



# NORTHLAND TRANSPORT ALLIANCE



"Moving Northland Forward"

NTA Memorandum	
<b>Council</b>	Far North District Council
<b>Road Name</b>	23 Riverview Road, Kerikeri 0230
<b>Investigation Dates</b>	5/11/2019 and 19/11/2019
<b>Report Date</b>	10/01/2020
<b>Further Action (Y/N)</b>	Y - FNDC Road Maintenance to action
<b>Road Length (m)</b>	Approx. 150m
<b>Report Prepared By</b>	Victor Devyatov Intermediate Road Safety and Traffic Engineer 
<b>Check by</b>	Sandi Morris Road Safety and Traffic Planning Engineer 
<b>Subject</b>	Riverview School – Technical Assessment Memo

## 1. Introduction

This memo has been prepared as a technical summary and will include the following items:

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## 2. Background

On behalf of Riverview School, Council was informed by Northland Consulting Contractors that during the morning/afternoon school peaks, vehicles were queue on Riverview Road causing significant congestion and time delays. NCC noted that demand exceeded capacity for the morning and afternoon hours.

NCC also noted that vehicles were observed parking on the grass berms, on the “No-stopping” yellow lines and across private driveways. This results in conflicts between through and queueing vehicles. With a risk of low speed/low injury crashes occurring between vehicles, along with driver frustration and congestion. More significantly, children were observed to be crossing the road and potentially conflicting with through traffic and maneuvering vehicles. The school has indicated that parking demand is greater during inclement weather, and the operation is less satisfactory during those occasions.

From the NCC investigations, a report was submitted to Council by Council officers in July 2019. Three options were proposed by NCC:

1. Widening the road and adding a central median;
2. Shoulder widening for roadside queueing;
3. Dedicated off road queueing lane with roundabout.

An additional option had been developed by the FNDC Roding team to:

4. Place a central raised median along the centerline of the road near the drop off bay preventing a right turn with accompanying signage prohibiting a right turn into the drop off bay.

This memo provides a further assessment of the site, which has been undertaken by the Northland Transportation Alliance.

## 3. Location Plan

Riverview School is located at 23 Riverview Rd, in the rapidly expanding area of Kerikeri and has many new subdivisions proposed in its vicinity. Access to the school is off Riverview Rd. There is a footpath on one side (southern) of Riverview Rd.



Figure 1 Riverview School Location

### **School Demographics:**

<https://www.educationcounts.govt.nz/find-school/school/profile?school=1594>

- Principal is Kenneth McLeay
- Riverview School is a State Co-Educational Contributing School (Year 1-6)
- School Role is currently 441 pupils
- School Role capacity/maximum is 460 pupils
- Teachers park off-street in school supplied parking space – there is no impact on parent parking
- School gate is supervised by a teacher and/or The Principal in the morning and afternoon peaks.
- There is currently no role cap at Riverview School.
- Two new classrooms are proposed for the coming financial year.
- Riverview School does have an enrolment zoning rule, which is mapped below.



*Figure 2 Riverview School Zone Map*

### **School Demographic Summary:**

Ministry of Education (MoE) has plans to support growth of this school, however, current regional/local practice does not include relevant transport assessments of the impact on the surrounding road environment. The MoE last undertook a school capacity review in 2008 and there is no certainty as to the current response from central government in response to current school role growth rates. It is the FNDC role to support the school with specialist transportation advice and ensure that the schools are undertaking the relevant **Traffic Impact Assessment** (TiA) necessary to ascertain implications on the road network in response to proposed growth.

#### 4. Summary of Findings. Data Analysis.

The data collated for the parking survey and circulating space (Drop off Zone) is presented in Appendix A.

##### Parking Occupancy Survey

A Parking Survey was completed on 19 November 2019. It was observed that people usually stop to pick up their children during the peak time. It has been noted that Parking Area 2 has enough space to accommodate more vehicles.

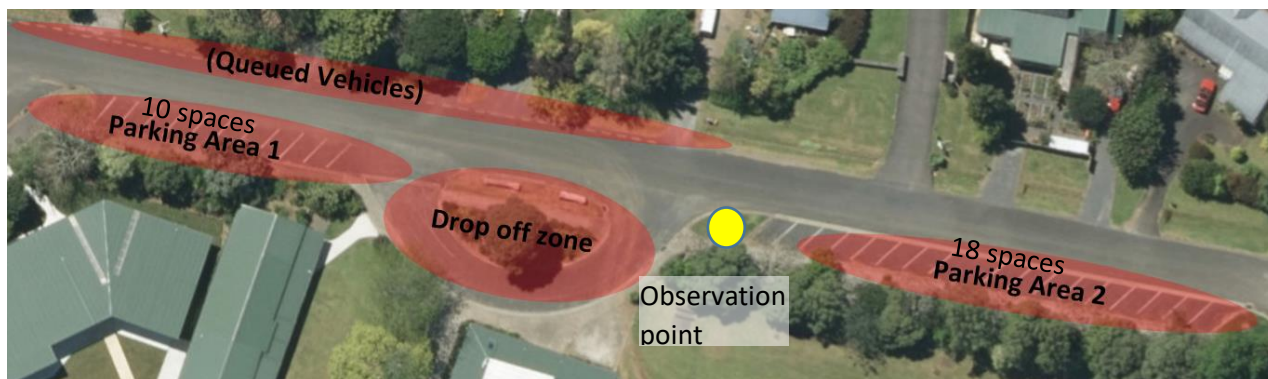


Figure 3 Parking Survey - Sites

##### **Parking Area 1**

It was observed at peak parking times, that Parking Area 1 typically had 1-2 spaces available at any given time. This indicated an average of 85% occupancy.

It should be noted that international best practice states that 80% occupancy of parking supply, is a well utilized asset. Anything less than 80% occupancy, suggests an oversupply of parking space.

Outside the two-school peak times, (8.00am-9.00am and 14.30-15.30) these spaces remain empty.

##### **Parking Area 2**

It was identified during morning/afternoon peaks that the usage count was **50%** for the Parking Area 2. Nevertheless, drivers were waiting on the northern side of Riverview Rd to get an opportunity to enter drop off zone and were forming the queue as presented in the diagram above.

It was recognized through site discussions with people parking, that some parents were less concerned with the “rush” of delivering their child to school so they can make it to work on time, likewise with the afternoon collection.

Parking Area 2 is well under utilized in the morning and afternoon, as parents do prefer to collect their child from the drop-off & pickup area.

##### Drop Off/Pickup Area - Efficiency Survey

It was noticed that the drop off zone can only accommodate up to 6 vehicles at a time. Occasionally a parent would park stationary in the “through” lane, instead of parking in the spaces.

Drivers were typically compliant with the informal operating process, however, formalizing the vehicle spaces in the circulating zone, and identifying the driver's obligations through improved signage, would further enhance the operations at the school access.

During the observation 2 (two) peak periods were compared:

1. Morning peak period: 8.30 – 9.30;
2. Afternoon peak period: 14.30 – 15.30.

There were 121 vehicles using the drop off area during the morning peak (8.11 – 9.19) and 53 vehicles during the afternoon peak (14.30 – 15.30).

Average waiting time (**within drop off zone**) for one vehicle during the morning peak was 1 minute 10 seconds and during the afternoon peak it was 1:41.

IN the afternoon on the “Queue Area”, it was also noticed that 6 vehicles were parked for more than 16 minutes during the afternoon peak, as presented on a screenshot below. The waiting time for these vehicles were not used for calculations, because these cars were considered as illegally parked vehicles:

1 N		14:31:41	14:57:22	0:25:41
1 N		14:34:25	14:58:02	0:23:37
1 N		14:39:13	14:58:15	0:19:02
1 N		14:39:41	14:57:01	0:17:20
1 N		14:40:02	14:58:42	0:18:40
1 N		14:41:05	14:57:30	0:16:25

These vehicles would be better accommodated in the underutilized Parking Area 2.

It was also noticed that the number of parents who parked across the road was higher during afternoon peak (14 vehicles) than in morning peak (4 vehicles).

There were approximately 10 bus movements in the morning peak and 12 bus movements in the afternoon.

It was also noted that compared to the morning traffic data capture, the afternoon peak was less than half. This may be due to the number of school children using the bus service in the afternoon.



## **Traffic Count**

A special traffic count was undertaken from 1 November to 7 November 2019 at Riverview School Access area. The below information is a summary of the information.

<b>Summary Count – Riverside Road</b>				
Total Volume For Week	6735	Weekday AM Average (6-10am)	125	V/Hr
Average Daily Volume (7 Days)	962	Weekday Midday Average (10am-3pm)	58	V/Hr
Average Daily Volume (Mon - Fri)	1193	Weekday PM Average (3-9pm)	88	V/Hr

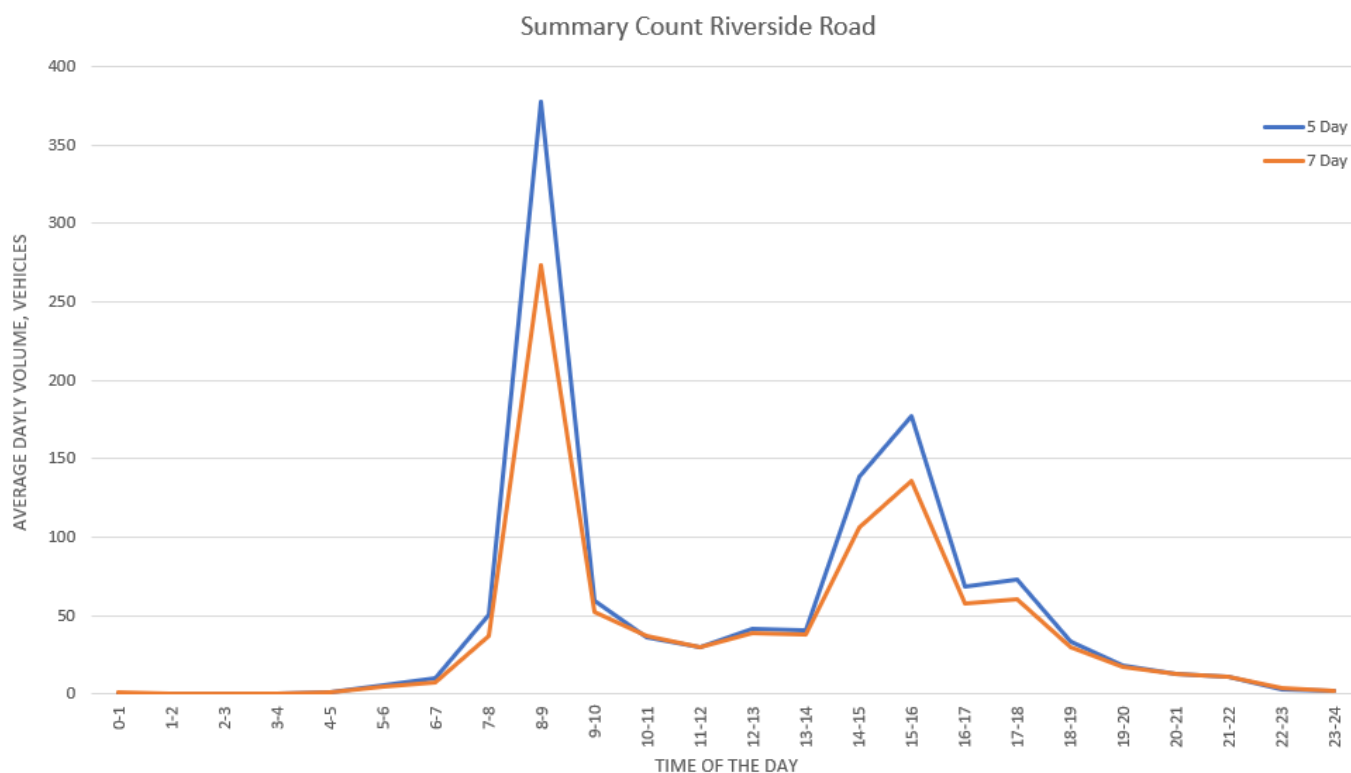


Figure 4 Summary Count Graph of Traffic Volume - 5- & 7-Day Average

## Crash Data

There are no registered crashes on Riverview Rd during the last 10 years. In addition, the Northland Transportation Alliance Risk Mapping (Abley Map) Riverview Rd has **LOW Collective Risk Level**.

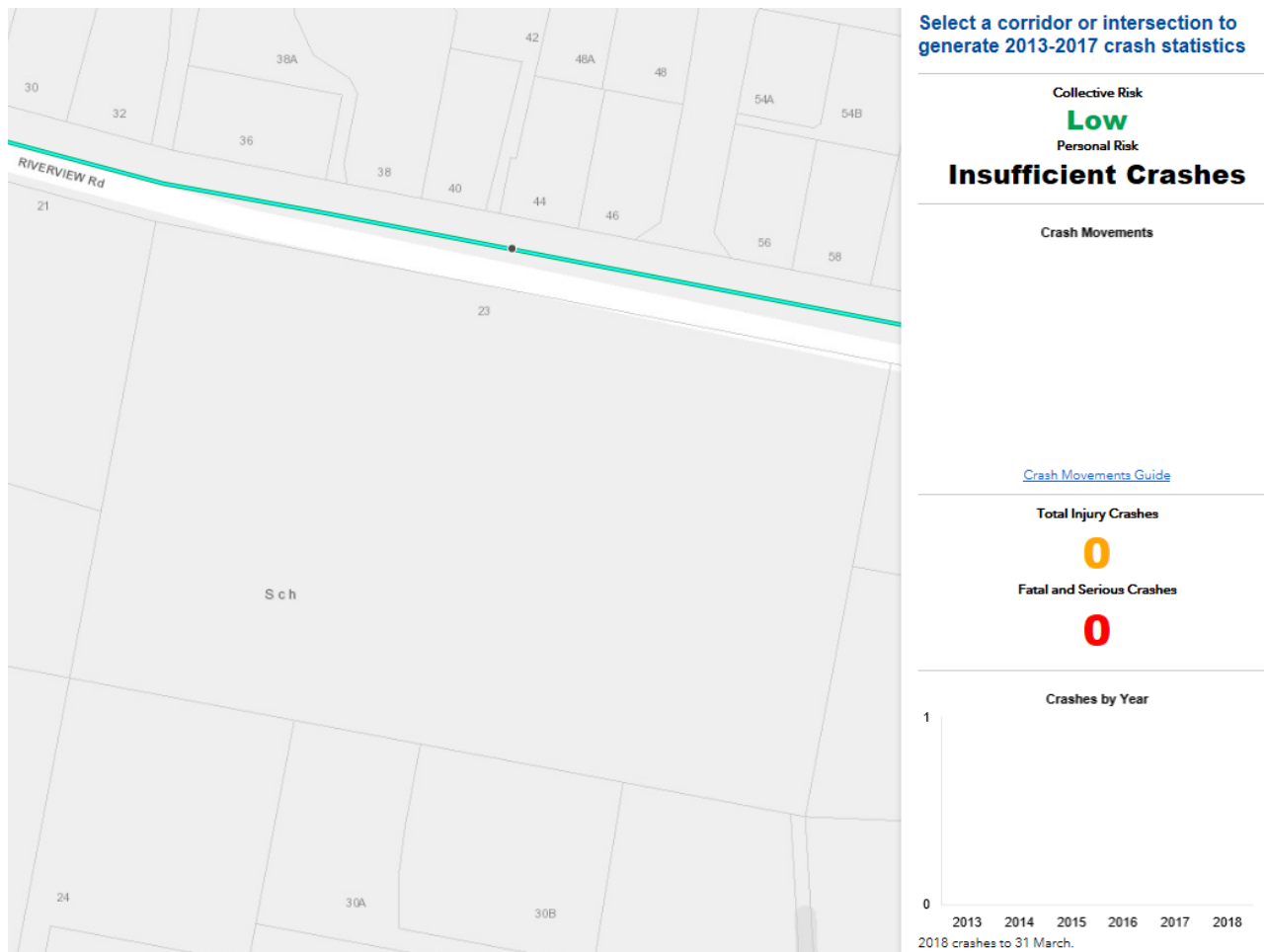


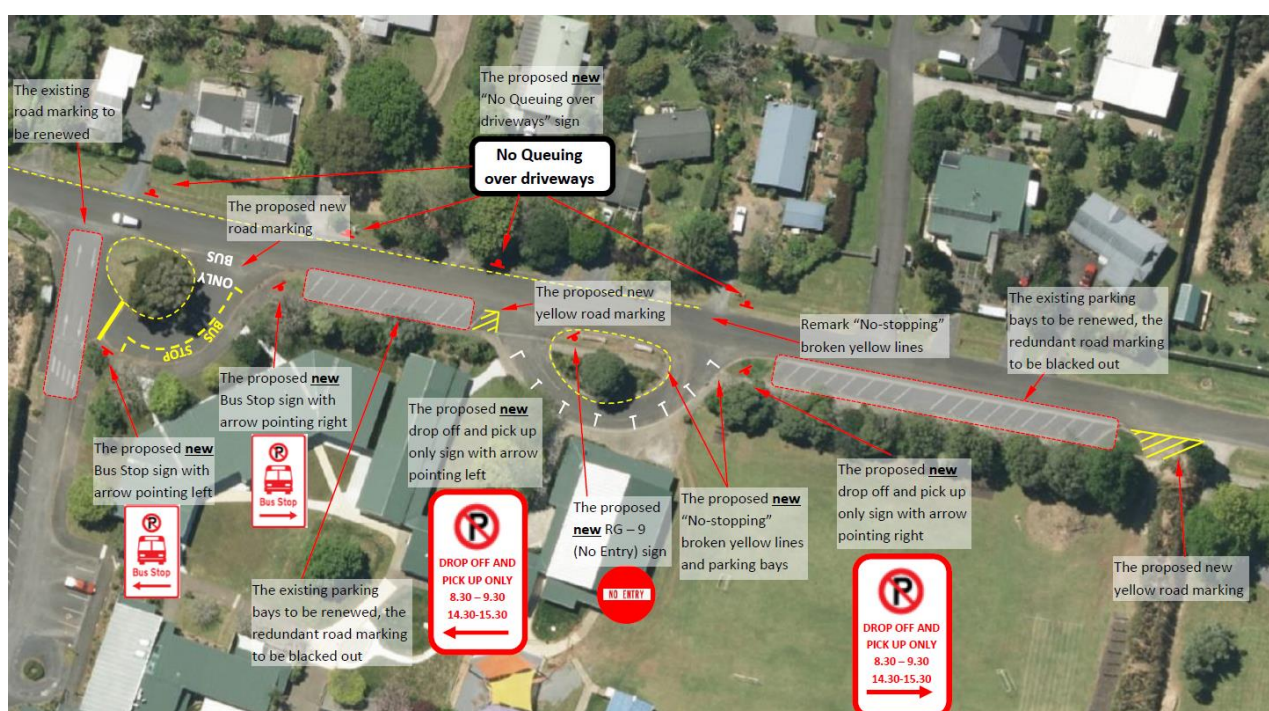
Figure 5 Abley Risk Map showing Low Collective Risk outside school



## 5. Recommendation

As presented on the diagram below, it is proposed to renew the existing road marking and provide additional signs and road marking as follows:

- Renew:
  - the existing “parking bays”;
  - “No-stopping” broken yellow lines;
  - the existing yellow limit line;
- Install:
  - 2 (two) new Bus Stop Signs;
  - a new “No Entry” sign;
  - 2 (two) new drop off and pick up only signs with arrows pointing right/left;
  - 4 (four) new “No Queuing over driveways” signs;
- Apply:
  - new “Bus Stop” road marking;
  - additional “No-stopping” broken yellow lines;
  - “keep clear” yellow road marking.



**Fig.1.** NTA Signs and Marking Proposal (January 2020).

Proposed actions will improve the performance of the drop-off area. Renewing “No-stopping” broken yellow lines and adding “No queueing over driveway” signs on the north side of the road will reinforce parking restrictions and prevent vehicles of blocking driveways during drop-off periods.

“Drop off/Pick up” signs encourage more drivers to use drop off collection area and minimize number of conflicts between children and maneuvering vehicles.

Bus stop signs and road marking will help bus drivers to define the size of the bus stop area and prevent other drivers of using it as an additional drop off area or parking.



## **6. Conclusion**

The drop-off and pickup area for children is performing well. The average waiting times are less than 2 minutes, which confirms this exceptional operation at the front access.

There are some minor issues that were described within this report and performance of this area can be improved.

Minor issues described in this report can relate to poor performance by contractors working for Council, having not maintained Signs and road markings. This should be followed up with contract Managers.

It is recommended to renew the existing road signs/markings and add additional signs/road markings to reinforce the existing rules in this area as per my plan in Appendix A – Site Circulating Data.

It is also recommended to organize educational sessions with parents that can help to minimize the number of cars parked on the northern side of the road and the number of children crossing the road during pick-up periods.



## 7. Appendix A – Site Circulating Data

REF: NSAAT – No Stopping At All Times

Circulating Data 5 November 2019								
Vehicle ID (Plate #)	Count	Color	Type	Queuing (NSAAT)	If yes (Time)	Time In	Time Out	Time Difference
U	1	Grey	SUV	N		8:11:40	8:12:23	0:00:43
U	1	Grey	SUV	N		8:12:01	8:12:53	0:00:52
U	1	Silver	SUV	N		8:12:20	8:14:20	0:02:00
U	1	Red	SUV	N		8:12:34	8:13:46	0:01:12
	1	Red	P-Truck	N		8:13:15	8:15:42	0:02:27
	1	White	SUV	N		8:13:23	8:14:04	0:00:41
	1	Grey	Wagon	N		8:14:29	8:15:46	0:01:17
U	1	White	Wagon	N		8:14:39	8:15:25	0:00:46
U	1	Black	SUV	N		8:15:32	8:16:27	0:00:55
	1	Black	SUV	N		8:16:09	8:16:44	0:00:35
U	1	White	P-Truck	N		8:16:12	8:17:46	0:01:34
	1	White	P-Truck	N		8:16:24	8:17:43	0:01:19
U	1	Black	P-Truck	N		8:16:46	8:17:28	0:00:42
U	1	White	Sedan	N		8:17:44	8:18:25	0:00:41
U	1	Black	Wagon	N		8:18:30	8:19:16	0:00:46
U	1	Black	P-Truck	N		8:18:34	8:19:24	0:00:50
	1	Black	SUV	N		8:18:51	8:19:39	0:00:48
U	1	Blue	Wagon	N		8:19:26	8:20:29	0:01:03
U	1	Black	SUV	N		8:19:39	8:20:42	0:01:03
U	1	Blue	Wagon	N		8:19:54	8:20:25	0:00:31
U	1	White	SUV	N		8:20:16	8:20:46	0:00:30
U	1	Silver	Hatch-B	N		8:20:53	8:22:06	0:01:13
	1	Black	SUV	N		8:21:42	8:22:14	0:00:32
	1	Blue	SUV	N		8:21:46	8:22:22	0:00:36
	1	Silver	SUV	N		8:21:51	8:22:43	0:00:52
	1	White	Hatch-B	N		8:21:58	8:22:29	0:00:31
	1	Orange	P-Truck	N		8:22:02	8:22:38	0:00:36
	1	Blue	Wagon	N		8:22:07	8:23:41	0:01:34
U	1	Silver	Sedan	N		8:22:16	8:23:34	0:01:18
	1	Grey	P-Truck	Y	8:22:24	8:22:29	8:23:21	0:00:52



	1	White	SUV	Y	8:22:24	8:22:34	8:23:29	0:00:55
	1	White	Hatch-B	N		8:22:44	8:24:52	0:02:08
	1	Blue	Wagon	N		8:24:16	8:25:07	0:00:51
	1	Blue	Hatch-B	n		8:25:01	8:25:32	0:00:31
	1	Silver	Hatch-B	N		8:25:04	8:25:53	0:00:49
	1	Silver	SUV	N		8:25:45	8:26:55	0:01:10
	1	White	SUV	N		8:26:08	8:27:03	0:00:55
	1	Brown	Sedan	N		8:26:43	8:27:45	0:01:02
	1	Silver	Sedan	N		8:26:55	8:28:00	0:01:05
	1	White	Sedan	N		8:27:35	8:31:06	0:03:31
	1	White	Wagon	N		8:28:05	8:30:46	0:02:41
	1	White	SUV	N		8:28:29	8:28:39	0:00:10
	1	Grey	SUV	N		8:29:47	8:30:36	0:00:49
	1	Grey	P-Truck	N		8:29:52	8:30:51	0:00:59
	1	Black	Wagon	N		8:29:56	8:31:02	0:01:06
	1	Silver	SUV	N		8:30:41	8:31:32	0:00:51
	1	Black	Wagon	N		8:30:46	8:32:34	0:01:48
	1	Black	Wagon	N		8:31:07	8:31:49	0:00:42
	1	Black	Hatch-B	N		8:31:13	8:31:52	0:00:39
	1	Black	Sedan	N		8:31:41	8:33:07	0:01:26
	1	Silver	Hatch-B	N		8:32:31	8:36:01	0:03:30
	1	Black	SUV	N		8:32:35	8:34:11	0:01:36
	1	White	SUV	N		8:33:17	8:34:41	0:01:24
	1	Red	Hatch-B	N		8:33:35	8:34:54	0:01:19
	1	Black	Sedan	N		8:33:46	8:34:21	0:00:35
	1	Black	Wagon	N		8:34:14	8:34:58	0:00:44
	1	White	Wagon	N		8:34:31	8:35:34	0:01:03
	1	Blue	Sedan	N		8:35:11	8:35:41	0:00:30
	1	Grey	SUV	N		8:35:16	8:37:04	0:01:48
	1	Grey	SUV	N		8:35:22	8:36:49	0:01:27
	1	Grey	Sedan	N		8:35:56	8:36:35	0:00:39
	1	Black	SUV	N		8:37:22	8:38:08	0:00:46
	1	White	SUV	N		8:37:39	8:38:22	0:00:43
	1	Black	P-Truck	N		8:37:48	8:38:34	0:00:46
	1	Grey	Hatch-B	N		8:37:54	8:38:42	0:00:48



	1	Silver	Wagon	N		8:38:05	8:40:11	0:02:06
	1	Blue	Sedan	N		8:38:43	8:39:17	0:00:34
	1	Grey	Wagon	N		8:39:09	8:40:16	0:01:07
	1	Grey	P-Truck	N		8:39:57	8:41:13	0:01:16
	1	White	SUV	N		8:40:12	8:41:08	0:00:56
	1	Black	P-Truck	N		8:40:35	8:41:33	0:00:58
	1	Silver	Hatch-B	N		8:40:51	8:41:40	0:00:49
	1	White	SUV	N		8:41:08	8:41:45	0:00:37
	1	Grey	Wagon	N		8:41:13	8:42:05	0:00:52
	1	Blue	Sedan	N		8:41:18	8:42:26	0:01:08
	1	Green	Hatch-B	N		8:42:17	8:42:43	0:00:26
	1	Grey	Wagon	N		8:42:27	8:44:20	0:01:53
	1	Black	Sedan	N		8:42:32	8:43:12	0:00:40
	1	Silver	SUV	N		8:42:59	8:44:14	0:01:15
	1	White	VAN	N		8:43:25	8:43:54	0:00:29
	1	White	Sedan	N		8:43:37	8:44:29	0:00:52
	1	White	SUV	N		8:43:46	8:45:02	0:01:16
	1	Black	Hatch-B	N		8:44:04	8:44:59	0:00:55
	1	Grey	SUV	N		8:44:11	8:45:59	0:01:48
U	1	Silver	Wagon	N		8:44:46	8:46:27	0:01:41
	1	Blue	Wagon	N		8:45:14	8:45:56	0:00:42
	1	Silver	Wagon	N		8:45:37	8:46:57	0:01:20
	1	WHite	wagon	N		8:45:42	8:47:17	0:01:35
	1	Grey	SUV	N		8:46:10	8:47:20	0:01:10
	1	White	Sedan	N		8:46:17	8:47:12	0:00:55
	1	Red	Sedan	N		8:46:30	8:48:25	0:01:55
	1	Grey	P-Truck	Y	8:40:38	8:47:05	8:47:53	0:00:48
	1	Grey	Wagon	Y	8:40:38	8:47:09	8:48:09	0:01:00
	1	Grey	SUV	Y	8:40:40	8:47:19	8:49:34	0:02:15
	1	White	Wagon	Y	8:45:15	8:47:24	8:48:34	0:01:10
	1	Silver	Wagon	N		8:47:39	8:48:12	0:00:33
	1	Black	SUV	Y	8:47:45	8:47:54	8:48:52	0:00:58
	1	Blue	Wagon	N		8:48:16	8:48:44	0:00:28
	1	White	SUV	N		8:48:53	8:50:12	0:01:19
	1	Grey	Hatch-B	N		8:48:58	8:49:45	0:00:47



	1	Silver	Wagon	N		8:49:36	8:50:39	0:01:03
	1	Grey	SUV	N		8:50:03	8:51:22	0:01:19
	1	Grey	P-Truck	N		8:50:18	8:52:21	0:02:03
	1	Silver	SUV	N		8:50:49	8:52:12	0:01:23
	1	Silver	Wagon	N		8:51:04	8:52:53	0:01:49
	1	Red	SUV	N		8:51:42	8:52:59	0:01:17
	1	Black	SUV	N		8:51:49	8:53:18	0:01:29
U	1	White	Wagon	N		8:52:48	8:53:32	0:00:44
U	1	Black	SUV	N		8:53:00	8:53:41	0:00:41
	1	Black	Wagon	N		8:53:17	8:55:06	0:01:49
	1	Silver	Wagon	N		8:53:30	8:57:36	0:04:06
	1	Green	Sedan	N		8:53:32	8:55:17	0:01:45
	1	White	Wagon	N		8:53:37	8:55:13	0:01:36
	1	White	Wagon	N		8:53:49	8:55:00	0:01:11
	1	Brown	SUV	N		8:54:13	8:55:25	0:01:12
	1	Grey	Wagon	N		8:54:20	8:56:21	0:02:01
	1	White	SUV	N		8:55:14	8:57:11	0:01:57
	1	Grey	Wagon	N		8:55:39	8:57:59	0:02:20
	1	Grey	SUV	N		8:58:15	8:59:03	0:00:48
	1	Blue	SUV	N		8:59:11	9:00:06	0:00:55
Total # Vehicles	<b>121</b>							
AM Peak Period						<b>0:48:26</b>		
Average Pick Up time								<b>0:01:10</b>





Circulating Data 19 November 2019						
Vehicle ID (Plate #)	Count	Queuing (NSAAT)	If yes (Time)	Time In	Time Out	Time Difference
	1	N		14:30:01	14:30:45	0:00:44
	1	N		14:35:20	14:35:33	0:00:13
	1	N		14:38:08	14:38:19	0:00:11
	1	Y	14:42:45	14:57:10	15:00:28	0:03:18
	1	Y	14:47:48	14:57:08	14:59:24	0:02:16
	1	Y	14:48:40	14:49:17	14:50:58	0:01:41
	1	N		14:48:57	14:49:16	0:00:19
	1	Y	14:47:48	14:58:19	15:02:05	0:03:46
	1	N		14:53:02	14:53:15	0:00:13
	1	N		14:57:17	14:59:28	0:02:11
	1	Y		14:57:44	14:59:35	0:01:51
	1	Y	14:58:04	14:58:32	15:01:08	0:02:36
	1	Y	14:58:17	14:59:00	15:01:35	0:02:35
	1	Y	14:58:17	14:59:47	15:01:46	0:01:59
	1	Y	14:58:17	14:59:52	15:02:04	0:02:12
	1	Y	14:58:17	15:00:01	15:01:52	0:01:51
	1	Y	14:58:19	15:00:07	15:05:59	0:05:52
	1	Y	14:58:19	15:01:01	15:04:00	0:02:59
	1	Y	14:58:19	15:01:44	15:04:06	0:02:22
	1	Y	14:58:25	15:02:18	15:05:14	0:02:56
	1	Y	14:58:25	15:02:26	15:05:18	0:02:52
	1	N		15:03:10	15:05:23	0:02:13
	1	N		15:05:48	15:06:52	0:01:04
	1	N		15:05:52	15:06:59	0:01:07
	1	N		15:05:59	15:07:27	0:01:28
	1	N		15:06:07	15:06:56	0:00:49
	1	N		15:06:56	15:08:12	0:01:16
	1	N		15:07:32	15:08:59	0:01:27
	1	N		15:07:44	15:09:29	0:01:45
	1	N		15:08:31	15:09:37	0:01:06
	1	N		15:08:48	15:10:07	0:01:19
	1	N		15:08:52	15:10:18	0:01:26

	1	N		15:09:06	15:10:40	0:01:34
	1	N		15:09:50	15:10:51	0:01:01
	1	N		15:09:52	15:11:20	0:01:28
	1	N		15:10:07	15:11:26	0:01:19
	1	N		15:10:11	15:11:38	0:01:27
	1	N		15:10:20	15:11:46	0:01:26
	1	N		15:10:36	15:12:18	0:01:42
	1	N		15:11:00	15:12:29	0:01:29
	1	N		15:11:13	15:12:32	0:01:19
	1	N		15:13:19	15:13:47	0:00:28
	1	N		15:15:15	15:16:51	0:01:36
	1	N		15:16:25	15:17:10	0:00:45
	1	N		15:17:25	15:17:44	0:00:19
	1	N		15:27:27	15:30:10	0:02:43
	1	N		15:28:08	15:29:02	0:00:54
Total # Vehicles	<b>47</b>					
PM Peak Period				<b>0:59:01</b>		
Average Pick Up time						<b>0:01:41</b>

Parked vehicles 19 November 2019 – In Queuing Space						
Vehicle ID (Plate #)	Count	Queuing (NSAAT)	If yes (Time)	Time In	Time Out	Time Difference
	1	N		14:31:41	14:57:22	0:25:41
	1	N		14:34:25	14:58:02	0:23:37
	1	N		14:39:13	14:58:15	0:19:02
	1	N		14:39:41	14:57:01	0:17:20
	1	N		14:40:02	14:58:42	0:18:40
	1	N		14:41:05	14:57:30	0:16:25

