km/h	+7 km/h
West of Forest Gate Avenue	60 km/h	+9 km/h	+9 km/h
East of Forest Gate Avenue	60 km/h	+9 km/h	+9 km/h
At bend east of Forest Gate Avenue	60 km/h	-8 km/h	-6 km/h
West of Caledon King Townline	60 km/h	-10 km/h	-5 km/h

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### **Columbia Way, Regional Road 50 to west of Westchester Boulevard**

The spot speed study data review identified a notable variance (generally 15-21 km/h) between the posted speed limit and operating speeds, representing low compliance. Although most of this section of Columbia Way is posted 40 km/h (portion fronting the school), it does currently have a rural cross-section with gravel shoulders, has a long (half kilometre) straight and level alignment east of the school, and transitions into a 60 km/h zone east of the school, all of which are features likely contributing to the low compliance. These results indicate a posted speed limit of 50 km/h may be more suitable for the driving conditions along this rural section of Columbia Way.

### **Columbia Way, east of Westchester Boulevard to east of Forest Gate Avenue**

The results of spot speed study data review indicate a speeding issue likely does not exist along this section of Columbia Way within the study area, with a variance of only 7-10 km/h between the posted speed limit and operating speeds. It is expected the 60 km/h posted speed limit is well suited to the roadway design, resulting in increased compliance compared to the 40 km/h posted section previously discussed.

### **Columbia Way, at bend east of Forest Gate Avenue to west of Caledon King Townline**

The results of spot speed study data review indicate a speeding issue likely does not exist along this section of Columbia Way, with operating speeds actually below the posted speed limit by approximately 5-10 km/h. It is expected the S-bend with its sharp curves and reduced roadway width are design features having a traffic calming effect on motorists.

It is our opinion the identified operating speeds on Columbia Way east of Westchester Boulevard are acceptable, with the S-bend acting as a form of traffic calming likely being a major contributing factor to the acceptable compliance to the posted speed limit.

The data indicates lower compliance to the posted speed limits along the western half of the corridor, fronting the school and just east of the school along the half kilometre straight section of roadway west of Westchester Boulevard. The existing rural designs of the road's cross-section, as well as the long straight alignment east of the school, are likely primary contributing factors. In lieu of increasing the respective posted speed limits to be more suited to the existing driving conditions, it is expected introducing an urban cross-section as a form of traffic calming will likely reduce operating speeds and improve compliance.

Proposed EA design alternatives are to include full urbanization of Columbia Way from Regional Road 50 to Forest Gate Avenue. Urbanizing the corridor, with raised barrier curbs and elimination of the gravel shoulder, results in a more restricted driving environment from the perspective of the motorist, which is expected to have a traffic calming effect on the overall study area road network, with the anticipation that compliance to the posted speed limits should improve. The Town may choose to complete a follow-up Spot Speed Study upon completion of construction of the

proposed road designs in order to re-assess speed compliance and determine if additional traffic calming features are warranted.

A potential corridor traffic calming measure that is considered feasible for a collector corridor in a rural/suburban context, is a roundabout. The roundabout acts as a form of speed mitigation for the corridor requiring all approaching traffic to reduce speeds, with the added benefit of providing designated pedestrian and cycling crossing facilities if required. An operational assessment of potential roundabout intersections along the corridor is provided in this report.

## **7.0 ACTIVE TRANSPORTATION FACILITIES**

### **7.1 Pedestrian and Cyclist Accommodation**

Active transportation facilities are currently limited to a combination of sidewalk and gravel paths along the south side of Columbia Way from Regional Road 50 to Forest Gate Avenue, with a trail connection to the north-south trail system south of the corridor, and designated crossing locations on Columbia Way at the signalized intersections at Regional Road 50 and at Kingsview Drive (both west of the school). There are currently no dedicated cycling facilities along the corridor.

As presented in the Transportation Master Plan (TMP), future planned active transportation improvements for the study area corridor include multi-use path (MUP) from Regional Road 50 to Kingsview Drive, paved shoulder from Westchester Boulevard to Forest Gate Avenue, and a signed-only bike route from Forest Gate Avenue to Caledon-King Townline. The TMP and 5-year Capital Plan also identify intersection crossing improvements.

From a safety standpoint, providing an off-street cycling facility (i.e. MUP) is preferable to an on-street facility (i.e. on-street bike lanes, paved shoulder, shared-use lanes, etc.) as it physically separates cyclists from motor vehicles. Based on the major collector function of the corridor, with sufficient available right-of-way, wide boulevards, and rural/suburban context, a MUP would serve the corridor well from an active transportation accommodation and safety standpoint. Introducing a MUP along the entire southern side of Columbia Way from Regional Road 50 from Forest Gate Avenue would also eliminate the current “patchwork” of sidewalk and gravel path sections, resulting in a consistent 3.0 metre wide paved surface for safe and accessible travel by cyclists and pedestrians.

### **7.2 Pedestrian Crossing Accommodation on Columbia Way**

Due to the only controlled pedestrian crossings being situated west of the school at Kingsview Drive and at Regional Road 50, there has been an observed tendency for students walking to/from the school to jaywalk across Columbia Way at uncontrolled locations either fronting or east of the school. Therefore RVA has reviewed potential opportunities to introduce an controlled crossing on Columbia Way that will be effective in reducing the prevalence of student jaywalking, while

maintaining an acceptable level of multi-modal road user safety along the corridor, and not induce additional traffic congestion or disruption to traffic flow in the vicinity of the school.

Based on the 60 km/h posted speed limit, and estimated 2032 volume of approximately 1900-2000 vehicles during the peak 8-hours of traffic, a “Level 2 Type C” pedestrian cross-over (PXO) is warranted per OTM PXO warrant methodology. This level of PXO consists of roadside flashing beacons and specialty signage and pavement markings. However, if it is determined an additional controlled crossing is to be introduced along Columbia Way, it is RVA’s opinion that such a crossing should be fully signalized to maximise roaduser safety along this major collector road which exists in a semi-rural context, with some prevalence of speed along this portion of the study corridor.

A potential alternative to a signalized crossing is the provision of a pedestrian crosswalk at a new roundabout intersection. The roundabout acts as a form of traffic calming for the corridor, requiring all approaching traffic to reduce speeds, with opportunities for designated pedestrian and cycling crossing facilities. An operational assessment of potential roundabout intersections along the corridor is provided in this report.

Feasible crossing alternatives include:

- A signalized crossing at the school’s easternmost driveway;
- A signalized crossing at the trailhead approximately 280 metres west of Westchester Boulevard;
- A signalized crossing (or roundabout) at Westchester Boulevard; or
- A signalized crossing (or roundabout) at Mount Hope Road.

In order to maximize the usage of the controlled crossing by students, the crossing should be situated as close to the school as possible. For example, situating the crossing east of the trailhead will likely result in students who regularly utilize the north-south trail when travelling to/from the school not utilizing the crossing due to the required extra travel distance. Furthermore, the proposed crossing location will require introduction of a MUP on the north side of Columbia Way connecting the MUP with the school; therefore, decreasing the distance between the crossing and school will result in reduced construction costs. However, as previously mentioned, the crossing should not induce additional traffic congestion or disruption to traffic flow in the immediate vicinity of the school.

Based on these considerations, a signalized crossing at the trailhead approximately 280 metres west of Westchester Boulevard is considered the optimal alternative. The benefits of this location include:

- Reasonable distance from the school (approximately 300 metres) resulting in no additional traffic congestion or disruption to traffic flow in the immediate vicinity of the school, and with a feasible length of MUP construction required;
- Maximizes utilization by students, capturing students who regularly utilize the north-south trail, as well as students residing in the neighbourhoods east of the trail;
- Situated on a straight, level section of Columbia Way, with no sightline concerns; and
- Results in a midblock crossing configuration, which has less conflict points than an intersection crossing.

## 8.0 SUMMARY OF FINDINGS

The findings of the study can be summarized as follows:

- Under existing and future conditions, the westbound left-turn movement on Columbia Way at Regional Road 50 is reporting a 95<sup>th</sup> percentile queue that exceeds the available storage by approximately 40-60 metres.
- Additional traffic signals are not warranted per the results of the Synchro analysis and completed OTM traffic signal warrants.
- Roundabouts at the Westchester Boulevard, Mount Hope Road, and Forest Gate Avenue intersections along the Columbia Way corridor are anticipated to operate acceptably in 2032 with substantial reserve capacity, acceptable levels of delay, and no critical queueing concerns.
- Introducing a roundabout at the Mount Hope Road intersection is anticipated to deliver the most effective speed reductions for the corridor overall.
- Based on consultation with school staff, there are frequent incidents of vehicles stopping in the gravel shoulder on the south side of Columbia Way to pick-up/drop-off (PUDO), and there has been concerns raised over vehicles turning left into the school from Columbia Way being queued on the roadway and as a result blocking eastbound through traffic on Columbia Way.
- The collision data for the study area did not identify major safety concerns at most locations, and no pedestrian-related collisions were reported.
- The location consisting of the greatest number of reported collisions is at the eastern extent of the study corridor, from Forest Gate Avenue to Caledon King Townline Road, which reported 11 collisions over the five-year period, which appear to be related to the S-bend with its sharp curves, rolling vertical alignment, lack of illumination, and potential drainage concerns.
- There are opportunities to improve operations and safety at the intersection of Columbia Way and King Townline Road through modifications to the alignment of the west approach, corner radii, traffic signage and pavement markings.

- There is a potential speeding issue along Columbia Way between Regional Road 50 and just west of Westchester Boulevard.
- Based on the results of spot speed surveys, the existing S-bend on Columbia Way is limiting operating speeds, resulting in operating speeds lower than the posted speed limit.
- Providing a MUP is preferable to an on-street cycling facility as it physically separates cyclists from motor vehicles, and would also eliminate the current “patchwork” of sidewalk and gravel path sections on the south side of Columbia Way, resulting in a consistent 3.0 metre wide paved surface for safe and accessible travel by cyclists and pedestrians.
- Based on review of operational and safety considerations for feasible pedestrian crossing locations along the corridor, a signalized pedestrian crossing at the trailhead approximately 280 metres west of Westchester Boulevard is considered the optimal alternative for mitigating student jaywalking at the school.

## 9.0 SUMMARY OF PROPOSED IMPROVEMENT OPTIONS

Based on the findings of this Study, the following improvements are recommended:

1. Extend the existing storage length for the westbound left-turn on Columbia Way at Regional Road 50 from 30 metres to approximately 90 metres to mitigate queue spillback during peak hours.
2. Introduce an urban cross-section along Columbia Way which will eliminate the student pick-up/drop-off occurring on the shoulder at the St. Michael Catholic Secondary School.
3. Consider an auxiliary left-turn lane along Columbia Way in the eastbound direction at the school’s primary inbound access (centre driveway) to alleviate some of the noted congestion during peak school periods.
4. Introduce auxiliary left-turn lanes on all four approaches at the intersection of Columbia Way and Kingsview Drive, when the intersection is re-constructed to accommodate the new north approach. Introducing left-turn lanes for the existing east and south approaches are beneficial interim measures to mitigate some existing and future identified queueing, that may be considered by the Town.
5. Introduce additional chevron signs (Wa-9), maintain the yellow painted centreline, consider implementing rumble strips along the centreline in advance and through the S-bend, consider partial/full illumination, and cut-back the encroaching vegetation, at the S-bend in order to improve multi-modal road user safety.
6. Introduce Slippery When Wet warning signs (Wc-5) and Deer Crossing signs (Wc-11) approximately 150 metres west of Caledon King Townline (facing westbound traffic) and approximately 115 metres east of Forest Gate Avenue (facing eastbound traffic), per OTM guidelines (approximately 225 metres in advance of the wooded area and S-bend in the road alignment).

7. Introduce Be Prepared to Stop warning signage with flashing beacons approximately 225 metres in advance of the intersection, facing eastbound traffic, per OTM guidelines.
8. Consider intersection improvements at the intersection of Columbia Way and King Townline Road, including modifications to the alignment of the west approach, reduced corner radii, and re-located stop bar.
9. The Town complete a follow-up Spot Speed Study approximately one year after completion of the road improvements, in order to re-assess speed compliance and determine if additional traffic calming features are warranted.
10. Construct 3.0-metre-wide paved multi-use path with raised barrier curb and grassy boulevard between the path and roadway, along the entire southern side of Columbia Way from Regional Road 50 to Forest Gate Avenue, for shared accommodation of pedestrian and cyclists.
11. Construct a signalized midblock pedestrian crossing on Columbia Way, at the neighbourhood trailhead (an extension of the Humber Valley Heritage Side Trail) approximately 280 metres west of Westchester Boulevard, with a multi-use path connection on the north side connecting the crossing to the school.
12. Consider the introduction of a single lane roundabout at the intersection of Columbia Way and Mount Hope Road.

---

**APPENDIX A**

**TRAFFIC COUNT DATA**

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# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 1

Groups Printed- Cars - Trucks - Cyclists

Start Time	Southbound					Columbia Way Westbound					Westchester Blvd Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	30	1	0	31	8	0	16	0	24	4	12	0	0	16	71
07:15 AM	0	0	0	0	0	0	37	2	0	39	3	0	21	0	24	4	12	0	0	16	79
07:30 AM	0	0	0	0	0	0	36	3	0	39	8	0	20	1	29	4	12	0	0	16	84
07:45 AM	0	0	0	0	0	0	64	6	0	70	7	0	32	3	42	13	19	0	0	32	144
Total	0	0	0	0	0	0	167	12	0	179	26	0	89	4	119	25	55	0	0	80	378
08:00 AM	0	0	0	0	0	0	114	16	0	130	19	0	39	1	59	16	47	0	0	63	252
08:15 AM	0	0	0	0	0	0	66	28	0	94	13	0	33	0	46	12	36	0	0	48	188
08:30 AM	0	0	0	0	0	0	37	7	0	44	18	0	17	1	36	14	18	0	0	32	112
08:45 AM	0	0	0	0	0	0	33	1	0	34	8	0	15	1	24	4	16	0	0	20	78
Total	0	0	0	0	0	0	250	52	0	302	58	0	104	3	165	46	117	0	0	163	630
09:00 AM	0	0	0	0	0	0	23	3	0	26	7	0	7	0	14	9	8	0	0	17	57
09:15 AM	0	0	0	0	0	0	23	2	0	25	6	0	13	2	21	7	13	0	0	20	66
09:30 AM	0	0	0	0	0	0	22	2	0	24	5	0	10	0	15	10	13	0	0	23	62
09:45 AM	0	0	0	0	0	0	19	4	0	23	12	0	7	0	19	7	13	0	0	20	62
Total	0	0	0	0	0	0	87	11	0	98	30	0	37	2	69	33	47	0	0	80	247
11:00 AM	0	0	0	0	0	0	21	5	0	26	7	0	10	1	18	7	16	0	0	23	67
11:15 AM	0	0	0	0	0	0	24	12	0	36	3	0	11	1	15	3	16	0	0	19	70
11:30 AM	0	0	0	0	0	0	17	2	0	19	8	0	8	0	16	11	18	0	0	29	64
11:45 AM	0	0	0	0	0	0	15	1	0	16	2	0	4	0	6	7	17	0	0	24	46
Total	0	0	0	0	0	0	77	20	0	97	20	0	33	2	55	28	67	0	0	95	247
12:00 PM	0	0	0	0	0	0	14	0	0	14	4	0	6	0	10	8	27	0	0	35	59
12:15 PM	0	0	0	0	0	0	25	6	0	31	5	0	8	0	13	4	21	0	0	25	69
12:30 PM	0	0	0	0	0	0	18	7	0	25	7	0	8	2	17	7	25	0	0	32	74
12:45 PM	0	0	0	0	0	0	25	1	0	26	5	0	7	0	12	6	19	0	0	25	63
Total	0	0	0	0	0	0	82	14	0	96	21	0	29	2	52	25	92	0	0	117	265



# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 2

Groups Printed- Cars - Trucks - Cyclists

Start Time	Southbound					Columbia Way Westbound					Westchester Blvd Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:00 PM	0	0	0	0	0	0	19	9	0	28	13	0	9	0	22	21	43	0	0	64	114
03:15 PM	0	0	0	0	0	0	38	4	0	42	19	0	21	0	40	14	39	0	0	53	135
03:30 PM	0	0	0	0	0	0	22	4	0	26	4	0	19	1	24	19	53	0	0	72	122
03:45 PM	0	0	0	0	0	0	17	3	0	20	7	0	8	1	16	13	42	0	0	55	91
Total	0	0	0	0	0	0	96	20	0	116	43	0	57	2	102	67	177	0	0	244	462
04:00 PM	0	0	0	0	0	0	20	9	0	29	4	0	4	0	8	23	33	0	0	56	93
04:15 PM	0	0	0	0	0	0	25	4	0	29	3	0	7	0	10	16	41	0	0	57	96
04:30 PM	0	0	0	0	0	0	27	7	0	34	3	0	10	0	13	25	60	0	0	85	132
04:45 PM	0	0	0	0	0	0	29	13	0	42	5	0	11	0	16	19	39	0	0	58	116
Total	0	0	0	0	0	0	101	33	0	134	15	0	32	0	47	83	173	0	0	256	437
05:00 PM	0	0	0	0	0	0	22	9	0	31	9	0	11	0	20	21	60	0	0	81	132
05:15 PM	0	0	0	0	0	0	24	4	0	28	6	0	9	0	15	24	50	0	0	74	117
05:30 PM	0	0	0	0	0	0	29	12	0	41	4	0	13	0	17	23	50	0	0	73	131
05:45 PM	0	0	0	0	0	0	34	13	0	47	10	0	11	0	21	26	38	0	0	64	132
Total	0	0	0	0	0	0	109	38	0	147	29	0	44	0	73	94	198	0	0	292	512
Grand Total	0	0	0	0	0	0	969	200	0	1169	242	0	425	15	682	401	926	0	0	1327	3178
Apprch %	0	0	0	0	0	0	82.9	17.1	0	96.8	35.5	0	62.3	2.2	96.6	30.2	69.8	0	0	97.1	96.9
Total %	0	0	0	0	0	0	30.5	6.3	0	36.8	7.6	0	13.4	0.5	21.5	12.6	29.1	0	0	41.8	
Cars	0	0	0	0	0	0	941	191	0	1132	232	0	412	15	659	386	902	0	0	1288	3079
% Cars	0	0	0	0	0	0	97.1	95.5	0	96.8	95.9	0	96.9	100	96.6	96.3	97.4	0	0	97.1	96.9
Trucks	0	0	0	0	0	0	28	9	0	37	10	0	13	0	23	15	24	0	0	39	99
% Trucks	0	0	0	0	0	0	2.9	4.5	0	3.2	4.1	0	3.1	0	3.4	3.7	2.6	0	0	2.9	3.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

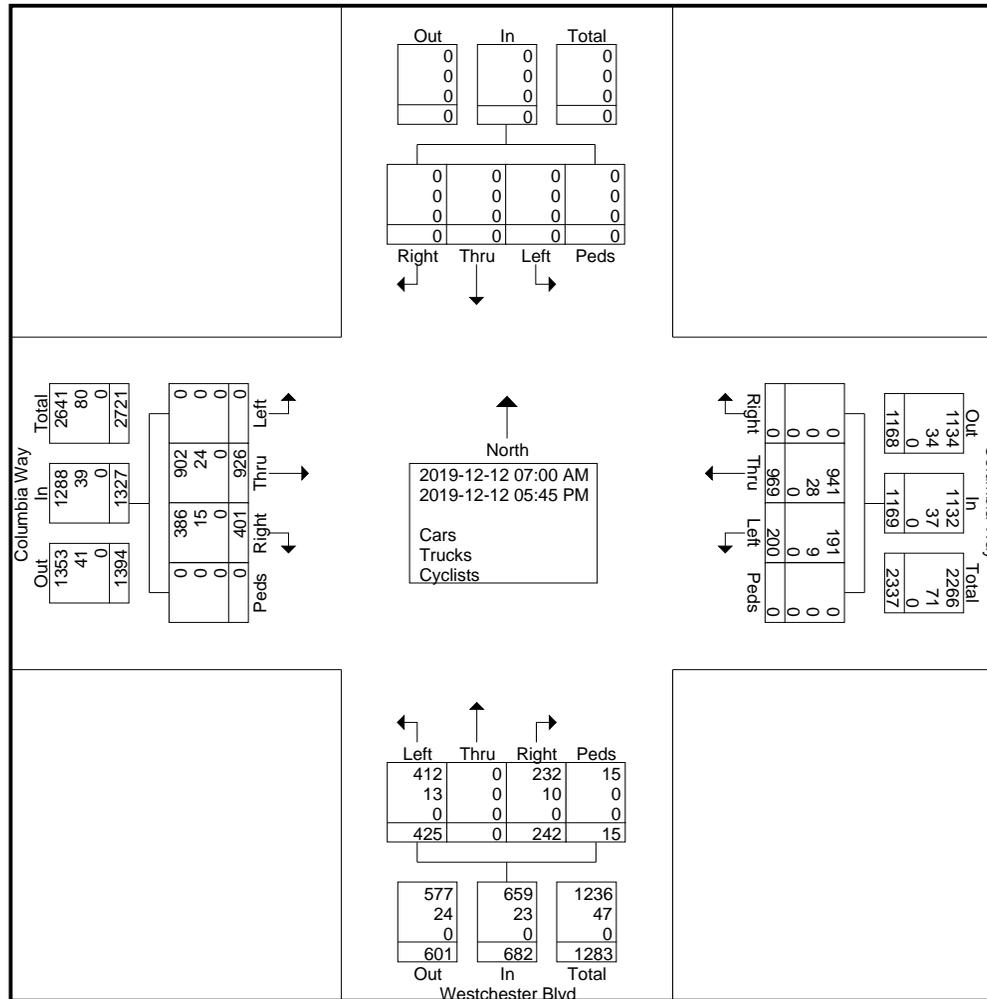


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 3





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 4

Start Time	Southbound					Columbia Way Westbound					Westchester Blvd Northbound					Columbia Way Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:45 AM																						
07:45 AM	0	0	0	0	0	0	64	6	0	70	7	0	32	3	42	13	19	0	0	32	144	
08:00 AM	0	0	0	0	0	0	<b>114</b>	16	0	<b>130</b>	<b>19</b>	0	<b>39</b>	1	<b>59</b>	<b>16</b>	<b>47</b>	0	0	<b>63</b>	<b>252</b>	
08:15 AM	0	0	0	0	0	0	66	<b>28</b>	0	94	13	0	33	0	46	12	36	0	0	48	188	
08:30 AM	0	0	0	0	0	0	37	7	0	44	18	0	17	1	36	14	18	0	0	32	112	
Total Volume	0	0	0	0	0	0	281	57	0	338	57	0	121	5	183	55	120	0	0	175	696	
% App. Total	0	0	0	0	0	0	83.1	16.9	0		31.1	0	66.1	2.7		31.4	68.6	0	0			
PHF	.000	.000	.000	.000	.000	.000	.616	.509	.000	.650	.750	.000	.776	.417	.775	.859	.638	.000	.000	.694	.690	
Cars	0	0	0	0	0	0	275	52	0	327	53	0	118	5	176	49	112	0	0	161	664	
% Cars	0	0	0	0	0	0	97.9	91.2	0	96.7	93.0	0	97.5	100	96.2	89.1	93.3	0	0	92.0	95.4	
Trucks	0	0	0	0	0	0	6	5	0	11	4	0	3	0	7	6	8	0	0	14	32	
% Trucks	0	0	0	0	0	0	2.1	8.8	0	3.3	7.0	0	2.5	0	3.8	10.9	6.7	0	0	8.0	4.6	
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

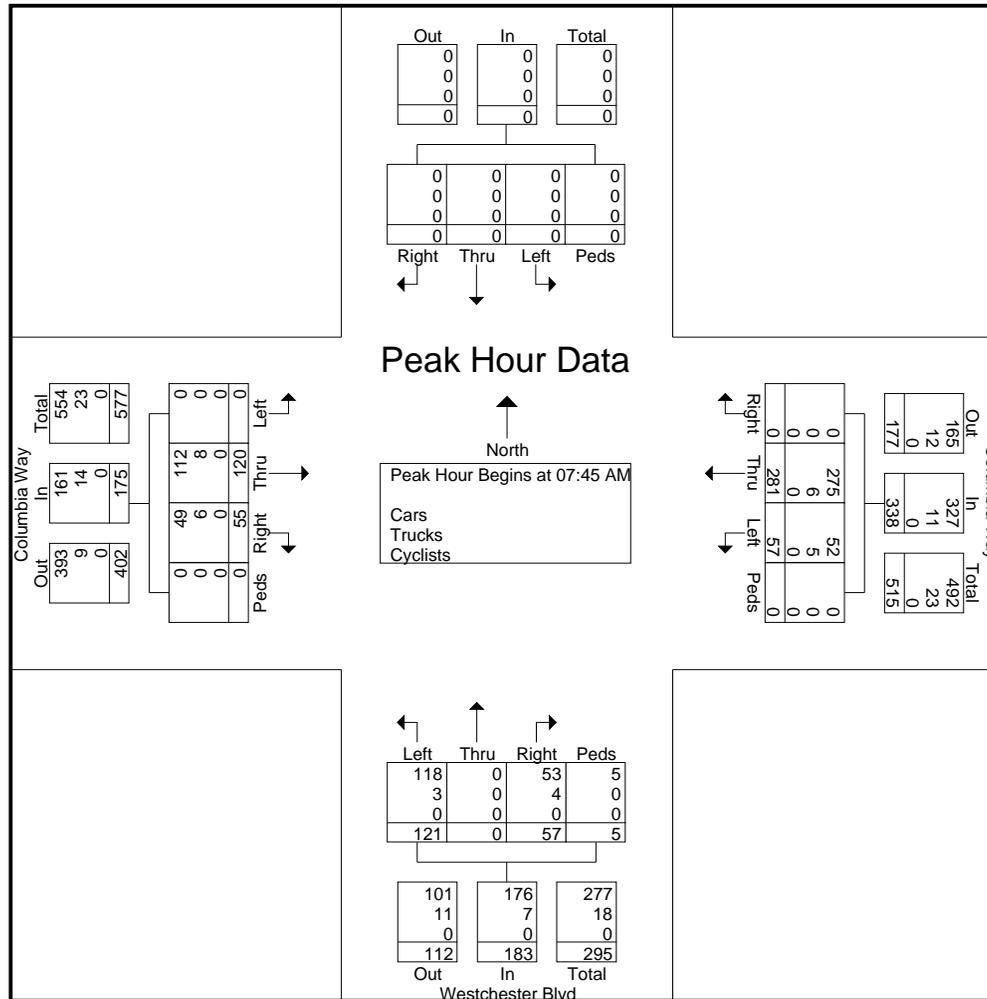


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 5





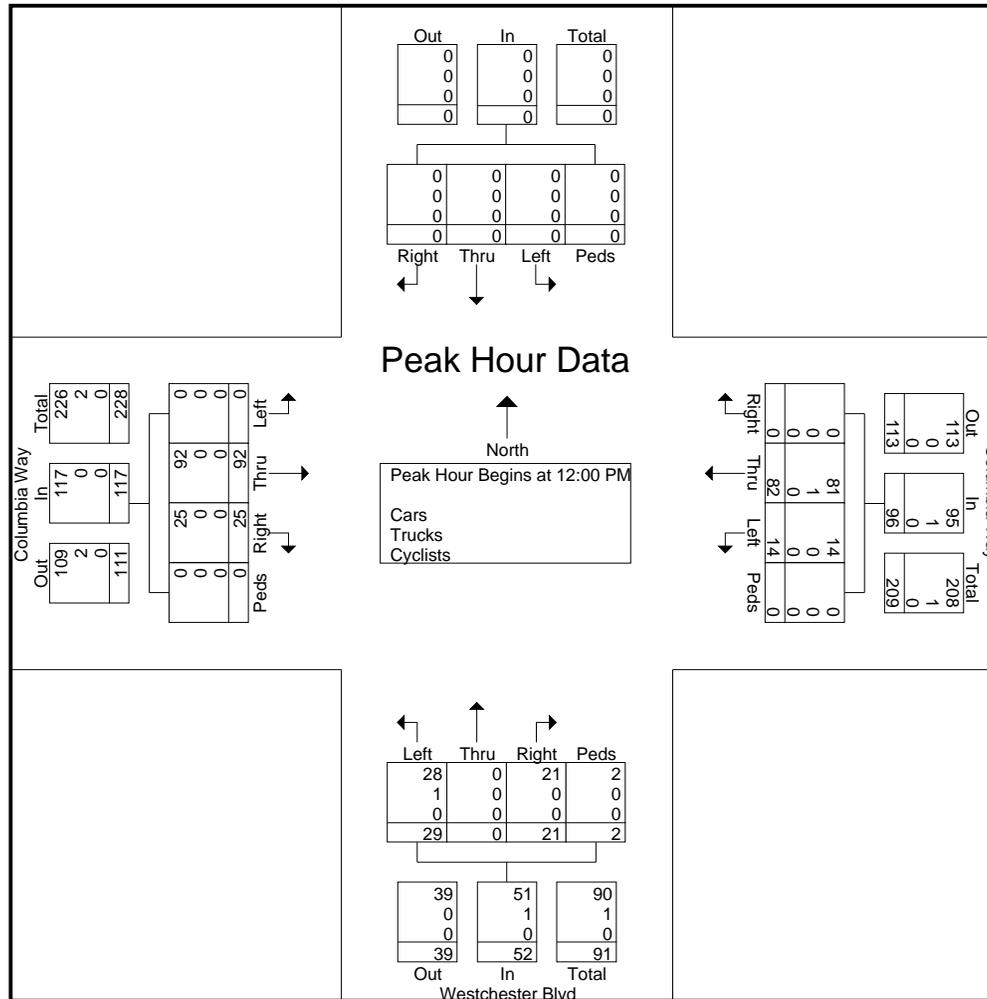


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 7





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 8

Start Time	Southbound					Columbia Way Westbound					Westchester Blvd Northbound					Columbia Way Eastbound					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 03:00 PM																						
03:00 PM	0	0	0	0	0	0	19	9	0	28	13	0	9	0	22	21	43	0	0	64	114	
03:15 PM	0	0	0	0	0	0	38	4	0	42	19	0	21	0	40	14	39	0	0	53	135	
03:30 PM	0	0	0	0	0	0	22	4	0	26	4	0	19	1	24	19	53	0	0	72	122	
03:45 PM	0	0	0	0	0	0	17	3	0	20	7	0	8	1	16	13	42	0	0	55	91	
Total Volume	0	0	0	0	0	0	96	20	0	116	43	0	57	2	102	67	177	0	0	244	462	
% App. Total	0	0	0	0	0	0	82.8	17.2	0		42.2	0	55.9	2		27.5	72.5	0	0			
PHF	.000	.000	.000	.000	.000	.000	.632	.556	.000	.690	.566	.000	.679	.500	.638	.798	.835	.000	.000	.847	.856	
Cars	0	0	0	0	0	0	92	19	0	111	37	0	54	2	93	63	170	0	0	233	437	
% Cars	0	0	0	0	0	0	95.8	95.0	0	95.7	86.0	0	94.7	100	91.2	94.0	96.0	0	0	95.5	94.6	
Trucks	0	0	0	0	0	0	4	1	0	5	6	0	3	0	9	4	7	0	0	11	25	
% Trucks	0	0	0	0	0	0	4.2	5.0	0	4.3	14.0	0	5.3	0	8.8	6.0	4.0	0	0	4.5	5.4	
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

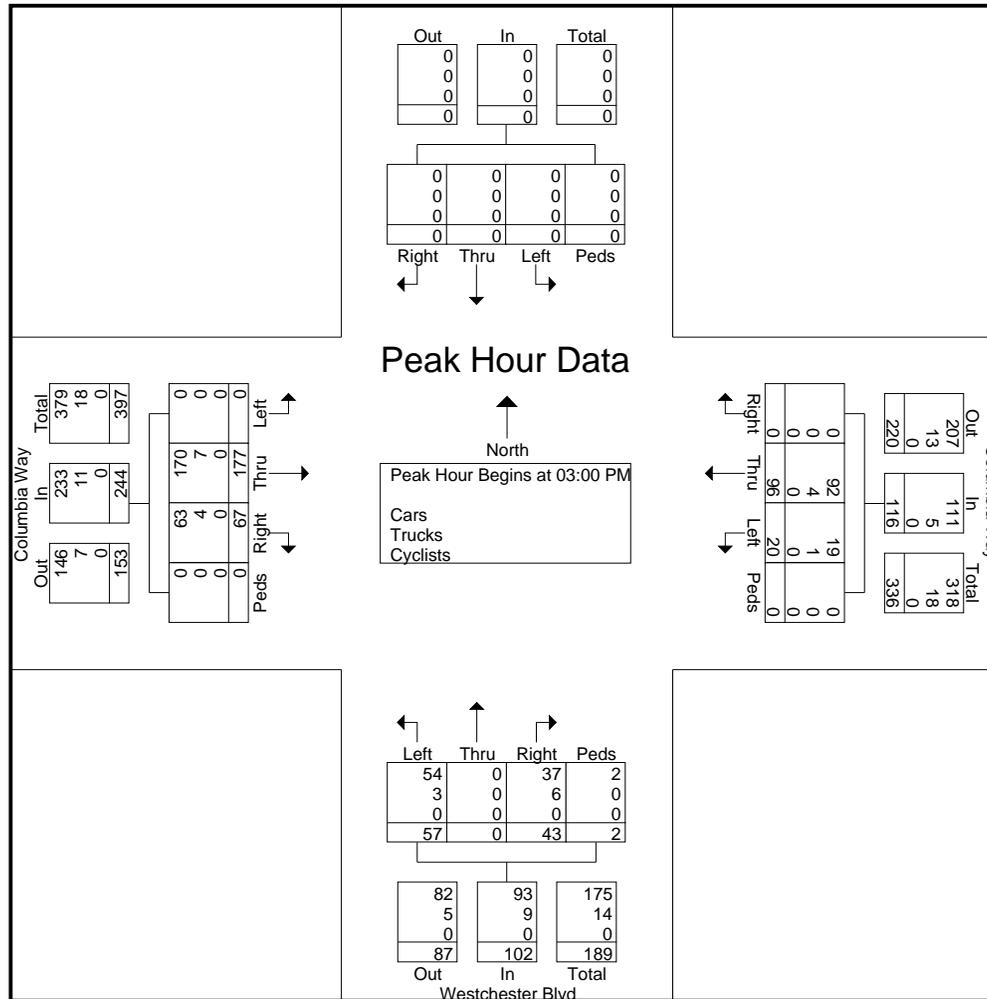


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Westchester Blvd  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 9





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Highway 50 at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 1

Groups Printed- Cars - Trucks - Cyclists

Start Time	Hwy 50 Southbound					Columbia Way Westbound					Hwy 50 Northbound					Driveway Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	2	100	8	0	110	13	0	33	0	46	15	29	3	0	47	1	0	0	0	1	204
07:15 AM	1	86	13	0	100	32	0	38	0	70	12	40	0	0	52	1	0	0	1	2	224
07:30 AM	0	88	18	0	106	29	0	33	0	62	27	39	0	0	66	1	0	0	0	1	235
07:45 AM	1	124	34	0	159	42	1	55	0	98	34	43	0	0	77	0	1	1	2	4	338
Total	4	398	73	0	475	116	1	159	0	276	88	151	3	0	242	3	1	1	3	8	1001
08:00 AM	0	145	59	0	204	47	0	72	0	119	62	43	1	0	106	3	1	1	0	5	434
08:15 AM	3	106	33	0	142	34	0	74	0	108	27	59	1	0	87	0	0	1	0	1	338
08:30 AM	0	88	13	0	101	18	0	45	0	63	23	61	1	0	85	0	0	1	0	1	250
08:45 AM	1	108	1	0	110	20	0	25	0	45	11	47	0	0	58	1	0	0	0	1	214
Total	4	447	106	0	557	119	0	216	0	335	123	210	3	0	336	4	1	3	0	8	1236
09:00 AM	0	100	11	0	111	10	0	26	0	36	8	43	1	0	52	0	0	2	0	2	201
09:15 AM	2	111	8	0	121	7	0	34	0	41	22	48	0	0	70	0	0	0	0	0	232
09:30 AM	0	96	7	0	103	8	1	33	0	42	20	52	0	0	72	2	0	1	0	3	220
09:45 AM	0	81	12	0	93	7	0	27	2	36	10	50	2	0	62	0	0	1	0	1	192
Total	2	388	38	0	428	32	1	120	2	155	60	193	3	0	256	2	0	4	0	6	845
11:00 AM	1	58	12	0	71	12	0	50	0	62	24	58	0	0	82	1	0	1	0	2	217
11:15 AM	1	73	12	0	86	7	0	23	0	30	43	62	1	0	106	1	0	0	0	1	223
11:30 AM	1	66	6	0	73	4	0	19	0	23	29	51	0	0	80	0	1	1	0	2	178
11:45 AM	0	72	7	0	79	6	0	20	0	26	21	43	3	0	67	1	0	3	0	4	176
Total	3	269	37	0	309	29	0	112	0	141	117	214	4	0	335	3	1	5	0	9	794
12:00 PM	2	77	8	0	87	11	0	21	0	32	33	45	1	0	79	1	0	1	0	2	200
12:15 PM	0	65	10	0	75	13	0	45	0	58	23	52	0	0	75	0	0	0	0	0	208
12:30 PM	1	53	7	0	61	7	1	24	2	34	29	62	0	0	91	1	0	0	0	1	187
12:45 PM	0	68	8	0	76	5	0	21	0	26	29	80	0	0	109	1	0	4	0	5	216
Total	3	263	33	0	299	36	1	111	2	150	114	239	1	0	354	3	0	5	0	8	811



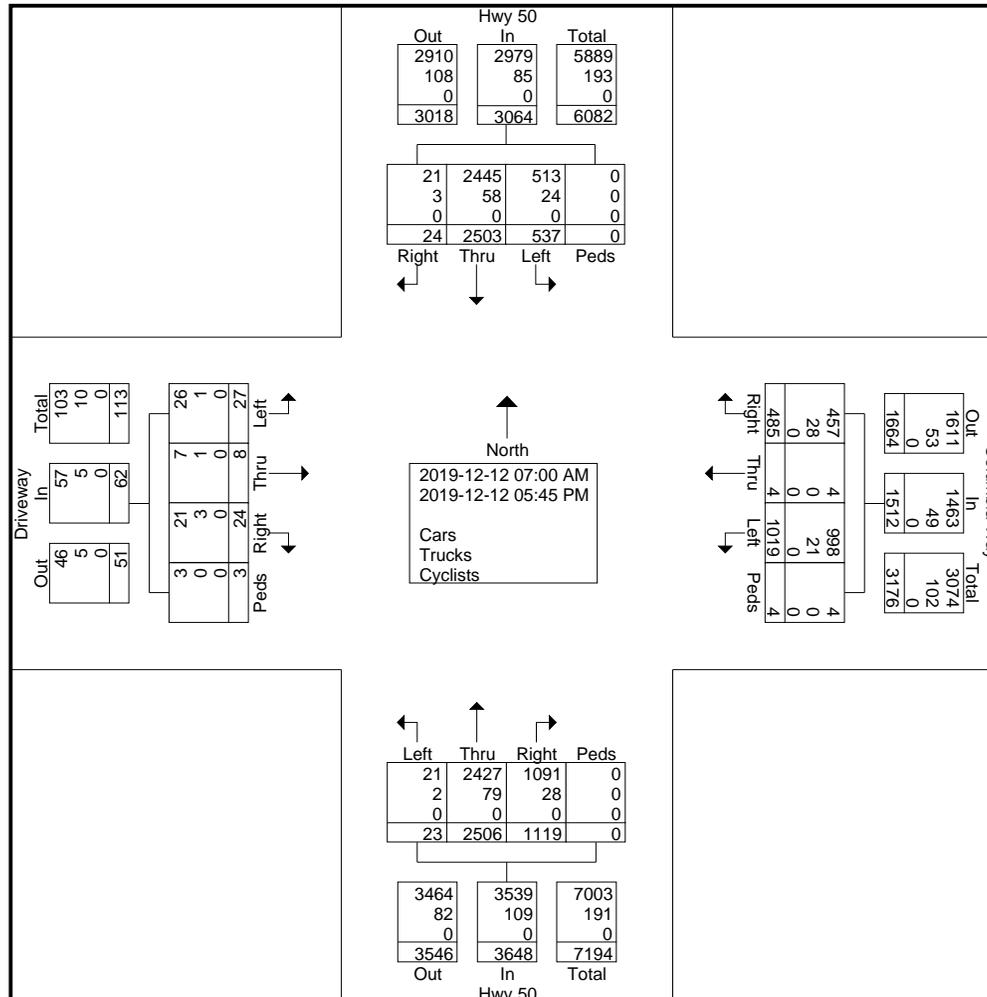


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Highway 50 at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 3





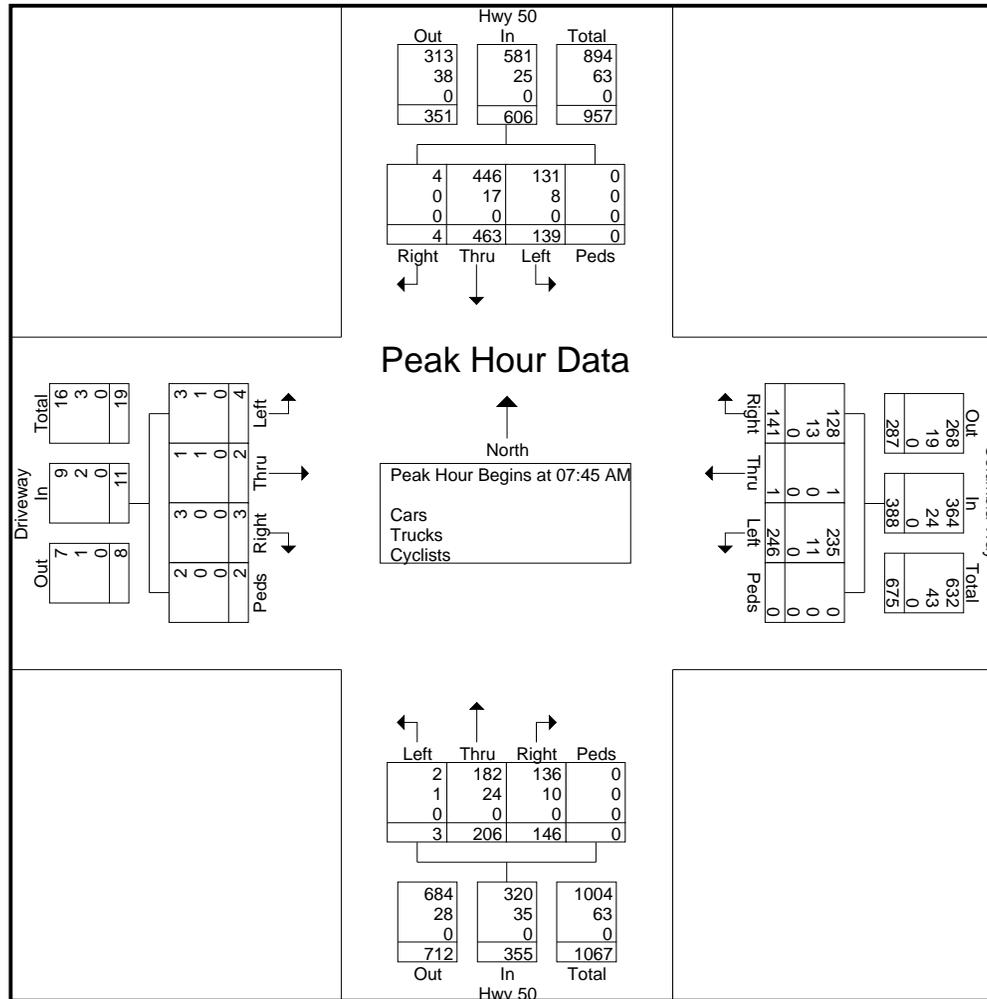


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Highway 50 at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 5





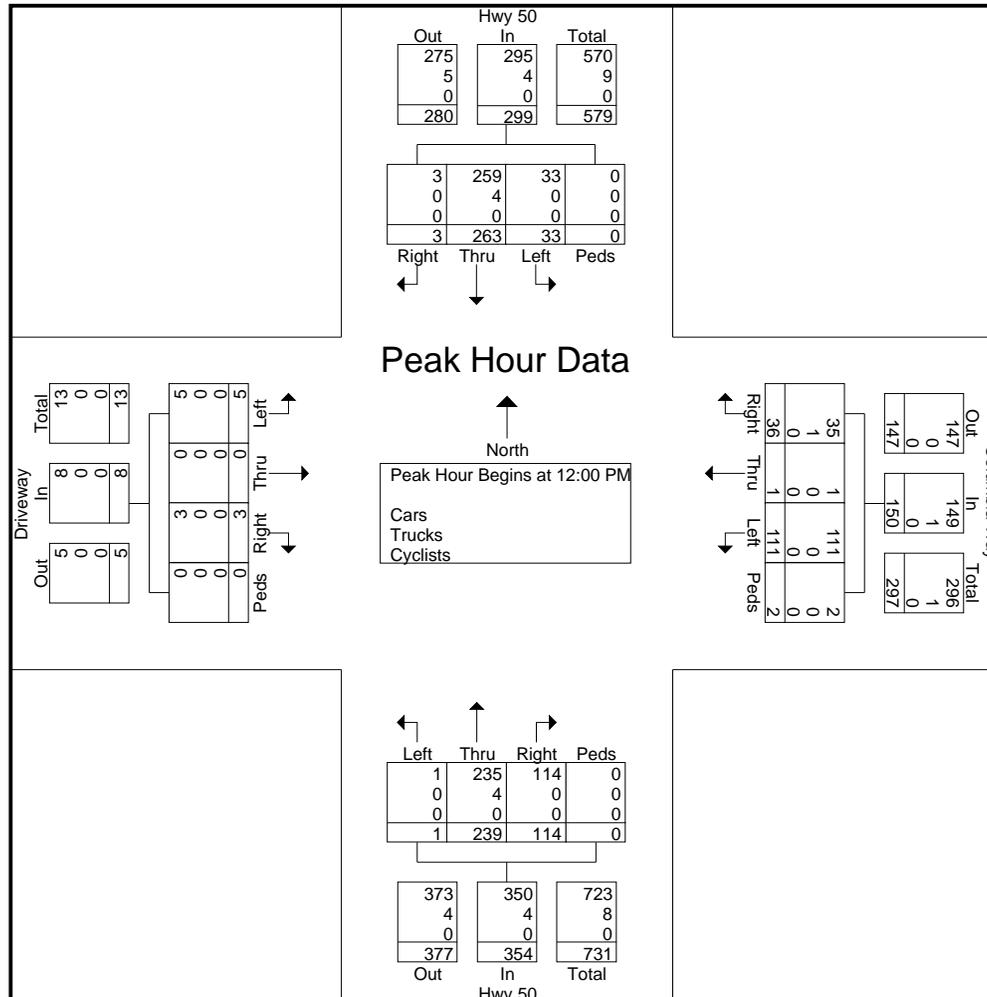


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Highway 50 at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 7





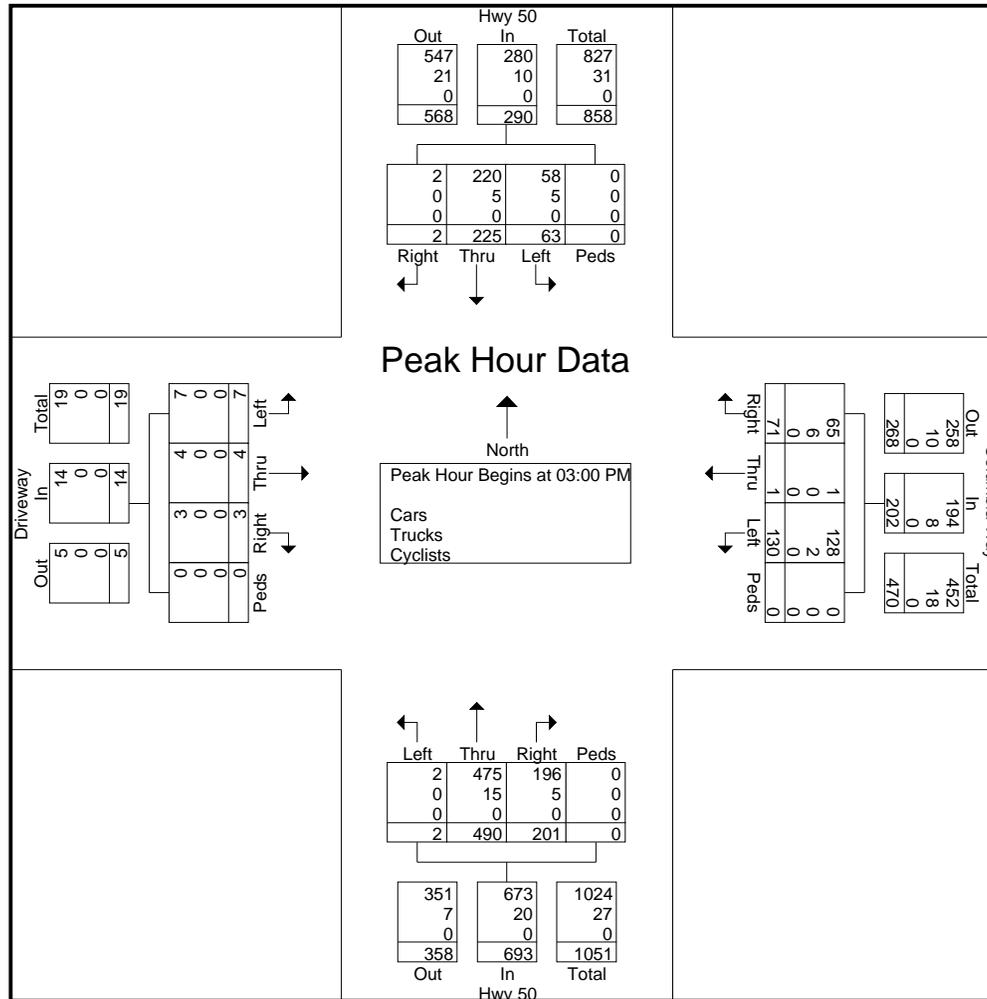


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Highway 50 at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 9





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 1

Groups Printed- Cars - Trucks - Cyclists

Start Time	Southbound					Columbia Way Westbound					Kingsview Dr Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	42	3	1	46	7	0	9	0	16	3	22	0	0	25	87
07:15 AM	0	0	0	0	0	0	58	6	1	65	11	0	7	0	18	1	28	0	2	31	114
07:30 AM	0	0	0	0	0	0	59	10	2	71	5	0	11	1	17	1	41	0	1	43	131
07:45 AM	0	0	0	0	0	0	94	19	4	117	29	0	10	0	39	9	70	0	6	85	241
Total	0	0	0	0	0	0	253	38	8	299	52	0	37	1	90	14	161	0	9	184	573
08:00 AM	0	0	0	0	0	0	116	38	7	161	31	0	8	0	39	14	106	0	4	124	324
08:15 AM	0	0	0	0	0	0	76	45	4	125	17	0	16	0	33	15	36	0	0	51	209
08:30 AM	0	0	0	0	0	0	38	19	2	59	14	0	15	1	30	12	21	0	45	78	167
08:45 AM	0	0	0	0	0	0	39	7	0	46	8	0	6	0	14	1	8	0	0	9	69
Total	0	0	0	0	0	0	269	109	13	391	70	0	45	1	116	42	171	0	49	262	769
09:00 AM	0	0	0	0	0	0	22	7	0	29	1	0	9	0	10	3	13	0	0	16	55
09:15 AM	0	0	0	0	0	0	36	2	3	41	6	0	9	0	15	5	31	0	0	36	92
09:30 AM	0	0	0	0	0	0	34	5	0	39	7	0	8	0	15	1	18	0	1	20	74
09:45 AM	0	0	0	0	0	0	24	3	0	27	3	0	4	0	7	6	25	0	1	32	66
Total	0	0	0	0	0	0	116	17	3	136	17	0	30	0	47	15	87	0	2	104	287
11:00 AM	0	0	0	0	0	0	47	6	2	55	5	0	2	2	9	16	24	0	1	41	105
11:15 AM	0	0	0	0	0	0	23	9	3	35	10	0	5	1	16	16	37	0	1	54	105
11:30 AM	0	0	0	0	0	0	20	6	6	32	8	0	1	0	9	7	29	0	0	36	77
11:45 AM	0	0	0	0	0	0	22	5	2	29	3	0	4	0	7	4	24	0	0	28	64
Total	0	0	0	0	0	0	112	26	13	151	26	0	12	3	41	43	114	0	2	159	351
12:00 PM	0	0	0	0	0	0	24	0	5	29	4	0	5	0	9	7	35	0	3	45	83
12:15 PM	0	0	0	0	0	0	52	9	12	73	4	0	6	4	14	7	26	0	0	33	120
12:30 PM	0	0	0	0	0	0	22	10	0	32	5	0	7	0	12	3	31	0	0	34	78
12:45 PM	0	0	0	0	0	0	21	7	8	36	3	0	6	0	9	5	26	0	2	33	78
Total	0	0	0	0	0	0	119	26	25	170	16	0	24	4	44	22	118	0	5	145	359



# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 2

Groups Printed- Cars - Trucks - Cyclists

Start Time	Southbound					Columbia Way Westbound					Kingsview Dr Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:00 PM	0	0	0	0	0	0	28	6	0	34	19	0	10	0	29	14	59	0	1	74	137
03:15 PM	0	0	0	0	0	0	55	10	0	65	11	0	9	0	20	15	55	0	0	70	155
03:30 PM	0	0	0	0	0	0	46	10	10	66	8	0	12	0	20	13	59	0	4	76	162
03:45 PM	0	0	0	0	0	0	26	4	0	30	4	0	9	0	13	13	40	0	1	54	97
Total	0	0	0	0	0	0	155	30	10	195	42	0	40	0	82	55	213	0	6	274	551
04:00 PM	0	0	0	0	0	0	23	7	0	30	11	0	8	0	19	11	57	0	2	70	119
04:15 PM	0	0	0	0	0	0	25	8	0	33	9	0	5	0	14	16	50	0	0	66	113
04:30 PM	0	0	0	0	0	0	24	11	0	35	13	0	3	1	17	16	64	0	0	80	132
04:45 PM	0	0	0	0	0	0	28	12	0	40	5	0	3	0	8	12	58	0	0	70	118
Total	0	0	0	0	0	0	100	38	0	138	38	0	19	1	58	55	229	0	2	286	482
05:00 PM	0	0	0	0	0	0	25	13	0	38	8	0	8	0	16	18	77	0	0	95	149
05:15 PM	0	0	0	0	0	0	18	11	0	29	8	0	5	1	14	17	66	0	0	83	126
05:30 PM	0	0	0	0	0	0	38	9	0	47	14	0	6	0	20	18	57	0	0	75	142
05:45 PM	0	0	0	0	0	0	33	18	0	51	7	0	8	0	15	11	70	0	0	81	147
Total	0	0	0	0	0	0	114	51	0	165	37	0	27	1	65	64	270	0	0	334	564
Grand Total	0	0	0	0	0	0	1238	335	72	1645	298	0	234	11	543	310	1363	0	75	1748	3936
Apprch %	0	0	0	0	0	0	75.3	20.4	4.4		54.9	0	43.1	2		17.7	78	0	4.3		
Total %	0	0	0	0	0	0	31.5	8.5	1.8	41.8	7.6	0	5.9	0.3	13.8	7.9	34.6	0	1.9	44.4	
Cars	0	0	0	0	0	0	1196	319	72	1587	288	0	227	11	526	303	1318	0	75	1696	3809
% Cars	0	0	0	0	0	0	96.6	95.2	100	96.5	96.6	0	97	100	96.9	97.7	96.7	0	100	97	96.8
Trucks	0	0	0	0	0	0	42	16	0	58	10	0	7	0	17	7	45	0	0	52	127
% Trucks	0	0	0	0	0	0	3.4	4.8	0	3.5	3.4	0	3	0	3.1	2.3	3.3	0	0	3	3.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

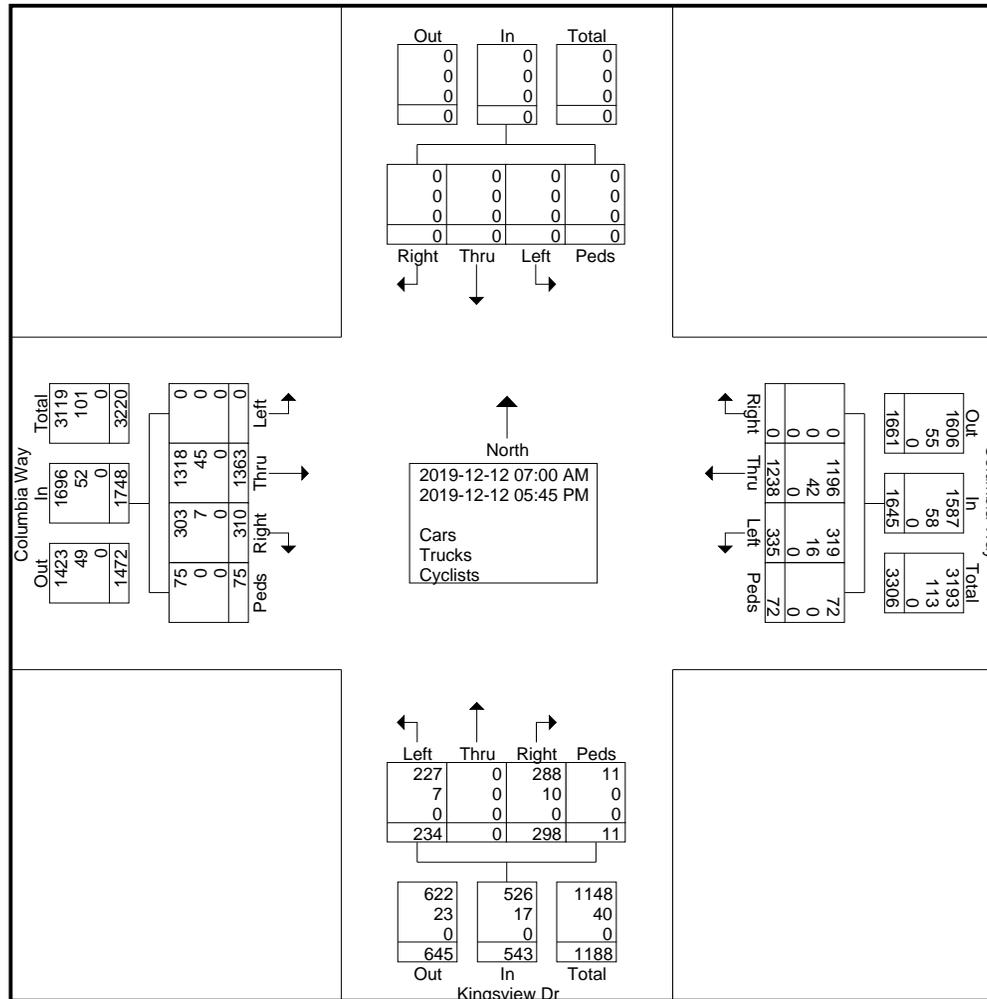


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 3





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 4

Start Time	Southbound					Columbia Way Westbound					Kingsview Dr Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	94	19	4	117	29	0	10	0	39	9	70	0	6	85	241
08:00 AM	0	0	0	0	0	0	<b>116</b>	38	<b>7</b>	<b>161</b>	<b>31</b>	0	8	0	39	14	<b>106</b>	0	4	<b>124</b>	<b>324</b>
08:15 AM	0	0	0	0	0	0	76	<b>45</b>	4	125	17	0	<b>16</b>	0	33	<b>15</b>	36	0	0	51	209
08:30 AM	0	0	0	0	0	0	38	19	2	59	14	0	15	<b>1</b>	30	12	21	0	<b>45</b>	78	167
Total Volume	0	0	0	0	0	0	324	121	17	462	91	0	49	1	141	50	233	0	55	338	941
% App. Total	0	0	0	0	0	0	70.1	26.2	3.7		64.5	0	34.8	0.7		14.8	68.9	0	16.3		
PHF	.000	.000	.000	.000	.000	.000	.698	.672	.607	.717	.734	.000	.766	.250	.904	.833	.550	.000	.306	.681	.726
Cars	0	0	0	0	0	0	308	115	17	440	87	0	47	1	135	49	220	0	55	324	899
% Cars	0	0	0	0	0	0	95.1	95.0	100	95.2	95.6	0	95.9	100	95.7	98.0	94.4	0	100	95.9	95.5
Trucks	0	0	0	0	0	0	16	6	0	22	4	0	2	0	6	1	13	0	0	14	42
% Trucks	0	0	0	0	0	0	4.9	5.0	0	4.8	4.4	0	4.1	0	4.3	2.0	5.6	0	0	4.1	4.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

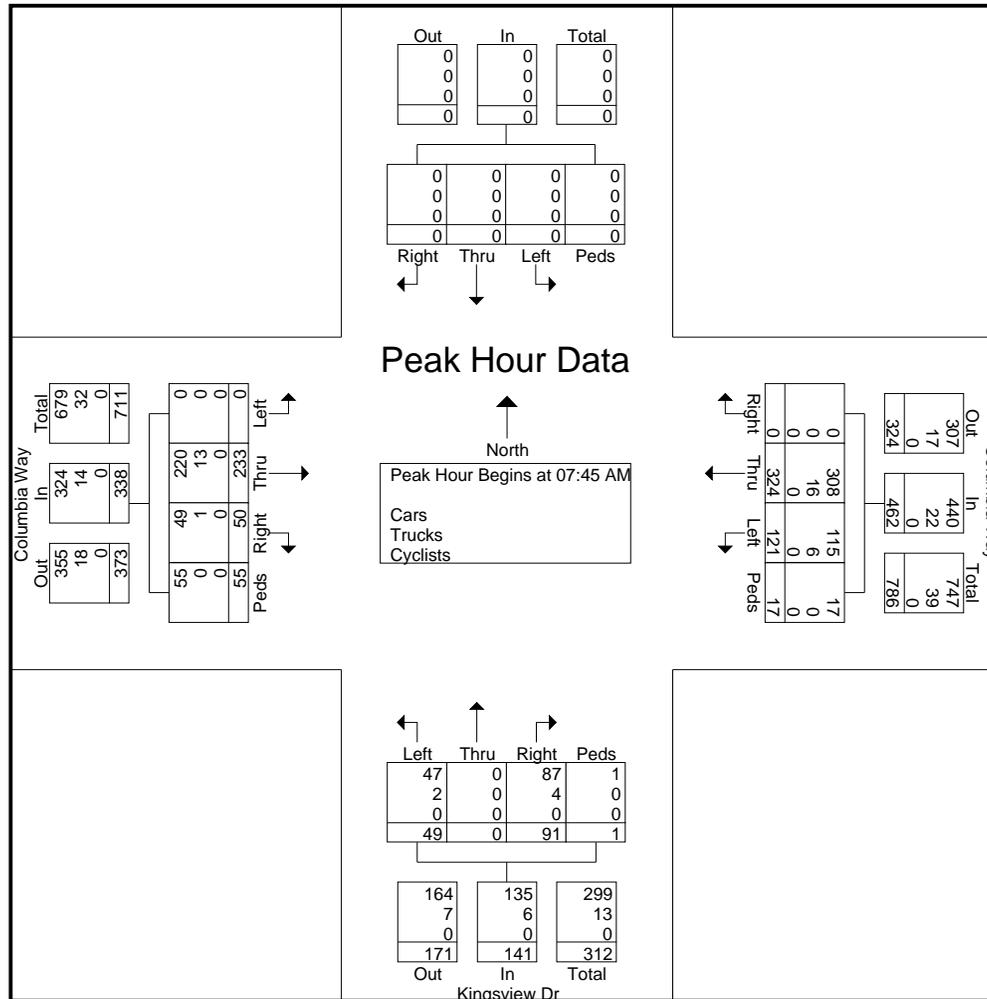


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 5





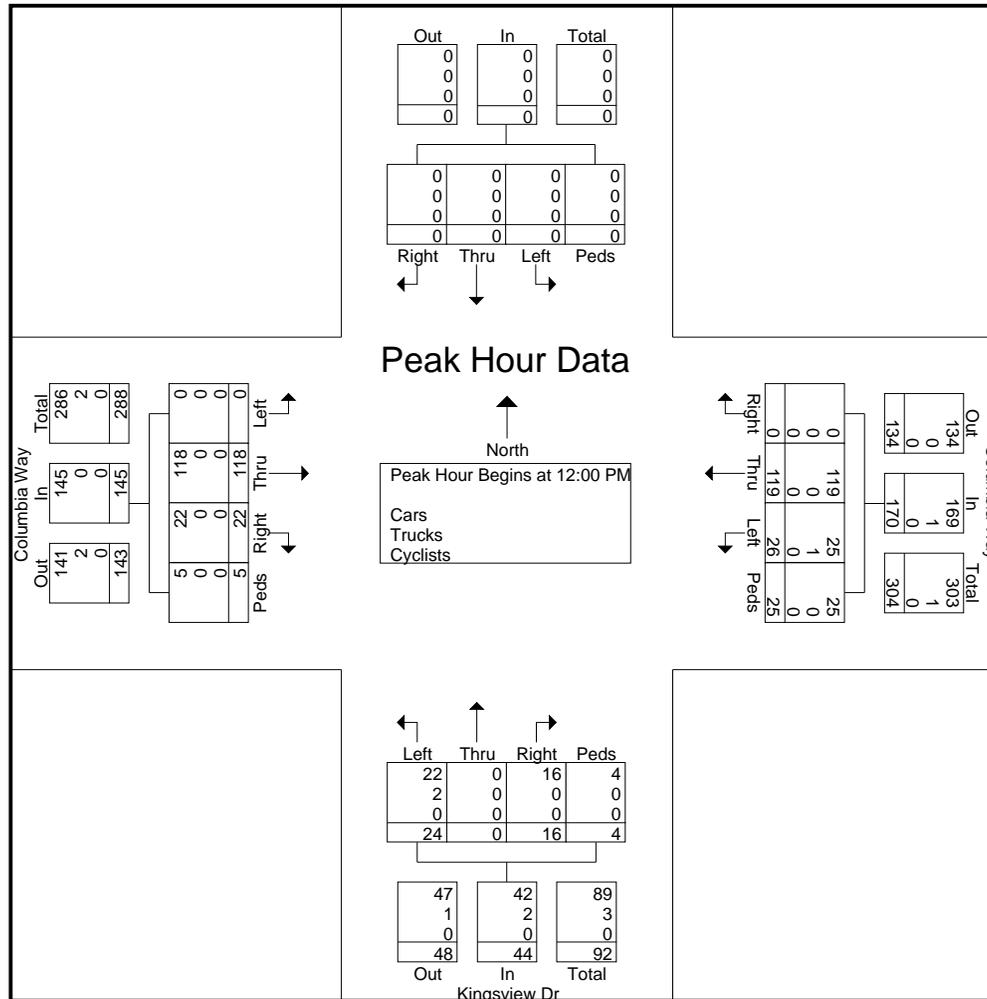


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 7





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 8

Start Time	Southbound					Columbia Way Westbound					Kingsview Dr Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	0	0	0	28	6	0	34	19	0	10	0	29	14	59	0	1	74	137
03:15 PM	0	0	0	0	0	0	55	10	0	65	11	0	9	0	20	15	55	0	0	70	155
03:30 PM	0	0	0	0	0	0	46	10	10	66	8	0	12	0	20	13	59	0	4	76	162
03:45 PM	0	0	0	0	0	0	26	4	0	30	4	0	9	0	13	13	40	0	1	54	97
Total Volume	0	0	0	0	0	0	155	30	10	195	42	0	40	0	82	55	213	0	6	274	551
% App. Total	0	0	0	0	0	0	79.5	15.4	5.1		51.2	0	48.8	0		20.1	77.7	0	2.2		
PHF	.000	.000	.000	.000	.000	.000	.705	.750	.250	.739	.553	.000	.833	.000	.707	.917	.903	.000	.375	.901	.850
Cars	0	0	0	0	0	0	149	29	10	188	39	0	38	0	77	52	204	0	6	262	527
% Cars	0	0	0	0	0	0	96.1	96.7	100	96.4	92.9	0	95.0	0	93.9	94.5	95.8	0	100	95.6	95.6
Trucks	0	0	0	0	0	0	6	1	0	7	3	0	2	0	5	3	9	0	0	12	24
% Trucks	0	0	0	0	0	0	3.9	3.3	0	3.6	7.1	0	5.0	0	6.1	5.5	4.2	0	0	4.4	4.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

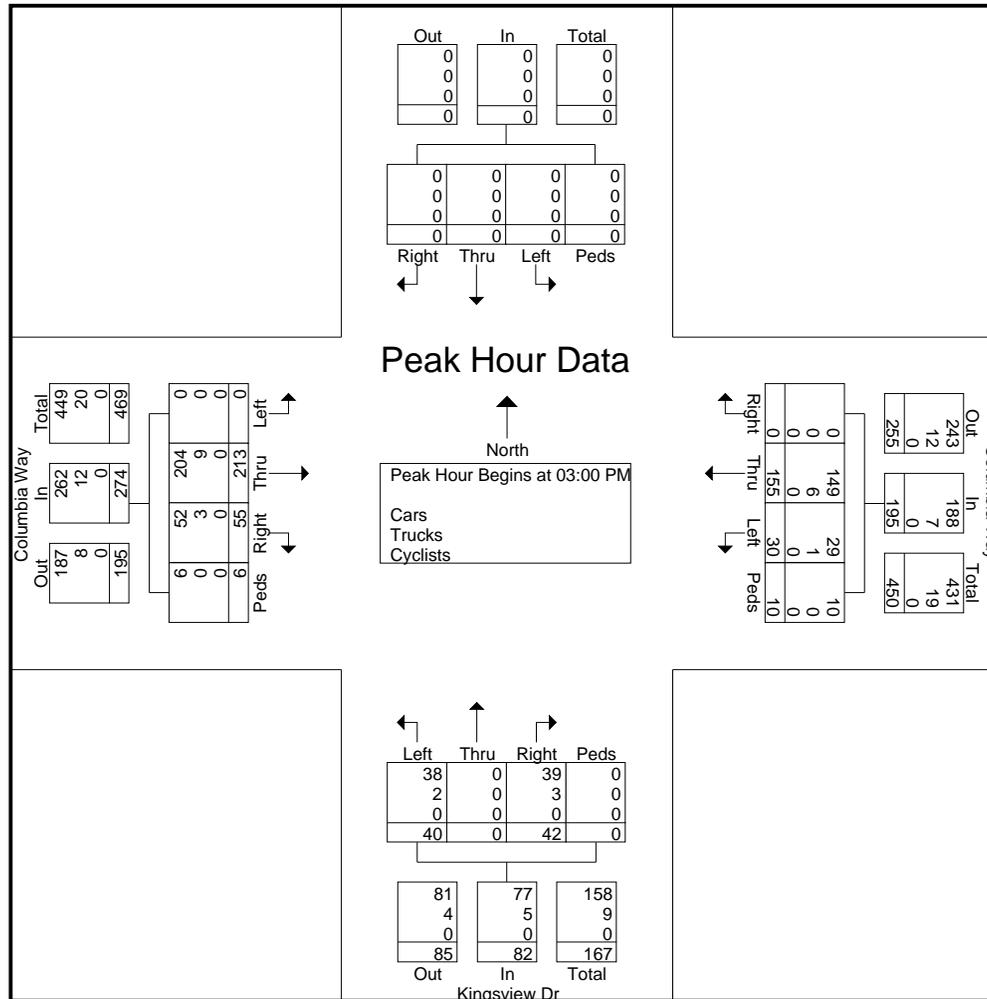


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : kingsview dr at columbia way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 9





# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 1

Groups Printed- Cars - Trucks - Cyclists

Start Time	Mt Hope Rd Southbound					Columbia Way Westbound					Mt Hope Rd Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	4	0	3	0	7	1	21	0	0	22	4	1	8	0	13	4	11	3	0	18	60
07:15 AM	4	0	5	0	9	0	28	0	0	28	6	0	7	0	13	1	11	3	0	15	65
07:30 AM	6	0	7	0	13	1	21	0	0	22	8	0	11	1	20	2	15	4	0	21	76
07:45 AM	19	2	3	1	25	2	49	1	0	52	7	3	10	2	22	2	26	5	0	33	132
Total	33	2	18	1	54	4	119	1	0	124	25	4	36	3	68	9	63	15	0	87	333
08:00 AM	33	1	5	0	39	5	82	0	0	87	2	0	12	1	15	10	46	6	0	62	203
08:15 AM	31	1	1	0	33	1	49	1	0	51	3	0	11	3	17	3	35	11	0	49	150
08:30 AM	7	2	6	0	15	2	24	1	0	27	6	0	6	0	12	1	19	11	0	31	85
08:45 AM	7	0	4	0	11	0	19	3	0	22	3	1	4	1	9	2	19	5	0	26	68
Total	78	4	16	0	98	8	174	5	0	187	14	1	33	5	53	16	119	33	0	168	506
09:00 AM	5	0	3	0	8	2	18	0	0	20	1	0	4	0	5	4	8	2	0	14	47
09:15 AM	5	0	3	0	8	0	16	1	0	17	2	1	4	3	10	3	11	3	0	17	52
09:30 AM	11	0	2	0	13	0	12	0	0	12	3	1	2	0	6	2	12	6	0	20	51
09:45 AM	6	0	3	0	9	0	9	0	0	9	4	0	4	0	8	0	23	2	0	25	51
Total	27	0	11	0	38	2	55	1	0	58	10	2	14	3	29	9	54	13	0	76	201
11:00 AM	4	1	1	0	6	1	18	2	0	21	1	0	3	3	7	2	17	3	0	22	56
11:15 AM	5	0	3	0	8	0	11	1	1	13	2	1	1	0	4	4	17	6	0	27	52
11:30 AM	5	1	0	0	6	0	12	2	0	14	2	1	1	0	4	5	16	4	0	25	49
11:45 AM	5	2	1	0	8	0	7	1	1	9	2	0	5	0	7	5	13	1	0	19	43
Total	19	4	5	0	28	1	48	6	2	57	7	2	10	3	22	16	63	14	0	93	200
12:00 PM	5	2	3	0	10	1	8	1	0	10	1	1	2	0	4	8	18	5	0	31	55
12:15 PM	7	0	1	0	8	4	19	0	0	23	1	0	6	0	7	7	19	5	0	31	69
12:30 PM	7	0	0	1	8	0	11	3	0	14	0	1	5	0	6	5	15	10	2	32	60
12:45 PM	6	2	1	0	9	0	15	3	0	18	2	0	4	0	6	4	13	5	0	22	55
Total	25	4	5	1	35	5	53	7	0	65	4	2	17	0	23	24	65	25	2	116	239



# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 2

Groups Printed- Cars - Trucks - Cyclists

Start Time	Mt Hope Rd Southbound					Columbia Way Westbound					Mt Hope Rd Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:00 PM	5	1	1	0	7	3	22	4	0	29	4	3	3	0	10	8	25	23	0	56	102
03:15 PM	11	1	4	0	16	6	18	2	0	26	2	2	8	2	14	11	31	16	0	58	114
03:30 PM	7	0	1	0	8	3	15	6	0	24	1	0	3	1	5	9	35	14	0	58	95
03:45 PM	4	0	6	0	10	6	14	4	0	24	3	2	2	1	8	7	34	7	0	48	90
Total	27	2	12	0	41	18	69	16	0	103	10	7	16	4	37	35	125	60	0	220	401
04:00 PM	7	0	0	0	7	3	21	0	0	24	2	3	5	0	10	8	26	2	0	36	77
04:15 PM	10	2	3	0	15	2	16	6	0	24	2	0	2	0	4	5	28	12	0	45	88
04:30 PM	7	2	3	0	12	1	21	1	0	23	1	1	2	0	4	6	42	13	0	61	100
04:45 PM	10	0	1	0	11	0	27	1	0	28	9	1	4	2	16	11	27	8	0	46	101
Total	34	4	7	0	45	6	85	8	0	99	14	5	13	2	34	30	123	35	0	188	366
05:00 PM	11	0	4	0	15	4	22	5	0	31	0	1	2	0	3	12	47	16	0	75	124
05:15 PM	12	2	3	0	17	7	18	7	0	32	1	0	0	0	1	7	31	11	0	49	99
05:30 PM	3	1	2	0	6	2	29	3	0	34	2	0	5	0	7	9	36	9	0	54	101
05:45 PM	10	1	4	0	15	2	35	3	0	40	2	1	6	0	9	13	35	4	0	52	116
Total	36	4	13	0	53	15	104	18	0	137	5	2	13	0	20	41	149	40	0	230	440
Grand Total	279	24	87	2	392	59	707	62	2	830	89	25	152	20	286	180	761	235	2	1178	2686
Apprch %	71.2	6.1	22.2	0.5		7.1	85.2	7.5	0.2		31.1	8.7	53.1	7		15.3	64.6	19.9	0.2		
Total %	10.4	0.9	3.2	0.1	14.6	2.2	26.3	2.3	0.1	30.9	3.3	0.9	5.7	0.7	10.6	6.7	28.3	8.7	0.1	43.9	
Cars	270	22	84	2	378	55	683	61	2	801	88	21	148	20	277	172	748	224	2	1146	2602
% Cars	96.8	91.7	96.6	100	96.4	93.2	96.6	98.4	100	96.5	98.9	84	97.4	100	96.9	95.6	98.3	95.3	100	97.3	96.9
Trucks	9	2	3	0	14	4	24	1	0	29	1	4	4	0	9	8	13	11	0	32	84
% Trucks	3.2	8.3	3.4	0	3.6	6.8	3.4	1.6	0	3.5	1.1	16	2.6	0	3.1	4.4	1.7	4.7	0	2.7	3.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

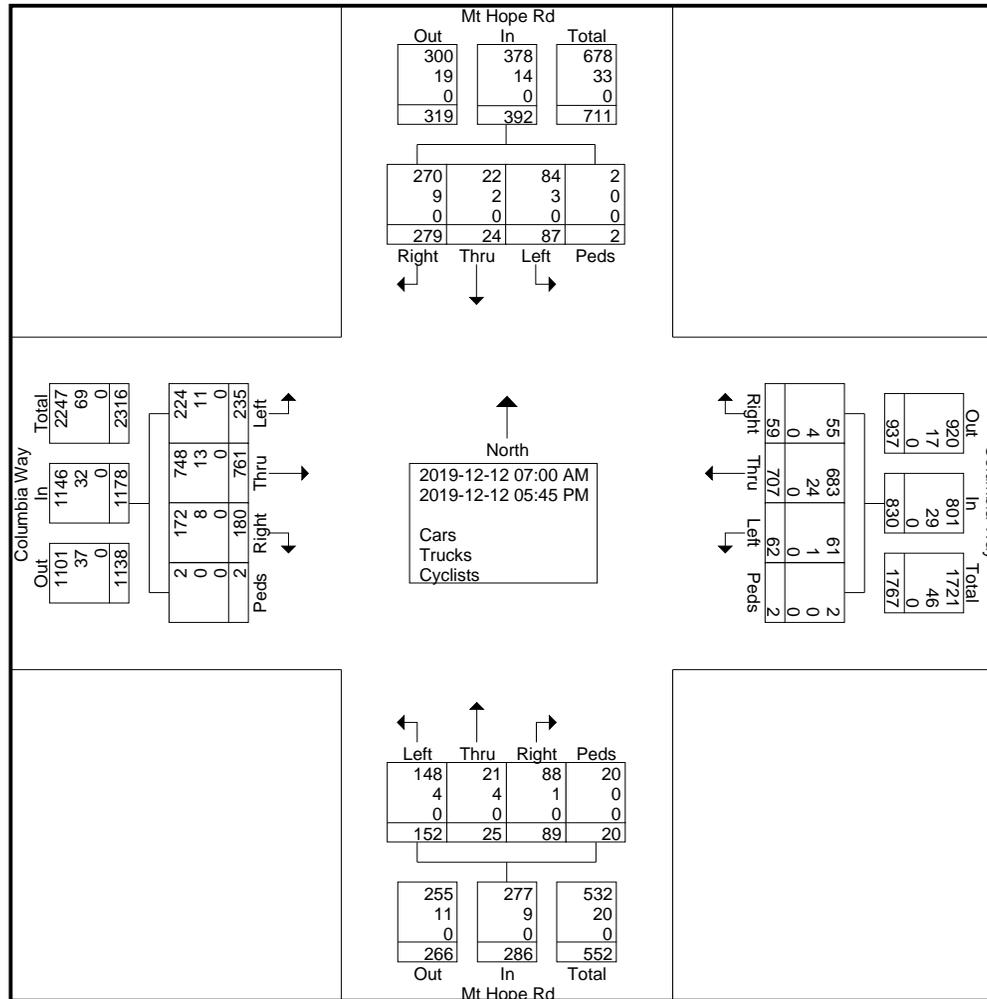


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 3





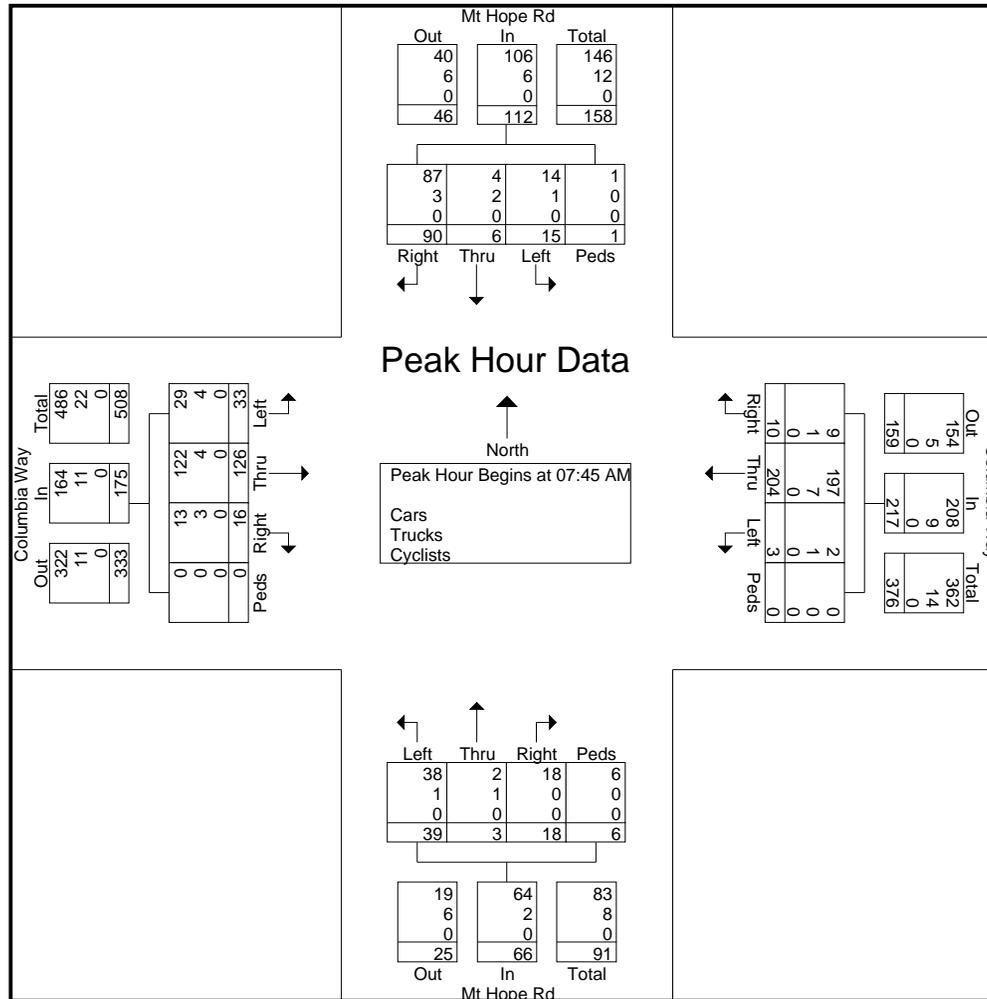


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*"We do not estimate...we count"*

File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 5





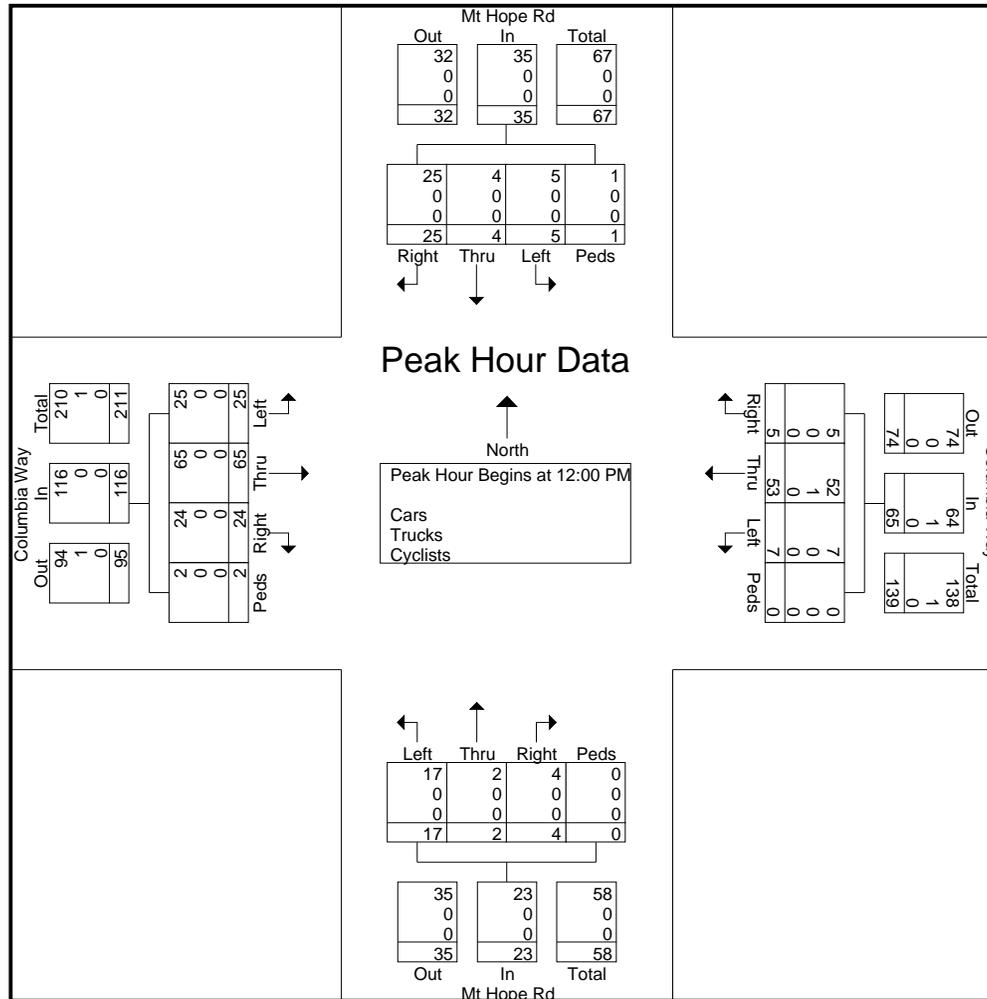


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*"We do not estimate...we count"*

File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 7





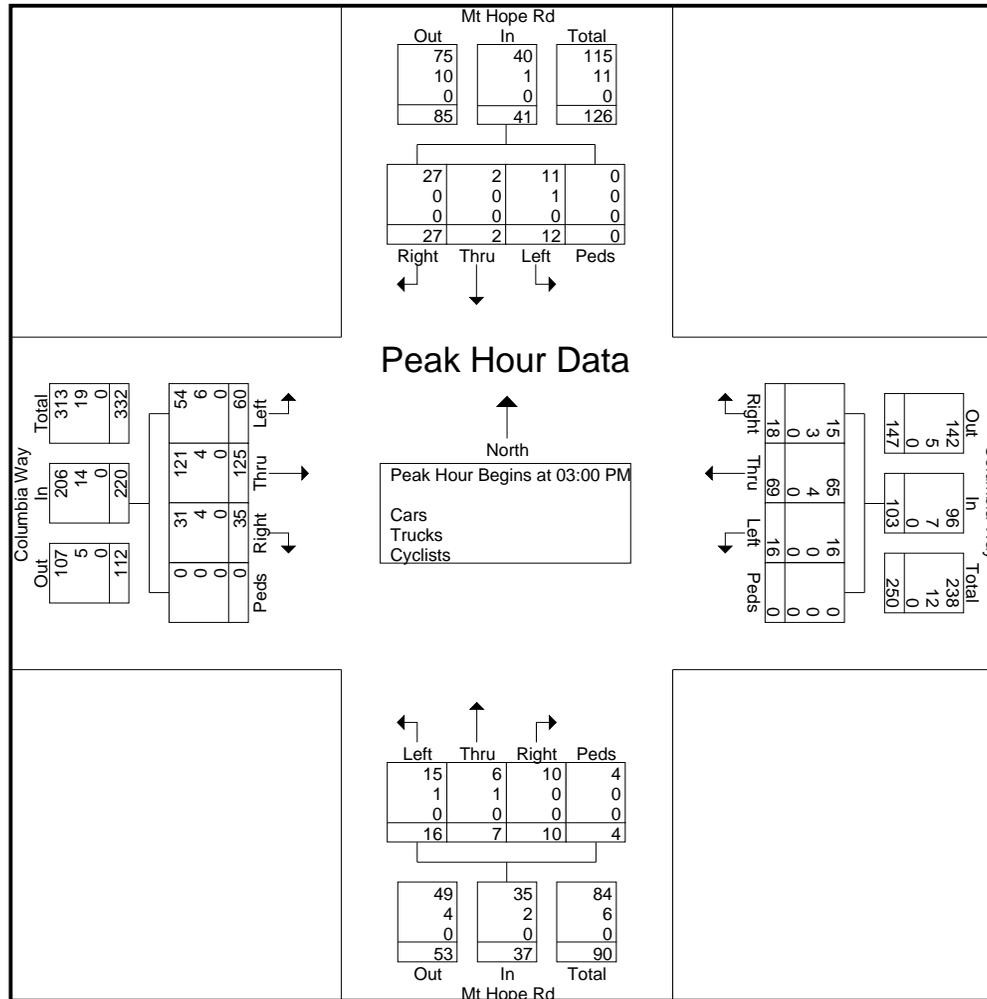


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File Name : Mt Hope at Columbia Way  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 9





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*"We do not estimate...we count"*

File Name : Columbia Way at Caledon King Townline  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 1

Groups Printed- Cars - Trucks - Cyclists

Start Time	Caledon King Townline Southbound					Columbia Way Westbound					Caledon King Townline Northbound					Columbia Way Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	1	110	0	0	111	0	0	0	0	0	0	18	5	0	23	36	0	3	0	39	173
07:15 AM	1	125	0	0	126	0	0	0	0	0	0	18	7	0	25	50	0	3	0	53	204
07:30 AM	5	116	0	0	121	0	0	0	0	0	0	25	8	0	33	35	0	2	0	37	191
07:45 AM	5	138	0	0	143	0	0	0	0	0	0	14	27	0	41	35	0	5	0	40	224
Total	12	489	0	0	501	0	0	0	0	0	0	75	47	0	122	156	0	13	0	169	792
08:00 AM	11	106	0	0	117	0	0	0	0	0	0	25	28	0	53	61	0	5	0	66	236
08:15 AM	11	111	0	0	122	0	0	0	0	0	0	20	11	0	31	39	0	7	0	46	199
08:30 AM	5	77	0	0	82	0	0	0	0	0	0	24	11	0	35	38	0	6	0	44	161
08:45 AM	0	96	0	0	96	0	0	0	0	0	0	24	9	0	33	31	0	1	0	32	161
Total	27	390	0	0	417	0	0	0	0	0	0	93	59	0	152	169	0	19	0	188	757
09:00 AM	3	77	0	0	80	0	0	0	0	0	0	19	5	0	24	14	0	2	0	16	120
09:15 AM	4	67	0	0	71	0	0	0	0	0	0	20	2	0	22	13	0	6	0	19	112
09:30 AM	3	60	0	0	63	0	0	0	0	0	0	29	2	0	31	20	0	1	0	21	115
09:45 AM	1	59	0	0	60	0	0	0	0	0	0	24	8	0	32	24	0	2	0	26	118
Total	11	263	0	0	274	0	0	0	0	0	0	92	17	0	109	71	0	11	0	82	465
11:00 AM	4	35	0	0	39	0	0	0	0	0	0	23	7	0	30	18	0	4	0	22	91
11:15 AM	1	44	0	0	45	0	0	0	0	0	0	21	9	0	30	19	0	2	0	21	96
11:30 AM	1	29	0	0	30	0	0	0	0	0	0	30	11	0	41	13	0	3	0	16	87
11:45 AM	2	29	0	0	31	0	0	0	0	0	0	25	6	0	31	11	0	2	0	13	75
Total	8	137	0	0	145	0	0	0	0	0	0	99	33	0	132	61	0	11	0	72	349
12:00 PM	4	34	0	0	38	0	0	0	0	0	0	29	9	0	38	16	0	5	0	21	97
12:15 PM	4	24	0	0	28	0	0	0	0	0	0	22	13	0	35	14	0	4	0	18	81
12:30 PM	2	33	0	0	35	0	0	0	0	0	0	27	13	0	40	10	0	2	0	12	87
12:45 PM	3	43	0	0	46	0	0	0	0	0	0	18	14	0	32	13	0	5	0	18	96
Total	13	134	0	0	147	0	0	0	0	0	0	96	49	0	145	53	0	16	0	69	361



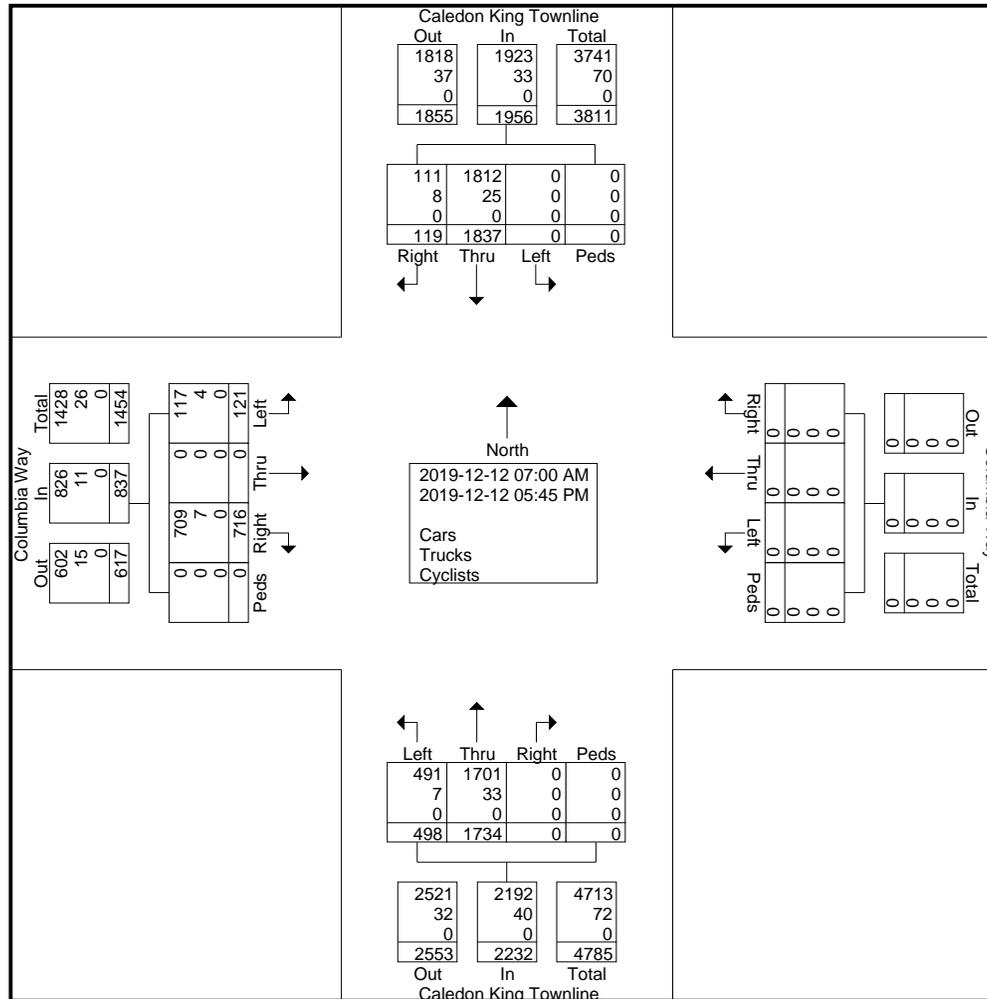


# Horizon Data Services Ltd

318 Simonston Boulevard  
 Thornhill ON L3T 4T5  
 (416) 840-6619

*"We do not estimate...we count"*

File Name : Columbia Way at Caledon King Townline  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 3





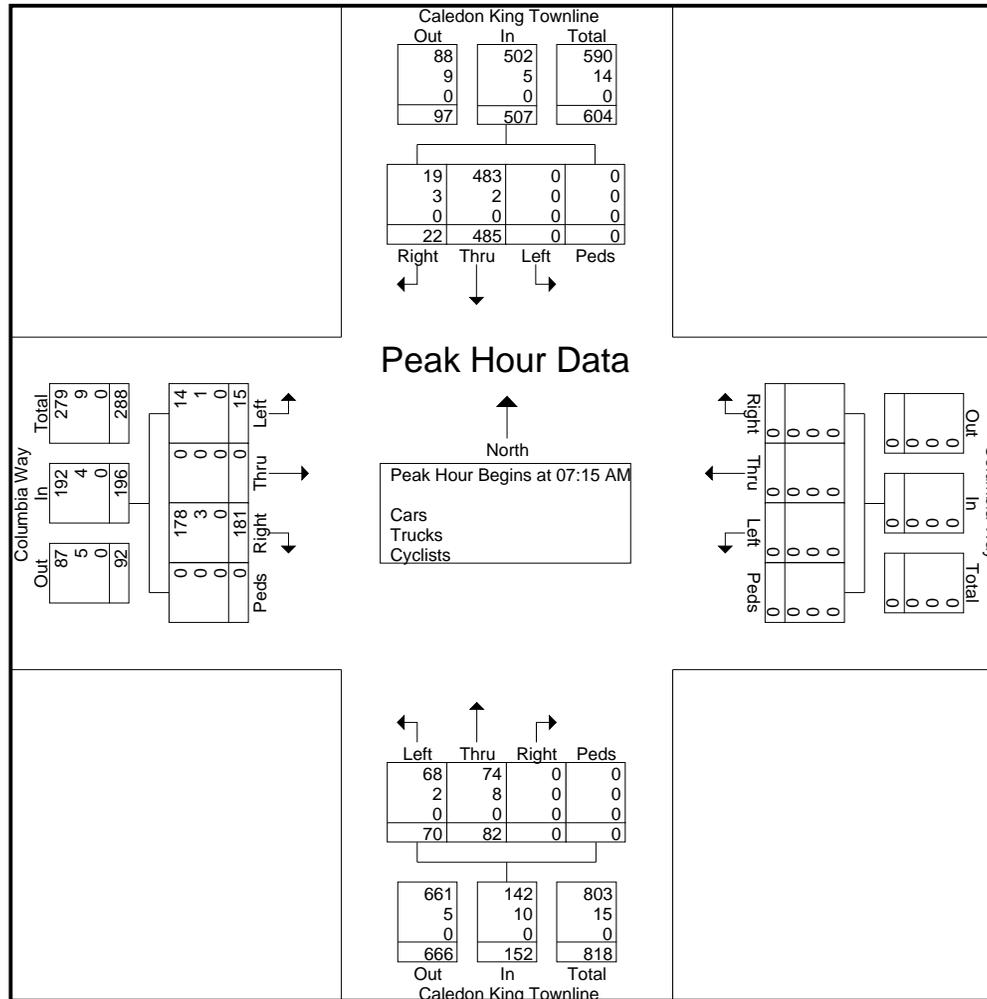


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318 Simonston Boulevard  
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*"We do not estimate...we count"*

File Name : Columbia Way at Caledon King Townline  
 Site Code : 00000144  
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 Page No : 5





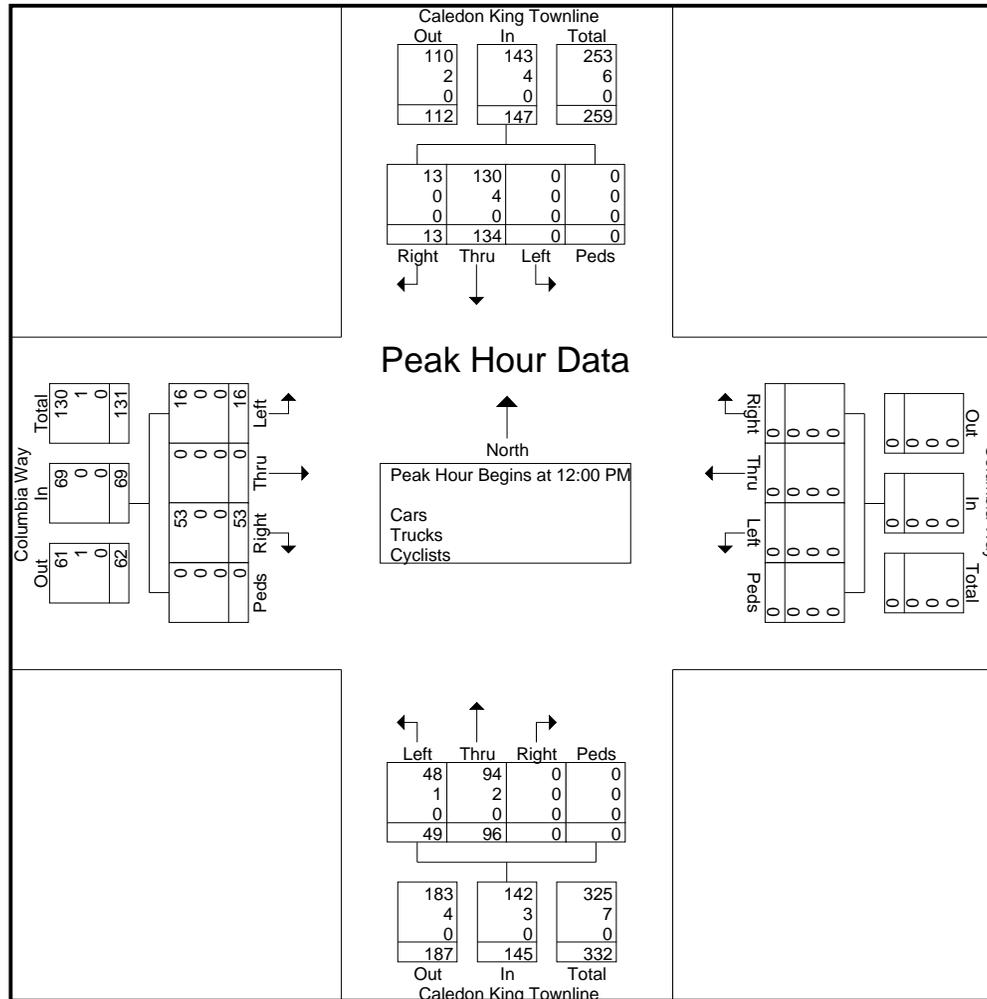


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*"We do not estimate...we count"*

File Name : Columbia Way at Caledon King Townline  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 7





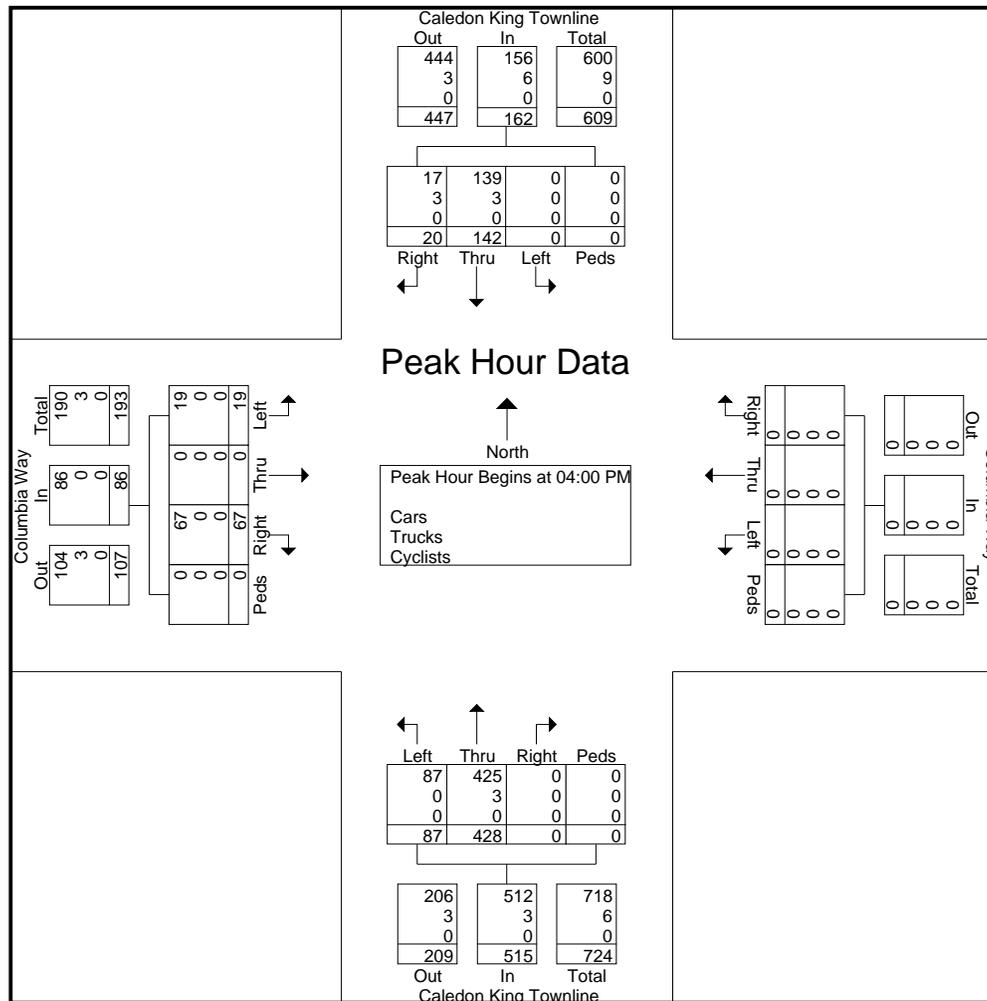


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File Name : Columbia Way at Caledon King Townline  
 Site Code : 00000144  
 Start Date : 2019-12-12  
 Page No : 9



# Horizon Data Services Ltd

318 Simonston Blvd  
Thornhill, ON L3T 4T5

*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 1

## Groups Printed- Cars - Trucks - Cyclists

Start Time	From North					Columbia Way From East					Forest Gate Ave From South					Columbia Way From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	7	1	0	8	29	0	25	0	54	3	31	0	0	34	96
07:15 AM	0	0	0	0	0	0	5	4	0	9	23	0	14	0	37	4	32	0	0	36	82
07:30 AM	0	0	0	0	0	0	14	1	0	15	17	0	18	0	35	2	22	0	0	24	74
07:45 AM	0	0	0	0	0	0	49	6	0	55	23	0	33	0	56	6	26	0	0	32	143
Total	0	0	0	0	0	0	75	12	0	87	92	0	90	0	182	15	111	0	0	126	395
08:00 AM	0	0	0	0	0	0	41	2	0	43	17	0	42	0	59	18	34	0	0	52	154
08:15 AM	0	0	0	0	0	0	20	0	0	20	21	0	32	0	53	10	32	0	0	42	115
08:30 AM	0	0	0	0	0	0	3	7	0	10	14	0	11	0	25	10	19	0	0	29	64
08:45 AM	0	0	0	0	0	0	7	4	0	11	12	0	10	0	22	7	13	0	0	20	53
Total	0	0	0	0	0	0	71	13	0	84	64	0	95	0	159	45	98	0	0	143	386
09:00 AM	0	0	0	0	0	0	5	1	0	6	15	0	11	0	26	5	18	0	0	23	55
09:15 AM	0	0	0	0	0	0	7	1	0	8	8	0	11	0	19	7	15	0	0	22	49
09:30 AM	0	0	0	0	0	0	4	2	0	6	13	0	4	0	17	6	12	0	0	18	41
09:45 AM	0	0	0	0	0	0	10	4	0	14	11	0	10	0	21	3	13	0	0	16	51
Total	0	0	0	0	0	0	26	8	0	34	47	0	36	0	83	21	58	0	0	79	196
11:00 AM	0	0	0	0	0	0	11	6	0	17	5	0	13	0	18	4	15	0	0	19	54
11:15 AM	0	0	0	0	0	0	7	2	0	9	8	0	7	0	15	12	16	0	0	28	52
11:30 AM	0	0	0	0	0	0	6	4	0	10	10	0	9	0	19	10	12	0	0	22	51
11:45 AM	0	0	0	0	0	0	5	5	0	10	3	0	3	0	6	8	11	0	0	19	35
Total	0	0	0	0	0	0	29	17	0	46	26	0	32	0	58	34	54	0	0	88	192
12:00 PM	0	0	0	0	0	0	7	5	0	12	1	0	3	0	4	12	10	0	0	22	38
12:15 PM	0	0	0	0	0	0	5	2	0	7	5	0	9	0	14	13	11	0	0	24	45
12:30 PM	0	0	0	0	0	0	13	4	0	17	7	0	6	0	13	4	11	0	0	15	45
12:45 PM	0	0	0	0	0	0	13	5	0	18	6	0	10	0	16	8	9	0	0	17	51
Total	0	0	0	0	0	0	38	16	0	54	19	0	28	0	47	37	41	0	0	78	179

# Horizon Data Services Ltd

318 Simonston Blvd  
Thornhill, ON L3T 4T5

*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 2

Groups Printed- Cars - Trucks - Cyclists

Start Time	From North					Columbia Way From East					Forest Gate Ave From South					Columbia Way From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:00 PM	0	0	0	0	0	0	20	7	0	27	8	0	8	0	16	18	19	0	0	37	80
03:15 PM	0	0	0	0	0	0	17	15	0	32	6	0	10	1	17	18	20	0	0	38	87
03:30 PM	0	0	0	0	0	0	15	6	0	21	8	0	7	0	15	20	24	0	0	44	80
03:45 PM	0	0	0	0	0	0	22	21	0	43	13	0	13	0	26	25	23	0	0	48	117
Total	0	0	0	0	0	0	74	49	0	123	35	0	38	1	74	81	86	0	0	167	364
04:00 PM	0	0	0	0	0	0	20	16	0	36	9	0	9	0	18	14	18	0	0	32	86
04:15 PM	0	0	0	0	0	0	17	7	0	24	9	0	10	0	19	26	16	0	0	42	85
04:30 PM	0	0	0	0	0	0	16	16	0	32	4	0	14	0	18	26	9	0	0	35	85
04:45 PM	0	0	0	0	0	0	15	9	0	24	10	0	15	0	25	31	11	0	0	42	91
Total	0	0	0	0	0	0	68	48	0	116	32	0	48	0	80	97	54	0	0	151	347
05:00 PM	0	0	0	0	0	0	24	15	0	39	6	0	13	0	19	27	15	0	0	42	100
05:15 PM	0	0	0	0	0	0	27	25	0	52	3	0	18	0	21	36	12	0	0	48	121
05:30 PM	0	0	0	0	0	0	18	16	0	34	8	0	11	0	19	30	16	0	0	46	99
05:45 PM	0	0	0	0	0	0	19	27	0	46	6	0	5	0	11	23	13	0	0	36	93
Total	0	0	0	0	0	0	88	83	0	171	23	0	47	0	70	116	56	0	0	172	413
Grand Total	0	0	0	0	0	0	469	246	0	715	338	0	414	1	753	446	558	0	0	1004	2472
Apprch %	0	0	0	0	0	0	65.6	34.4	0		44.9	0	55	0.1		44.4	55.6	0	0		
Total %	0	0	0	0	0	0	19	10	0	28.9	13.7	0	16.7	0	30.5	18	22.6	0	0	40.6	
Cars	0	0	0	0	0	0	456	239	0	695	330	0	394	1	725	428	544	0	0	972	2392
% Cars	0	0	0	0	0	0	97.2	97.2	0	97.2	97.6	0	95.2	100	96.3	96	97.5	0	0	96.8	96.8
Trucks	0	0	0	0	0	0	13	7	0	20	8	0	19	0	27	18	14	0	0	32	79
% Trucks	0	0	0	0	0	0	2.8	2.8	0	2.8	2.4	0	4.6	0	3.6	4	2.5	0	0	3.2	3.2
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0	0

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318 Simonston Blvd  
Thornhill, ON L3T 4T5

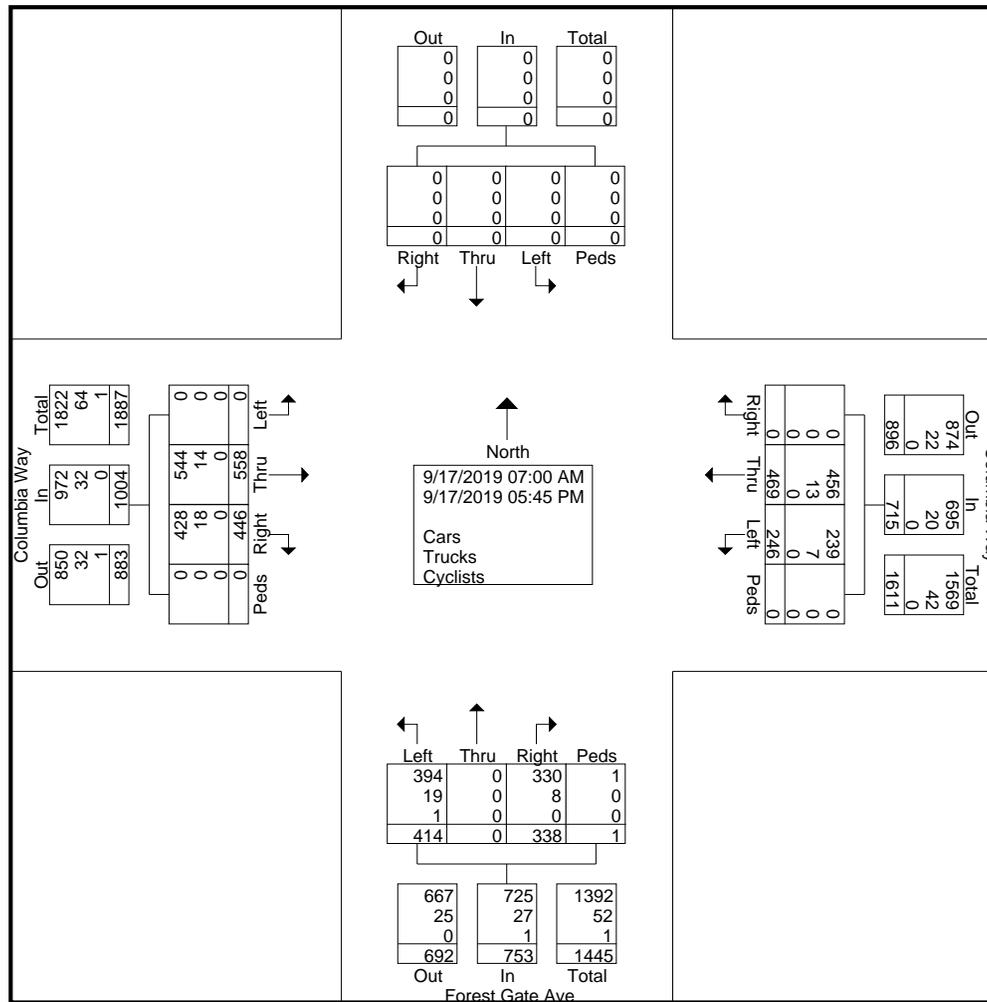
*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 3





# Horizon Data Services Ltd

318 Simonston Blvd  
Thornhill, ON L3T 4T5

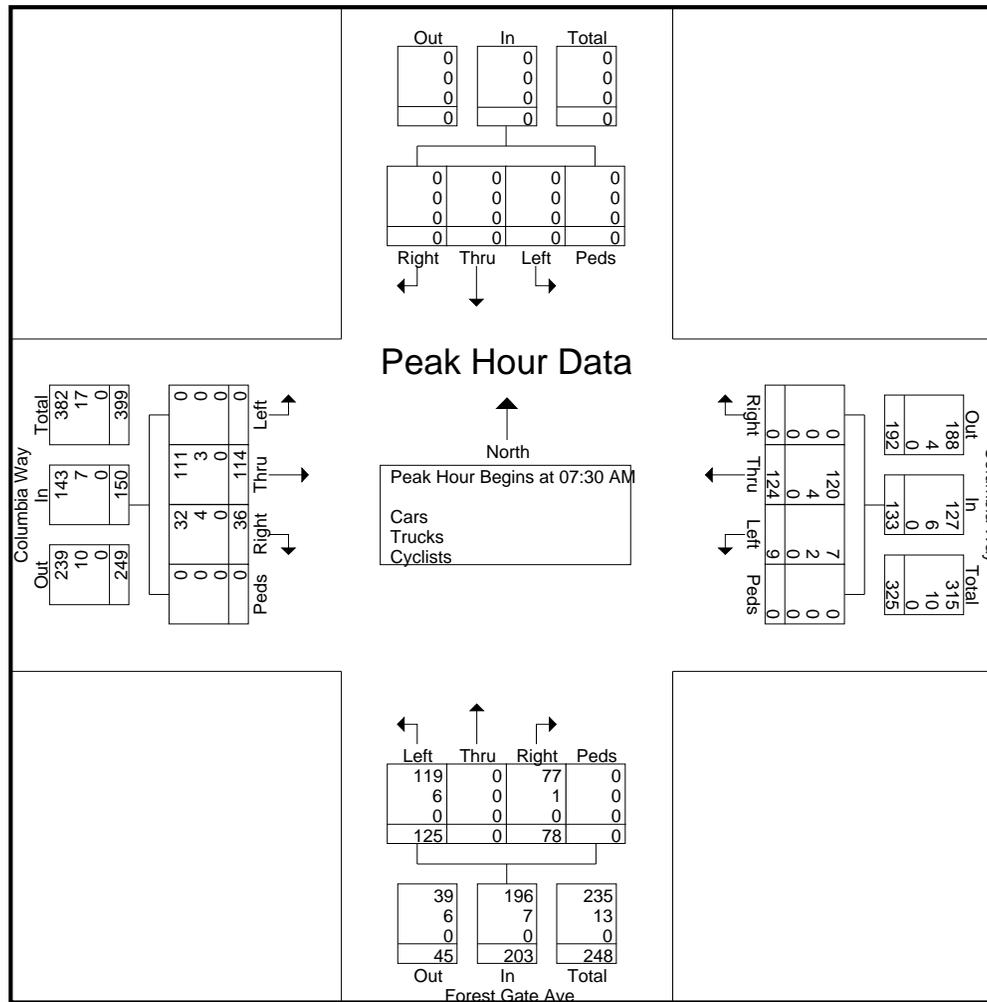
*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 5





# Horizon Data Services Ltd

318 Simonston Blvd  
Thornhill, ON L3T 4T5

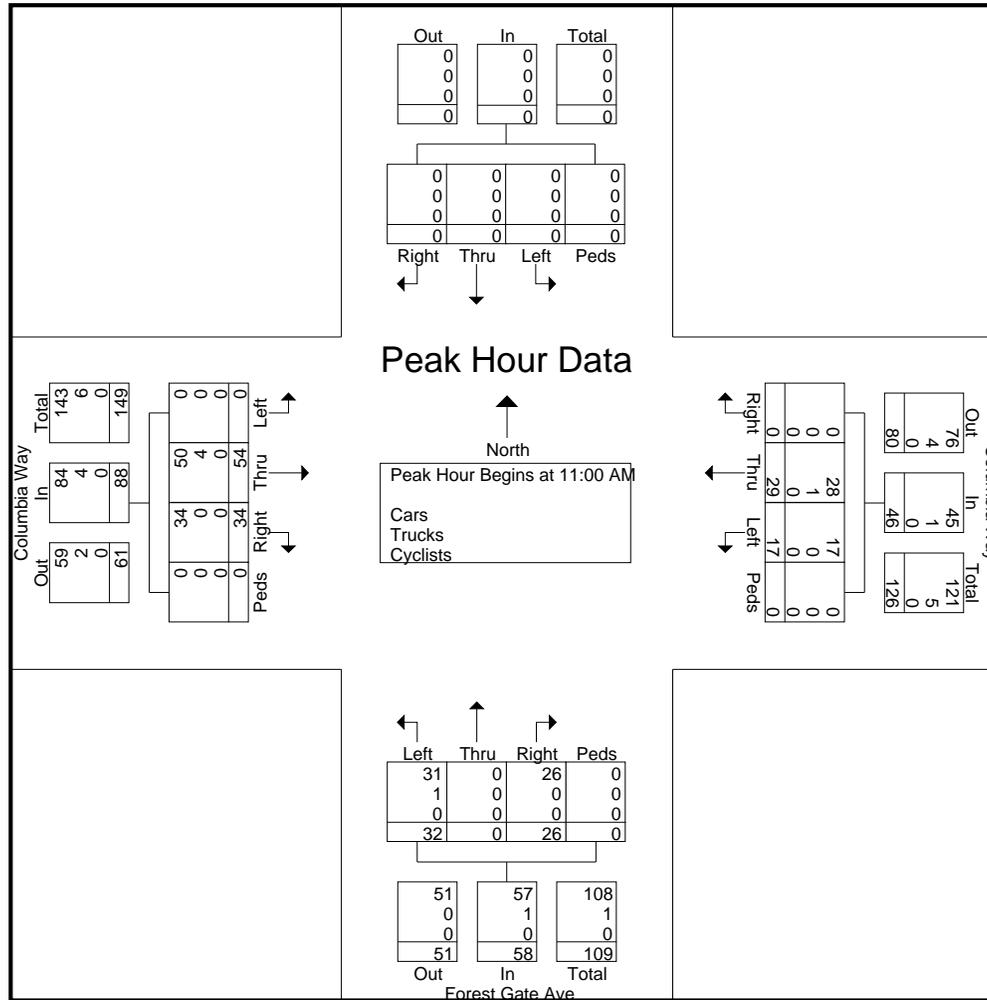
*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 7





# Horizon Data Services Ltd

318 Simonston Blvd  
Thornhill, ON L3T 4T5

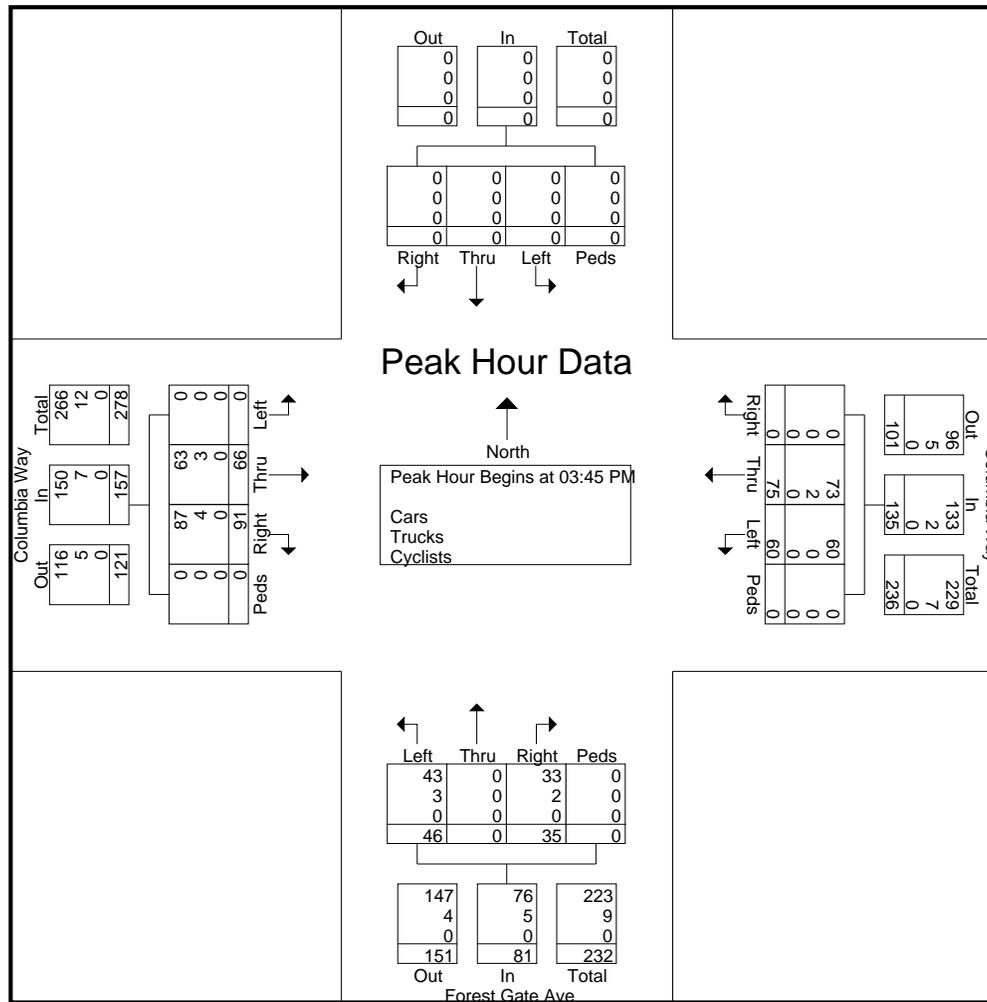
*"we always count...never estimated"*

File Name : Columbia Way at Forest Gate Ave

Site Code : 00000144

Start Date : 9/17/2019

Page No : 9



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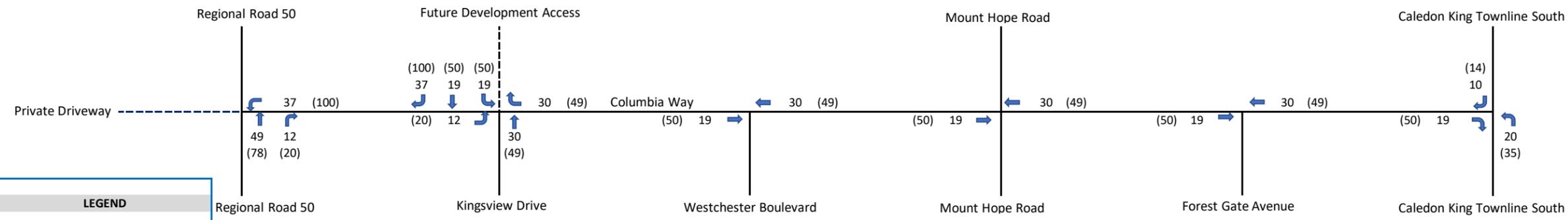
**APPENDIX B**

**TURNING MOVEMENT DIAGRAMS**

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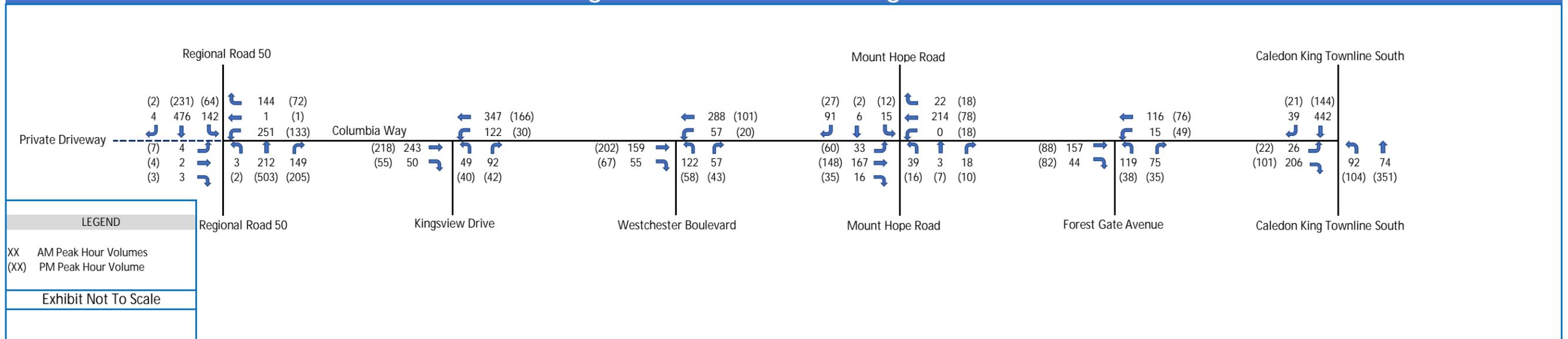
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# Figure 2: Background Development Trips

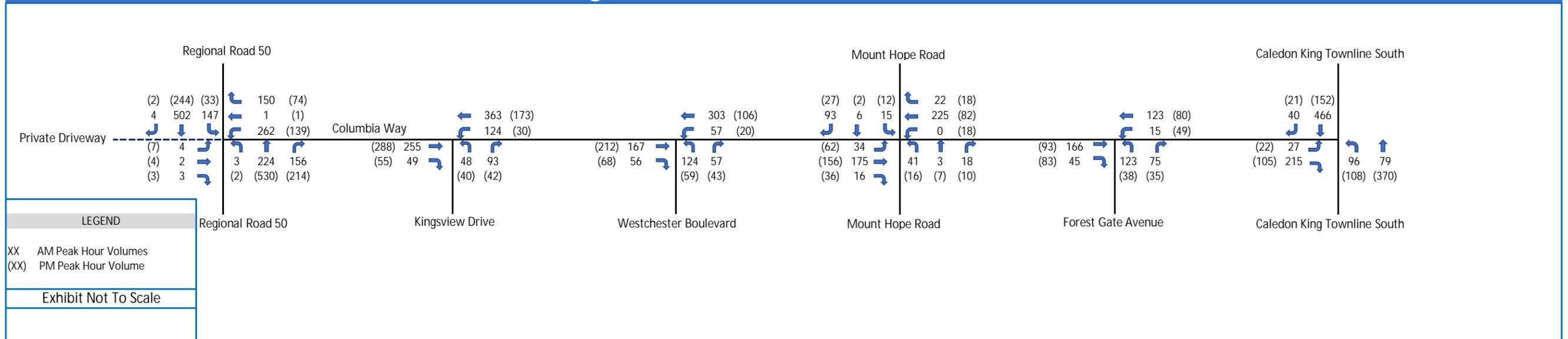


LEGEND	
XX	AM Peak Hour Volumes
((XX))	PM Peak Hour Volume
Exhibit Not To Scale	

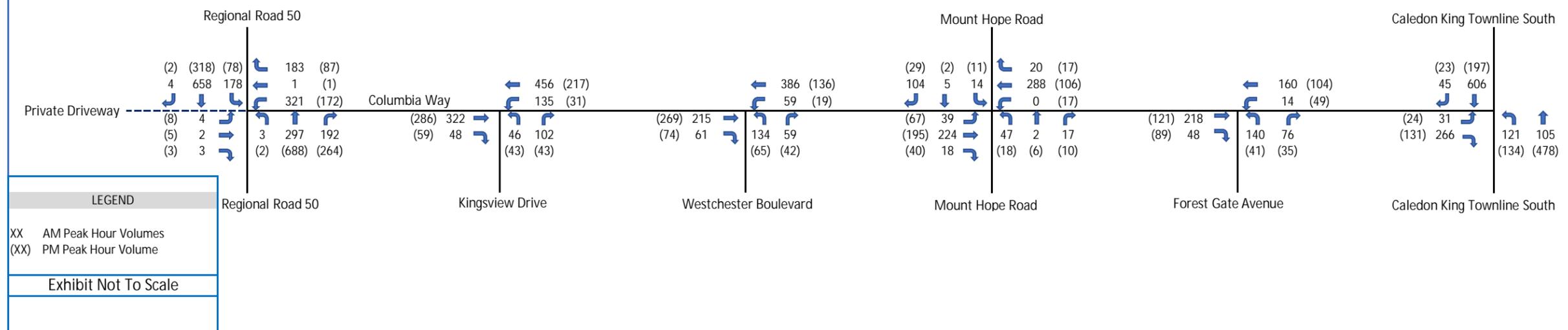
# Figure 3: 2020 Existing Traffic



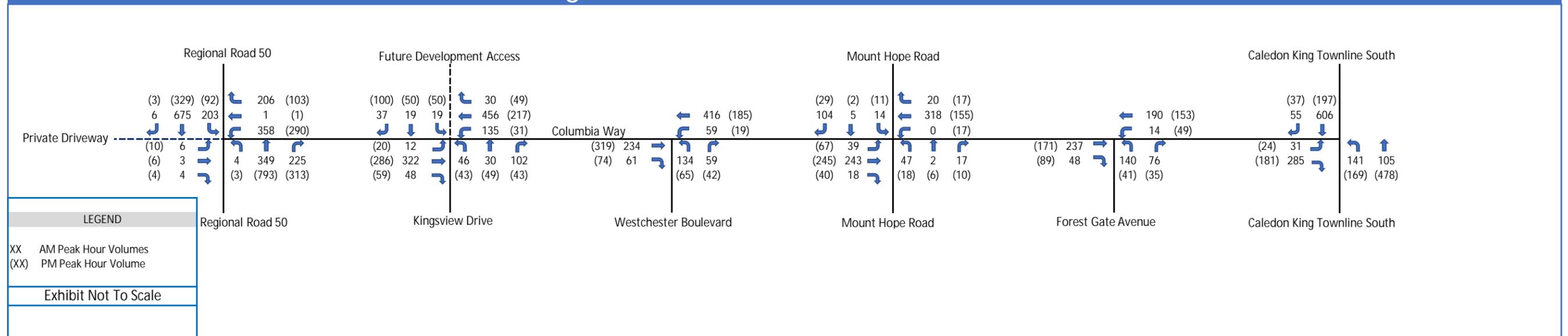
# Figure 4: 2022 Traffic Growth



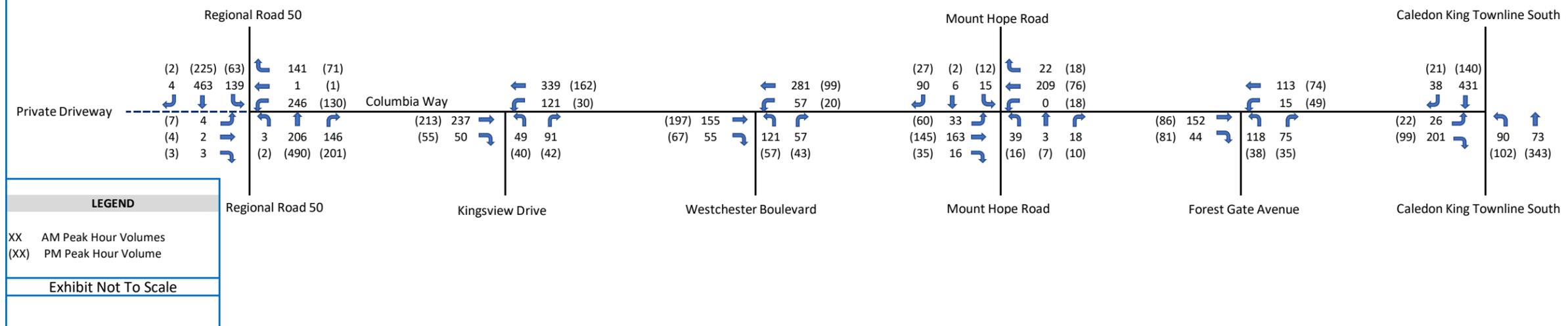
# Figure 5: 2032 Traffic Growth



# Figure 6: 2032 Future Conditions



# Figure 1: 2019 Traffic Counts



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**APPENDIX C**

**SIGNAL TIMING PLANS**

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## REGIONAL MUNICIPALITY OF PEEL

### Traffic Signal Timing Parameters

Database Date		August 1, 2017		Prepared Date:		July 27, 2020				
Database Rev		8		Completed By:		RC				
Timing Card / Field rev		-		Checked By:		TF				
Location:		Highway 50 at Columbia Way					TIME PERIOD (sec.) (Green+Amber+All Red)			
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)				
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX	
1	Not in Use									
2	Highway 50 - NB/SB	20.0	8.0	16.0	4.0	2.7	65.0	39.0	64.0	
3	Not in Use									
4	Columbia Way/Private Entrance - EB/WB	8.0	8.0	11.0	4.0	2.0	45.0	36.0	36.0	
System Control		Yes								
Local Control		No								
Semi-Actuated Mode		Yes								
				TIME (M-F)		PEAK		CYCLE LENGTH (sec.)		OFFSET (sec.)
				06:00-09:00		AM		110		0
				9:00 - 15:00		OFF		75		0
				15:00 - 19:00		PM		100		15

## REGIONAL MUNICIPALITY OF PEEL

### Traffic Signal Timing Parameters

Database Date		August 30, 2012		Prepared Date:		July 27, 2020		
Database Rev		4		Completed By:		RC		
Timing Card / Field rev		-		Checked By:		TF		
Location: Columbia Way at Kingsview Drive							TIME PERIOD (sec.) (Green+Amber+All Red)	
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	AM MAX	LOCAL OFF/PM
			WALK	FDWALK				
1								
2	Columbia Way - EB	8.0	8.0	7.0	4.0	2.0	70.0	43.0 (MAX)
3								
4	Kingsview Drive - NB	8.0	8.0	7.0	4.0	2.9	30.0	14.9 (MIN), 31.9 (MAX)
5								
6	Columbia Way - WB	8.0	8.0	7.0	4.0	2.0	70.0	43.0 (MAX)
7								
8	Kingsview Drive - Ped Only (SB Computer Phase)	8.0	8.0	7.0	4.0	2.9	30.0	14.9 (MIN), 31.9 (MAX)
System Control		No						
Local Control		Yes						
Semi-Actuated Mode		Yes						
		TIME (M-F)		PEAK		CYCLE LENGTH (sec.)		OFFSET (sec.)
		07:00-09:00		AM		100		0
		OFF/PM				Free		

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**APPENDIX D**

**HCM REPORTS**

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Queues  
1: Regional Road 50 & Columbia Way

2020 Existing PM  
Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	15	145	79	2	547	223	70	251	2
v/c Ratio	0.03	0.34	0.15	0.00	0.51	0.22	0.18	0.23	0.00
Control Delay	21.7	16.8	1.7	9.0	14.9	1.9	11.6	11.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	16.8	1.7	9.0	14.9	1.9	11.6	11.2	0.0
Queue Length 50th (m)	1.6	8.6	0.0	0.2	59.8	0.0	6.0	22.5	0.0
Queue Length 95th (m)	6.3	15.1	1.7	1.1	86.4	9.2	13.4	35.3	0.0
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	496	422	536	648	1078	1012	393	1078	931
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.34	0.15	0.00	0.51	0.22	0.18	0.23	0.00

Intersection Summary

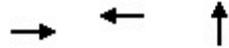
HCM 2010 Signalized Intersection Summary  
 1: Regional Road 50 & Columbia Way

2020 Existing PM  
 Columbia Way EA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	4	3	133	1	72	2	503	205	64	231	2
Future Volume (veh/h)	7	4	3	133	1	72	2	503	205	64	231	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	8	4	3	145	1	78	2	547	223	70	251	2
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	129	84	507	6	470	640	1067	907	347	1067	907
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	693	431	281	1403	20	1566	1122	1863	1583	696	1863	1583
Grp Volume(v), veh/h	15	0	0	145	0	79	2	547	223	70	251	2
Grp Sat Flow(s),veh/h/ln	1405	0	0	1403	0	1586	1122	1863	1583	696	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	3.7	0.1	17.8	7.0	6.8	6.6	0.1
Cycle Q Clear(g_c), s	3.7	0.0	0.0	7.0	0.0	3.7	6.7	17.8	7.0	24.5	6.6	0.1
Prop In Lane	0.53		0.20	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	477	0	0	507	0	476	640	1067	907	347	1067	907
V/C Ratio(X)	0.03	0.00	0.00	0.29	0.00	0.17	0.00	0.51	0.25	0.20	0.24	0.00
Avail Cap(c_a), veh/h	477	0	0	507	0	476	640	1067	907	347	1067	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	0.0	26.8	0.0	25.8	12.2	12.9	10.6	20.3	10.5	9.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.8	0.0	1.8	0.6	1.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	3.3	0.0	1.7	0.0	9.6	3.2	1.4	3.6	0.0
LnGrp Delay(d),s/veh	24.8	0.0	0.0	28.2	0.0	26.5	12.2	14.7	11.3	21.6	11.1	9.1
LnGrp LOS	C			C		C	B	B	B	C	B	A
Approach Vol, veh/h		15			224			772			323	
Approach Delay, s/veh		24.8			27.6			13.7			13.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		36.0		64.0		36.0				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 57		30.0		* 57		30.0				
Max Q Clear Time (g_c+I1), s		19.8		5.7		26.5		9.0				
Green Ext Time (p_c), s		14.2		0.1		5.5		1.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.1								
HCM 2010 LOS				B								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2020 Existing PM  
Columbia Way EA



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	297	213	89
v/c Ratio	0.39	0.30	0.18
Control Delay	23.1	21.4	5.1
Queue Delay	0.0	0.0	0.0
Total Delay	23.1	21.4	5.1
Queue Length 50th (m)	40.6	27.2	0.0
Queue Length 95th (m)	68.6	44.1	8.5
Internal Link Dist (m)	215.5	216.0	65.0
Turn Bay Length (m)			
Base Capacity (vph)	760	707	495
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.30	0.18
Intersection Summary			



**Intersection**

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	67	20	101	58	43
Future Vol, veh/h	202	67	20	101	58	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	220	73	22	110	63	47

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	293	411
Stage 1	-	-	-	257
Stage 2	-	-	-	154
Critical Hdwy	-	-	4.12	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	3.518
Pot Cap-1 Maneuver	-	-	1269	597
Stage 1	-	-	-	786
Stage 2	-	-	-	874
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1269	586
Mov Cap-2 Maneuver	-	-	-	586
Stage 1	-	-	-	786
Stage 2	-	-	-	858

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	-	-	1269	-
HCM Lane V/C Ratio	0.167	-	-	0.017	-
HCM Control Delay (s)	11.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	60	148	36	18	78	18	16	7	10	12	2	27
Future Vol, veh/h	60	148	36	18	78	18	16	7	10	12	2	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	161	39	20	85	20	17	8	11	13	2	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	200	0	0	462	456	181	455	465	95
Stage 1	-	-	-	-	-	-	311	311	-	135	135	-
Stage 2	-	-	-	-	-	-	151	145	-	320	330	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1486	-	-	1372	-	-	510	501	862	515	495	962
Stage 1	-	-	-	-	-	-	699	658	-	868	785	-
Stage 2	-	-	-	-	-	-	851	777	-	692	646	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1486	-	-	1372	-	-	469	469	862	477	463	962
Mov Cap-2 Maneuver	-	-	-	-	-	-	469	469	-	477	463	-
Stage 1	-	-	-	-	-	-	665	626	-	825	772	-
Stage 2	-	-	-	-	-	-	810	765	-	642	614	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			1.2			12.1			10.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	544	1486	-	-	1372	-	-	713
HCM Lane V/C Ratio	0.066	0.044	-	-	0.014	-	-	0.063
HCM Control Delay (s)	12.1	7.5	0	-	7.7	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

**Intersection**

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	88	82	49	76	38	35
Future Vol, veh/h	88	82	49	76	38	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	89	53	83	41	38

**Major/Minor**

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	185	0	330
Stage 1	-	-	-	-	141
Stage 2	-	-	-	-	189
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1390	-	665
Stage 1	-	-	-	-	886
Stage 2	-	-	-	-	843
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1390	-	638
Mov Cap-2 Maneuver	-	-	-	-	638
Stage 1	-	-	-	-	886
Stage 2	-	-	-	-	809

**Approach**

	EB	WB	NB
HCM Control Delay, s	0	3	10.4
HCM LOS			B

**Minor Lane/Major Mvmt**

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	744	-	-	1390	-
HCM Lane V/C Ratio	0.107	-	-	0.038	-
HCM Control Delay (s)	10.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	0	101	0	0	0	104	352	0	0	144	21
Future Vol, veh/h	22	0	101	0	0	0	104	352	0	0	144	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	110	0	0	0	113	383	0	0	157	23

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	778	778	169	833	789	383	180	0	0	383	0	0
Stage 1	169	169	-	609	609	-	-	-	-	-	-	-
Stage 2	609	609	-	224	180	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	314	328	875	288	323	664	1396	-	-	1175	-	-
Stage 1	833	759	-	482	485	-	-	-	-	-	-	-
Stage 2	482	485	-	779	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	289	294	875	232	290	664	1396	-	-	1175	-	-
Mov Cap-2 Maneuver	289	294	-	232	290	-	-	-	-	-	-	-
Stage 1	747	759	-	432	435	-	-	-	-	-	-	-
Stage 2	432	435	-	681	750	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.1		0		1.8		0	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1396	-	-	642	-	1175	-	-
HCM Lane V/C Ratio	0.081	-	-	0.208	-	-	-	-
HCM Control Delay (s)	7.8	0	-	12.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	-	0	-	-

Queues  
1: Regional Road 50 & Columbia Way

2022 Future AM  
Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	9	284	164	3	243	168	161	543	4
v/c Ratio	0.02	0.67	0.28	0.01	0.28	0.20	0.30	0.62	0.01
Control Delay	10.9	25.2	4.1	10.0	11.2	3.0	12.5	15.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	25.2	4.1	10.0	11.2	3.0	12.5	15.9	0.0
Queue Length 50th (m)	0.4	24.0	0.1	0.2	13.1	0.0	8.8	35.9	0.0
Queue Length 95th (m)	2.7	44.0	9.6	1.5	32.2	9.1	24.8	80.7	0.0
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	1597	1416	1603	314	880	838	535	880	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.20	0.10	0.01	0.28	0.20	0.30	0.62	0.01

Intersection Summary

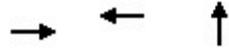
HCM 2010 Signalized Intersection Summary  
1: Regional Road 50 & Columbia Way

2022 Future AM  
Columbia Way EA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2	3	261	1	150	3	224	155	148	500	4
Future Volume (veh/h)	4	2	3	261	1	150	3	224	155	148	500	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	4	2	3	284	1	163	3	243	168	161	543	4
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	122	130	566	3	466	348	873	742	511	873	742
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	464	414	439	1405	10	1575	856	1863	1583	971	1863	1583
Grp Volume(v), veh/h	9	0	0	284	0	164	3	243	168	161	543	4
Grp Sat Flow(s),veh/h/ln	1316	0	0	1405	0	1585	856	1863	1583	971	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	4.4	0.0	4.4	0.1	4.3	3.4	6.6	11.8	0.1
Cycle Q Clear(g_c), s	4.4	0.0	0.0	8.8	0.0	4.4	11.9	4.3	3.4	10.9	11.8	0.1
Prop In Lane	0.44		0.33	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	486	0	0	566	0	469	348	873	742	511	873	742
V/C Ratio(X)	0.02	0.00	0.00	0.50	0.00	0.35	0.01	0.28	0.23	0.31	0.62	0.01
Avail Cap(c_a), veh/h	1980	0	0	2026	0	2115	348	873	742	511	873	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	16.3	0.0	14.9	15.2	8.8	8.5	12.1	10.7	7.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.4	0.0	0.8	0.7	1.6	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	3.7	0.0	2.0	0.0	2.4	1.6	2.0	6.8	0.0
LnGrp Delay(d),s/veh	13.5	0.0	0.0	17.0	0.0	15.4	15.3	9.5	9.2	13.7	14.1	7.6
LnGrp LOS	B			B		B	B	A	A	B	B	A
Approach Vol, veh/h		9			448			414			708	
Approach Delay, s/veh		13.5			16.4			9.5			13.9	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		22.0		32.0		22.0				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 25		72.0		* 25		72.0				
Max Q Clear Time (g_c+I1), s		13.9		6.4		13.8		10.8				
Green Ext Time (p_c), s		3.3		0.1		6.7		5.2				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				13.5								
HCM 2010 LOS				B								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2022 Future AM  
Columbia Way EA



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	331	531	154
v/c Ratio	0.35	0.74	0.45
Control Delay	15.2	27.0	21.2
Queue Delay	0.0	0.0	0.0
Total Delay	15.2	27.0	21.2
Queue Length 50th (m)	34.9	77.4	10.5
Queue Length 95th (m)	53.8	120.0	28.7
Internal Link Dist (m)	215.5	216.0	65.0
Turn Bay Length (m)			
Base Capacity (vph)	946	718	341
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.74	0.45
Intersection Summary			



Intersection						
Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	58	60	298	128	60
Future Vol, veh/h	164	58	60	298	128	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	63	65	324	139	65

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	241	0	664
Stage 1	-	-	-	-	210
Stage 2	-	-	-	-	454
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1326	-	426
Stage 1	-	-	-	-	825
Stage 2	-	-	-	-	640
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1326	-	400
Mov Cap-2 Maneuver	-	-	-	-	400
Stage 1	-	-	-	-	825
Stage 2	-	-	-	-	602

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	1326	-
HCM Lane V/C Ratio	0.427	-	-	0.049	-
HCM Control Delay (s)	18	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.2	-

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	173	17	0	222	23	41	3	19	16	6	95
Future Vol, veh/h	35	173	17	0	222	23	41	3	19	16	6	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	188	18	0	241	25	45	3	21	17	7	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	266	0	0	206	0	0	582	539	197	539	536	254
Stage 1	-	-	-	-	-	-	273	273	-	254	254	-
Stage 2	-	-	-	-	-	-	309	266	-	285	282	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1298	-	-	1365	-	-	424	449	844	453	451	785
Stage 1	-	-	-	-	-	-	733	684	-	750	697	-
Stage 2	-	-	-	-	-	-	701	689	-	722	678	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1298	-	-	1365	-	-	355	434	844	429	436	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	355	434	-	429	436	-
Stage 1	-	-	-	-	-	-	709	661	-	725	697	-
Stage 2	-	-	-	-	-	-	603	689	-	678	656	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0			14.8			11.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	435	1298	-	-	1365	-	-	680
HCM Lane V/C Ratio	0.157	0.029	-	-	-	-	-	0.187
HCM Control Delay (s)	14.8	7.9	0	-	0	-	-	11.5
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.7

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	161	47	16	120	125	80
Future Vol, veh/h	161	47	16	120	125	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	51	17	130	136	87
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	226	0	365	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1342	-	635	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1342	-	626	840
Mov Cap-2 Maneuver	-	-	-	-	626	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	853	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.9	12.6			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	695	-	-	1342	-	
HCM Lane V/C Ratio	0.321	-	-	0.013	-	
HCM Control Delay (s)	12.6	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.4	-	-	0	-	

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	0	213	0	0	0	95	77	0	0	457	40
Future Vol, veh/h	28	0	213	0	0	0	95	77	0	0	457	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	0	232	0	0	0	103	84	0	0	497	43

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	809	809	519	925	830	84	540	0	0	84	0	0
Stage 1	519	519	-	290	290	-	-	-	-	-	-	-
Stage 2	290	290	-	635	540	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	299	314	557	250	306	975	1028	-	-	1513	-	-
Stage 1	540	533	-	718	672	-	-	-	-	-	-	-
Stage 2	718	672	-	467	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	275	281	557	134	274	975	1028	-	-	1513	-	-
Mov Cap-2 Maneuver	275	281	-	134	274	-	-	-	-	-	-	-
Stage 1	483	533	-	643	601	-	-	-	-	-	-	-
Stage 2	643	601	-	273	521	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20		0		4.9		0	
HCM LOS	C		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	498	-	1513	-	-
HCM Lane V/C Ratio	0.1	-	-	0.526	-	-	-	-
HCM Control Delay (s)	8.9	0	-	20	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	3	-	0	-	-

Queues

2022 Future PM

1: Regional Road 50 & Columbia Way

Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	15	150	83	2	564	232	73	260	2
v/c Ratio	0.03	0.36	0.15	0.00	0.52	0.23	0.19	0.24	0.00
Control Delay	21.7	17.1	1.6	9.0	15.2	1.9	11.9	11.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	17.1	1.6	9.0	15.2	1.9	11.9	11.3	0.0
Queue Length 50th (m)	1.6	8.8	0.0	0.2	62.5	0.0	6.4	23.4	0.0
Queue Length 95th (m)	6.3	15.6	1.7	1.1	90.0	9.4	13.9	36.5	0.0
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	495	422	538	640	1078	1016	379	1078	931
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.36	0.15	0.00	0.52	0.23	0.19	0.24	0.00

Intersection Summary

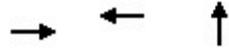
HCM 2010 Signalized Intersection Summary  
 1: Regional Road 50 & Columbia Way

2022 Future PM  
 Columbia Way EA

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	4	3	138	1	75	2	519	213	67	239	2
Future Volume (veh/h)	7	4	3	138	1	75	2	519	213	67	239	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	8	4	3	150	1	82	2	564	232	73	260	2
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	128	84	507	6	470	633	1067	907	335	1067	907
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	687	427	278	1403	19	1567	1113	1863	1583	679	1863	1583
Grp Volume(v), veh/h	15	0	0	150	0	83	2	564	232	73	260	2
Grp Sat Flow(s),veh/h/ln	1392	0	0	1403	0	1586	1113	1863	1583	679	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	3.9	0.1	18.5	7.3	7.4	6.9	0.1
Cycle Q Clear(g_c), s	3.9	0.0	0.0	7.2	0.0	3.9	7.0	18.5	7.3	25.9	6.9	0.1
Prop In Lane	0.53		0.20	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	473	0	0	507	0	476	633	1067	907	335	1067	907
V/C Ratio(X)	0.03	0.00	0.00	0.30	0.00	0.17	0.00	0.53	0.26	0.22	0.24	0.00
Avail Cap(c_a), veh/h	473	0	0	507	0	476	633	1067	907	335	1067	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	0.0	26.9	0.0	25.9	12.3	13.1	10.7	21.0	10.6	9.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.5	0.0	0.8	0.0	1.9	0.7	1.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	3.4	0.0	1.8	0.0	10.0	3.3	1.5	3.7	0.0
LnGrp Delay(d),s/veh	24.9	0.0	0.0	28.4	0.0	26.7	12.3	14.9	11.4	22.5	11.1	9.1
LnGrp LOS	C			C		C	B	B	B	C	B	A
Approach Vol, veh/h		15			233			798			335	
Approach Delay, s/veh		24.9			27.7			13.9			13.6	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		36.0		64.0		36.0				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 57		30.0		* 57		30.0				
Max Q Clear Time (g_c+I1), s		20.5		5.9		27.9		9.2				
Green Ext Time (p_c), s		14.6		0.1		5.7		1.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				16.3								
HCM 2010 LOS				B								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2022 Future PM  
Columbia Way EA



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	309	222	95
v/c Ratio	0.41	0.32	0.19
Control Delay	23.4	21.6	5.9
Queue Delay	0.0	0.0	0.0
Total Delay	23.4	21.6	5.9
Queue Length 50th (m)	42.4	28.5	0.0
Queue Length 95th (m)	71.6	46.1	9.8
Internal Link Dist (m)	215.5	216.0	65.0
Turn Bay Length (m)			
Base Capacity (vph)	760	703	495
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.41	0.32	0.19
Intersection Summary			



Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	209	71	21	105	60	46
Future Vol, veh/h	209	71	21	105	60	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	227	77	23	114	65	50
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	304	0	426	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1257	-	585	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1257	-	573	773
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	852	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.3	11.8			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	645	-	-	1257	-	
HCM Lane V/C Ratio	0.179	-	-	0.018	-	
HCM Control Delay (s)	11.8	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-	

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	64	154	37	19	81	19	17	7	11	13	2	29
Future Vol, veh/h	64	154	37	19	81	19	17	7	11	13	2	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	167	40	21	88	21	18	8	12	14	2	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	109	0	0	207	0	0	485	478	187	478	488	99
Stage 1	-	-	-	-	-	-	327	327	-	141	141	-
Stage 2	-	-	-	-	-	-	158	151	-	337	347	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1481	-	-	1364	-	-	492	486	855	498	480	957
Stage 1	-	-	-	-	-	-	686	648	-	862	780	-
Stage 2	-	-	-	-	-	-	844	772	-	677	635	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1481	-	-	1364	-	-	449	452	855	459	447	957
Mov Cap-2 Maneuver	-	-	-	-	-	-	449	452	-	459	447	-
Stage 1	-	-	-	-	-	-	649	613	-	815	768	-
Stage 2	-	-	-	-	-	-	801	760	-	624	601	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			1.2			12.3			10.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	529	1481	-	-	1364	-	-	697
HCM Lane V/C Ratio	0.072	0.047	-	-	0.015	-	-	0.069
HCM Control Delay (s)	12.3	7.6	0	-	7.7	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	91	86	52	78	40	37
Future Vol, veh/h	91	86	52	78	40	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	93	57	85	43	40

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	192	0	345 146
Stage 1	-	-	-	-	146 -
Stage 2	-	-	-	-	199 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1381	-	652 901
Stage 1	-	-	-	-	881 -
Stage 2	-	-	-	-	835 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1381	-	624 901
Mov Cap-2 Maneuver	-	-	-	-	624 -
Stage 1	-	-	-	-	881 -
Stage 2	-	-	-	-	799 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1381	-
HCM Lane V/C Ratio	0.114	-	-	0.041	-
HCM Control Delay (s)	10.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	0	105	0	0	0	108	364	0	0	148	22
Future Vol, veh/h	23	0	105	0	0	0	108	364	0	0	148	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	0	114	0	0	0	117	396	0	0	161	24

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	803	803	173	860	815	396	185	0	0	396	0	0
Stage 1	173	173	-	630	630	-	-	-	-	-	-	-
Stage 2	630	630	-	230	185	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	302	317	871	276	312	653	1390	-	-	1163	-	-
Stage 1	829	756	-	470	475	-	-	-	-	-	-	-
Stage 2	470	475	-	773	747	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	277	283	871	220	278	653	1390	-	-	1163	-	-
Mov Cap-2 Maneuver	277	283	-	220	278	-	-	-	-	-	-	-
Stage 1	739	756	-	419	424	-	-	-	-	-	-	-
Stage 2	419	424	-	672	747	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.3		0		1.8		0	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	629	-	1163	-	-
HCM Lane V/C Ratio	0.084	-	-	0.221	-	-	-	-
HCM Control Delay (s)	7.8	0	-	12.3	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	-	0	-	-

Queues  
1: Regional Road 50 & Columbia Way

2032 Future AM  
Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	14	385	225	4	379	245	221	734	7
v/c Ratio	0.03	0.79	0.32	0.02	0.41	0.27	0.50	0.79	0.01
Control Delay	13.2	35.5	3.7	14.8	16.3	3.1	20.8	27.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	35.5	3.7	14.8	16.3	3.1	20.8	27.0	0.0
Queue Length 50th (m)	1.0	50.4	0.1	0.3	33.4	0.0	20.6	84.7	0.0
Queue Length 95th (m)	4.3	80.3	12.1	2.5	72.1	13.0	53.5	#191.8	0.1
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	1203	1068	1269	166	926	912	446	926	803
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.36	0.18	0.02	0.41	0.27	0.50	0.79	0.01

Intersection Summary

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

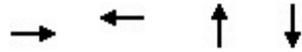
HCM 2010 Signalized Intersection Summary  
1: Regional Road 50 & Columbia Way

2032 Future AM  
Columbia Way EA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	3	4	354	1	206	4	349	225	203	675	6
Future Volume (veh/h)	6	3	4	354	1	206	4	349	225	203	675	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	7	3	4	385	1	224	4	379	245	221	734	7
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	110	118	587	3	590	178	876	745	356	876	745
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	495	295	316	1403	7	1577	715	1863	1583	797	1863	1583
Grp Volume(v), veh/h	14	0	0	385	0	225	4	379	245	221	734	7
Grp Sat Flow(s),veh/h/ln	1107	0	0	1403	0	1584	715	1863	1583	797	1863	1583
Q Serve(g_s), s	0.1	0.0	0.0	12.8	0.0	8.4	0.4	11.0	7.9	20.8	28.1	0.2
Cycle Q Clear(g_c), s	8.5	0.0	0.0	21.4	0.0	8.4	28.5	11.0	7.9	31.8	28.1	0.2
Prop In Lane	0.50		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	480	0	0	587	0	592	178	876	745	356	876	745
V/C Ratio(X)	0.03	0.00	0.00	0.66	0.00	0.38	0.02	0.43	0.33	0.62	0.84	0.01
Avail Cap(c_a), veh/h	960	0	0	1079	0	1148	178	876	745	356	876	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	0.0	23.1	0.0	18.6	31.3	14.3	13.5	24.9	18.9	11.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.4	0.2	1.6	1.2	7.9	9.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	7.9	0.0	3.8	0.1	6.0	3.6	5.3	16.6	0.1
LnGrp Delay(d),s/veh	16.4	0.0	0.0	24.3	0.0	19.0	31.5	15.9	14.7	32.9	28.3	11.5
LnGrp LOS	B			C		B	C	B	B	C	C	B
Approach Vol, veh/h		14			610			628			962	
Approach Delay, s/veh		16.4			22.4			15.5			29.2	
Approach LOS		B			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		36.4		45.0		36.4				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 38		59.0		* 38		59.0				
Max Q Clear Time (g_c+I1), s		30.5		10.5		33.8		23.4				
Green Ext Time (p_c), s		3.9		0.1		3.7		7.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				23.4								
HCM 2010 LOS				C								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2032 Future AM  
Columbia Way EA



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	417	680	195	82
v/c Ratio	0.40	0.80	0.69	0.38
Control Delay	14.8	28.6	50.6	36.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.8	28.6	50.6	36.2
Queue Length 50th (m)	49.6	118.9	33.7	10.9
Queue Length 95th (m)	71.2	176.5	#62.2	26.3
Internal Link Dist (m)	215.5	216.0	65.0	24.0
Turn Bay Length (m)				
Base Capacity (vph)	1052	849	283	218
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.80	0.69	0.38

Intersection Summary

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



Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	55	51	414	134	57
Future Vol, veh/h	236	55	51	414	134	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	257	60	55	450	146	62
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	317	0	847	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	560	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1243	-	332	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1243	-	312	752
Mov Cap-2 Maneuver	-	-	-	-	312	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	538	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.9	25.5			
HCM LOS			D			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	378	-	-	1243	-	
HCM Lane V/C Ratio	0.549	-	-	0.045	-	
HCM Control Delay (s)	25.5	-	-	8	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	3.2	-	-	0.1	-	

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	247	5	0	312	17	47	2	15	12	1	106
Future Vol, veh/h	41	247	5	0	312	17	47	2	15	12	1	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	268	5	0	339	18	51	2	16	13	1	115

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	357	0	0	273	0	0	767	718	271	718	711	348
Stage 1	-	-	-	-	-	-	361	361	-	348	348	-
Stage 2	-	-	-	-	-	-	406	357	-	370	363	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1202	-	-	1290	-	-	319	355	768	344	358	695
Stage 1	-	-	-	-	-	-	657	626	-	668	634	-
Stage 2	-	-	-	-	-	-	622	628	-	650	625	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1202	-	-	1290	-	-	256	339	768	324	342	695
Mov Cap-2 Maneuver	-	-	-	-	-	-	256	339	-	324	342	-
Stage 1	-	-	-	-	-	-	628	598	-	639	634	-
Stage 2	-	-	-	-	-	-	518	628	-	606	598	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0			20.2			12.4		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	1202	-	-	1290	-	-	618
HCM Lane V/C Ratio	0.227	0.037	-	-	-	-	-	0.209
HCM Control Delay (s)	20.2	8.1	0	-	0	-	-	12.4
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-	0.8

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	246	28	6	190	139	67
Future Vol, veh/h	246	28	6	190	139	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	267	30	7	207	151	73

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	297	0	503 282
Stage 1	-	-	-	-	282 -
Stage 2	-	-	-	-	221 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1264	-	528 757
Stage 1	-	-	-	-	766 -
Stage 2	-	-	-	-	816 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1264	-	525 757
Mov Cap-2 Maneuver	-	-	-	-	525 -
Stage 1	-	-	-	-	766 -
Stage 2	-	-	-	-	811 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	583	-	-	1264	-
HCM Lane V/C Ratio	0.384	-	-	0.005	-
HCM Control Delay (s)	15	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0	-

Intersection												
Int Delay, s/veh	15.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	0	283	0	0	0	140	106	0	0	600	56
Future Vol, veh/h	30	0	283	0	0	0	140	106	0	0	600	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	0	308	0	0	0	152	115	0	0	652	61

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1102	1102	683	1256	1132	115	713	0	0	115	0	0
Stage 1	683	683	-	419	419	-	-	-	-	-	-	-
Stage 2	419	419	-	837	713	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	189	212	449	148	203	937	887	-	-	1474	-	-
Stage 1	439	449	-	612	590	-	-	-	-	-	-	-
Stage 2	612	590	-	361	435	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	162	173	449	40	166	937	887	-	-	1474	-	-
Mov Cap-2 Maneuver	162	173	-	40	166	-	-	-	-	-	-	-
Stage 1	359	449	-	500	482	-	-	-	-	-	-	-
Stage 2	500	482	-	114	435	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	55		0		5.6		0	
HCM LOS	F		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	887	-	-	384	-	1474	-	-
HCM Lane V/C Ratio	0.172	-	-	0.886	-	-	-	-
HCM Control Delay (s)	9.9	0	-	55	0	0	-	-
HCM Lane LOS	A	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	8.9	-	0	-	-

Queues  
1: Regional Road 50 & Columbia Way

2032 Future PM  
Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	22	315	113	3	862	340	100	358	3
v/c Ratio	0.04	0.75	0.20	0.01	0.80	0.32	0.63	0.33	0.00
Control Delay	22.1	32.9	3.4	9.3	23.9	2.0	35.7	12.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	32.9	3.4	9.3	23.9	2.0	35.7	12.3	0.0
Queue Length 50th (m)	2.5	34.7	0.9	0.2	123.3	0.0	12.1	34.3	0.0
Queue Length 95th (m)	8.0	#89.1	5.2	1.4	179.2	11.0	#40.2	51.5	0.0
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	489	419	559	550	1078	1062	159	1078	931
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.75	0.20	0.01	0.80	0.32	0.63	0.33	0.00

Intersection Summary

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

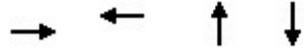
HCM 2010 Signalized Intersection Summary  
 1: Regional Road 50 & Columbia Way

2032 Future PM  
 Columbia Way EA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	6	4	290	1	103	3	793	313	92	329	3
Future Volume (veh/h)	10	6	4	290	1	103	3	793	313	92	329	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	11	7	4	315	1	112	3	862	340	100	358	3
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	145	73	493	4	471	551	1067	907	167	1067	907
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	605	484	242	1398	14	1571	1016	1863	1583	463	1863	1583
Grp Volume(v), veh/h	22	0	0	315	0	113	3	862	340	100	358	3
Grp Sat Flow(s),veh/h/ln	1331	0	0	1398	0	1585	1016	1863	1583	463	1863	1583
Q Serve(g_s), s	0.1	0.0	0.0	14.7	0.0	5.4	0.2	36.8	11.7	20.5	10.2	0.1
Cycle Q Clear(g_c), s	5.4	0.0	0.0	20.2	0.0	5.4	10.3	36.8	11.7	57.3	10.2	0.1
Prop In Lane	0.50		0.18	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	453	0	0	493	0	476	551	1067	907	167	1067	907
V/C Ratio(X)	0.05	0.00	0.00	0.64	0.00	0.24	0.01	0.81	0.37	0.60	0.34	0.00
Avail Cap(c_a), veh/h	453	0	0	493	0	476	551	1067	907	167	1067	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	31.5	0.0	26.4	14.0	17.0	11.6	40.2	11.3	9.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	6.2	0.0	1.2	0.0	6.6	1.2	14.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	8.6	0.0	2.5	0.0	20.6	5.4	3.4	5.4	0.0
LnGrp Delay(d),s/veh	25.1	0.0	0.0	37.7	0.0	27.6	14.0	23.5	12.8	55.1	12.1	9.1
LnGrp LOS	C			D		C	B	C	B	E	B	A
Approach Vol, veh/h		22			428			1205			461	
Approach Delay, s/veh		25.1			35.0			20.5			21.4	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		36.0		64.0		36.0				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 57		30.0		* 57		30.0				
Max Q Clear Time (g_c+I1), s		38.8		7.4		59.3		22.2				
Green Ext Time (p_c), s		14.6		0.2		0.0		2.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				23.7								
HCM 2010 LOS				C								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2032 Future PM  
Columbia Way EA



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	398	324	148	217
v/c Ratio	0.60	0.51	0.42	0.53
Control Delay	29.8	26.9	34.5	31.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.8	26.9	34.5	31.0
Queue Length 50th (m)	63.8	46.2	21.7	28.4
Queue Length 95th (m)	100.8	71.9	40.0	51.3
Internal Link Dist (m)	215.5	216.0	65.0	24.0
Turn Bay Length (m)				
Base Capacity (vph)	667	641	355	406
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.60	0.51	0.42	0.53
<b>Intersection Summary</b>				



Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	319	72	19	181	66	42
Future Vol, veh/h	319	72	19	181	66	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	347	78	21	197	72	46

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	425	0	625 386
Stage 1	-	-	-	-	386 -
Stage 2	-	-	-	-	239 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1134	-	449 662
Stage 1	-	-	-	-	687 -
Stage 2	-	-	-	-	801 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1134	-	440 662
Mov Cap-2 Maneuver	-	-	-	-	440 -
Stage 1	-	-	-	-	687 -
Stage 2	-	-	-	-	784 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	506	-	-	1134	-
HCM Lane V/C Ratio	0.232	-	-	0.018	-
HCM Control Delay (s)	14.3	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

**Intersection**

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	244	51	22	153	19	18	6	10	12	2	29
Future Vol, veh/h	66	244	51	22	153	19	18	6	10	12	2	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	265	55	24	166	21	20	7	11	13	2	32

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	187	0	0	320	0	0	679	672	293	671	689	177
Stage 1	-	-	-	-	-	-	437	437	-	225	225	-
Stage 2	-	-	-	-	-	-	242	235	-	446	464	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1387	-	-	1240	-	-	366	377	746	370	369	866
Stage 1	-	-	-	-	-	-	598	579	-	778	718	-
Stage 2	-	-	-	-	-	-	762	710	-	591	564	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1387	-	-	1240	-	-	328	345	746	336	338	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	328	345	-	336	338	-
Stage 1	-	-	-	-	-	-	560	542	-	728	702	-
Stage 2	-	-	-	-	-	-	716	694	-	539	528	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.9	15	11.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	397	1387	-	-	1240	-	-	572
HCM Lane V/C Ratio	0.093	0.052	-	-	0.019	-	-	0.082
HCM Control Delay (s)	15	7.7	0	-	8	0	-	11.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0.1	-	-	0.3

**Intersection**

Int Delay, s/veh 2.5

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	170	96	56	152	42	36
Future Vol, veh/h	170	96	56	152	42	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	185	104	61	165	46	39

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	289	0	524	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	287	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1273	-	514	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1273	-	487	802
Mov Cap-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	722	-

**Approach** EB WB NB

HCM Control Delay, s	0	2.1	12.1
HCM LOS			B

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	595	-	-	1273	-
HCM Lane V/C Ratio	0.142	-	-	0.048	-
HCM Control Delay (s)	12.1	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	0	181	0	0	0	171	477	0	0	198	37
Future Vol, veh/h	25	0	181	0	0	0	171	477	0	0	198	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	197	0	0	0	186	518	0	0	215	40

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1125	1125	235	1224	1145	518	255	0	0	518	0	0
Stage 1	235	235	-	890	890	-	-	-	-	-	-	-
Stage 2	890	890	-	334	255	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	182	205	804	156	200	558	1310	-	-	1048	-	-
Stage 1	768	710	-	337	361	-	-	-	-	-	-	-
Stage 2	337	361	-	680	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	154	164	804	100	160	558	1310	-	-	1048	-	-
Mov Cap-2 Maneuver	154	164	-	100	160	-	-	-	-	-	-	-
Stage 1	615	710	-	270	289	-	-	-	-	-	-	-
Stage 2	270	289	-	514	696	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.6		0		2.2		0	
HCM LOS	C		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1310	-	-	532	-	1048	-	-
HCM Lane V/C Ratio	0.142	-	-	0.421	-	-	-	-
HCM Control Delay (s)	8.2	0	-	16.6	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	2.1	-	0	-	-

Queues  
2: Kingsview Drive & Columbia Way

2032 Future AM  
Columbia Way EA



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	404	151	529	50	145	21	61
v/c Ratio	0.04	0.44	0.39	0.58	0.13	0.33	0.12	0.22
Control Delay	16.6	21.3	22.9	24.6	39.9	14.1	46.4	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	21.3	22.9	24.6	39.9	14.1	46.4	22.6
Queue Length 50th (m)	1.6	58.6	21.7	85.0	9.7	6.3	4.4	4.4
Queue Length 95th (m)	5.1	84.0	39.0	118.4	20.5	23.6	12.0	16.7
Internal Link Dist (m)		215.5		216.0		65.0		24.0
Turn Bay Length (m)	15.0		15.0		15.0		15.0	
Base Capacity (vph)	290	912	389	919	374	436	182	281
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.44	0.39	0.58	0.13	0.33	0.12	0.22

Intersection Summary



Queues  
2: Kingsview Drive & Columbia Way

2032 Future PM  
Columbia Way EA



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	376	34	290	47	101	54	163
v/c Ratio	0.06	0.53	0.12	0.41	0.12	0.25	0.20	0.38
Control Delay	20.2	27.2	21.7	23.9	33.1	22.2	34.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	27.2	21.7	23.9	33.1	22.2	34.8	18.3
Queue Length 50th (m)	2.9	57.7	4.2	38.7	7.4	9.6	8.7	11.4
Queue Length 95th (m)	m7.5	92.6	11.0	60.7	17.0	23.3	19.2	29.2
Internal Link Dist (m)		215.5		216.0		65.0		24.0
Turn Bay Length (m)	15.0		15.0		15.0		15.0	
Base Capacity (vph)	352	704	279	704	377	401	274	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.53	0.12	0.41	0.12	0.25	0.20	0.38

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Queues  
1: Regional Road 50 & Columbia Way

2020 Existing AM  
Columbia Way EA



Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	9	273	158	3	230	162	154	516	4
v/c Ratio	0.02	0.78	0.31	0.01	0.20	0.15	0.22	0.44	0.00
Control Delay	21.1	48.3	6.0	10.0	9.8	2.2	10.6	12.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	48.3	6.0	10.0	9.8	2.2	10.6	12.5	0.0
Queue Length 50th (m)	0.8	46.4	0.1	0.2	16.4	0.0	11.1	44.6	0.0
Queue Length 95th (m)	4.3	73.3	13.5	1.7	37.0	9.0	28.0	91.2	0.0
Internal Link Dist (m)	18.4		215.5		282.0			332.3	
Turn Bay Length (m)		30.0		120.0		140.0	75.0		25.0
Base Capacity (vph)	672	584	753	474	1161	1049	714	1161	998
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.47	0.21	0.01	0.20	0.15	0.22	0.44	0.00

Intersection Summary

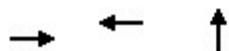
HCM 2010 Signalized Intersection Summary  
1: Regional Road 50 & Columbia Way

2020 Existing AM  
Columbia Way EA

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2	3	251	1	144	3	212	149	142	475	4
Future Volume (veh/h)	4	2	3	251	1	144	3	212	149	142	475	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	4	2	3	273	1	157	3	230	162	154	516	4
Adj No. of Lanes	0	1	0	1	1	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	87	100	416	3	406	479	1135	965	623	1135	965
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	437	337	387	1405	10	1575	878	1863	1583	988	1863	1583
Grp Volume(v), veh/h	9	0	0	273	0	158	3	230	162	154	516	4
Grp Sat Flow(s),veh/h/ln	1161	0	0	1405	0	1585	878	1863	1583	988	1863	1583
Q Serve(g_s), s	0.0	0.0	0.0	11.1	0.0	7.9	0.2	5.3	4.3	7.9	14.3	0.1
Cycle Q Clear(g_c), s	7.9	0.0	0.0	18.9	0.0	7.9	14.5	5.3	4.3	13.1	14.3	0.1
Prop In Lane	0.44		0.33	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	0	0	416	0	409	479	1135	965	623	1135	965
V/C Ratio(X)	0.03	0.00	0.00	0.66	0.00	0.39	0.01	0.20	0.17	0.25	0.45	0.00
Avail Cap(c_a), veh/h	570	0	0	626	0	646	479	1135	965	623	1135	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	33.8	0.0	29.3	14.0	8.3	8.1	11.3	10.1	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.6	0.0	0.4	0.4	0.9	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	7.0	0.0	3.5	0.0	2.8	1.9	2.3	7.7	0.0
LnGrp Delay(d),s/veh	26.7	0.0	0.0	35.6	0.0	29.9	14.0	8.7	8.5	12.2	11.4	7.3
LnGrp LOS	C			D		C	B	A	A	B	B	A
Approach Vol, veh/h		9			431			395			674	
Approach Delay, s/veh		26.7			33.5			8.7			11.6	
Approach LOS		C			C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		30.7		65.0		30.7				
Change Period (Y+Rc), s		* 6.7		6.0		* 6.7		6.0				
Max Green Setting (Gmax), s		* 58		39.0		* 58		39.0				
Max Q Clear Time (g_c+I1), s		16.5		9.9		16.3		20.9				
Green Ext Time (p_c), s		5.6		0.0		13.7		3.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				17.2								
HCM 2010 LOS				B								
<b>Notes</b>												

Queues  
2: Kingsview Drive & Columbia Way

2020 Existing AM  
Columbia Way EA



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	318	510	153
v/c Ratio	0.34	0.70	0.45
Control Delay	15.0	25.1	21.0
Queue Delay	0.0	0.0	0.0
Total Delay	15.0	25.1	21.0
Queue Length 50th (m)	33.1	72.0	10.3
Queue Length 95th (m)	51.3	111.4	28.7
Internal Link Dist (m)	215.5	216.0	65.0
Turn Bay Length (m)			
Base Capacity (vph)	945	729	341
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.70	0.45
Intersection Summary			



**Intersection**

Int Delay, s/veh 4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	159	55	57	288	122	57
Future Vol, veh/h	159	55	57	288	122	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	60	62	313	133	62

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	233	0	640
Stage 1	-	-	-	-	203
Stage 2	-	-	-	-	437
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1335	-	440
Stage 1	-	-	-	-	831
Stage 2	-	-	-	-	651
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1335	-	415
Mov Cap-2 Maneuver	-	-	-	-	415
Stage 1	-	-	-	-	831
Stage 2	-	-	-	-	615

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	494	-	-	1335	-
HCM Lane V/C Ratio	0.394	-	-	0.046	-
HCM Control Delay (s)	16.9	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	167	15	0	214	22	39	3	18	15	6	91
Future Vol, veh/h	33	167	15	0	214	22	39	3	18	15	6	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	182	16	0	233	24	42	3	20	16	7	99

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	198	0	0	560	519	190	519	515	245
Stage 1	-	-	-	-	-	-	262	262	-	245	245	-
Stage 2	-	-	-	-	-	-	298	257	-	274	270	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1308	-	-	1375	-	-	439	461	852	467	464	794
Stage 1	-	-	-	-	-	-	743	691	-	759	703	-
Stage 2	-	-	-	-	-	-	711	695	-	732	686	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1308	-	-	1375	-	-	371	447	852	443	450	794
Mov Cap-2 Maneuver	-	-	-	-	-	-	371	447	-	443	450	-
Stage 1	-	-	-	-	-	-	720	670	-	735	703	-
Stage 2	-	-	-	-	-	-	617	695	-	690	665	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0			14.3			11.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	451	1308	-	-	1375	-	-	692
HCM Lane V/C Ratio	0.145	0.027	-	-	-	-	-	0.176
HCM Control Delay (s)	14.3	7.8	0	-	0	-	-	11.3
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.6

Intersection						
Int Delay, s/veh	4.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	157	43	14	117	119	75
Future Vol, veh/h	157	43	14	117	119	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	171	47	15	127	129	82
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	218	0	352	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1352	-	646	846
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1352	-	638	846
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	861	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.8	12.3			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	705	-	-	1352	-	
HCM Lane V/C Ratio	0.299	-	-	0.011	-	
HCM Control Delay (s)	12.3	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0	-	

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	26	0	206	0	0	0	92	75	0	0	442	39
Future Vol, veh/h	26	0	206	0	0	0	92	75	0	0	442	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	224	0	0	0	100	82	0	0	480	42

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	783	783	501	895	804	82	522	0	0	82	0	0
Stage 1	501	501	-	282	282	-	-	-	-	-	-	-
Stage 2	282	282	-	613	522	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	311	325	570	261	316	978	1044	-	-	1515	-	-
Stage 1	552	543	-	725	678	-	-	-	-	-	-	-
Stage 2	725	678	-	480	531	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	287	293	570	146	284	978	1044	-	-	1515	-	-
Mov Cap-2 Maneuver	287	293	-	146	284	-	-	-	-	-	-	-
Stage 1	497	543	-	653	610	-	-	-	-	-	-	-
Stage 2	653	610	-	291	531	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	18.6		0			4.9			0		
HCM LOS	C		A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1044	-	-	513	-	1515	-	-
HCM Lane V/C Ratio	0.096	-	-	0.492	-	-	-	-
HCM Control Delay (s)	8.8	0	-	18.6	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.7	-	0	-	-

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**APPENDIX E**

**TRAFFIC SIGNAL WARRANTS**

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**Signal Warrant Analysis**



**COLUMBIA WAY ENVIRONMENTAL ASSESSMENT**

Major Street: **Columbia Way**

Minor Street: **Forest Gate Avenue**

Comment: **2032 Traffic Volumes**

VOLUME	AM	PM	FACTOR *
1A - All	552	552	276
1B - Minor	82	82	41
2A - Major	470	474	236
2B - Crossing	145	98	61

Number of Approach Lanes: 1  2

T-Intersection Configuration: Yes  No

Flow Condition: Free Flow  Free Flow (Rural)  Restricted Flow (Urban)

**OVERALL WARRANT**

150% Satisfied: Yes  No  Warrant for new intersection with forecast traffic

120% Satisfied: Yes  No  Warrant for existing intersection with forecast traffic

100% Satisfied: Yes  No  Warrant for existing intersection with existing traffic \*

80% Satisfied: Yes  No  Warrant for existing intersection with existing traffic

\* Consider full underground provisions if 100% for forecast traffic

**WARRANT 1 - MINIMUM VEHICULAR VOLUME**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
ALL APPROACHES	480	720	600	900	276 38.3%
% FULFILLED					
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
MINOR STREET APPROACHES	180	255	180	255	41 16.1%
% FULFILLED					

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

**WARRANT 2 - DELAY TO CROSS TRAFFIC**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
MAJOR STREET APPROACHES	480	720	600	900	236 32.8%
% FULFILLED					
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	61 121.5%
% FULFILLED					

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day  
 1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets  
 2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day  
 2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street, comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

**Signal Warrant Analysis**



**COLUMBIA WAY ENVIRONMENTAL ASSESSMENT**

Major Street: Columbia Way

Minor Street: Mount Hope Road

Comment: 2032 Traffic Volumes

Number of Approach Lanes: 1  2

T-Intersection Configuration: Yes  No

Flow Condition: Free Flow  Free Flow (Rural)  Restricted Flow (Urban)

VOLUME	AM	PM	FACTOR *
1A - All	805	632	359
1B - Minor	183	77	65
2A - Major	622	555	294
2B - Crossing	103	123	57

**OVERALL WARRANT**

150% Satisfied: Yes  No  Warrant for new intersection with forecast traffic

120% Satisfied: Yes  No  Warrant for existing intersection with forecast traffic

100% Satisfied: Yes  No  Warrant for existing intersection with existing traffic \*

80% Satisfied: Yes  No  Warrant for existing intersection with existing traffic

\* Consider full underground provisions if 100% for forecast traffic

**WARRANT 1 - MINIMUM VEHICULAR VOLUME**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
ALL APPROACHES	480	720	600	900	359
	% FULFILLED				49.9%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
MINOR STREET APPROACHES	180	255	180	255	65
	% FULFILLED				25.5%

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

**WARRANT 2 - DELAY TO CROSS TRAFFIC**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
MAJOR STREET APPROACHES	480	720	600	900	294
	% FULFILLED				40.9%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	57
	% FULFILLED				113.0%

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day  
 1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets  
 2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day  
 2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street, comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

**Signal Warrant Analysis**



**COLUMBIA WAY ENVIRONMENTAL ASSESSMENT**

Major Street: **Columbia Way**  
 Minor Street: **Westchester Boulevard**  
 Comment: **2032 Traffic Volumes**  
 Number of Approach Lanes: 1  2   
 T-Intersection Configuration: Yes  No   
 Flow Condition: Free Flow  Free Flow (Rural)  Restricted Flow (Urban)

VOLUME	AM	PM	FACTOR *
1A - All	947	699	412
1B - Minor	191	108	75
2A - Major	756	699	364
2B - Crossing	185	85	68

**OVERALL WARRANT**

150% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for new intersection with forecast traffic
120% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with forecast traffic
100% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic *
80% Satisfied:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Warrant for existing intersection with existing traffic

\* Consider full underground provisions if 100% for forecast traffic

**WARRANT 1 - MINIMUM VEHICULAR VOLUME**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
ALL APPROACHES	480	720	600	900	412
	% FULFILLED				57.2%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
MINOR STREET APPROACHES	180	255	180	255	75
	% FULFILLED				29.3%

150% Satisfied: Yes  No   
 120% Satisfied: Yes  No   
 100% Satisfied: Yes  No   
 80% Satisfied: Yes  No

**WARRANT 2 - DELAY TO CROSS TRAFFIC**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
MAJOR STREET APPROACHES	480	720	600	900	364
	% FULFILLED				50.5%
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	68
	% FULFILLED				135.0%

150% Satisfied: Yes  No   
 120% Satisfied: Yes  No   
 100% Satisfied: Yes  No   
 80% Satisfied: Yes  No

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day  
 1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets  
 2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day  
 2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street, comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

**Signal Warrant Analysis**



**COLUMBIA WAY ENVIRONMENTAL ASSESSMENT**

Major Street: **Caledon King Townline**

Minor Street: **Columbia Way**

Comment: **2032 Traffic Volumes**

VOLUME	AM	PM	FACTOR *
1A - All	1,215	1,089	576
1B - Minor	313	206	130
2A - Major	902	883	446
2B - Crossing	170	196	92

Number of Approach Lanes: 1  2

T-Intersection Configuration: Yes  No

Flow Condition: Free Flow  Free Flow (Rural)  Restricted Flow (Urban)

**OVERALL WARRANT**

150% Satisfied: Yes  No  Warrant for new intersection with forecast traffic

120% Satisfied: Yes  No  Warrant for existing intersection with forecast traffic

100% Satisfied: Yes  No  Warrant for existing intersection with existing traffic \*

80% Satisfied: Yes  No  Warrant for existing intersection with existing traffic

\* Consider full underground provisions if 100% for forecast traffic

**WARRANT 1 - MINIMUM VEHICULAR VOLUME**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
ALL APPROACHES	480	720	600	900	576 80.0%
% FULFILLED					
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
MINOR STREET APPROACHES	180	255	180	255	130 50.9%
% FULFILLED					

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

**WARRANT 2 - DELAY TO CROSS TRAFFIC**

APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
FLOW CONDITION		<input checked="" type="checkbox"/>			
MAJOR STREET APPROACHES	480	720	600	900	446 62.0%
% FULFILLED					
APPROACH LANES	1		2 OR MORE		AVERAGE HOUR PERIOD
FLOW CONDITION	FREE FLOW	REST. FLOW	FREE FLOW	REST. FLOW	
TRAFFIC CROSSING MAJOR STREET	50	75	120	170	92 183.0%
% FULFILLED					

150% Satisfied: Yes  No

120% Satisfied: Yes  No

100% Satisfied: Yes  No

80% Satisfied: Yes  No

1A - MINIMUM VEHICULAR VOLUME: Total vehicle volume on all approaches for average day  
 1B - MINIMUM VEHICULAR VOLUME: Total vehicle volume on minor streets  
 2A - DELAY TO CROSS TRAFFIC: Total vehicle volume on major street for average day  
 2B - DELAY TO CROSS TRAFFIC: Total vehicle and pedestrian volume crossing major street, comprising: (1) lefts from both minor streets, (2) heaviest through from minor street, (3) 50% of heavier left turn from major street when following criteria met: (a) left turn volume >120 and (b) left turn volume plus opposing volume > 720, (4) pedestrians crossing the major street.

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**APPENDIX F**

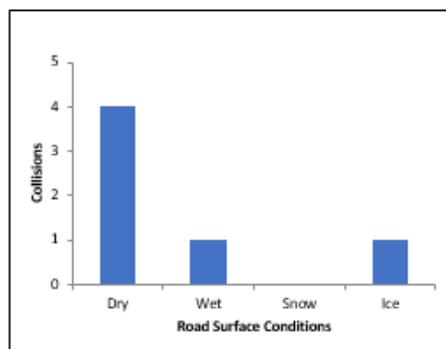
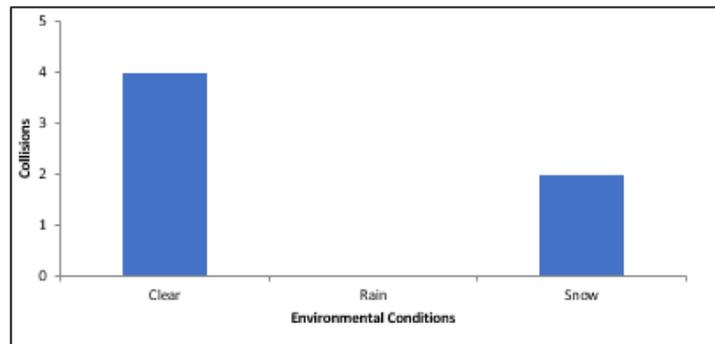
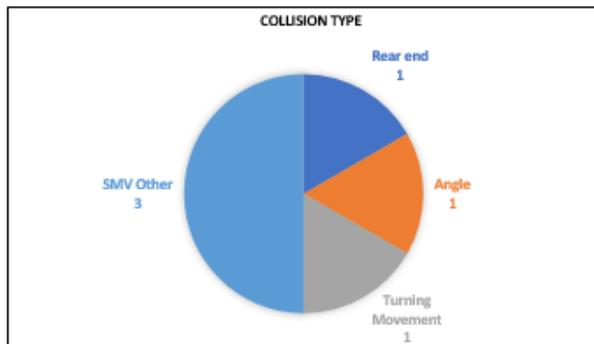
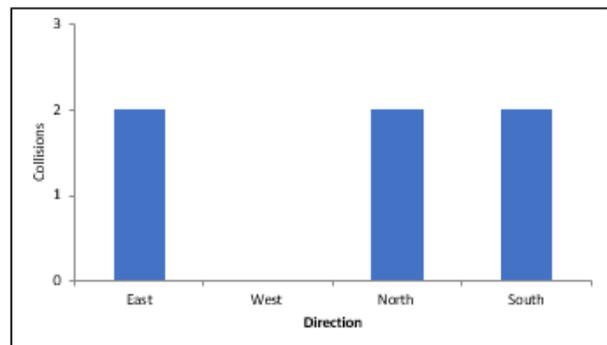
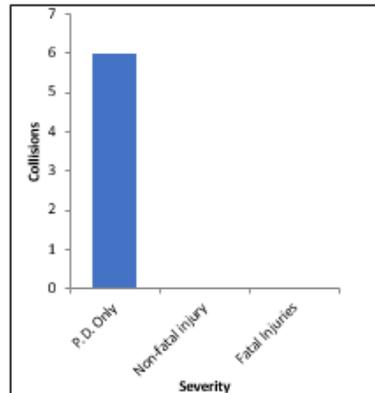
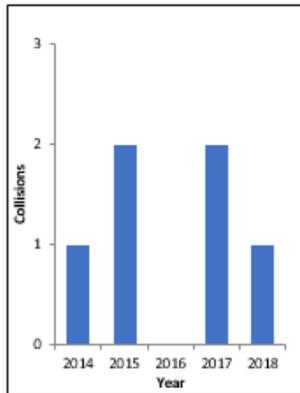
**COLLISION SUMMARY SHEETS**

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## Caledon King Townline South at Columbia Way

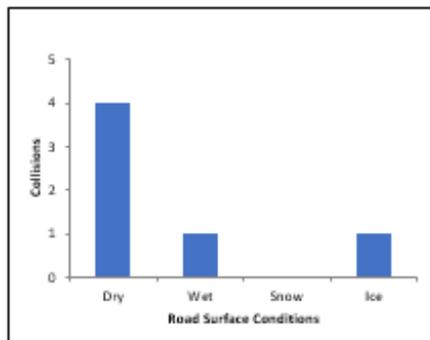
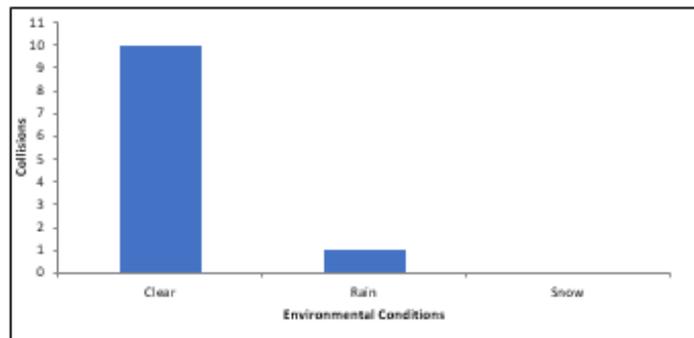
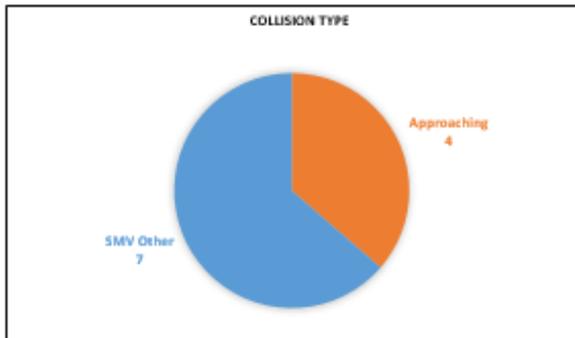
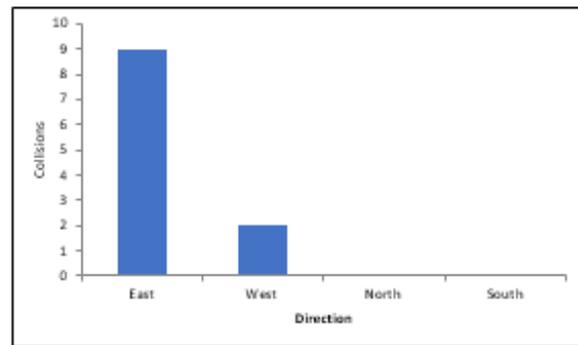
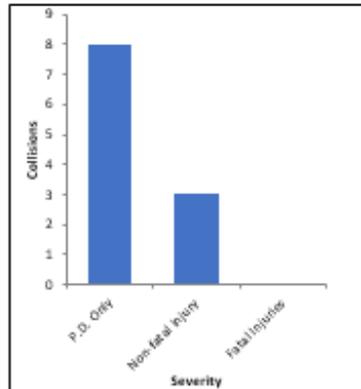
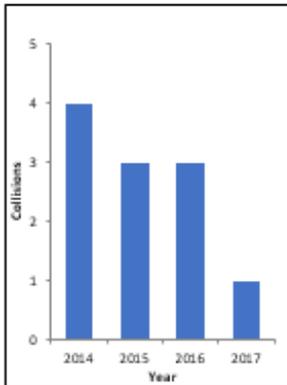
- Stop-controlled T-intersection with private driveway
- 60 km/h posted speed limit on all approaches
- No apparent sightline concerns
- West approach slightly skewed
- Two of the six collisions were due to wildlife crossing
- 6 collisions reported over five-year period



Key Findings: There is no collision type or direction of travel having an overly predominant proportion of collisions. The collision data does not indicate a significant safety concern. There is no identifiable site safety issue considered a primary contributing factor to the reported collisions.

## Between Caledon King Townline and Forest Gate Avenue

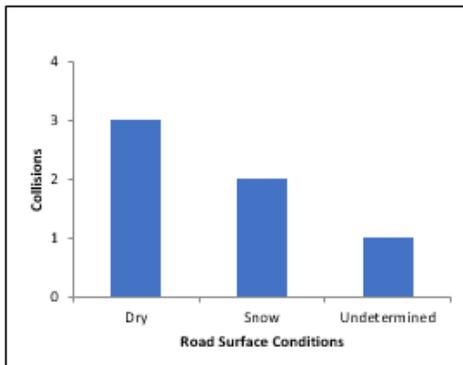
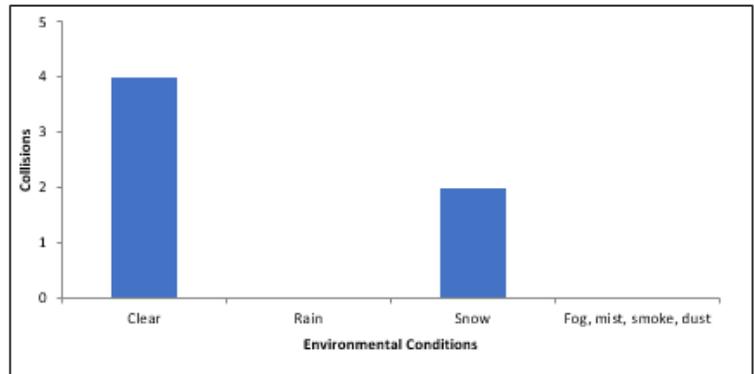
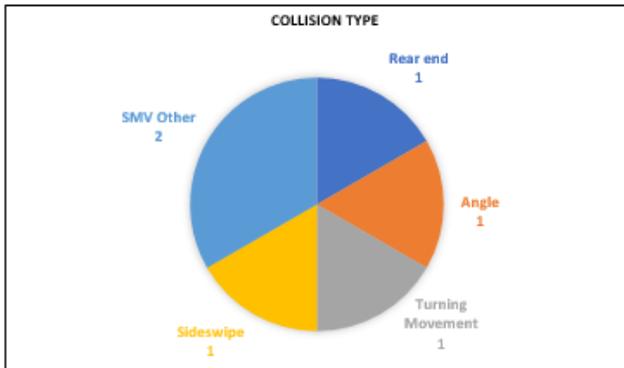
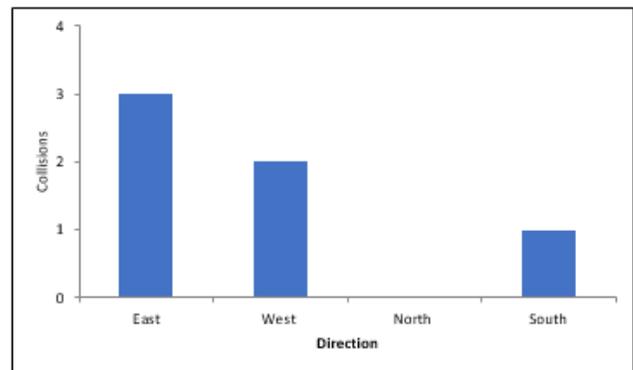
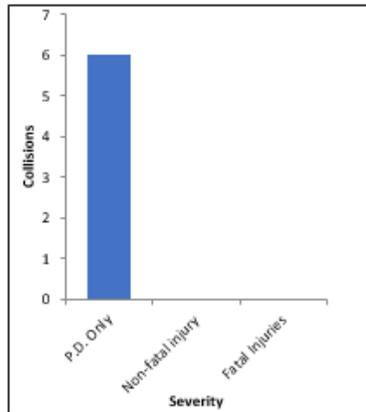
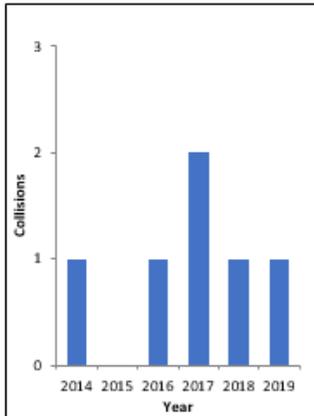
- 1.14km road segment
- 60km/h speed limit
- Rural cross-section
- Possible sightline concerns
- 1 collision due to wildlife
- 11 collisions reported over five-year period



Key Findings: There is no collision type that has been predominantly occurring. 9 of the 11 collisions occurred in the eastbound direction, this could be attributable to poor sightlines, poor road geometry or high vehicle speeds. 50% are SMV (in which 50% are during Wet conditions) and remaining 50% are head-on collisions.

## Between Westchester Boulevard and Kingsview Drive

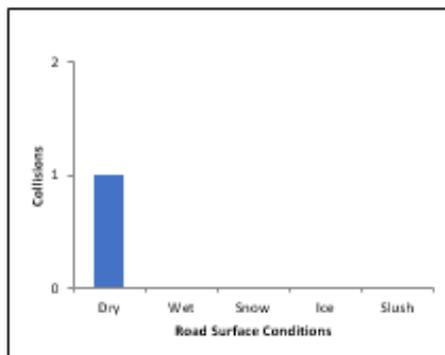
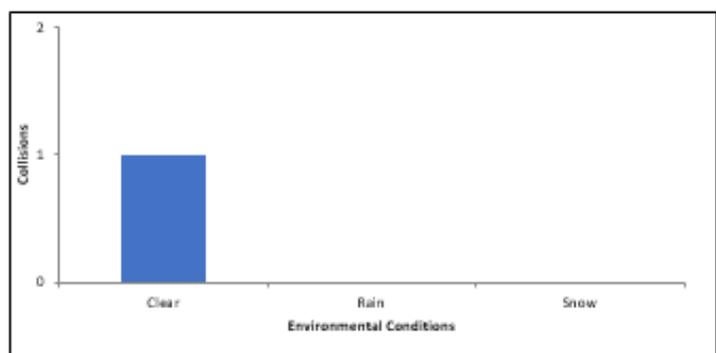
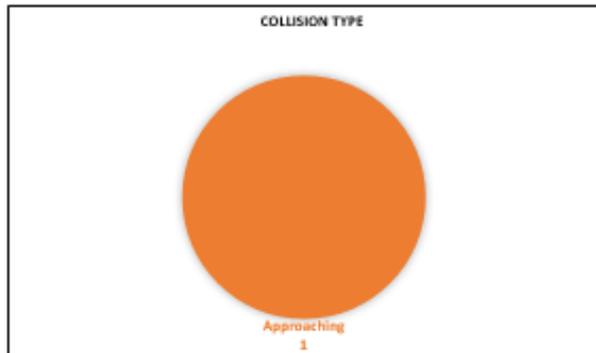
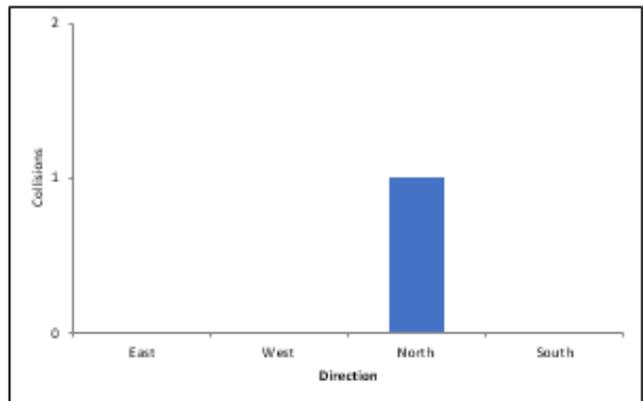
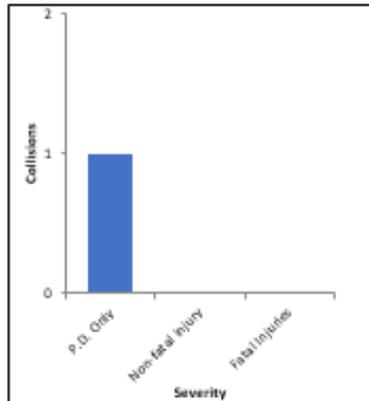
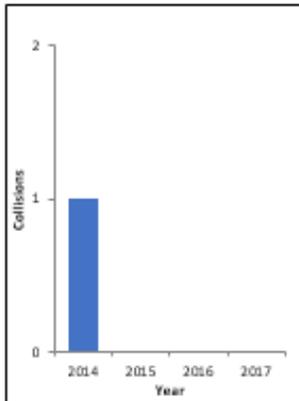
- 0.93km road segment
- 40km/h school zone (westbound) that begins approximately 485m west of Westchester Boulevard. 60 km/h speed limit (eastbound).
- Rural cross section
- 6 collisions reported over 5 years



Key Findings: No notable trends were identified.

## Columbia Way at Westchester Boulevard

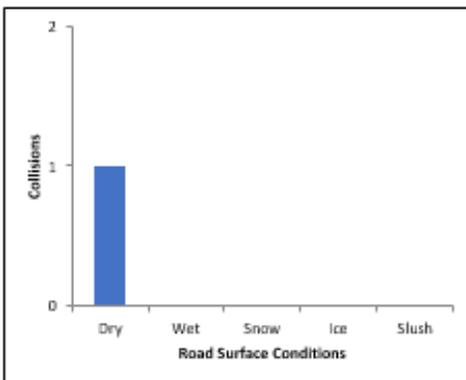
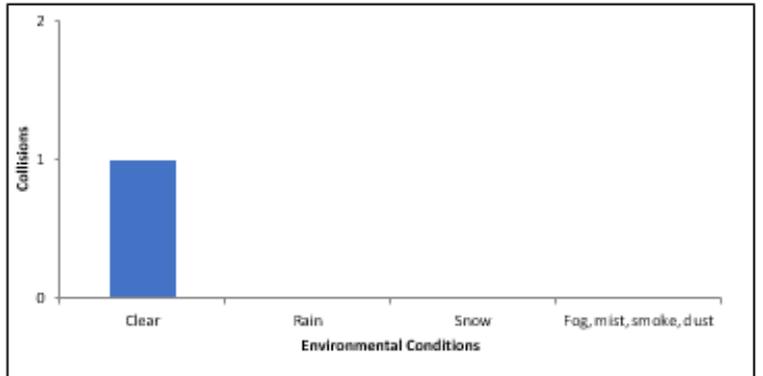
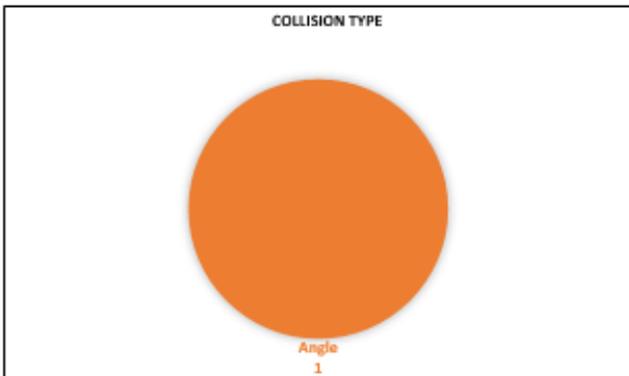
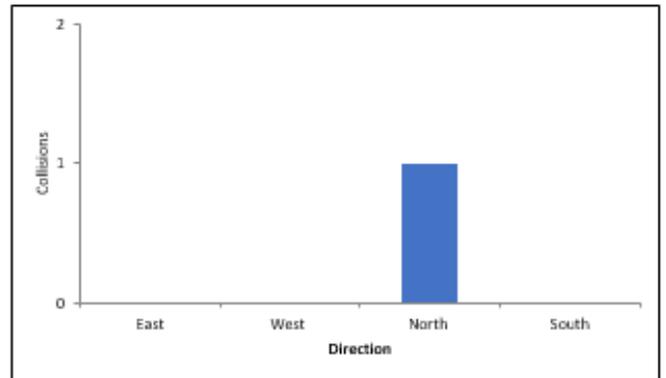
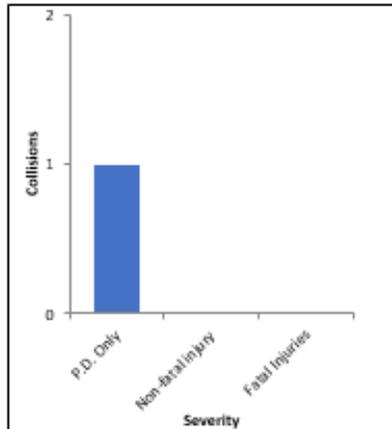
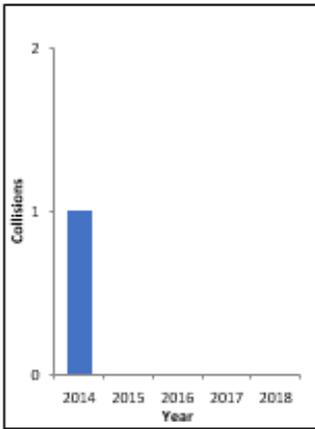
- Stop-controlled T-intersection
- East/west approaches free flow; south approach stop-controlled
- Sidewalks along southern side; crosswalks on east/west approach (south leg)
- 60 km/h posted speed limit (east/west)
- Right-angled intersection alignment
- 1 collision reported over five-year period



Key Findings: No notable trends can be identified due to the lack of collision data

## Columbia Way at Forest Gate

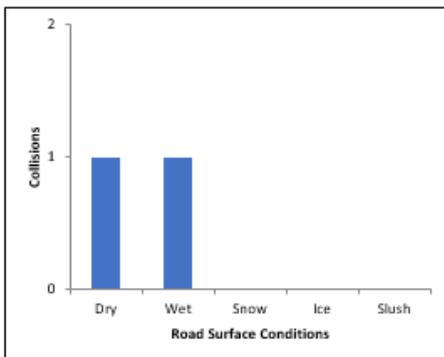
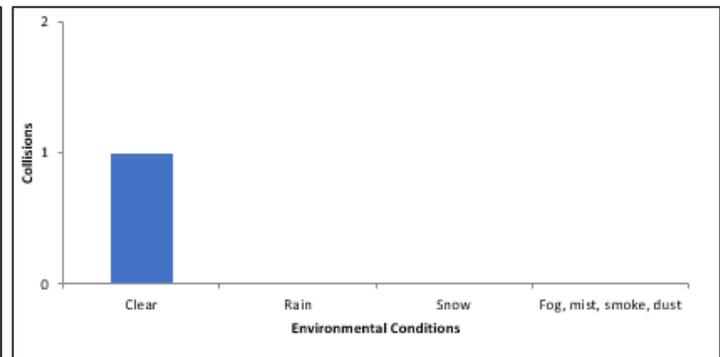
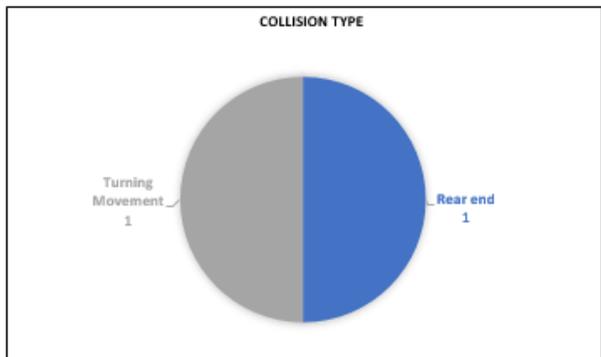
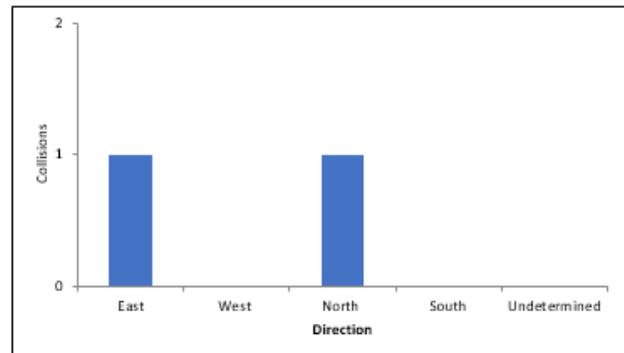
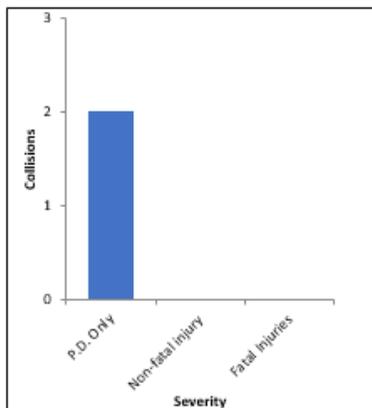
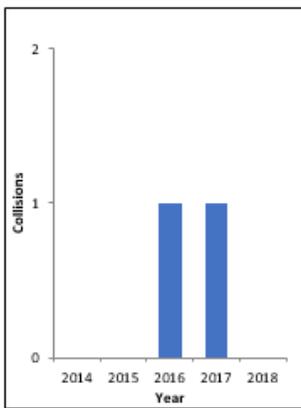
- Stop controlled T-intersection
- Sidewalks on southwestern side.
- 60 km/h posted speed limit (Columbia Way)
- No apparent sightline concerns
- Right-angled intersection alignment
- 1 collision reported over five-year period



Key Findings: No notable collision trends can be identified due to the lack of collision data

## Columbia Way at Kingsview Drive

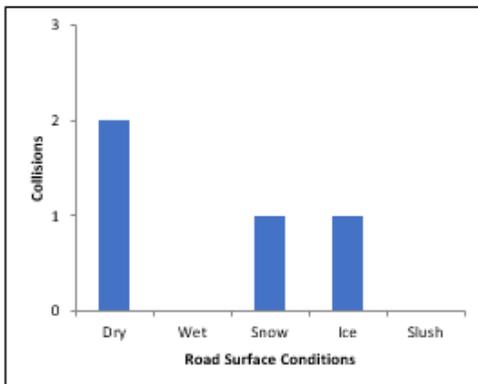
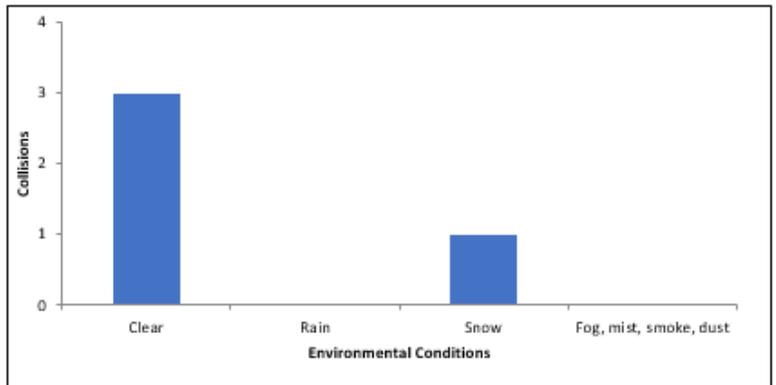
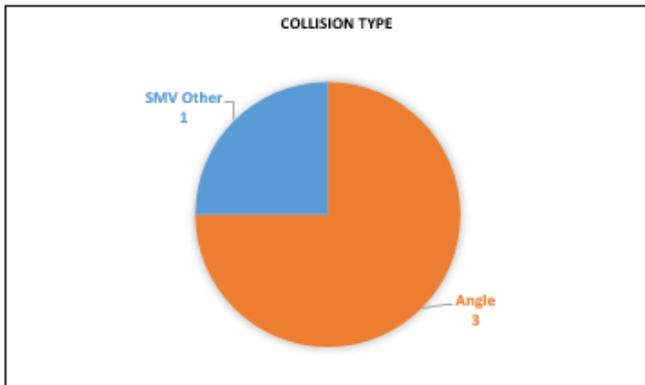
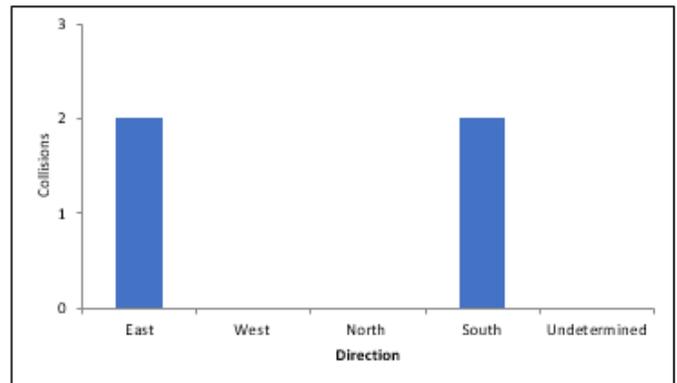
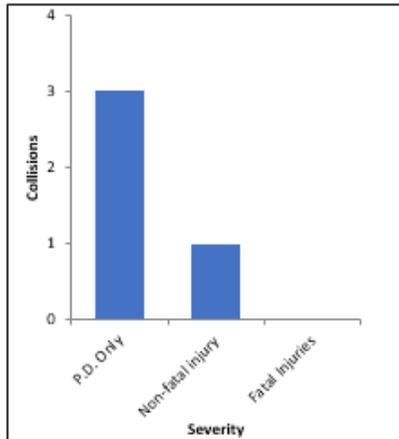
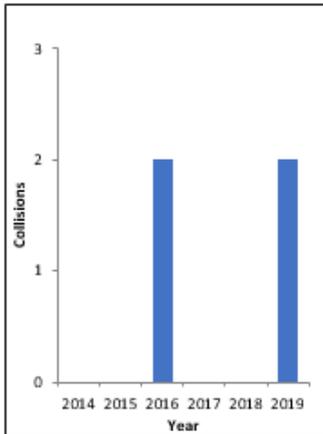
- Signalized T-intersection
- Sidewalks and crosswalks on all approaches
- 40 km/h posted speed limit on all approaches
- No apparent sightline concerns
- Right-angled intersection alignment
- 2 collisions reported over five-year period



Key Findings: No notable collision trends can be identified due to the lack of collision data

## Columbia Way at Mount Hope Road

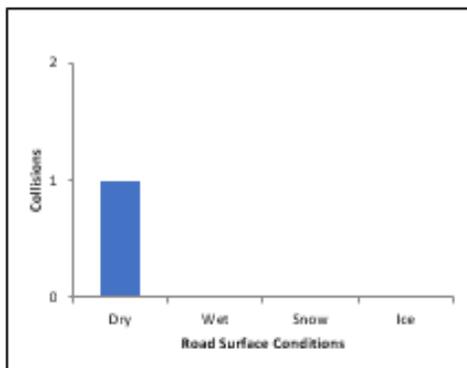
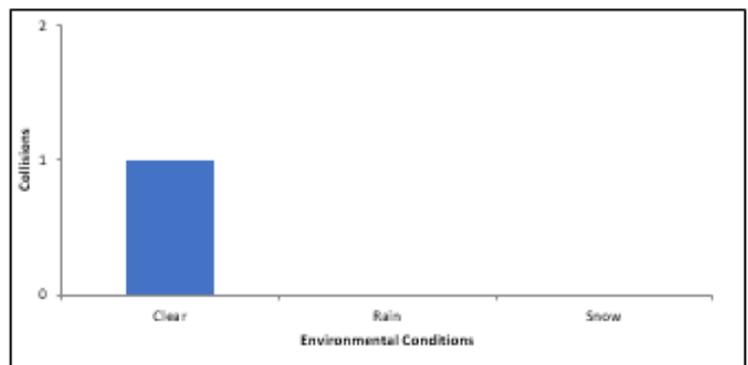
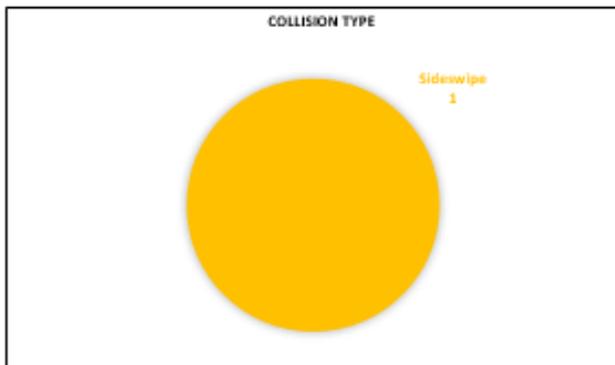
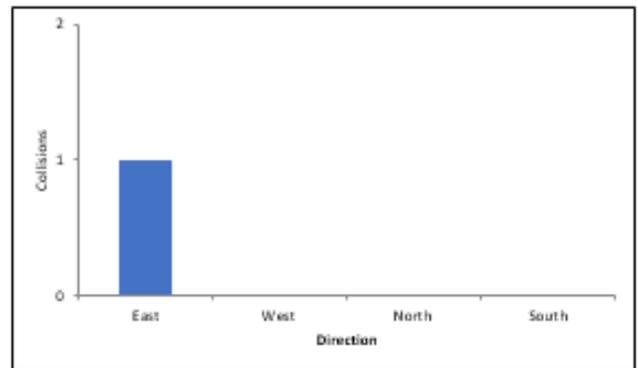
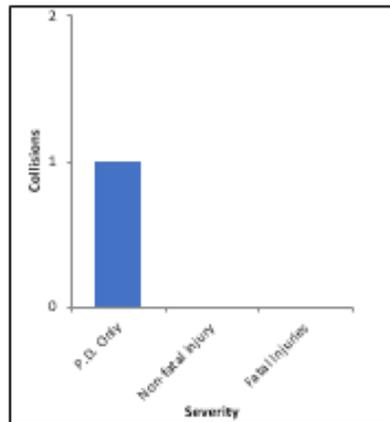
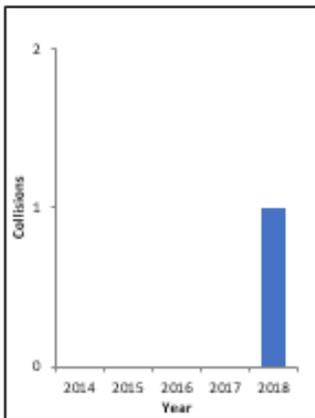
- Unsignalized four-legged intersection
- Sidewalks and crosswalk along southern edge of roadway
- 60 km/h posted speed limit (Columbia Way)
- No apparent sightline concerns
- Right-angled intersection alignment
- 4 collisions reported over five-year period



Key Findings: No notable collision trends can be identified due to the lack of collision data

## Between Westchester Boulevard and Mount Hope Road

- 0.27 km road segment
- 60 km/h speed limit
- Rural cross section
- 1 collision reported over 5 years



Key Findings: No notable collision trends can be identified due to the lack of collision data

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**APPENDIX G**

**ATR COLLECTION DATA**

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Report-1.1		Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave														
		Direction : East Road :														
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		1												1	0.1%
0:15	0:30		1	1											2	0.1%
0:30	0:45															
0:45	1:00															
00:00	1:00		2	1											3	0.2%
1:00	1:15		1												1	0.1%
1:15	1:30			1											1	0.1%
1:30	1:45															
1:45	2:00															
1:00	2:00		1	1											2	0.1%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.1%
2:45	3:00															
2:00	3:00		1												1	0.1%
3:00	3:15		2												2	0.1%
3:15	3:30															
3:30	3:45															
3:45	4:00			2											2	0.1%
3:00	4:00		2	2											4	0.3%
4:00	4:15		2												2	0.1%
4:15	4:30		1												1	0.1%
4:30	4:45		2	1											3	0.2%
4:45	5:00		4	2											6	0.4%
4:00	5:00		9	3											12	0.8%
5:00	5:15		10	4											14	0.9%
5:15	5:30		13	8											21	1.4%
5:30	5:45		12	5	2										19	1.2%
5:45	6:00		10	8	2										20	1.3%
5:00	6:00		45	25	4										74	4.8%
6:00	6:15		20	9				1							30	1.9%
6:15	6:30		25	3											28	1.8%
6:30	6:45		24	3											27	1.7%
6:45	7:00		24	7	1										32	2.1%
6:00	7:00		93	22	1			1							117	7.6%
7:00	7:15		34	5											39	2.5%
7:15	7:30		45	6	2										53	3.4%
7:30	7:45		35	4											39	2.5%
7:45	8:00		42	5	2										49	3.2%
7:00	8:00		156	20	4										180	11.6%
8:00	8:15		58	5	2										65	4.2%
8:15	8:30		33	5	2	1									41	2.6%
8:30	8:45		35	5	1										41	2.6%
8:45	9:00		23	8	2										33	2.1%
8:00	9:00		149	23	2	6									180	11.6%
9:00	9:15		13	3											16	1.0%
9:15	9:30		14	3	1										18	1.2%
9:30	9:45		21	4											25	1.6%
9:45	10:00		21	2	1										24	1.5%
9:00	10:00		69	12	2										83	5.4%
10:00	10:15		15	3	1										19	1.2%
10:15	10:30		20	6											26	1.7%
10:30	10:45		20	3	2										25	1.6%
10:45	11:00		20												20	1.3%
10:00	11:00		75	12	3										90	5.8%
11:00	11:15		17	5											22	1.4%
11:15	11:30		21	3											24	1.5%
11:30	11:45		15		1										16	1.0%
11:45	12:00		11	1	1										13	0.8%
11:00	12:00		64	9	2										75	4.8%

12:00	12:15	19			1				20	1.3%
12:15	12:30	15	2		1				18	1.2%
12:30	12:45	14	1						15	1.0%
12:45	13:00	10	4		1				15	1.0%
12:00	13:00	58	7		3				68	4.4%
13:00	13:15	12	1						13	0.8%
13:15	13:30	12	3	1	1				17	1.1%
13:30	13:45	22	4		1				27	1.7%
13:45	14:00	16	2		1				19	1.2%
13:00	14:00	62	10	1	3				76	4.9%
14:00	14:15	16	4						20	1.3%
14:15	14:30	31	4						35	2.3%
14:30	14:45	25		3					28	1.8%
14:45	15:00	25		1					26	1.7%
14:00	15:00	97	8	4					109	7.0%
15:00	15:15	14		1					15	1.0%
15:15	15:30	17	3		1				21	1.4%
15:30	15:45	19	2	1					22	1.4%
15:45	16:00	25	6		1				32	2.1%
15:00	16:00	75	11	2	2				90	5.8%
16:00	16:15	15	3		2				20	1.3%
16:15	16:30	15	3		1				19	1.2%
16:30	16:45	16	6		1				23	1.5%
16:45	17:00	24	1						25	1.6%
16:00	17:00	70	13		4				87	5.6%
17:00	17:15	15	3		1				19	1.2%
17:15	17:30	19	1						20	1.3%
17:30	17:45	17	2						19	1.2%
17:45	18:00	22	5						27	1.7%
17:00	18:00	73	11		1				85	5.5%
18:00	18:15	11	1						12	0.8%
18:15	18:30	21	3						24	1.5%
18:30	18:45	17	1						18	1.2%
18:45	19:00	11	1		1				13	0.8%
18:00	19:00	60	6		1				67	4.3%
19:00	19:15	12	2						14	0.9%
19:15	19:30	13	3						16	1.0%
19:30	19:45	12	2		1				15	1.0%
19:45	20:00	7	3						10	0.6%
19:00	20:00	44	10		1				55	3.6%
20:00	20:15	9	1		1				11	0.7%
20:15	20:30	9							9	0.6%
20:30	20:45	7							7	0.5%
20:45	21:00	5	1		1				7	0.5%
20:00	21:00	30	2		2				34	2.2%
21:00	21:15	5	3						8	0.5%
21:15	21:30	11							11	0.7%
21:30	21:45	3			1				4	0.3%
21:45	22:00	8			1				9	0.6%
21:00	22:00	27	3		2				32	2.1%
22:00	22:15	6	1						7	0.5%
22:15	22:30	1	1						2	0.1%
22:30	22:45	3	1						4	0.3%
22:45	23:00	2							2	0.1%
22:00	23:00	12	3						15	1.0%
23:00	23:15	3							3	0.2%
23:15	23:30		1						1	0.1%
23:30	23:45	5							5	0.3%
23:45	00:00	1							1	0.1%
23:00	00:00	9	1						10	0.6%
Total		1283	215	13	36	1	1		1549	
		82.8%	13.9%	0.8%	2.3%	0.1%	0.1%			
AM PEAK		58	9	2	2		1		65	
period		8:00	6:00	7:15	5:30		6:00		8:00	
% of class		4.5%	4.2%	15.4%	5.6%		100.0%			4.2%
PM PEAK		31	6	3	2	1			35	
period		14:15	15:45	14:30	16:00	18:45			14:15	
% of class		2.4%	2.8%	23.1%	5.6%	100.0%				2.3%

Report-1.2		Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave														
		Direction : West											Road :			
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		2	1											3	0.3%
0:15	0:30															
0:30	0:45		1						1						2	0.2%
0:45	1:00		1			1									2	0.2%
00:00	1:00		4	1		1			1						7	0.6%
1:00	1:15		1												1	0.1%
1:15	1:30		1	1											2	0.2%
1:30	1:45															
1:45	2:00		1												1	0.1%
1:00	2:00		3	1											4	0.3%
2:00	2:15															
2:15	2:30															
2:30	2:45															
2:45	3:00		1												1	0.1%
2:00	3:00		1												1	0.1%
3:00	3:15			1											1	0.1%
3:15	3:30		1												1	0.1%
3:30	3:45															
3:45	4:00															
3:00	4:00		1	1											2	0.2%
4:00	4:15															
4:15	4:30		1	1											2	0.2%
4:30	4:45		1												1	0.1%
4:45	5:00															
4:00	5:00		2	1											3	0.3%
5:00	5:15		1												1	0.1%
5:15	5:30		1												1	0.1%
5:30	5:45		1												1	0.1%
5:45	6:00		2	1											3	0.3%
5:00	6:00		5	1											6	0.5%
6:00	6:15		1												1	0.1%
6:15	6:30		1			1									2	0.2%
6:30	6:45		2	1											3	0.3%
6:45	7:00		4												4	0.3%
6:00	7:00		8	1		1									10	0.8%
7:00	7:15		5	1											6	0.5%
7:15	7:30		5		1	1									7	0.6%
7:30	7:45		11	1	2										14	1.2%
7:45	8:00		32	2											34	2.8%
7:00	8:00		53	4	3	1									61	5.1%
8:00	8:15		31	4	1	2									38	3.2%
8:15	8:30		16	6		1									23	1.9%
8:30	8:45		14	2		1									17	1.4%
8:45	9:00		5	2		1									8	0.7%
8:00	9:00		66	14	1	5									86	7.2%
9:00	9:15		8	2											10	0.8%
9:15	9:30		4			2									6	0.5%
9:30	9:45		5		1										6	0.5%
9:45	10:00		4	3	1	1									9	0.8%
9:00	10:00		21	5	2	3									31	2.6%
10:00	10:15		7	1											8	0.7%
10:15	10:30		8	1											9	0.8%
10:30	10:45		7	4											11	0.9%
10:45	11:00		9	1											10	0.8%
10:00	11:00		31	7											38	3.2%
11:00	11:15		8	1		1									10	0.8%
11:15	11:30		10												10	0.8%
11:30	11:45		12			1									13	1.1%
11:45	12:00		6	2											8	0.7%
11:00	12:00		36	3		2									41	3.4%

12:00	12:15	8	4		1			13	1.1%
12:15	12:30	9	7		1			17	1.4%
12:30	12:45	13	2					15	1.3%
12:45	13:00	14	3					17	1.4%
12:00	13:00	44	16		2			62	5.2%
13:00	13:15	8			1			9	0.8%
13:15	13:30	9	1		1			11	0.9%
13:30	13:45	8	6					14	1.2%
13:45	14:00	10	2					12	1.0%
13:00	14:00	35	9		1	1		46	3.8%
14:00	14:15	11	3		2			16	1.3%
14:15	14:30	19	4			1		24	2.0%
14:30	14:45	14	5					19	1.6%
14:45	15:00	13	3					16	1.3%
14:00	15:00	57	15		2	1		75	6.3%
15:00	15:15	16	6					22	1.8%
15:15	15:30	21	4			1		26	2.2%
15:30	15:45	15	5			1		21	1.8%
15:45	16:00	20	4				1	25	2.1%
15:00	16:00	72	19		2		1	94	7.8%
16:00	16:15	24	4		1	1		30	2.5%
16:15	16:30	19	1		1	3		24	2.0%
16:30	16:45	15	6					21	1.8%
16:45	17:00	29	3			1		33	2.8%
16:00	17:00	87	14		2	5		108	9.0%
17:00	17:15	28	6					34	2.8%
17:15	17:30	27	7					34	2.8%
17:30	17:45	29	4					33	2.8%
17:45	18:00	33	5					38	3.2%
17:00	18:00	117	22					139	11.6%
18:00	18:15	26	5			3		34	2.8%
18:15	18:30	27	2			2		31	2.6%
18:30	18:45	26	6					32	2.7%
18:45	19:00	28	4					32	2.7%
18:00	19:00	107	17			5		129	10.8%
19:00	19:15	12	3					15	1.3%
19:15	19:30	15	1					16	1.3%
19:30	19:45	16	1					17	1.4%
19:45	20:00	21						21	1.8%
19:00	20:00	64	5					69	5.8%
20:00	20:15	12						12	1.0%
20:15	20:30	12	1					13	1.1%
20:30	20:45	15	1			1		17	1.4%
20:45	21:00	6	2					8	0.7%
20:00	21:00	45	4			1		50	4.2%
21:00	21:15	14						14	1.2%
21:15	21:30	17	2					19	1.6%
21:30	21:45	13	4					17	1.4%
21:45	22:00	11	2					13	1.1%
21:00	22:00	55	8					63	5.3%
22:00	22:15	12	3					15	1.3%
22:15	22:30	11	6					17	1.4%
22:30	22:45	5	1			1		7	0.6%
22:45	23:00	8	1					9	0.8%
22:00	23:00	36	11			1		48	4.0%
23:00	23:15	9	2					11	0.9%
23:15	23:30	5						5	0.4%
23:30	23:45	4	1			1		6	0.5%
23:45	00:00	4						4	0.3%
23:00	00:00	22	3			1		26	2.2%
Total		972	182	11	32		2	1199	
		81.1%	15.2%	0.9%	2.7%		0.2%		
AM PEAK		32	6	2	2		1	38	
period		7:45	8:15	7:30	8:00		0:30	8:00	
% of class		3.3%	3.3%	18.2%	6.3%		50.0%		3.2%
PM PEAK		33	7	2	3		1	38	
period		17:45	12:15	14:00	16:15		15:45	17:45	
% of class		3.4%	3.8%	18.2%	9.4%		50.0%		3.2%

Report-1.3		Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave														
		Direction : East + West											Road :			
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		3	1											4	0.1%
0:15	0:30		1	1											2	0.1%
0:30	0:45		1						1						2	0.1%
0:45	1:00		1			1									2	0.1%
00:00	1:00		6	2		1			1						10	0.4%
1:00	1:15		2												2	0.1%
1:15	1:30		1	2											3	0.1%
1:30	1:45															
1:45	2:00		1												1	0.0%
1:00	2:00		4	2											6	0.2%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.0%
2:45	3:00		1												1	0.0%
2:00	3:00		2												2	0.1%
3:00	3:15		2	1											3	0.1%
3:15	3:30		1												1	0.0%
3:30	3:45															
3:45	4:00			2											2	0.1%
3:00	4:00		3	3											6	0.2%
4:00	4:15		2												2	0.1%
4:15	4:30		2	1											3	0.1%
4:30	4:45		3	1											4	0.1%
4:45	5:00		4	2											6	0.2%
4:00	5:00		11	4											15	0.5%
5:00	5:15		11	4											15	0.5%
5:15	5:30		14	8											22	0.8%
5:30	5:45		13	5		2									20	0.7%
5:45	6:00		12	9		2									23	0.8%
5:00	6:00		50	26		4									80	2.9%
6:00	6:15		21	9					1						31	1.1%
6:15	6:30		26	3		1									30	1.1%
6:30	6:45		26	4											30	1.1%
6:45	7:00		28	7		1									36	1.3%
6:00	7:00		101	23		2			1						127	4.6%
7:00	7:15		39	6											45	1.6%
7:15	7:30		50	6	3	1									60	2.2%
7:30	7:45		46	5	2										53	1.9%
7:45	8:00		74	7	2										83	3.0%
7:00	8:00		209	24	7	1									241	8.8%
8:00	8:15		89	9	1	4									103	3.7%
8:15	8:30		49	11	2	2									64	2.3%
8:30	8:45		49	7		2									58	2.1%
8:45	9:00		28	10		3									41	1.5%
8:00	9:00		215	37	3	11									266	9.7%
9:00	9:15		21	5											26	0.9%
9:15	9:30		18	3		3									24	0.9%
9:30	9:45		26	4	1										31	1.1%
9:45	10:00		25	5	1	2									33	1.2%
9:00	10:00		90	17	2	5									114	4.1%
10:00	10:15		22	4		1									27	1.0%
10:15	10:30		28	7											35	1.3%
10:30	10:45		27	7		2									36	1.3%
10:45	11:00		29	1											30	1.1%
10:00	11:00		106	19		3									128	4.7%
11:00	11:15		25	6		1									32	1.2%
11:15	11:30		31	3											34	1.2%
11:30	11:45		27			2									29	1.1%
11:45	12:00		17	3		1									21	0.8%
11:00	12:00		100	12		4									116	4.2%

12:00	12:15	27	4		2			33	1.2%
12:15	12:30	24	9		2			35	1.3%
12:30	12:45	27	3					30	1.1%
12:45	13:00	24	7		1			32	1.2%
12:00	13:00	102	23		5			130	4.7%
13:00	13:15	20	1		1			22	0.8%
13:15	13:30	21	4	2	1			28	1.0%
13:30	13:45	30	10		1			41	1.5%
13:45	14:00	26	4		1			31	1.1%
13:00	14:00	97	19	2	4			122	4.4%
14:00	14:15	27	7	2				36	1.3%
14:15	14:30	50	8		1			59	2.1%
14:30	14:45	39	5	3				47	1.7%
14:45	15:00	38	3	1				42	1.5%
14:00	15:00	154	23	6	1			184	6.7%
15:00	15:15	30	6	1				37	1.3%
15:15	15:30	38	7		2			47	1.7%
15:30	15:45	34	7	1	1			43	1.6%
15:45	16:00	45	10		1	1		57	2.1%
15:00	16:00	147	30	2	4	1		184	6.7%
16:00	16:15	39	7	1	3			50	1.8%
16:15	16:30	34	4	1	4			43	1.6%
16:30	16:45	31	12		1			44	1.6%
16:45	17:00	53	4		1			58	2.1%
16:00	17:00	157	27	2	9			195	7.1%
17:00	17:15	43	9		1			53	1.9%
17:15	17:30	46	8					54	2.0%
17:30	17:45	46	6					52	1.9%
17:45	18:00	55	10					65	2.4%
17:00	18:00	190	33		1			224	8.2%
18:00	18:15	37	6		3			46	1.7%
18:15	18:30	48	5		2			55	2.0%
18:30	18:45	43	7					50	1.8%
18:45	19:00	39	5			1		45	1.6%
18:00	19:00	167	23		5	1		196	7.1%
19:00	19:15	24	5					29	1.1%
19:15	19:30	28	4					32	1.2%
19:30	19:45	28	3		1			32	1.2%
19:45	20:00	28	3					31	1.1%
19:00	20:00	108	15		1			124	4.5%
20:00	20:15	21	1		1			23	0.8%
20:15	20:30	21	1					22	0.8%
20:30	20:45	22	1		1			24	0.9%
20:45	21:00	11	3		1			15	0.5%
20:00	21:00	75	6		3			84	3.1%
21:00	21:15	19	3					22	0.8%
21:15	21:30	28	2					30	1.1%
21:30	21:45	16	4		1			21	0.8%
21:45	22:00	19	2		1			22	0.8%
21:00	22:00	82	11		2			95	3.5%
22:00	22:15	18	4					22	0.8%
22:15	22:30	12	7					19	0.7%
22:30	22:45	8	2		1			11	0.4%
22:45	23:00	10	1					11	0.4%
22:00	23:00	48	14		1			63	2.3%
23:00	23:15	12	2					14	0.5%
23:15	23:30	5	1					6	0.2%
23:30	23:45	9	1		1			11	0.4%
23:45	00:00	5						5	0.2%
23:00	00:00	31	4		1			36	1.3%
Total		2255	397	24	68	1	3	2748	
		82.1%	14.4%	0.9%	2.5%	0.0%	0.1%		
AM PEAK		89	11	3	4		1	103	
period		8:00	8:15	7:15	8:00		0:30	8:00	
% of class		3.9%	2.8%	12.5%	5.9%		33.3%	3.7%	
PM PEAK		55	12	3	4	1	1	65	
period		17:45	16:30	14:30	16:15	18:45	15:45	17:45	
% of class		2.4%	3.0%	12.5%	5.9%	100.0%	33.3%	2.4%	

Report-2.1	Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : East Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15					1									1	20.7-40.7	1
0:15 0:30					2									2	25.3-45.3	2
0:30 0:45																
0:45 1:00																
00:00 1:00					3									3	25.3-45.3	2
1:00 1:15					1									1	26.1-46.1	1
1:15 1:30				1										1	17.4-37.4	1
1:30 1:45																
1:45 2:00																
1:00 2:00				1	1									2	26.1-46.1	1
2:00 2:15																
2:15 2:30																
2:30 2:45				1										1	20.0-40.0	1
2:45 3:00																
2:00 3:00				1										1	20.0-40.0	1
3:00 3:15					2									2	24.2-44.2	2
3:15 3:30																
3:30 3:45																
3:45 4:00					1	1								2	31.7-51.7	2
3:00 4:00					3	1								4	24.2-44.2	2
4:00 4:15				1	1									2	24.1-44.1	2
4:15 4:30					1									1	27.8-47.8	1
4:30 4:45					3									3	25.5-45.5	3
4:45 5:00				3	3									6	29.7-49.7	6
4:00 5:00				4	8									12	29.7-49.7	6
5:00 5:15				1	11	2								14	34.8-54.8	14
5:15 5:30				1	13	7								21	35.9-55.9	21
5:30 5:45					14	5								19	34.7-54.7	19
5:45 6:00					14	6								20	37.6-57.6	20
5:00 6:00				2	52	20								74	35.9-55.9	21
6:00 6:15				4	24	2								30	31.2-51.2	30
6:15 6:30				3	21	4								28	34.5-54.5	27
6:30 6:45				6	19	2								27	30.7-50.7	26
6:45 7:00				2	24	6								32	32.5-52.5	32
6:00 7:00				15	88	14								117	32.5-52.5	32
7:00 7:15				3	33	3								39	32.6-52.6	39
7:15 7:30				10	36	7								53	35.2-55.2	52
7:30 7:45				4	32	3								39	33.8-53.8	39
7:45 8:00				7	37	5								49	34.5-54.5	49
7:00 8:00				24	138	18								180	35.2-55.2	52
8:00 8:15				8	51	6								65	34.0-54.0	65
8:15 8:30				3	36	2								41	35.4-55.4	41
8:30 8:45				2	31	8								41	35.7-55.7	41
8:45 9:00				7	23	3								33	30.8-50.8	32
8:00 9:00				20	141	19								180	34.0-54.0	65
9:00 9:15					13	3								16	35.0-55.0	16
9:15 9:30				2	12	4								18	33.0-53.0	17
9:30 9:45					19	5	1							25	40.8-60.8	25
9:45 10:00				2	18	4								24	33.1-53.1	24
9:00 10:00				4	62	16	1							83	40.8-60.8	25
10:00 10:15				1	14	3	1							19	31.1-51.1	18
10:15 10:30				2	18	6								26	36.8-56.8	25
10:30 10:45				5	15	5								25	33.8-53.8	24
10:45 11:00					18	2								20	31.2-51.2	20
10:00 11:00				8	65	16	1							90	36.8-56.8	25
11:00 11:15					18	4								22	33.0-53.0	22
11:15 11:30				2	15	7								24	35.9-55.9	24
11:30 11:45				2	9	5								16	32.5-52.5	16
11:45 12:00					11	2								13	33.5-53.5	13
11:00 12:00				4	53	18								75	35.9-55.9	24

12:00	12:15		1	12	7			20	38.2-58.2	20
12:15	12:30		2	15		1		18	29.9-49.9	17
12:30	12:45		2	10	3			15	35.8-55.8	15
12:45	13:00		1	11	3			15	36.0-56.0	15
12:00	13:00		6	48	13	1		68	38.2-58.2	20
13:00	13:15			10	3			13	35.1-55.1	13
13:15	13:30			13	4			17	37.7-57.7	17
13:30	13:45		5	15	7			27	38.2-58.2	27
13:45	14:00		2	13	4			19	37.3-57.3	19
13:00	14:00		7	51	18			76	38.2-58.2	27
14:00	14:15			15	5			20	36.3-56.3	20
14:15	14:30		5	21	8	1		35	34.8-54.8	31
14:30	14:45		2	14	12			28	35.2-55.2	28
14:45	15:00		4	15	7			26	35.3-55.3	25
14:00	15:00		11	65	32	1		109	34.8-54.8	31
15:00	15:15			13	2			15	31.2-51.2	15
15:15	15:30			16	5			21	33.4-53.4	21
15:30	15:45		2	14	6			22	34.3-54.3	21
15:45	16:00		2	23	7			32	33.0-53.0	32
15:00	16:00		4	66	20			90	33.0-53.0	32
16:00	16:15		1	14	5			20	32.6-52.6	19
16:15	16:30			12	7			19	38.2-58.2	19
16:30	16:45		1	17	5			23	33.6-53.6	23
16:45	17:00		1	21	3			25	33.6-53.6	25
16:00	17:00		3	64	20			87	33.6-53.6	25
17:00	17:15		1	14	4			19	32.3-52.3	19
17:15	17:30		2	11	6	1		20	34.9-54.9	19
17:30	17:45		3	11	5			19	36.9-56.9	18
17:45	18:00		4	19	4			27	34.0-54.0	26
17:00	18:00		10	55	19	1		85	34.0-54.0	26
18:00	18:15		1	8	3			12	32.1-52.1	12
18:15	18:30		3	17	4			24	33.2-53.2	24
18:30	18:45		1	15	2			18	32.5-52.5	18
18:45	19:00		3	9	1			13	29.4-49.4	12
18:00	19:00		8	49	10			67	33.2-53.2	24
19:00	19:15		2	8	4			14	35.0-55.0	14
19:15	19:30		2	10	4			16	35.9-55.9	15
19:30	19:45		2	12	1			15	32.7-52.7	15
19:45	20:00		2	6	2			10	32.3-52.3	10
19:00	20:00		8	36	11			55	35.9-55.9	15
20:00	20:15		1	7	3			11	32.8-52.8	11
20:15	20:30		2	7				9	26.7-46.7	9
20:30	20:45		2	3	2			7	36.9-56.9	7
20:45	21:00			6	1			7	31.4-51.4	7
20:00	21:00		5	23	6			34	32.8-52.8	11
21:00	21:15			5	3			8	33.4-53.4	8
21:15	21:30		3	7	1			11	29.8-49.8	10
21:30	21:45			4				4	26.4-46.4	4
21:45	22:00			8	1			9	30.4-50.4	9
21:00	22:00		3	24	5			32	29.8-49.8	10
22:00	22:15		1	5	1			7	37.3-57.3	7
22:15	22:30			1	1			2	30.3-50.3	2
22:30	22:45		1	3				4	25.4-45.4	4
22:45	23:00			2				2	29.1-49.1	2
22:00	23:00		2	11	2			15	37.3-57.3	7
23:00	23:15			1	2			3	34.0-54.0	3
23:15	23:30			1				1	26.0-46.0	1
23:30	23:45		1	1	3			5	35.5-55.5	4
23:45	00:00			1				1	23.7-43.7	1
23:00	00:00		1	4	5			10	35.5-55.5	4
Total			1	150	1110	283	5		1549	
AM PEAK			0.1%	9.7%	71.7%	18.3%	0.3%			
period			10	51	8	1		65		
% of class			7:15	8:00	8:30	9:30		8:00		
			6.7%	4.6%	2.8%	20.0%			4.2%	
PM PEAK			1	5	23	12	1	35		
period			23:30	13:30	15:45	14:30	12:15	14:15		
% of class			100.0%	3.3%	2.1%	4.2%	20.0%		2.3%	

15% Percentile :	41 KPH
50% Percentile :	46 KPH
85% Percentile :	52 KPH
95% Percentile :	57 KPH

20 KPH Pace Speed:	35.9-55.9 KPH
Number in Pace:	1493
Percent in Pace:	96.4 %
Number of Vehicles >40 KPH:	1398
Percent of Vehicles >40 KPH:	90.3 %
Mean Speed(average):	46 KPH

Report-2.2		Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave															
		Direction : West															
		Dates : 1 2019-12-12															
Speeds,km/h ----->		10	20	30	40	50	60	70	80	90	100	110	120	130	Total	Pace	Number
		10	20	30	40	50	60	70	80	90	100	110	120	130		Speed	in Pace
00:00	0:15				3										3	27.2-47.2	3
0:15	0:30					1	1								2	35.8-55.8	2
0:30	0:45				1	1									2	21.2-41.2	2
0:45	1:00				1	1									2	21.2-41.2	2
00:00	1:00				1	5	1								7	27.2-47.2	3
1:00	1:15						1								1	32.5-52.5	1
1:15	1:30				1	1									2	32.9-52.9	2
1:30	1:45																
1:45	2:00				1										1	22.7-42.7	1
1:00	2:00				2	2									4	32.9-52.9	2
2:00	2:15																
2:15	2:30																
2:30	2:45																
2:45	3:00				1										1	28.5-48.5	1
2:00	3:00				1										1	28.5-48.5	1
3:00	3:15						1								1	30.7-50.7	1
3:15	3:30						1								1	37.2-57.2	1
3:30	3:45																
3:45	4:00																
3:00	4:00						2								2	30.7-50.7	1
4:00	4:15																
4:15	4:30				2										2	29.2-49.2	2
4:30	4:45				1										1	25.0-45.0	1
4:45	5:00																
4:00	5:00				3										3	29.2-49.2	2
5:00	5:15				1										1	21.0-41.0	1
5:15	5:30				1										1	23.0-43.0	1
5:30	5:45				1										1	23.5-43.5	1
5:45	6:00				2	1									3	35.1-55.1	3
5:00	6:00				5	1									6	35.1-55.1	3
6:00	6:15				1										1	25.0-45.0	1
6:15	6:30				2										2	28.4-48.4	2
6:30	6:45				1	2									3	35.1-55.1	3
6:45	7:00				3	1									4	36.9-56.9	4
6:00	7:00				7	3									10	36.9-56.9	4
7:00	7:15				5	1									6	32.8-52.8	6
7:15	7:30				7										7	29.6-49.6	7
7:30	7:45				2	10	2								14	33.7-53.7	14
7:45	8:00				1	27	6								34	36.3-56.3	34
7:00	8:00				3	49	9								61	36.3-56.3	34
8:00	8:15				1	29	8								38	35.0-55.0	38
8:15	8:30				3	16	4								23	34.0-54.0	23
8:30	8:45					9	8								17	39.2-59.2	17
8:45	9:00				2	4	2								8	30.4-50.4	7
8:00	9:00				6	58	22								86	35.0-55.0	38
9:00	9:15				1	5	4								10	32.9-52.9	10
9:15	9:30					4	2								6	37.8-57.8	6
9:30	9:45					5	1								6	32.2-52.2	6
9:45	10:00				2	5	2								9	34.7-54.7	9
9:00	10:00				3	19	9								31	32.9-52.9	10
10:00	10:15				1	4	3								8	34.2-54.2	8
10:15	10:30					8	1								9	30.5-50.5	9
10:30	10:45					5	6								11	33.1-53.1	11
10:45	11:00				2	5	3								10	30.7-50.7	10
10:00	11:00				3	22	13								38	33.1-53.1	11
11:00	11:15					7	3								10	36.2-56.2	10
11:15	11:30				1	7	2								10	30.9-50.9	10
11:30	11:45					10	3								13	37.4-57.4	13
11:45	12:00					7	1								8	30.9-50.9	8
11:00	12:00				1	31	9								41	37.4-57.4	13

12:00	12:15			12	1					13	39.5-59.5	13
12:15	12:30		1	11	5					17	37.2-57.2	17
12:30	12:45			7	8					15	36.7-56.7	15
12:45	13:00			14	3					17	31.8-51.8	17
12:00	13:00		1	44	17					62	37.2-57.2	17
13:00	13:15			4	5					9	38.1-58.1	9
13:15	13:30		1	5	5					11	36.6-56.6	11
13:30	13:45		3	4	7					14	36.1-56.1	13
13:45	14:00		1	8	3					12	31.8-51.8	12
13:00	14:00		5	21	20					46	36.1-56.1	13
14:00	14:15		2	14						16	28.9-48.9	16
14:15	14:30			20	4					24	37.1-57.1	24
14:30	14:45		1	13	5					19	33.7-53.7	19
14:45	15:00		1	12	2	1				16	33.6-53.6	15
14:00	15:00		4	59	11	1				75	37.1-57.1	24
15:00	15:15		2	16	4					22	36.8-56.8	22
15:15	15:30			18	8					26	34.0-54.0	26
15:30	15:45		1	15	5					21	34.4-54.4	21
15:45	16:00			17	7	1				25	36.4-56.4	24
15:00	16:00		3	66	24	1				94	34.0-54.0	26
16:00	16:15		2	13	15					30	39.7-59.7	29
16:15	16:30		1	20	3					24	30.7-50.7	24
16:30	16:45			15	6					21	38.4-58.4	21
16:45	17:00		2	25	5	1				33	35.0-55.0	32
16:00	17:00		5	73	29	1				108	35.0-55.0	32
17:00	17:15		1	20	13					34	36.6-56.6	33
17:15	17:30		1	23	10					34	36.8-56.8	33
17:30	17:45			27	6					33	34.2-54.2	33
17:45	18:00		3	3	25	6	1			38	33.4-53.4	32
17:00	18:00		3	5	95	35	1			139	36.6-56.6	33
18:00	18:15			3	22	9				34	35.5-55.5	34
18:15	18:30		5	22	4					31	34.2-54.2	30
18:30	18:45		2	19	10	1				32	35.4-55.4	31
18:45	19:00		1	29	2					32	33.9-53.9	32
18:00	19:00		11	92	25	1				129	35.5-55.5	34
19:00	19:15		1	13	1					15	32.4-52.4	15
19:15	19:30	1		11	4					16	31.6-51.6	15
19:30	19:45		3	9	5					17	31.8-51.8	17
19:45	20:00		3	13	5					21	34.0-54.0	21
19:00	20:00	1	7	46	15					69	34.0-54.0	21
20:00	20:15		1	7	4					12	33.8-53.8	12
20:15	20:30			12	1					13	38.7-58.7	13
20:30	20:45		1	12	4					17	33.7-53.7	17
20:45	21:00			7	1					8	32.3-52.3	8
20:00	21:00		2	38	10					50	33.7-53.7	17
21:00	21:15		1	9	4					14	32.5-52.5	14
21:15	21:30			17	2					19	39.5-59.5	19
21:30	21:45		1	13	3					17	31.8-51.8	17
21:45	22:00			13						13	30.0-50.0	13
21:00	22:00		2	52	9					63	39.5-59.5	19
22:00	22:15			12	3					15	33.2-53.2	15
22:15	22:30		5	11	1					17	31.5-51.5	17
22:30	22:45			7						7	28.7-48.7	7
22:45	23:00		1	5	3					9	35.0-55.0	9
22:00	23:00		6	35	7					48	31.5-51.5	17
23:00	23:15			7	4					11	37.2-57.2	11
23:15	23:30		1	3	1					5	32.5-52.5	5
23:30	23:45		1	5						6	27.7-47.7	6
23:45	00:00			4						4	28.7-48.7	4
23:00	00:00		2	19	5					26	37.2-57.2	11
Total			4	70	842	278	4	1			1199	
AM PEAK			0.3%	5.8%	70.2%	23.2%	0.3%	0.1%				
period			3	29	8						38	
% of class			8:15	8:00	8:00						8:00	
PM PEAK			4.3%	3.4%	2.9%							3.2%
period			3	5	29	15	1	1			38	
% of class			17:45	18:15	18:45	16:00	14:45	15:45			17:45	
			75.0%	7.1%	3.4%	5.4%	25.0%	100.0%				3.2%

15% Percentile :	41 KPH
50% Percentile :	46 KPH
85% Percentile :	54 KPH
95% Percentile :	58 KPH

20 KPH Pace Speed:	36.9-56.9 KPH
Number in Pace:	1160
Percent in Pace:	96.7 %
Number of Vehicles >40 KPH:	1125
Percent of Vehicles >40 KPH:	93.8 %
Mean Speed(average):	47 KPH

Report-2.3	Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : East + West Road :															
	Dates : 1 2019-12-12															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				4										4	27.2-47.2	4
0:15 0:30				2										2	25.3-45.3	2
0:30 0:45				1	1									2	35.8-55.8	2
0:45 1:00			1	1										2	21.2-41.2	2
00:00 1:00			1	8	1									10	27.2-47.2	4
1:00 1:15				1	1	1								2	32.5-52.5	2
1:15 1:30			1	1	1									3	32.9-52.9	3
1:30 1:45																
1:45 2:00				1										1	22.7-42.7	1
1:00 2:00			1	3	2									6	32.9-52.9	3
2:00 2:15																
2:15 2:30																
2:30 2:45			1											1	20.0-40.0	1
2:45 3:00				1										1	28.5-48.5	1
2:00 3:00			1	1										2	20.0-40.0	1
3:00 3:15				2	1									3	30.7-50.7	3
3:15 3:30					1									1	37.2-57.2	1
3:30 3:45																
3:45 4:00				1	1									2	31.7-51.7	2
3:00 4:00				3	3									6	30.7-50.7	3
4:00 4:15			1	1										2	24.1-44.1	2
4:15 4:30				3										3	29.2-49.2	3
4:30 4:45				4										4	25.5-45.5	4
4:45 5:00			3	3										6	29.7-49.7	6
4:00 5:00			4	11										15	29.7-49.7	6
5:00 5:15			1	12	2									15	34.8-54.8	15
5:15 5:30			1	14	7									22	35.9-55.9	22
5:30 5:45				15	5									20	34.7-54.7	20
5:45 6:00				16	7									23	37.6-57.6	23
5:00 6:00			2	57	21									80	37.6-57.6	23
6:00 6:15			4	25	2									31	31.2-51.2	31
6:15 6:30			3	23	4									30	34.5-54.5	29
6:30 6:45			6	20	4									30	30.9-50.9	28
6:45 7:00			2	27	7									36	36.9-56.9	36
6:00 7:00			15	95	17									127	36.9-56.9	36
7:00 7:15			3	38	4									45	32.8-52.8	45
7:15 7:30			10	43	7									60	35.2-55.2	59
7:30 7:45			6	42	5									53	33.8-53.8	53
7:45 8:00			8	64	11									83	36.3-56.3	83
7:00 8:00			27	187	27									241	36.3-56.3	83
8:00 8:15			9	80	14									103	35.0-55.0	103
8:15 8:30			6	52	6									64	35.4-55.4	64
8:30 8:45			2	40	16									58	35.7-55.7	57
8:45 9:00			9	27	5									41	30.8-50.8	39
8:00 9:00			26	199	41									266	35.0-55.0	103
9:00 9:15			1	18	7									26	35.0-55.0	26
9:15 9:30			2	16	6									24	37.8-57.8	22
9:30 9:45				24	6	1								31	32.2-52.2	30
9:45 10:00			4	23	6									33	34.7-54.7	33
9:00 10:00			7	81	25	1								114	34.7-54.7	33
10:00 10:15			2	18	6	1								27	34.2-54.2	26
10:15 10:30			2	26	7									35	36.8-56.8	34
10:30 10:45			5	20	11									36	33.8-53.8	35
10:45 11:00			2	23	5									30	31.2-51.2	30
10:00 11:00			11	87	29	1								128	33.8-53.8	35
11:00 11:15				25	7									32	36.2-56.2	32
11:15 11:30			3	22	9									34	35.9-55.9	34
11:30 11:45			2	19	8									29	37.4-57.4	29
11:45 12:00				18	3									21	33.5-53.5	21
11:00 12:00			5	84	27									116	35.9-55.9	34

12:00	12:15		1	24	8					33	38.2-58.2	32
12:15	12:30		3	26	5	1				35	32.5-52.5	33
12:30	12:45		2	17	11					30	35.8-55.8	29
12:45	13:00		1	25	6					32	36.0-56.0	32
12:00	13:00		7	92	30	1				130	32.5-52.5	33
13:00	13:15			14	8					22	38.1-58.1	22
13:15	13:30		1	18	9					28	37.7-57.7	28
13:30	13:45		8	19	14					41	38.2-58.2	40
13:45	14:00		3	21	7					31	34.5-54.5	30
13:00	14:00		12	72	38					122	38.2-58.2	40
14:00	14:15		2	29	5					36	36.3-56.3	36
14:15	14:30		5	41	12	1				59	34.8-54.8	54
14:30	14:45		3	27	17					47	35.2-55.2	47
14:45	15:00		5	27	9	1				42	35.3-55.3	40
14:00	15:00		15	124	43	2				184	34.8-54.8	54
15:00	15:15		2	29	6					37	36.8-56.8	37
15:15	15:30			34	13					47	34.0-54.0	47
15:30	15:45		3	29	11					43	34.4-54.4	42
15:45	16:00		2	40	14		1			57	36.4-56.4	56
15:00	16:00		7	132	44		1			184	36.4-56.4	56
16:00	16:15		3	27	20					50	39.7-59.7	48
16:15	16:30		1	32	10					43	38.2-58.2	43
16:30	16:45		1	32	11					44	34.6-54.6	43
16:45	17:00		3	46	8	1				58	35.0-55.0	57
16:00	17:00		8	137	49	1				195	35.0-55.0	57
17:00	17:15		2	34	17					53	36.6-56.6	52
17:15	17:30		3	34	16	1				54	36.8-56.8	51
17:30	17:45		3	38	11					52	36.9-56.9	51
17:45	18:00		3	7	44	10	1			65	34.0-54.0	58
17:00	18:00		3	15	150	54	2			224	34.0-54.0	58
18:00	18:15		4	30	12					46	35.5-55.5	46
18:15	18:30		8	39	8					55	34.2-54.2	54
18:30	18:45		3	34	12	1				50	35.4-55.4	49
18:45	19:00		4	38	3					45	33.9-53.9	44
18:00	19:00		19	141	35	1				196	34.2-54.2	54
19:00	19:15		3	21	5					29	35.0-55.0	29
19:15	19:30		1	2	21	8				32	35.9-55.9	30
19:30	19:45			5	21	6				32	32.7-52.7	32
19:45	20:00			5	19	7				31	34.0-54.0	31
19:00	20:00		1	15	82	26				124	32.7-52.7	32
20:00	20:15			2	14	7				23	33.8-53.8	23
20:15	20:30			2	19	1				22	38.7-58.7	22
20:30	20:45			3	15	6				24	36.9-56.9	24
20:45	21:00				13	2				15	32.3-52.3	15
20:00	21:00			7	61	16				84	36.9-56.9	24
21:00	21:15			1	14	7				22	33.4-53.4	22
21:15	21:30			3	24	3				30	29.8-49.8	27
21:30	21:45			1	17	3				21	31.8-51.8	21
21:45	22:00				21	1				22	30.4-50.4	22
21:00	22:00			5	76	14				95	29.8-49.8	27
22:00	22:15			1	17	4				22	37.3-57.3	22
22:15	22:30			5	12	2				19	31.5-51.5	19
22:30	22:45			1	10					11	28.7-48.7	11
22:45	23:00			1	7	3				11	35.0-55.0	11
22:00	23:00			8	46	9				63	37.3-57.3	22
23:00	23:15				8	6				14	37.2-57.2	14
23:15	23:30			1	4	1				6	32.5-52.5	6
23:30	23:45		1	1	6	3				11	35.5-55.5	10
23:45	00:00				5					5	28.7-48.7	5
23:00	00:00		1	2	23	10				36	37.2-57.2	14
Total			5	220	1952	561	9	1		2748		
AM PEAK			0.2%	8.0%	71.0%	20.4%	0.3%	0.0%				
period			10	80	16	1				103		
% of class			7:15	8:00	8:30	9:30				8:00		
			4.5%	4.1%	2.9%	11.1%					3.7%	
PM PEAK			3	8	46	20	1	1		65		
period			17:45	13:30	16:45	16:00	12:15	15:45		17:45		
% of class			60.0%	3.6%	2.4%	3.6%	11.1%	100.0%			2.4%	

15% Percentile :	41 KPH
50% Percentile :	46 KPH
85% Percentile :	53 KPH
95% Percentile :	58 KPH

20 KPH Pace Speed:	36.9-56.9 KPH
Number in Pace:	2648
Percent in Pace:	96.4 %
Number of Vehicles >40 KPH:	2523
Percent of Vehicles >40 KPH:	91.8 %
Mean Speed(average):	46 KPH

Report-3.1 Directions ----->	Location : CAL2019-A7EW Columbia Way - at bend east of Forest Gate Ave									
	Dates : 2019-12-12									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15				1	0.1%	3	0.3%	4	0.1%	
0:15 0:30				2	0.1%			2	0.1%	
0:30 0:45						2	0.2%	2	0.1%	
0:45 1:00						2	0.2%	2	0.1%	
00:00 1:00				3	0.2%	7	0.6%	10	0.4%	
1:00 1:15				1	0.1%	1	0.1%	2	0.1%	
1:15 1:30				1	0.1%	2	0.2%	3	0.1%	
1:30 1:45										
1:45 2:00						1	0.1%	1	0.0%	
1:00 2:00				2	0.1%	4	0.3%	6	0.2%	
2:00 2:15										
2:15 2:30										
2:30 2:45				1	0.1%			1	0.0%	
2:45 3:00						1	0.1%	1	0.0%	
2:00 3:00				1	0.1%	1	0.1%	2	0.1%	
3:00 3:15				2	0.1%	1	0.1%	3	0.1%	
3:15 3:30						1	0.1%	1	0.0%	
3:30 3:45										
3:45 4:00				2	0.1%			2	0.1%	
3:00 4:00				4	0.3%	2	0.2%	6	0.2%	
4:00 4:15				2	0.1%			2	0.1%	
4:15 4:30				1	0.1%	2	0.2%	3	0.1%	
4:30 4:45				3	0.2%	1	0.1%	4	0.1%	
4:45 5:00				6	0.4%			6	0.2%	
4:00 5:00				12	0.8%	3	0.3%	15	0.5%	
5:00 5:15				14	0.9%	1	0.1%	15	0.5%	
5:15 5:30				21	1.4%	1	0.1%	22	0.8%	
5:30 5:45				19	1.2%	1	0.1%	20	0.7%	
5:45 6:00				20	1.3%	3	0.3%	23	0.8%	
5:00 6:00				74	4.8%	6	0.5%	80	2.9%	
6:00 6:15				30	1.9%	1	0.1%	31	1.1%	
6:15 6:30				28	1.8%	2	0.2%	30	1.1%	
6:30 6:45				27	1.7%	3	0.3%	30	1.1%	
6:45 7:00				32	2.1%	4	0.3%	36	1.3%	
6:00 7:00				117	7.6%	10	0.8%	127	4.6%	
7:00 7:15				39	2.5%	6	0.5%	45	1.6%	
7:15 7:30				53	3.4%	7	0.6%	60	2.2%	
7:30 7:45				39	2.5%	14	1.2%	53	1.9%	
7:45 8:00				49	3.2%	34	2.8%	83	3.0%	
7:00 8:00				180	11.6%	61	5.1%	241	8.8%	
8:00 8:15				65	4.2%	38	3.2%	103	3.7%	
8:15 8:30				41	2.6%	23	1.9%	64	2.3%	
8:30 8:45				41	2.6%	17	1.4%	58	2.1%	
8:45 9:00				33	2.1%	8	0.7%	41	1.5%	
8:00 9:00				180	11.6%	86	7.2%	266	9.7%	
9:00 9:15				16	1.0%	10	0.8%	26	0.9%	
9:15 9:30				18	1.2%	6	0.5%	24	0.9%	
9:30 9:45				25	1.6%	6	0.5%	31	1.1%	
9:45 10:00				24	1.5%	9	0.8%	33	1.2%	
9:00 10:00				83	5.4%	31	2.6%	114	4.1%	
10:00 10:15				19	1.2%	8	0.7%	27	1.0%	
10:15 10:30				26	1.7%	9	0.8%	35	1.3%	
10:30 10:45				25	1.6%	11	0.9%	36	1.3%	
10:45 11:00				20	1.3%	10	0.8%	30	1.1%	
10:00 11:00				90	5.8%	38	3.2%	128	4.7%	
11:00 11:15				22	1.4%	10	0.8%	32	1.2%	
11:15 11:30				24	1.5%	10	0.8%	34	1.2%	
11:30 11:45				16	1.0%	13	1.1%	29	1.1%	
11:45 12:00				13	0.8%	8	0.7%	21	0.8%	
11:00 12:00				75	4.8%	41	3.4%	116	4.2%	

12:00	12:15		20	1.3%	13	1.1%	33	1.2%
12:15	12:30		18	1.2%	17	1.4%	35	1.3%
12:30	12:45		15	1.0%	15	1.3%	30	1.1%
12:45	13:00		15	1.0%	17	1.4%	32	1.2%
12:00	13:00		68	4.4%	62	5.2%	130	4.7%
13:00	13:15		13	0.8%	9	0.8%	22	0.8%
13:15	13:30		17	1.1%	11	0.9%	28	1.0%
13:30	13:45		27	1.7%	14	1.2%	41	1.5%
13:45	14:00		19	1.2%	12	1.0%	31	1.1%
13:00	14:00		76	4.9%	46	3.8%	122	4.4%
14:00	14:15		20	1.3%	16	1.3%	36	1.3%
14:15	14:30		35	2.3%	24	2.0%	59	2.1%
14:30	14:45		28	1.8%	19	1.6%	47	1.7%
14:45	15:00		26	1.7%	16	1.3%	42	1.5%
14:00	15:00		109	7.0%	75	6.3%	184	6.7%
15:00	15:15		15	1.0%	22	1.8%	37	1.3%
15:15	15:30		21	1.4%	26	2.2%	47	1.7%
15:30	15:45		22	1.4%	21	1.8%	43	1.6%
15:45	16:00		32	2.1%	25	2.1%	57	2.1%
15:00	16:00		90	5.8%	94	7.8%	184	6.7%
16:00	16:15		20	1.3%	30	2.5%	50	1.8%
16:15	16:30		19	1.2%	24	2.0%	43	1.6%
16:30	16:45		23	1.5%	21	1.8%	44	1.6%
16:45	17:00		25	1.6%	33	2.8%	58	2.1%
16:00	17:00		87	5.6%	108	9.0%	195	7.1%
17:00	17:15		19	1.2%	34	2.8%	53	1.9%
17:15	17:30		20	1.3%	34	2.8%	54	2.0%
17:30	17:45		19	1.2%	33	2.8%	52	1.9%
17:45	18:00		27	1.7%	38	3.2%	65	2.4%
17:00	18:00		85	5.5%	139	11.6%	224	8.2%
18:00	18:15		12	0.8%	34	2.8%	46	1.7%
18:15	18:30		24	1.5%	31	2.6%	55	2.0%
18:30	18:45		18	1.2%	32	2.7%	50	1.8%
18:45	19:00		13	0.8%	32	2.7%	45	1.6%
18:00	19:00		67	4.3%	129	10.8%	196	7.1%
19:00	19:15		14	0.9%	15	1.3%	29	1.1%
19:15	19:30		16	1.0%	16	1.3%	32	1.2%
19:30	19:45		15	1.0%	17	1.4%	32	1.2%
19:45	20:00		10	0.6%	21	1.8%	31	1.1%
19:00	20:00		55	3.6%	69	5.8%	124	4.5%
20:00	20:15		11	0.7%	12	1.0%	23	0.8%
20:15	20:30		9	0.6%	13	1.1%	22	0.8%
20:30	20:45		7	0.5%	17	1.4%	24	0.9%
20:45	21:00		7	0.5%	8	0.7%	15	0.5%
20:00	21:00		34	2.2%	50	4.2%	84	3.1%
21:00	21:15		8	0.5%	14	1.2%	22	0.8%
21:15	21:30		11	0.7%	19	1.6%	30	1.1%
21:30	21:45		4	0.3%	17	1.4%	21	0.8%
21:45	22:00		9	0.6%	13	1.1%	22	0.8%
21:00	22:00		32	2.1%	63	5.3%	95	3.5%
22:00	22:15		7	0.5%	15	1.3%	22	0.8%
22:15	22:30		2	0.1%	17	1.4%	19	0.7%
22:30	22:45		4	0.3%	7	0.6%	11	0.4%
22:45	23:00		2	0.1%	9	0.8%	11	0.4%
22:00	23:00		15	1.0%	48	4.0%	63	2.3%
23:00	23:15		3	0.2%	11	0.9%	14	0.5%
23:15	23:30		1	0.1%	5	0.4%	6	0.2%
23:30	23:45		5	0.3%	6	0.5%	11	0.4%
23:45	00:00		1	0.1%	4	0.3%	5	0.2%
23:00	00:00		10	0.6%	26	2.2%	36	1.3%
Total			1549		1199		2748	100.0%
			56.4%		43.6%		100.0%	
AM PEAK			65		38		103	
period			8:00		8:00		8:00	
% of class			4.2%		3.2%		3.7%	
PM PEAK			35		38		65	
period			14:15		17:45		17:45	
% of class			2.3%		3.2%		2.4%	

Report-1.1		Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave																				
		Direction : East Road :																				
		Dates : 1 2019-12-12																				
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total							
00:00	0:15	1													1	0.1%						
0:15	0:30												1	0.1%								
0:30	0:45																					
0:45	1:00																					
00:00	1:00	1													2	0.1%						
1:00	1:15												1	0.1%								
1:15	1:30												1	0.1%								
1:30	1:45																					
1:45	2:00																					
1:00	2:00	2													2	0.1%						
2:00	2:15																					
2:15	2:30																					
2:30	2:45	1													1	0.1%						
2:45	3:00																					
2:00	3:00	1													1	0.1%						
3:00	3:15	1	1												2	0.1%						
3:15	3:30																					
3:30	3:45																					
3:45	4:00	1	1												2	0.1%						
3:00	4:00	2		2													4	0.3%				
4:00	4:15	2													2	0.1%						
4:15	4:30	3													3	0.2%						
4:30	4:45	2													2	0.1%						
4:45	5:00	4		1												5	0.3%					
4:00	5:00	11		1												12	0.8%					
5:00	5:15	10		4		1												15	1.0%			
5:15	5:30	16		3													19	1.2%				
5:30	5:45	14		2		2	1												19	1.2%		
5:45	6:00	14		4		1	1												20	1.3%		
5:00	6:00	54		13		3		3													73	4.7%
6:00	6:15	26		6													32	2.0%				
6:15	6:30	22		2		1												25	1.6%			
6:30	6:45	26		2													28	1.8%				
6:45	7:00	27		5													32	2.0%				
6:00	7:00	101		15		1												117	7.5%			
7:00	7:15	42		1													43	2.7%				
7:15	7:30	39		4		2	3												48	3.1%		
7:30	7:45	39		2		1												42	2.7%			
7:45	8:00	42		4		1	2												49	3.1%		
7:00	8:00	162		11		3		6													182	11.6%
8:00	8:15	65		4													69	4.4%				
8:15	8:30	31		4		2	1												38	2.4%		
8:30	8:45	35		5		2												42	2.7%			
8:45	9:00	32		2		1												35	2.2%			
8:00	9:00	163		15		2	1	3													184	11.7%
9:00	9:15	14		2													16	1.0%				
9:15	9:30	16		2		1												19	1.2%			
9:30	9:45	23		4		2												27	1.7%			
9:45	10:00	19		2		1	1												23	1.5%		
9:00	10:00	72		8		3		2													85	5.4%
10:00	10:15	16		1		1												18	1.1%			
10:15	10:30	22		3													25	1.6%				
10:30	10:45	18		2		3	1												24	1.5%		
10:45	11:00	22													22	1.4%						
10:00	11:00	78		6		4		1												89	5.7%	
11:00	11:15	19		3													22	1.4%				
11:15	11:30	23		2													25	1.6%				
11:30	11:45	17													17	1.1%						
11:45	12:00	9		2		1												12	0.8%			
11:00	12:00	68		7		1												76	4.8%			

12:00	12:15	19	1		1			21	1.3%
12:15	12:30	15	2					17	1.1%
12:30	12:45	14	2					16	1.0%
12:45	13:00	12	3					15	1.0%
12:00	13:00	60	8		1			69	4.4%
13:00	13:15	12			1			13	0.8%
13:15	13:30	11	3	1	1			16	1.0%
13:30	13:45	24	3		1			28	1.8%
13:45	14:00	16	3					19	1.2%
13:00	14:00	63	9	1	3			76	4.8%
14:00	14:15	16	3					19	1.2%
14:15	14:30	31	4			1		36	2.3%
14:30	14:45	25	1	2				28	1.8%
14:45	15:00	24		1				25	1.6%
14:00	15:00	96	8	3		1		108	6.9%
15:00	15:15	15	1					16	1.0%
15:15	15:30	22	4		1			27	1.7%
15:30	15:45	16	1	1				18	1.1%
15:45	16:00	26	4		1			31	2.0%
15:00	16:00	79	10	1	2			92	5.9%
16:00	16:15	17	3		2			22	1.4%
16:15	16:30	16	2					18	1.1%
16:30	16:45	19	5					24	1.5%
16:45	17:00	22	3			1		26	1.7%
16:00	17:00	74	13		2	1		90	5.7%
17:00	17:15	17	3					20	1.3%
17:15	17:30	17	2					19	1.2%
17:30	17:45	18	1					19	1.2%
17:45	18:00	22	5			1		28	1.8%
17:00	18:00	74	11		1			86	5.5%
18:00	18:15	12	1					13	0.8%
18:15	18:30	22	2					24	1.5%
18:30	18:45	16	1					17	1.1%
18:45	19:00	11	1		1			13	0.8%
18:00	19:00	61	5		1			67	4.3%
19:00	19:15	13	3					16	1.0%
19:15	19:30	12	5					17	1.1%
19:30	19:45	12	3		1			16	1.0%
19:45	20:00	7	3					10	0.6%
19:00	20:00	44	14		1			59	3.8%
20:00	20:15	9	1		1			11	0.7%
20:15	20:30	9						9	0.6%
20:30	20:45	6	1					7	0.4%
20:45	21:00	5	1		1			7	0.4%
20:00	21:00	29	3		2			34	2.2%
21:00	21:15	8	1					9	0.6%
21:15	21:30	13						13	0.8%
21:30	21:45	4						4	0.3%
21:45	22:00	8			1			9	0.6%
21:00	22:00	33	1		1			35	2.2%
22:00	22:15	6	1					7	0.4%
22:15	22:30	2						2	0.1%
22:30	22:45	3	1					4	0.3%
22:45	23:00	2						2	0.1%
22:00	23:00	13	2					15	1.0%
23:00	23:15	3						3	0.2%
23:15	23:30	1	1					2	0.1%
23:30	23:45	4						4	0.3%
23:45	00:00	1						1	0.1%
23:00	00:00	9	1					10	0.6%
Total		1350	163	10	23	21	1	1568	
		86.1%	10.4%	0.6%	1.5%	1.3%	0.1%		
AM PEAK		65	6	2	3	3	1	69	
period		8:00	6:00	7:15	10:30	7:15	0:15	8:00	
% of class		4.8%	3.7%	20.0%	13.0%	14.3%	100.0%		4.4%
PM PEAK		31	5	2	2	1		36	
period		14:15	16:30	14:30	16:00	14:15		14:15	
% of class		2.3%	3.1%	20.0%	8.7%	4.8%			2.3%

Report-1.2		Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave														
		Direction : West											Road :			
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		2	1											3	0.2%
0:15	0:30															
0:30	0:45		1	1											2	0.1%
0:45	1:00		1			1									2	0.1%
00:00	1:00		4	2		1									7	0.5%
1:00	1:15		1												1	0.1%
1:15	1:30		2	1											3	0.2%
1:30	1:45		1												1	0.1%
1:45	2:00		1												1	0.1%
1:00	2:00		5	1											6	0.4%
2:00	2:15															
2:15	2:30															
2:30	2:45															
2:45	3:00			1											1	0.1%
2:00	3:00			1											1	0.1%
3:00	3:15			1											1	0.1%
3:15	3:30		1												1	0.1%
3:30	3:45															
3:45	4:00		1												1	0.1%
3:00	4:00		2	1											3	0.2%
4:00	4:15		2												2	0.1%
4:15	4:30		3												3	0.2%
4:30	4:45		3												3	0.2%
4:45	5:00															
4:00	5:00		8												8	0.6%
5:00	5:15		3												3	0.2%
5:15	5:30		9												9	0.6%
5:30	5:45		8												8	0.6%
5:45	6:00		6	1											7	0.5%
5:00	6:00		26	1											27	1.9%
6:00	6:15		10												10	0.7%
6:15	6:30		8			1									9	0.6%
6:30	6:45		11	1											12	0.8%
6:45	7:00		10												10	0.7%
6:00	7:00		39	1		1									41	2.9%
7:00	7:15		22	1											23	1.6%
7:15	7:30		20		1										21	1.5%
7:30	7:45		21	1	1										23	1.6%
7:45	8:00		38	1			2								41	2.9%
7:00	8:00		101	3	2		2								108	7.6%
8:00	8:15		44	3	1	2									50	3.5%
8:15	8:30		24	5		1									30	2.1%
8:30	8:45		23	2		1									26	1.8%
8:45	9:00		16	3		1									20	1.4%
8:00	9:00		107	13	1	5									126	8.8%
9:00	9:15		10	1			1								12	0.8%
9:15	9:30		7	1		2									10	0.7%
9:30	9:45		8	1	1										10	0.7%
9:45	10:00		6	2	1	1									10	0.7%
9:00	10:00		31	5	2	3	1								42	2.9%
10:00	10:15		12	1											13	0.9%
10:15	10:30		12	1											13	0.9%
10:30	10:45		7	5											12	0.8%
10:45	11:00		8	1											9	0.6%
10:00	11:00		39	8											47	3.3%
11:00	11:15		13			1									14	1.0%
11:15	11:30		11												11	0.8%
11:30	11:45		11			1									12	0.8%
11:45	12:00		6	2											8	0.6%
11:00	12:00		41	2		2									45	3.1%

12:00	12:15	9	3		1				13	0.9%
12:15	12:30	12	7		1				20	1.4%
12:30	12:45	14	2						16	1.1%
12:45	13:00	20	2						22	1.5%
12:00	13:00	55	14		2				71	5.0%
13:00	13:15	8			1				9	0.6%
13:15	13:30	8	2	1					11	0.8%
13:30	13:45	10	6						16	1.1%
13:45	14:00	12	3						15	1.0%
13:00	14:00	38	11	1	1				51	3.6%
14:00	14:15	17	3	2					22	1.5%
14:15	14:30	20	5		1				26	1.8%
14:30	14:45	15	3		1	1			20	1.4%
14:45	15:00	14	1						15	1.0%
14:00	15:00	66	12	2	2	1			83	5.8%
15:00	15:15	17	6						23	1.6%
15:15	15:30	22	4		1				27	1.9%
15:30	15:45	19	5		1				25	1.7%
15:45	16:00	21	5				1		27	1.9%
15:00	16:00	79	20		2		1		102	7.1%
16:00	16:15	22	5		1				28	2.0%
16:15	16:30	22	1	2	3				28	2.0%
16:30	16:45	15	7						22	1.5%
16:45	17:00	30	3						33	2.3%
16:00	17:00	89	16	2	4				111	7.8%
17:00	17:15	31	5						36	2.5%
17:15	17:30	28	7						35	2.4%
17:30	17:45	28	5						33	2.3%
17:45	18:00	32	4		1	1			38	2.7%
17:00	18:00	119	21		1	1			142	9.9%
18:00	18:15	28	6		3				37	2.6%
18:15	18:30	30	2		2				34	2.4%
18:30	18:45	26	6		1				33	2.3%
18:45	19:00	29	4						33	2.3%
18:00	19:00	113	18		6				137	9.6%
19:00	19:15	13	4						17	1.2%
19:15	19:30	15	1						16	1.1%
19:30	19:45	16	1						17	1.2%
19:45	20:00	20							20	1.4%
19:00	20:00	64	6						70	4.9%
20:00	20:15	14	1						15	1.0%
20:15	20:30	14							14	1.0%
20:30	20:45	15	2		1				18	1.3%
20:45	21:00	7	3						10	0.7%
20:00	21:00	50	6		1				57	4.0%
21:00	21:15	15							15	1.0%
21:15	21:30	19	3						22	1.5%
21:30	21:45	12	3						15	1.0%
21:45	22:00	14	2						16	1.1%
21:00	22:00	60	8						68	4.8%
22:00	22:15	14	3						17	1.2%
22:15	22:30	10	7						17	1.2%
22:30	22:45	5	1		1	1			8	0.6%
22:45	23:00	8	1						9	0.6%
22:00	23:00	37	12		1	1			51	3.6%
23:00	23:15	9	1				1		11	0.8%
23:15	23:30	3	1						4	0.3%
23:30	23:45	5	1		1				7	0.5%
23:45	00:00	4							4	0.3%
23:00	00:00	21	3		1	1			26	1.8%
Total		1194	185	10	33	7	1		1430	
		83.5%	12.9%	0.7%	2.3%	0.5%	0.1%			
AM PEAK		44	5	1	2	2			50	
period		8:00	8:15	7:15	8:00	7:45			8:00	
% of class		3.7%	2.7%	10.0%	6.1%	28.6%				3.5%
PM PEAK		32	7	2	3	1	1		38	
period		17:45	12:15	14:00	16:15	14:30	15:45		17:45	
% of class		2.7%	3.8%	20.0%	9.1%	14.3%	100.0%			2.7%

Report-1.3		Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave														
		Direction : East + West					Road :									
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		3	1											4	0.1%
0:15	0:30								1						1	0.0%
0:30	0:45		1	1											2	0.1%
0:45	1:00		1			1									2	0.1%
00:00	1:00		5	2		1			1						9	0.3%
1:00	1:15		2												2	0.1%
1:15	1:30		3	1											4	0.1%
1:30	1:45		1												1	0.0%
1:45	2:00		1												1	0.0%
1:00	2:00		7	1											8	0.3%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.0%
2:45	3:00			1											1	0.0%
2:00	3:00		1	1											2	0.1%
3:00	3:15		1	2											3	0.1%
3:15	3:30		1												1	0.0%
3:30	3:45															
3:45	4:00		2	1											3	0.1%
3:00	4:00		4	3											7	0.2%
4:00	4:15		4												4	0.1%
4:15	4:30		6												6	0.2%
4:30	4:45		5												5	0.2%
4:45	5:00		4	1											5	0.2%
4:00	5:00		19	1											20	0.7%
5:00	5:15		13	4			1								18	0.6%
5:15	5:30		25	3											28	0.9%
5:30	5:45		22	2		2	1								27	0.9%
5:45	6:00		20	5		1	1								27	0.9%
5:00	6:00		80	14		3	3								100	3.3%
6:00	6:15		36	6											42	1.4%
6:15	6:30		30	2		1	1								34	1.1%
6:30	6:45		37	3											40	1.3%
6:45	7:00		37	5											42	1.4%
6:00	7:00		140	16		1	1								158	5.3%
7:00	7:15		64	2											66	2.2%
7:15	7:30		59	4	3		3								69	2.3%
7:30	7:45		60	3	1		1								65	2.2%
7:45	8:00		80	5	1		4								90	3.0%
7:00	8:00		263	14	5		8								290	9.7%
8:00	8:15		109	7	1	2									119	4.0%
8:15	8:30		55	9	2	1	1								68	2.3%
8:30	8:45		58	7		1	2								68	2.3%
8:45	9:00		48	5		2									55	1.8%
8:00	9:00		270	28	3	6	3								310	10.3%
9:00	9:15		24	3			1								28	0.9%
9:15	9:30		23	1		4	1								29	1.0%
9:30	9:45		31	5	1										37	1.2%
9:45	10:00		25	4	1	2	1								33	1.1%
9:00	10:00		103	13	2	6	3								127	4.2%
10:00	10:15		28	2		1									31	1.0%
10:15	10:30		34	4											38	1.3%
10:30	10:45		25	7		3	1								36	1.2%
10:45	11:00		30	1											31	1.0%
10:00	11:00		117	14		4	1								136	4.5%
11:00	11:15		32	3		1									36	1.2%
11:15	11:30		34	2											36	1.2%
11:30	11:45		28			1									29	1.0%
11:45	12:00		15	4		1									20	0.7%
11:00	12:00		109	9		3									121	4.0%

12:00	12:15	28	4		2			34	1.1%
12:15	12:30	27	9		1			37	1.2%
12:30	12:45	28	4					32	1.1%
12:45	13:00	32	5					37	1.2%
12:00	13:00	115	22		3			140	4.7%
13:00	13:15	20			2			22	0.7%
13:15	13:30	19	5	2	1			27	0.9%
13:30	13:45	34	9		1			44	1.5%
13:45	14:00	28	6					34	1.1%
13:00	14:00	101	20	2	4			127	4.2%
14:00	14:15	33	6	2				41	1.4%
14:15	14:30	51	9		1	1		62	2.1%
14:30	14:45	40	4	2	1	1		48	1.6%
14:45	15:00	38	1	1				40	1.3%
14:00	15:00	162	20	5	2	2		191	6.4%
15:00	15:15	32	7					39	1.3%
15:15	15:30	44	8		2			54	1.8%
15:30	15:45	35	6	1	1			43	1.4%
15:45	16:00	47	9		1		1	58	1.9%
15:00	16:00	158	30	1	4		1	194	6.5%
16:00	16:15	39	8		3			50	1.7%
16:15	16:30	38	3	2	3			46	1.5%
16:30	16:45	34	12					46	1.5%
16:45	17:00	52	6				1	59	2.0%
16:00	17:00	163	29	2	6	1		201	6.7%
17:00	17:15	48	8					56	1.9%
17:15	17:30	45	9					54	1.8%
17:30	17:45	46	6					52	1.7%
17:45	18:00	54	9		1	2		66	2.2%
17:00	18:00	193	32		1	2		228	7.6%
18:00	18:15	40	7		3			50	1.7%
18:15	18:30	52	4		2			58	1.9%
18:30	18:45	42	7		1			50	1.7%
18:45	19:00	40	5			1		46	1.5%
18:00	19:00	174	23		6	1		204	6.8%
19:00	19:15	26	7					33	1.1%
19:15	19:30	27	6					33	1.1%
19:30	19:45	28	4			1		33	1.1%
19:45	20:00	27	3					30	1.0%
19:00	20:00	108	20			1		129	4.3%
20:00	20:15	23	2		1			26	0.9%
20:15	20:30	23						23	0.8%
20:30	20:45	21	3		1			25	0.8%
20:45	21:00	12	4		1			17	0.6%
20:00	21:00	79	9		3			91	3.0%
21:00	21:15	23	1					24	0.8%
21:15	21:30	32	3					35	1.2%
21:30	21:45	16	3					19	0.6%
21:45	22:00	22	2		1			25	0.8%
21:00	22:00	93	9		1			103	3.4%
22:00	22:15	20	4					24	0.8%
22:15	22:30	12	7					19	0.6%
22:30	22:45	8	2		1	1		12	0.4%
22:45	23:00	10	1					11	0.4%
22:00	23:00	50	14		1	1		66	2.2%
23:00	23:15	12	1				1	14	0.5%
23:15	23:30	4	2					6	0.2%
23:30	23:45	9	1		1			11	0.4%
23:45	00:00	5						5	0.2%
23:00	00:00	30	4		1	1		36	1.2%
Total		2544	348	20	56	28	2	2998	
		84.9%	11.6%	0.7%	1.9%	0.9%	0.1%		
AM PEAK		109	9	3	4	4	1	119	
period		8:00	8:15	7:15	9:15	7:45	0:15	8:00	
% of class		4.3%	2.6%	15.0%	7.1%	14.3%	50.0%		4.0%
PM PEAK		54	12	2	3	2	1	66	
period		17:45	16:30	13:15	16:00	17:45	15:45	17:45	
% of class		2.1%	3.4%	10.0%	5.4%	7.1%	50.0%		2.2%

Report-2.1	Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : East Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1										1	27.1-47.1	1
0:15 0:30					1									1	34.0-54.0	1
0:30 0:45																
0:45 1:00																
00:00 1:00				1	1									2	27.1-47.1	1
1:00 1:15						1								1	49.6-69.6	1
1:15 1:30						1								1	40.9-60.9	1
1:30 1:45																
1:45 2:00																
1:00 2:00						2								2	49.6-69.6	1
2:00 2:15																
2:15 2:30																
2:30 2:45				1										1	24.2-44.2	1
2:45 3:00																
2:00 3:00				1										1	24.2-44.2	1
3:00 3:15					2									2	32.6-52.6	2
3:15 3:30																
3:30 3:45																
3:45 4:00						1	1							2	53.8-73.8	2
3:00 4:00				2	1	1								4	32.6-52.6	2
4:00 4:15						2								2	43.2-63.2	2
4:15 4:30				1	2									3	43.2-63.2	3
4:30 4:45				2										2	38.5-58.5	2
4:45 5:00				2	3									5	48.0-68.0	5
4:00 5:00				5	7									12	48.0-68.0	5
5:00 5:15					8	6	1							15	50.3-70.3	15
5:15 5:30					3	12	4							19	55.9-75.9	19
5:30 5:45					4	12	3							19	55.3-75.3	18
5:45 6:00				1	4	14	1							20	49.7-69.7	19
5:00 6:00				1	19	44	9							73	55.9-75.9	19
6:00 6:15				2	16	11	3							32	52.3-72.3	29
6:15 6:30				1	8	12	4							25	51.0-71.0	22
6:30 6:45				2	9	11	6							28	53.1-73.1	22
6:45 7:00				1	11	17	2	1						32	50.7-70.7	30
6:00 7:00				6	44	51	15	1						117	50.7-70.7	30
7:00 7:15				2	18	21	2							43	51.3-71.3	41
7:15 7:30					21	24	2	1						48	52.1-72.1	46
7:30 7:45			1	6	10	19	6							42	47.7-67.7	32
7:45 8:00				2	19	28								49	48.6-68.6	48
7:00 8:00			1	10	68	92	10	1						182	48.6-68.6	48
8:00 8:15				5	20	42	2							69	49.4-69.4	65
8:15 8:30				1	7	27	3							38	54.0-74.0	36
8:30 8:45				2	16	21	2	1						42	49.6-69.6	37
8:45 9:00				2	14	13	5	1						35	51.3-71.3	31
8:00 9:00				10	57	103	12	2						184	49.4-69.4	65
9:00 9:15			1		3	9	2	1						16	50.5-70.5	13
9:15 9:30				1	6	11	1							19	51.8-71.8	18
9:30 9:45				1	6	15	4	1						27	50.6-70.6	22
9:45 10:00					9	13	1							23	51.7-71.7	23
9:00 10:00			1	2	24	48	8	2						85	51.7-71.7	23
10:00 10:15					6	11	1							18	49.5-69.5	17
10:15 10:30					12	12		1						25	49.5-69.5	24
10:30 10:45				2	7	9	5	1						24	46.4-66.4	17
10:45 11:00				1	10	9	1		1					22	46.3-66.3	20
10:00 11:00				3	35	41	7	2	1					89	49.5-69.5	24
11:00 11:15				2	6	12	2							22	51.8-71.8	20
11:15 11:30				1	6	15	3							25	51.4-71.4	23
11:30 11:45				1	11	4	1							17	47.2-67.2	16
11:45 12:00				1	6	5								12	45.0-65.0	11
11:00 12:00				5	29	36	6							76	51.4-71.4	23

12:00	12:15			1	8	9	3			21	51.5-71.5	18
12:15	12:30		1		10	4	2			17	49.3-69.3	14
12:30	12:45			3	3	10				16	46.2-66.2	13
12:45	13:00				6	7	2			15	49.4-69.4	13
12:00	13:00		1	4	27	30	7			69	51.5-71.5	18
13:00	13:15		1		5	6	1			13	50.3-70.3	12
13:15	13:30			1	6	8	1			16	50.5-70.5	15
13:30	13:45			1	12	13	2			28	47.4-67.4	26
13:45	14:00			2	7	8	2			19	47.1-67.1	16
13:00	14:00		1	4	30	35	6			76	47.4-67.4	26
14:00	14:15			1	12	5	1			19	49.4-69.4	17
14:15	14:30			1	13	16	6			36	52.9-72.9	32
14:30	14:45			3	7	13	5			28	47.6-67.6	22
14:45	15:00				10	12	3			25	51.7-71.7	24
14:00	15:00			5	42	46	15			108	52.9-72.9	32
15:00	15:15			1	5	8	2			16	54.2-74.2	14
15:15	15:30				10	14	3			27	51.2-71.2	26
15:30	15:45				6	10	2			18	53.5-73.5	18
15:45	16:00		1	1	1	11	13	3	1	31	53.9-73.9	25
15:00	16:00		1	1	2	32	45	10	1	92	51.2-71.2	26
16:00	16:15			1	11	5	5			22	51.9-71.9	19
16:15	16:30				5	10	3			18	53.5-73.5	17
16:30	16:45				6	17	1			24	51.5-71.5	24
16:45	17:00				5	15	6			26	53.8-73.8	26
16:00	17:00			1	27	47	15			90	53.8-73.8	26
17:00	17:15				6	11	3			20	52.7-72.7	20
17:15	17:30				6	10	3			19	51.2-71.2	19
17:30	17:45				11	6	2			19	46.6-66.6	17
17:45	18:00				13	13	2			28	53.4-73.4	27
17:00	18:00				36	40	10			86	53.4-73.4	27
18:00	18:15				9	4				13	47.7-67.7	13
18:15	18:30			1	11	8	3	1		24	50.5-70.5	20
18:30	18:45				6	11				17	48.8-68.8	17
18:45	19:00				5	7		1		13	45.5-65.5	12
18:00	19:00			1	31	30	3	2		67	50.5-70.5	20
19:00	19:15				8	7	1			16	52.0-72.0	16
19:15	19:30			2	9	5	1			17	46.9-66.9	15
19:30	19:45				3	13				16	47.2-67.2	16
19:45	20:00			1	4	5				10	48.1-68.1	10
19:00	20:00			3	24	30	2			59	52.0-72.0	16
20:00	20:15				2	8		1		11	47.4-67.4	10
20:15	20:30				3	5	1			9	51.4-71.4	9
20:30	20:45				2	2	2		1	7	50.2-70.2	5
20:45	21:00				5	2				7	45.3-65.3	7
20:00	21:00				12	17	3	1	1	34	47.4-67.4	10
21:00	21:15			1	2	6				9	48.4-68.4	8
21:15	21:30			2	4	5	2			13	54.5-74.5	11
21:30	21:45				2	1	1			4	53.4-73.4	4
21:45	22:00				3	5	1			9	50.5-70.5	9
21:00	22:00			3	11	17	4			35	54.5-74.5	11
22:00	22:15				1	5	1			7	54.7-74.7	7
22:15	22:30					2				2	49.2-69.2	2
22:30	22:45				2	2				4	42.6-62.6	4
22:45	23:00					1	1			2	52.5-72.5	2
22:00	23:00				3	10	2			15	54.7-74.7	7
23:00	23:15					3				3	47.8-67.8	3
23:15	23:30			1		1				2	40.1-60.1	2
23:30	23:45				1	3				4	48.2-68.2	4
23:45	00:00						1			1	51.3-71.3	1
23:00	00:00			1	1	7	1			10	48.2-68.2	4
Total				1	5	63	560	779	146	12	2	1568
AM PEAK				0.1%	0.3%	4.0%	35.7%	49.7%	9.3%	0.8%	0.1%	
period					1	6	21	42	6	1	1	69
% of class					7:30	7:30	7:15	8:00	6:30	6:45	10:45	8:00
					20.0%	9.5%	3.8%	5.4%	4.1%	8.3%	50.0%	4.4%
PM PEAK				1	1	3	13	17	6	1	1	36
period				15:45	12:15	12:30	14:15	16:30	14:15	15:45	20:30	14:15
% of class				100.0%	20.0%	4.8%	2.3%	2.2%	4.1%	8.3%	50.0%	2.3%

15% Percentile :	53 KPH
50% Percentile :	62 KPH
85% Percentile :	69 KPH
95% Percentile :	76 KPH

20 KPH Pace Speed:	51.4-71.4 KPH
Number in Pace:	1366
Percent in Pace:	87.1 %
Number of Vehicles >60 KPH:	939
Percent of Vehicles >60 KPH:	59.9 %
Mean Speed(average):	62 KPH

Report-2.2 Speeds,km/h ----->	Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : West Road :															
	Dates : 1 2019-12-12															
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15					2	1								3	42.2-62.2	3
0:15 0:30							2							2	45.8-65.8	2
0:30 0:45														2	31.7-51.7	2
0:45 1:00				1	1									7	42.2-62.2	3
00:00 1:00				1	3	3								1	51.2-71.2	1
1:00 1:15								1						3	45.5-65.5	3
1:15 1:30				1	1	1								1	9.0-29.0	1
1:30 1:45			1											1	25.8-45.8	1
1:45 2:00				1	2	1	1	1						6	45.5-65.5	3
2:00 2:15																
2:15 2:30																
2:30 2:45																
2:45 3:00									1					1	65.1-85.1	1
2:00 3:00									1					1	65.1-85.1	1
3:00 3:15							1							1	49.8-69.8	1
3:15 3:30									1					1	69.9-89.9	1
3:30 3:45																
3:45 4:00								1						1	58.5-78.5	1
3:00 4:00							1	1	1					3	49.8-69.8	1
4:00 4:15									2					2	58.5-78.5	2
4:15 4:30									3					3	58.5-78.5	3
4:30 4:45					1	1	1							3	47.5-67.5	2
4:45 5:00																
4:00 5:00					1	1	6							8	58.5-78.5	3
5:00 5:15							3							3	47.5-67.5	3
5:15 5:30							8	1						9	50.2-70.2	9
5:30 5:45							8							8	49.5-69.5	8
5:45 6:00						1	4	2						7	50.1-70.1	6
5:00 6:00					1	23	3							27	50.2-70.2	9
6:00 6:15							10							10	48.0-68.0	10
6:15 6:30							9							9	49.2-69.2	9
6:30 6:45				1	5	2	4							12	53.4-73.4	10
6:45 7:00					4	5				1				10	43.9-63.9	9
6:00 7:00				1	9	26	4			1				41	48.0-68.0	10
7:00 7:15						9	13	1						23	46.0-66.0	22
7:15 7:30						3	18							21	46.0-66.0	21
7:30 7:45					2	10	11							23	48.8-68.8	22
7:45 8:00					2	14	24	1						41	50.5-70.5	39
7:00 8:00				4	36	66	2							108	50.5-70.5	39
8:00 8:15				1	11	36	2							50	50.2-70.2	48
8:15 8:30				1	17	10	1		1					30	44.6-64.6	27
8:30 8:45					5	13	7		1					26	56.1-76.1	22
8:45 9:00				1	6	11	1		1					20	49.8-69.8	17
8:00 9:00				3	39	70	11		3					126	50.2-70.2	48
9:00 9:15				1	3	8								12	44.5-64.5	11
9:15 9:30					4	5	1							10	48.3-68.3	9
9:30 9:45				1	6	2	1							10	41.2-61.2	8
9:45 10:00				3	4	2	1							10	45.7-65.7	9
9:00 10:00				5	17	17	3							42	44.5-64.5	11
10:00 10:15				1	6	3	2		1					13	51.9-71.9	11
10:15 10:30				1	5	6	1							13	50.4-70.4	12
10:30 10:45					2	8	2							12	56.1-76.1	12
10:45 11:00					3	5	1							9	48.4-68.4	8
10:00 11:00				2	16	22	6		1					47	50.4-70.4	12
11:00 11:15					6	6	2							14	50.7-70.7	13
11:15 11:30				4	5	1	1							11	40.0-60.0	9
11:30 11:45					4	4	4							12	54.7-74.7	12
11:45 12:00				1	2	4	1							8	45.6-65.6	7
11:00 12:00				5	17	15	8							45	50.7-70.7	13

12:00	12:15			2	1	7	2		1			13	52.5-72.5	10
12:15	12:30				8	7	4		1			20	48.8-68.8	15
12:30	12:45			1	3	8	4					16	51.7-71.7	13
12:45	13:00				6	13	3					22	51.3-71.3	20
12:00	13:00			3	18	35	13	1	1			71	51.3-71.3	20
13:00	13:15				2	4	3					9	51.6-71.6	8
13:15	13:30			1	4	3	2		1			11	53.8-73.8	9
13:30	13:45			5	5	3	3					16	40.3-60.3	12
13:45	14:00			2	8	4	1					15	54.3-74.3	13
13:00	14:00			8	19	14	9	1				51	54.3-74.3	13
14:00	14:15			3	11	6	2					22	47.2-67.2	20
14:15	14:30				12	13			1			26	49.6-69.6	25
14:30	14:45			1	10	8			1			20	46.5-66.5	18
14:45	15:00			1	3	10	1					15	49.0-69.0	14
14:00	15:00			5	36	37	3	2				83	49.6-69.6	25
15:00	15:15			2	9	11	1					23	48.9-68.9	21
15:15	15:30			1	6	15	4		1			27	55.7-75.7	23
15:30	15:45			1	9	8	6		1			25	51.2-71.2	20
15:45	16:00				8	11	7			1		27	55.8-75.8	25
15:00	16:00			4	32	45	18	2	1			102	55.8-75.8	25
16:00	16:15			3	4	11	9		1			28	52.6-72.6	21
16:15	16:30			3	17	7	1					28	47.7-67.7	26
16:30	16:45				7	9	5		1			22	54.3-74.3	19
16:45	17:00			2	16	13	2					33	49.4-69.4	30
16:00	17:00			8	44	40	17	2				111	49.4-69.4	30
17:00	17:15			1	16	16	3					36	52.3-72.3	35
17:15	17:30			4	17	10	4					35	45.9-65.9	27
17:30	17:45			3	13	13	4					33	52.4-72.4	28
17:45	18:00			6	1	18	11	2				38	50.8-70.8	30
17:00	18:00			6	9	64	50	13				142	52.3-72.3	35
18:00	18:15			1	18	14	4					37	46.6-66.6	33
18:15	18:30			2	14	15	2		1			34	48.2-68.2	30
18:30	18:45			5	18	10						33	43.6-63.6	29
18:45	19:00			2	21	8	2					33	48.1-68.1	30
18:00	19:00			10	71	47	8	1				137	46.6-66.6	33
19:00	19:15			2	5	8	1		1			17	47.1-67.1	14
19:15	19:30			3	7	5	1					16	46.5-66.5	12
19:30	19:45				9	6	2					17	50.5-70.5	16
19:45	20:00			1	8	10	1					20	48.0-68.0	18
19:00	20:00			6	29	29	5	1				70	48.0-68.0	18
20:00	20:15			2	3	6	4					15	54.5-74.5	12
20:15	20:30			2	2	8	2					14	52.1-72.1	12
20:30	20:45			2	6	9	1					18	49.7-69.7	15
20:45	21:00			1	5	4						10	46.8-66.8	10
20:00	21:00			7	16	27	7					57	49.7-69.7	15
21:00	21:15				9	5	1					15	49.9-69.9	14
21:15	21:30			3	11	5	3					22	42.3-62.3	18
21:30	21:45			1	8	5	1					15	50.1-70.1	14
21:45	22:00			1	9	6						16	43.8-63.8	16
21:00	22:00			5	37	21	5					68	42.3-62.3	18
22:00	22:15			1	8	7	1					17	49.6-69.6	15
22:15	22:30			5	9	3						17	42.3-62.3	16
22:30	22:45					7	1					8	50.8-70.8	8
22:45	23:00			1	2	6						9	49.9-69.9	8
22:00	23:00			7	19	23	2					51	42.3-62.3	16
23:00	23:15				2	4	5					11	53.3-73.3	9
23:15	23:30				2	2						4	47.9-67.9	4
23:30	23:45			1	3	2	1					7	45.4-65.4	6
23:45	00:00			1	1	1			1			4	41.3-61.3	3
23:00	00:00			2	8	9	6	1				26	53.3-73.3	9
Total				1	6	97	533	622	151	17	3		1430	
AM PEAK				0.1%	0.4%	6.8%	37.3%	43.5%	10.6%	1.2%	0.2%			
period				1	4	17	36	7	1	1			50	
% of class				100.0%		4.1%	3.2%	5.8%	4.6%	5.9%	33.3%			3.5%
PM PEAK					6	5	21	16	9	1	1		38	
period					17:45	13:30	18:45	17:00	16:00	12:15	12:00			17:45
% of class					100.0%	5.2%	3.9%	2.6%	6.0%	5.9%	33.3%			2.7%

15% Percentile :	52 KPH
50% Percentile :	61 KPH
85% Percentile :	69 KPH
95% Percentile :	77 KPH

20 KPH Pace Speed:	50.9-70.9 KPH
Number in Pace:	1173
Percent in Pace:	82.0 %
Number of Vehicles >60 KPH:	793
Percent of Vehicles >60 KPH:	55.5 %
Mean Speed(average):	61 KPH

Report-2.3	Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave														Total	Pace Speed	Number in Pace
	Direction : East + West Road :																
	Dates : 1 2019-12-12																
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130				
00:00 0:15				1	2	1									4	42.2-62.2	4
0:15 0:30					1										1	34.0-54.0	1
0:30 0:45						2									2	45.8-65.8	2
0:45 1:00				1	1										2	31.7-51.7	2
00:00 1:00				2	4	3									9	42.2-62.2	4
1:00 1:15						1	1								2	51.2-71.2	2
1:15 1:30				1	1	2									4	45.5-65.5	4
1:30 1:45			1												1	9.0-29.0	1
1:45 2:00				1											1	25.8-45.8	1
1:00 2:00			1	2	1	3	1								8	45.5-65.5	4
2:00 2:15																	
2:15 2:30				1											1	24.2-44.2	1
2:30 2:45																	
2:45 3:00									1						1	65.1-85.1	1
2:00 3:00				1					1						2	24.2-44.2	1
3:00 3:15					2	1									3	49.8-69.8	3
3:15 3:30									1						1	69.9-89.9	1
3:30 3:45																	
3:45 4:00						1	2								3	58.5-78.5	3
3:00 4:00					2	2	2	1							7	49.8-69.8	3
4:00 4:15						2	2								4	58.5-78.5	4
4:15 4:30					1	2	3								6	58.5-78.5	5
4:30 4:45					3	1	1								5	47.5-67.5	4
4:45 5:00					2	3									5	48.0-68.0	5
4:00 5:00					6	8	6								20	58.5-78.5	5
5:00 5:15					8	9	1								18	50.3-70.3	18
5:15 5:30					3	20	5								28	55.9-75.9	28
5:30 5:45					4	20	3								27	55.3-75.3	26
5:45 6:00				1	5	18	3								27	49.7-69.7	24
5:00 6:00				1	20	67	12								100	55.9-75.9	28
6:00 6:15				2	16	21	3								42	52.3-72.3	39
6:15 6:30				1	8	21	4								34	51.0-71.0	31
6:30 6:45				3	14	13	10								40	53.4-73.4	32
6:45 7:00				1	15	22	2	1	1						42	50.7-70.7	39
6:00 7:00				7	53	77	19	1	1						158	52.3-72.3	39
7:00 7:15				2	27	34	3								66	51.6-71.6	63
7:15 7:30					24	42	2	1							69	49.8-69.8	66
7:30 7:45			1	8	20	30	6								65	47.7-67.7	52
7:45 8:00				4	33	52	1								90	49.4-69.4	86
7:00 8:00			1	14	104	158	12	1							290	49.4-69.4	86
8:00 8:15				6	31	78	4								119	49.4-69.4	112
8:15 8:30				2	24	37	4	1							68	54.0-74.0	63
8:30 8:45				2	21	34	9	2							68	50.2-70.2	57
8:45 9:00				3	20	24	6	2							55	51.3-71.3	48
8:00 9:00				13	96	173	23	5							310	49.4-69.4	112
9:00 9:15			1	1	6	17	2	1							28	50.5-70.5	24
9:15 9:30				1	10	16	2								29	51.8-71.8	27
9:30 9:45				2	12	17	5	1							37	50.6-70.6	30
9:45 10:00				3	13	15	2								33	49.2-69.2	28
9:00 10:00			1	7	41	65	11	2							127	50.6-70.6	30
10:00 10:15				1	12	14	3	1							31	51.9-71.9	28
10:15 10:30				1	17	18	1	1							38	50.4-70.4	36
10:30 10:45				2	9	17	7	1							36	57.0-77.0	28
10:45 11:00				1	13	14	2			1					31	48.4-68.4	28
10:00 11:00				5	51	63	13	3	1						136	50.4-70.4	36
11:00 11:15				2	12	18	4								36	51.8-71.8	33
11:15 11:30				5	11	16	4								36	51.4-71.4	29
11:30 11:45				1	15	8	5								29	53.4-73.4	26
11:45 12:00				2	8	9	1								20	45.6-65.6	18
11:00 12:00				10	46	51	14								121	51.8-71.8	33

12:00	12:15			3	9	16	5		1			34	52.5-72.5	28
12:15	12:30		1		18	11	6		1			37	49.3-69.3	29
12:30	12:45			4	6	18	4					32	50.7-70.7	25
12:45	13:00				12	20	5					37	50.0-70.0	32
12:00	13:00		1	7	45	65	20	1	1			140	50.0-70.0	32
13:00	13:15			1	7	10	4					22	51.6-71.6	20
13:15	13:30			2	10	11	3		1			27	50.5-70.5	22
13:30	13:45			6	17	16	5					44	47.4-67.4	34
13:45	14:00			4	15	12	3					34	52.7-72.7	28
13:00	14:00		1	12	49	49	15	1				127	47.4-67.4	34
14:00	14:15			4	23	11	3					41	44.5-64.5	35
14:15	14:30			1	25	29	6		1			62	49.6-69.6	55
14:30	14:45			4	17	21	5		1			48	47.6-67.6	40
14:45	15:00			1	13	22	4					40	50.5-70.5	37
14:00	15:00			10	78	83	18	2				191	49.6-69.6	55
15:00	15:15			3	14	19	3					39	49.7-69.7	34
15:15	15:30			1	16	29	7		1			54	51.3-71.3	48
15:30	15:45			1	15	18	8		1			43	53.0-73.0	37
15:45	16:00		1	1	1	19	24	10	1	1		58	53.9-73.9	48
15:00	16:00		1	1	6	64	90	28	3	1		194	51.3-71.3	48
16:00	16:15			4	15	16	14		1			50	52.6-72.6	39
16:15	16:30			3	22	17	4					46	47.7-67.7	40
16:30	16:45				13	26	6		1			46	51.5-71.5	42
16:45	17:00			2	21	28	8					59	51.9-71.9	51
16:00	17:00			9	71	87	32	2				201	51.9-71.9	51
17:00	17:15			1	22	27	6					56	52.7-72.7	55
17:15	17:30			4	23	20	7					54	50.7-70.7	45
17:30	17:45			3	24	19	6					52	50.8-70.8	44
17:45	18:00		6	1	31	24	4					66	49.2-69.2	55
17:00	18:00		6	9	100	90	23					228	52.7-72.7	55
18:00	18:15			1	27	18	4					50	46.6-66.6	45
18:15	18:30			3	25	23	5		2			58	48.2-68.2	49
18:30	18:45			5	24	21						50	45.5-65.5	45
18:45	19:00			2	26	15	2		1			46	48.1-68.1	42
18:00	19:00			11	102	77	11	3				204	48.2-68.2	49
19:00	19:15			2	13	15	2		1			33	47.1-67.1	29
19:15	19:30			5	16	10	2					33	46.5-66.5	26
19:30	19:45				12	19	2					33	50.5-70.5	32
19:45	20:00			2	12	15	1					30	48.1-68.1	28
19:00	20:00			9	53	59	7	1				129	50.5-70.5	32
20:00	20:15			2	5	14	4		1			26	54.5-74.5	21
20:15	20:30			2	5	13	3					23	52.1-72.1	21
20:30	20:45			2	8	11	3			1		25	50.7-70.7	20
20:45	21:00			1	10	6						17	46.8-66.8	17
20:00	21:00			7	28	44	10	1	1			91	54.5-74.5	21
21:00	21:15			1	11	11	1					24	49.9-69.9	22
21:15	21:30			5	15	10	5					35	54.5-74.5	29
21:30	21:45			1	10	6	2					19	50.1-70.1	17
21:45	22:00			1	12	11	1					25	50.5-70.5	24
21:00	22:00			8	48	38	9					103	54.5-74.5	29
22:00	22:15			1	9	12	2					24	49.6-69.6	21
22:15	22:30			5	9	5						19	42.3-62.3	17
22:30	22:45				2	9	1					12	50.8-70.8	12
22:45	23:00			1	2	7	1					11	52.5-72.5	10
22:00	23:00			7	22	33	4					66	49.6-69.6	21
23:00	23:15				2	7	5					14	53.3-73.3	12
23:15	23:30			1	2	3						6	42.2-62.2	5
23:30	23:45			1	4	5	1					11	46.3-66.3	9
23:45	00:00			1	1	1	1		1			5	41.3-61.3	3
23:00	00:00			3	9	16	7	1				36	53.3-73.3	12
Total			2	11	160	1093	1401	297	29	5		2998		
AM PEAK			0.1%	0.4%	5.3%	36.5%	46.7%	9.9%	1.0%	0.2%				
period			1	1	8	33	78	10	2	1		119		
% of class			1:30	7:30	7:30	7:45	8:00	6:30	8:30	6:45		8:00		
			50.0%	9.1%	5.0%	3.0%	5.6%	3.4%	6.9%	20.0%			4.0%	
PM PEAK			1	6	6	31	29	14	2	1		66		
period			15:45	17:45	13:30	17:45	14:15	16:00	18:15	12:00		17:45		
% of class			50.0%	54.5%	3.8%	2.8%	2.1%	4.7%	6.9%	20.0%			2.2%	

15% Percentile :	53 KPH
50% Percentile :	62 KPH
85% Percentile :	69 KPH
95% Percentile :	76 KPH

20 KPH Pace Speed:	51.3-71.3 KPH
Number in Pace:	2535
Percent in Pace:	84.6 %
Number of Vehicles >60 KPH:	1732
Percent of Vehicles >60 KPH:	57.8 %
Mean Speed(average):	61 KPH

Report-3.1 Directions ----->	Location : CAL2019-A6EW Columbia Way - east of Forest Gate Ave									
	Dates : 2019-12-12									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15			1	0.1%	3	0.2%	4	0.1%		
0:15 0:30			1	0.1%			1	0.0%		
0:30 0:45					2	0.1%	2	0.1%		
0:45 1:00					2	0.1%	2	0.1%		
00:00 1:00			2	0.1%	7	0.5%	9	0.3%		
1:00 1:15			1	0.1%	1	0.1%	2	0.1%		
1:15 1:30			1	0.1%	3	0.2%	4	0.1%		
1:30 1:45					1	0.1%	1	0.0%		
1:45 2:00					1	0.1%	1	0.0%		
1:00 2:00			2	0.1%	6	0.4%	8	0.3%		
2:00 2:15										
2:15 2:30										
2:30 2:45			1	0.1%			1	0.0%		
2:45 3:00					1	0.1%	1	0.0%		
2:00 3:00			1	0.1%	1	0.1%	2	0.1%		
3:00 3:15			2	0.1%	1	0.1%	3	0.1%		
3:15 3:30					1	0.1%	1	0.0%		
3:30 3:45										
3:45 4:00			2	0.1%	1	0.1%	3	0.1%		
3:00 4:00			4	0.3%	3	0.2%	7	0.2%		
4:00 4:15			2	0.1%	2	0.1%	4	0.1%		
4:15 4:30			3	0.2%	3	0.2%	6	0.2%		
4:30 4:45			2	0.1%	3	0.2%	5	0.2%		
4:45 5:00			5	0.3%			5	0.2%		
4:00 5:00			12	0.8%	8	0.6%	20	0.7%		
5:00 5:15			15	1.0%	3	0.2%	18	0.6%		
5:15 5:30			19	1.2%	9	0.6%	28	0.9%		
5:30 5:45			19	1.2%	8	0.6%	27	0.9%		
5:45 6:00			20	1.3%	7	0.5%	27	0.9%		
5:00 6:00			73	4.7%	27	1.9%	100	3.3%		
6:00 6:15			32	2.0%	10	0.7%	42	1.4%		
6:15 6:30			25	1.6%	9	0.6%	34	1.1%		
6:30 6:45			28	1.8%	12	0.8%	40	1.3%		
6:45 7:00			32	2.0%	10	0.7%	42	1.4%		
6:00 7:00			117	7.5%	41	2.9%	158	5.3%		
7:00 7:15			43	2.7%	23	1.6%	66	2.2%		
7:15 7:30			48	3.1%	21	1.5%	69	2.3%		
7:30 7:45			42	2.7%	23	1.6%	65	2.2%		
7:45 8:00			49	3.1%	41	2.9%	90	3.0%		
7:00 8:00			182	11.6%	108	7.6%	290	9.7%		
8:00 8:15			69	4.4%	50	3.5%	119	4.0%		
8:15 8:30			38	2.4%	30	2.1%	68	2.3%		
8:30 8:45			42	2.7%	26	1.8%	68	2.3%		
8:45 9:00			35	2.2%	20	1.4%	55	1.8%		
8:00 9:00			184	11.7%	126	8.8%	310	10.3%		
9:00 9:15			16	1.0%	12	0.8%	28	0.9%		
9:15 9:30			19	1.2%	10	0.7%	29	1.0%		
9:30 9:45			27	1.7%	10	0.7%	37	1.2%		
9:45 10:00			23	1.5%	10	0.7%	33	1.1%		
9:00 10:00			85	5.4%	42	2.9%	127	4.2%		
10:00 10:15			18	1.1%	13	0.9%	31	1.0%		
10:15 10:30			25	1.6%	13	0.9%	38	1.3%		
10:30 10:45			24	1.5%	12	0.8%	36	1.2%		
10:45 11:00			22	1.4%	9	0.6%	31	1.0%		
10:00 11:00			89	5.7%	47	3.3%	136	4.5%		
11:00 11:15			22	1.4%	14	1.0%	36	1.2%		
11:15 11:30			25	1.6%	11	0.8%	36	1.2%		
11:30 11:45			17	1.1%	12	0.8%	29	1.0%		
11:45 12:00			12	0.8%	8	0.6%	20	0.7%		
11:00 12:00			76	4.8%	45	3.1%	121	4.0%		

12:00	12:15		21	1.3%	13	0.9%	34	1.1%
12:15	12:30		17	1.1%	20	1.4%	37	1.2%
12:30	12:45		16	1.0%	16	1.1%	32	1.1%
12:45	13:00		15	1.0%	22	1.5%	37	1.2%
12:00	13:00		69	4.4%	71	5.0%	140	4.7%
13:00	13:15		13	0.8%	9	0.6%	22	0.7%
13:15	13:30		16	1.0%	11	0.8%	27	0.9%
13:30	13:45		28	1.8%	16	1.1%	44	1.5%
13:45	14:00		19	1.2%	15	1.0%	34	1.1%
13:00	14:00		76	4.8%	51	3.6%	127	4.2%
14:00	14:15		19	1.2%	22	1.5%	41	1.4%
14:15	14:30		36	2.3%	26	1.8%	62	2.1%
14:30	14:45		28	1.8%	20	1.4%	48	1.6%
14:45	15:00		25	1.6%	15	1.0%	40	1.3%
14:00	15:00		108	6.9%	83	5.8%	191	6.4%
15:00	15:15		16	1.0%	23	1.6%	39	1.3%
15:15	15:30		27	1.7%	27	1.9%	54	1.8%
15:30	15:45		18	1.1%	25	1.7%	43	1.4%
15:45	16:00		31	2.0%	27	1.9%	58	1.9%
15:00	16:00		92	5.9%	102	7.1%	194	6.5%
16:00	16:15		22	1.4%	28	2.0%	50	1.7%
16:15	16:30		18	1.1%	28	2.0%	46	1.5%
16:30	16:45		24	1.5%	22	1.5%	46	1.5%
16:45	17:00		26	1.7%	33	2.3%	59	2.0%
16:00	17:00		90	5.7%	111	7.8%	201	6.7%
17:00	17:15		20	1.3%	36	2.5%	56	1.9%
17:15	17:30		19	1.2%	35	2.4%	54	1.8%
17:30	17:45		19	1.2%	33	2.3%	52	1.7%
17:45	18:00		28	1.8%	38	2.7%	66	2.2%
17:00	18:00		86	5.5%	142	9.9%	228	7.6%
18:00	18:15		13	0.8%	37	2.6%	50	1.7%
18:15	18:30		24	1.5%	34	2.4%	58	1.9%
18:30	18:45		17	1.1%	33	2.3%	50	1.7%
18:45	19:00		13	0.8%	33	2.3%	46	1.5%
18:00	19:00		67	4.3%	137	9.6%	204	6.8%
19:00	19:15		16	1.0%	17	1.2%	33	1.1%
19:15	19:30		17	1.1%	16	1.1%	33	1.1%
19:30	19:45		16	1.0%	17	1.2%	33	1.1%
19:45	20:00		10	0.6%	20	1.4%	30	1.0%
19:00	20:00		59	3.8%	70	4.9%	129	4.3%
20:00	20:15		11	0.7%	15	1.0%	26	0.9%
20:15	20:30		9	0.6%	14	1.0%	23	0.8%
20:30	20:45		7	0.4%	18	1.3%	25	0.8%
20:45	21:00		7	0.4%	10	0.7%	17	0.6%
20:00	21:00		34	2.2%	57	4.0%	91	3.0%
21:00	21:15		9	0.6%	15	1.0%	24	0.8%
21:15	21:30		13	0.8%	22	1.5%	35	1.2%
21:30	21:45		4	0.3%	15	1.0%	19	0.6%
21:45	22:00		9	0.6%	16	1.1%	25	0.8%
21:00	22:00		35	2.2%	68	4.8%	103	3.4%
22:00	22:15		7	0.4%	17	1.2%	24	0.8%
22:15	22:30		2	0.1%	17	1.2%	19	0.6%
22:30	22:45		4	0.3%	8	0.6%	12	0.4%
22:45	23:00		2	0.1%	9	0.6%	11	0.4%
22:00	23:00		15	1.0%	51	3.6%	66	2.2%
23:00	23:15		3	0.2%	11	0.8%	14	0.5%
23:15	23:30		2	0.1%	4	0.3%	6	0.2%
23:30	23:45		4	0.3%	7	0.5%	11	0.4%
23:45	00:00		1	0.1%	4	0.3%	5	0.2%
23:00	00:00		10	0.6%	26	1.8%	36	1.2%
Total			1568		1430		2998	100.0%
			52.3%		47.7%		100.0%	
AM PEAK			69		50		119	
period			8:00		8:00		8:00	
% of class			4.4%		3.5%		4.0%	
PM PEAK			36		38		66	
period			14:15		17:45		17:45	
% of class			2.3%		2.7%		2.2%	

Report-1.1		Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr														
		Direction : East		Road :												
		Dates : 1 2019-12-04														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15															
0:15	0:30															
0:30	0:45		2	1											3	0.1%
0:45	1:00		2												2	0.1%
00:00	1:00		4	1											5	0.1%
1:00	1:15		4												4	0.1%
1:15	1:30		2												2	0.1%
1:30	1:45		2				1								3	0.1%
1:45	2:00		1												1	0.0%
1:00	2:00		9				1								10	0.3%
2:00	2:15		4												4	0.1%
2:15	2:30		3	1											4	0.1%
2:30	2:45		2			1									3	0.1%
2:45	3:00															
2:00	3:00		9	1		1									11	0.3%
3:00	3:15		1				1								2	0.1%
3:15	3:30		1												1	0.0%
3:30	3:45															
3:45	4:00															
3:00	4:00		2				1								3	0.1%
4:00	4:15		1												1	0.0%
4:15	4:30		4												4	0.1%
4:30	4:45		4	1											5	0.1%
4:45	5:00		9												9	0.2%
4:00	5:00		18	1											19	0.5%
5:00	5:15		9	1											10	0.3%
5:15	5:30		16												16	0.4%
5:30	5:45		11												11	0.3%
5:45	6:00		30												30	0.8%
5:00	6:00		66	1											67	1.8%
6:00	6:15		17	2			1								20	0.5%
6:15	6:30		15	1											16	0.4%
6:30	6:45		28	3											31	0.8%
6:45	7:00		31	5		1	1								38	1.0%
6:00	7:00		91	11		1	2								105	2.7%
7:00	7:15		36	4		1									41	1.1%
7:15	7:30		39	4	1										44	1.2%
7:30	7:45		55	4	8										67	1.8%
7:45	8:00		101	11	2	2	1								117	3.1%
7:00	8:00		231	23	11	3	1								269	7.0%
8:00	8:15		104	4		1									109	2.9%
8:15	8:30		45	6	1		2								54	1.4%
8:30	8:45		50	6	2	3									61	1.6%
8:45	9:00		31	4	1	4	1								41	1.1%
8:00	9:00		230	20	4	8	3								265	6.9%
9:00	9:15		26	6		2	1								35	0.9%
9:15	9:30		27	14		4	1								46	1.2%
9:30	9:45		28	4		1	5								38	1.0%
9:45	10:00		26	6		2	1								35	0.9%
9:00	10:00		107	30		9	8								154	4.0%
10:00	10:15		35	6		1									42	1.1%
10:15	10:30		28	5			2								35	0.9%
10:30	10:45		34	4		1	1								40	1.0%
10:45	11:00		34	7		2	3								46	1.2%
10:00	11:00		131	22		4	6								163	4.3%
11:00	11:15		28	4		2	2								36	0.9%
11:15	11:30		33			3	1								37	1.0%
11:30	11:45		41	4		1	1								47	1.2%
11:45	12:00		37	3			2								42	1.1%
11:00	12:00		139	11		6	6								162	4.2%

12:00	12:15	30	8	2					40	1.0%	
12:15	12:30	36	3	1	1				41	1.1%	
12:30	12:45	47	4	4	1				56	1.5%	
12:45	13:00	42	5	1					48	1.3%	
12:00	13:00	155	20	8	2				185	4.8%	
13:00	13:15	32	4		3				39	1.0%	
13:15	13:30	36	2	1	5				44	1.2%	
13:30	13:45	28	2	1	1	1			33	0.9%	
13:45	14:00	41	4	4	1	1			51	1.3%	
13:00	14:00	137	12	6	2	10			167	4.4%	
14:00	14:15	50	9	3	3	1			66	1.7%	
14:15	14:30	40	2		3	1			46	1.2%	
14:30	14:45	56	3	1	2	1			63	1.6%	
14:45	15:00	51	7			2			60	1.6%	
14:00	15:00	197	21	4	8	5			235	6.1%	
15:00	15:15	52	3	3	1	2			61	1.6%	
15:15	15:30	46	7	1	1	3			58	1.5%	
15:30	15:45	52	12		1	5			70	1.8%	
15:45	16:00	71	4		3	4			82	2.1%	
15:00	16:00	221	26	4	6	14			271	7.1%	
16:00	16:15	78	4	1	3	2	1		89	2.3%	
16:15	16:30	65	7			5			77	2.0%	
16:30	16:45	63	9		2	5			79	2.1%	
16:45	17:00	73	8		1	5			87	2.3%	
16:00	17:00	279	28	1	6	17	1		332	8.7%	
17:00	17:15	64	5			7			76	2.0%	
17:15	17:30	61	9		1	7			78	2.0%	
17:30	17:45	66	5			5			76	2.0%	
17:45	18:00	71	14			2			87	2.3%	
17:00	18:00	262	33		1	21			317	8.3%	
18:00	18:15	68	5		3	6			82	2.1%	
18:15	18:30	54	10			5			69	1.8%	
18:30	18:45	68	9		1	4			82	2.1%	
18:45	19:00	68	9		1	4			82	2.1%	
18:00	19:00	258	33		5	19			315	8.2%	
19:00	19:15	57	4		2	1			64	1.7%	
19:15	19:30	52	4			2			58	1.5%	
19:30	19:45	60	7			5			72	1.9%	
19:45	20:00	44	2			4			50	1.3%	
19:00	20:00	213	17		2	12			244	6.4%	
20:00	20:15	64	7			5			76	2.0%	
20:15	20:30	58	6			3	1		68	1.8%	
20:30	20:45	40	4			2			46	1.2%	
20:45	21:00	37	3		1	2			43	1.1%	
20:00	21:00	199	20		1	12	1		233	6.1%	
21:00	21:15	39	4			1			44	1.2%	
21:15	21:30	32				1			33	0.9%	
21:30	21:45	35			1	2			38	1.0%	
21:45	22:00	25			1				26	0.7%	
21:00	22:00	131	4		2	4			141	3.7%	
22:00	22:15	21	3			4			28	0.7%	
22:15	22:30	1	23	1					25	0.7%	
22:30	22:45	15							15	0.4%	
22:45	23:00	23	3			1			27	0.7%	
22:00	23:00	1	82	7		5			95	2.5%	
23:00	23:15	18				2			20	0.5%	
23:15	23:30	15	1						16	0.4%	
23:30	23:45	9	1						10	0.3%	
23:45	00:00	6	1			1			8	0.2%	
23:00	00:00	48	3			3			54	1.4%	
Total		1 0.0%	3219 84.2%	345 9.0%	30 0.8%	73 1.9%	152 4.0%	1 0.0%	1 0.0%	3822	
AM PEAK		104	14	8	4	5			117		
period		8:00	9:15	7:30	8:45	9:30			7:45		
% of class		3.2%	4.1%	26.7%	5.5%	3.3%				3.1%	
PM PEAK		1	78	14	4	4	7	1	1	89	
period		22:15	16:00	17:45	13:45	12:30	17:00	16:00	20:15	16:00	
% of class		100.0%	2.4%	4.1%	13.3%	5.5%	4.6%	100.0%	100.0%	2.3%	

Report-1.2	Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr														
	Direction : West														
	Dates : 1 2019-12-04														
Classes ----->	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 0:15															
0:15 0:30															
0:30 0:45															
0:45 1:00															
00:00 1:00															
1:00 1:15															
1:15 1:30															
1:30 1:45		2												2	0.1%
1:45 2:00		1												1	0.0%
1:00 2:00		3												3	0.1%
2:00 2:15		1												1	0.0%
2:15 2:30		1												1	0.0%
2:30 2:45		1												1	0.0%
2:45 3:00															
2:00 3:00		3												3	0.1%
3:00 3:15		1												1	0.0%
3:15 3:30		2			1									3	0.1%
3:30 3:45															
3:45 4:00															
3:00 4:00		3			1									4	0.1%
4:00 4:15		3												3	0.1%
4:15 4:30		2												2	0.1%
4:30 4:45		7	2											9	0.3%
4:45 5:00		11												11	0.3%
4:00 5:00		23	2											25	0.7%
5:00 5:15		17												17	0.5%
5:15 5:30		17	3		1									21	0.6%
5:30 5:45		17												17	0.5%
5:45 6:00		42			1									43	1.2%
5:00 6:00		93	3		2									98	2.8%
6:00 6:15		20	3											23	0.7%
6:15 6:30		30	1		1									32	0.9%
6:30 6:45		47	1		2	1								51	1.5%
6:45 7:00		40	4											44	1.3%
6:00 7:00		137	9		3	1								150	4.3%
7:00 7:15		35	5											40	1.1%
7:15 7:30		48	7	1	1	1								58	1.7%
7:30 7:45		69	8	2	2									81	2.3%
7:45 8:00		109	10	4	1	1								125	3.6%
7:00 8:00		261	30	7	4	2								304	8.7%
8:00 8:15		119	13	1	2	1								136	3.9%
8:15 8:30		98	14	3	4	1								120	3.4%
8:30 8:45		45	8		2									55	1.6%
8:45 9:00		50	3	1	3									57	1.6%
8:00 9:00		312	38	5	9	3	1							368	10.5%
9:00 9:15		30	5	1	2									38	1.1%
9:15 9:30		26	5		1									32	0.9%
9:30 9:45		40	6											46	1.3%
9:45 10:00		24	4		1									29	0.8%
9:00 10:00		120	20	1	4									145	4.1%
10:00 10:15		34	1											35	1.0%
10:15 10:30		36			2									38	1.1%
10:30 10:45		25	3											28	0.8%
10:45 11:00		46	4		2									52	1.5%
10:00 11:00		141	8		4									153	4.4%
11:00 11:15		33	4		3	1								41	1.2%
11:15 11:30		26			4									30	0.9%
11:30 11:45		38	1											39	1.1%
11:45 12:00		22	3		2									27	0.8%
11:00 12:00		119	8		9	1								137	3.9%

12:00	12:15		23	3					26	0.7%
12:15	12:30		57	5	1	3			66	1.9%
12:30	12:45		45	3	1	2			51	1.5%
12:45	13:00		40	2		2			44	1.3%
12:00	13:00		165	13	2	7			187	5.3%
13:00	13:15		42	4		2			48	1.4%
13:15	13:30		27	5		2			34	1.0%
13:30	13:45		29			4			33	0.9%
13:45	14:00		30			1			31	0.9%
13:00	14:00		128	9		9			146	4.2%
14:00	14:15		44	4		2			50	1.4%
14:15	14:30		102	9	8	1			120	3.4%
14:30	14:45		65	3		1			69	2.0%
14:45	15:00		47	2		1			50	1.4%
14:00	15:00		258	18	8	5			289	8.2%
15:00	15:15		38	5		1			44	1.3%
15:15	15:30		42	3	2				47	1.3%
15:30	15:45		45			1			46	1.3%
15:45	16:00		55	2		1			58	1.7%
15:00	16:00		180	10	2	3			195	5.6%
16:00	16:15		73	4	1	4			82	2.3%
16:15	16:30		53	5					58	1.7%
16:30	16:45		47	4		1			52	1.5%
16:45	17:00		61	1					62	1.8%
16:00	17:00		234	14	1	5			254	7.2%
17:00	17:15		45	10		1	1		57	1.6%
17:15	17:30		48	4					52	1.5%
17:30	17:45		49	4		1			54	1.5%
17:45	18:00	1	58	5		2			66	1.9%
17:00	18:00	1	200	23		4	1		229	6.5%
18:00	18:15		70	8		2			80	2.3%
18:15	18:30		45	6		2			53	1.5%
18:30	18:45		57	1					58	1.7%
18:45	19:00		50	2					52	1.5%
18:00	19:00		222	17		4			243	6.9%
19:00	19:15		45	1		1			47	1.3%
19:15	19:30		53	5		1			59	1.7%
19:30	19:45		49	3		2			54	1.5%
19:45	20:00		41	1					42	1.2%
19:00	20:00		188	10		4			202	5.8%
20:00	20:15		45						45	1.3%
20:15	20:30		41	2					43	1.2%
20:30	20:45	1	52	4					57	1.6%
20:45	21:00		30	2		1			33	0.9%
20:00	21:00	1	168	8		1			178	5.1%
21:00	21:15		27	1			1		29	0.8%
21:15	21:30		23			1			24	0.7%
21:30	21:45		22			1			23	0.7%
21:45	22:00		17						17	0.5%
21:00	22:00		89	1		2	1		93	2.7%
22:00	22:15		18	1					19	0.5%
22:15	22:30		14	1					15	0.4%
22:30	22:45		11	1					12	0.3%
22:45	23:00		14	1					15	0.4%
22:00	23:00		57	4					61	1.7%
23:00	23:15		12						12	0.3%
23:15	23:30		12						12	0.3%
23:30	23:45		9	1					10	0.3%
23:45	00:00		3			1			4	0.1%
23:00	00:00		36	1		1			38	1.1%
Total			2	3140	246	26	81	8	2	3505
			0.1%	89.6%	7.0%	0.7%	2.3%	0.2%	0.1%	
AM PEAK			119	14	4	4	2	1		136
period			8:00	8:15	7:45	8:15	8:00	8:00		8:00
% of class			3.8%	5.7%	15.4%	4.9%	25.0%	50.0%		3.9%
PM PEAK			1	102	10	8	4	1	1	120
period			17:45	14:15	17:00	14:15	13:30	21:00	17:00	14:15
% of class			50.0%	3.2%	4.1%	30.8%	4.9%	12.5%	50.0%	3.4%

Report-1.3		Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr														
		Direction : East + West					Road :									
		Dates : 1 2019-12-04														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15															
0:15	0:30															
0:30	0:45		2	1											3	0.0%
0:45	1:00		2												2	0.0%
00:00	1:00		4	1											5	0.1%
1:00	1:15		4												4	0.1%
1:15	1:30		2												2	0.0%
1:30	1:45		4				1								5	0.1%
1:45	2:00		2												2	0.0%
1:00	2:00		12				1								13	0.2%
2:00	2:15		5												5	0.1%
2:15	2:30		4	1											5	0.1%
2:30	2:45		3			1									4	0.1%
2:45	3:00															
2:00	3:00		12	1		1									14	0.2%
3:00	3:15		2							1					3	0.0%
3:15	3:30		3			1									4	0.1%
3:30	3:45															
3:45	4:00															
3:00	4:00		5			1	1								7	0.1%
4:00	4:15		4												4	0.1%
4:15	4:30		6												6	0.1%
4:30	4:45		11	3											14	0.2%
4:45	5:00		20												20	0.3%
4:00	5:00		41	3											44	0.6%
5:00	5:15		26	1											27	0.4%
5:15	5:30		33	3		1									37	0.5%
5:30	5:45		28												28	0.4%
5:45	6:00		72			1									73	1.0%
5:00	6:00		159	4		2									165	2.3%
6:00	6:15		37	5			1								43	0.6%
6:15	6:30		45	2		1									48	0.7%
6:30	6:45		75	4		2	1								82	1.1%
6:45	7:00		71	9		1	1								82	1.1%
6:00	7:00		228	20		4	3								255	3.5%
7:00	7:15		71	9		1									81	1.1%
7:15	7:30		87	11	2	1	1								102	1.4%
7:30	7:45		124	12	10	2									148	2.0%
7:45	8:00		210	21	6	3	2								242	3.3%
7:00	8:00		492	53	18	7	3								573	7.8%
8:00	8:15		223	17	1	1	2	1							245	3.3%
8:15	8:30		143	20	4	4	3								174	2.4%
8:30	8:45		95	14	2	5									116	1.6%
8:45	9:00		81	7	2	7	1								98	1.3%
8:00	9:00		542	58	9	17	6	1							633	8.6%
9:00	9:15		56	11	1	4	1								73	1.0%
9:15	9:30		53	19		5	1								78	1.1%
9:30	9:45		68	10		1	5								84	1.1%
9:45	10:00		50	10		3	1								64	0.9%
9:00	10:00		227	50	1	13	8								299	4.1%
10:00	10:15		69	7		1									77	1.1%
10:15	10:30		64	5		2	2								73	1.0%
10:30	10:45		59	7		1	1								68	0.9%
10:45	11:00		80	11		4	3								98	1.3%
10:00	11:00		272	30		8	6								316	4.3%
11:00	11:15		61	8		5	3								77	1.1%
11:15	11:30		59			7	1								67	0.9%
11:30	11:45		79	5		1	1								86	1.2%
11:45	12:00		59	6		2	2								69	0.9%
11:00	12:00		258	19		15	7								299	4.1%

12:00	12:15		53	11		2					66	0.9%
12:15	12:30		93	8	1	4	1				107	1.5%
12:30	12:45		92	7	1	6	1				107	1.5%
12:45	13:00		82	7		3					92	1.3%
12:00	13:00		320	33	2	15	2				372	5.1%
13:00	13:15		74	8		2	3				87	1.2%
13:15	13:30		63	7	1	2	5				78	1.1%
13:30	13:45		57	2	1	5	1				66	0.9%
13:45	14:00		71	4	4	2	1				82	1.1%
13:00	14:00		265	21	6	11	10				313	4.3%
14:00	14:15		94	13	3	5	1				116	1.6%
14:15	14:30		142	11	8	4	1				166	2.3%
14:30	14:45		121	6	1	3	1				132	1.8%
14:45	15:00		98	9		1	2				110	1.5%
14:00	15:00		455	39	12	13	5				524	7.2%
15:00	15:15		90	8	3	2	2				105	1.4%
15:15	15:30		88	10	3	1	3				105	1.4%
15:30	15:45		97	12		2	5				116	1.6%
15:45	16:00		126	6		4	4				140	1.9%
15:00	16:00		401	36	6	9	14				466	6.4%
16:00	16:15		151	8	2	7	2	1			171	2.3%
16:15	16:30		118	12			5				135	1.8%
16:30	16:45		110	13		3	5				131	1.8%
16:45	17:00		134	9		1	5				149	2.0%
16:00	17:00		513	42	2	11	17	1			586	8.0%
17:00	17:15		109	15		1	7	1			133	1.8%
17:15	17:30		109	13		1	7				130	1.8%
17:30	17:45		115	9		1	5				130	1.8%
17:45	18:00	1	129	19		2	2				153	2.1%
17:00	18:00	1	462	56		5	21	1			546	7.5%
18:00	18:15		138	13		5	6				162	2.2%
18:15	18:30		99	16		2	5				122	1.7%
18:30	18:45		125	10		1	4				140	1.9%
18:45	19:00		118	11		1	4				134	1.8%
18:00	19:00		480	50		9	19				558	7.6%
19:00	19:15		102	5		3	1				111	1.5%
19:15	19:30		105	9		1	2				117	1.6%
19:30	19:45		109	10		2	5				126	1.7%
19:45	20:00		85	3			4				92	1.3%
19:00	20:00		401	27		6	12				446	6.1%
20:00	20:15		109	7			5				121	1.7%
20:15	20:30		99	8			3	1			111	1.5%
20:30	20:45	1	92	8			2				103	1.4%
20:45	21:00		67	5		2	2				76	1.0%
20:00	21:00	1	367	28		2	12		1		411	5.6%
21:00	21:15		66	5			2				73	1.0%
21:15	21:30		55			1	1				57	0.8%
21:30	21:45		57			2	2				61	0.8%
21:45	22:00		42			1					43	0.6%
21:00	22:00		220	5		4	5				234	3.2%
22:00	22:15		39	4			4				47	0.6%
22:15	22:30	1	37	2							40	0.5%
22:30	22:45		26	1							27	0.4%
22:45	23:00		37	4				1			42	0.6%
22:00	23:00	1	139	11			5				156	2.1%
23:00	23:15		30				2				32	0.4%
23:15	23:30		27	1							28	0.4%
23:30	23:45		18	2							20	0.3%
23:45	00:00		9	1		1	1				12	0.2%
23:00	00:00		84	4		1	3				92	1.3%
Total			3	6359	591	56	154	160	2	1	1	7327
			0.0%	86.8%	8.1%	0.8%	2.1%	2.2%	0.0%	0.0%	0.0%	
AM PEAK			223	21	10	7	5	1				245
period			8:00	7:45	7:30	8:45	9:30	8:00				8:00
% of class			3.5%	3.6%	17.9%	4.5%	3.1%	50.0%				3.3%
PM PEAK			1	151	19	8	7	7	1	1	1	171
period			17:45	16:00	17:45	14:15	16:00	17:00	17:00	16:00	20:15	16:00
% of class			33.3%	2.4%	3.2%	14.3%	4.5%	4.4%	50.0%	100.0%	100.0%	2.3%

Report-2.1	Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr													Total	Pace	Number
	Direction : East Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15																
0:15 0:30																
0:30 0:45			1		2									3	38.8-58.8	2
0:45 1:00				1	1									2	35.0-55.0	2
00:00 1:00			1	1	3									5	38.8-58.8	2
1:00 1:15				4										4	28.9-48.9	4
1:15 1:30				2										2	28.9-48.9	2
1:30 1:45				1		2								3	49.6-69.6	2
1:45 2:00					1									1	35.0-55.0	1
1:00 2:00				7	1	2								10	28.9-48.9	4
2:00 2:15					2	2								4	41.3-61.3	4
2:15 2:30					3	1								4	40.1-60.1	4
2:30 2:45						3								3	49.3-69.3	3
2:45 3:00																
2:00 3:00					5	6								11	41.3-61.3	4
3:00 3:15			1			1								2	3.7-23.7	1
3:15 3:30				1										1	24.8-44.8	1
3:30 3:45																
3:45 4:00																
3:00 4:00			1	1		1								3	3.7-23.7	1
4:00 4:15				1										1	24.8-44.8	1
4:15 4:30				3	1									4	31.1-51.1	4
4:30 4:45				5										5	27.5-47.5	5
4:45 5:00				8	1									9	32.7-52.7	9
4:00 5:00				17	2									19	32.7-52.7	9
5:00 5:15				1	9									10	30.0-50.0	10
5:15 5:30			1	10	4	1								16	20.6-40.6	15
5:30 5:45				6		4	1							11	33.8-53.8	9
5:45 6:00				1	8	21								30	33.6-53.6	29
5:00 6:00			1	18	21	26	1							67	33.6-53.6	29
6:00 6:15				9	6	4	1							20	35.8-55.8	17
6:15 6:30			1	1	10	3	1							16	32.5-52.5	14
6:30 6:45				5	15	11								31	32.5-52.5	27
6:45 7:00				10	12	14	2							38	39.5-59.5	26
6:00 7:00			1	25	43	32	4							105	32.5-52.5	27
7:00 7:15				9	17	12	3							41	32.3-52.3	32
7:15 7:30			1	10	27	5	1							44	30.7-50.7	38
7:30 7:45			5	19	27	16								67	29.2-49.2	49
7:45 8:00			5	51	39	18	4							117	32.6-52.6	100
7:00 8:00			11	89	110	51	8							269	32.6-52.6	100
8:00 8:15		32	37	29	8	3								109	12.1-32.1	82
8:15 8:30			3	7	22	18	4							54	39.1-59.1	40
8:30 8:45				14	31	13	3							61	33.9-53.9	55
8:45 9:00			1	10	17	10	1	2						41	36.3-56.3	32
8:00 9:00		32	41	60	78	44	8	2						265	12.1-32.1	82
9:00 9:15				6	16	6	6	1						35	39.3-59.3	24
9:15 9:30				7	19	14	6							46	41.3-61.3	37
9:30 9:45			1		4	23	10							38	47.0-67.0	34
9:45 10:00				5	10	15	5							35	43.7-63.7	29
9:00 10:00			1	18	49	58	27	1						154	41.3-61.3	37
10:00 10:15				8	19	10	5							42	36.9-56.9	31
10:15 10:30				1	6	21	6	1						35	43.7-63.7	30
10:30 10:45			1	7	14	16	2							40	38.8-58.8	31
10:45 11:00				8	11	21	6							46	42.6-62.6	37
10:00 11:00			1	24	50	68	19	1						163	42.6-62.6	37
11:00 11:15			2	10	9	7	8							36	32.8-52.8	23
11:15 11:30			1	6	4	23	2	1						37	34.4-54.4	29
11:30 11:45				3	12	28	4							47	40.1-60.1	41
11:45 12:00			1	5	15	16	5							42	39.4-59.4	32
11:00 12:00			4	24	40	74	19	1						162	40.1-60.1	41



Report-2.2	Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr													Total	Pace	Number	
	Direction : West Road :																
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130				
00:00 0:15																	
0:15 0:30																	
0:30 0:45																	
0:45 1:00																	
00:00 1:00																	
1:00 1:15																	
1:15 1:30																	
1:30 1:45			1		1									2	0.5-20.5	1	
1:45 2:00			1											1	0.5-20.5	1	
1:00 2:00			2		1									3	0.5-20.5	1	
2:00 2:15			1											1	0.5-20.5	1	
2:15 2:30					1									1	25.3-45.3	1	
2:30 2:45				1										1	16.4-36.4	1	
2:45 3:00																	
2:00 3:00			1	1	1									3	0.5-20.5	1	
3:00 3:15				1										1	14.7-34.7	1	
3:15 3:30			1	1	1									3	12.2-32.2	2	
3:30 3:45																	
3:45 4:00																	
3:00 4:00			1	2	1									4	12.2-32.2	2	
4:00 4:15						1		1	1					3	50.5-70.5	2	
4:15 4:30							2							2	43.9-63.9	2	
4:30 4:45					5	1	2	1						9	43.9-63.9	8	
4:45 5:00					8	2	1							11	41.6-61.6	11	
4:00 5:00					13	4	5	2	1					25	41.6-61.6	11	
5:00 5:15						13	4							17	49.0-69.0	17	
5:15 5:30			1		11	3	5	1						21	34.9-54.9	14	
5:30 5:45				2	11	2	2							17	28.5-48.5	13	
5:45 6:00					29	14								43	37.6-57.6	43	
5:00 6:00			1	2	51	32	11	1						98	37.6-57.6	43	
6:00 6:15		1	3	4	9	6								23	32.9-52.9	16	
6:15 6:30				6	14	11	1							32	36.2-56.2	28	
6:30 6:45		1	8	11	21	7	2	1						51	27.7-47.7	32	
6:45 7:00			4	8	28	4								44	35.1-55.1	38	
6:00 7:00		2	15	29	72	28	3	1						150	35.1-55.1	38	
7:00 7:15			2	7	18	9	4							40	35.5-55.5	31	
7:15 7:30		2	6	28	17	4	1							58	27.8-47.8	47	
7:30 7:45		10	38	23	6	3	1							81	14.9-34.9	64	
7:45 8:00		6	66	36	13	2	2							125	20.7-40.7	104	
7:00 8:00		18	112	94	54	18	8							304	20.7-40.7	104	
8:00 8:15		36	69	21	9		1							136	13.8-33.8	116	
8:15 8:30		10	52	37	17	4								120	21.4-41.4	93	
8:30 8:45		2	9	27	11	2	3	1						55	23.7-43.7	43	
8:45 9:00		2	6	8	27	1	10	3						57	26.5-46.5	38	
8:00 9:00		50	136	93	64	7	14	4						368	13.8-33.8	116	
9:00 9:15			6	11	16	4	1							38	30.8-50.8	28	
9:15 9:30			2	14	13		2	1						32	25.3-45.3	28	
9:30 9:45			11	28	7									46	26.8-46.8	43	
9:45 10:00			4	15	9		1							29	27.9-47.9	27	
9:00 10:00			23	68	45	4	4	1						145	26.8-46.8	43	
10:00 10:15			8	6	21									35	26.0-46.0	34	
10:15 10:30			1	10	23	4								38	31.1-51.1	35	
10:30 10:45			1	10	17									28	27.4-47.4	28	
10:45 11:00		1	13	28	8	2								52	23.3-43.3	44	
10:00 11:00		1	23	54	69	6								153	23.3-43.3	44	
11:00 11:15		2	11	16	12									41	23.9-43.9	34	
11:15 11:30			2	17	11									30	27.5-47.5	30	
11:30 11:45			2	22	14	1								39	28.0-48.0	36	
11:45 12:00				20	6	1								27	28.4-48.4	26	
11:00 12:00		2	15	75	43	2								137	28.0-48.0	36	

12:00	12:15		5	11	10					26	25.6-45.6	22
12:15	12:30	1	17	31	12	3	2			66	24.0-44.0	57
12:30	12:45		24	17	8	1		1		51	25.9-45.9	45
12:45	13:00	1	11	18	13	1				44	26.1-46.1	35
12:00	13:00	2	57	77	43	5	2	1		187	24.0-44.0	57
13:00	13:15		7	26	14		1			48	26.6-46.6	45
13:15	13:30		1	12	19	1	1			34	28.8-48.8	31
13:30	13:45			14	16	1		2		33	29.9-49.9	30
13:45	14:00		1	3	23	2	2			31	29.6-49.6	26
13:00	14:00		9	55	72	4	4	2		146	26.6-46.6	45
14:00	14:15		4	30	16					50	27.8-47.8	48
14:15	14:30	13	44	51	12					120	18.8-38.8	98
14:30	14:45	2	17	33	14	1	2			69	27.3-47.3	58
14:45	15:00		2	28	20					50	26.3-46.3	49
14:00	15:00	15	67	142	62	1	2			289	18.8-38.8	98
15:00	15:15		14	9	11	9		1		44	23.3-43.3	32
15:15	15:30		2	15	24	5	1			47	31.0-51.0	42
15:30	15:45		2	16	26	2				46	28.0-48.0	44
15:45	16:00		6	36	15		1			58	24.2-44.2	53
15:00	16:00		24	76	76	16	2	1		195	24.2-44.2	53
16:00	16:15	3	13	47	12		3	2	2	82	22.1-42.1	67
16:15	16:30		12	20	24	1	1			58	24.5-44.5	54
16:30	16:45		1	25	17	7	2			52	32.2-52.2	49
16:45	17:00			21	41					62	29.8-49.8	62
16:00	17:00	3	26	113	94	8	6	2	2	254	22.1-42.1	67
17:00	17:15		7	21	25	1	3			57	28.0-48.0	51
17:15	17:30	1	15	29	7					52	22.7-42.7	50
17:30	17:45		12	22	19		1			54	28.4-48.4	49
17:45	18:00		3	26	33		3		1	66	25.6-45.6	60
17:00	18:00	1	37	98	84	1	7		1	229	25.6-45.6	60
18:00	18:15		4	52	18	4	1		1	80	29.2-49.2	71
18:15	18:30		6	30	15	1	1			53	25.4-45.4	49
18:30	18:45			17	31	8	1	1		58	32.6-52.6	54
18:45	19:00		3	25	19	5				52	30.3-50.3	46
18:00	19:00		13	124	83	18	3	1	1	243	29.2-49.2	71
19:00	19:15		1	34	9	2	1			47	30.6-50.6	44
19:15	19:30		12	23	13	10	1			59	23.9-43.9	44
19:30	19:45		2	5	38	5	4			54	35.6-55.6	46
19:45	20:00		1	20	16	4		1		42	25.8-45.8	36
19:00	20:00		16	82	76	21	6	1		202	35.6-55.6	46
20:00	20:15			5	38		1	1		45	26.8-46.8	43
20:15	20:30			5	34	2	1		1	43	33.0-53.0	40
20:30	20:45	4	13	26	13		1			57	22.2-42.2	49
20:45	21:00		2	12	17	1	1			33	28.2-48.2	29
20:00	21:00	4	15	48	102	3	4	1	1	178	22.2-42.2	49
21:00	21:15			18	10		1			29	27.3-47.3	28
21:15	21:30		11	10	3					24	22.0-42.0	24
21:30	21:45			12	11					23	28.2-48.2	23
21:45	22:00		1	8	8					17	22.2-42.2	17
21:00	22:00		12	48	32		1			93	27.3-47.3	28
22:00	22:15		1	11	6			1		19	27.0-47.0	18
22:15	22:30			7	6	1		1		15	28.7-48.7	13
22:30	22:45			1	11					12	28.7-48.7	12
22:45	23:00			9	5	1				15	35.3-55.3	15
22:00	23:00		1	28	28	2		2		61	27.0-47.0	18
23:00	23:15				12					12	27.5-47.5	12
23:15	23:30			6	4	2				12	34.0-54.0	10
23:30	23:45			5	4	1				10	34.0-54.0	9
23:45	00:00				4					4	35.4-55.4	4
23:00	00:00				23	12	3			38	27.5-47.5	12
Total			98	606	1309	1189	192	85	20	6		3505
AM PEAK			2.8%	17.3%	37.3%	33.9%	5.5%	2.4%	0.6%	0.2%		
period			36	69	37	29	14	10	3	1		136
% of class			8:00	8:00	8:15	5:45	5:45	8:45	8:45	4:00		8:00
PM PEAK			36.7%	11.4%	2.8%	2.4%	7.3%	11.8%	15.0%	16.7%		3.9%
period			13	44	52	41	10	4	2	2		120
% of class			14:15	14:15	18:00	16:45	19:15	19:30	13:30	16:00		14:15
			13.3%	7.3%	4.0%	3.4%	5.2%	4.7%	10.0%	33.3%		3.4%

15% Percentile :	27 KPH
50% Percentile :	38 KPH
85% Percentile :	48 KPH
95% Percentile :	57 KPH

20 KPH Pace Speed:	28.0-48.0 KPH
Number in Pace:	2620
Percent in Pace:	74.8 %
Number of Vehicles >40 KPH:	1492
Percent of Vehicles >40 KPH:	42.6 %
Mean Speed(average):	38 KPH

Report-2.3	Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr													Total	Pace Speed	Number in Pace
	Direction : East + West Road :															
	Dates : 1 2019-12-04															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15																
0:15 0:30																
0:30 0:45			1			2								3	38.8-58.8	2
0:45 1:00					1	1								2	35.0-55.0	2
00:00 1:00			1		1	3								5	38.8-58.8	2
1:00 1:15						4								4	28.9-48.9	4
1:15 1:30						2								2	28.9-48.9	2
1:30 1:45			1		2		2							5	25.9-45.9	2
1:45 2:00			1			1								2	0.5-20.5	1
1:00 2:00			2		8	1	2							13	28.9-48.9	4
2:00 2:15			1			2	2							5	41.3-61.3	4
2:15 2:30					1	3	1							5	40.1-60.1	5
2:30 2:45				1			3							4	49.3-69.3	3
2:45 3:00																
2:00 3:00			1	1	1	5	6							14	40.1-60.1	5
3:00 3:15			1	1				1						3	14.7-34.7	2
3:15 3:30			1	1	2									4	26.0-46.0	3
3:30 3:45																
3:45 4:00																
3:00 4:00			2	2	2		1							7	26.0-46.0	3
4:00 4:15					1	1		1	1					4	37.3-57.3	2
4:15 4:30					3	1	2							6	43.9-63.9	5
4:30 4:45					10	1	2	1						14	43.9-63.9	13
4:45 5:00					16	3	1							20	41.6-61.6	20
4:00 5:00					30	6	5	2	1					44	41.6-61.6	20
5:00 5:15				1	9	13	4							27	39.5-59.5	22
5:15 5:30			2	10	15	4	5	1						37	26.3-46.3	27
5:30 5:45				8	11	6	3							28	37.6-57.6	22
5:45 6:00				1	37	35								73	37.6-57.6	72
5:00 6:00			2	20	72	58	12	1						165	37.6-57.6	72
6:00 6:15		1	3	13	15	10	1							43	35.8-55.8	33
6:15 6:30			1	7	24	14	2							48	36.2-56.2	42
6:30 6:45		1	8	16	36	18	2	1						82	40.5-60.5	56
6:45 7:00			4	18	40	18	2							82	35.1-55.1	62
6:00 7:00		2	16	54	115	60	7	1						255	35.1-55.1	62
7:00 7:15			2	16	35	21	7							81	35.5-55.5	61
7:15 7:30		2	7	38	44	9	2							102	28.8-48.8	83
7:30 7:45		10	43	42	33	19	1							148	23.3-43.3	95
7:45 8:00		6	71	87	52	20	6							242	23.9-43.9	177
7:00 8:00		18	123	183	164	69	16							573	23.9-43.9	177
8:00 8:15		68	106	50	17	3	1							245	12.3-32.3	197
8:15 8:30		10	55	44	39	22	4							174	25.0-45.0	115
8:30 8:45		2	9	41	42	15	6	1						116	33.3-53.3	88
8:45 9:00		2	7	18	44	11	11	5						98	33.9-53.9	66
8:00 9:00		82	177	153	142	51	22	6						633	12.3-32.3	197
9:00 9:15			6	17	32	10	7	1						73	30.9-50.9	50
9:15 9:30			2	21	32	14	8	1						78	30.0-50.0	53
9:30 9:45			12	28	11	23	10							84	26.8-46.8	47
9:45 10:00			4	20	19	15	6							64	27.9-47.9	41
9:00 10:00			24	86	94	62	31	2						299	30.0-50.0	53
10:00 10:15			8	14	40	10	5							77	26.2-46.2	59
10:15 10:30			1	11	29	25	6	1						73	39.3-59.3	54
10:30 10:45			2	17	31	16	2							68	33.4-53.4	51
10:45 11:00		1	13	36	19	23	6							98	28.3-48.3	58
10:00 11:00		1	24	78	119	74	19	1						316	26.2-46.2	59
11:00 11:15		2	13	26	21	7	8							77	25.3-45.3	52
11:15 11:30			3	23	15	23	2	1						67	32.9-52.9	52
11:30 11:45			2	25	26	29	4							86	37.7-57.7	65
11:45 12:00			1	25	21	17	5							69	36.0-56.0	53
11:00 12:00		2	19	99	83	76	19	1						299	37.7-57.7	65

12:00	12:15		5	29	23	7	2			66	33.1-53.1	55
12:15	12:30	1	17	33	19	30	7			107	24.0-44.0	61
12:30	12:45		24	25	16	33	7	2		107	25.9-45.9	55
12:45	13:00	1	12	21	39	17	2			92	29.7-49.7	64
12:00	13:00	2	58	108	97	87	18	2		372	29.7-49.7	64
13:00	13:15		7	30	19	21	10			87	26.6-46.6	52
13:15	13:30	1	17	25	21	14				78	35.5-55.5	57
13:30	13:45		17	25	19	3	2			66	34.2-54.2	51
13:45	14:00	1	8	36	26	11				82	38.0-58.0	66
13:00	14:00		9	72	105	87	38	2		313	38.0-58.0	66
14:00	14:15		7	52	46	10	1			116	28.5-48.5	99
14:15	14:30	13	44	60	29	18	2			166	24.1-44.1	110
14:30	14:45	2	17	41	32	28	11	1		132	32.6-52.6	83
14:45	15:00		2	31	35	34	8			110	36.6-56.6	82
14:00	15:00	15	70	184	142	90	22	1		524	24.1-44.1	110
15:00	15:15		14	19	27	34	9	2		105	35.4-55.4	70
15:15	15:30		3	18	38	31	13	2		105	34.2-54.2	70
15:30	15:45		2	20	40	40	14			116	39.8-59.8	80
15:45	16:00		6	38	32	42	21	1		140	38.5-58.5	75
15:00	16:00		25	95	137	147	57	5		466	39.8-59.8	80
16:00	16:15	3	13	64	41	26	15	5	4	171	29.8-49.8	105
16:15	16:30		12	24	34	34	31			135	39.0-59.0	76
16:30	16:45		1	28	25	56	20	1		131	40.7-60.7	90
16:45	17:00		24	70	34	21				149	39.1-59.1	121
16:00	17:00	3	26	140	170	150	87	6	4	586	39.1-59.1	121
17:00	17:15		7	25	39	37	25			133	40.8-60.8	80
17:15	17:30	1	15	37	37	27	11	2		130	32.2-52.2	77
17:30	17:45		12	25	42	34	17			130	34.4-54.4	83
17:45	18:00		3	37	59	35	18		1	153	35.9-55.9	111
17:00	18:00	1	37	124	177	133	71	2	1	546	35.9-55.9	111
18:00	18:15		5	57	41	40	17		2	162	32.0-52.0	106
18:15	18:30		6	31	21	52	12			122	40.4-60.4	76
18:30	18:45			21	37	48	31	3		140	40.6-60.6	88
18:45	19:00		3	27	31	55	16	2		134	40.8-60.8	90
18:00	19:00		14	136	130	195	76	5	2	558	32.0-52.0	106
19:00	19:15		1	36	12	48	13	1		111	39.2-59.2	74
19:15	19:30		12	28	41	28	8			117	37.1-57.1	84
19:30	19:45		2	10	70	25	19			126	41.6-61.6	97
19:45	20:00		1	21	23	16	26	5		92	36.0-56.0	52
19:00	20:00		16	95	146	117	66	6		446	41.6-61.6	97
20:00	20:15			8	58	34	18	3		121	40.1-60.1	94
20:15	20:30			15	56	21	11	4	4	111	37.2-57.2	83
20:30	20:45	4	13	26	14	36	10			103	40.3-60.3	51
20:45	21:00		2	14	23	28	9			76	44.2-64.2	56
20:00	21:00	4	15	63	151	119	48	7	4	411	40.1-60.1	94
21:00	21:15			19	13	28	13			73	37.0-57.0	42
21:15	21:30		11	10	7	17	12			57	44.1-64.1	30
21:30	21:45			14	24	19	4			61	40.2-60.2	44
21:45	22:00		1	10	18	13	1			43	40.3-60.3	32
21:00	22:00		12	53	62	77	30			234	40.2-60.2	44
22:00	22:15		1	13	10	15	6	2		47	36.1-56.1	29
22:15	22:30			7	10	18	3	1	1	40	39.7-59.7	33
22:30	22:45			1	15	6	5			27	40.1-60.1	26
22:45	23:00		1	10	6	14	11			42	39.2-59.2	28
22:00	23:00		2	31	41	53	25	3	1	156	39.7-59.7	33
23:00	23:15			1	15	11	5			32	42.6-62.6	29
23:15	23:30			1	8	12	7			28	43.9-63.9	23
23:30	23:45				10	9	1			20	35.9-55.9	19
23:45	00:00				3	6	2	1		12	42.7-62.7	10
23:00	00:00			2	36	38	15	1		92	42.6-62.6	29
Total			130	675	1779	2225	1758	693	54	13		7327
AM PEAK			1.8%	9.2%	24.3%	30.4%	24.0%	9.5%	0.7%	0.2%		
period			8:00	8:00	7:45	7:45	5:45	8:45	8:45	4:00		245
% of class			52.3%	15.7%	4.9%	2.3%	2.0%	1.6%	9.3%	7.7%		3.3%
PM PEAK			13	44	64	70	56	31	5	4		171
period			14:15	14:15	16:00	16:45	16:30	16:15	16:00	16:00		16:00
% of class			10.0%	6.5%	3.6%	3.1%	3.2%	4.5%	9.3%	30.8%		2.3%

15% Percentile :	32 KPH
50% Percentile :	45 KPH
85% Percentile :	58 KPH
95% Percentile :	66 KPH

20 KPH Pace Speed:	35.4-55.4 KPH
Number in Pace:	4208
Percent in Pace:	57.4 %
Number of Vehicles >40 KPH:	4743
Percent of Vehicles >40 KPH:	64.7 %
Mean Speed(average):	45 KPH

Report-3.1 Directions ----->	Location : CAL2019-A2EW Columbia Way - east of Kingsview Dr									
	Dates : 2019-12-04									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15										
0:15 0:30										
0:30 0:45					3	0.1%			3	0.0%
0:45 1:00					2	0.1%			2	0.0%
00:00 1:00					5	0.1%			5	0.1%
1:00 1:15					4	0.1%			4	0.1%
1:15 1:30					2	0.1%			2	0.0%
1:30 1:45					3	0.1%	2	0.1%	5	0.1%
1:45 2:00					1	0.0%	1	0.0%	2	0.0%
1:00 2:00					10	0.3%	3	0.1%	13	0.2%
2:00 2:15					4	0.1%	1	0.0%	5	0.1%
2:15 2:30					4	0.1%	1	0.0%	5	0.1%
2:30 2:45					3	0.1%	1	0.0%	4	0.1%
2:45 3:00										
2:00 3:00					11	0.3%	3	0.1%	14	0.2%
3:00 3:15					2	0.1%	1	0.0%	3	0.0%
3:15 3:30					1	0.0%	3	0.1%	4	0.1%
3:30 3:45										
3:45 4:00										
3:00 4:00					3	0.1%	4	0.1%	7	0.1%
4:00 4:15					1	0.0%	3	0.1%	4	0.1%
4:15 4:30					4	0.1%	2	0.1%	6	0.1%
4:30 4:45					5	0.1%	9	0.3%	14	0.2%
4:45 5:00					9	0.2%	11	0.3%	20	0.3%
4:00 5:00					19	0.5%	25	0.7%	44	0.6%
5:00 5:15					10	0.3%	17	0.5%	27	0.4%
5:15 5:30					16	0.4%	21	0.6%	37	0.5%
5:30 5:45					11	0.3%	17	0.5%	28	0.4%
5:45 6:00					30	0.8%	43	1.2%	73	1.0%
5:00 6:00					67	1.8%	98	2.8%	165	2.3%
6:00 6:15					20	0.5%	23	0.7%	43	0.6%
6:15 6:30					16	0.4%	32	0.9%	48	0.7%
6:30 6:45					31	0.8%	51	1.5%	82	1.1%
6:45 7:00					38	1.0%	44	1.3%	82	1.1%
6:00 7:00					105	2.7%	150	4.3%	255	3.5%
7:00 7:15					41	1.1%	40	1.1%	81	1.1%
7:15 7:30					44	1.2%	58	1.7%	102	1.4%
7:30 7:45					67	1.8%	81	2.3%	148	2.0%
7:45 8:00					117	3.1%	125	3.6%	242	3.3%
7:00 8:00					269	7.0%	304	8.7%	573	7.8%
8:00 8:15					109	2.9%	136	3.9%	245	3.3%
8:15 8:30					54	1.4%	120	3.4%	174	2.4%
8:30 8:45					61	1.6%	55	1.6%	116	1.6%
8:45 9:00					41	1.1%	57	1.6%	98	1.3%
8:00 9:00					265	6.9%	368	10.5%	633	8.6%
9:00 9:15					35	0.9%	38	1.1%	73	1.0%
9:15 9:30					46	1.2%	32	0.9%	78	1.1%
9:30 9:45					38	1.0%	46	1.3%	84	1.1%
9:45 10:00					35	0.9%	29	0.8%	64	0.9%
9:00 10:00					154	4.0%	145	4.1%	299	4.1%
10:00 10:15					42	1.1%	35	1.0%	77	1.1%
10:15 10:30					35	0.9%	38	1.1%	73	1.0%
10:30 10:45					40	1.0%	28	0.8%	68	0.9%
10:45 11:00					46	1.2%	52	1.5%	98	1.3%
10:00 11:00					163	4.3%	153	4.4%	316	4.3%
11:00 11:15					36	0.9%	41	1.2%	77	1.1%
11:15 11:30					37	1.0%	30	0.9%	67	0.9%
11:30 11:45					47	1.2%	39	1.1%	86	1.2%
11:45 12:00					42	1.1%	27	0.8%	69	0.9%
11:00 12:00					162	4.2%	137	3.9%	299	4.1%

12:00	12:15		40	1.0%	26	0.7%	66	0.9%
12:15	12:30		41	1.1%	66	1.9%	107	1.5%
12:30	12:45		56	1.5%	51	1.5%	107	1.5%
12:45	13:00		48	1.3%	44	1.3%	92	1.3%
12:00	13:00		185	4.8%	187	5.3%	372	5.1%
13:00	13:15		39	1.0%	48	1.4%	87	1.2%
13:15	13:30		44	1.2%	34	1.0%	78	1.1%
13:30	13:45		33	0.9%	33	0.9%	66	0.9%
13:45	14:00		51	1.3%	31	0.9%	82	1.1%
13:00	14:00		167	4.4%	146	4.2%	313	4.3%
14:00	14:15		66	1.7%	50	1.4%	116	1.6%
14:15	14:30		46	1.2%	120	3.4%	166	2.3%
14:30	14:45		63	1.6%	69	2.0%	132	1.8%
14:45	15:00		60	1.6%	50	1.4%	110	1.5%
14:00	15:00		235	6.1%	289	8.2%	524	7.2%
15:00	15:15		61	1.6%	44	1.3%	105	1.4%
15:15	15:30		58	1.5%	47	1.3%	105	1.4%
15:30	15:45		70	1.8%	46	1.3%	116	1.6%
15:45	16:00		82	2.1%	58	1.7%	140	1.9%
15:00	16:00		271	7.1%	195	5.6%	466	6.4%
16:00	16:15		89	2.3%	82	2.3%	171	2.3%
16:15	16:30		77	2.0%	58	1.7%	135	1.8%
16:30	16:45		79	2.1%	52	1.5%	131	1.8%
16:45	17:00		87	2.3%	62	1.8%	149	2.0%
16:00	17:00		332	8.7%	254	7.2%	586	8.0%
17:00	17:15		76	2.0%	57	1.6%	133	1.8%
17:15	17:30		78	2.0%	52	1.5%	130	1.8%
17:30	17:45		76	2.0%	54	1.5%	130	1.8%
17:45	18:00		87	2.3%	66	1.9%	153	2.1%
17:00	18:00		317	8.3%	229	6.5%	546	7.5%
18:00	18:15		82	2.1%	80	2.3%	162	2.2%
18:15	18:30		69	1.8%	53	1.5%	122	1.7%
18:30	18:45		82	2.1%	58	1.7%	140	1.9%
18:45	19:00		82	2.1%	52	1.5%	134	1.8%
18:00	19:00		315	8.2%	243	6.9%	558	7.6%
19:00	19:15		64	1.7%	47	1.3%	111	1.5%
19:15	19:30		58	1.5%	59	1.7%	117	1.6%
19:30	19:45		72	1.9%	54	1.5%	126	1.7%
19:45	20:00		50	1.3%	42	1.2%	92	1.3%
19:00	20:00		244	6.4%	202	5.8%	446	6.1%
20:00	20:15		76	2.0%	45	1.3%	121	1.7%
20:15	20:30		68	1.8%	43	1.2%	111	1.5%
20:30	20:45		46	1.2%	57	1.6%	103	1.4%
20:45	21:00		43	1.1%	33	0.9%	76	1.0%
20:00	21:00		233	6.1%	178	5.1%	411	5.6%
21:00	21:15		44	1.2%	29	0.8%	73	1.0%
21:15	21:30		33	0.9%	24	0.7%	57	0.8%
21:30	21:45		38	1.0%	23	0.7%	61	0.8%
21:45	22:00		26	0.7%	17	0.5%	43	0.6%
21:00	22:00		141	3.7%	93	2.7%	234	3.2%
22:00	22:15		28	0.7%	19	0.5%	47	0.6%
22:15	22:30		25	0.7%	15	0.4%	40	0.5%
22:30	22:45		15	0.4%	12	0.3%	27	0.4%
22:45	23:00		27	0.7%	15	0.4%	42	0.6%
22:00	23:00		95	2.5%	61	1.7%	156	2.1%
23:00	23:15		20	0.5%	12	0.3%	32	0.4%
23:15	23:30		16	0.4%	12	0.3%	28	0.4%
23:30	23:45		10	0.3%	10	0.3%	20	0.3%
23:45	00:00		8	0.2%	4	0.1%	12	0.2%
23:00	00:00		54	1.4%	38	1.1%	92	1.3%
Total			3822		3505		7327	100.0%
			52.2%		47.8%		100.0%	
AM PEAK			117		136		245	
period			7:45		8:00		8:00	
% of class				3.1%		3.9%		3.3%
PM PEAK			89		120		171	
period			16:00		14:15		16:00	
% of class				2.3%		3.4%		2.3%



12:00	12:15	18	9					27	1.2%
12:15	12:30	25	7		2			34	1.5%
12:30	12:45	19	9					28	1.3%
12:45	13:00	17	4					21	0.9%
12:00	13:00	79	29		2			110	4.9%
13:00	13:15	15	5	1	2			23	1.0%
13:15	13:30	9	7	1				17	0.8%
13:30	13:45	22	8		3			33	1.5%
13:45	14:00	25	2		1			28	1.3%
13:00	14:00	71	22	2	6			101	4.5%
14:00	14:15	20	2					22	1.0%
14:15	14:30	54	10	2	1			67	3.0%
14:30	14:45	38	4	2				44	2.0%
14:45	15:00	39	4	1	2			46	2.1%
14:00	15:00	151	20	5	3			179	8.0%
15:00	15:15	45	12	3	1			61	2.7%
15:15	15:30	45	9	4	3			61	2.7%
15:30	15:45	35	14	1	2			52	2.3%
15:45	16:00	28	14		3			45	2.0%
15:00	16:00	153	49	8	9			219	9.8%
16:00	16:15	31	6	2	3			42	1.9%
16:15	16:30	35	10	1	1			47	2.1%
16:30	16:45	39	12		2			53	2.4%
16:45	17:00	44	8		1			53	2.4%
16:00	17:00	149	36	3	7			195	8.8%
17:00	17:15	58	10		1			69	3.1%
17:15	17:30	42	11					53	2.4%
17:30	17:45	39	12		1			52	2.3%
17:45	18:00	45	7					52	2.3%
17:00	18:00	184	40		2			226	10.2%
18:00	18:15	34	10					44	2.0%
18:15	18:30	36	6					42	1.9%
18:30	18:45	30	4					34	1.5%
18:45	19:00	25	9		1			35	1.6%
18:00	19:00	125	29		1			155	7.0%
19:00	19:15	22	11					33	1.5%
19:15	19:30	31	6		1			38	1.7%
19:30	19:45	25	6		1			32	1.4%
19:45	20:00	19	7					26	1.2%
19:00	20:00	97	30		2			129	5.8%
20:00	20:15	28	5		3			36	1.6%
20:15	20:30	22	9					31	1.4%
20:30	20:45	22	5					27	1.2%
20:45	21:00	19	1					20	0.9%
20:00	21:00	91	20		3			114	5.1%
21:00	21:15	21	4		1			26	1.2%
21:15	21:30	32	6					38	1.7%
21:30	21:45	15	2					17	0.8%
21:45	22:00	19	5		1			25	1.1%
21:00	22:00	87	17		2			106	4.8%
22:00	22:15	18	3					21	0.9%
22:15	22:30	12	3					15	0.7%
22:30	22:45	12	3					15	0.7%
22:45	23:00	9	1		1			11	0.5%
22:00	23:00	51	10		1			62	2.8%
23:00	23:15	10	3					13	0.6%
23:15	23:30	8	1					9	0.4%
23:30	23:45	7						7	0.3%
23:45	00:00	3						3	0.1%
23:00	00:00	28	4					32	1.4%
Total		1710	429	27	56	1	1	2224	
		76.9%	19.3%	1.2%	2.5%	0.0%	0.0%		
AM PEAK		52	13	3	2		1	65	
period		8:00	8:15	8:15	8:00		10:00	8:00	
% of class		3.0%	3.0%	11.1%	3.6%		100.0%		2.9%
PM PEAK		58	14	4	3	1		69	
period		17:00	15:30	15:15	13:30	18:45		17:00	
% of class		3.4%	3.3%	14.8%	5.4%	100.0%			3.1%



12:00	12:15	12	1	1			14	0.7%
12:15	12:30	23	9	2			34	1.7%
12:30	12:45	21	1				22	1.1%
12:45	13:00	23	3	1			27	1.4%
12:00	13:00	79	14	4			97	5.0%
13:00	13:15	11	2	1			14	0.7%
13:15	13:30	11	1	1			13	0.7%
13:30	13:45	17	2				19	1.0%
13:45	14:00	13	2				15	0.8%
13:00	14:00	52	7	2			61	3.1%
14:00	14:15	22	3	2			27	1.4%
14:15	14:30	26	3	1			30	1.5%
14:30	14:45	19	5		1		25	1.3%
14:45	15:00	17	3				20	1.0%
14:00	15:00	84	14	3	1		102	5.2%
15:00	15:15	25	4	1	1		31	1.6%
15:15	15:30	30	5	2	3		40	2.1%
15:30	15:45	16	4		1		21	1.1%
15:45	16:00	20	3		1		24	1.2%
15:00	16:00	91	16	3	6		116	6.0%
16:00	16:15	23	8	1			32	1.6%
16:15	16:30	23	4	2	1		30	1.5%
16:30	16:45	21	6				27	1.4%
16:45	17:00	39	2				41	2.1%
16:00	17:00	106	20	3	1		130	6.7%
17:00	17:15	36	2				38	2.0%
17:15	17:30	26	4		1		31	1.6%
17:30	17:45	32	2				34	1.7%
17:45	18:00	45	4		2		51	2.6%
17:00	18:00	139	12		3		154	7.9%
18:00	18:15	30	2		1		33	1.7%
18:15	18:30	36	5		1		42	2.2%
18:30	18:45	31	5				36	1.9%
18:45	19:00	26	4				30	1.5%
18:00	19:00	123	16		2		141	7.2%
19:00	19:15	14	7				21	1.1%
19:15	19:30	11	3				14	0.7%
19:30	19:45	19	4		1		24	1.2%
19:45	20:00	24					24	1.2%
19:00	20:00	68	14		1		83	4.3%
20:00	20:15	14	1				15	0.8%
20:15	20:30	13	2				15	0.8%
20:30	20:45	15	1				16	0.8%
20:45	21:00	9	1				10	0.5%
20:00	21:00	51	5				56	2.9%
21:00	21:15	9	1				10	0.5%
21:15	21:30	13	1		1		15	0.8%
21:30	21:45	8	2				10	0.5%
21:45	22:00	8					8	0.4%
21:00	22:00	38	4		1		43	2.2%
22:00	22:15	14	3				17	0.9%
22:15	22:30	7	2				9	0.5%
22:30	22:45	6					6	0.3%
22:45	23:00	6			1		7	0.4%
22:00	23:00	33	5		1		39	2.0%
23:00	23:15	9	1				10	0.5%
23:15	23:30	5	1				6	0.3%
23:30	23:45	3			1		4	0.2%
23:45	00:00	4					4	0.2%
23:00	00:00	21	2		1		24	1.2%
Total		1657	227	23	37	1	1945	
		85.2%	11.7%	1.2%	1.9%	0.1%		
AM PEAK		108	11	3	5	1	120	
period		8:00	8:15	7:30	8:45	8:30	8:00	
% of class		6.5%	4.8%	13.0%	13.5%	100.0%		6.2%
PM PEAK		45	9	2	3		51	
period		17:45	12:15	14:00	15:15		17:45	
% of class		2.7%	4.0%	8.7%	8.1%			2.6%

Report-1.3		Location : CAL2019-A4EW Columbia Way - east of Westchester														
		Direction : East + West					Road :									
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		7												7	0.2%
0:15	0:30		3												3	0.1%
0:30	0:45		2												2	0.0%
0:45	1:00		2												2	0.0%
00:00	1:00		14												14	0.3%
1:00	1:15		3												3	0.1%
1:15	1:30		3	1											4	0.1%
1:30	1:45		3												3	0.1%
1:45	2:00															
1:00	2:00		9	1											10	0.2%
2:00	2:15															
2:15	2:30		1												1	0.0%
2:30	2:45		2												2	0.0%
2:45	3:00		3												3	0.1%
2:00	3:00		6												6	0.1%
3:00	3:15		1	1											2	0.0%
3:15	3:30															
3:30	3:45															
3:45	4:00		1												1	0.0%
3:00	4:00		2	1											3	0.1%
4:00	4:15		4												4	0.1%
4:15	4:30		1	1											2	0.0%
4:30	4:45		3	1											4	0.1%
4:45	5:00		5	3											8	0.2%
4:00	5:00		13	5											18	0.4%
5:00	5:15		16	6											22	0.5%
5:15	5:30		8	6	1										15	0.4%
5:30	5:45		16	3	1										20	0.5%
5:45	6:00		12	5	1										18	0.4%
5:00	6:00		52	20	3										75	1.8%
6:00	6:15		17	7											24	0.6%
6:15	6:30		22	2	1										25	0.6%
6:30	6:45		36	7	1	1									45	1.1%
6:45	7:00		39	4	1	1									44	1.1%
6:00	7:00		114	20	1	3									138	3.3%
7:00	7:15		43	9											52	1.2%
7:15	7:30		43	9	2										54	1.3%
7:30	7:45		50	6	3	1									60	1.4%
7:45	8:00		98	16	4	3									121	2.9%
7:00	8:00		234	40	9	4									287	6.9%
8:00	8:15		160	18	3	4									185	4.4%
8:15	8:30		106	24	4										134	3.2%
8:30	8:45		57	11	1	1			1						71	1.7%
8:45	9:00		38	6	1	5									50	1.2%
8:00	9:00		361	59	9	10			1						440	10.6%
9:00	9:15		37	5		1									43	1.0%
9:15	9:30		37	4		3									44	1.1%
9:30	9:45		37	9	1										47	1.1%
9:45	10:00		35	4	1	1									41	1.0%
9:00	10:00		146	22	2	5									175	4.2%
10:00	10:15		30	8					1						39	0.9%
10:15	10:30		30	8	1										39	0.9%
10:30	10:45		30	6											36	0.9%
10:45	11:00		36	4	3										43	1.0%
10:00	11:00		126	26	4				1						157	3.8%
11:00	11:15		38	9	2										49	1.2%
11:15	11:30		36	7	1										44	1.1%
11:30	11:45		36	6	2										44	1.1%
11:45	12:00		29	5	1										35	0.8%
11:00	12:00		139	27	6										172	4.1%

12:00	12:15	30	10		1			41	1.0%
12:15	12:30	48	16		4			68	1.6%
12:30	12:45	40	10					50	1.2%
12:45	13:00	40	7		1			48	1.2%
12:00	13:00	158	43		6			207	5.0%
13:00	13:15	26	7	2	2			37	0.9%
13:15	13:30	20	8	2				30	0.7%
13:30	13:45	39	10		3			52	1.2%
13:45	14:00	38	4		1			43	1.0%
13:00	14:00	123	29	4	6			162	3.9%
14:00	14:15	42	5	2				49	1.2%
14:15	14:30	80	13	3	1			97	2.3%
14:30	14:45	57	9	2	1			69	1.7%
14:45	15:00	56	7	1	2			66	1.6%
14:00	15:00	235	34	8	4			281	6.7%
15:00	15:15	70	16	4	2			92	2.2%
15:15	15:30	75	14	6	6			101	2.4%
15:30	15:45	51	18	1	3			73	1.8%
15:45	16:00	48	17		4			69	1.7%
15:00	16:00	244	65	11	15			335	8.0%
16:00	16:15	54	14	3	3			74	1.8%
16:15	16:30	58	14	3	2			77	1.8%
16:30	16:45	60	18		2			80	1.9%
16:45	17:00	83	10		1			94	2.3%
16:00	17:00	255	56	6	8			325	7.8%
17:00	17:15	94	12		1			107	2.6%
17:15	17:30	68	15		1			84	2.0%
17:30	17:45	71	14		1			86	2.1%
17:45	18:00	90	11		2			103	2.5%
17:00	18:00	323	52		5			380	9.1%
18:00	18:15	64	12		1			77	1.8%
18:15	18:30	72	11		1			84	2.0%
18:30	18:45	61	9					70	1.7%
18:45	19:00	51	13			1		65	1.6%
18:00	19:00	248	45		2	1		296	7.1%
19:00	19:15	36	18					54	1.3%
19:15	19:30	42	9		1			52	1.2%
19:30	19:45	44	10		2			56	1.3%
19:45	20:00	43	7					50	1.2%
19:00	20:00	165	44		3			212	5.1%
20:00	20:15	42	6		3			51	1.2%
20:15	20:30	35	11					46	1.1%
20:30	20:45	37	6					43	1.0%
20:45	21:00	28	2					30	0.7%
20:00	21:00	142	25		3			170	4.1%
21:00	21:15	30	5		1			36	0.9%
21:15	21:30	45	7		1			53	1.3%
21:30	21:45	23	4					27	0.6%
21:45	22:00	27	5		1			33	0.8%
21:00	22:00	125	21		3			149	3.6%
22:00	22:15	32	6					38	0.9%
22:15	22:30	19	5					24	0.6%
22:30	22:45	18	3					21	0.5%
22:45	23:00	15	1		2			18	0.4%
22:00	23:00	84	15		2			101	2.4%
23:00	23:15	19	4					23	0.6%
23:15	23:30	13	2					15	0.4%
23:30	23:45	10			1			11	0.3%
23:45	00:00	7						7	0.2%
23:00	00:00	49	6		1			56	1.3%
Total		3367	656	50	93	1	2	4169	
		80.8%	15.7%	1.2%	2.2%	0.0%	0.0%		
AM PEAK		160	24	4	5		1	185	
period		8:00	8:15	7:45	8:45		8:30	8:00	
% of class		4.8%	3.7%	8.0%	5.4%		50.0%	4.4%	
PM PEAK		94	18	6	6	1		107	
period		17:00	15:30	15:15	15:15	18:45		17:00	
% of class		2.8%	2.7%	12.0%	6.5%	100.0%		2.6%	

Report-2.1 Speeds,km/h ----->	Location : CAL2019-A4EW Columbia Way - east of Westchester													Total	Pace Speed	Number in Pace
	Direction : East Road :															
	Dates : 1 2019-12-12															
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1	1	2								4	41.8-61.8	3
0:15 0:30								1						1	61.5-81.5	1
0:30 0:45							2							2	58.7-78.7	2
0:45 1:00						1								1	45.8-65.8	1
00:00 1:00				1	1	3	2	1						8	41.8-61.8	3
1:00 1:15					1									1	32.5-52.5	1
1:15 1:30						1	1							2	56.4-76.4	2
1:30 1:45						1								1	41.8-61.8	1
1:45 2:00																
1:00 2:00					1	2	1							4	56.4-76.4	2
2:00 2:15																
2:15 2:30						1								1	44.4-64.4	1
2:30 2:45						1								1	44.5-64.5	1
2:45 3:00																
2:00 3:00						2								2	44.4-64.4	1
3:00 3:15					1		1							2	33.4-53.4	1
3:15 3:30																
3:30 3:45																
3:45 4:00																
3:00 4:00					1		1							2	33.4-53.4	1
4:00 4:15																
4:15 4:30																
4:30 4:45																
4:45 5:00					2		1							3	38.9-58.9	2
4:00 5:00					2		1							3	38.9-58.9	2
5:00 5:15			1		4	1		1						7	48.2-68.2	5
5:15 5:30					2	1	1	1						5	53.1-73.1	4
5:30 5:45					1	6								7	49.1-69.1	7
5:45 6:00					2	3		1	1					7	46.8-66.8	5
5:00 6:00			1		9	11	1	3	1					26	49.1-69.1	7
6:00 6:15				1	5	3	2							11	47.4-67.4	9
6:15 6:30					1	4	3			1				9	57.6-77.6	7
6:30 6:45				1	4	5	2							12	50.6-70.6	11
6:45 7:00				1	5	4	2	1	1					14	54.0-74.0	11
6:00 7:00				3	15	16	9	1	2					46	50.6-70.6	11
7:00 7:15				1	9	6	4	1						21	50.8-70.8	17
7:15 7:30					4	7	4							15	52.9-72.9	15
7:30 7:45					8	8	4							20	54.0-74.0	19
7:45 8:00				1	10	18	5	1						35	51.7-71.7	31
7:00 8:00				2	31	39	17	2						91	51.7-71.7	31
8:00 8:15				3	21	38	3							65	48.4-68.4	60
8:15 8:30					20	21	3							44	47.9-67.9	41
8:30 8:45				3	9	15	5	1						33	45.5-65.5	26
8:45 9:00					7	13	3							23	50.2-70.2	22
8:00 9:00				6	57	87	14	1						165	48.4-68.4	60
9:00 9:15					4	8	2							14	53.7-73.7	14
9:15 9:30					5	13	2							20	49.5-69.5	18
9:30 9:45				1	3	11	5							20	54.7-74.7	17
9:45 10:00				1	6	14	3							24	50.4-70.4	22
9:00 10:00				2	18	46	12							78	50.4-70.4	22
10:00 10:15				2	5	6	4							17	53.8-73.8	15
10:15 10:30				2	7	9		2	1					21	47.5-67.5	17
10:30 10:45				2	4	6	5							17	57.7-77.7	14
10:45 11:00				1	7	9	3							20	47.7-67.7	16
10:00 11:00				7	23	30	12	2	1					75	47.5-67.5	17
11:00 11:15					6	10	7	1						24	50.9-70.9	20
11:15 11:30					8	11	4	1	1					25	50.5-70.5	21
11:30 11:45				1	10	14	3	1						29	50.6-70.6	25
11:45 12:00				1	4	9	4							18	54.7-74.7	17
11:00 12:00				2	28	44	18	3	1					96	50.6-70.6	25

12:00	12:15			5	17	4	1					27	55.7-75.7	25	
12:15	12:30		1	10	17	5	1					34	51.5-71.5	29	
12:30	12:45		1	11	11	4	1					28	50.9-70.9	24	
12:45	13:00			6	9	6						21	57.1-77.1	18	
12:00	13:00		2	32	54	19	3					110	51.5-71.5	29	
13:00	13:15		1	7	13		1	1				23	47.6-67.6	20	
13:15	13:30			8	5	4						17	51.4-71.4	15	
13:30	13:45			14	13	6						33	51.5-71.5	30	
13:45	14:00		2	10	9	6	1					28	44.4-64.4	20	
13:00	14:00		1	2	39	40	16	2	1			101	51.5-71.5	30	
14:00	14:15			6	14	2						22	50.0-70.0	20	
14:15	14:30		3	18	34	12						67	51.3-71.3	55	
14:30	14:45		6	22	9	7						44	52.3-72.3	34	
14:45	15:00		4	20	18	4						46	46.7-66.7	39	
14:00	15:00		13	66	75	25						179	51.3-71.3	55	
15:00	15:15		3	30	26	2						61	48.3-68.3	57	
15:15	15:30		6	27	23	5						61	50.3-70.3	51	
15:30	15:45		5	14	23	9			1			52	51.7-71.7	39	
15:45	16:00		2	10	24	7	2					45	52.8-72.8	38	
15:00	16:00		16	81	96	23	2	1				219	48.3-68.3	57	
16:00	16:15			11	22	7	2					42	51.1-71.1	35	
16:15	16:30			11	23	11	2					47	57.4-77.4	40	
16:30	16:45		6	10	32	5						53	48.2-68.2	46	
16:45	17:00			23	26	4						53	50.6-70.6	50	
16:00	17:00		6	55	103	27	4					195	50.6-70.6	50	
17:00	17:15		2	7	24	30	5	1				69	51.5-71.5	57	
17:15	17:30		1	21	25	6						53	51.6-71.6	49	
17:30	17:45			14	32	6						52	51.2-71.2	49	
17:45	18:00		1	17	26	6	2					52	50.5-70.5	44	
17:00	18:00		2	9	76	113	23	3				226	51.5-71.5	57	
18:00	18:15			12	28	2	1		1			44	49.8-69.8	40	
18:15	18:30			12	22	6	2					42	51.1-71.1	37	
18:30	18:45		1	10	21	1	1					34	50.8-70.8	32	
18:45	19:00		4	17	12	2						35	53.2-73.2	30	
18:00	19:00		5	51	83	11	4		1			155	49.8-69.8	40	
19:00	19:15			16	14	3						33	51.8-71.8	32	
19:15	19:30		3	9	24	2						38	50.9-70.9	34	
19:30	19:45			12	16	4						32	53.0-73.0	31	
19:45	20:00			8	12	6						26	53.9-73.9	24	
19:00	20:00		3	45	66	15						129	50.9-70.9	34	
20:00	20:15		5	14	9	6	1	1				36	48.0-68.0	25	
20:15	20:30		9	6	15	1						31	47.2-67.2	25	
20:30	20:45		1	6	12	5	2			1		27	51.5-71.5	22	
20:45	21:00		1	5	11	3						20	52.0-72.0	19	
20:00	21:00		2	14	31	47	15	3	1	1		114	48.0-68.0	25	
21:00	21:15			12	10	4						26	52.4-72.4	23	
21:15	21:30		3	11	20	3	1					38	47.3-67.3	32	
21:30	21:45			6	9	2						17	53.2-73.2	17	
21:45	22:00			7	13	5						25	53.9-73.9	25	
21:00	22:00		3	36	52	14	1					106	47.3-67.3	32	
22:00	22:15			13	6	1	1					21	53.7-73.7	20	
22:15	22:30			4	8	3						15	56.8-76.8	14	
22:30	22:45		1	5	7	2						15	50.2-70.2	13	
22:45	23:00			3	6	2						11	50.5-70.5	10	
22:00	23:00		1	25	27	8	1					62	53.7-73.7	20	
23:00	23:15			4	6	2	1					13	51.0-71.0	11	
23:15	23:30			3	4	2						9	54.6-74.6	8	
23:30	23:45			2	2	2	1					7	55.8-75.8	6	
23:45	00:00				3							3	47.5-67.5	3	
23:00	00:00			9	15	6	2					32	51.0-71.0	11	
Total			1	5	97	732	1051	290	38	8	1	1	2224		
AM PEAK			0.0%	0.2%	4.4%	32.9%	47.3%	13.0%	1.7%	0.4%	0.0%	0.0%			
period			1	3	21	38	7	2	1				65		
% of class			5:00	8:00	8:00	8:00	11:00	10:15	5:45				8:00		
PM PEAK			100.0%	3.1%	2.9%	3.6%	2.4%	5.3%	12.5%					2.9%	
period			2	9	30	34	12	2	1	1	1		69		
% of class			17:00	20:15	15:00	14:15	14:15	15:45	13:00	18:00	20:30		17:00		
			40.0%	9.3%	4.1%	3.2%	4.1%	5.3%	12.5%	100.0%	100.0%			3.1%	

15% Percentile :	53 KPH
50% Percentile :	63 KPH
85% Percentile :	70 KPH
95% Percentile :	78 KPH

20 KPH Pace Speed:	51.5-71.5 KPH
Number in Pace:	1841
Percent in Pace:	82.8 %
Number of Vehicles >60 KPH:	1389
Percent of Vehicles >60 KPH:	62.5 %
Mean Speed(average):	62 KPH

Report-2.2	Location : CAL2019-A4EW Columbia Way - east of Westchester													Total	Pace Speed	Number in Pace
	Direction : West Dates : 1 2019-12-12															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1	1	1								3	48.0-68.0	3
0:15 0:30					2									2	36.2-56.2	2
0:30 0:45																
0:45 1:00					1									1	35.3-55.3	1
00:00 1:00				1	4	1								6	48.0-68.0	3
1:00 1:15							2							2	45.5-65.5	2
1:15 1:30				1		1								2	43.8-63.8	2
1:30 1:45			1			1								2	32.2-52.2	2
1:45 2:00																
1:00 2:00			1	1	1	3								6	45.5-65.5	2
2:00 2:15																
2:15 2:30					1									1	29.8-49.8	1
2:30 2:45																
2:45 3:00						3								3	35.5-55.5	3
2:00 3:00				1	3									4	35.5-55.5	3
3:00 3:15																
3:15 3:30																
3:30 3:45						1								1	37.0-57.0	1
3:45 4:00																
3:00 4:00						1								1	37.0-57.0	1
4:00 4:15				2	1	1								4	34.0-54.0	3
4:15 4:30				1	1									2	39.0-59.0	2
4:30 4:45				3	1									4	33.3-53.3	4
4:45 5:00				1	4									5	39.1-59.1	5
4:00 5:00				7	7	1								15	39.1-59.1	5
5:00 5:15				5	6	3	1							15	38.7-58.7	11
5:15 5:30		1	1	2	1	4	1							10	54.0-74.0	6
5:30 5:45				4	3	4	2							13	45.2-65.2	10
5:45 6:00				1	7	2	1							11	49.3-69.3	10
5:00 6:00		1	1	12	17	13	5							49	38.7-58.7	11
6:00 6:15			1	2	7	3								13	44.7-64.7	11
6:15 6:30				1	9	6								16	46.1-66.1	16
6:30 6:45			1	8	18	6								33	47.4-67.4	28
6:45 7:00				4	17	5	3	1						30	44.3-64.3	25
6:00 7:00			2	15	51	20	3	1						92	47.4-67.4	28
7:00 7:15				7	16	8								31	48.4-68.4	27
7:15 7:30				1	26	12								39	49.3-69.3	38
7:30 7:45				4	22	10	4							40	44.2-64.2	35
7:45 8:00				9	43	32	2							86	45.9-65.9	78
7:00 8:00				21	107	62	6							196	45.9-65.9	78
8:00 8:15				8	76	35	1							120	45.6-65.6	113
8:15 8:30				7	47	31	5							90	48.6-68.6	81
8:30 8:45				2	18	13	5							38	50.1-70.1	32
8:45 9:00			1	1	17	7		1						27	45.0-65.0	24
8:00 9:00			1	18	158	86	11	1						275	45.6-65.6	113
9:00 9:15				5	15	9								29	47.4-67.4	27
9:15 9:30				5	7	10	2							24	45.5-65.5	19
9:30 9:45				3	19	3	2							27	44.2-64.2	23
9:45 10:00				4	7	4	2							17	42.9-62.9	13
9:00 10:00				17	48	26	6							97	47.4-67.4	27
10:00 10:15			1	2	9	8	1	1						22	45.1-65.1	18
10:15 10:30			1	6	7	4								18	45.9-65.9	14
10:30 10:45				2	6	8	1	2						19	47.2-67.2	16
10:45 11:00				2	15	5	1							23	47.1-67.1	22
10:00 11:00			2	12	37	25	3	3						82	47.1-67.1	22
11:00 11:15				1	15	7	2							25	49.3-69.3	22
11:15 11:30				2	10	5	2							19	45.4-65.4	16
11:30 11:45				1	7	6	1							15	46.0-66.0	13
11:45 12:00				5	6	5	1							17	45.1-65.1	14
11:00 12:00				9	38	23	6							76	49.3-69.3	22

12:00	12:15			2	6	5		1			14	43.1-63.1	12
12:15	12:30			4	18	10	2				34	46.7-66.7	30
12:30	12:45			3	13	6					22	44.3-64.3	21
12:45	13:00			2	11	14					27	46.9-66.9	26
12:00	13:00			11	48	35	2	1			97	46.7-66.7	30
13:00	13:15		1	1	6	6					14	46.2-66.2	13
13:15	13:30			1	7	5					13	49.7-69.7	12
13:30	13:45			3	7	6	2	1			19	46.2-66.2	14
13:45	14:00			1	10	4					15	43.9-63.9	14
13:00	14:00		1	6	30	21	2	1			61	46.2-66.2	14
14:00	14:15			7	11	7	2				27	42.7-62.7	21
14:15	14:30			3	10	16	1				30	48.8-68.8	27
14:30	14:45			1	14	8	1		1		25	49.7-69.7	22
14:45	15:00			3	11	6					20	46.3-66.3	19
14:00	15:00			14	46	37	4		1		102	48.8-68.8	27
15:00	15:15			4	16	9	2				31	46.5-66.5	28
15:15	15:30		1	12	22	4	1				40	40.3-60.3	35
15:30	15:45			7	7	6	1				21	43.7-63.7	16
15:45	16:00			1	14	8	1				24	49.3-69.3	22
15:00	16:00		1	24	59	27	5				116	40.3-60.3	35
16:00	16:15		1	3	10	16	2				32	47.6-67.6	27
16:15	16:30		1	6	13	8	2				30	42.6-62.6	24
16:30	16:45			2	14	10	1				27	48.9-68.9	24
16:45	17:00			5	21	15					41	48.1-68.1	40
16:00	17:00		1	1	16	58	49	5			130	48.1-68.1	40
17:00	17:15			5	19	12	2				38	44.7-64.7	35
17:15	17:30			4	13	12	2				31	43.4-63.4	26
17:30	17:45			3	17	12	2				34	48.1-68.1	30
17:45	18:00			6	24	16	5				51	46.9-66.9	44
17:00	18:00			18	73	52	11				154	46.9-66.9	44
18:00	18:15			4	14	14	1				33	47.3-67.3	29
18:15	18:30		1	5	22	12	2				42	43.4-63.4	36
18:30	18:45				21	12	3				36	49.4-69.4	33
18:45	19:00			2	20	8					30	49.3-69.3	28
18:00	19:00		1	11	77	46	6				141	43.4-63.4	36
19:00	19:15			5	8	8					21	44.8-64.8	20
19:15	19:30				6	7	1				14	47.6-67.6	13
19:30	19:45			5	14	3	2				24	43.8-63.8	21
19:45	20:00			3	12	7	2				24	44.5-64.5	19
19:00	20:00			13	40	25	5				83	43.8-63.8	21
20:00	20:15			2	9	4					15	44.1-64.1	13
20:15	20:30		1	3	8	3					15	35.3-55.3	12
20:30	20:45			1	3	8	3	1			16	44.2-64.2	14
20:45	21:00		1	1	2	5	1				10	36.7-56.7	7
20:00	21:00		1	3	10	30	11	1			56	44.2-64.2	14
21:00	21:15			1	3	6					10	48.9-68.9	9
21:15	21:30			1	8	5	1				15	51.0-71.0	14
21:30	21:45			1	4	4	1				10	50.6-70.6	9
21:45	22:00				5	3					8	45.6-65.6	8
21:00	22:00			3	20	18	2				43	51.0-71.0	14
22:00	22:15			2	10	5					17	49.2-69.2	16
22:15	22:30			1	5	2	1				9	41.6-61.6	8
22:30	22:45			3	3						6	38.5-58.5	6
22:45	23:00			2	2	3					7	45.6-65.6	7
22:00	23:00			8	20	10	1				39	49.2-69.2	16
23:00	23:15			2	2	5	1				10	47.7-67.7	8
23:15	23:30			1	1	4					6	45.7-65.7	5
23:30	23:45			1	1	1	1				4	46.2-66.2	3
23:45	00:00				2	1	1				4	42.4-62.4	3
23:00	00:00			4	6	11	3				24	47.7-67.7	8
Total				3	14	252	979	602	87	7	1		1945
AM PEAK				0.2%	0.7%	13.0%	50.3%	31.0%	4.5%	0.4%	0.1%		
period				1	1	9	76	35	5	2			120
% of class				5:15	1:30	7:45	8:00	8:00	8:15	10:30			8:00
				33.3%	7.1%	3.6%	7.8%	5.8%	5.7%	28.6%			6.2%
PM PEAK				1	1	12	24	16	5	1	1		51
period				16:00	13:00	15:15	17:45	14:15	17:45	12:00	14:30		17:45
% of class				33.3%	7.1%	4.8%	2.5%	2.7%	5.7%	14.3%	100.0%		2.6%

15% Percentile :	50 KPH
50% Percentile :	57 KPH
85% Percentile :	67 KPH
95% Percentile :	70 KPH

20 KPH Pace Speed:	48.2-68.2 KPH
Number in Pace:	1623
Percent in Pace:	83.4 %
Number of Vehicles >60 KPH:	697
Percent of Vehicles >60 KPH:	35.8 %
Mean Speed(average):	58 KPH

Report-2.3	Location : CAL2019-A4EW Columbia Way - east of Westchester													Total	Pace Speed	Number in Pace	
	Direction : East + West Road :																
	Dates : 1 2019-12-12																
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130				
00:00 0:15				2	2	3									7	48.0-68.0	6
0:15 0:30					2			1							3	36.2-56.2	2
0:30 0:45							2								2	58.7-78.7	2
0:45 1:00					1	1									2	45.8-65.8	2
00:00 1:00				2	5	4	2	1							14	48.0-68.0	6
1:00 1:15					1	2									3	45.5-65.5	3
1:15 1:30				1		2	1								4	46.1-66.1	3
1:30 1:45			1		1	1									3	32.2-52.2	2
1:45 2:00																	
1:00 2:00			1	1	2	5	1								10	45.5-65.5	3
2:00 2:15								1							1	44.4-64.4	1
2:15 2:30							1								2	44.5-64.5	2
2:30 2:45				1			1								3	35.5-55.5	3
2:45 3:00					3										3	35.5-55.5	3
2:00 3:00				1	3	2									6	35.5-55.5	3
3:00 3:15					1			1							2	33.4-53.4	1
3:15 3:30																	
3:30 3:45						1									1	37.0-57.0	1
3:45 4:00																	
3:00 4:00					2		1								3	33.4-53.4	1
4:00 4:15				2	1	1									4	34.0-54.0	3
4:15 4:30				1	1										2	39.0-59.0	2
4:30 4:45				3	1										4	33.3-53.3	4
4:45 5:00				1	6		1								8	39.1-59.1	7
4:00 5:00				7	9	1	1								18	39.1-59.1	7
5:00 5:15			1		5	10	4	1	1						22	39.4-59.4	15
5:15 5:30			1	1	2	3	5	2	1						15	54.0-74.0	10
5:30 5:45					4	4	10	2							20	54.3-74.3	16
5:45 6:00					1	9	5	1	1	1					18	49.3-69.3	15
5:00 6:00			2	1	12	26	24	6	3	1					75	54.3-74.3	16
6:00 6:15				1	3	12	6	2							24	47.4-67.4	20
6:15 6:30					1	10	10	3		1					25	46.1-66.1	20
6:30 6:45				1	9	22	11	2							45	47.4-67.4	36
6:45 7:00					5	22	9	5	2	1					44	44.3-64.3	33
6:00 7:00				2	18	66	36	12	2	2					138	47.4-67.4	36
7:00 7:15					8	25	14	4	1						52	48.4-68.4	43
7:15 7:30					1	30	19	4							54	50.9-70.9	50
7:30 7:45					4	30	18	8							60	48.0-68.0	51
7:45 8:00					10	53	50	7	1						121	49.6-69.6	103
7:00 8:00					23	138	101	23	2						287	49.6-69.6	103
8:00 8:15					11	97	73	4							185	48.2-68.2	172
8:15 8:30					7	67	52	8							134	48.6-68.6	122
8:30 8:45					5	27	28	10	1						71	47.3-67.3	57
8:45 9:00				1	1	24	20	3	1						50	50.2-70.2	46
8:00 9:00				1	24	215	173	25	2						440	48.2-68.2	172
9:00 9:15					5	19	17	2							43	47.4-67.4	38
9:15 9:30					5	12	23	4							44	48.1-68.1	35
9:30 9:45					4	22	14	7							47	49.9-69.9	36
9:45 10:00					5	13	18	5							41	50.4-70.4	34
9:00 10:00					19	66	72	18							175	47.4-67.4	38
10:00 10:15				1	4	14	14	5	1						39	46.1-66.1	29
10:15 10:30				1	8	14	13		2	1					39	45.9-65.9	30
10:30 10:45					4	10	14	6	2						36	47.2-67.2	25
10:45 11:00					3	22	14	4							43	47.7-67.7	38
10:00 11:00				2	19	60	55	15	5	1					157	47.7-67.7	38
11:00 11:15					1	21	17	9	1						49	50.9-70.9	40
11:15 11:30					2	18	16	6	1	1					44	50.2-70.2	35
11:30 11:45					2	17	20	4	1						44	50.6-70.6	38
11:45 12:00					6	10	14	5							35	47.3-67.3	25
11:00 12:00					11	66	67	24	3	1					172	50.9-70.9	40



Report-3.1 Directions ----->	Location : CAL2019-A4EW Columbia Way - east of Westchester									
	Dates : 2019-12-12									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15			4	0.2%	3	0.2%	7	0.2%		
0:15 0:30			1	0.0%	2	0.1%	3	0.1%		
0:30 0:45			2	0.1%			2	0.0%		
0:45 1:00			1	0.0%	1	0.1%	2	0.0%		
00:00 1:00			8	0.4%	6	0.3%	14	0.3%		
1:00 1:15			1	0.0%	2	0.1%	3	0.1%		
1:15 1:30			2	0.1%	2	0.1%	4	0.1%		
1:30 1:45			1	0.0%	2	0.1%	3	0.1%		
1:45 2:00										
1:00 2:00			4	0.2%	6	0.3%	10	0.2%		
2:00 2:15										
2:15 2:30			1	0.0%			1	0.0%		
2:30 2:45			1	0.0%	1	0.1%	2	0.0%		
2:45 3:00					3	0.2%	3	0.1%		
2:00 3:00			2	0.1%	4	0.2%	6	0.1%		
3:00 3:15			2	0.1%			2	0.0%		
3:15 3:30										
3:30 3:45										
3:45 4:00					1	0.1%	1	0.0%		
3:00 4:00			2	0.1%	1	0.1%	3	0.1%		
4:00 4:15					4	0.2%	4	0.1%		
4:15 4:30					2	0.1%	2	0.0%		
4:30 4:45					4	0.2%	4	0.1%		
4:45 5:00			3	0.1%	5	0.3%	8	0.2%		
4:00 5:00			3	0.1%	15	0.8%	18	0.4%		
5:00 5:15			7	0.3%	15	0.8%	22	0.5%		
5:15 5:30			5	0.2%	10	0.5%	15	0.4%		
5:30 5:45			7	0.3%	13	0.7%	20	0.5%		
5:45 6:00			7	0.3%	11	0.6%	18	0.4%		
5:00 6:00			26	1.2%	49	2.5%	75	1.8%		
6:00 6:15			11	0.5%	13	0.7%	24	0.6%		
6:15 6:30			9	0.4%	16	0.8%	25	0.6%		
6:30 6:45			12	0.5%	33	1.7%	45	1.1%		
6:45 7:00			14	0.6%	30	1.5%	44	1.1%		
6:00 7:00			46	2.1%	92	4.7%	138	3.3%		
7:00 7:15			21	0.9%	31	1.6%	52	1.2%		
7:15 7:30			15	0.7%	39	2.0%	54	1.3%		
7:30 7:45			20	0.9%	40	2.1%	60	1.4%		
7:45 8:00			35	1.6%	86	4.4%	121	2.9%		
7:00 8:00			91	4.1%	196	10.1%	287	6.9%		
8:00 8:15			65	2.9%	120	6.2%	185	4.4%		
8:15 8:30			44	2.0%	90	4.6%	134	3.2%		
8:30 8:45			33	1.5%	38	2.0%	71	1.7%		
8:45 9:00			23	1.0%	27	1.4%	50	1.2%		
8:00 9:00			165	7.4%	275	14.1%	440	10.6%		
9:00 9:15			14	0.6%	29	1.5%	43	1.0%		
9:15 9:30			20	0.9%	24	1.2%	44	1.1%		
9:30 9:45			20	0.9%	27	1.4%	47	1.1%		
9:45 10:00			24	1.1%	17	0.9%	41	1.0%		
9:00 10:00			78	3.5%	97	5.0%	175	4.2%		
10:00 10:15			17	0.8%	22	1.1%	39	0.9%		
10:15 10:30			21	0.9%	18	0.9%	39	0.9%		
10:30 10:45			17	0.8%	19	1.0%	36	0.9%		
10:45 11:00			20	0.9%	23	1.2%	43	1.0%		
10:00 11:00			75	3.4%	82	4.2%	157	3.8%		
11:00 11:15			24	1.1%	25	1.3%	49	1.2%		
11:15 11:30			25	1.1%	19	1.0%	44	1.1%		
11:30 11:45			29	1.3%	15	0.8%	44	1.1%		
11:45 12:00			18	0.8%	17	0.9%	35	0.8%		
11:00 12:00			96	4.3%	76	3.9%	172	4.1%		

12:00	12:15		27	1.2%	14	0.7%	41	1.0%
12:15	12:30		34	1.5%	34	1.7%	68	1.6%
12:30	12:45		28	1.3%	22	1.1%	50	1.2%
12:45	13:00		21	0.9%	27	1.4%	48	1.2%
12:00	13:00		110	4.9%	97	5.0%	207	5.0%
13:00	13:15		23	1.0%	14	0.7%	37	0.9%
13:15	13:30		17	0.8%	13	0.7%	30	0.7%
13:30	13:45		33	1.5%	19	1.0%	52	1.2%
13:45	14:00		28	1.3%	15	0.8%	43	1.0%
13:00	14:00		101	4.5%	61	3.1%	162	3.9%
14:00	14:15		22	1.0%	27	1.4%	49	1.2%
14:15	14:30		67	3.0%	30	1.5%	97	2.3%
14:30	14:45		44	2.0%	25	1.3%	69	1.7%
14:45	15:00		46	2.1%	20	1.0%	66	1.6%
14:00	15:00		179	8.0%	102	5.2%	281	6.7%
15:00	15:15		61	2.7%	31	1.6%	92	2.2%
15:15	15:30		61	2.7%	40	2.1%	101	2.4%
15:30	15:45		52	2.3%	21	1.1%	73	1.8%
15:45	16:00		45	2.0%	24	1.2%	69	1.7%
15:00	16:00		219	9.8%	116	6.0%	335	8.0%
16:00	16:15		42	1.9%	32	1.6%	74	1.8%
16:15	16:30		47	2.1%	30	1.5%	77	1.8%
16:30	16:45		53	2.4%	27	1.4%	80	1.9%
16:45	17:00		53	2.4%	41	2.1%	94	2.3%
16:00	17:00		195	8.8%	130	6.7%	325	7.8%
17:00	17:15		69	3.1%	38	2.0%	107	2.6%
17:15	17:30		53	2.4%	31	1.6%	84	2.0%
17:30	17:45		52	2.3%	34	1.7%	86	2.1%
17:45	18:00		52	2.3%	51	2.6%	103	2.5%
17:00	18:00		226	10.2%	154	7.9%	380	9.1%
18:00	18:15		44	2.0%	33	1.7%	77	1.8%
18:15	18:30		42	1.9%	42	2.2%	84	2.0%
18:30	18:45		34	1.5%	36	1.9%	70	1.7%
18:45	19:00		35	1.6%	30	1.5%	65	1.6%
18:00	19:00		155	7.0%	141	7.2%	296	7.1%
19:00	19:15		33	1.5%	21	1.1%	54	1.3%
19:15	19:30		38	1.7%	14	0.7%	52	1.2%
19:30	19:45		32	1.4%	24	1.2%	56	1.3%
19:45	20:00		26	1.2%	24	1.2%	50	1.2%
19:00	20:00		129	5.8%	83	4.3%	212	5.1%
20:00	20:15		36	1.6%	15	0.8%	51	1.2%
20:15	20:30		31	1.4%	15	0.8%	46	1.1%
20:30	20:45		27	1.2%	16	0.8%	43	1.0%
20:45	21:00		20	0.9%	10	0.5%	30	0.7%
20:00	21:00		114	5.1%	56	2.9%	170	4.1%
21:00	21:15		26	1.2%	10	0.5%	36	0.9%
21:15	21:30		38	1.7%	15	0.8%	53	1.3%
21:30	21:45		17	0.8%	10	0.5%	27	0.6%
21:45	22:00		25	1.1%	8	0.4%	33	0.8%
21:00	22:00		106	4.8%	43	2.2%	149	3.6%
22:00	22:15		21	0.9%	17	0.9%	38	0.9%
22:15	22:30		15	0.7%	9	0.5%	24	0.6%
22:30	22:45		15	0.7%	6	0.3%	21	0.5%
22:45	23:00		11	0.5%	7	0.4%	18	0.4%
22:00	23:00		62	2.8%	39	2.0%	101	2.4%
23:00	23:15		13	0.6%	10	0.5%	23	0.6%
23:15	23:30		9	0.4%	6	0.3%	15	0.4%
23:30	23:45		7	0.3%	4	0.2%	11	0.3%
23:45	00:00		3	0.1%	4	0.2%	7	0.2%
23:00	00:00		32	1.4%	24	1.2%	56	1.3%
Total			2224	53.3%	1945	46.7%	4169	100.0%
AM PEAK period % of class			65 8:00	2.9%	120 8:00	6.2%	185 8:00	4.4%
PM PEAK period % of class			69 17:00	3.1%	51 17:45	2.6%	107 17:00	2.6%

Report-1.1		Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line														
		Direction : East Road :														
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		1												1	0.1%
0:15	0:30		1	1											2	0.1%
0:30	0:45															
0:45	1:00															
00:00	1:00		2	1											3	0.2%
1:00	1:15		1												1	0.1%
1:15	1:30			1											1	0.1%
1:30	1:45															
1:45	2:00															
1:00	2:00		1	1											2	0.1%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.1%
2:45	3:00															
2:00	3:00		1												1	0.1%
3:00	3:15		1	1											2	0.1%
3:15	3:30															
3:30	3:45															
3:45	4:00			2											2	0.1%
3:00	4:00		1	3											4	0.3%
4:00	4:15		2												2	0.1%
4:15	4:30		1												1	0.1%
4:30	4:45		2	1											3	0.2%
4:45	5:00		3	3											6	0.4%
4:00	5:00		8	4											12	0.8%
5:00	5:15		7	5		1									13	0.8%
5:15	5:30		16	8											24	1.6%
5:30	5:45		11	5		1									17	1.1%
5:45	6:00		10	7		2									19	1.2%
5:00	6:00		44	25		4									73	4.7%
6:00	6:15		19	9		1			1						30	1.9%
6:15	6:30		25	3											28	1.8%
6:30	6:45		23	3											26	1.7%
6:45	7:00		24	9		1									34	2.2%
6:00	7:00		91	24		2			1						118	7.6%
7:00	7:15		32	7											39	2.5%
7:15	7:30		34	9		1	1								45	2.9%
7:30	7:45		30	6		1									37	2.4%
7:45	8:00		36	8		2	1								47	3.0%
7:00	8:00		132	30		4	2								168	10.9%
8:00	8:15		58	5		2									65	4.2%
8:15	8:30		33	8		2	1								44	2.8%
8:30	8:45		31	9			1								41	2.7%
8:45	9:00		23	8			4								35	2.3%
8:00	9:00		145	30		2	8								185	12.0%
9:00	9:15		12	4											16	1.0%
9:15	9:30		15	1			3								19	1.2%
9:30	9:45		16	5											21	1.4%
9:45	10:00		23	3			1								27	1.7%
9:00	10:00		66	13			4								83	5.4%
10:00	10:15		18	2			1								21	1.4%
10:15	10:30		20	6											26	1.7%
10:30	10:45		19	2			3								24	1.6%
10:45	11:00		19	2											21	1.4%
10:00	11:00		76	12			4								92	6.0%
11:00	11:15		17	4											21	1.4%
11:15	11:30		19	6											25	1.6%
11:30	11:45		15												15	1.0%
11:45	12:00		9	3			1								13	0.8%
11:00	12:00		60	13			1								74	4.8%

12:00	12:15	18	1	1				20	1.3%
12:15	12:30	15	2	1				18	1.2%
12:30	12:45	10	3					13	0.8%
12:45	13:00	12	5	1				18	1.2%
12:00	13:00	55	11	3				69	4.5%
13:00	13:15	12	1	1				14	0.9%
13:15	13:30	12	3	1	1			17	1.1%
13:30	13:45	21	5		1			27	1.7%
13:45	14:00	15	3		1			19	1.2%
13:00	14:00	60	12	1	4			77	5.0%
14:00	14:15	14	5					19	1.2%
14:15	14:30	30	4					34	2.2%
14:30	14:45	25	3	3				31	2.0%
14:45	15:00	23	3	1				27	1.7%
14:00	15:00	92	15	4				111	7.2%
15:00	15:15	11	2	1				14	0.9%
15:15	15:30	17	4		1			22	1.4%
15:30	15:45	19	1	1				21	1.4%
15:45	16:00	18	8		1			27	1.7%
15:00	16:00	65	15	2	2			84	5.4%
16:00	16:15	19	2		2			23	1.5%
16:15	16:30	13	4		1			18	1.2%
16:30	16:45	15	7		1			23	1.5%
16:45	17:00	22	2					24	1.6%
16:00	17:00	69	15		4			88	5.7%
17:00	17:15	15	4		1			20	1.3%
17:15	17:30	19	3					22	1.4%
17:30	17:45	16	3					19	1.2%
17:45	18:00	19	4			1		24	1.6%
17:00	18:00	69	14		1	1		85	5.5%
18:00	18:15	13	1					14	0.9%
18:15	18:30	18	3					21	1.4%
18:30	18:45	20	1					21	1.4%
18:45	19:00	10	1					11	0.7%
18:00	19:00	61	6					67	4.3%
19:00	19:15	13	3			1		17	1.1%
19:15	19:30	10	4					14	0.9%
19:30	19:45	13	3		1			17	1.1%
19:45	20:00	7	3					10	0.6%
19:00	20:00	43	13		1	1		58	3.8%
20:00	20:15	8	2		1			11	0.7%
20:15	20:30	8	1					9	0.6%
20:30	20:45	6	1					7	0.5%
20:45	21:00	4	1		1			6	0.4%
20:00	21:00	26	5		2			33	2.1%
21:00	21:15	6	3					9	0.6%
21:15	21:30	11						11	0.7%
21:30	21:45	3			1			4	0.3%
21:45	22:00	8			1			9	0.6%
21:00	22:00	28	3		2			33	2.1%
22:00	22:15	6	1					7	0.5%
22:15	22:30	1	1					2	0.1%
22:30	22:45	3	1					4	0.3%
22:45	23:00	1						1	0.1%
22:00	23:00	11	3					14	0.9%
23:00	23:15	3						3	0.2%
23:15	23:30	1	1					2	0.1%
23:30	23:45	5						5	0.3%
23:45	00:00	1						1	0.1%
23:00	00:00	10	1					11	0.7%
Total		1216	269	13	44	1	2	1545	
		78.7%	17.4%	0.8%	2.8%	0.1%	0.1%		
AM PEAK		58	9	2	4		1	65	
period		8:00	6:00	7:45	8:45		6:00	8:00	
% of class		4.8%	3.3%	15.4%	9.1%		50.0%		4.2%
PM PEAK		30	8	3	2	1	1	34	
period		14:15	15:45	14:30	16:00	19:00	17:45	14:15	
% of class		2.5%	3.0%	23.1%	4.5%	100.0%	50.0%		2.2%



12:00	12:15	8	4	1				13	1.1%
12:15	12:30	9	8	1				18	1.5%
12:30	12:45	13	2					15	1.3%
12:45	13:00	13	3					16	1.3%
12:00	13:00	43	17	2				62	5.2%
13:00	13:15	9	1					10	0.8%
13:15	13:30	9	1	1				11	0.9%
13:30	13:45	10	7					17	1.4%
13:45	14:00	7	3					10	0.8%
13:00	14:00	35	12	1				48	4.0%
14:00	14:15	11	4	2				17	1.4%
14:15	14:30	16	6		1			23	1.9%
14:30	14:45	15	3					18	1.5%
14:45	15:00	13	3					16	1.3%
14:00	15:00	55	16	2	1			74	6.2%
15:00	15:15	16	6					22	1.8%
15:15	15:30	20	4		1			25	2.1%
15:30	15:45	18	4		2			24	2.0%
15:45	16:00	18	5			1		24	2.0%
15:00	16:00	72	19		3	1		95	7.9%
16:00	16:15	23	3	1	1			28	2.3%
16:15	16:30	19	3	1	3			26	2.2%
16:30	16:45	14	5					19	1.6%
16:45	17:00	28	4		1			33	2.8%
16:00	17:00	84	15	2	5			106	8.9%
17:00	17:15	29	4					33	2.8%
17:15	17:30	29	10					39	3.3%
17:30	17:45	26	4					30	2.5%
17:45	18:00	35	4					39	3.3%
17:00	18:00	119	22					141	11.8%
18:00	18:15	23	7		2			32	2.7%
18:15	18:30	33	2		2			37	3.1%
18:30	18:45	23	7		1			31	2.6%
18:45	19:00	25	6					31	2.6%
18:00	19:00	104	22		5			131	10.9%
19:00	19:15	11	2					13	1.1%
19:15	19:30	17	1					18	1.5%
19:30	19:45	15	1					16	1.3%
19:45	20:00	20						20	1.7%
19:00	20:00	63	4					67	5.6%
20:00	20:15	11	1					12	1.0%
20:15	20:30	13	1					14	1.2%
20:30	20:45	14	2		1			17	1.4%
20:45	21:00	9	2					11	0.9%
20:00	21:00	47	6		1			54	4.5%
21:00	21:15	11						11	0.9%
21:15	21:30	17	4					21	1.8%
21:30	21:45	13	3					16	1.3%
21:45	22:00	10	2					12	1.0%
21:00	22:00	51	9					60	5.0%
22:00	22:15	13	4					17	1.4%
22:15	22:30	10	5					15	1.3%
22:30	22:45	6	1		1			8	0.7%
22:45	23:00	7	1					8	0.7%
22:00	23:00	36	11		1			48	4.0%
23:00	23:15	9	2					11	0.9%
23:15	23:30	4	1					5	0.4%
23:30	23:45	4	1		1			6	0.5%
23:45	00:00	4						4	0.3%
23:00	00:00	21	4		1			26	2.2%
Total		954	198	11	32		2	1197	
		79.7%	16.5%	0.9%	2.7%		0.2%		
AM PEAK		32	5	2	2		1	39	
period		8:00	8:00	7:30	9:15		0:30	8:00	
% of class		3.4%	2.5%	18.2%	6.3%		50.0%		3.3%
PM PEAK		35	10	2	3		1	39	
period		17:45	17:15	14:00	16:15		15:45	17:15	
% of class		3.7%	5.1%	18.2%	9.4%		50.0%		3.3%

Report-1.3		Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line														
		Direction : East + West											Road :			
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		3	1											4	0.1%
0:15	0:30		1	1											2	0.1%
0:30	0:45		1					1							2	0.1%
0:45	1:00		1			1									2	0.1%
00:00	1:00		6	2		1			1						10	0.4%
1:00	1:15		2	1											3	0.1%
1:15	1:30		1	1											2	0.1%
1:30	1:45															
1:45	2:00		1												1	0.0%
1:00	2:00		4	2											6	0.2%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.0%
2:45	3:00		1												1	0.0%
2:00	3:00		2												2	0.1%
3:00	3:15		3	1											4	0.1%
3:15	3:30															
3:30	3:45															
3:45	4:00			2											2	0.1%
3:00	4:00		3	3											6	0.2%
4:00	4:15		2												2	0.1%
4:15	4:30		2	1											3	0.1%
4:30	4:45		3	1											4	0.1%
4:45	5:00		3	3											6	0.2%
4:00	5:00		10	5											15	0.5%
5:00	5:15		7	5		1									13	0.5%
5:15	5:30		16	8											24	0.9%
5:30	5:45		12	5		1									18	0.7%
5:45	6:00		12	8		2									22	0.8%
5:00	6:00		47	26		4									77	2.8%
6:00	6:15		20	9		1			1						31	1.1%
6:15	6:30		27	3		1									31	1.1%
6:30	6:45		23	4											27	1.0%
6:45	7:00		28	9		1									38	1.4%
6:00	7:00		98	25		3			1						127	4.6%
7:00	7:15		37	8											45	1.6%
7:15	7:30		40	9	2	2									53	1.9%
7:30	7:45		41	8	3										52	1.9%
7:45	8:00		65	10	2	1									78	2.8%
7:00	8:00		183	35	7	3									228	8.3%
8:00	8:15		90	10	1	3									104	3.8%
8:15	8:30		51	12	2	2									67	2.4%
8:30	8:45		42	11		2									55	2.0%
8:45	9:00		28	11		5									44	1.6%
8:00	9:00		211	44	3	12									270	9.8%
9:00	9:15		19	6											25	0.9%
9:15	9:30		20	1	1	5									27	1.0%
9:30	9:45		20	6											26	0.9%
9:45	10:00		26	6	1	2									35	1.3%
9:00	10:00		85	19	2	7									113	4.1%
10:00	10:15		25	3		1									29	1.1%
10:15	10:30		28	7											35	1.3%
10:30	10:45		25	6		4									35	1.3%
10:45	11:00		28	3											31	1.1%
10:00	11:00		106	19		5									130	4.7%
11:00	11:15		26	6		1									33	1.2%
11:15	11:30		28	6											34	1.2%
11:30	11:45		28	1		1									30	1.1%
11:45	12:00		14	4		1									19	0.7%
11:00	12:00		96	17		3									116	4.2%

12:00	12:15	26	5		2			33	1.2%
12:15	12:30	24	10		2			36	1.3%
12:30	12:45	23	5					28	1.0%
12:45	13:00	25	8		1			34	1.2%
12:00	13:00	98	28		5			131	4.8%
13:00	13:15	21	2		1			24	0.9%
13:15	13:30	21	4	2	1			28	1.0%
13:30	13:45	31	12		1			44	1.6%
13:45	14:00	22	6		1			29	1.1%
13:00	14:00	95	24	2	4			125	4.6%
14:00	14:15	25	9	2				36	1.3%
14:15	14:30	46	10		1			57	2.1%
14:30	14:45	40	6	3				49	1.8%
14:45	15:00	36	6	1				43	1.6%
14:00	15:00	147	31	6	1			185	6.7%
15:00	15:15	27	8	1				36	1.3%
15:15	15:30	37	8		2			47	1.7%
15:30	15:45	37	5	1	2			45	1.6%
15:45	16:00	36	13		1	1		51	1.9%
15:00	16:00	137	34	2	5	1		179	6.5%
16:00	16:15	42	5	1	3			51	1.9%
16:15	16:30	32	7	1	4			44	1.6%
16:30	16:45	29	12		1			42	1.5%
16:45	17:00	50	6		1			57	2.1%
16:00	17:00	153	30	2	9			194	7.1%
17:00	17:15	44	8		1			53	1.9%
17:15	17:30	48	13					61	2.2%
17:30	17:45	42	7					49	1.8%
17:45	18:00	54	8			1		63	2.3%
17:00	18:00	188	36		1	1		226	8.2%
18:00	18:15	36	8		2			46	1.7%
18:15	18:30	51	5		2			58	2.1%
18:30	18:45	43	8		1			52	1.9%
18:45	19:00	35	7					42	1.5%
18:00	19:00	165	28		5			198	7.2%
19:00	19:15	24	5			1		30	1.1%
19:15	19:30	27	5					32	1.2%
19:30	19:45	28	4		1			33	1.2%
19:45	20:00	27	3					30	1.1%
19:00	20:00	106	17		1	1		125	4.6%
20:00	20:15	19	3		1			23	0.8%
20:15	20:30	21	2					23	0.8%
20:30	20:45	20	3		1			24	0.9%
20:45	21:00	13	3		1			17	0.6%
20:00	21:00	73	11		3			87	3.2%
21:00	21:15	17	3					20	0.7%
21:15	21:30	28	4					32	1.2%
21:30	21:45	16	3		1			20	0.7%
21:45	22:00	18	2		1			21	0.8%
21:00	22:00	79	12		2			93	3.4%
22:00	22:15	19	5					24	0.9%
22:15	22:30	11	6					17	0.6%
22:30	22:45	9	2		1			12	0.4%
22:45	23:00	8	1					9	0.3%
22:00	23:00	47	14		1			62	2.3%
23:00	23:15	12	2					14	0.5%
23:15	23:30	5	2					7	0.3%
23:30	23:45	9	1		1			11	0.4%
23:45	00:00	5						5	0.2%
23:00	00:00	31	5		1			37	1.3%
Total		2170	467	24	76	1	4	2742	
		79.1%	17.0%	0.9%	2.8%	0.0%	0.1%		
AM PEAK		90	12	3	5		1	104	
period		8:00	8:15	7:30	8:45		0:30	8:00	
% of class		4.1%	2.6%	12.5%	6.6%		25.0%		3.8%
PM PEAK		54	13	3	4	1	1	63	
period		17:45	15:45	14:30	16:15	19:00	15:45	17:45	
% of class		2.5%	2.8%	12.5%	5.3%	100.0%	25.0%		2.3%

Report-2.1	Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line													Total	Pace Speed	Number in Pace
	Direction : East Road :															
Speeds,km/h ----->	Dates : 1 2019-12-12															
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1										1	15.7-35.7	1
0:15 0:30				2										2	15.2-35.2	2
0:30 0:45																
0:45 1:00																
00:00 1:00				3										3	15.2-35.2	2
1:00 1:15							1							1	46.4-66.4	1
1:15 1:30					1									1	21.7-41.7	1
1:30 1:45																
1:45 2:00																
1:00 2:00				1			1							2	46.4-66.4	1
2:00 2:15																
2:15 2:30																
2:30 2:45				1										1	15.4-35.4	1
2:45 3:00																
2:00 3:00				1										1	15.4-35.4	1
3:00 3:15					2									2	24.1-44.1	2
3:15 3:30																
3:30 3:45																
3:45 4:00				1		1								2	35.5-55.5	2
3:00 4:00				1	2	1								4	24.1-44.1	2
4:00 4:15				1	1									2	21.5-41.5	2
4:15 4:30					1									1	26.4-46.4	1
4:30 4:45					3									3	28.2-48.2	3
4:45 5:00			1	3	2									6	25.2-45.2	6
4:00 5:00			1	4	7									12	25.2-45.2	6
5:00 5:15				3	8	2								13	34.8-54.8	12
5:15 5:30				7	8	9								24	33.1-53.1	19
5:30 5:45				6	9	2								17	35.4-55.4	16
5:45 6:00				3	12	3	1							19	31.3-51.3	17
5:00 6:00				19	37	16	1							73	33.1-53.1	19
6:00 6:15			1	17	11	1								30	25.1-45.1	29
6:15 6:30			6	13	9									28	24.2-44.2	25
6:30 6:45			7	14	5									26	24.3-44.3	25
6:45 7:00			2	8	19	5								34	30.6-50.6	28
6:00 7:00			16	52	44	6								118	25.1-45.1	29
7:00 7:15			4	12	20	3								39	27.4-47.4	33
7:15 7:30			2	6	15	20	2							45	28.5-48.5	37
7:30 7:45			1	1	16	18	1							37	30.8-50.8	35
7:45 8:00			3	21	19	4								47	31.7-51.7	43
7:00 8:00			3	14	64	77	10							168	31.7-51.7	43
8:00 8:15			2	29	33	1								65	28.6-48.6	62
8:15 8:30				24	19	1								44	30.1-50.1	44
8:30 8:45				9	28	4								41	30.6-50.6	39
8:45 9:00			1	9	23	2								35	30.6-50.6	34
8:00 9:00			3	71	103	8								185	28.6-48.6	62
9:00 9:15				3	9	4								16	35.9-55.9	16
9:15 9:30			1	4	9	5								19	35.5-55.5	16
9:30 9:45				5	12	4								21	30.4-50.4	19
9:45 10:00				12	9	6								27	30.3-50.3	24
9:00 10:00			1	24	39	19								83	30.3-50.3	24
10:00 10:15				5	11	4	1							21	35.5-55.5	20
10:15 10:30				5	15	6								26	33.2-53.2	25
10:30 10:45				6	11	7								24	35.7-55.7	22
10:45 11:00				3	15	3								21	30.6-50.6	19
10:00 11:00				19	52	20	1							92	33.2-53.2	25
11:00 11:15				3	12	6								21	36.6-56.6	21
11:15 11:30				10	9	6								25	33.5-53.5	21
11:30 11:45			1	4	9	1								15	31.5-51.5	14
11:45 12:00			1	2	7	3								13	32.5-52.5	12
11:00 12:00			2	19	37	16								74	36.6-56.6	21

12:00	12:15		1	15	4					20	35.7-55.7	20
12:15	12:30		9	5	4					18	31.7-51.7	15
12:30	12:45		5	7	1					13	25.9-45.9	12
12:45	13:00		2	11	5					18	35.7-55.7	17
12:00	13:00		17	38	14					69	35.7-55.7	20
13:00	13:15	1	4	5	4					14	31.8-51.8	12
13:15	13:30		2	14	1					17	33.7-53.7	17
13:30	13:45		7	15	5					27	34.1-54.1	26
13:45	14:00		7	10	2					19	31.9-51.9	19
13:00	14:00	1	20	44	12					77	34.1-54.1	26
14:00	14:15		6	9	4					19	33.3-53.3	17
14:15	14:30		10	20	4					34	32.7-52.7	33
14:30	14:45	2	6	16	7					31	33.4-53.4	24
14:45	15:00		4	17	6					27	35.6-55.6	23
14:00	15:00	2	26	62	21					111	32.7-52.7	33
15:00	15:15		5	8	1					14	30.7-50.7	14
15:15	15:30		5	12	5					22	34.2-54.2	22
15:30	15:45	1	4	14	1	1				21	31.6-51.6	19
15:45	16:00	3	6	12	5	1				27	32.0-52.0	23
15:00	16:00	4	20	46	12	2				84	32.0-52.0	23
16:00	16:15		10	8	4	1				23	34.4-54.4	20
16:15	16:30	1	2	8	7					18	37.9-57.9	15
16:30	16:45		2	19	2					23	35.4-55.4	23
16:45	17:00		4	13	7					24	32.3-52.3	22
16:00	17:00	1	18	48	20	1				88	35.4-55.4	23
17:00	17:15		2	18						20	29.2-49.2	20
17:15	17:30		6	14	2					22	32.1-52.1	22
17:30	17:45		6	12	1					19	26.9-46.9	18
17:45	18:00		10	12	2					24	29.4-49.4	22
17:00	18:00		24	56	5					85	32.1-52.1	22
18:00	18:15		7	6	1					14	35.0-55.0	14
18:15	18:30		7	12	2					21	33.8-53.8	21
18:30	18:45		6	14	1					21	28.9-48.9	20
18:45	19:00		3	7	1					11	37.3-57.3	11
18:00	19:00		23	39	5					67	33.8-53.8	21
19:00	19:15	1	3	11	2					17	34.6-54.6	16
19:15	19:30		2	10	2					14	31.7-51.7	14
19:30	19:45		5	12						17	26.8-46.8	17
19:45	20:00		3	7						10	27.8-47.8	10
19:00	20:00	1	13	40	4					58	26.8-46.8	17
20:00	20:15		2	6	3					11	36.7-56.7	11
20:15	20:30		5	4						9	28.1-48.1	9
20:30	20:45		2	2	3					7	33.6-53.6	7
20:45	21:00		1	5						6	28.1-48.1	6
20:00	21:00		10	17	6					33	36.7-56.7	11
21:00	21:15		5	3	1					9	22.4-42.4	8
21:15	21:30		4	6	1					11	29.1-49.1	10
21:30	21:45		1	2	1					4	29.6-49.6	3
21:45	22:00		2	5	2					9	33.6-53.6	9
21:00	22:00		12	16	5					33	29.1-49.1	10
22:00	22:15		6		1					7	29.3-49.3	6
22:15	22:30		1	1						2	31.9-51.9	2
22:30	22:45		1	3						4	24.0-44.0	4
22:45	23:00		1	1						1	22.2-42.2	1
22:00	23:00		1	11	1	1				14	29.3-49.3	6
23:00	23:15			3						3	26.6-46.6	3
23:15	23:30		2							2	18.5-38.5	2
23:30	23:45		1	3	1					5	35.5-55.5	5
23:45	00:00			1						1	22.8-42.8	1
23:00	00:00		3	7	1					11	35.5-55.5	5
Total			3	46	464	823	202	7		1545		
AM PEAK			0.2%	3.0%	30.0%	53.3%	13.1%	0.5%				
period			2	7	29	33	9	1		65		
% of class			66.7%	15.2%	6.3%	4.0%	4.5%	14.3%			4.2%	
PM PEAK			3	10	20	7	1			34		
period			15:45	14:15	14:15	14:30	15:30			14:15		
% of class			6.5%	2.2%	2.4%	3.5%	14.3%				2.2%	

15% Percentile :	34 KPH
50% Percentile :	43 KPH
85% Percentile :	50 KPH
95% Percentile :	57 KPH

20 KPH Pace Speed:	32.7-52.7 KPH
Number in Pace:	1335
Percent in Pace:	86.4 %
Number of Vehicles >60 KPH:	7
Percent of Vehicles >60 KPH:	0.5 %
Mean Speed(average):	43 KPH

Report-2.2		Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line															
		Direction : West															
		Dates : 1 2019-12-12															
Speeds,km/h ----->		10	20	30	40	50	60	70	80	90	100	110	120	130	Total	Pace Speed	Number in Pace
00:00	0:15		1	2											3	12.0-32.0	3
0:15	0:30					1	1								2	33.6-53.6	2
0:30	0:45														2	23.7-43.7	2
0:45	1:00		1		1										2		
00:00	1:00		2	2	2	1									7	12.0-32.0	3
1:00	1:15						2								2	35.1-55.1	2
1:15	1:30			1											1	18.5-38.5	1
1:30	1:45																
1:45	2:00			1											1	17.8-37.8	1
1:00	2:00			2		2									4	35.1-55.1	2
2:00	2:15																
2:15	2:30																
2:30	2:45																
2:45	3:00						1								1	30.3-50.3	1
2:00	3:00						1								1	30.3-50.3	1
3:00	3:15						2								2	34.3-54.3	2
3:15	3:30																
3:30	3:45																
3:45	4:00																
3:00	4:00						2								2	34.3-54.3	2
4:00	4:15																
4:15	4:30				2										2	21.8-41.8	2
4:30	4:45				1										1	23.1-43.1	1
4:45	5:00																
4:00	5:00				3										3	21.8-41.8	2
5:00	5:15																
5:15	5:30																
5:30	5:45					1									1	25.3-45.3	1
5:45	6:00					2	1								3	35.4-55.4	3
5:00	6:00					3	1								4	35.4-55.4	3
6:00	6:15			1											1	16.8-36.8	1
6:15	6:30			1	2										3	24.9-44.9	3
6:30	6:45			1											1	19.6-39.6	1
6:45	7:00				3	1									4	37.5-57.5	4
6:00	7:00			3	5	1									9	37.5-57.5	4
7:00	7:15				1	3	2								6	39.3-59.3	6
7:15	7:30				6	2									8	36.7-56.7	8
7:30	7:45		1	2	5	6	1								15	35.2-55.2	13
7:45	8:00			2	22	7									31	37.0-57.0	30
7:00	8:00		1	5	36	17	1								60	37.0-57.0	30
8:00	8:15			2	22	14	1								39	38.6-58.6	38
8:15	8:30			1	10	9	3								23	36.0-56.0	20
8:30	8:45				6	8									14	34.0-54.0	14
8:45	9:00			3	4	2									9	30.1-50.1	8
8:00	9:00			6	42	33	4								85	38.6-58.6	38
9:00	9:15				6	2	1								9	32.1-52.1	8
9:15	9:30			2	2	3	1								8	36.4-56.4	6
9:30	9:45				3	2									5	38.0-58.0	5
9:45	10:00		1	1	3	3									8	33.3-53.3	6
9:00	10:00		1	3	14	10	2								30	32.1-52.1	8
10:00	10:15				5	3									8	35.7-55.7	8
10:15	10:30		1		5	3									9	32.7-52.7	8
10:30	10:45				9	2									11	35.7-55.7	11
10:45	11:00			2	5	2	1								10	31.6-51.6	9
10:00	11:00		1	2	24	10	1								38	35.7-55.7	11
11:00	11:15			2	5	4	1								12	36.4-56.4	10
11:15	11:30			1	5	3									9	31.9-51.9	8
11:30	11:45			1	9	5									15	37.3-57.3	15
11:45	12:00			3	3										6	29.8-49.8	6
11:00	12:00			7	22	12	1								42	37.3-57.3	15

12:00	12:15			11	2					13	30.7-50.7	13
12:15	12:30		4	10	2	1	1			18	32.4-52.4	16
12:30	12:45		3	8	4					15	32.3-52.3	14
12:45	13:00		1	8	6	1				16	37.4-57.4	15
12:00	13:00		8	37	14	2	1			62	32.4-52.4	16
13:00	13:15	1		4	3	2				10	42.1-62.1	8
13:15	13:30		1	7	2	1				11	34.7-54.7	10
13:30	13:45	2	1	8	5	1				17	33.2-53.2	14
13:45	14:00		2	6	2					10	31.1-51.1	9
13:00	14:00	3	4	25	12	4				48	33.2-53.2	14
14:00	14:15		2	14	1					17	32.2-52.2	17
14:15	14:30		4	15	4					23	31.5-51.5	22
14:30	14:45		1	10	6	1				18	40.2-60.2	17
14:45	15:00		2	13	1					16	33.0-53.0	16
14:00	15:00		9	52	12	1				74	31.5-51.5	22
15:00	15:15		1	13	7	1				22	33.1-53.1	21
15:15	15:30			21	4					25	36.0-56.0	25
15:30	15:45		4	16	4					24	31.2-51.2	21
15:45	16:00		2	15	5	1		1		24	40.6-60.6	21
15:00	16:00		7	65	20	2		1		95	36.0-56.0	25
16:00	16:15		3	15	9	1				28	37.1-57.1	27
16:15	16:30		5	16	5					26	34.9-54.9	25
16:30	16:45		2	14	2	1				19	34.5-54.5	18
16:45	17:00		5	16	11	1				33	39.0-59.0	31
16:00	17:00		15	61	27	3				106	39.0-59.0	31
17:00	17:15		2	15	16					33	38.1-58.1	31
17:15	17:30		6	24	9					39	33.6-53.6	36
17:30	17:45		3	22	5					30	33.8-53.8	29
17:45	18:00		6	24	9					39	34.4-54.4	39
17:00	18:00		17	85	39					141	34.4-54.4	39
18:00	18:15		2	25	5					32	32.5-52.5	32
18:15	18:30		8	21	8					37	37.0-57.0	33
18:30	18:45		1	25	5					31	35.4-55.4	31
18:45	19:00		2	23	6					31	35.2-55.2	31
18:00	19:00		13	94	24					131	37.0-57.0	33
19:00	19:15		2	10	1					13	30.0-50.0	12
19:15	19:30		3	9	6					18	34.9-54.9	17
19:30	19:45		3	9	3	1				16	35.2-55.2	15
19:45	20:00		6	11	3					20	32.7-52.7	20
19:00	20:00		14	39	13	1				67	32.7-52.7	20
20:00	20:15		1	7	4					12	32.2-52.2	12
20:15	20:30			10	3	1				14	34.5-54.5	13
20:30	20:45			13	4					17	38.1-58.1	17
20:45	21:00		2	7	2					11	38.0-58.0	11
20:00	21:00		3	37	13	1				54	38.1-58.1	17
21:00	21:15		3	5	2	1				11	31.5-51.5	10
21:15	21:30		5	12	4					21	34.1-54.1	21
21:30	21:45			12	4					16	39.0-59.0	16
21:45	22:00		4	6	2					12	32.2-52.2	12
21:00	22:00		12	35	12	1				60	34.1-54.1	21
22:00	22:15		1	12	3	1				17	33.7-53.7	16
22:15	22:30		3	10	1	1				15	28.8-48.8	13
22:30	22:45			6	2					8	35.6-55.6	8
22:45	23:00		1	5	1	1				8	32.4-52.4	7
22:00	23:00		5	33	7	3				48	33.7-53.7	16
23:00	23:15			9	2					11	36.0-56.0	11
23:15	23:30			5						5	28.9-48.9	5
23:30	23:45		1	5						6	28.2-48.2	6
23:45	00:00		2	1	1					4	32.4-52.4	4
23:00	00:00		3	20	3					26	36.0-56.0	11
Total			8	140	734	286	27	1	1		1197	
AM PEAK			0.7%	11.7%	61.3%	23.9%	2.3%	0.1%	0.1%			
period			1	3	22	14	3				39	
% of class	00:00	8:45	7:45	8:00	8:15						8:00	
			12.5%	2.1%	3.0%	4.9%	11.1%					3.3%
PM PEAK			2	8	25	16	2	1	1		39	
period			13:30	18:15	18:00	17:00	13:00	12:15	15:45		17:15	
% of class			25.0%	5.7%	3.4%	5.6%	7.4%	100.0%	100.0%			3.3%

15% Percentile :	40 KPH
50% Percentile :	46 KPH
85% Percentile :	55 KPH
95% Percentile :	59 KPH

20 KPH Pace Speed:	36.9-56.9 KPH
Number in Pace:	1076
Percent in Pace:	89.9 %
Number of Vehicles >60 KPH:	29
Percent of Vehicles >60 KPH:	2.4 %
Mean Speed(average):	47 KPH

Report-2.3		Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line															
		Direction : East + West															
		Dates : 1 2019-12-12															
Speeds,km/h ----->		10	20	30	40	50	60	70	80	90	100	110	120	130	Total	Pace Speed	Number in Pace
00:00	0:15			1	3										4	15.7-35.7	4
0:15	0:30				2										2	15.2-35.2	2
0:30	0:45					1	1								2	33.6-53.6	2
0:45	1:00			1		1									2	23.7-43.7	2
00:00	1:00			2	5	2	1								10	15.7-35.7	4
1:00	1:15						2	1							3	46.4-66.4	3
1:15	1:30				1	1									2	21.7-41.7	2
1:30	1:45																
1:45	2:00				1										1	17.8-37.8	1
1:00	2:00				2	1	2	1							6	46.4-66.4	3
2:00	2:15																
2:15	2:30																
2:30	2:45				1										1	15.4-35.4	1
2:45	3:00							1							1	30.3-50.3	1
2:00	3:00				1		1								2	15.4-35.4	1
3:00	3:15					2	2								4	34.3-54.3	4
3:15	3:30																
3:30	3:45																
3:45	4:00				1		1								2	35.5-55.5	2
3:00	4:00				1	2	3								6	34.3-54.3	4
4:00	4:15				1	1									2	21.5-41.5	2
4:15	4:30						3								3	26.4-46.4	3
4:30	4:45						4								4	28.2-48.2	4
4:45	5:00				1	3	2								6	25.2-45.2	6
4:00	5:00				1	4	10								15	25.2-45.2	6
5:00	5:15					3	8	2							13	34.8-54.8	12
5:15	5:30					7	8	9							24	33.1-53.1	19
5:30	5:45					6	10	2							18	35.4-55.4	17
5:45	6:00					3	14	4	1						22	36.4-56.4	20
5:00	6:00					19	40	17	1						77	36.4-56.4	20
6:00	6:15				1	18	11	1							31	25.1-45.1	30
6:15	6:30				6	14	11								31	24.9-44.9	28
6:30	6:45				7	15	5								27	24.3-44.3	26
6:45	7:00				2	8	22	6							38	30.6-50.6	31
6:00	7:00				16	55	49	7							127	30.6-50.6	31
7:00	7:15				4	13	23	5							45	32.1-52.1	38
7:15	7:30				2	6	15	26	4						53	29.0-49.0	42
7:30	7:45				1	2	18	23	7	1					52	32.6-52.6	44
7:45	8:00					3	23	41	11						78	31.7-51.7	70
7:00	8:00				3	15	69	113	27	1					228	31.7-51.7	70
8:00	8:15				2	31	55	15	1						104	32.9-52.9	93
8:15	8:30					25	29	10	3						67	31.8-51.8	58
8:30	8:45					9	34	12							55	34.0-54.0	52
8:45	9:00				1	12	27	4							44	30.6-50.6	42
8:00	9:00				3	77	145	41	4						270	32.9-52.9	93
9:00	9:15					3	15	6	1						25	35.9-55.9	24
9:15	9:30				1	6	11	8	1						27	36.4-56.4	22
9:30	9:45					5	15	6							26	32.7-52.7	23
9:45	10:00				1	13	12	9							35	31.7-51.7	29
9:00	10:00				2	27	53	29	2						113	31.7-51.7	29
10:00	10:15					5	16	7	1						29	35.7-55.7	28
10:15	10:30				1	5	20	9							35	33.2-53.2	33
10:30	10:45					6	20	9							35	35.7-55.7	33
10:45	11:00					5	20	5	1						31	31.6-51.6	28
10:00	11:00				1	21	76	30	2						130	33.2-53.2	33
11:00	11:15					5	17	10	1						33	36.4-56.4	30
11:15	11:30					11	14	9							34	33.5-53.5	29
11:30	11:45				1	5	18	6							30	32.5-52.5	26
11:45	12:00				1	5	10	3							19	32.5-52.5	18
11:00	12:00				2	26	59	28	1						116	36.4-56.4	30



Report-3.1 Directions ----->	Location : CAL2019-A8EW Columbia Way - west of Caledon King Town Line										
	Dates : 2019-12-12										
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %		
00:00 0:15				1	0.1%			3	0.3%	4	0.1%
0:15 0:30				2	0.1%					2	0.1%
0:30 0:45								2	0.2%	2	0.1%
0:45 1:00								2	0.2%	2	0.1%
00:00 1:00				3	0.2%			7	0.6%	10	0.4%
1:00 1:15				1	0.1%			2	0.2%	3	0.1%
1:15 1:30				1	0.1%			1	0.1%	2	0.1%
1:30 1:45											
1:45 2:00								1	0.1%	1	0.0%
1:00 2:00				2	0.1%			4	0.3%	6	0.2%
2:00 2:15											
2:15 2:30											
2:30 2:45				1	0.1%					1	0.0%
2:45 3:00								1	0.1%	1	0.0%
2:00 3:00				1	0.1%			1	0.1%	2	0.1%
3:00 3:15				2	0.1%			2	0.2%	4	0.1%
3:15 3:30											
3:30 3:45											
3:45 4:00				2	0.1%					2	0.1%
3:00 4:00				4	0.3%			2	0.2%	6	0.2%
4:00 4:15				2	0.1%					2	0.1%
4:15 4:30				1	0.1%			2	0.2%	3	0.1%
4:30 4:45				3	0.2%			1	0.1%	4	0.1%
4:45 5:00				6	0.4%					6	0.2%
4:00 5:00				12	0.8%			3	0.3%	15	0.5%
5:00 5:15				13	0.8%					13	0.5%
5:15 5:30				24	1.6%					24	0.9%
5:30 5:45				17	1.1%			1	0.1%	18	0.7%
5:45 6:00				19	1.2%			3	0.3%	22	0.8%
5:00 6:00				73	4.7%			4	0.3%	77	2.8%
6:00 6:15				30	1.9%			1	0.1%	31	1.1%
6:15 6:30				28	1.8%			3	0.3%	31	1.1%
6:30 6:45				26	1.7%			1	0.1%	27	1.0%
6:45 7:00				34	2.2%			4	0.3%	38	1.4%
6:00 7:00				118	7.6%			9	0.8%	127	4.6%
7:00 7:15				39	2.5%			6	0.5%	45	1.6%
7:15 7:30				45	2.9%			8	0.7%	53	1.9%
7:30 7:45				37	2.4%			15	1.3%	52	1.9%
7:45 8:00				47	3.0%			31	2.6%	78	2.8%
7:00 8:00				168	10.9%			60	5.0%	228	8.3%
8:00 8:15				65	4.2%			39	3.3%	104	3.8%
8:15 8:30				44	2.8%			23	1.9%	67	2.4%
8:30 8:45				41	2.7%			14	1.2%	55	2.0%
8:45 9:00				35	2.3%			9	0.8%	44	1.6%
8:00 9:00				185	12.0%			85	7.1%	270	9.8%
9:00 9:15				16	1.0%			9	0.8%	25	0.9%
9:15 9:30				19	1.2%			8	0.7%	27	1.0%
9:30 9:45				21	1.4%			5	0.4%	26	0.9%
9:45 10:00				27	1.7%			8	0.7%	35	1.3%
9:00 10:00				83	5.4%			30	2.5%	113	4.1%
10:00 10:15				21	1.4%			8	0.7%	29	1.1%
10:15 10:30				26	1.7%			9	0.8%	35	1.3%
10:30 10:45				24	1.6%			11	0.9%	35	1.3%
10:45 11:00				21	1.4%			10	0.8%	31	1.1%
10:00 11:00				92	6.0%			38	3.2%	130	4.7%
11:00 11:15				21	1.4%			12	1.0%	33	1.2%
11:15 11:30				25	1.6%			9	0.8%	34	1.2%
11:30 11:45				15	1.0%			15	1.3%	30	1.1%
11:45 12:00				13	0.8%			6	0.5%	19	0.7%
11:00 12:00				74	4.8%			42	3.5%	116	4.2%

12:00	12:15		20	1.3%	13	1.1%	33	1.2%
12:15	12:30		18	1.2%	18	1.5%	36	1.3%
12:30	12:45		13	0.8%	15	1.3%	28	1.0%
12:45	13:00		18	1.2%	16	1.3%	34	1.2%
12:00	13:00		69	4.5%	62	5.2%	131	4.8%
13:00	13:15		14	0.9%	10	0.8%	24	0.9%
13:15	13:30		17	1.1%	11	0.9%	28	1.0%
13:30	13:45		27	1.7%	17	1.4%	44	1.6%
13:45	14:00		19	1.2%	10	0.8%	29	1.1%
13:00	14:00		77	5.0%	48	4.0%	125	4.6%
14:00	14:15		19	1.2%	17	1.4%	36	1.3%
14:15	14:30		34	2.2%	23	1.9%	57	2.1%
14:30	14:45		31	2.0%	18	1.5%	49	1.8%
14:45	15:00		27	1.7%	16	1.3%	43	1.6%
14:00	15:00		111	7.2%	74	6.2%	185	6.7%
15:00	15:15		14	0.9%	22	1.8%	36	1.3%
15:15	15:30		22	1.4%	25	2.1%	47	1.7%
15:30	15:45		21	1.4%	24	2.0%	45	1.6%
15:45	16:00		27	1.7%	24	2.0%	51	1.9%
15:00	16:00		84	5.4%	95	7.9%	179	6.5%
16:00	16:15		23	1.5%	28	2.3%	51	1.9%
16:15	16:30		18	1.2%	26	2.2%	44	1.6%
16:30	16:45		23	1.5%	19	1.6%	42	1.5%
16:45	17:00		24	1.6%	33	2.8%	57	2.1%
16:00	17:00		88	5.7%	106	8.9%	194	7.1%
17:00	17:15		20	1.3%	33	2.8%	53	1.9%
17:15	17:30		22	1.4%	39	3.3%	61	2.2%
17:30	17:45		19	1.2%	30	2.5%	49	1.8%
17:45	18:00		24	1.6%	39	3.3%	63	2.3%
17:00	18:00		85	5.5%	141	11.8%	226	8.2%
18:00	18:15		14	0.9%	32	2.7%	46	1.7%
18:15	18:30		21	1.4%	37	3.1%	58	2.1%
18:30	18:45		21	1.4%	31	2.6%	52	1.9%
18:45	19:00		11	0.7%	31	2.6%	42	1.5%
18:00	19:00		67	4.3%	131	10.9%	198	7.2%
19:00	19:15		17	1.1%	13	1.1%	30	1.1%
19:15	19:30		14	0.9%	18	1.5%	32	1.2%
19:30	19:45		17	1.1%	16	1.3%	33	1.2%
19:45	20:00		10	0.6%	20	1.7%	30	1.1%
19:00	20:00		58	3.8%	67	5.6%	125	4.6%
20:00	20:15		11	0.7%	12	1.0%	23	0.8%
20:15	20:30		9	0.6%	14	1.2%	23	0.8%
20:30	20:45		7	0.5%	17	1.4%	24	0.9%
20:45	21:00		6	0.4%	11	0.9%	17	0.6%
20:00	21:00		33	2.1%	54	4.5%	87	3.2%
21:00	21:15		9	0.6%	11	0.9%	20	0.7%
21:15	21:30		11	0.7%	21	1.8%	32	1.2%
21:30	21:45		4	0.3%	16	1.3%	20	0.7%
21:45	22:00		9	0.6%	12	1.0%	21	0.8%
21:00	22:00		33	2.1%	60	5.0%	93	3.4%
22:00	22:15		7	0.5%	17	1.4%	24	0.9%
22:15	22:30		2	0.1%	15	1.3%	17	0.6%
22:30	22:45		4	0.3%	8	0.7%	12	0.4%
22:45	23:00		1	0.1%	8	0.7%	9	0.3%
22:00	23:00		14	0.9%	48	4.0%	62	2.3%
23:00	23:15		3	0.2%	11	0.9%	14	0.5%
23:15	23:30		2	0.1%	5	0.4%	7	0.3%
23:30	23:45		5	0.3%	6	0.5%	11	0.4%
23:45	00:00		1	0.1%	4	0.3%	5	0.2%
23:00	00:00		11	0.7%	26	2.2%	37	1.3%
Total			1545		1197		2742	100.0%
			56.3%		43.7%		100.0%	
AM PEAK			65		39		104	
period			8:00		8:00		8:00	
% of class			4.2%		3.3%		3.8%	
PM PEAK			34		39		63	
period			14:15		17:15		17:45	
% of class			2.2%		3.3%		2.3%	



12:00	12:15	18	3					21	1.2%
12:15	12:30	16	4		1			21	1.2%
12:30	12:45	11	4					15	0.9%
12:45	13:00	10	4		1			15	0.9%
12:00	13:00	55	15		2			72	4.1%
13:00	13:15	10	2		1			13	0.7%
13:15	13:30	11	5	1	1			18	1.0%
13:30	13:45	23	9		3			35	2.0%
13:45	14:00	18						18	1.0%
13:00	14:00	62	16	1	5			84	4.8%
14:00	14:15	15	3					18	1.0%
14:15	14:30	41	4	1				46	2.6%
14:30	14:45	28	3	2				33	1.9%
14:45	15:00	28	2	1	2			33	1.9%
14:00	15:00	112	12	4	2			130	7.4%
15:00	15:15	27	6		1			34	1.9%
15:15	15:30	27	8		3			38	2.2%
15:30	15:45	26	8	1				35	2.0%
15:45	16:00	30	8		1			39	2.2%
15:00	16:00	110	30	1	5			146	8.3%
16:00	16:15	23	6	1	2			32	1.8%
16:15	16:30	30	6		1			37	2.1%
16:30	16:45	27	9		2			38	2.2%
16:45	17:00	34	6					40	2.3%
16:00	17:00	114	27	1	5			147	8.3%
17:00	17:15	45	4					49	2.8%
17:15	17:30	31	6					37	2.1%
17:30	17:45	33	7					40	2.3%
17:45	18:00	34	5			1		40	2.3%
17:00	18:00	143	22			1		166	9.4%
18:00	18:15	27	4					31	1.8%
18:15	18:30	31	3					34	1.9%
18:30	18:45	22	4					26	1.5%
18:45	19:00	19	3		1			23	1.3%
18:00	19:00	99	14		1			114	6.5%
19:00	19:15	17	6					23	1.3%
19:15	19:30	26	4					30	1.7%
19:30	19:45	19	3		1			23	1.3%
19:45	20:00	17	6					23	1.3%
19:00	20:00	79	19		1			99	5.6%
20:00	20:15	22	3		2			27	1.5%
20:15	20:30	14	4					18	1.0%
20:30	20:45	16	2					18	1.0%
20:45	21:00	16	1					17	1.0%
20:00	21:00	68	10		2			80	4.5%
21:00	21:15	14	1					15	0.9%
21:15	21:30	20	3		1			24	1.4%
21:30	21:45	9						9	0.5%
21:45	22:00	11	3		1			15	0.9%
21:00	22:00	54	7		2			63	3.6%
22:00	22:15	11	2					13	0.7%
22:15	22:30	10	2					12	0.7%
22:30	22:45	9	2					11	0.6%
22:45	23:00	6	2		1			9	0.5%
22:00	23:00	36	8		1			45	2.6%
23:00	23:15	9	2					11	0.6%
23:15	23:30	5						5	0.3%
23:30	23:45	6						6	0.3%
23:45	00:00	3						3	0.2%
23:00	00:00	23	2					25	1.4%
Total		1396	307	15	42	1	3	1764	
		79.1%	17.4%	0.9%	2.4%	0.1%	0.2%		
AM PEAK		52	9	3	3		1	57	
period		8:00	8:15	8:15	8:30		6:00	8:00	
% of class		3.7%	2.9%	20.0%	7.1%		33.3%		3.2%
PM PEAK		45	9	2	3	1	1	49	
period		17:00	13:30	14:30	13:30	18:45	17:45	17:00	
% of class		3.2%	2.9%	13.3%	7.1%	100.0%	33.3%		2.8%

Report-1.2		Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave														
		Direction : West Road :														
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		3	1											4	0.3%
0:15	0:30															
0:30	0:45															
0:45	1:00		1												1	0.1%
00:00	1:00		4	1											5	0.3%
1:00	1:15		2												2	0.1%
1:15	1:30		1	1											2	0.1%
1:30	1:45		2												2	0.1%
1:45	2:00															
1:00	2:00		5	1											6	0.4%
2:00	2:15															
2:15	2:30															
2:30	2:45		1												1	0.1%
2:45	3:00		2												2	0.1%
2:00	3:00		3												3	0.2%
3:00	3:15			1											1	0.1%
3:15	3:30															
3:30	3:45															
3:45	4:00		1												1	0.1%
3:00	4:00		1	1											2	0.1%
4:00	4:15		2												2	0.1%
4:15	4:30		1	2											3	0.2%
4:30	4:45		1	1											2	0.1%
4:45	5:00		2	1											3	0.2%
4:00	5:00		6	4											10	0.7%
5:00	5:15		8	4											12	0.8%
5:15	5:30		3												3	0.2%
5:30	5:45		8	3											11	0.8%
5:45	6:00		6	3											9	0.6%
5:00	6:00		25	10											35	2.4%
6:00	6:15		6	4											10	0.7%
6:15	6:30		10			1									11	0.8%
6:30	6:45		17	4											21	1.4%
6:45	7:00		17	1											18	1.2%
6:00	7:00		50	9		1									60	4.1%
7:00	7:15		18	3											21	1.4%
7:15	7:30		24	3	1										28	1.9%
7:30	7:45		17	5	2										24	1.7%
7:45	8:00		52	5		1									58	4.0%
7:00	8:00		111	16	3	1									131	9.0%
8:00	8:15		75	5		3									83	5.7%
8:15	8:30		38	7	4										49	3.4%
8:30	8:45		21	7											28	1.9%
8:45	9:00		12	6		3									21	1.4%
8:00	9:00		146	25	4	6									181	12.4%
9:00	9:15		17	3											20	1.4%
9:15	9:30		16	2		1									19	1.3%
9:30	9:45		7	1	1										9	0.6%
9:45	10:00		7	1	1										9	0.6%
9:00	10:00		47	7	2	1									57	3.9%
10:00	10:15		11	2											13	0.9%
10:15	10:30		7	2											9	0.6%
10:30	10:45		8	3		1									12	0.8%
10:45	11:00		13	3		1									17	1.2%
10:00	11:00		39	10		2									51	3.5%
11:00	11:15		18	2		1									21	1.4%
11:15	11:30		11												11	0.8%
11:30	11:45		13	1											14	1.0%
11:45	12:00		6	3											9	0.6%
11:00	12:00		48	6		1									55	3.8%

12:00	12:15	8	2					10	0.7%
12:15	12:30	13	10		2			25	1.7%
12:30	12:45	11	1					12	0.8%
12:45	13:00	16	2					18	1.2%
12:00	13:00	48	15		2			65	4.5%
13:00	13:15	11	2					13	0.9%
13:15	13:30	7	1		1			9	0.6%
13:30	13:45	10	2					12	0.8%
13:45	14:00	11	3					14	1.0%
13:00	14:00	39	8		1			48	3.3%
14:00	14:15	13	2		2		1	18	1.2%
14:15	14:30	20	3					23	1.6%
14:30	14:45	14	4				1	19	1.3%
14:45	15:00	13	3					16	1.1%
14:00	15:00	60	12		2		2	76	5.2%
15:00	15:15	22	7		2		1	32	2.2%
15:15	15:30	18	5		2		2	27	1.9%
15:30	15:45	16	5					21	1.4%
15:45	16:00	19	4				1	25	1.7%
15:00	16:00	75	21		4		4	105	7.2%
16:00	16:15	21	3		1			25	1.7%
16:15	16:30	18	2		2		1	23	1.6%
16:30	16:45	16	5					21	1.4%
16:45	17:00	30	2					32	2.2%
16:00	17:00	85	12		3		1	101	6.9%
17:00	17:15	27	2					29	2.0%
17:15	17:30	27	5				1	33	2.3%
17:30	17:45	26	4					30	2.1%
17:45	18:00	35	6					41	2.8%
17:00	18:00	115	17				1	133	9.1%
18:00	18:15	27	4				2	33	2.3%
18:15	18:30	25	4				2	31	2.1%
18:30	18:45	22	3					25	1.7%
18:45	19:00	20	3					23	1.6%
18:00	19:00	94	14				4	112	7.7%
19:00	19:15	10	4					14	1.0%
19:15	19:30	12	2					14	1.0%
19:30	19:45	12	2				1	15	1.0%
19:45	20:00	19						19	1.3%
19:00	20:00	53	8				1	62	4.3%
20:00	20:15	11						11	0.8%
20:15	20:30	10	1					11	0.8%
20:30	20:45	16						16	1.1%
20:45	21:00	7	3					10	0.7%
20:00	21:00	44	4					48	3.3%
21:00	21:15	9						9	0.6%
21:15	21:30	17	2				1	20	1.4%
21:30	21:45	11	2					13	0.9%
21:45	22:00	7						7	0.5%
21:00	22:00	44	4				1	49	3.4%
22:00	22:15	13	3					16	1.1%
22:15	22:30	5	5					10	0.7%
22:30	22:45	5	1				1	7	0.5%
22:45	23:00	6	1					7	0.5%
22:00	23:00	29	10				1	40	2.8%
23:00	23:15	9	1					10	0.7%
23:15	23:30	4						4	0.3%
23:30	23:45	1	1				1	3	0.2%
23:45	00:00	2						2	0.1%
23:00	00:00	16	2				1	19	1.3%
Total		1187	217	19	29		2	1454	
		81.6%	14.9%	1.3%	2.0%		0.1%		
AM PEAK		75	7	4	3			83	
period		8:00	8:15	8:15	8:00			8:00	
% of class		6.3%	3.2%	21.1%	10.3%				5.7%
PM PEAK		35	10	2	2		1	41	
period		17:45	12:15	14:00	12:15		15:45	17:45	
% of class		2.9%	4.6%	10.5%	6.9%		50.0%		2.8%

Report-1.3		Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave															
		Direction : East + West											Road :				
		Dates : 1 2019-12-12															
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total		
00:00	0:15		7	1											8	0.2%	
0:15	0:30		1												1	0.0%	
0:30	0:45		2												2	0.1%	
0:45	1:00		2												2	0.1%	
00:00	1:00		12	1											13	0.4%	
1:00	1:15		2												2	0.1%	
1:15	1:30		2	2											4	0.1%	
1:30	1:45		3												3	0.1%	
1:45	2:00																
1:00	2:00		7	2											9	0.3%	
2:00	2:15																
2:15	2:30		1												1	0.0%	
2:30	2:45		2												2	0.1%	
2:45	3:00		2												2	0.1%	
2:00	3:00		5												5	0.2%	
3:00	3:15		1	2											3	0.1%	
3:15	3:30																
3:30	3:45																
3:45	4:00		1	1											2	0.1%	
3:00	4:00		2	3											5	0.2%	
4:00	4:15		2												2	0.1%	
4:15	4:30		1	2											3	0.1%	
4:30	4:45		1	1											2	0.1%	
4:45	5:00		4	3											7	0.2%	
4:00	5:00		8	6											14	0.4%	
5:00	5:15		14	5											19	0.6%	
5:15	5:30		6	7											13	0.4%	
5:30	5:45		14	5	2										21	0.7%	
5:45	6:00		12	7	1										20	0.6%	
5:00	6:00		46	24	3										73	2.3%	
6:00	6:15		17	9					1						27	0.8%	
6:15	6:30		20	3	1										24	0.7%	
6:30	6:45		27	8	1										36	1.1%	
6:45	7:00		29	5	1										35	1.1%	
6:00	7:00		93	25	1	2			1						122	3.8%	
7:00	7:15		34	7											41	1.3%	
7:15	7:30		38	8	3										49	1.5%	
7:30	7:45		40	13	2										55	1.7%	
7:45	8:00		79	11	1	2									93	2.9%	
7:00	8:00		191	39	6	2									238	7.4%	
8:00	8:15		127	10		3									140	4.4%	
8:15	8:30		63	16	7										86	2.7%	
8:30	8:45		44	13		3									60	1.9%	
8:45	9:00		27	12	1	3									43	1.3%	
8:00	9:00		261	51	8	9									329	10.2%	
9:00	9:15		24	7		1									32	1.0%	
9:15	9:30		30	3		3									36	1.1%	
9:30	9:45		21	7	1										29	0.9%	
9:45	10:00		28	3	1	1									33	1.0%	
9:00	10:00		103	20	2	5									130	4.0%	
10:00	10:15		20	6		1			1						28	0.9%	
10:15	10:30		17	7											24	0.7%	
10:30	10:45		23	7		1									31	1.0%	
10:45	11:00		28	5		1									34	1.1%	
10:00	11:00		88	25		3			1						117	3.6%	
11:00	11:15		34	7		1									42	1.3%	
11:15	11:30		28	4											32	1.0%	
11:30	11:45		31	3		2									36	1.1%	
11:45	12:00		17	5		2									24	0.7%	
11:00	12:00		110	19		5									134	4.2%	

12:00	12:15	26	5					31	1.0%
12:15	12:30	29	14		3			46	1.4%
12:30	12:45	22	5					27	0.8%
12:45	13:00	26	6		1			33	1.0%
12:00	13:00	103	30		4			137	4.3%
13:00	13:15	21	4		1			26	0.8%
13:15	13:30	18	6	2	1			27	0.8%
13:30	13:45	33	11		3			47	1.5%
13:45	14:00	29	3					32	1.0%
13:00	14:00	101	24	2	5			132	4.1%
14:00	14:15	28	5	2	1			36	1.1%
14:15	14:30	61	7	1				69	2.1%
14:30	14:45	42	7	2	1			52	1.6%
14:45	15:00	41	5	1	2			49	1.5%
14:00	15:00	172	24	6	4			206	6.4%
15:00	15:15	49	13	2	2			66	2.1%
15:15	15:30	45	13	2	5			65	2.0%
15:30	15:45	42	13	1				56	1.7%
15:45	16:00	49	12		2	1		64	2.0%
15:00	16:00	185	51	5	9	1		251	7.8%
16:00	16:15	44	9	2	2			57	1.8%
16:15	16:30	48	8	2	2			60	1.9%
16:30	16:45	43	14		2			59	1.8%
16:45	17:00	64	8					72	2.2%
16:00	17:00	199	39	4	6			248	7.7%
17:00	17:15	72	6					78	2.4%
17:15	17:30	58	11			1		70	2.2%
17:30	17:45	59	11					70	2.2%
17:45	18:00	69	11			1		81	2.5%
17:00	18:00	258	39			2		299	9.3%
18:00	18:15	54	8		2			64	2.0%
18:15	18:30	56	7		2			65	2.0%
18:30	18:45	44	7					51	1.6%
18:45	19:00	39	6			1		46	1.4%
18:00	19:00	193	28		4	1		226	7.0%
19:00	19:15	27	10					37	1.1%
19:15	19:30	38	6					44	1.4%
19:30	19:45	31	5		2			38	1.2%
19:45	20:00	36	6					42	1.3%
19:00	20:00	132	27		2			161	5.0%
20:00	20:15	33	3		2			38	1.2%
20:15	20:30	24	5					29	0.9%
20:30	20:45	32	2					34	1.1%
20:45	21:00	23	4					27	0.8%
20:00	21:00	112	14		2			128	4.0%
21:00	21:15	23	1					24	0.7%
21:15	21:30	37	5		2			44	1.4%
21:30	21:45	20	2					22	0.7%
21:45	22:00	18	3		1			22	0.7%
21:00	22:00	98	11		3			112	3.5%
22:00	22:15	24	5					29	0.9%
22:15	22:30	15	7					22	0.7%
22:30	22:45	14	3		1			18	0.6%
22:45	23:00	12	3		1			16	0.5%
22:00	23:00	65	18		2			85	2.6%
23:00	23:15	18	3					21	0.7%
23:15	23:30	9						9	0.3%
23:30	23:45	7	1		1			9	0.3%
23:45	00:00	5						5	0.2%
23:00	00:00	39	4		1			44	1.4%
Total		2583	524	34	71	1	5	3218	
		80.3%	16.3%	1.1%	2.2%	0.0%	0.2%		
AM PEAK		127	16	7	3		1	140	
period		8:00	8:15	8:15	8:00		6:00	8:00	
% of class		4.9%	3.1%	20.6%	4.2%		20.0%		4.4%
PM PEAK		72	14	2	5	1	1	81	
period		17:00	12:15	13:15	15:15	18:45	15:45	17:45	
% of class		2.8%	2.7%	5.9%	7.0%	100.0%	20.0%		2.5%

Report-2.1	Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : East Road :															
Speeds,km/h ----->	Dates : 1 2019-12-12															
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1	1	2								4	42.5-62.5	4
0:15 0:30							1							1	55.9-75.9	1
0:30 0:45							1	1						2	51.7-71.7	2
0:45 1:00							1							1	42.5-62.5	1
00:00 1:00				1	1	4	2							8	42.5-62.5	4
1:00 1:15																
1:15 1:30						2								2	46.0-66.0	2
1:30 1:45						1								1	43.2-63.2	1
1:45 2:00																
1:00 2:00						3								3	46.0-66.0	2
2:00 2:15																
2:15 2:30							1							1	42.1-62.1	1
2:30 2:45				1										1	28.8-48.8	1
2:45 3:00																
2:00 3:00				1		1								2	42.1-62.1	1
3:00 3:15					1			1						2	30.7-50.7	1
3:15 3:30																
3:30 3:45																
3:45 4:00				1										1	18.7-38.7	1
3:00 4:00				1		1		1						3	30.7-50.7	1
4:00 4:15																
4:15 4:30																
4:30 4:45																
4:45 5:00				1	1	1	1							4	47.3-67.3	3
4:00 5:00				1	1	1	1							4	47.3-67.3	3
5:00 5:15			1		2	2	1		1					7	39.5-59.5	4
5:15 5:30				1	4	4	1							10	37.3-57.3	9
5:30 5:45					1	3	4	2						10	51.6-71.6	8
5:45 6:00				1	2	5	1	1		1				11	39.6-59.6	7
5:00 6:00			1	2	9	14	7	3	1	1				38	37.3-57.3	9
6:00 6:15				2	7	3	2	3						17	37.8-57.8	11
6:15 6:30					4	1	5	2	1					13	43.4-63.4	8
6:30 6:45				1	3	4	4	3						15	47.7-67.7	9
6:45 7:00					4	4	5	1	3					17	45.9-65.9	13
6:00 7:00				3	18	12	16	9	4					62	45.9-65.9	13
7:00 7:15					7	5	5	3						20	34.4-54.4	12
7:15 7:30			1		6	5	7	2						21	49.5-69.5	13
7:30 7:45				2	10	13	3	3						31	41.8-61.8	24
7:45 8:00				2	5	8	18	1	1					35	47.0-67.0	28
7:00 8:00			1	4	28	31	33	9	1					107	47.0-67.0	28
8:00 8:15					2	18	33	4						57	50.3-70.3	52
8:15 8:30				1	7	7	19	3						37	51.0-71.0	28
8:30 8:45					1	7	9	10	3	2				32	44.0-64.0	20
8:45 9:00			1	3	2	4	8	3	1					22	52.2-72.2	14
8:00 9:00			1	5	18	38	70	13	3					148	50.3-70.3	52
9:00 9:15				1	1	3	4	3						12	44.8-64.8	8
9:15 9:30				1	4	3	6	2	1					17	44.3-64.3	11
9:30 9:45				1	4	5	5	3	2					20	47.6-67.6	12
9:45 10:00					2	7	14	1						24	50.0-70.0	21
9:00 10:00				3	11	18	29	9	3					73	50.0-70.0	21
10:00 10:15					3	4	5	3						15	52.6-72.6	11
10:15 10:30					3	5	5	1		1				15	44.5-64.5	13
10:30 10:45					4	7	5	2	1					19	46.8-66.8	13
10:45 11:00					3	4	6	3	1					17	55.4-75.4	12
10:00 11:00					13	20	21	9	2	1				66	44.5-64.5	13
11:00 11:15					1	10	5	3	2					21	50.6-70.6	16
11:15 11:30				1	1	5	12	1	1					21	50.0-70.0	17
11:30 11:45					4	9	5	4						22	46.4-66.4	18
11:45 12:00				1	3	5	3	3						15	45.1-65.1	11
11:00 12:00				2	9	29	25	11	3					79	46.4-66.4	18

12:00	12:15			4	1	12	3	1			21	53.2-73.2	16
12:15	12:30			2	6	10	2	1			21	50.8-70.8	17
12:30	12:45				4	7	3	1			15	50.1-70.1	12
12:45	13:00		1	3	3	4	4				15	54.1-74.1	11
12:00	13:00		1	9	14	33	12	3			72	50.8-70.8	17
13:00	13:15			1	4	6		2			13	45.9-65.9	10
13:15	13:30		1	3	7	4	3				18	50.7-70.7	13
13:30	13:45		4	4	12	10	5				35	46.9-66.9	24
13:45	14:00		1	1	9	5	2				18	47.0-67.0	14
13:00	14:00		6	9	32	25	10	2			84	46.9-66.9	24
14:00	14:15		1	4	3	8	2				18	49.8-69.8	12
14:15	14:30			2	13	22	8		1		46	53.0-73.0	38
14:30	14:45			3	17	9	4				33	49.9-69.9	26
14:45	15:00			5	10	14	4				33	49.0-69.0	24
14:00	15:00		1	14	43	53	18		1		130	53.0-73.0	38
15:00	15:15		1	2	16	13	2				34	49.5-69.5	29
15:15	15:30			5	16	14	3				38	44.1-64.1	33
15:30	15:45			2	7	20	6				35	51.6-71.6	31
15:45	16:00		2	6	10	16	3	2			39	49.1-69.1	28
15:00	16:00		3	15	49	63	14	2			146	44.1-64.1	33
16:00	16:15			3	14	7	8				32	53.3-73.3	24
16:15	16:30			4	9	16	6	2			37	52.9-72.9	28
16:30	16:45			2	14	21	1				38	50.1-70.1	36
16:45	17:00			6	17	13	4				40	48.1-68.1	31
16:00	17:00			15	54	57	19	2			147	50.1-70.1	36
17:00	17:15			5	16	23	4	1			49	51.2-71.2	41
17:15	17:30			3	14	17	3				37	48.6-68.6	33
17:30	17:45			1	17	18	4				40	49.9-69.9	35
17:45	18:00			3	15	19	3				40	49.5-69.5	35
17:00	18:00			12	62	77	14	1			166	51.2-71.2	41
18:00	18:15			1	10	17	1	1	1		31	48.8-68.8	27
18:15	18:30			4	13	12	5				34	48.6-68.6	25
18:30	18:45		1	1	10	10	3	1			26	50.2-70.2	21
18:45	19:00			2	15	4		2			23	45.4-65.4	20
18:00	19:00		1	8	48	43	9	4	1		114	48.8-68.8	27
19:00	19:15			1	14	7	1				23	44.5-64.5	22
19:15	19:30		1	4	12	11	2				30	44.5-64.5	26
19:30	19:45			2	6	13	2				23	47.6-67.6	20
19:45	20:00			1	8	13	1				23	50.1-70.1	22
19:00	20:00		1	8	40	44	6				99	44.5-64.5	26
20:00	20:15				10	14	3				27	50.1-70.1	25
20:15	20:30		1	4	8	5					18	43.9-63.9	14
20:30	20:45		1		4	12			1		18	47.8-67.8	16
20:45	21:00		4	3	7	3					17	46.9-66.9	12
20:00	21:00		6	7	29	34	3		1		80	50.1-70.1	25
21:00	21:15				5	8	2				15	54.3-74.3	14
21:15	21:30			4	8	10	2				24	46.7-66.7	20
21:30	21:45				5	3	1				9	44.7-64.7	8
21:45	22:00				7	4	4				15	52.3-72.3	15
21:00	22:00			4	25	25	9				63	46.7-66.7	20
22:00	22:15			1	8	3		1			13	43.2-63.2	12
22:15	22:30			1	2	7	1	1			12	45.8-65.8	10
22:30	22:45				6	4	1				11	51.4-71.4	11
22:45	23:00			2	4	2	1				9	42.2-62.2	7
22:00	23:00		4	20	16	3	2				45	43.2-63.2	12
23:00	23:15				3	6	1	1			11	49.0-69.0	9
23:15	23:30			1	1	1	2				5	42.0-62.0	3
23:30	23:45				3	2	1				6	48.8-68.8	5
23:45	00:00			1	1	1					3	46.0-66.0	3
23:00	00:00			2	8	10	4	1			25	49.0-69.0	9
Total			3	40	216	589	690	187	34	4	1	1764	
AM PEAK			0.2%	2.3%	12.2%	33.4%	39.1%	10.6%	1.9%	0.2%	0.1%		
period			1	3	10	18	33	4	3	1		57	
% of class			5:00	8:45	7:30	8:00	8:00	8:00	6:45	5:45		8:00	
PM PEAK			33.3%	7.5%	4.6%	3.1%	4.8%	2.1%	8.8%	25.0%			3.2%
period			4	6	17	23	8	2	1		1	49	
% of class			13:30	15:45	14:30	17:00	14:15	13:00	14:15	20:30		17:00	
			10.0%	2.8%	2.9%	3.3%	4.3%	5.9%	25.0%	100.0%			2.8%

15% Percentile :	50 KPH
50% Percentile :	60 KPH
85% Percentile :	69 KPH
95% Percentile :	77 KPH

20 KPH Pace Speed:	50.5-70.5 KPH
Number in Pace:	1291
Percent in Pace:	73.2 %
Number of Vehicles >60 KPH:	916
Percent of Vehicles >60 KPH:	51.9 %
Mean Speed(average):	60 KPH

Report-2.2 Speeds,km/h ----->	Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave													Total	Pace Speed	Number in Pace
	Direction : West Road :															
	Dates : 1 2019-12-12															
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				1	1	1	1							4	41.8-61.8	3
0:15 0:30																
0:30 0:45																
0:45 1:00					1									1	35.4-55.4	1
00:00 1:00				1	2	1	1							5	41.8-61.8	3
1:00 1:15							1	1						2	52.7-72.7	2
1:15 1:30						1	1							2	46.4-66.4	2
1:30 1:45				1		1								2	33.7-53.7	2
1:45 2:00																
1:00 2:00				1	2	2	1							6	52.7-72.7	2
2:00 2:15																
2:15 2:30																
2:30 2:45							1							1	41.5-61.5	1
2:45 3:00						2								2	33.0-53.0	2
2:00 3:00					2	1								3	33.0-53.0	2
3:00 3:15				1										1	30.0-50.0	1
3:15 3:30																
3:30 3:45							1							1	32.4-52.4	1
3:45 4:00																
3:00 4:00				1	1									2	30.0-50.0	1
4:00 4:15				1		1								2	18.7-38.7	1
4:15 4:30					2			1						3	27.7-47.7	2
4:30 4:45			1			1								2	0.1-20.1	1
4:45 5:00						2	1							3	40.6-60.6	3
4:00 5:00			1	1	2	4	1	1						10	40.6-60.6	3
5:00 5:15					3	4	4	1						12	42.8-62.8	10
5:15 5:30								3						3	48.5-68.5	3
5:30 5:45				1	1	3	6							11	48.5-68.5	9
5:45 6:00					1	4	3	1						9	48.7-68.7	8
5:00 6:00				1	5	11	16	2						35	42.8-62.8	10
6:00 6:15				1		5	4							10	46.6-66.6	9
6:15 6:30					1	5	4	1						11	49.1-69.1	10
6:30 6:45				1	1	13	4	2						21	46.8-66.8	17
6:45 7:00					1	10	3	3	1					18	45.0-65.0	14
6:00 7:00				2	3	33	15	6	1					60	46.8-66.8	17
7:00 7:15					1	11	5	4						21	46.7-66.7	17
7:15 7:30					1	12	15							28	47.9-67.9	28
7:30 7:45					1	9	12	2						24	51.1-71.1	22
7:45 8:00				2	5	16	32	3						58	49.2-69.2	50
7:00 8:00				2	8	48	64	9						131	49.2-69.2	50
8:00 8:15					5	24	51	3						83	49.8-69.8	76
8:15 8:30					5	13	27	3	1					49	52.1-72.1	42
8:30 8:45					2	6	13	7						28	50.9-70.9	22
8:45 9:00					3	10	7		1					21	46.5-66.5	18
8:00 9:00					15	53	98	13	2					181	49.8-69.8	76
9:00 9:15					3	10	7							20	49.2-69.2	18
9:15 9:30					2	9	5	3						19	45.1-65.1	15
9:30 9:45					1	3	3	1	1					9	54.4-74.4	7
9:45 10:00				1	1	1	4	2						9	51.7-71.7	7
9:00 10:00				1	7	23	19	6	1					57	49.2-69.2	18
10:00 10:15					2	3	4	3	1					13	54.0-74.0	10
10:15 10:30					3	2	4							9	41.4-61.4	6
10:30 10:45						3	4	3	1	1				12	53.9-73.9	9
10:45 11:00				1	1	6	8	1						17	47.2-67.2	14
10:00 11:00				1	6	14	20	7	2	1				51	47.2-67.2	14
11:00 11:15					3	8	9	1						21	46.4-66.4	18
11:15 11:30						4	4	3						11	53.1-73.1	11
11:30 11:45					4	3	6	1						14	47.7-67.7	10
11:45 12:00						5	3	1						9	48.9-68.9	8
11:00 12:00					7	20	22	6						55	46.4-66.4	18

12:00	12:15			1	4	3	1	1			10	43.7-63.7	7
12:15	12:30			3	9	11	1	1			25	46.4-66.4	21
12:30	12:45			4	3	3	2				12	42.2-62.2	8
12:45	13:00		1	1	5	9	2				18	51.1-71.1	16
12:00	13:00		1	9	21	26	6	2			65	46.4-66.4	21
13:00	13:15			1	7	5					13	48.6-68.6	12
13:15	13:30			1	3	4	1				9	45.0-65.0	7
13:30	13:45		1	2	4	3	1	1			12	49.7-69.7	7
13:45	14:00		1	1	7	5					14	44.2-64.2	13
13:00	14:00		2	5	21	17	2	1			48	44.2-64.2	13
14:00	14:15			2	6	6	2				18	47.7-67.7	12
14:15	14:30	1		1	6	11	4				23	53.4-73.4	20
14:30	14:45			1	7	7	4				19	49.7-69.7	14
14:45	15:00			2	7	6	1				16	44.9-64.9	14
14:00	15:00	1	2	6	26	30	11				76	53.4-73.4	20
15:00	15:15			4	7	10	9	2			32	49.0-69.0	20
15:15	15:30		1	5	10	10	1				27	47.6-67.6	23
15:30	15:45			8	6	6		1			21	42.9-62.9	17
15:45	16:00		1	2	11	9	2				25	49.3-69.3	20
15:00	16:00		6	22	37	34	5	1			105	47.6-67.6	23
16:00	16:15		1	2	7	10	5				25	57.0-77.0	19
16:15	16:30			1	14	7	1				23	47.6-67.6	22
16:30	16:45				8	10	3				21	50.5-70.5	19
16:45	17:00			6	14	8	4				32	44.4-64.4	25
16:00	17:00		1	9	43	35	13				101	44.4-64.4	25
17:00	17:15		1	3	15	9	1				29	45.9-65.9	27
17:15	17:30			6	17	7	2	1			33	45.6-65.6	27
17:30	17:45			2	8	16	4				30	48.9-68.9	25
17:45	18:00		1	2	15	20	3				41	49.2-69.2	35
17:00	18:00		2	13	55	52	10	1			133	49.2-69.2	35
18:00	18:15			2	16	14	1				33	46.8-66.8	30
18:15	18:30			4	12	9	6				31	45.4-65.4	22
18:30	18:45			4	10	9	2				25	48.4-68.4	19
18:45	19:00			7	8	7	1				23	47.2-67.2	17
18:00	19:00			17	46	39	10				112	46.8-66.8	30
19:00	19:15			3	5	5		1			14	46.9-66.9	11
19:15	19:30		1	3	4	5	1				14	40.7-60.7	9
19:30	19:45			4	8	2	1				15	44.5-64.5	14
19:45	20:00			2	7	7	3				19	46.6-66.6	15
19:00	20:00		1	12	24	19	5	1			62	46.6-66.6	15
20:00	20:15			2	5	2	2				11	41.4-61.4	8
20:15	20:30		1	2	5	2	1				11	41.3-61.3	8
20:30	20:45			1	2	6	5	2			16	42.1-62.1	12
20:45	21:00		1	1	2	4	2				10	41.8-61.8	7
20:00	21:00		1	3	8	20	11	5			48	42.1-62.1	12
21:00	21:15			1	4	3	1				9	48.7-68.7	8
21:15	21:30			5	7	8					20	46.9-66.9	17
21:30	21:45			3	4	4	1	1			13	47.6-67.6	11
21:45	22:00				4	3					7	46.7-66.7	7
21:00	22:00			9	19	18	2	1			49	46.9-66.9	17
22:00	22:15			1	7	6	2				16	50.3-70.3	14
22:15	22:30			2	4	4					10	44.6-64.6	9
22:30	22:45		2	2	1	2					7	45.6-65.6	5
22:45	23:00			1	5	1					7	41.3-61.3	7
22:00	23:00		2	6	17	13	2				40	50.3-70.3	14
23:00	23:15			2	3	3	2				10	51.6-71.6	8
23:15	23:30				1	2	1				4	53.2-73.2	4
23:30	23:45		1		1			1			3	37.7-57.7	2
23:45	00:00				1			1			2	34.7-54.7	1
23:00	00:00			3	6	5	3	2			19	51.6-71.6	8
Total			2	1	29	174	548	558	126	15	1	1454	
AM PEAK			0.1%	0.1%	2.0%	12.0%	37.7%	38.4%	8.7%	1.0%	0.1%		
period			1		5	24	51	7	1	1		83	
% of class			4:30		7:45	8:00	8:00	8:30	6:45	10:30		8:00	
PM PEAK			50.0%		6.9%	2.9%	4.4%	9.1%	5.6%	6.7%	100.0%		5.7%
period			1	1	4	8	17	20	6	1		41	
% of class			14:15	20:45	15:00	15:30	17:15	17:45	18:15	12:00		17:45	
			50.0%	100.0%	13.8%	4.6%	3.1%	3.6%	4.8%	6.7%			2.8%

15% Percentile :	50 KPH
50% Percentile :	60 KPH
85% Percentile :	69 KPH
95% Percentile :	75 KPH

20 KPH Pace Speed:	49.7-69.7 KPH
Number in Pace:	1112
Percent in Pace:	76.5 %
Number of Vehicles >60 KPH:	700
Percent of Vehicles >60 KPH:	48.1 %
Mean Speed(average):	59 KPH

Report-2.3		Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave															
		Direction : East + West												Road :			
Speeds,km/h ----->		Dates : 1 2019-12-12												Total	Pace	Number	
		10	20	30	40	50	60	70	80	90	100	110	120	130		Speed	in Pace
00:00	0:15				2	2	3	1							8	42.5-62.5	7
0:15	0:30							1							1	55.9-75.9	1
0:30	0:45							1	1						2	51.7-71.7	2
0:45	1:00						1	1							2	42.5-62.5	2
00:00	1:00				2	3	5	3							13	42.5-62.5	7
1:00	1:15							1	1						2	52.7-72.7	2
1:15	1:30						1	3							4	46.4-66.4	4
1:30	1:45			1			1	1							3	33.7-53.7	2
1:45	2:00																
1:00	2:00			1		2	5	1							9	46.4-66.4	4
2:00	2:15																
2:15	2:30							1							1	42.1-62.1	1
2:30	2:45				1			1							2	41.5-61.5	2
2:45	3:00						2								2	33.0-53.0	2
2:00	3:00				1	2	2								5	41.5-61.5	2
3:00	3:15				1	1			1						3	30.7-50.7	2
3:15	3:30																
3:30	3:45																
3:45	4:00			1			1								2	32.4-52.4	2
3:00	4:00			1	1	2			1						5	30.7-50.7	2
4:00	4:15			1			1								2	18.7-38.7	1
4:15	4:30				2				1						3	27.7-47.7	2
4:30	4:45		1				1								2	0.1-20.1	1
4:45	5:00			1	1	3	2								7	47.3-67.3	6
4:00	5:00		1	2	3	5	2	1							14	47.3-67.3	6
5:00	5:15		1		5	6	5	1	1						19	42.8-62.8	13
5:15	5:30			1	4	4	4								13	37.3-57.3	9
5:30	5:45			1	2	6	10	2							21	51.6-71.6	17
5:45	6:00			1	3	9	4	2		1					20	45.8-65.8	14
5:00	6:00		1	3	14	25	23	5	1	1					73	51.6-71.6	17
6:00	6:15			3	7	8	6	3							27	42.3-62.3	17
6:15	6:30				5	6	9	3	1						24	46.1-66.1	17
6:30	6:45			2	4	17	8	5							36	47.0-67.0	25
6:45	7:00				5	14	8	4	4						35	45.0-65.0	26
6:00	7:00			5	21	45	31	15	5						122	45.0-65.0	26
7:00	7:15				8	16	10	7							41	42.4-62.4	27
7:15	7:30		1		7	17	22	2							49	48.3-68.3	40
7:30	7:45			2	11	22	15	5							55	46.1-66.1	41
7:45	8:00			4	10	24	50	4	1						93	49.2-69.2	78
7:00	8:00		1	6	36	79	97	18	1						238	49.2-69.2	78
8:00	8:15				7	42	84	7							140	50.4-70.4	128
8:15	8:30			1	12	20	46	6	1						86	51.0-71.0	69
8:30	8:45			1	9	15	23	10	2						60	50.2-70.2	40
8:45	9:00		1	3	5	14	15	3	2						43	52.2-72.2	31
8:00	9:00		1	5	33	91	168	26	5						329	50.4-70.4	128
9:00	9:15			1	4	13	11	3							32	47.3-67.3	25
9:15	9:30			1	6	12	11	5	1						36	44.3-64.3	25
9:30	9:45			1	5	8	8	4	3						29	54.4-74.4	18
9:45	10:00			1	3	8	18	3							33	51.7-71.7	27
9:00	10:00			4	18	41	48	15	4						130	51.7-71.7	27
10:00	10:15				5	7	9	6	1						28	54.0-74.0	20
10:15	10:30				6	7	9	1			1				24	42.6-62.6	17
10:30	10:45				4	10	9	5	2	1					31	47.1-67.1	20
10:45	11:00			1	4	10	14	4	1						34	47.2-67.2	25
10:00	11:00			1	19	34	41	16	4	2					117	47.2-67.2	25
11:00	11:15				4	18	14	4	2						42	48.5-68.5	32
11:15	11:30			1	1	9	16	4	1						32	53.1-73.1	27
11:30	11:45				8	12	11	5							36	47.7-67.7	28
11:45	12:00			1	3	10	6	4							24	50.9-70.9	19
11:00	12:00			2	16	49	47	17	3						134	48.5-68.5	32

12:00	12:15			5	5	15	4	2				31	55.0-75.0	23
12:15	12:30			5	15	21	3	2				46	53.8-73.8	38
12:30	12:45			4	7	10	5	1				27	52.8-72.8	19
12:45	13:00			2	4	8	13	6				33	51.3-71.3	25
12:00	13:00			2	18	35	59	18	5			137	53.8-73.8	38
13:00	13:15				2	11	11		2			26	48.6-68.6	22
13:15	13:30			1	4	10	8	4				27	50.2-70.2	19
13:30	13:45			5	6	16	13	6	1			47	47.7-67.7	30
13:45	14:00			2	2	16	10	2				32	47.0-67.0	27
13:00	14:00			8	14	53	42	12	3			132	47.7-67.7	30
14:00	14:15				3	6	9	14	4			36	49.9-69.9	24
14:15	14:30		1		3	19	33	12		1		69	53.0-73.0	57
14:30	14:45				4	24	16	8				52	49.9-69.9	40
14:45	15:00				7	17	20	5				49	50.2-70.2	38
14:00	15:00		1	3	20	69	83	29		1		206	53.0-73.0	57
15:00	15:15			5	9	26	22	4				66	51.1-71.1	49
15:15	15:30			1	10	26	24	4				65	44.1-64.1	55
15:30	15:45				10	13	26	6	1			56	44.9-64.9	42
15:45	16:00			3	8	21	25	5	2			64	49.1-69.1	47
15:00	16:00			9	37	86	97	19	3			251	44.1-64.1	55
16:00	16:15			1	5	21	17	13				57	53.3-73.3	42
16:15	16:30				5	23	23	7	2			60	51.1-71.1	48
16:30	16:45				2	22	31	4				59	50.1-70.1	54
16:45	17:00				12	31	21	8				72	48.1-68.1	55
16:00	17:00			1	24	97	92	32	2			248	48.1-68.1	55
17:00	17:15			1	8	31	32	5	1			78	50.5-70.5	64
17:15	17:30				9	31	24	5	1			70	47.5-67.5	58
17:30	17:45				3	25	34	8				70	48.9-68.9	59
17:45	18:00			1	5	30	39	6				81	49.5-69.5	70
17:00	18:00			2	25	117	129	24	2			299	49.5-69.5	70
18:00	18:15				3	26	31	2	1	1		64	49.4-69.4	57
18:15	18:30				8	25	21	11				65	50.2-70.2	47
18:30	18:45		1	5	20	19	5	1				51	50.2-70.2	40
18:45	19:00				9	23	11	1	2			46	45.4-65.4	36
18:00	19:00			1	25	94	82	19	4	1		226	49.4-69.4	57
19:00	19:15				4	19	12	1	1			37	46.9-66.9	33
19:15	19:30			2	7	16	16	3				44	44.7-64.7	35
19:30	19:45				6	14	15	3				38	47.6-67.6	32
19:45	20:00				3	15	20	4				42	50.1-70.1	36
19:00	20:00			2	20	64	63	11	1			161	50.1-70.1	36
20:00	20:15				2	15	16	5				38	50.1-70.1	32
20:15	20:30			2	6	13	7	1				29	46.0-66.0	22
20:30	20:45			2	2	10	17	2		1		34	47.8-67.8	28
20:45	21:00		1	5	5	11	5					27	41.8-61.8	17
20:00	21:00		1	9	15	49	45	8		1		128	50.1-70.1	32
21:00	21:15				1	9	11	3				24	54.3-74.3	22
21:15	21:30				9	15	18	2				44	46.9-66.9	37
21:30	21:45				3	9	7	2	1			22	47.6-67.6	19
21:45	22:00					11	7	4				22	50.7-70.7	20
21:00	22:00				13	44	43	11	1			112	46.9-66.9	37
22:00	22:15				2	15	9	2	1			29	48.9-68.9	25
22:15	22:30				3	6	11	1	1			22	45.8-65.8	19
22:30	22:45			2	2	7	6	1				18	45.6-65.6	14
22:45	23:00				3	9	3	1				16	42.2-62.2	14
22:00	23:00			2	10	37	29	5	2			85	48.9-68.9	25
23:00	23:15				2	6	9	3	1			21	51.6-71.6	17
23:15	23:30				1	2	3	3				9	56.0-76.0	7
23:30	23:45				1	4	2	1	1			9	48.8-68.8	6
23:45	00:00				1	2	1		1			5	46.0-66.0	4
23:00	00:00				5	14	15	7	3			44	51.6-71.6	17
Total				2	4	69	390	1137	1248	313	49	5	1	3218
AM PEAK				0.1%	0.1%	2.1%	12.1%	35.3%	38.8%	9.7%	1.5%	0.2%	0.0%	
period				1	1	4	12	42	84	10	4	1		140
% of class				4:30	5:00	7:45	8:15	8:00	8:00	8:30	6:45	5:45		8:00
PM PEAK				50.0%	25.0%	5.8%	3.1%	3.7%	6.7%	3.2%	8.2%	20.0%		4.4%
period				1	1	5	12	31	39	13	2	1	1	81
% of class				14:15	20:45	13:30	16:45	16:45	17:45	16:00	12:00	14:15	20:30	17:45
				50.0%	25.0%	7.2%	3.1%	2.7%	3.1%	4.2%	4.1%	20.0%	100.0%	2.5%

15% Percentile :	50 KPH
50% Percentile :	60 KPH
85% Percentile :	69 KPH
95% Percentile :	77 KPH

20 KPH Pace Speed:	50.4-70.4 KPH
Number in Pace:	2398
Percent in Pace:	74.5 %
Number of Vehicles >60 KPH:	1616
Percent of Vehicles >60 KPH:	50.2 %
Mean Speed(average):	60 KPH

Report-3.1 Directions ----->	Location : CAL2019-A5EW Columbia Way - west of Forest Gate Ave									
	Dates : 2019-12-12									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15			4	0.2%			4	0.3%	8	0.2%
0:15 0:30			1	0.1%					1	0.0%
0:30 0:45			2	0.1%					2	0.1%
0:45 1:00			1	0.1%			1	0.1%	2	0.1%
00:00 1:00			8	0.5%			5	0.3%	13	0.4%
1:00 1:15							2	0.1%	2	0.1%
1:15 1:30			2	0.1%			2	0.1%	4	0.1%
1:30 1:45			1	0.1%			2	0.1%	3	0.1%
1:45 2:00										
1:00 2:00			3	0.2%			6	0.4%	9	0.3%
2:00 2:15										
2:15 2:30			1	0.1%					1	0.0%
2:30 2:45			1	0.1%			1	0.1%	2	0.1%
2:45 3:00							2	0.1%	2	0.1%
2:00 3:00			2	0.1%			3	0.2%	5	0.2%
3:00 3:15			2	0.1%			1	0.1%	3	0.1%
3:15 3:30										
3:30 3:45										
3:45 4:00			1	0.1%			1	0.1%	2	0.1%
3:00 4:00			3	0.2%			2	0.1%	5	0.2%
4:00 4:15							2	0.1%	2	0.1%
4:15 4:30							3	0.2%	3	0.1%
4:30 4:45							2	0.1%	2	0.1%
4:45 5:00			4	0.2%			3	0.2%	7	0.2%
4:00 5:00			4	0.2%			10	0.7%	14	0.4%
5:00 5:15			7	0.4%			12	0.8%	19	0.6%
5:15 5:30			10	0.6%			3	0.2%	13	0.4%
5:30 5:45			10	0.6%			11	0.8%	21	0.7%
5:45 6:00			11	0.6%			9	0.6%	20	0.6%
5:00 6:00			38	2.2%			35	2.4%	73	2.3%
6:00 6:15			17	1.0%			10	0.7%	27	0.8%
6:15 6:30			13	0.7%			11	0.8%	24	0.7%
6:30 6:45			15	0.9%			21	1.4%	36	1.1%
6:45 7:00			17	1.0%			18	1.2%	35	1.1%
6:00 7:00			62	3.5%			60	4.1%	122	3.8%
7:00 7:15			20	1.1%			21	1.4%	41	1.3%
7:15 7:30			21	1.2%			28	1.9%	49	1.5%
7:30 7:45			31	1.8%			24	1.7%	55	1.7%
7:45 8:00			35	2.0%			58	4.0%	93	2.9%
7:00 8:00			107	6.1%			131	9.0%	238	7.4%
8:00 8:15			57	3.2%			83	5.7%	140	4.4%
8:15 8:30			37	2.1%			49	3.4%	86	2.7%
8:30 8:45			32	1.8%			28	1.9%	60	1.9%
8:45 9:00			22	1.2%			21	1.4%	43	1.3%
8:00 9:00			148	8.4%			181	12.4%	329	10.2%
9:00 9:15			12	0.7%			20	1.4%	32	1.0%
9:15 9:30			17	1.0%			19	1.3%	36	1.1%
9:30 9:45			20	1.1%			9	0.6%	29	0.9%
9:45 10:00			24	1.4%			9	0.6%	33	1.0%
9:00 10:00			73	4.1%			57	3.9%	130	4.0%
10:00 10:15			15	0.9%			13	0.9%	28	0.9%
10:15 10:30			15	0.9%			9	0.6%	24	0.7%
10:30 10:45			19	1.1%			12	0.8%	31	1.0%
10:45 11:00			17	1.0%			17	1.2%	34	1.1%
10:00 11:00			66	3.7%			51	3.5%	117	3.6%
11:00 11:15			21	1.2%			21	1.4%	42	1.3%
11:15 11:30			21	1.2%			11	0.8%	32	1.0%
11:30 11:45			22	1.2%			14	1.0%	36	1.1%
11:45 12:00			15	0.9%			9	0.6%	24	0.7%
11:00 12:00			79	4.5%			55	3.8%	134	4.2%

12:00	12:15		21	1.2%	10	0.7%	31	1.0%
12:15	12:30		21	1.2%	25	1.7%	46	1.4%
12:30	12:45		15	0.9%	12	0.8%	27	0.8%
12:45	13:00		15	0.9%	18	1.2%	33	1.0%
12:00	13:00		72	4.1%	65	4.5%	137	4.3%
13:00	13:15		13	0.7%	13	0.9%	26	0.8%
13:15	13:30		18	1.0%	9	0.6%	27	0.8%
13:30	13:45		35	2.0%	12	0.8%	47	1.5%
13:45	14:00		18	1.0%	14	1.0%	32	1.0%
13:00	14:00		84	4.8%	48	3.3%	132	4.1%
14:00	14:15		18	1.0%	18	1.2%	36	1.1%
14:15	14:30		46	2.6%	23	1.6%	69	2.1%
14:30	14:45		33	1.9%	19	1.3%	52	1.6%
14:45	15:00		33	1.9%	16	1.1%	49	1.5%
14:00	15:00		130	7.4%	76	5.2%	206	6.4%
15:00	15:15		34	1.9%	32	2.2%	66	2.1%
15:15	15:30		38	2.2%	27	1.9%	65	2.0%
15:30	15:45		35	2.0%	21	1.4%	56	1.7%
15:45	16:00		39	2.2%	25	1.7%	64	2.0%
15:00	16:00		146	8.3%	105	7.2%	251	7.8%
16:00	16:15		32	1.8%	25	1.7%	57	1.8%
16:15	16:30		37	2.1%	23	1.6%	60	1.9%
16:30	16:45		38	2.2%	21	1.4%	59	1.8%
16:45	17:00		40	2.3%	32	2.2%	72	2.2%
16:00	17:00		147	8.3%	101	6.9%	248	7.7%
17:00	17:15		49	2.8%	29	2.0%	78	2.4%
17:15	17:30		37	2.1%	33	2.3%	70	2.2%
17:30	17:45		40	2.3%	30	2.1%	70	2.2%
17:45	18:00		40	2.3%	41	2.8%	81	2.5%
17:00	18:00		166	9.4%	133	9.1%	299	9.3%
18:00	18:15		31	1.8%	33	2.3%	64	2.0%
18:15	18:30		34	1.9%	31	2.1%	65	2.0%
18:30	18:45		26	1.5%	25	1.7%	51	1.6%
18:45	19:00		23	1.3%	23	1.6%	46	1.4%
18:00	19:00		114	6.5%	112	7.7%	226	7.0%
19:00	19:15		23	1.3%	14	1.0%	37	1.1%
19:15	19:30		30	1.7%	14	1.0%	44	1.4%
19:30	19:45		23	1.3%	15	1.0%	38	1.2%
19:45	20:00		23	1.3%	19	1.3%	42	1.3%
19:00	20:00		99	5.6%	62	4.3%	161	5.0%
20:00	20:15		27	1.5%	11	0.8%	38	1.2%
20:15	20:30		18	1.0%	11	0.8%	29	0.9%
20:30	20:45		18	1.0%	16	1.1%	34	1.1%
20:45	21:00		17	1.0%	10	0.7%	27	0.8%
20:00	21:00		80	4.5%	48	3.3%	128	4.0%
21:00	21:15		15	0.9%	9	0.6%	24	0.7%
21:15	21:30		24	1.4%	20	1.4%	44	1.4%
21:30	21:45		9	0.5%	13	0.9%	22	0.7%
21:45	22:00		15	0.9%	7	0.5%	22	0.7%
21:00	22:00		63	3.6%	49	3.4%	112	3.5%
22:00	22:15		13	0.7%	16	1.1%	29	0.9%
22:15	22:30		12	0.7%	10	0.7%	22	0.7%
22:30	22:45		11	0.6%	7	0.5%	18	0.6%
22:45	23:00		9	0.5%	7	0.5%	16	0.5%
22:00	23:00		45	2.6%	40	2.8%	85	2.6%
23:00	23:15		11	0.6%	10	0.7%	21	0.7%
23:15	23:30		5	0.3%	4	0.3%	9	0.3%
23:30	23:45		6	0.3%	3	0.2%	9	0.3%
23:45	00:00		3	0.2%	2	0.1%	5	0.2%
23:00	00:00		25	1.4%	19	1.3%	44	1.4%
Total			1764		1454		3218	100.0%
			54.8%		45.2%		100.0%	
AM PEAK			57		83		140	
period			8:00		8:00		8:00	
% of class			3.2%		5.7%		4.4%	
PM PEAK			49		41		81	
period			17:00		17:45		17:45	
% of class			2.8%		2.8%		2.5%	

Report-1.1		Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr														
		Direction : East Road :														
		Dates : 1 2019-12-05														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		10												10	0.4%
0:15	0:30		3			2									5	0.2%
0:30	0:45		1	3											4	0.2%
0:45	1:00		4												4	0.2%
00:00	1:00		18	3		2									23	1.0%
1:00	1:15		2			1	1								4	0.2%
1:15	1:30		1	2		1									4	0.2%
1:30	1:45		4												4	0.2%
1:45	2:00															
1:00	2:00		7	2		2	1								12	0.5%
2:00	2:15		1												1	0.0%
2:15	2:30															
2:30	2:45															
2:45	3:00		2												2	0.1%
2:00	3:00		3												3	0.1%
3:00	3:15		1												1	0.0%
3:15	3:30															
3:30	3:45															
3:45	4:00															
3:00	4:00		1												1	0.0%
4:00	4:15															
4:15	4:30															
4:30	4:45		1	1											2	0.1%
4:45	5:00															
4:00	5:00		1	1											2	0.1%
5:00	5:15		2												2	0.1%
5:15	5:30		5												5	0.2%
5:30	5:45		4												4	0.2%
5:45	6:00		7												7	0.3%
5:00	6:00		18												18	0.8%
6:00	6:15		7												7	0.3%
6:15	6:30		5												5	0.2%
6:30	6:45		8	1											9	0.4%
6:45	7:00		5	2											7	0.3%
6:00	7:00		25	3											28	1.2%
7:00	7:15		6	1	1	1									9	0.4%
7:15	7:30	4	14	2	1		1								22	0.9%
7:30	7:45	4	24	5	9										42	1.8%
7:45	8:00		57	4	2		1							1	65	2.7%
7:00	8:00	8	101	12	13	1	2							1	138	5.8%
8:00	8:15	4	77	5	1		3								90	3.8%
8:15	8:30	2	33	1											36	1.5%
8:30	8:45		15	4	1		1								21	0.9%
8:45	9:00		17			3									20	0.8%
8:00	9:00	6	142	10	2	3	4								167	7.0%
9:00	9:15		9	4											13	0.5%
9:15	9:30		29	5		3	1								38	1.6%
9:30	9:45		13	1		2	1								17	0.7%
9:45	10:00		8	2			1								11	0.5%
9:00	10:00		59	12		5	3								79	3.3%
10:00	10:15		10	2		2									14	0.6%
10:15	10:30		18	2			3								23	1.0%
10:30	10:45		7	3											10	0.4%
10:45	11:00		13	4											17	0.7%
10:00	11:00		48	11		2	3								64	2.7%
11:00	11:15		18	2	1	2	2								25	1.1%
11:15	11:30		17	6		3							1		27	1.1%
11:30	11:45		23	4											27	1.1%
11:45	12:00		21	2		1	3			1					28	1.2%
11:00	12:00		79	14	1	6	5			1			1		107	4.5%

12:00	12:15		23	5		3	2				33	1.4%	
12:15	12:30		24	4			2				30	1.3%	
12:30	12:45		33					1			34	1.4%	
12:45	13:00		35	7	1	2	2				47	2.0%	
12:00	13:00		115	16	1	5	7				144	6.1%	
13:00	13:15		19	6				1			26	1.1%	
13:15	13:30		19	4	1	2					26	1.1%	
13:30	13:45		17	5				2			24	1.0%	
13:45	14:00	1	25	4	2	1					33	1.4%	
13:00	14:00	1	80	19	3	3	3				109	4.6%	
14:00	14:15		33	9	7	2	1				52	2.2%	
14:15	14:30		38	6	1	2	1				48	2.0%	
14:30	14:45		27	5		1	1				34	1.4%	
14:45	15:00		36	7		1	1				45	1.9%	
14:00	15:00		134	27	8	6	4				179	7.5%	
15:00	15:15		43	4	2	4	1				54	2.3%	
15:15	15:30		52	11		1	5				69	2.9%	
15:30	15:45		41	7			2				50	2.1%	
15:45	16:00		31	4		4	1				40	1.7%	
15:00	16:00		167	26	2	9	9				213	9.0%	
16:00	16:15		40	8	1	1	5	1			56	2.4%	
16:15	16:30	2	53	7		4					66	2.8%	
16:30	16:45		55	8		2	3				68	2.9%	
16:45	17:00		50	12		1	1				64	2.7%	
16:00	17:00	2	198	35	1	8	9	1			254	10.7%	
17:00	17:15		48	8		1	1				58	2.4%	
17:15	17:30		53	8		1	1				63	2.7%	
17:30	17:45		52	7		1	4				64	2.7%	
17:45	18:00		47	8			6				61	2.6%	
17:00	18:00		200	31		3	12				246	10.4%	
18:00	18:15		43	9			2			1	55	2.3%	
18:15	18:30		47	7			2				56	2.4%	
18:30	18:45	1	38	11		1	6				57	2.4%	
18:45	19:00		39	4		3					46	1.9%	
18:00	19:00	1	167	31		4	10			1	214	9.0%	
19:00	19:15		41	5		1	3				50	2.1%	
19:15	19:30		43	7			4				54	2.3%	
19:30	19:45		32	4		1	4				41	1.7%	
19:45	20:00	2	35	5			2				44	1.9%	
19:00	20:00	2	151	21		2	13				189	8.0%	
20:00	20:15		30	2		1				1	34	1.4%	
20:15	20:30		22	5			4				31	1.3%	
20:30	20:45		32	6		1	2				41	1.7%	
20:45	21:00		23	2			4				29	1.2%	
20:00	21:00		107	15		2	10			1	135	5.7%	
21:00	21:15		28	2		1					31	1.3%	
21:15	21:30		13	2						1	16	0.7%	
21:30	21:45												
21:45	22:00												
21:00	22:00		41	4		1				1	47	2.0%	
22:00	22:15												
22:15	22:30												
22:30	22:45												
22:45	23:00												
22:00	23:00												
23:00	23:15												
23:15	23:30												
23:30	23:45												
23:45	00:00												
23:00	00:00												
Total			20	1862	293	31	64	95	1	1	5	2372	
			0.8%	78.5%	12.4%	1.3%	2.7%	4.0%	0.0%	0.0%	0.2%		
AM PEAK			4	77	6	9	3	3		1	1	90	
period			7:15	8:00	11:15	7:30	8:45	8:00		11:45	7:45	8:00	
% of class			20.0%	4.1%	2.0%	29.0%	4.7%	3.2%		100.0%	20.0%	3.8%	
PM PEAK			2	55	12	7	4	6	1		1	69	
period			16:15	16:30	16:45	14:00	15:00	17:45	16:00		18:00	15:15	
% of class			10.0%	3.0%	4.1%	22.6%	6.3%	6.3%	100.0%		20.0%	2.9%	

Report-1.2	Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr														
	Direction : West														
	Dates : 1 2019-12-05														
Classes ----->	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00 0:15		1	1		1									3	0.1%
0:15 0:30		2	1											3	0.1%
0:30 0:45					1									1	0.0%
0:45 1:00					1									1	0.0%
00:00 1:00		3	2		3									8	0.3%
1:00 1:15		4	1											5	0.2%
1:15 1:30		1			1									2	0.1%
1:30 1:45		2	1											3	0.1%
1:45 2:00															
1:00 2:00		7	2		1									10	0.4%
2:00 2:15		1												1	0.0%
2:15 2:30		2												2	0.1%
2:30 2:45															
2:45 3:00		1												1	0.0%
2:00 3:00		4												4	0.1%
3:00 3:15		1												1	0.0%
3:15 3:30		1												1	0.0%
3:30 3:45		2												2	0.1%
3:45 4:00		1												1	0.0%
3:00 4:00		5												5	0.2%
4:00 4:15															
4:15 4:30		1				1								2	0.1%
4:30 4:45		4	3		2									9	0.3%
4:45 5:00		9			5									14	0.5%
4:00 5:00		14	3		7	1								25	0.9%
5:00 5:15		8	3		2									13	0.5%
5:15 5:30		16	3		7	1								27	1.0%
5:30 5:45		10	5		4									19	0.7%
5:45 6:00		16	8		3	1								28	1.0%
5:00 6:00		50	19		16	2								87	3.2%
6:00 6:15		19	6											25	0.9%
6:15 6:30		21	6		6		1							34	1.2%
6:30 6:45		31	5		2									38	1.4%
6:45 7:00		37	7		6									50	1.8%
6:00 7:00		108	24		14		1							147	5.4%
7:00 7:15		33	9			1								43	1.6%
7:15 7:30		50	11	1	1	2								65	2.4%
7:30 7:45	1	45	5	2	1	1						1		56	2.1%
7:45 8:00	1	90	17	10	3	2								123	4.5%
7:00 8:00	2	218	42	13	5	6						1		287	10.5%
8:00 8:15		111	16		5	3								135	4.9%
8:15 8:30		70	17	2	3									92	3.4%
8:30 8:45		37	15	1	3	1								57	2.1%
8:45 9:00		41	10		5									56	2.1%
8:00 9:00		259	58	3	16	4								340	12.4%
9:00 9:15		25	11		4									40	1.5%
9:15 9:30		28	5		1									34	1.2%
9:30 9:45		28	7		3	1								39	1.4%
9:45 10:00		24	10		4	1								39	1.4%
9:00 10:00		105	33		12	2								152	5.6%
10:00 10:15		25	7			2								34	1.2%
10:15 10:30		20	2			1								23	0.8%
10:30 10:45		22	8		2									32	1.2%
10:45 11:00		32	2		3									37	1.4%
10:00 11:00		99	19		5	3								126	4.6%
11:00 11:15		32	6		3									41	1.5%
11:15 11:30		26	8											34	1.2%
11:30 11:45		26	5		2	1								34	1.2%
11:45 12:00		16	3		2	1		1						23	0.8%
11:00 12:00		100	22		7	2		1						132	4.8%

12:00	12:15	23	5		2					30	1.1%
12:15	12:30	38	8		2	1				49	1.8%
12:30	12:45	26	6		2	3				37	1.4%
12:45	13:00	23	11		2					36	1.3%
12:00	13:00	110	30		8	4				152	5.6%
13:00	13:15	21	7		2	1				31	1.1%
13:15	13:30	26	4	1						31	1.1%
13:30	13:45	25	3	1	3					32	1.2%
13:45	14:00	22	8		1					31	1.1%
13:00	14:00	94	22	2	6	1				125	4.6%
14:00	14:15	25	6		2					33	1.2%
14:15	14:30	66	12	8	3	3				92	3.4%
14:30	14:45	43	8	1	4	2				58	2.1%
14:45	15:00	26	7	1						34	1.2%
14:00	15:00	160	33	10	9	5				217	7.9%
15:00	15:15	34	7		2		1			44	1.6%
15:15	15:30	26	9	2	2					39	1.4%
15:30	15:45	45	10	2	1	1				59	2.2%
15:45	16:00	41	11		2					54	2.0%
15:00	16:00	146	37	4	7	1	1			196	7.2%
16:00	16:15	41	5	1	1	1				49	1.8%
16:15	16:30	28	6		2					36	1.3%
16:30	16:45	19	7		3	1				30	1.1%
16:45	17:00	29	7		3					39	1.4%
16:00	17:00	117	25	1	9	2				154	5.6%
17:00	17:15	34	5		3					42	1.5%
17:15	17:30	30	7		2	1				40	1.5%
17:30	17:45	33	7		1					41	1.5%
17:45	18:00	36	4							40	1.5%
17:00	18:00	133	23		6	1				163	6.0%
18:00	18:15	26	10		4					40	1.5%
18:15	18:30	31	5		1	1				38	1.4%
18:30	18:45	34	6		1					41	1.5%
18:45	19:00	23	6		1					30	1.1%
18:00	19:00	114	27		7	1				149	5.5%
19:00	19:15	29	4		3					36	1.3%
19:15	19:30	21	7		3					31	1.1%
19:30	19:45	19	2		1					22	0.8%
19:45	20:00	29	7							36	1.3%
19:00	20:00	98	20		7					125	4.6%
20:00	20:15	16	2		1					19	0.7%
20:15	20:30	18								18	0.7%
20:30	20:45	15	3		2					20	0.7%
20:45	21:00	15	4		1					20	0.7%
20:00	21:00	64	9		4					77	2.8%
21:00	21:15	28	2		1					31	1.1%
21:15	21:30	12	3		3	1				19	0.7%
21:30	21:45										
21:45	22:00										
21:00	22:00	40	5		4	1				50	1.8%
22:00	22:15										
22:15	22:30										
22:30	22:45										
22:45	23:00										
22:00	23:00										
23:00	23:15										
23:15	23:30										
23:30	23:45										
23:45	00:00										
23:00	00:00										
Total		2	2048	455	33	153	36	1	2	1	2731
		0.1%	75.0%	16.7%	1.2%	5.6%	1.3%	0.0%	0.1%	0.0%	
AM PEAK		1	111	17	10	7	3	1	1	1	135
period	7:30	8:00	7:45	7:45	5:15	8:00	6:15	11:45		7:30	8:00
% of class	50.0%	5.4%	3.7%	30.3%	4.6%	8.3%	100.0%	50.0%		100.0%	4.9%
PM PEAK		66	12	8	4	3		1			92
period	14:15	14:15	14:15	14:30	12:30			15:00			14:15
% of class		3.2%	2.6%	24.2%	2.6%	8.3%		50.0%			3.4%

Report-1.3		Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr															
		Direction : East + West					Road :										
		Dates : 1 2019-12-05															
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total		
00:00	0:15		11	1		1									13	0.3%	
0:15	0:30		5	1		2									8	0.2%	
0:30	0:45		1	3		1									5	0.1%	
0:45	1:00		4			1									5	0.1%	
00:00	1:00		21	5		5									31	0.6%	
1:00	1:15		6	1		1	1								9	0.2%	
1:15	1:30		2	2		2									6	0.1%	
1:30	1:45		6	1											7	0.1%	
1:45	2:00																
1:00	2:00		14	4		3	1								22	0.4%	
2:00	2:15		2												2	0.0%	
2:15	2:30		2												2	0.0%	
2:30	2:45																
2:45	3:00		3												3	0.1%	
2:00	3:00		7												7	0.1%	
3:00	3:15		2												2	0.0%	
3:15	3:30		1												1	0.0%	
3:30	3:45		2												2	0.0%	
3:45	4:00		1												1	0.0%	
3:00	4:00		6												6	0.1%	
4:00	4:15																
4:15	4:30		1				1								2	0.0%	
4:30	4:45		5	4		2									11	0.2%	
4:45	5:00		9			5									14	0.3%	
4:00	5:00		15	4		7	1								27	0.5%	
5:00	5:15		10	3		2									15	0.3%	
5:15	5:30		21	3		7	1								32	0.6%	
5:30	5:45		14	5		4									23	0.5%	
5:45	6:00		23	8		3	1								35	0.7%	
5:00	6:00		68	19		16	2								105	2.1%	
6:00	6:15		26	6											32	0.6%	
6:15	6:30		26	6		6		1							39	0.8%	
6:30	6:45		39	6		2									47	0.9%	
6:45	7:00		42	9		6									57	1.1%	
6:00	7:00		133	27		14		1							175	3.4%	
7:00	7:15		39	10	1	1	1								52	1.0%	
7:15	7:30	4	64	13	2	1	3								87	1.7%	
7:30	7:45	5	69	10	11	1	1						1		98	1.9%	
7:45	8:00	1	147	21	12	3	3						1		188	3.7%	
7:00	8:00	10	319	54	26	6	8						2		425	8.3%	
8:00	8:15	4	188	21	1	5	6								225	4.4%	
8:15	8:30	2	103	18	2	3									128	2.5%	
8:30	8:45		52	19	2	3	2								78	1.5%	
8:45	9:00		58	10		8									76	1.5%	
8:00	9:00	6	401	68	5	19	8								507	9.9%	
9:00	9:15		34	15		4									53	1.0%	
9:15	9:30		57	10		4	1								72	1.4%	
9:30	9:45		41	8		5	2								56	1.1%	
9:45	10:00		32	12		4	2								50	1.0%	
9:00	10:00		164	45		17	5								231	4.5%	
10:00	10:15		35	9		2	2								48	0.9%	
10:15	10:30		38	4			4								46	0.9%	
10:30	10:45		29	11		2									42	0.8%	
10:45	11:00		45	6		3									54	1.1%	
10:00	11:00		147	30		7	6								190	3.7%	
11:00	11:15		50	8	1	5	2								66	1.3%	
11:15	11:30		43	14		3							1		61	1.2%	
11:30	11:45		49	9		2	1								61	1.2%	
11:45	12:00		37	5		3	4		1		1				51	1.0%	
11:00	12:00		179	36	1	13	7		1		1			1	239	4.7%	

12:00	12:15		46	10		5	2				63	1.2%	
12:15	12:30		62	12		2	3				79	1.5%	
12:30	12:45		59	6		2	4				71	1.4%	
12:45	13:00		58	18	1	4	2				83	1.6%	
12:00	13:00		225	46	1	13	11				296	5.8%	
13:00	13:15		40	13		2	2				57	1.1%	
13:15	13:30		45	8	2	2					57	1.1%	
13:30	13:45		42	8	1	3	2				56	1.1%	
13:45	14:00	1	47	12	2	2					64	1.3%	
13:00	14:00	1	174	41	5	9	4				234	4.6%	
14:00	14:15		58	15	7	4	1				85	1.7%	
14:15	14:30		104	18	9	5	4				140	2.7%	
14:30	14:45		70	13	1	5	3				92	1.8%	
14:45	15:00		62	14	1	1	1				79	1.5%	
14:00	15:00		294	60	18	15	9				396	7.8%	
15:00	15:15		77	11	2	6	1	1			98	1.9%	
15:15	15:30		78	20	2	3	5				108	2.1%	
15:30	15:45		86	17	2	1	3				109	2.1%	
15:45	16:00		72	15		6	1				94	1.8%	
15:00	16:00		313	63	6	16	10	1			409	8.0%	
16:00	16:15		81	13	2	2	6	1			105	2.1%	
16:15	16:30	2	81	13		6					102	2.0%	
16:30	16:45		74	15		5	4				98	1.9%	
16:45	17:00		79	19		4	1				103	2.0%	
16:00	17:00	2	315	60	2	17	11	1			408	8.0%	
17:00	17:15		82	13		4	1				100	2.0%	
17:15	17:30		83	15		3	2				103	2.0%	
17:30	17:45		85	14		2	4				105	2.1%	
17:45	18:00		83	12			6				101	2.0%	
17:00	18:00		333	54		9	13				409	8.0%	
18:00	18:15		69	19		4	2			1	95	1.9%	
18:15	18:30		78	12		1	3				94	1.8%	
18:30	18:45	1	72	17		2	6				98	1.9%	
18:45	19:00		62	10		4					76	1.5%	
18:00	19:00	1	281	58		11	11			1	363	7.1%	
19:00	19:15		70	9		4	3				86	1.7%	
19:15	19:30		64	14		3	4				85	1.7%	
19:30	19:45		51	6		2	4				63	1.2%	
19:45	20:00	2	64	12			2				80	1.6%	
19:00	20:00	2	249	41		9	13				314	6.2%	
20:00	20:15		46	4		2				1	53	1.0%	
20:15	20:30		40	5			4				49	1.0%	
20:30	20:45		47	9		3	2				61	1.2%	
20:45	21:00		38	6		1	4				49	1.0%	
20:00	21:00		171	24		6	10			1	212	4.2%	
21:00	21:15		56	4		2					62	1.2%	
21:15	21:30		25	5		3	1			1	35	0.7%	
21:30	21:45												
21:45	22:00												
21:00	22:00		81	9		5	1			1	97	1.9%	
22:00	22:15												
22:15	22:30												
22:30	22:45												
22:45	23:00												
22:00	23:00												
23:00	23:15												
23:15	23:30												
23:30	23:45												
23:45	00:00												
23:00	00:00												
Total			22	3910	748	64	217	131	1	3	1	6	5103
			0.4%	76.6%	14.7%	1.3%	4.3%	2.6%	0.0%	0.1%	0.0%	0.1%	
AM PEAK			5	188	21	12	8	6	1	1	1	1	225
period			7:30	8:00	7:45	7:45	8:45	8:00	6:15	11:45	11:45	7:30	8:00
% of class			22.7%	4.8%	2.8%	18.8%	3.7%	4.6%	100.0%	33.3%	100.0%	16.7%	4.4%
PM PEAK			2	104	20	9	6	6		1		1	140
period			16:15	14:15	15:15	14:15	15:00	16:00		15:00		18:00	14:15
% of class			9.1%	2.7%	2.7%	14.1%	2.8%	4.6%		33.3%		16.7%	2.7%

Report-2.1	Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr													Pace	Number	
	Direction : East Road :															
Speeds,km/h ----->	Dates : 1 2019-12-05													Total	Speed	in Pace
	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				4	6									10	37.4-57.4	10
0:15 0:30				3	2									5	31.1-51.1	5
0:30 0:45			1	1	2									4	33.9-53.9	4
0:45 1:00				2	1	1								4	40.2-60.2	4
00:00 1:00			1	10	11	1								23	37.4-57.4	10
1:00 1:15				1	3									4	35.5-55.5	4
1:15 1:30				2	2									4	35.2-55.2	4
1:30 1:45				4										4	25.7-45.7	4
1:45 2:00																
1:00 2:00				7	5									12	35.5-55.5	4
2:00 2:15				1										1	26.6-46.6	1
2:15 2:30																
2:30 2:45																
2:45 3:00				2										2	25.9-45.9	2
2:00 3:00				3										3	25.9-45.9	2
3:00 3:15					1									1	39.3-59.3	1
3:15 3:30																
3:30 3:45																
3:45 4:00																
3:00 4:00					1									1	39.3-59.3	1
4:00 4:15																
4:15 4:30																
4:30 4:45			1		1									2	5.1-25.1	1
4:45 5:00																
4:00 5:00			1		1									2	5.1-25.1	1
5:00 5:15				2										2	19.4-39.4	2
5:15 5:30				3	1	1								5	33.9-53.9	5
5:30 5:45					3	1								4	33.4-53.4	4
5:45 6:00					4	3								7	37.6-57.6	7
5:00 6:00				5	8	5								18	37.6-57.6	7
6:00 6:15				1	5	1								7	31.8-51.8	7
6:15 6:30				2	2	1								5	32.2-52.2	5
6:30 6:45				4	5									9	29.9-49.9	9
6:45 7:00			1	1	1	3	1							7	31.5-51.5	5
6:00 7:00			1	8	13	5	1							28	29.9-49.9	9
7:00 7:15				1	5	3								9	32.8-52.8	9
7:15 7:30				6	15	1								22	30.0-50.0	21
7:30 7:45				13	24	5								42	36.0-56.0	39
7:45 8:00			1	2	4	45	13							65	34.8-54.8	60
7:00 8:00			1	2	24	89	22							138	34.8-54.8	60
8:00 8:15				20	51	16	3							90	35.5-55.5	78
8:15 8:30				2	18	15	1							36	35.7-55.7	35
8:30 8:45				1	12	7	1							21	35.1-55.1	20
8:45 9:00			1	1	1	8	8	1						20	33.7-53.7	17
8:00 9:00			1	1	24	89	46	6						167	35.5-55.5	78
9:00 9:15				3		10								13	37.2-57.2	12
9:15 9:30				6	25	7								38	33.5-53.5	38
9:30 9:45				2	9	6								17	34.5-54.5	15
9:45 10:00					10	1								11	38.3-58.3	11
9:00 10:00				11	44	24								79	33.5-53.5	38
10:00 10:15				1	8	5								14	33.5-53.5	14
10:15 10:30			1	2	14	5	1							23	34.7-54.7	21
10:30 10:45					4	5	1							10	35.8-55.8	9
10:45 11:00				3	7	6	1							17	34.9-54.9	16
10:00 11:00			1	6	33	21	3							64	34.7-54.7	21
11:00 11:15				3	6	15	1							25	38.4-58.4	22
11:15 11:30			1	7	12	7								27	34.5-54.5	23
11:30 11:45			1	1	18	7								27	37.6-57.6	25
11:45 12:00				4	8	16								28	36.8-56.8	26
11:00 12:00			2	15	44	45	1							107	36.8-56.8	26



Report-2.2	Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr													Total	Pace Speed	Number in Pace
	Direction : West Dates : 1 2019-12-05 Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15					3									3	39.2-59.2	3
0:15 0:30				3										3	28.6-48.6	3
0:30 0:45				1										1	29.5-49.5	1
0:45 1:00				1										1	22.8-42.8	1
00:00 1:00				5	3									8	39.2-59.2	3
1:00 1:15				2	3									5	39.7-59.7	5
1:15 1:30				1	1									2	35.5-55.5	2
1:30 1:45				1	2									3	30.3-50.3	3
1:45 2:00																
1:00 2:00				4	6									10	39.7-59.7	5
2:00 2:15				1										1	29.8-49.8	1
2:15 2:30				1	1									2	38.5-58.5	2
2:30 2:45																
2:45 3:00				1										1	28.7-48.7	1
2:00 3:00				3	1									4	38.5-58.5	2
3:00 3:15					1									1	34.7-54.7	1
3:15 3:30					1									1	31.9-51.9	1
3:30 3:45					2									2	36.0-56.0	2
3:45 4:00			1											1	19.9-39.9	1
3:00 4:00			1		4									5	36.0-56.0	2
4:00 4:15																
4:15 4:30			1		1									2	33.4-53.4	2
4:30 4:45			2	6	1									9	33.0-53.0	9
4:45 5:00			1	6	5	1	1							14	31.5-51.5	11
4:00 5:00			4	12	7	1	1							25	31.5-51.5	11
5:00 5:15			1	7	3	2								13	35.4-55.4	11
5:15 5:30			7	8	10	2								27	34.3-54.3	21
5:30 5:45		1	2	11	4	1								19	34.8-54.8	17
5:45 6:00			8	10	8	2								28	33.1-53.1	21
5:00 6:00			1	18	36	25	7							87	34.3-54.3	21
6:00 6:15		1	1	12	7	4								25	32.3-52.3	21
6:15 6:30			10	20	4									34	30.5-50.5	31
6:30 6:45		2	1	9	17	7	1	1						38	31.0-51.0	27
6:45 7:00			11	29	10									50	32.6-52.6	46
6:00 7:00		3	2	42	73	25	1	1						147	32.6-52.6	46
7:00 7:15			1	5	22	13	2							43	34.1-54.1	37
7:15 7:30			6	11	27	20	1							65	36.2-56.2	52
7:30 7:45		2	6	14	22	9	3							56	34.6-54.6	39
7:45 8:00			9	32	66	15	1							123	29.9-49.9	98
7:00 8:00		2	22	62	137	57	7							287	29.9-49.9	98
8:00 8:15		2	10	32	55	36								135	36.9-56.9	109
8:15 8:30		1	7	15	44	21	4							92	35.6-55.6	71
8:30 8:45			1	16	21	15	4							57	31.5-51.5	40
8:45 9:00		1	1	9	29	13	3							56	35.8-55.8	48
8:00 9:00		4	19	72	149	85	11							340	36.9-56.9	109
9:00 9:15		2	1	9	11	15	2							40	34.4-54.4	30
9:15 9:30			4	7	15	8								34	36.8-56.8	26
9:30 9:45				7	20	8	4							39	34.5-54.5	32
9:45 10:00			3	7	20	8	1							39	32.8-52.8	32
9:00 10:00		2	8	30	66	39	7							152	34.5-54.5	32
10:00 10:15			1	5	12	15	1							34	39.8-59.8	27
10:15 10:30				6	12	5								23	34.4-54.4	21
10:30 10:45				5	19	7	1							32	37.2-57.2	28
10:45 11:00				5	20	10	2							37	35.5-55.5	33
10:00 11:00			1	21	63	37	4							126	35.5-55.5	33
11:00 11:15				6	20	14	1							41	39.9-59.9	34
11:15 11:30				5	15	14								34	37.8-57.8	33
11:30 11:45			2	6	18	7	1							34	32.2-52.2	26
11:45 12:00			3	9	9	1	1							23	38.5-58.5	19
11:00 12:00			2	20	62	44	3	1						132	39.9-59.9	34

12:00	12:15			5	16	7	2			30	36.8-56.8	27
12:15	12:30		1	10	20	11	7			49	34.2-54.2	40
12:30	12:45		3	9	12	12	1			37	37.3-57.3	28
12:45	13:00			5	20	9	2			36	33.3-53.3	32
12:00	13:00		4	29	68	39	12			152	34.2-54.2	40
13:00	13:15			4	16	10	1			31	36.0-56.0	27
13:15	13:30	1	1	4	17	8				31	35.8-55.8	29
13:30	13:45			10	14	8				32	37.6-57.6	25
13:45	14:00			6	14	9	2			31	37.2-57.2	24
13:00	14:00	1	1	24	61	35	3			125	35.8-55.8	29
14:00	14:15			7	16	9	1			33	32.8-52.8	27
14:15	14:30	2	6	27	33	24				92	34.0-54.0	71
14:30	14:45		1	7	30	19	1			58	38.3-58.3	55
14:45	15:00			2	10	20	2			34	42.3-62.3	31
14:00	15:00	2	7	43	89	72	4			217	34.0-54.0	71
15:00	15:15		1	4	15	20	4			44	37.7-57.7	38
15:15	15:30			2	15	13	9			39	41.9-61.9	32
15:30	15:45		5	10	31	11	2			59	33.8-53.8	45
15:45	16:00	1		13	19	19	2			54	38.0-58.0	45
15:00	16:00	1	6	29	80	63	17			196	33.8-53.8	45
16:00	16:15		1	10	25	10	3			49	35.0-55.0	42
16:15	16:30		2	2	16	13	3			36	39.6-59.6	29
16:30	16:45			4	12	12	2			30	38.1-58.1	25
16:45	17:00			2	23	13	1			39	33.1-53.1	37
16:00	17:00		3	18	76	48	9			154	35.0-55.0	42
17:00	17:15		1	7	16	16	2			42	38.0-58.0	34
17:15	17:30			12	18	9	1			40	30.8-50.8	33
17:30	17:45		2	9	19	11				41	34.2-54.2	37
17:45	18:00			3	28	9				40	36.7-56.7	40
17:00	18:00		3	31	81	45	3			163	36.7-56.7	40
18:00	18:15			10	19	8	3			40	36.3-56.3	34
18:15	18:30			8	19	10	1			38	34.9-54.9	35
18:30	18:45			4	25	10	2			41	37.7-57.7	37
18:45	19:00			1	12	14	3			30	38.7-58.7	27
18:00	19:00			23	75	42	9			149	37.7-57.7	37
19:00	19:15			2	21	11	2			36	38.4-58.4	33
19:15	19:30			1	13	15	2			31	37.6-57.6	29
19:30	19:45			1	10	11				22	39.8-59.8	21
19:45	20:00		1	1	24	10				36	37.8-57.8	35
19:00	20:00		1	5	68	47	4			125	37.8-57.8	35
20:00	20:15		1		11	7				19	36.7-56.7	18
20:15	20:30			1	5	12				18	38.2-58.2	17
20:30	20:45			3	8	9				20	37.0-57.0	20
20:45	21:00			1	12	7				20	39.0-59.0	19
20:00	21:00		1	5	36	35				77	37.0-57.0	20
21:00	21:15				15	15	1			31	40.6-60.6	31
21:15	21:30		1	3	11	4				19	32.5-52.5	16
21:30	21:45											
21:45	22:00											
21:00	22:00		1	3	26	19	1			50	40.6-60.6	31
22:00	22:15											
22:15	22:30											
22:30	22:45											
22:45	23:00											
22:00	23:00											
23:00	23:15											
23:15	23:30											
23:30	23:45											
23:45	00:00											
23:00	00:00											
Total			15	82	480	1270	778	103	3		2731	
AM PEAK			0.5%	3.0%	17.6%	46.5%	28.5%	3.8%	0.1%			
period			2	10	32	66	36	4	1		135	
% of class			6:30	8:00	7:45	7:45	8:00	8:15	4:45		8:00	
			13.3%	12.2%	6.7%	5.2%	4.6%	3.9%	33.3%			4.9%
PM PEAK			2	6	27	33	24	9			92	
period			14:15	14:15	14:15	14:15	14:15	15:15			14:15	
% of class			13.3%	7.3%	5.6%	2.6%	3.1%	8.7%				3.4%

15% Percentile :	37 KPH
50% Percentile :	46 KPH
85% Percentile :	56 KPH
95% Percentile :	60 KPH

20 KPH Pace Speed:	36.8-56.8 KPH
Number in Pace:	2182
Percent in Pace:	79.9 %
Number of Vehicles >40 KPH:	2154
Percent of Vehicles >40 KPH:	78.9 %
Mean Speed(average):	46 KPH

Report-2.3	Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr													Total	Pace Speed	Number in Pace
	Direction : East + West Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15				4	9									13	39.2-59.2	13
0:15 0:30				6	2									8	31.1-51.1	8
0:30 0:45			1	2	2									5	33.9-53.9	5
0:45 1:00				3	1	1								5	40.2-60.2	5
00:00 1:00			1	15	14	1								31	39.2-59.2	13
1:00 1:15				3	6									9	39.7-59.7	9
1:15 1:30				3	3									6	35.5-55.5	6
1:30 1:45				5	2									7	30.3-50.3	7
1:45 2:00																
1:00 2:00				11	11									22	39.7-59.7	9
2:00 2:15				2										2	29.8-49.8	2
2:15 2:30				1	1									2	38.5-58.5	2
2:30 2:45																
2:45 3:00				3										3	28.7-48.7	3
2:00 3:00				6	1									7	28.7-48.7	3
3:00 3:15					2									2	39.3-59.3	2
3:15 3:30					1									1	31.9-51.9	1
3:30 3:45					2									2	36.0-56.0	2
3:45 4:00			1											1	19.9-39.9	1
3:00 4:00			1		5									6	39.3-59.3	2
4:00 4:15																
4:15 4:30				1	1									2	33.4-53.4	2
4:30 4:45			1	2	6	2								11	33.6-53.6	10
4:45 5:00				1	6	5	1	1						14	31.5-51.5	11
4:00 5:00			1	4	12	8	1	1						27	31.5-51.5	11
5:00 5:15				3	7	3	2							15	35.4-55.4	13
5:15 5:30				10	9	11	2							32	34.3-54.3	26
5:30 5:45			1	2	14	5	1							23	34.8-54.8	21
5:45 6:00				8	14	11	2							35	35.3-55.3	27
5:00 6:00			1	23	44	30	7							105	35.3-55.3	27
6:00 6:15		1	1	13	12	5								32	32.3-52.3	28
6:15 6:30				12	22	5								39	30.5-50.5	35
6:30 6:45		2	1	13	22	7	1	1						47	31.0-51.0	36
6:45 7:00			1	12	30	13	1							57	32.6-52.6	51
6:00 7:00		3	3	50	86	30	2	1						175	32.6-52.6	51
7:00 7:15			1	6	27	16	2							52	34.1-54.1	46
7:15 7:30			6	17	42	21	1							87	36.2-56.2	71
7:30 7:45		2	6	27	46	14	3							98	31.7-51.7	76
7:45 8:00		1	11	36	111	28	1							188	30.6-50.6	152
7:00 8:00		3	24	86	226	79	7							425	30.6-50.6	152
8:00 8:15		2	10	52	106	52	3							225	35.5-55.5	186
8:15 8:30		1	7	17	62	36	5							128	35.7-55.7	106
8:30 8:45			1	17	33	22	5							78	33.9-53.9	57
8:45 9:00		2	2	10	37	21	4							76	35.8-55.8	65
8:00 9:00		5	20	96	238	131	17							507	35.5-55.5	186
9:00 9:15		2	1	12	11	25	2							53	37.2-57.2	41
9:15 9:30			4	13	40	15								72	36.8-56.8	64
9:30 9:45				9	29	14	4							56	34.5-54.5	47
9:45 10:00			3	7	30	9	1							50	32.8-52.8	42
9:00 10:00		2	8	41	110	63	7							231	36.8-56.8	64
10:00 10:15			1	6	20	20	1							48	39.8-59.8	40
10:15 10:30			1	8	26	10	1							46	34.7-54.7	42
10:30 10:45				5	23	12	2							42	37.2-57.2	37
10:45 11:00				8	27	16	3							54	35.5-55.5	49
10:00 11:00			2	27	96	58	7							190	35.5-55.5	49
11:00 11:15				9	26	29	2							66	39.9-59.9	55
11:15 11:30			1	12	27	21								61	37.8-57.8	55
11:30 11:45			3	7	36	14	1							61	37.6-57.6	51
11:45 12:00				7	17	25	1	1						51	36.8-56.8	44
11:00 12:00			4	35	106	89	4	1						239	39.9-59.9	55

12:00	12:15			7	38	15	3					63	36.8-56.8	57	
12:15	12:30		1	12	29	27	10					79	38.2-58.2	62	
12:30	12:45		3	11	33	23	1					71	37.3-57.3	62	
12:45	13:00			12	40	28	3					83	36.4-56.4	75	
12:00	13:00		4	42	140	93	17					296	36.4-56.4	75	
13:00	13:15			4	27	22	3		1			57	40.5-60.5	50	
13:15	13:30	1	1	9	30	16						57	36.3-56.3	53	
13:30	13:45			11	28	17						56	37.6-57.6	48	
13:45	14:00			10	35	17	2					64	37.2-57.2	54	
13:00	14:00	1	1	34	120	72	5		1			234	37.2-57.2	54	
14:00	14:15			11	44	26	4					85	35.8-55.8	74	
14:15	14:30	2	6	32	59	40	1					140	34.0-54.0	114	
14:30	14:45		1	10	48	31	2					92	38.3-58.3	87	
14:45	15:00			5	26	45	3					79	42.3-62.3	72	
14:00	15:00	2	7	58	177	142	10					396	34.0-54.0	114	
15:00	15:15		1	10	40	41	6					98	37.2-57.2	86	
15:15	15:30			7	66	25	10					108	40.7-60.7	93	
15:30	15:45		6	10	54	34	5					109	39.5-59.5	88	
15:45	16:00	1		13	41	37	2					94	38.0-58.0	84	
15:00	16:00	1	7	40	201	137	23					409	40.7-60.7	93	
16:00	16:15		1	10	60	30	4					105	36.4-56.4	93	
16:15	16:30		2	4	38	52	6					102	41.6-61.6	91	
16:30	16:45			6	39	48	5					98	39.8-59.8	87	
16:45	17:00			3	47	50	3					103	40.4-60.4	99	
16:00	17:00		3	23	184	180	18					408	40.4-60.4	99	
17:00	17:15		1	7	25	63	3		1			100	38.8-58.8	89	
17:15	17:30			14	36	48	4	1				103	41.2-61.2	86	
17:30	17:45		2	9	49	37	8					105	41.8-61.8	90	
17:45	18:00			9	45	43	4					101	36.8-56.8	93	
17:00	18:00		3	39	155	191	19	1	1			409	36.8-56.8	93	
18:00	18:15			10	35	42	8					95	40.9-60.9	82	
18:15	18:30			8	42	42	2					94	38.6-58.6	85	
18:30	18:45			4	49	39	6					98	38.0-58.0	90	
18:45	19:00			3	23	46	4					76	38.8-58.8	70	
18:00	19:00			25	149	169	20					363	38.0-58.0	90	
19:00	19:15			5	39	36	6					86	38.9-58.9	77	
19:15	19:30			3	40	38	4					85	38.2-58.2	79	
19:30	19:45			5	23	33	2					63	40.4-60.4	57	
19:45	20:00		1	2	46	30	1					80	38.2-58.2	78	
19:00	20:00		1	15	148	137	13					314	38.2-58.2	79	
20:00	20:15		1	3	23	25	1					53	38.4-58.4	49	
20:15	20:30			4	20	25						49	36.7-56.7	45	
20:30	20:45			6	19	35	1					61	37.4-57.4	59	
20:45	21:00			9	19	21						49	36.8-56.8	45	
20:00	21:00		1	22	81	106	2					212	37.4-57.4	59	
21:00	21:15			11	30	20	1					62	36.6-56.6	61	
21:15	21:30		1	7	19	7	1					35	32.5-52.5	29	
21:30	21:45														
21:45	22:00														
21:00	22:00		1	18	49	27	2					97	36.6-56.6	61	
22:00	22:15														
22:15	22:30														
22:30	22:45														
22:45	23:00														
22:00	23:00														
23:00	23:15														
23:15	23:30														
23:30	23:45														
23:45	00:00														
23:00	00:00														
Total			17	91	680	2354	1773	182	4	1	1		5103		
AM PEAK			0.3%	1.8%	13.3%	46.1%	34.7%	3.6%	0.1%	0.0%	0.0%				
period			2	11	52	111	52	5	1				225		
% of class			6:30	7:45	8:00	7:45	8:00	8:15	4:45				8:00		
PM PEAK			11.8%	12.1%	7.6%	4.7%	2.9%	2.7%	25.0%					4.4%	
period			2	6	32	66	63	10	1	1	1		140		
% of class			14:15	14:15	14:15	15:15	17:00	12:15	17:15	17:00	13:00		14:15		
			11.8%	6.6%	4.7%	2.8%	3.6%	5.5%	25.0%	100.0%	100.0%			2.7%	

15% Percentile :	40 KPH
50% Percentile :	47 KPH
85% Percentile :	57 KPH
95% Percentile :	60 KPH

20 KPH Pace Speed:	36.8-56.8 KPH
Number in Pace:	4282
Percent in Pace:	83.9 %
Number of Vehicles >40 KPH:	4315
Percent of Vehicles >40 KPH:	84.6 %
Mean Speed(average):	47 KPH

Report-3.1 Directions ----->	Location : CAL2019-A1EW Columbia Way - west of Kingsview Dr									
	Dates : 2019-12-05									
	North Volume %		South Volume %		East Volume %		West Volume %		Total Volume %	
00:00 0:15			10	0.4%	3	0.1%	13	0.3%		
0:15 0:30			5	0.2%	3	0.1%	8	0.2%		
0:30 0:45			4	0.2%	1	0.0%	5	0.1%		
0:45 1:00			4	0.2%	1	0.0%	5	0.1%		
00:00 1:00			23	1.0%	8	0.3%	31	0.6%		
1:00 1:15			4	0.2%	5	0.2%	9	0.2%		
1:15 1:30			4	0.2%	2	0.1%	6	0.1%		
1:30 1:45			4	0.2%	3	0.1%	7	0.1%		
1:45 2:00										
1:00 2:00			12	0.5%	10	0.4%	22	0.4%		
2:00 2:15			1	0.0%	1	0.0%	2	0.0%		
2:15 2:30					2	0.1%	2	0.0%		
2:30 2:45										
2:45 3:00			2	0.1%	1	0.0%	3	0.1%		
2:00 3:00			3	0.1%	4	0.1%	7	0.1%		
3:00 3:15			1	0.0%	1	0.0%	2	0.0%		
3:15 3:30					1	0.0%	1	0.0%		
3:30 3:45					2	0.1%	2	0.0%		
3:45 4:00					1	0.0%	1	0.0%		
3:00 4:00			1	0.0%	5	0.2%	6	0.1%		
4:00 4:15										
4:15 4:30					2	0.1%	2	0.0%		
4:30 4:45			2	0.1%	9	0.3%	11	0.2%		
4:45 5:00					14	0.5%	14	0.3%		
4:00 5:00			2	0.1%	25	0.9%	27	0.5%		
5:00 5:15			2	0.1%	13	0.5%	15	0.3%		
5:15 5:30			5	0.2%	27	1.0%	32	0.6%		
5:30 5:45			4	0.2%	19	0.7%	23	0.5%		
5:45 6:00			7	0.3%	28	1.0%	35	0.7%		
5:00 6:00			18	0.8%	87	3.2%	105	2.1%		
6:00 6:15			7	0.3%	25	0.9%	32	0.6%		
6:15 6:30			5	0.2%	34	1.2%	39	0.8%		
6:30 6:45			9	0.4%	38	1.4%	47	0.9%		
6:45 7:00			7	0.3%	50	1.8%	57	1.1%		
6:00 7:00			28	1.2%	147	5.4%	175	3.4%		
7:00 7:15			9	0.4%	43	1.6%	52	1.0%		
7:15 7:30			22	0.9%	65	2.4%	87	1.7%		
7:30 7:45			42	1.8%	56	2.1%	98	1.9%		
7:45 8:00			65	2.7%	123	4.5%	188	3.7%		
7:00 8:00			138	5.8%	287	10.5%	425	8.3%		
8:00 8:15			90	3.8%	135	4.9%	225	4.4%		
8:15 8:30			36	1.5%	92	3.4%	128	2.5%		
8:30 8:45			21	0.9%	57	2.1%	78	1.5%		
8:45 9:00			20	0.8%	56	2.1%	76	1.5%		
8:00 9:00			167	7.0%	340	12.4%	507	9.9%		
9:00 9:15			13	0.5%	40	1.5%	53	1.0%		
9:15 9:30			38	1.6%	34	1.2%	72	1.4%		
9:30 9:45			17	0.7%	39	1.4%	56	1.1%		
9:45 10:00			11	0.5%	39	1.4%	50	1.0%		
9:00 10:00			79	3.3%	152	5.6%	231	4.5%		
10:00 10:15			14	0.6%	34	1.2%	48	0.9%		
10:15 10:30			23	1.0%	23	0.8%	46	0.9%		
10:30 10:45			10	0.4%	32	1.2%	42	0.8%		
10:45 11:00			17	0.7%	37	1.4%	54	1.1%		
10:00 11:00			64	2.7%	126	4.6%	190	3.7%		
11:00 11:15			25	1.1%	41	1.5%	66	1.3%		
11:15 11:30			27	1.1%	34	1.2%	61	1.2%		
11:30 11:45			27	1.1%	34	1.2%	61	1.2%		
11:45 12:00			28	1.2%	23	0.8%	51	1.0%		
11:00 12:00			107	4.5%	132	4.8%	239	4.7%		

12:00	12:15		33	1.4%	30	1.1%	63	1.2%
12:15	12:30		30	1.3%	49	1.8%	79	1.5%
12:30	12:45		34	1.4%	37	1.4%	71	1.4%
12:45	13:00		47	2.0%	36	1.3%	83	1.6%
12:00	13:00		144	6.1%	152	5.6%	296	5.8%
13:00	13:15		26	1.1%	31	1.1%	57	1.1%
13:15	13:30		26	1.1%	31	1.1%	57	1.1%
13:30	13:45		24	1.0%	32	1.2%	56	1.1%
13:45	14:00		33	1.4%	31	1.1%	64	1.3%
13:00	14:00		109	4.6%	125	4.6%	234	4.6%
14:00	14:15		52	2.2%	33	1.2%	85	1.7%
14:15	14:30		48	2.0%	92	3.4%	140	2.7%
14:30	14:45		34	1.4%	58	2.1%	92	1.8%
14:45	15:00		45	1.9%	34	1.2%	79	1.5%
14:00	15:00		179	7.5%	217	7.9%	396	7.8%
15:00	15:15		54	2.3%	44	1.6%	98	1.9%
15:15	15:30		69	2.9%	39	1.4%	108	2.1%
15:30	15:45		50	2.1%	59	2.2%	109	2.1%
15:45	16:00		40	1.7%	54	2.0%	94	1.8%
15:00	16:00		213	9.0%	196	7.2%	409	8.0%
16:00	16:15		56	2.4%	49	1.8%	105	2.1%
16:15	16:30		66	2.8%	36	1.3%	102	2.0%
16:30	16:45		68	2.9%	30	1.1%	98	1.9%
16:45	17:00		64	2.7%	39	1.4%	103	2.0%
16:00	17:00		254	10.7%	154	5.6%	408	8.0%
17:00	17:15		58	2.4%	42	1.5%	100	2.0%
17:15	17:30		63	2.7%	40	1.5%	103	2.0%
17:30	17:45		64	2.7%	41	1.5%	105	2.1%
17:45	18:00		61	2.6%	40	1.5%	101	2.0%
17:00	18:00		246	10.4%	163	6.0%	409	8.0%
18:00	18:15		55	2.3%	40	1.5%	95	1.9%
18:15	18:30		56	2.4%	38	1.4%	94	1.8%
18:30	18:45		57	2.4%	41	1.5%	98	1.9%
18:45	19:00		46	1.9%	30	1.1%	76	1.5%
18:00	19:00		214	9.0%	149	5.5%	363	7.1%
19:00	19:15		50	2.1%	36	1.3%	86	1.7%
19:15	19:30		54	2.3%	31	1.1%	85	1.7%
19:30	19:45		41	1.7%	22	0.8%	63	1.2%
19:45	20:00		44	1.9%	36	1.3%	80	1.6%
19:00	20:00		189	8.0%	125	4.6%	314	6.2%
20:00	20:15		34	1.4%	19	0.7%	53	1.0%
20:15	20:30		31	1.3%	18	0.7%	49	1.0%
20:30	20:45		41	1.7%	20	0.7%	61	1.2%
20:45	21:00		29	1.2%	20	0.7%	49	1.0%
20:00	21:00		135	5.7%	77	2.8%	212	4.2%
21:00	21:15		31	1.3%	31	1.1%	62	1.2%
21:15	21:30		16	0.7%	19	0.7%	35	0.7%
21:30	21:45							
21:45	22:00							
21:00	22:00		47	2.0%	50	1.8%	97	1.9%
22:00	22:15							
22:15	22:30							
22:30	22:45							
22:45	23:00							
22:00	23:00							
23:00	23:15							
23:15	23:30							
23:30	23:45							
23:45	00:00							
23:00	00:00							
Total			2372		2731		5103	100.0%
			46.5%		53.5%		100.0%	
AM PEAK			90		135		225	
period			8:00		8:00		8:00	
% of class				3.8%		4.9%		4.4%
PM PEAK			69		92		140	
period			15:15		14:15		14:15	
% of class				2.9%		3.4%		2.7%

Report-1.1		Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd														
		Direction : East Road :														
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		6												6	0.2%
0:15	0:30		2	1											3	0.1%
0:30	0:45		3												3	0.1%
0:45	1:00		3												3	0.1%
00:00	1:00		14	1											15	0.6%
1:00	1:15		1												1	0.0%
1:15	1:30		2												2	0.1%
1:30	1:45		1												1	0.0%
1:45	2:00															
1:00	2:00		4												4	0.2%
2:00	2:15															
2:15	2:30		1												1	0.0%
2:30	2:45		1												1	0.0%
2:45	3:00															
2:00	3:00		2												2	0.1%
3:00	3:15		1												1	0.0%
3:15	3:30		1												1	0.0%
3:30	3:45															
3:45	4:00		1												1	0.0%
3:00	4:00		3												3	0.1%
4:00	4:15		1												1	0.0%
4:15	4:30															
4:30	4:45															
4:45	5:00		2	1											3	0.1%
4:00	5:00		3	1											4	0.2%
5:00	5:15		2												2	0.1%
5:15	5:30		5												5	0.2%
5:30	5:45		2	1											3	0.1%
5:45	6:00		5	1											6	0.2%
5:00	6:00		14	2											16	0.6%
6:00	6:15		7	2											9	0.3%
6:15	6:30		8												8	0.3%
6:30	6:45		8			1									9	0.3%
6:45	7:00		8	1											9	0.3%
6:00	7:00		31	3		1									35	1.3%
7:00	7:15		15	2		1									18	0.7%
7:15	7:30		13	1	1										15	0.6%
7:30	7:45		14	1											15	0.6%
7:45	8:00		40	2	2	2									46	1.8%
7:00	8:00		82	6	3	3									94	3.6%
8:00	8:15		60	2		3									65	2.5%
8:15	8:30		32	4	1										37	1.4%
8:30	8:45		24	2	1	1									28	1.1%
8:45	9:00		19	1	1		1								22	0.8%
8:00	9:00		135	9	3	4	1								152	5.8%
9:00	9:15		11	1											12	0.5%
9:15	9:30		24	3											27	1.0%
9:30	9:45		16	3											19	0.7%
9:45	10:00		18	4		1									23	0.9%
9:00	10:00		69	11		1									81	3.1%
10:00	10:15		12	4					1						17	0.7%
10:15	10:30		14			1									15	0.6%
10:30	10:45		15	3											18	0.7%
10:45	11:00		17	2		2									21	0.8%
10:00	11:00		58	9		3			1						71	2.7%
11:00	11:15		21	4											25	1.0%
11:15	11:30		28	5	1		1								35	1.3%
11:30	11:45		23	4		3									30	1.2%
11:45	12:00		20	2											22	0.8%
11:00	12:00		92	15	1	3	1								112	4.3%

12:00	12:15	24	8		2							34	1.3%
12:15	12:30	22	8									30	1.2%
12:30	12:45	23	7		1							31	1.2%
12:45	13:00	20	2									22	0.8%
12:00	13:00	89	25		3							117	4.5%
13:00	13:15	23	5	1								29	1.1%
13:15	13:30	18	5									23	0.9%
13:30	13:45	28	8		1							37	1.4%
13:45	14:00	31	1		2							34	1.3%
13:00	14:00	100	19	1	3							123	4.7%
14:00	14:15	21	3									24	0.9%
14:15	14:30	70	13	2	2							87	3.3%
14:30	14:45	41	1	3		1						46	1.8%
14:45	15:00	43	4		2							49	1.9%
14:00	15:00	175	21	5	4	1						206	7.9%
15:00	15:15	57	8	4	1	2						72	2.8%
15:15	15:30	46	9							3		55	2.1%
15:30	15:45	49	11								3	63	2.4%
15:45	16:00	2	33	7		1	2					45	1.7%
15:00	16:00	2	185	35	4	2	7					235	9.0%
16:00	16:15	45	8	2	4	2						61	2.3%
16:15	16:30	51	5		1	1						58	2.2%
16:30	16:45	59	13		1	3	1					77	3.0%
16:45	17:00	49	8		2	1						60	2.3%
16:00	17:00	204	34	2	8	7	1					256	9.8%
17:00	17:15	66	12		1	3						82	3.2%
17:15	17:30	56	13		1					1		71	2.7%
17:30	17:45	55	10		1	1						67	2.6%
17:45	18:00	2	60	7		1						70	2.7%
17:00	18:00	2	237	42		3	5			1		290	11.1%
18:00	18:15	57	8		1	2						68	2.6%
18:15	18:30	49	7									56	2.2%
18:30	18:45	40	8		1	2						51	2.0%
18:45	19:00	37	10			3						50	1.9%
18:00	19:00	183	33		2	7						225	8.6%
19:00	19:15	38	11			1						50	1.9%
19:15	19:30	40	5			3						48	1.8%
19:30	19:45	29	5			3						37	1.4%
19:45	20:00	27	5			1						33	1.3%
19:00	20:00	134	26		7	1						168	6.5%
20:00	20:15	36	5			2						43	1.7%
20:15	20:30	26	3									29	1.1%
20:30	20:45	29	2							1		32	1.2%
20:45	21:00	21	1				2					24	0.9%
20:00	21:00	112	11		2	2				1		128	4.9%
21:00	21:15	33	6		1							40	1.5%
21:15	21:30	33	2									35	1.3%
21:30	21:45	21	2									23	0.9%
21:45	22:00	22	3		1							26	1.0%
21:00	22:00	109	13		2							124	4.8%
22:00	22:15	31	3									34	1.3%
22:15	22:30	21	5									26	1.0%
22:30	22:45	11	3									14	0.5%
22:45	23:00	22	1		1							24	0.9%
22:00	23:00	85	12		1							98	3.8%
23:00	23:15	11	2		1							14	0.5%
23:15	23:30	12	2									14	0.5%
23:30	23:45	9										9	0.3%
23:45	00:00	3	1			2						6	0.2%
23:00	00:00	35	5		1	2						43	1.7%
Total		4	2155	333	19	53	34	1	1	1	1	2602	
		0.2%	82.8%	12.8%	0.7%	2.0%	1.3%	0.0%	0.0%	0.0%	0.0%		
AM PEAK		60	5	2	3	1			1			65	
period		8:00	11:15	7:45	8:00	8:45			10:00			8:00	
% of class		2.8%	1.5%	10.5%	5.7%	2.9%			100.0%			2.5%	
PM PEAK		2	70	13	4	4	3	1		1	1	87	
period		15:45	14:15	14:15	15:00	16:00	15:30	16:30		17:15	20:30	14:15	
% of class		50.0%	3.2%	3.9%	21.1%	7.5%	8.8%	100.0%		100.0%	100.0%	3.3%	

Report-1.2		Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd														
		Direction : West Road :														
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		6												6	0.2%
0:15	0:30		4												4	0.1%
0:30	0:45		2												2	0.1%
0:45	1:00		4												4	0.1%
00:00	1:00		16												16	0.6%
1:00	1:15		4												4	0.1%
1:15	1:30		2	1											3	0.1%
1:30	1:45		2												2	0.1%
1:45	2:00															
1:00	2:00		8	1											9	0.3%
2:00	2:15															
2:15	2:30		1												1	0.0%
2:30	2:45		1												1	0.0%
2:45	3:00		2												2	0.1%
2:00	3:00		4												4	0.1%
3:00	3:15															
3:15	3:30		2												2	0.1%
3:30	3:45															
3:45	4:00		2												2	0.1%
3:00	4:00		4												4	0.1%
4:00	4:15		6												6	0.2%
4:15	4:30			1											1	0.0%
4:30	4:45		3	5											8	0.3%
4:45	5:00		4	5	1										10	0.4%
4:00	5:00		13	11	1										25	0.9%
5:00	5:15		15	4											19	0.7%
5:15	5:30		10	4	3										17	0.6%
5:30	5:45		23	4											27	1.0%
5:45	6:00		16	7	1										24	0.9%
5:00	6:00		64	19	4										87	3.2%
6:00	6:15		21	6											27	1.0%
6:15	6:30		27	4	1	1									33	1.2%
6:30	6:45		40	10	1	2									53	1.9%
6:45	7:00		48	1											49	1.8%
6:00	7:00		136	21	2	3									162	5.9%
7:00	7:15		48	7											55	2.0%
7:15	7:30		58	6	1	1									66	2.4%
7:30	7:45		65	3	3										71	2.6%
7:45	8:00		102	12	2										116	4.2%
7:00	8:00		273	28	4	3									308	11.3%
8:00	8:15		168	4	1										173	6.3%
8:15	8:30		90	17	3	3									113	4.1%
8:30	8:45		51	3				1							55	2.0%
8:45	9:00		42	4	5										51	1.9%
8:00	9:00		351	28	3	9		1							392	14.3%
9:00	9:15		33	3	1										37	1.4%
9:15	9:30		40	4	1										45	1.6%
9:30	9:45		30	3	1										34	1.2%
9:45	10:00		19	4											23	0.8%
9:00	10:00		122	14	2	1									139	5.1%
10:00	10:15		22	2	1	2									27	1.0%
10:15	10:30		21	2											23	0.8%
10:30	10:45		23	3											26	1.0%
10:45	11:00		28	4	3										35	1.3%
10:00	11:00		94	11	1	5									111	4.1%
11:00	11:15		28	5	1										34	1.2%
11:15	11:30		25	3	1										29	1.1%
11:30	11:45		27	2											29	1.1%
11:45	12:00		20	4											24	0.9%
11:00	12:00		100	14	2										116	4.2%

12:00	12:15	19	3		1		23	0.8%
12:15	12:30	25	10		2		37	1.4%
12:30	12:45	26	1		1		28	1.0%
12:45	13:00	26	4				30	1.1%
12:00	13:00	96	18		4		118	4.3%
13:00	13:15	18	7		1		26	1.0%
13:15	13:30	15	1	1			17	0.6%
13:30	13:45	29	2		3		34	1.2%
13:45	14:00	20	2				22	0.8%
13:00	14:00	82	12	1	4		99	3.6%
14:00	14:15	24	3	2			29	1.1%
14:15	14:30	39	4	1			44	1.6%
14:30	14:45	32	5		4		41	1.5%
14:45	15:00	20	3				23	0.8%
14:00	15:00	115	15	3	4		137	5.0%
15:00	15:15	38	4	1			43	1.6%
15:15	15:30	46	5	2	3		56	2.0%
15:30	15:45	32	6		2		40	1.5%
15:45	16:00	27	2		2		31	1.1%
15:00	16:00	143	17	3	7		170	6.2%
16:00	16:15	25	7	1			33	1.2%
16:15	16:30	32	2	2			36	1.3%
16:30	16:45	30	4		2		36	1.3%
16:45	17:00	44	4		2		50	1.8%
16:00	17:00	131	17	3	4		155	5.7%
17:00	17:15	38	2				40	1.5%
17:15	17:30	30	6		1		37	1.4%
17:30	17:45	42	5		1		48	1.8%
17:45	18:00	45	4				49	1.8%
17:00	18:00	155	17		2		174	6.4%
18:00	18:15	43	7		1		51	1.9%
18:15	18:30	40	7		3		50	1.8%
18:30	18:45	41	4				45	1.6%
18:45	19:00	35	9		1		45	1.6%
18:00	19:00	159	27		5		191	7.0%
19:00	19:15	25	6				31	1.1%
19:15	19:30	17	3				20	0.7%
19:30	19:45	30	4		1		35	1.3%
19:45	20:00	27			1		28	1.0%
19:00	20:00	99	13		2		114	4.2%
20:00	20:15	17	2				19	0.7%
20:15	20:30	13	4				17	0.6%
20:30	20:45	16	2				18	0.7%
20:45	21:00	17					17	0.6%
20:00	21:00	63	8				71	2.6%
21:00	21:15	14	3				17	0.6%
21:15	21:30	17	4		1		22	0.8%
21:30	21:45	8	2		1		11	0.4%
21:45	22:00	11	1				12	0.4%
21:00	22:00	50	10		2		62	2.3%
22:00	22:15	15	1				16	0.6%
22:15	22:30	9	1				10	0.4%
22:30	22:45	9	1				10	0.4%
22:45	23:00	9	1				10	0.4%
22:00	23:00	42	4				46	1.7%
23:00	23:15	8	1				9	0.3%
23:15	23:30	6	1				7	0.3%
23:30	23:45	5					5	0.2%
23:45	00:00	4					4	0.1%
23:00	00:00	23	2				25	0.9%
Total		2343	307	22	62	1	2735	
		85.7%	11.2%	0.8%	2.3%	0.0%		
AM PEAK		168	17	3	5	1	173	
period		8:00	8:15	7:30	8:45	8:30	8:00	
% of class		7.2%	5.5%	13.6%	8.1%	100.0%		6.3%
PM PEAK		46	10	2	4		56	
period		15:15	12:15	14:00	14:30		15:15	
% of class		2.0%	3.3%	9.1%	6.5%			2.0%

Report-1.3		Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd														
		Direction : East + West					Road :									
		Dates : 1 2019-12-12														
Classes ----->		Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7	Class-8	Class-9	Class-10	Class-11	Class-12	Class-13	Total	
00:00	0:15		12												12	0.2%
0:15	0:30		6	1											7	0.1%
0:30	0:45		5												5	0.1%
0:45	1:00		7												7	0.1%
00:00	1:00		30	1											31	0.6%
1:00	1:15		5												5	0.1%
1:15	1:30		4	1											5	0.1%
1:30	1:45		3												3	0.1%
1:45	2:00															
1:00	2:00		12	1											13	0.2%
2:00	2:15															
2:15	2:30		2												2	0.0%
2:30	2:45		2												2	0.0%
2:45	3:00		2												2	0.0%
2:00	3:00		6												6	0.1%
3:00	3:15		1												1	0.0%
3:15	3:30		3												3	0.1%
3:30	3:45															
3:45	4:00		3												3	0.1%
3:00	4:00		7												7	0.1%
4:00	4:15		7												7	0.1%
4:15	4:30			1											1	0.0%
4:30	4:45		3	5											8	0.1%
4:45	5:00		6	6		1									13	0.2%
4:00	5:00		16	12		1									29	0.5%
5:00	5:15		17	4											21	0.4%
5:15	5:30		15	4		3									22	0.4%
5:30	5:45		25	5											30	0.6%
5:45	6:00		21	8		1									30	0.6%
5:00	6:00		78	21		4									103	1.9%
6:00	6:15		28	8											36	0.7%
6:15	6:30		35	4	1	1									41	0.8%
6:30	6:45		48	10	1	3									62	1.2%
6:45	7:00		56	2											58	1.1%
6:00	7:00		167	24	2	4									197	3.7%
7:00	7:15		63	9		1									73	1.4%
7:15	7:30		71	7	2	1									81	1.5%
7:30	7:45		79	4	3										86	1.6%
7:45	8:00		142	14	2	4									162	3.0%
7:00	8:00		355	34	7	6									402	7.5%
8:00	8:15		228	6		4									238	4.5%
8:15	8:30		122	21	4	3									150	2.8%
8:30	8:45		75	5	1	1			1						83	1.6%
8:45	9:00		61	5	1	5	1								73	1.4%
8:00	9:00		486	37	6	13	1		1						544	10.2%
9:00	9:15		44	4	1										49	0.9%
9:15	9:30		64	7		1									72	1.3%
9:30	9:45		46	6	1										53	1.0%
9:45	10:00		37	8		1									46	0.9%
9:00	10:00		191	25	2	2									220	4.1%
10:00	10:15		34	6	1	2			1						44	0.8%
10:15	10:30		35	2		1									38	0.7%
10:30	10:45		38	6											44	0.8%
10:45	11:00		45	6		5									56	1.0%
10:00	11:00		152	20	1	8			1						182	3.4%
11:00	11:15		49	9		1									59	1.1%
11:15	11:30		53	8	1	1	1								64	1.2%
11:30	11:45		50	6		3									59	1.1%
11:45	12:00		40	6											46	0.9%
11:00	12:00		192	29	1	5	1								228	4.3%

12:00	12:15	43	11	3							57	1.1%
12:15	12:30	47	18	2							67	1.3%
12:30	12:45	49	8	2							59	1.1%
12:45	13:00	46	6								52	1.0%
12:00	13:00	185	43	7							235	4.4%
13:00	13:15	41	12	1	1						55	1.0%
13:15	13:30	33	6	1							40	0.7%
13:30	13:45	57	10		4						71	1.3%
13:45	14:00	51	3		2						56	1.0%
13:00	14:00	182	31	2	7						222	4.2%
14:00	14:15	45	6	2							53	1.0%
14:15	14:30	109	17	3	2						131	2.5%
14:30	14:45	73	6	3	4	1					87	1.6%
14:45	15:00	63	7		2						72	1.3%
14:00	15:00	290	36	8	8	1					343	6.4%
15:00	15:15	95	12	5	1	2					115	2.2%
15:15	15:30	92	14	2	3						111	2.1%
15:30	15:45	81	17		2	3					103	1.9%
15:45	16:00	2	60	9	3	2					76	1.4%
15:00	16:00	2	328	52	7	9	7				405	7.6%
16:00	16:15	70	15	3	4	2					94	1.8%
16:15	16:30	83	7	2	1	1					94	1.8%
16:30	16:45	89	17		3	3	1				113	2.1%
16:45	17:00	93	12		4	1					110	2.1%
16:00	17:00	335	51	5	12	7	1				411	7.7%
17:00	17:15	104	14		1	3					122	2.3%
17:15	17:30	86	19		2			1			108	2.0%
17:30	17:45	97	15		2	1					115	2.2%
17:45	18:00	2	105	11		1					119	2.2%
17:00	18:00	2	392	59	5	5		1			464	8.7%
18:00	18:15	100	15		2	2					119	2.2%
18:15	18:30	89	14		3						106	2.0%
18:30	18:45	81	12		1	2					96	1.8%
18:45	19:00	72	19		1	3					95	1.8%
18:00	19:00	342	60		7	7					416	7.8%
19:00	19:15	63	17			1					81	1.5%
19:15	19:30	57	8		3						68	1.3%
19:30	19:45	59	9		4						72	1.3%
19:45	20:00	54	5		2						61	1.1%
19:00	20:00	233	39		9	1					282	5.3%
20:00	20:15	53	7		2						62	1.2%
20:15	20:30	39	7								46	0.9%
20:30	20:45	45	4						1		50	0.9%
20:45	21:00	38	1			2					41	0.8%
20:00	21:00	175	19		2	2				1	199	3.7%
21:00	21:15	47	9		1						57	1.1%
21:15	21:30	50	6		1						57	1.1%
21:30	21:45	29	4		1						34	0.6%
21:45	22:00	33	4		1						38	0.7%
21:00	22:00	159	23		4						186	3.5%
22:00	22:15	46	4								50	0.9%
22:15	22:30	30	6								36	0.7%
22:30	22:45	20	4								24	0.4%
22:45	23:00	31	2		1						34	0.6%
22:00	23:00	127	16		1						144	2.7%
23:00	23:15	19	3		1						23	0.4%
23:15	23:30	18	3								21	0.4%
23:30	23:45	14									14	0.3%
23:45	00:00	7	1			2					10	0.2%
23:00	00:00	58	7		1	2					68	1.3%
Total		4	4498	640	41	115	34	1	2	1	1	5337
		0.1%	84.3%	12.0%	0.8%	2.2%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM PEAK		228	21	4	5	1	1					238
period		8:00	8:15	8:15	8:45	8:45	8:30					8:00
% of class		5.1%	3.3%	9.8%	4.3%	2.9%	50.0%					4.5%
PM PEAK		2	109	19	5	4	3	1		1	1	131
period		15:45	14:15	17:15	15:00	13:30	15:30	16:30		17:15	20:30	14:15
% of class		50.0%	2.4%	3.0%	12.2%	3.5%	8.8%	100.0%		100.0%	100.0%	2.5%

Report-2.1	Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd													Total	Pace Speed	Number in Pace
	Direction : East Road :															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15						6								6	44.0-64.0	6
0:15 0:30						2	1							3	56.4-76.4	3
0:30 0:45						3								3	48.9-68.9	3
0:45 1:00						3								3	48.9-68.9	3
00:00 1:00						14	1							15	44.0-64.0	6
1:00 1:15						1								1	41.5-61.5	1
1:15 1:30							1	1						2	60.3-80.3	2
1:30 1:45							1							1	51.8-71.8	1
1:45 2:00																
1:00 2:00						1	2	1						4	60.3-80.3	2
2:00 2:15																
2:15 2:30							1							1	51.8-71.8	1
2:30 2:45					1									1	34.5-54.5	1
2:45 3:00																
2:00 3:00					1		1							2	51.8-71.8	1
3:00 3:15								1						1	57.5-77.5	1
3:15 3:30								1						1	59.7-79.7	1
3:30 3:45																
3:45 4:00								1						1	55.0-75.0	1
3:00 4:00								3						3	57.5-77.5	1
4:00 4:15								1						1	55.0-75.0	1
4:15 4:30																
4:30 4:45																
4:45 5:00					1	1		1						3	35.8-55.8	2
4:00 5:00					1	1		2						4	35.8-55.8	2
5:00 5:15						2								2	38.2-58.2	2
5:15 5:30							4	1						5	53.6-73.6	5
5:30 5:45							3							3	46.4-66.4	3
5:45 6:00					1		4			1				6	46.5-66.5	4
5:00 6:00					1	2	11	1		1				16	53.6-73.6	5
6:00 6:15					5	3	1							9	45.2-65.2	8
6:15 6:30					3	5								8	45.6-65.6	8
6:30 6:45					1	6	1		1					9	51.7-71.7	8
6:45 7:00					1	2	3	2		1				9	43.2-63.2	6
6:00 7:00					1	11	17	4	1	1				35	45.2-65.2	8
7:00 7:15					6	12								18	44.3-64.3	18
7:15 7:30						11	4							15	58.7-78.7	15
7:30 7:45					1	14								15	49.8-69.8	15
7:45 8:00					23	21	2							46	47.2-67.2	44
7:00 8:00					30	58	6							94	47.2-67.2	44
8:00 8:15					2	25	37	1						65	48.5-68.5	63
8:15 8:30						18	19							37	47.8-67.8	37
8:30 8:45					1	3	18	4	1					28	56.3-76.3	24
8:45 9:00					1	5	15	1				1		22	51.3-71.3	21
8:00 9:00					1	3	51	89	6	1			1	152	48.5-68.5	63
9:00 9:15						2	9		1					12	46.2-66.2	11
9:15 9:30						1	13	13						27	57.0-77.0	27
9:30 9:45						2	16	1						19	52.2-72.2	19
9:45 10:00					2	2	16	3						23	51.2-71.2	19
9:00 10:00					2	7	54	17	1					81	57.0-77.0	27
10:00 10:15					1	4	6	4	2					17	55.5-75.5	12
10:15 10:30						3	12	3						15	49.9-69.9	15
10:30 10:45						1	12	3	2					18	57.9-77.9	16
10:45 11:00							11	6	4					21	57.2-77.2	17
10:00 11:00					1	8	41	13	8					71	57.2-77.2	17
11:00 11:15						4	14	6	1					25	55.2-75.2	21
11:15 11:30						4	12	17	2					35	58.5-78.5	32
11:30 11:45						7	12	9	1	1				30	54.1-74.1	23
11:45 12:00						1	16	4	1					22	56.4-76.4	20
11:00 12:00						16	54	36	5	1				112	58.5-78.5	32

12:00	12:15				20	10	3	1				34	59.8-79.8	30	
12:15	12:30			5	15	8	2					30	57.9-77.9	25	
12:30	12:45			2	18	8	2	1				31	55.3-75.3	26	
12:45	13:00			3	9	7	3					22	56.9-76.9	17	
12:00	13:00			10	62	33	10	2				117	59.8-79.8	30	
13:00	13:15	1		8	13	5	1	1				29	52.6-72.6	23	
13:15	13:30			8	12	1	1	1				23	49.9-69.9	20	
13:30	13:45		1	10	15	10	1					37	57.6-77.6	31	
13:45	14:00			10	19	2	2	1				34	47.9-67.9	29	
13:00	14:00	1	1	36	59	18	5	3				123	57.6-77.6	31	
14:00	14:15			3	13	7	1					24	51.6-71.6	20	
14:15	14:30			5	12	52	12	5	1			87	53.0-73.0	71	
14:30	14:45			7	11	21	5	1	1			46	56.2-76.2	35	
14:45	15:00		1	4	7	25	11		1			49	55.3-75.3	40	
14:00	15:00	1	16	33	111	35	7	3				206	53.0-73.0	71	
15:00	15:15			4	15	30	21	2				72	52.2-72.2	54	
15:15	15:30				6	38	10	1				55	58.8-78.8	50	
15:30	15:45				5	35	20	2		1		63	60.6-80.6	56	
15:45	16:00				5	23	15	1	1			45	54.0-74.0	41	
15:00	16:00		4	31	126	66	6	1	1	1		235	60.6-80.6	56	
16:00	16:15				8	30	19	4				61	54.2-74.2	52	
16:15	16:30				4	24	27	2		1		58	58.6-78.6	52	
16:30	16:45				26	25	21	5				77	53.3-73.3	67	
16:45	17:00				13	29	17	1				60	53.8-73.8	55	
16:00	17:00				51	108	84	12		1		256	53.3-73.3	67	
17:00	17:15		4	20	47	7	4					82	51.0-71.0	69	
17:15	17:30				13	44	12	1				71	54.5-74.5	66	
17:30	17:45				2	48	14	3				67	57.4-77.4	64	
17:45	18:00		1	12	42	13	2					70	56.0-76.0	61	
17:00	18:00		5	47	181	46	10					290	51.0-71.0	69	
18:00	18:15				4	45	15	2	1			68	56.5-76.5	63	
18:15	18:30				5	35	13	3				56	57.5-77.5	51	
18:30	18:45				5	27	18	1				51	57.7-77.7	48	
18:45	19:00				14	27	7	2				50	52.8-72.8	46	
18:00	19:00				28	134	53	8	1			225	56.5-76.5	63	
19:00	19:15				7	26	16	1				50	56.9-76.9	49	
19:15	19:30	1	1	12	25	8			1	1		48	54.2-74.2	40	
19:30	19:45				3	21	10	2	1			37	57.1-77.1	32	
19:45	20:00		3	2	17	10	1					33	55.1-75.1	29	
19:00	20:00	1	4	24	89	44	4	1	1			168	56.9-76.9	49	
20:00	20:15				10	24	5	4				43	49.5-69.5	34	
20:15	20:30		2	6	14	7						29	51.1-71.1	24	
20:30	20:45				9	14	5	3				32	50.3-70.3	24	
20:45	21:00		1	2	15	4	1		1			24	55.6-75.6	21	
20:00	21:00		3	27	67	21	8		1			128	49.5-69.5	34	
21:00	21:15				5	25	7	3				40	54.3-74.3	35	
21:15	21:30				2	16	14	2	1			35	58.8-78.8	31	
21:30	21:45		2	1	19	1						23	48.2-68.2	21	
21:45	22:00				5	13	8					26	55.7-75.7	23	
21:00	22:00		2	13	73	30	5	1				124	54.3-74.3	35	
22:00	22:15				5	21	6	2				34	53.1-73.1	29	
22:15	22:30				7	14	4	1				26	53.8-73.8	23	
22:30	22:45					8	6					14	58.9-78.9	14	
22:45	23:00				3	14	5	1	1			24	58.1-78.1	20	
22:00	23:00				15	57	21	4	1			98	53.1-73.1	29	
23:00	23:15				3	7	2	2				14	53.4-73.4	12	
23:15	23:30				1	10	3					14	56.8-76.8	14	
23:30	23:45					4	3	1	1			9	55.0-75.0	7	
23:45	00:00					5	1					6	55.3-75.3	6	
23:00	00:00				4	26	9	3	1			43	56.8-76.8	14	
Total		1	3	44	446	1432	552	99	17	3	1	1	2602		
AM PEAK		0.0%	0.1%	1.7%	17.1%	55.0%	21.2%	3.8%	0.7%	0.1%	0.0%	0.0%			
period			1	2	25	37	17	4	1		1		65		
% of class			8:45	8:00	8:00	8:00	11:15	10:45	5:45		8:30		8:00		
			33.3%	4.5%	5.6%	2.6%	3.1%	4.0%	5.9%		100.0%		2.5%		
PM PEAK		1	1	7	26	52	27	5	1	1	1		87		
period		13:00	14:45	14:30	16:30	14:15	16:15	14:15	12:00	16:15	15:30		14:15		
% of class		100.0%	33.3%	15.9%	5.8%	3.6%	4.9%	5.1%	5.9%	33.3%	100.0%		3.3%		

15% Percentile :	58 KPH
50% Percentile :	66 KPH
85% Percentile :	75 KPH
95% Percentile :	80 KPH

20 KPH Pace Speed:	55.7-75.7 KPH
Number in Pace:	2172
Percent in Pace:	83.5 %
Number of Vehicles >60 KPH:	2105
Percent of Vehicles >60 KPH:	80.9 %
Mean Speed(average):	66 KPH

Report-2.2	Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd													Total	Pace Speed	Number in Pace
	Direction : West Dates : 1 2019-12-12															
Speeds,km/h ----->	10	20	30	40	50	60	70	80	90	100	110	120	130			
00:00 0:15							6							6	57.6-77.6	6
0:15 0:30						3	1							4	52.1-72.1	4
0:30 0:45						2								2	49.8-69.8	2
0:45 1:00					1	2	1							4	43.4-63.4	3
00:00 1:00					1	7	8							16	57.6-77.6	6
1:00 1:15							1	3						4	67.5-87.5	4
1:15 1:30						1	2							3	63.9-83.9	2
1:30 1:45				1	1									2	40.0-60.0	2
1:45 2:00																
1:00 2:00				1	1	1	1	5						9	67.5-87.5	4
2:00 2:15																
2:15 2:30					1									1	39.5-59.5	1
2:30 2:45							1							1	58.1-78.1	1
2:45 3:00							1	1						2	62.8-82.8	2
2:00 3:00					1	1	1	1						4	62.8-82.8	2
3:00 3:15																
3:15 3:30					1	1								2	46.4-66.4	2
3:30 3:45							2							2	44.5-64.5	2
3:45 4:00																
3:00 4:00					1	3								4	46.4-66.4	2
4:00 4:15					3	1	1	1						6	44.6-64.6	4
4:15 4:30				1										1	25.7-45.7	1
4:30 4:45				2	1	4	1							8	51.7-71.7	6
4:45 5:00					2	7	1							10	52.2-72.2	10
4:00 5:00				3	6	12	3	1						25	52.2-72.2	10
5:00 5:15					3	11	3	2						19	51.0-71.0	16
5:15 5:30				1	2	3	8	2		1				17	59.2-79.2	12
5:30 5:45				1	7	13	4	1		1				27	54.7-74.7	22
5:45 6:00					5	15	2	1	1					24	52.4-72.4	21
5:00 6:00				1	1	17	42	17	6	1	2			87	54.7-74.7	22
6:00 6:15				1	6	15	5							27	52.1-72.1	22
6:15 6:30					12	17	4							33	50.6-70.6	30
6:30 6:45				1	23	21	8							53	50.1-70.1	46
6:45 7:00					9	24	14	1		1				49	55.5-75.5	45
6:00 7:00				2	50	77	31	1		1				162	50.1-70.1	46
7:00 7:15				1	12	32	10							55	52.9-72.9	49
7:15 7:30					19	33	14							66	53.1-73.1	60
7:30 7:45				1	11	45	12	2						71	53.1-73.1	60
7:45 8:00				3	27	58	27	1						116	54.3-74.3	98
7:00 8:00				5	69	168	63	3						308	54.3-74.3	98
8:00 8:15					37	103	32	1						173	52.6-72.6	154
8:15 8:30					25	63	24	1						113	54.9-74.9	104
8:30 8:45				1	9	27	16	2						55	55.5-75.5	46
8:45 9:00					11	25	13	1	1					51	56.1-76.1	45
8:00 9:00				1	82	218	85	5	1					392	52.6-72.6	154
9:00 9:15					11	20	6							37	54.2-74.2	34
9:15 9:30				1	3	22	16	3						45	59.6-79.6	38
9:30 9:45					5	20	7	2						34	56.4-76.4	31
9:45 10:00					6	9	7	1						23	50.5-70.5	17
9:00 10:00				1	25	71	36	6						139	59.6-79.6	38
10:00 10:15				1	4	14	5	1	2					27	55.2-75.2	22
10:15 10:30				1	6	10	5	1						23	54.0-74.0	20
10:30 10:45					4	12	8	2						26	58.1-78.1	23
10:45 11:00					7	14	11	3						35	57.7-77.7	28
10:00 11:00				2	21	50	29	7	2					111	57.7-77.7	28
11:00 11:15					5	20	9							34	57.1-77.1	32
11:15 11:30					4	12	12	1						29	57.3-77.3	26
11:30 11:45					2	15	10	2						29	60.3-80.3	26
11:45 12:00					3	7	12	2						24	60.7-80.7	20
11:00 12:00					14	54	43	5						116	57.1-77.1	32

12:00	12:15			6	14	2	1			23	62.1-82.1	21
12:15	12:30		7	18	8	3	1			37	58.6-78.6	30
12:30	12:45		7	11	8	2				28	56.9-76.9	22
12:45	13:00		2	14	12	2				30	56.4-76.4	27
12:00	13:00		16	49	42	9	2			118	58.6-78.6	30
13:00	13:15		1	4	10	10	1			26	58.0-78.0	22
13:15	13:30		1	3	11	2				17	49.7-69.7	15
13:30	13:45		1	7	14	9	3			34	55.3-75.3	25
13:45	14:00		1	7	6	5	2	1		22	54.5-74.5	16
13:00	14:00		4	21	41	26	6	1		99	55.3-75.3	25
14:00	14:15		1	6	13	7	2			29	51.1-71.1	22
14:15	14:30		2	12	22	6	1	1		44	52.7-72.7	39
14:30	14:45			8	18	11	4			41	54.7-74.7	31
14:45	15:00		1	5	7	6	4			23	55.0-75.0	16
14:00	15:00		4	31	60	30	11	1		137	52.7-72.7	39
15:00	15:15			7	21	11	3	1		43	55.0-75.0	38
15:15	15:30		3	8	27	16	2			56	56.4-76.4	46
15:30	15:45		1	9	20	8		2		40	52.2-72.2	31
15:45	16:00			1	21	8	1			31	58.6-78.6	29
15:00	16:00		4	25	89	43	6	1	2	170	56.4-76.4	46
16:00	16:15			3	14	14	2			33	55.6-75.6	29
16:15	16:30		1	5	9	16	4	1		36	61.0-81.0	28
16:30	16:45			4	19	11	2			36	61.1-81.1	32
16:45	17:00		1	4	28	15	2			50	55.9-75.9	45
16:00	17:00		2	16	70	56	10	1		155	55.9-75.9	45
17:00	17:15		1	13	12	13	1			40	55.8-75.8	32
17:15	17:30			6	21	7	3			37	52.8-72.8	31
17:30	17:45			5	22	18	2	1		48	55.2-75.2	42
17:45	18:00		1	7	25	16				49	56.4-76.4	46
17:00	18:00		2	31	80	54	6	1		174	56.4-76.4	46
18:00	18:15		2	13	25	9	2			51	50.3-70.3	40
18:15	18:30		1	13	23	10	3			50	53.3-73.3	41
18:30	18:45			8	25	11	1			45	53.9-73.9	41
18:45	19:00		1	10	20	14				45	53.4-73.4	39
18:00	19:00		4	44	93	44	6			191	53.3-73.3	41
19:00	19:15			8	13	8	2			31	53.9-73.9	27
19:15	19:30		1	11	6	2				20	54.7-74.7	18
19:30	19:45		6	17	12					35	56.1-76.1	32
19:45	20:00			4	17	7				28	55.2-75.2	26
19:00	20:00			19	58	33	4			114	56.1-76.1	32
20:00	20:15				13	5	1			19	58.9-78.9	18
20:15	20:30			9	6	2				17	52.9-72.9	16
20:30	20:45		1	6	8	3				18	48.9-68.9	14
20:45	21:00			6	10	1				17	50.2-70.2	17
20:00	21:00		1	21	37	11	1			71	58.9-78.9	18
21:00	21:15		1	3	6	6	1			17	53.7-73.7	13
21:15	21:30		1	4	11	6				22	54.5-74.5	19
21:30	21:45			2	8	1				11	52.7-72.7	11
21:45	22:00			1	8	3				12	57.3-77.3	11
21:00	22:00		1	1	10	33	16	1		62	54.5-74.5	19
22:00	22:15			3	7	6				16	55.4-75.4	16
22:15	22:30			1	6	2	1			10	55.0-75.0	9
22:30	22:45			1	8	1				10	52.4-72.4	10
22:45	23:00			3	5	2				10	52.6-72.6	9
22:00	23:00			8	26	11	1			46	55.4-75.4	16
23:00	23:15			1	2	2	4			9	63.0-83.0	7
23:15	23:30				1	6				7	57.3-77.3	7
23:30	23:45			1	1	3				5	53.6-73.6	4
23:45	00:00			2		2				4	52.5-72.5	4
23:00	00:00			4	4	13	4			25	63.0-83.0	7
Total			2	38	534	1344	696	105	11	5		2735
AM PEAK			0.1%	1.4%	19.5%	49.1%	25.4%	3.8%	0.4%	0.2%		
period			1	3	37	103	32	3	2	1		173
% of class			5:15	7:45	8:00	8:00	8:00	1:00	10:00	5:15		8:00
			50.0%	7.9%	6.9%	7.7%	4.6%	2.9%	18.2%	20.0%		6.3%
PM PEAK			1	3	13	28	18	4	1	2		56
period			21:15	15:15	17:00	16:45	17:30	14:30	12:00	15:30		15:15
% of class			50.0%	7.9%	2.4%	2.1%	2.6%	3.8%	9.1%	40.0%		2.0%

15% Percentile :	57 KPH
50% Percentile :	66 KPH
85% Percentile :	76 KPH
95% Percentile :	80 KPH

20 KPH Pace Speed:	55.5-75.5 KPH
Number in Pace:	2236
Percent in Pace:	81.8 %
Number of Vehicles >60 KPH:	2161
Percent of Vehicles >60 KPH:	79.0 %
Mean Speed(average):	66 KPH

Report-2.3		Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd															
		Direction : East + West Road :															
		Dates : 1 2019-12-12															
Speeds,km/h ----->		10	20	30	40	50	60	70	80	90	100	110	120	130	Total	Pace	Number
		10	20	30	40	50	60	70	80	90	100	110	120	130		Speed	in Pace
00:00	0:15						6	6							12	57.6-77.6	12
0:15	0:30						5	2							7	56.4-76.4	7
0:30	0:45						5								5	49.8-69.8	5
0:45	1:00					1	5	1							7	48.9-68.9	6
00:00	1:00					1	21	9							31	57.6-77.6	12
1:00	1:15						1	1	3						5	67.5-87.5	4
1:15	1:30						1	1	3						5	63.9-83.9	4
1:30	1:45				1	1		1							3	40.0-60.0	2
1:45	2:00																
1:00	2:00				1	1	2	3	6						13	67.5-87.5	4
2:00	2:15																
2:15	2:30					1		1							2	51.8-71.8	2
2:30	2:45					1		1							2	34.5-54.5	1
2:45	3:00						1		1						2	62.8-82.8	2
2:00	3:00					2	1	2	1						6	51.8-71.8	2
3:00	3:15							1							1	57.5-77.5	1
3:15	3:30					1	1	1							3	46.4-66.4	2
3:30	3:45																
3:45	4:00						2	1							3	55.0-75.0	3
3:00	4:00					1	3	3							7	55.0-75.0	3
4:00	4:15					3	1	2	1						7	58.6-78.6	5
4:15	4:30			1											1	25.7-45.7	1
4:30	4:45			2	1	4	1								8	51.7-71.7	6
4:45	5:00			1	3	7	2								13	52.2-72.2	11
4:00	5:00			4	7	12	5	1							29	52.2-72.2	11
5:00	5:15					5	11	3	2						21	51.0-71.0	18
5:15	5:30			1		2	7	9	2		1				22	59.2-79.2	17
5:30	5:45			1	7	16	4	1		1					30	54.7-74.7	25
5:45	6:00			1	5	19	2	1	2						30	52.4-72.4	25
5:00	6:00			1	2	19	53	18	6	2	2				103	54.7-74.7	25
6:00	6:15				1	11	18	6							36	49.5-69.5	29
6:15	6:30					15	22	4							41	50.6-70.6	38
6:30	6:45				1	24	27	9	1						62	51.8-71.8	54
6:45	7:00				1	11	27	16	1	1	1				58	55.5-75.5	50
6:00	7:00				3	61	94	35	2	1	1				197	51.8-71.8	54
7:00	7:15				1	18	44	10							73	52.9-72.9	67
7:15	7:30					19	44	18							81	53.5-73.5	73
7:30	7:45				1	12	59	12	2						86	53.1-73.1	75
7:45	8:00				3	50	79	29	1						162	54.1-74.1	140
7:00	8:00				5	99	226	69	3						402	54.1-74.1	140
8:00	8:15				2	62	140	33	1						238	52.6-72.6	215
8:15	8:30					43	82	24	1						150	53.1-73.1	140
8:30	8:45				2	12	45	20	3				1		83	55.5-75.5	69
8:45	9:00				1	16	40	14	1	1					73	56.1-76.1	66
8:00	9:00				1	4	133	307	91	6	1		1		544	52.6-72.6	215
9:00	9:15						13	29	6	1					49	54.2-74.2	45
9:15	9:30				1	4	35	29	3						72	59.6-79.6	64
9:30	9:45					7	36	8	2						53	56.4-76.4	50
9:45	10:00					2	8	25	10	1					46	51.2-71.2	36
9:00	10:00					3	32	125	53	7					220	59.6-79.6	64
10:00	10:15				2	8	20	9	3	2					44	55.5-75.5	34
10:15	10:30				1	9	22	5	1						38	50.7-70.7	33
10:30	10:45					5	24	11	4						44	58.1-78.1	39
10:45	11:00					7	25	17	7						56	57.7-77.7	45
10:00	11:00				3	29	91	42	15	2					182	57.7-77.7	45
11:00	11:15					9	34	15	1						59	57.6-77.6	53
11:15	11:30					8	24	29	3						64	58.5-78.5	58
11:30	11:45					9	27	19	3	1					59	59.1-79.1	46
11:45	12:00					4	23	16	3						46	60.7-80.7	40
11:00	12:00					30	108	79	10	1					228	58.5-78.5	58

12:00	12:15				26	24	5	2				57	59.8-79.8	50	
12:15	12:30			12	33	16	5	1				67	57.9-77.9	54	
12:30	12:45			9	29	16	4	1				59	55.3-75.3	47	
12:45	13:00			5	23	19	5					52	56.9-76.9	43	
12:00	13:00			26	111	75	19	4				235	57.9-77.9	54	
13:00	13:15	1	1	12	23	15	2	1				55	54.6-74.6	44	
13:15	13:30		1	11	23	3	1	1				40	49.9-69.9	35	
13:30	13:45		2	17	29	19	4					71	57.6-77.6	55	
13:45	14:00		1	17	25	7	4	2				56	53.5-73.5	44	
13:00	14:00	1	5	57	100	44	11	4				222	57.6-77.6	55	
14:00	14:15		1	9	26	14	3					53	57.5-77.5	41	
14:15	14:30		7	24	74	18	6	2				131	53.0-73.0	110	
14:30	14:45		7	19	39	16	5	1				87	54.7-74.7	65	
14:45	15:00		1	5	12	32	17	4	1			72	55.3-75.3	56	
14:00	15:00	1	20	64	171	65	18	4				343	53.0-73.0	110	
15:00	15:15		4	22	51	32	5	1				115	54.9-74.9	89	
15:15	15:30		3	14	65	26	3					111	56.4-76.4	95	
15:30	15:45		1	14	55	28	2		2	1		103	59.8-79.8	84	
15:45	16:00			6	44	23	2	1				76	54.0-74.0	68	
15:00	16:00		8	56	215	109	12	2	2	1		405	56.4-76.4	95	
16:00	16:15			11	44	33	6					94	57.0-77.0	81	
16:15	16:30		1	9	33	43	6	1	1			94	61.0-81.0	79	
16:30	16:45			30	44	32	7					113	54.3-74.3	94	
16:45	17:00		1	17	57	32	3					110	55.9-75.9	100	
16:00	17:00		2	67	178	140	22	1	1			411	55.9-75.9	100	
17:00	17:15		5	33	59	20	5					122	51.9-71.9	97	
17:15	17:30			19	65	19	4					108	54.5-74.5	96	
17:30	17:45			7	70	32	5	1				115	59.1-79.1	105	
17:45	18:00		2	19	67	29	2					119	56.0-76.0	106	
17:00	18:00		7	78	261	100	16	1				464	56.0-76.0	106	
18:00	18:15		2	17	70	24	4	1				119	54.4-74.4	99	
18:15	18:30		1	18	58	23	6					106	55.3-75.3	91	
18:30	18:45			13	52	29	2					96	57.7-77.7	89	
18:45	19:00		1	24	47	21	2					95	53.4-73.4	85	
18:00	19:00		4	72	227	97	14	1				416	54.4-74.4	99	
19:00	19:15			15	39	24	3					81	56.3-76.3	75	
19:15	19:30	1	1	13	36	14	2		1			68	55.6-75.6	58	
19:30	19:45			9	38	22	2	1				72	56.1-76.1	63	
19:45	20:00		3	6	34	17	1					61	55.2-75.2	55	
19:00	20:00	1	4	43	147	77	8	1	1			282	56.3-76.3	75	
20:00	20:15			10	37	10	5					62	56.3-76.3	51	
20:15	20:30		2	15	20	9						46	52.9-72.9	40	
20:30	20:45		1	15	22	8	3					50	50.3-70.3	38	
20:45	21:00		1	8	25	5	1		1			41	50.3-70.3	35	
20:00	21:00		4	48	104	32	9		1			199	56.3-76.3	51	
21:00	21:15		1	8	31	13	4					57	54.3-74.3	48	
21:15	21:30	1		6	27	20	2	1				57	58.8-78.8	49	
21:30	21:45		2	3	27	2						34	53.2-73.2	32	
21:45	22:00			6	21	11						38	55.7-75.7	33	
21:00	22:00	1	3	23	106	46	6	1				186	58.8-78.8	49	
22:00	22:15			8	28	12	2					50	55.7-75.7	45	
22:15	22:30			8	20	6	2					36	55.3-75.3	31	
22:30	22:45			1	16	7						24	54.2-74.2	23	
22:45	23:00			6	19	7	1	1				34	52.6-72.6	27	
22:00	23:00			23	83	32	5	1				144	55.7-75.7	45	
23:00	23:15			4	9	4	6					23	53.7-73.7	16	
23:15	23:30			1	11	9						21	57.3-77.3	20	
23:30	23:45			1	5	6	1	1				14	55.0-75.0	11	
23:45	00:00			2	5	3						10	52.5-72.5	9	
23:00	00:00			8	30	22	7	1				68	57.3-77.3	20	
Total		1	5	82	980	2776	1248	204	28	8	1	1	5337		
AM PEAK		0.0%	0.1%	1.5%	18.4%	52.0%	23.4%	3.8%	0.5%	0.1%	0.0%	0.0%			
period			1	3	62	140	33	7	2	1		1	238		
% of class			5:15	7:45	8:00	8:00	8:00	10:45	5:45	5:15		8:30	8:00		
			20.0%	3.7%	6.3%	5.0%	2.6%	3.4%	7.1%	12.5%		100.0%		4.5%	
PM PEAK		1	1	7	33	74	43	7	2	2	1		131		
period		13:00	14:45	14:15	17:00	14:15	16:15	16:30	12:00	15:30	15:30		14:15		
% of class		100.0%	20.0%	8.5%	3.4%	2.7%	3.4%	3.4%	7.1%	25.0%	100.0%			2.5%	

15% Percentile :	57 KPH
50% Percentile :	66 KPH
85% Percentile :	76 KPH
95% Percentile :	80 KPH

20 KPH Pace Speed:	55.7-75.7 KPH
Number in Pace:	4403
Percent in Pace:	82.5 %
Number of Vehicles >60 KPH:	4266
Percent of Vehicles >60 KPH:	79.9 %
Mean Speed(average):	66 KPH

Report-3.1 Directions ----->	Location : CAL2019-A3EW Columbia Way - west of Westchester Blvd									
	Road :									
	Dates : 2019-12-12									
	North		South		East		West		Total	
	Volume	%	Volume	%	Volume	%	Volume	%	Volume	%
00:00 0:15					6	0.2%	6	0.2%	12	0.2%
0:15 0:30					3	0.1%	4	0.1%	7	0.1%
0:30 0:45					3	0.1%	2	0.1%	5	0.1%
0:45 1:00					3	0.1%	4	0.1%	7	0.1%
00:00 1:00					15	0.6%	16	0.6%	31	0.6%
1:00 1:15					1	0.0%	4	0.1%	5	0.1%
1:15 1:30					2	0.1%	3	0.1%	5	0.1%
1:30 1:45					1	0.0%	2	0.1%	3	0.1%
1:45 2:00										
1:00 2:00					4	0.2%	9	0.3%	13	0.2%
2:00 2:15										
2:15 2:30					1	0.0%	1	0.0%	2	0.0%
2:30 2:45					1	0.0%	1	0.0%	2	0.0%
2:45 3:00							2	0.1%	2	0.0%
2:00 3:00					2	0.1%	4	0.1%	6	0.1%
3:00 3:15					1	0.0%			1	0.0%
3:15 3:30					1	0.0%	2	0.1%	3	0.1%
3:30 3:45										
3:45 4:00					1	0.0%	2	0.1%	3	0.1%
3:00 4:00					3	0.1%	4	0.1%	7	0.1%
4:00 4:15					1	0.0%	6	0.2%	7	0.1%
4:15 4:30							1	0.0%	1	0.0%
4:30 4:45							8	0.3%	8	0.1%
4:45 5:00					3	0.1%	10	0.4%	13	0.2%
4:00 5:00					4	0.2%	25	0.9%	29	0.5%
5:00 5:15					2	0.1%	19	0.7%	21	0.4%
5:15 5:30					5	0.2%	17	0.6%	22	0.4%
5:30 5:45					3	0.1%	27	1.0%	30	0.6%
5:45 6:00					6	0.2%	24	0.9%	30	0.6%
5:00 6:00					16	0.6%	87	3.2%	103	1.9%
6:00 6:15					9	0.3%	27	1.0%	36	0.7%
6:15 6:30					8	0.3%	33	1.2%	41	0.8%
6:30 6:45					9	0.3%	53	1.9%	62	1.2%
6:45 7:00					9	0.3%	49	1.8%	58	1.1%
6:00 7:00					35	1.3%	162	5.9%	197	3.7%
7:00 7:15					18	0.7%	55	2.0%	73	1.4%
7:15 7:30					15	0.6%	66	2.4%	81	1.5%
7:30 7:45					15	0.6%	71	2.6%	86	1.6%
7:45 8:00					46	1.8%	116	4.2%	162	3.0%
7:00 8:00					94	3.6%	308	11.3%	402	7.5%
8:00 8:15					65	2.5%	173	6.3%	238	4.5%
8:15 8:30					37	1.4%	113	4.1%	150	2.8%
8:30 8:45					28	1.1%	55	2.0%	83	1.6%
8:45 9:00					22	0.8%	51	1.9%	73	1.4%
8:00 9:00					152	5.8%	392	14.3%	544	10.2%
9:00 9:15					12	0.5%	37	1.4%	49	0.9%
9:15 9:30					27	1.0%	45	1.6%	72	1.3%
9:30 9:45					19	0.7%	34	1.2%	53	1.0%
9:45 10:00					23	0.9%	23	0.8%	46	0.9%
9:00 10:00					81	3.1%	139	5.1%	220	4.1%
10:00 10:15					17	0.7%	27	1.0%	44	0.8%
10:15 10:30					15	0.6%	23	0.8%	38	0.7%
10:30 10:45					18	0.7%	26	1.0%	44	0.8%
10:45 11:00					21	0.8%	35	1.3%	56	1.0%
10:00 11:00					71	2.7%	111	4.1%	182	3.4%
11:00 11:15					25	1.0%	34	1.2%	59	1.1%
11:15 11:30					35	1.3%	29	1.1%	64	1.2%
11:30 11:45					30	1.2%	29	1.1%	59	1.1%
11:45 12:00					22	0.8%	24	0.9%	46	0.9%
11:00 12:00					112	4.3%	116	4.2%	228	4.3%

12:00	12:15		34	1.3%	23	0.8%	57	1.1%
12:15	12:30		30	1.2%	37	1.4%	67	1.3%
12:30	12:45		31	1.2%	28	1.0%	59	1.1%
12:45	13:00		22	0.8%	30	1.1%	52	1.0%
12:00	13:00		117	4.5%	118	4.3%	235	4.4%
13:00	13:15		29	1.1%	26	1.0%	55	1.0%
13:15	13:30		23	0.9%	17	0.6%	40	0.7%
13:30	13:45		37	1.4%	34	1.2%	71	1.3%
13:45	14:00		34	1.3%	22	0.8%	56	1.0%
13:00	14:00		123	4.7%	99	3.6%	222	4.2%
14:00	14:15		24	0.9%	29	1.1%	53	1.0%
14:15	14:30		87	3.3%	44	1.6%	131	2.5%
14:30	14:45		46	1.8%	41	1.5%	87	1.6%
14:45	15:00		49	1.9%	23	0.8%	72	1.3%
14:00	15:00		206	7.9%	137	5.0%	343	6.4%
15:00	15:15		72	2.8%	43	1.6%	115	2.2%
15:15	15:30		55	2.1%	56	2.0%	111	2.1%
15:30	15:45		63	2.4%	40	1.5%	103	1.9%
15:45	16:00		45	1.7%	31	1.1%	76	1.4%
15:00	16:00		235	9.0%	170	6.2%	405	7.6%
16:00	16:15		61	2.3%	33	1.2%	94	1.8%
16:15	16:30		58	2.2%	36	1.3%	94	1.8%
16:30	16:45		77	3.0%	36	1.3%	113	2.1%
16:45	17:00		60	2.3%	50	1.8%	110	2.1%
16:00	17:00		256	9.8%	155	5.7%	411	7.7%
17:00	17:15		82	3.2%	40	1.5%	122	2.3%
17:15	17:30		71	2.7%	37	1.4%	108	2.0%
17:30	17:45		67	2.6%	48	1.8%	115	2.2%
17:45	18:00		70	2.7%	49	1.8%	119	2.2%
17:00	18:00		290	11.1%	174	6.4%	464	8.7%
18:00	18:15		68	2.6%	51	1.9%	119	2.2%
18:15	18:30		56	2.2%	50	1.8%	106	2.0%
18:30	18:45		51	2.0%	45	1.6%	96	1.8%
18:45	19:00		50	1.9%	45	1.6%	95	1.8%
18:00	19:00		225	8.6%	191	7.0%	416	7.8%
19:00	19:15		50	1.9%	31	1.1%	81	1.5%
19:15	19:30		48	1.8%	20	0.7%	68	1.3%
19:30	19:45		37	1.4%	35	1.3%	72	1.3%
19:45	20:00		33	1.3%	28	1.0%	61	1.1%
19:00	20:00		168	6.5%	114	4.2%	282	5.3%
20:00	20:15		43	1.7%	19	0.7%	62	1.2%
20:15	20:30		29	1.1%	17	0.6%	46	0.9%
20:30	20:45		32	1.2%	18	0.7%	50	0.9%
20:45	21:00		24	0.9%	17	0.6%	41	0.8%
20:00	21:00		128	4.9%	71	2.6%	199	3.7%
21:00	21:15		40	1.5%	17	0.6%	57	1.1%
21:15	21:30		35	1.3%	22	0.8%	57	1.1%
21:30	21:45		23	0.9%	11	0.4%	34	0.6%
21:45	22:00		26	1.0%	12	0.4%	38	0.7%
21:00	22:00		124	4.8%	62	2.3%	186	3.5%
22:00	22:15		34	1.3%	16	0.6%	50	0.9%
22:15	22:30		26	1.0%	10	0.4%	36	0.7%
22:30	22:45		14	0.5%	10	0.4%	24	0.4%
22:45	23:00		24	0.9%	10	0.4%	34	0.6%
22:00	23:00		98	3.8%	46	1.7%	144	2.7%
23:00	23:15		14	0.5%	9	0.3%	23	0.4%
23:15	23:30		14	0.5%	7	0.3%	21	0.4%
23:30	23:45		9	0.3%	5	0.2%	14	0.3%
23:45	00:00		6	0.2%	4	0.1%	10	0.2%
23:00	00:00		43	1.7%	25	0.9%	68	1.3%
Total			2602		2735		5337	100.0%
			48.8%		51.2%		100.0%	
AM PEAK			65		173		238	
period			8:00		8:00		8:00	
% of class			2.5%		6.3%		4.5%	
PM PEAK			87		56		131	
period			14:15		15:15		14:15	
% of class			3.3%		2.0%		2.5%	

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**APPENDIX H**

**ARCADY OUTPUTS**

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<b>Junctions 9</b>
<b>ARCADY 9 - Roundabout Module</b>
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: Arcady.j9

Path: \\NIAGARAFS01\Projects\\_2019\195072 - Columbia Way Class EA - Prelim. Des\ Design-T\02 Roads\F. Transportation Planning\Analysis\ARCADY

Report generation date: 2020-11-20 1:16:33 PM

»2032, AM

»2032, PM

### Summary of intersection performance

	AM									PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Network Residual Capacity	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Network Residual Capacity
<b>2032</b>																		
Intersection 1 - Leg 1	0.8	2.3	5.75	0.45	A	4.94	A	90 % [Intersection 1 - Leg 1]	D2	0.2	0.5	3.75	0.19	A	4.28	A	156 % [Intersection 1 - Leg 2]	
Intersection 1 - Leg 2	0.4	1.2	4.15	0.27	A					0.6	2.6	4.64	0.36	A				
Intersection 1 - Leg 3	0.2	0.9	4.15	0.20	A					0.1	0.5	3.96	0.12	A				
Intersection 2 - Leg 1	0.4	1.9	4.49	0.31	A	4.22	A			0.2	0.5	3.78	0.18	A	4.16	A		
Intersection 2 - Leg 2	0.1	0.5	4.13	0.13	A					0.0	0.5	3.41	0.04	A				
Intersection 2 - Leg 3	0.4	1.1	4.05	0.27	A					0.5	2.2	4.50	0.33	A				
Intersection 2 - Leg 4	0.1	0.5	3.72	0.07	A	4.03	A			0.0	0.5	3.64	0.04	A	3.84	A		
Intersection 3 - Leg 1	0.2	0.7	3.92	0.19	A					0.2	0.8	3.73	0.19	A				
Intersection 3 - Leg 2	0.3	1.4	3.94	0.25	A					0.3	1.4	4.04	0.25	A				
Intersection 3 - Leg 3	0.3	1.2	4.27	0.21	A			0.1	0.5	3.49	0.08	A						

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

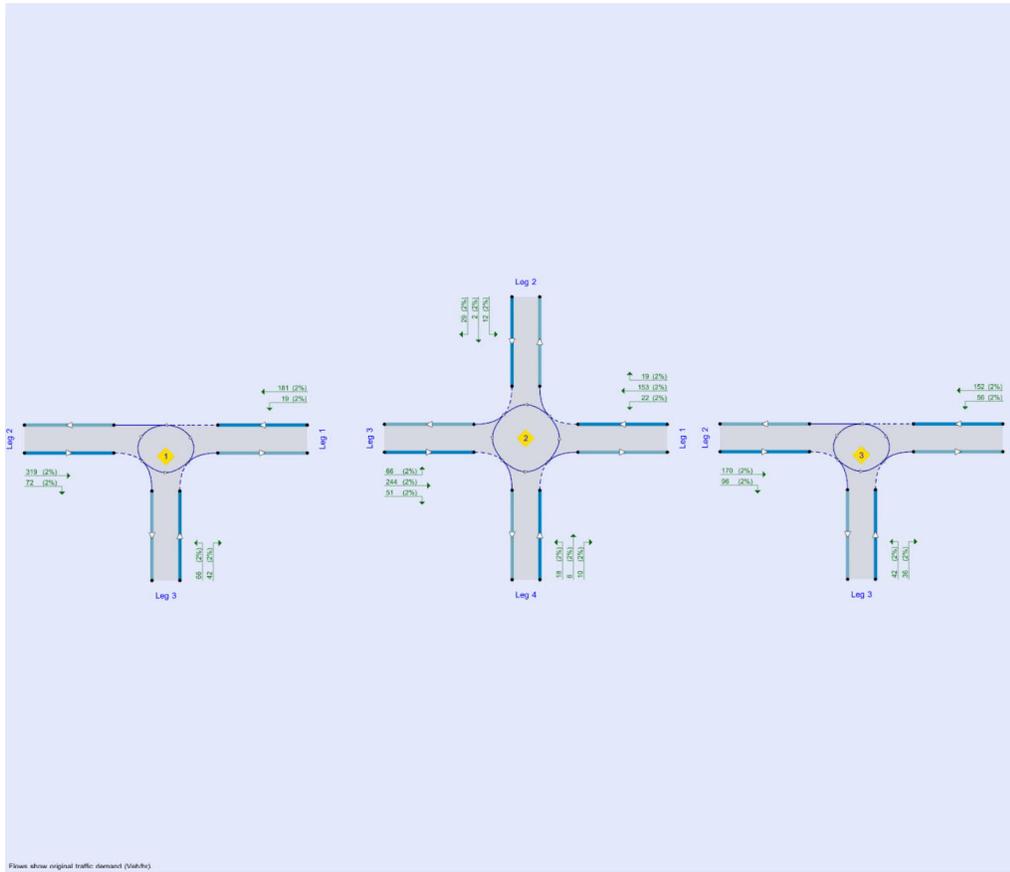
### File summary

#### File Description

Title	
Location	
Site number	
Date	2020-11-20
Version	
Status	(new file)
Identifier	
Client	
Job number	
Analyst	RVAINT\arcady
Description	

### Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



Please show original traffic demand (Vehicles).  
The intersection diagram reflects the last run of Intersections.

**Analysis Options**

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	V/C Ratio Threshold	Average Delay threshold (s)	Queue threshold (PCE)
5.75	✓		✓	Delay	0.85	36.00	20.00

**Demand Set Summary**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2032	AM	ONE HOUR	08:00	09:30	15	✓
D2	2032	PM	ONE HOUR	17:00	18:30	15	✓

**Analysis Set Details**

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2032, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Intersection Network

### Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Intersection Delay (s)	Intersection LOS
1	Westchester Boulevard at Columbia Way	Standard Roundabout		1, 2, 3	4.94	A
2	Mount Hope Road at Columbia Way	Standard Roundabout		1, 2, 3, 4	4.22	A
3	Forest Gate Avenue at Columbia Way	Standard Roundabout		1, 2, 3	4.03	A

### Intersection Network Options

Driving side	Lighting	Network residual capacity (%)	First leg reaching threshold
Right	Normal/unknown	90	Intersection 1 - Leg 1

## Legs

### Legs

Intersection	Leg	Name	Description
1	1	Columbia Way WB	
	2	Columbia Way EB	
	3	Westchester Boulevard NB	
2	1	Columbia Way WB	
	2	Mount Hope Road SB	
	3	Columbia Way EB	
	4	Columbia Way NB	
3	1	Columbia Way WB	
	2	Columbia Way EB	
	3	Forest Gate Avenue NB	

### Roundabout Geometry

Intersection	Leg	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	1	3.50	4.25	20.0	15.0	40.0	30.0	
	2	3.50	4.25	20.0	15.0	40.0	30.0	
	3	3.50	4.25	20.0	15.0	40.0	30.0	
2	1	3.50	4.25	20.0	15.0	40.0	30.0	
	2	3.50	4.25	20.0	15.0	40.0	30.0	
	3	3.50	4.25	20.0	15.0	40.0	30.0	
	4	3.50	4.25	20.0	15.0	40.0	30.0	
3	1	3.50	4.25	20.0	15.0	40.0	30.0	
	2	3.50	4.25	20.0	15.0	40.0	30.0	
	3	3.50	4.25	20.0	15.0	40.0	30.0	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Intersection	Leg	Final slope	Final intercept (PCE/hr)
1	1	0.546	1243
	2	0.546	1243
	3	0.546	1243
2	1	0.546	1243
	2	0.546	1243
	3	0.546	1243
	4	0.546	1243
3	1	0.546	1243
	2	0.546	1243
	3	0.546	1243

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2032	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck Percentages	2.00

**Demand overview (Traffic)**

Intersection	Leg	Linked leg	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	465	100.000
	2		ONE HOUR	✓	291	100.000
	3		ONE HOUR	✓	191	100.000
2	1		ONE HOUR	✓	329	100.000
	2		ONE HOUR	✓	119	100.000
	3		ONE HOUR	✓	293	100.000
	4		ONE HOUR	✓	64	100.000
3	1		ONE HOUR	✓	196	100.000
	2		ONE HOUR	✓	274	100.000
	3		ONE HOUR	✓	206	100.000

**Origin-Destination Data**

Demand (Veh/hr)

Intersection 1

		To		
		1	2	3
From	1	0	414	51
	2	236	0	55
	3	57	134	0

Demand (Veh/hr)

Intersection 2

		To			
		1	2	3	4
From	1	0	17	312	0
	2	12	0	106	1
	3	247	41	0	5
	4	15	2	47	0

Demand (Veh/hr)

Intersection 3

		To		
		1	2	3
From	1	0	190	6
	2	246	0	28
	3	67	139	0

**Vehicle Mix**

Truck Percentages

Intersection 1

		To		
		1	2	3
From	1	2	2	2
	2	2	2	2
	3	2	2	2

Truck Percentages

Intersection 2

		To			
		1	2	3	4
From	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

Truck Percentages

Intersection 3

		To		
		1	2	3
From	1	2	2	2
	2	2	2	2
	3	2	2	2

**Results**

**Results Summary for whole modelled period**

--	--	--	--	--	--	--	--	--	--

Intersection	Leg	Max V/C Ratio	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	1	0.45	5.75	0.8	2.3	A	427	640
	2	0.27	4.15	0.4	1.2	A	267	401
	3	0.20	4.15	0.2	0.9	A	175	263
2	1	0.31	4.49	0.4	1.9	A	302	453
	2	0.13	4.13	0.1	0.5	A	109	164
	3	0.27	4.05	0.4	1.1	A	269	403
	4	0.07	3.72	0.1	0.5	A	59	88
3	1	0.19	3.92	0.2	0.7	A	180	270
	2	0.25	3.94	0.3	1.4	A	251	377
	3	0.21	4.27	0.3	1.2	A	189	284

### Main Results for each time segment

#### 08:00 - 08:15

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	350	88	100	1164	0.301	348	220	0.0	0.4	4.407	A
	2	219	55	38	1198	0.183	218	411	0.0	0.2	3.672	A
	3	144	36	177	1122	0.128	143	79	0.0	0.1	3.676	A
2	1	248	62	67	1182	0.210	247	205	0.0	0.3	3.846	A
	2	90	22	269	1072	0.084	89	45	0.0	0.1	3.665	A
	3	221	55	10	1213	0.182	220	349	0.0	0.2	3.620	A
	4	48	12	225	1096	0.044	48	4	0.0	0.0	3.435	A
3	1	148	37	104	1162	0.127	147	235	0.0	0.1	3.546	A
	2	206	52	4	1216	0.170	205	247	0.0	0.2	3.558	A
	3	155	39	184	1118	0.139	154	25	0.0	0.2	3.735	A

#### 08:15 - 08:30

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	418	105	120	1153	0.363	417	263	0.4	0.6	4.893	A
	2	262	65	46	1193	0.219	261	492	0.2	0.3	3.861	A
	3	172	43	212	1103	0.156	172	95	0.1	0.2	3.866	A
2	1	296	74	81	1174	0.252	295	246	0.3	0.3	4.095	A
	2	107	27	322	1042	0.103	107	54	0.1	0.1	3.847	A
	3	263	66	12	1212	0.217	263	418	0.2	0.3	3.793	A
	4	58	14	269	1071	0.054	57	5	0.0	0.1	3.549	A
3	1	176	44	125	1150	0.153	176	281	0.1	0.2	3.694	A
	2	246	62	5	1215	0.203	246	296	0.2	0.3	3.713	A
	3	185	46	221	1098	0.169	185	31	0.2	0.2	3.944	A

#### 08:30 - 08:45

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	512	128	147	1138	0.450	511	322	0.6	0.8	5.731	A
	2	320	80	56	1188	0.270	320	602	0.3	0.4	4.146	A
	3	210	53	260	1077	0.195	210	117	0.2	0.2	4.152	A
2	1	362	91	99	1164	0.311	362	301	0.3	0.4	4.483	A
	2	131	33	395	1003	0.131	131	66	0.1	0.1	4.128	A
	3	323	81	14	1211	0.266	322	511	0.3	0.4	4.052	A
	4	70	18	330	1038	0.068	70	7	0.1	0.1	3.718	A
3	1	216	54	153	1135	0.190	216	344	0.2	0.2	3.914	A
	2	302	75	7	1215	0.248	301	362	0.3	0.3	3.940	A
	3	227	57	271	1071	0.212	227	37	0.2	0.3	4.263	A

#### 08:45 - 09:00

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	512	128	148	1138	0.450	512	323	0.8	0.8	5.750	A
	2	320	80	56	1188	0.270	320	603	0.4	0.4	4.150	A
	3	210	53	260	1077	0.195	210	117	0.2	0.2	4.155	A
2	1	362	91	99	1164	0.311	362	302	0.4	0.4	4.487	A
	2	131	33	395	1003	0.131	131	66	0.1	0.1	4.129	A
	3	323	81	14	1211	0.266	323	512	0.4	0.4	4.053	A
	4	70	18	330	1038	0.068	70	7	0.1	0.1	3.719	A
3	1	216	54	153	1135	0.190	216	345	0.2	0.2	3.916	A
	2	302	75	7	1215	0.248	302	362	0.3	0.3	3.942	A
	3	227	57	271	1071	0.212	227	37	0.3	0.3	4.265	A

#### 09:00 - 09:15

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

Intersection	Leg	(Veh/hr)	Arrivals (Veh)	flow (Veh/hr)	(Veh/hr)	V/C Ratio	(Veh/hr)	(exit side) (Veh/hr)	(Veh)	(Veh)	Delay (s)	level of service
1	1	418	105	121	1153	0.363	419	264	0.8	0.6	4.914	A
	2	262	65	46	1193	0.219	262	494	0.4	0.3	3.867	A
	3	172	43	212	1103	0.156	172	95	0.2	0.2	3.869	A
2	1	296	74	81	1174	0.252	296	247	0.4	0.3	4.103	A
	2	107	27	323	1042	0.103	107	54	0.1	0.1	3.852	A
	3	263	66	12	1212	0.217	264	419	0.4	0.3	3.799	A
	4	58	14	270	1071	0.054	58	5	0.1	0.1	3.554	A
3	1	176	44	125	1150	0.153	176	282	0.2	0.2	3.696	A
	2	246	62	5	1215	0.203	247	296	0.3	0.3	3.718	A
	3	185	46	221	1098	0.169	185	31	0.3	0.2	3.949	A

## 09:15 - 09:30

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	350	88	101	1163	0.301	351	221	0.6	0.4	4.434	A
	2	219	55	38	1197	0.183	219	413	0.3	0.2	3.680	A
	3	144	36	178	1121	0.128	144	80	0.2	0.1	3.682	A
2	1	248	62	68	1181	0.210	248	206	0.3	0.3	3.857	A
	2	90	22	271	1071	0.084	90	45	0.1	0.1	3.668	A
	3	221	55	10	1213	0.182	221	350	0.3	0.2	3.627	A
	4	48	12	226	1095	0.044	48	5	0.1	0.0	3.440	A
3	1	148	37	105	1161	0.127	148	236	0.2	0.1	3.554	A
	2	206	52	5	1216	0.170	206	248	0.3	0.2	3.565	A
	3	155	39	185	1117	0.139	155	26	0.2	0.2	3.744	A

## Queue Variation Results for each time segment

## 08:00 - 08:15

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.43	0.00	0.00	0.43	0.43			N/A	N/A
	2	0.22	0.00	0.00	0.22	0.22			N/A	N/A
	3	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2	1	0.26	0.00	0.00	0.26	0.26			N/A	N/A
	2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
	3	0.22	0.00	0.00	0.22	0.22			N/A	N/A
	4	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	1	0.14	0.00	0.00	0.14	0.14			N/A	N/A
	2	0.20	0.00	0.00	0.20	0.20			N/A	N/A
	3	0.16	0.00	0.00	0.16	0.16			N/A	N/A

## 08:15 - 08:30

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.56	0.55	1.00	1.40	1.45			N/A	N/A
	2	0.28	0.00	0.00	0.28	0.28			N/A	N/A
	3	0.18	0.00	0.00	0.18	0.18			N/A	N/A
2	1	0.33	0.00	0.00	0.33	0.33			N/A	N/A
	2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
	3	0.28	0.00	0.00	0.28	0.28			N/A	N/A
	4	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.25	0.00	0.00	0.25	0.25			N/A	N/A
	3	0.20	0.00	0.00	0.20	0.20			N/A	N/A

## 08:30 - 08:45

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.81	0.03	0.26	0.81	0.81			N/A	N/A
	2	0.37	0.03	0.25	0.46	0.48			N/A	N/A
	3	0.24	0.03	0.25	0.46	0.48			N/A	N/A
2	1	0.45	0.03	0.25	0.46	0.48			N/A	N/A
	2	0.15	0.03	0.26	0.46	0.49			N/A	N/A
	3	0.36	0.03	0.25	0.45	0.48			N/A	N/A
	4	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3	1	0.23	0.03	0.25	0.46	0.48			N/A	N/A
	2	0.33	0.03	0.25	0.46	0.48			N/A	N/A
	3	0.27	0.03	0.25	0.46	0.48			N/A	N/A

## 08:45 - 09:00

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.81	0.03	0.28	0.81	2.30			N/A	N/A
	2	0.37	0.03	0.32	1.19	1.19			N/A	N/A
	3	0.24	0.03	0.27	0.49	0.93			N/A	N/A
2	1	0.45	0.03	0.31	1.36	1.91			N/A	N/A
	2	0.15	0.03	0.25	0.45	0.48			N/A	N/A

3	3	0.36	0.03	0.32	1.12	1.12			N/A	N/A
	4	0.07	0.00	0.00	0.07	0.07			N/A	N/A
	1	0.23	0.03	0.27	0.48	0.74			N/A	N/A
	2	0.33	0.03	0.32	1.13	1.40			N/A	N/A
	3	0.27	0.03	0.29	0.83	1.17			N/A	N/A

## 09:00 - 09:15

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.57	0.55	1.00	1.40	1.45			N/A	N/A
	2	0.28	0.00	0.00	0.28	0.28			N/A	N/A
	3	0.19	0.00	0.00	0.19	0.19			N/A	N/A
2	1	0.34	0.00	0.00	0.34	0.34			N/A	N/A
	2	0.11	0.00	0.00	0.11	0.11			N/A	N/A
	3	0.28	0.00	0.00	0.28	0.28			N/A	N/A
	4	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.26	0.00	0.00	0.26	0.26			N/A	N/A
	3	0.20	0.00	0.00	0.20	0.20			N/A	N/A

## 09:15 - 09:30

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.43	0.00	0.00	0.43	0.43			N/A	N/A
	2	0.23	0.00	0.00	0.23	0.23			N/A	N/A
	3	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2	1	0.27	0.00	0.00	0.27	0.27			N/A	N/A
	2	0.09	0.00	0.00	0.09	0.09			N/A	N/A
	3	0.22	0.00	0.00	0.22	0.22			N/A	N/A
	4	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3	1	0.15	0.00	0.00	0.15	0.15			N/A	N/A
	2	0.21	0.00	0.00	0.21	0.21			N/A	N/A
	3	0.16	0.00	0.00	0.16	0.16			N/A	N/A

# 2032, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Intersection Network

### Intersections

Intersection	Name	Intersection type	Use circulating lanes	Leg order	Intersection Delay (s)	Intersection LOS
1	Westchester Boulevard at Columbia Way	Standard Roundabout		1, 2, 3	4.28	A
2	Mount Hope Road at Columbia Way	Standard Roundabout		1, 2, 3, 4	4.16	A
3	Forest Gate Avenue at Columbia Way	Standard Roundabout		1, 2, 3	3.84	A

### Intersection Network Options

Driving side	Lighting	Network residual capacity (%)	First leg reaching threshold
Right	Normal/unknown	156	Intersection 1 - Leg 2

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2032	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCE Factor for a Truck (PCE)
✓	✓	Truck Percentages	2.00

### Demand overview (Traffic)

Intersection	Leg	Linked leg	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	200	100.000
	2		ONE HOUR	✓	391	100.000
	3		ONE HOUR	✓	108	100.000
2	1		ONE HOUR	✓	194	100.000
	2		ONE HOUR	✓	43	100.000
	3		ONE HOUR	✓	361	100.000
	4		ONE HOUR	✓	34	100.000
3	1		ONE HOUR	✓	208	100.000
	2		ONE HOUR	✓	266	100.000
	3		ONE HOUR	✓	78	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	
Intersection 1	From	1	0	181	19
		2	319	0	72
		3	42	66	0

### Demand (Veh/hr)

		To				
		1	2	3	4	
Intersection 2	From	1	0	19	153	22
		2	12	0	29	2
		3	244	66	0	51
		4	10	6	18	0

### Demand (Veh/hr)

		To			
		1	2	3	
Intersection 3	From	1	0	152	56
		2	170	0	96
		3	36	42	0

## Vehicle Mix

### Truck Percentages

Intersection 1

		To		
		1	2	3
From	1	2	2	2
	2	2	2	2
	3	2	2	2

### Truck Percentages

Intersection 2

		To			
		1	2	3	4
From	1	2	2	2	2
	2	2	2	2	2
	3	2	2	2	2
	4	2	2	2	2

### Truck Percentages

Intersection 3

		To		
		1	2	3
From	1	2	2	2
	2	2	2	2
	3	2	2	2

## Results

### Results Summary for whole modelled period

Intersection	Leg	Max V/C Ratio	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Intersection Arrivals (Veh)
1	1	0.19	3.75	0.2	0.5	A	184	275
	2	0.36	4.64	0.6	2.6	A	359	538
	3	0.12	3.96	0.1	0.5	A	99	149
2	1	0.18	3.78	0.2	0.5	A	178	267
	2	0.04	3.41	0.0	0.5	A	39	59
	3	0.33	4.50	0.5	2.2	A	331	497
	4	0.04	3.64	0.0	0.5	A	31	47
3	1	0.19	3.73	0.2	0.8	A	191	286
	2	0.25	4.04	0.3	1.4	A	244	366
	3	0.08	3.49	0.1	0.5	A	72	107

### Main Results for each time segment

17:00 - 17:15

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	151	38	49	1191	0.126	150	271	0.0	0.1	3.455	A
	2	294	74	14	1211	0.243	293	185	0.0	0.3	3.917	A
	3	81	20	239	1088	0.075	81	68	0.0	0.1	3.575	A
2	1	146	37	67	1182	0.124	145	199	0.0	0.1	3.472	A
	2	32	8	145	1139	0.028	32	68	0.0	0.0	3.251	A
	3	272	68	27	1204	0.226	271	150	0.0	0.3	3.853	A
	4	26	6	241	1087	0.024	26	56	0.0	0.0	3.391	A
3	1	157	39	32	1201	0.130	156	154	0.0	0.1	3.442	A
	2	200	50	42	1196	0.168	199	146	0.0	0.2	3.610	A
	3	59	15	127	1149	0.051	59	114	0.0	0.1	3.301	A

17:15 - 17:30

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	180	45	59	1186	0.152	180	324	0.1	0.2	3.576	A
	2	352	88	17	1209	0.291	351	222	0.3	0.4	4.194	A
	3	97	24	286	1062	0.091	97	82	0.1	0.1	3.729	A
2	1	174	44	81	1174	0.149	174	239	0.1	0.2	3.599	A
	2	39	10	173	1124	0.034	39	82	0.0	0.0	3.316	A
	3	325	81	32	1201	0.270	324	180	0.3	0.4	4.106	A
	4	31	8	289	1061	0.029	31	67	0.0	0.0	3.494	A
	1	187	47	38	1198	0.156	187	185	0.1	0.2	3.560	A

3	2	239	60	50	1191	0.201	239	174	0.2	0.2	3.781	A
	3	70	18	153	1135	0.062	70	137	0.1	0.1	3.379	A

## 17:30 - 17:45

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	220	55	73	1179	0.187	220	397	0.2	0.2	3.754	A
	2	430	108	21	1207	0.357	430	272	0.4	0.6	4.630	A
	3	119	30	351	1027	0.116	119	100	0.1	0.1	3.963	A
2	1	214	53	99	1164	0.183	213	293	0.2	0.2	3.785	A
	2	47	12	212	1103	0.043	47	100	0.0	0.0	3.410	A
	3	397	99	40	1197	0.332	397	220	0.4	0.5	4.497	A
	4	37	9	354	1025	0.037	37	82	0.0	0.0	3.643	A
3	1	229	57	46	1193	0.192	229	227	0.2	0.2	3.732	A
	2	293	73	62	1185	0.247	293	213	0.2	0.3	4.034	A
	3	86	21	187	1116	0.077	86	167	0.1	0.1	3.492	A

## 17:45 - 18:00

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	220	55	73	1179	0.187	220	397	0.2	0.2	3.754	A
	2	430	108	21	1207	0.357	430	272	0.6	0.6	4.635	A
	3	119	30	351	1027	0.116	119	100	0.1	0.1	3.965	A
2	1	214	53	99	1164	0.183	214	293	0.2	0.2	3.785	A
	2	47	12	212	1102	0.043	47	100	0.0	0.0	3.411	A
	3	397	99	40	1197	0.332	397	220	0.5	0.5	4.503	A
	4	37	9	355	1025	0.037	37	83	0.0	0.0	3.644	A
3	1	229	57	46	1193	0.192	229	227	0.2	0.2	3.732	A
	2	293	73	62	1185	0.247	293	214	0.3	0.3	4.035	A
	3	86	21	187	1116	0.077	86	167	0.1	0.1	3.492	A

## 18:00 - 18:15

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	180	45	59	1186	0.152	180	325	0.2	0.2	3.581	A
	2	352	88	17	1209	0.291	352	222	0.6	0.4	4.204	A
	3	97	24	287	1062	0.091	97	82	0.1	0.1	3.734	A
2	1	174	44	81	1174	0.149	175	239	0.2	0.2	3.601	A
	2	39	10	174	1124	0.034	39	82	0.0	0.0	3.319	A
	3	325	81	32	1201	0.270	325	180	0.5	0.4	4.112	A
	4	31	8	290	1060	0.029	31	68	0.0	0.0	3.495	A
3	1	187	47	38	1198	0.156	187	185	0.2	0.2	3.562	A
	2	239	60	50	1191	0.201	239	175	0.3	0.3	3.786	A
	3	70	18	153	1135	0.062	70	137	0.1	0.1	3.380	A

## 18:15 - 18:30

Intersection	Leg	Total Demand (Veh/hr)	Intersection Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	V/C Ratio	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1	151	38	50	1191	0.126	151	272	0.2	0.1	3.461	A
	2	294	74	14	1211	0.243	295	186	0.4	0.3	3.931	A
	3	81	20	240	1087	0.075	81	69	0.1	0.1	3.581	A
2	1	146	37	68	1181	0.124	146	200	0.2	0.1	3.477	A
	2	32	8	145	1139	0.028	32	69	0.0	0.0	3.252	A
	3	272	68	27	1204	0.226	272	151	0.4	0.3	3.867	A
	4	26	6	243	1086	0.024	26	57	0.0	0.0	3.394	A
3	1	157	39	32	1201	0.130	157	155	0.2	0.2	3.446	A
	2	200	50	42	1195	0.168	200	146	0.3	0.2	3.618	A
	3	59	15	128	1149	0.051	59	115	0.1	0.1	3.305	A

## Queue Variation Results for each time segment

## 17:00 - 17:15

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.14	0.00	0.00	0.14	0.14			N/A	N/A
	2	0.32	0.00	0.00	0.32	0.32			N/A	N/A
	3	0.08	0.00	0.00	0.08	0.08			N/A	N/A
2	1	0.14	0.00	0.00	0.14	0.14			N/A	N/A
	2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
	3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
	4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	1	0.15	0.00	0.00	0.15	0.15			N/A	N/A
	2	0.20	0.00	0.00	0.20	0.20			N/A	N/A
	3	0.05	0.00	0.00	0.05	0.05			N/A	N/A

## 17:15 - 17:30

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Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
	3	0.10	0.03	0.25	0.45	0.48			N/A	N/A
2	1	0.17	0.00	0.00	0.17	0.17			N/A	N/A
	2	0.04	0.03	0.25	0.45	0.48			N/A	N/A
	3	0.37	0.00	0.00	0.37	0.37			N/A	N/A
	4	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.25	0.00	0.00	0.25	0.25			N/A	N/A
	3	0.07	0.03	0.25	0.45	0.48			N/A	N/A

## 17:30 - 17:45

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.23	0.03	0.25	0.46	0.48			N/A	N/A
	2	0.55	0.03	0.25	0.55	0.55			N/A	N/A
	3	0.13	0.03	0.26	0.46	0.49			N/A	N/A
2	1	0.22	0.03	0.25	0.46	0.48			N/A	N/A
	2	0.04	0.03	0.25	0.46	0.48			N/A	N/A
	3	0.49	0.03	0.25	0.49	0.49			N/A	N/A
	4	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3	1	0.24	0.03	0.25	0.46	0.48			N/A	N/A
	2	0.33	0.03	0.25	0.46	0.48			N/A	N/A
	3	0.08	0.03	0.26	0.47	0.49			N/A	N/A

## 17:45 - 18:00

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.23	0.03	0.26	0.47	0.53			N/A	N/A
	2	0.55	0.03	0.29	1.25	2.55			N/A	N/A
	3	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2	1	0.22	0.03	0.26	0.47	0.50			N/A	N/A
	2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
	3	0.50	0.03	0.30	1.34	2.24			N/A	N/A
	4	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3	1	0.24	0.03	0.27	0.48	0.79			N/A	N/A
	2	0.33	0.03	0.32	1.12	1.40			N/A	N/A
	3	0.08	0.00	0.00	0.08	0.08			N/A	N/A

## 18:00 - 18:15

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.41	0.00	0.00	0.41	0.41			N/A	N/A
	3	0.10	0.00	0.00	0.10	0.10			N/A	N/A
2	1	0.18	0.00	0.00	0.18	0.18			N/A	N/A
	2	0.04	0.00	0.00	0.04	0.04			N/A	N/A
	3	0.37	0.00	0.00	0.37	0.37			N/A	N/A
	4	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3	1	0.19	0.00	0.00	0.19	0.19			N/A	N/A
	2	0.25	0.00	0.00	0.25	0.25			N/A	N/A
	3	0.07	0.00	0.00	0.07	0.07			N/A	N/A

## 18:15 - 18:30

Intersection	Leg	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1	1	0.15	0.00	0.00	0.15	0.15			N/A	N/A
	2	0.32	0.00	0.00	0.32	0.32			N/A	N/A
	3	0.08	0.00	0.00	0.08	0.08			N/A	N/A
2	1	0.14	0.00	0.00	0.14	0.14			N/A	N/A
	2	0.03	0.00	0.00	0.03	0.03			N/A	N/A
	3	0.29	0.00	0.00	0.29	0.29			N/A	N/A
	4	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3	1	0.15	0.00	0.00	0.15	0.15			N/A	N/A
	2	0.20	0.00	0.00	0.20	0.20			N/A	N/A
	3	0.05	0.00	0.00	0.05	0.05			N/A	N/A