

An Analysis of the Data from the Traffic Counters placed on James Bay Streets during the 2023 Cruise Ship Season

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Overview

During late spring and late summer of 2023, the University of Victoria undertook a study to investigate the environmental impact of cruise ships on the James Bay area. This initiative involved a collaboration with the James Bay Neighbourhood Association (JBNA) who engaged Transtech Data Services Inc., a regional traffic data collection consultancy, to deploy traffic counters on several James Bay streets and provide raw traffic volumes and speed data.

This report provides the JBNA analysis of this data with the following key observations.

1. **Impact of Cruise Ships on Traffic Volume:** There is a notable increase in vehicle traffic when cruise ships are in port, particularly on streets which provide the most direct route between Ogden Point and Downtown. This increase is most pronounced during the hours 8pm to 11pm when three ships are in port when all the streets see a large traffic increase. (Page 7).

Example: "Dallas, South of Simcoe , May": An average of 77 vehicles/15min vs. 29 vehicles/15min when no ships are in port

2. **Speeding:** On several streets the higher vehicle volumes resulted in a higher number of vehicles exceeding the speed limit. However, this is not uniform across all streets. On streets where the traffic counter is located close to stop signs or pedestrian crossings there is a reduced likelihood of speeding. In general, higher traffic volume reduces the potential for speeding (Pages 20 & 21). The highest incidence of vehicles exceeding a 50 km/h speed limit occurs on Oswego St. during the hours 8pm to 11pm when three ships are in port. (Page 7). There is excessive speeding on Douglas St. where there is a 40 km/h speed limit.

Example: "Oswego, North of Ontario, May": An average of 7 vehicles/15min exceed the speed limit vs. 1 vehicle/15min when no ships are in port

3. **Variability in Traffic Patterns.** There are significant variations in traffic volumes both on "Cruise Ship" and on "No Cruise Ship" days. Factors such as day of the week, weather conditions, road works, length of cruise ship visits, and the number of passengers all influence traffic volumes (Pages 22 & 23). Therefore, the information provided in this report should be considered as indicative of the impact of cruise ship traffic rather than precise values.

Recommendations:

- The City of Victoria prioritize implementation of 30 km/h speed limits on Oswego Street and on ALL streets in James Bay classified as "Local"
- The speed limit from Mile 0 along Dallas Road through Kingston to Belleville Streets be reduced to 40 km/h
- Speed limits be strictly enforced within school zones, particularly on Oswego St.
- As a condition of allowing taxis or ride sharing services on its property, the Greater Victoria Harbour Authority (GVHA) should require speed monitoring software to be active in vehicles serving GHVA while in James Bay
- GVHA stagger cruise ship arrival and departure times to reduce peak traffic volumes
- GHVA reduce the number of late evening ship movements after 10pm to reduce neighbourhood traffic and noise

Summary Tables:

The traffic data is presented in tables at the end of this section (Pages 6 &7) and provide average counts, per 15-minute interval, for both total vehicles and the number of vehicles exceeding the speed limit.

Table Contents: The tables cover a range of scenarios, including:

- Any number of ships present at any time of day. (Page 6)
- No ships present.
- Three ships present at any time between 8pm and 11pm (Page 7, “Peak traffic periods”)
- Separate tables for May and August/September (referred to as “Aug” or “August” within the report)

Peak Traffic Periods:

The “8pm to 11pm” period was chosen since the charts on pages 9 to 13 indicate that, for many of the streets, this period will have a high excess vehicle count when ships are in port. Additionally, the highest counts can be expected when three ships are in port. The “3 ships, 8pm-11pm” period includes between **15%** (May) and **23%** August) of all cruise ship visits (see page 26).

Highlighted Streets:

- Four of the streets were monitored in both May & August, these are highlighted in blue. Three additional streets were monitored in May and two in August for a total of thirteen counters.
- Streets which vehicles are most likely to use when taking the most direct route between Ogden Point and downtown are indicated with an asterisk (*); on these streets higher excess vehicle counts are expected when cruise ships are in port.

Average Calculation Methodology:

- An example of how the averages were calculated is found on Page 29

Variability of Vehicle Counts.

It is important to note that vehicle counts on days without cruise ships can vary by up to **27%** (see Page 22). Therefore, the “% Excess Vehicle / 15 min” figures are indicative and not precise measurements. Except for “Douglas, North of Simcoe” in August (Page 6) all the excess vehicle counts are positive.

Passenger Time in Port:

The tables are based on the times that “Ships are in Port” rather than the times that “Passengers on are on Land”. This means that no adjustments have been made for the time taken for passengers to disembark and embark and the effect this will have on vehicle traffic. The result will likely be that traffic volumes due to “Ships in Port” will be a small underestimate of the “Passengers on Land” traffic volumes.

Observations:

Marked Increase in Traffic During Peak Cruise Hours:

On all the streets except for the May counts for “Douglas, North of Simcoe” and “Dallas, West of Douglas” there is a significant % increase in vehicle traffic when three ships are in port during the 8pm to 11pm period.

Speeding

On most of the streets there is not a significant difference between the percentage of speeding vehicles when “ships in port” vs “no ships in port”; in fact, the percentage is often higher when no ships are in port. In general, a higher volume of traffic on these streets reduces the percentage of speeding vehicles. (Page 20 & 21). Oswego St and Montreal St., at Peak times, are notable exceptions.

Three Streets of Note:

- Oswego St. has both high counts for both vehicles and speeding (>50km/h) vehicles when three ships are in port between 8pm and 11 pm. At that time approximately **25** vehicles an hour exceed the speed limit (Page 7).
- Montreal St. has the lowest vehicle count and a high percentage of speeding (>30km/h) vehicles (Pages 6 & 7).
- Douglas Street, with a 40 km/h speed limit has the highest percentage of speeding vehicles with a May average of over **40%** of vehicles exceeding the speed limit both for “No ships in Port” and “Ships in Port”. (Page 6)

The observations above relate to the following tables:

Any number of ships in port, all times, both directions, May & August

		MAY						
		All Ships & Time Periods, Both Directions						
		Totals		Exceeding Speed Limit				Excess Vehicles/ 15min
		Ships	No Ships	Ships	No Ships	Ships	No Ships	
		Average Vehicle Counts / 15 min				Vehicle %		
Dallas, South of Simcoe (B)*	3rd to 19th May	65	46	2.4	2.0	4%	4%	19
Douglas, North of Simcoe (B)	3rd to 12th & 15th to 19th May	100	90	43.9	39.0	44%	43%	10
Oswego, North of Ontario (B)*	3rd to 19th May	53	41	1.8	0.6	4%	2%	12
Dallas, West of Dock (B)*	9th May to 19th May	91	67	0.5	0.6	1%	1%	24
Dallas, MileZero Island (B)	3rd to 6th & 9th to 19th May	43	40	0.5	0.6	1%	1%	3
Dallas, West of Douglas (B)	3rd to 9th May	89	77	3.3	2.9	4%	4%	12
Montreal, North of Dallas (B)*	4th to 19th May	9	8	1.4	1.4	16%	17%	1

		AUGUST						
		All Ships & Time Periods, Both Directions						
		Totals		Exceeding Speed Limit				Excess Vehicles/ 15min
		Ships	No Ships	Ships	No Ships	Ships	No Ships	
		Average Vehicle Counts / 15 min				Vehicle %		
Dallas, South of Simcoe (B)*	22nd August to 6th September	76	52	3.1	1.5	4%	3%	24
Douglas, North of Simcoe (B)	22nd Aug to 1st Sep & 5th to 11th Sep	92	110	36.2	43.3	40%	39%	-18
Oswego, North of Ontario (B)*	22nd August to 6th September	45	44	2.1	0.7	5%	2%	2
Dallas, West of Dock (B)*	22nd August to 8th September	76	58	0.3	0.4	0%	1%	18
Dallas, West of Montreal (B)*	22nd August to 6th September	62	52	1.2	1.2	2%	2%	10
Dallas, East of Douglas (B)	22nd August to 6th September	101	110	6.8	7.6	7%	7%	-8

Streets which vehicles are most likely to use when taking the most direct route between Ogden Point and Downtown are indicated with an asterisk (*)

3 ships in port, 8pm to 11pm, both directions, May & August

		MAY						
		3 Ships in Port, 8pm to 11pm both Directions						
		Totals		Exceeding Speed Limit				Excess Vehicles/ 15min
		Ships	No Ships	Ships	No Ships	Ships	No Ships	
		Average Vehicle Counts / 15 min				Vehicle %		
Dallas, South of Simcoe (B)*	3rd to 19th May	77	29	3.6	1.7	5%	6%	48
Douglas, North of Simcoe (B)	3rd to 12th & 15th to 19th May	65	52	34.5	29.4	53%	57%	13
Oswego, North of Ontario (B)*	3rd to 19th May	66	26	6.7	0.5	10%	2%	40
Dallas, West of Dock (B)*	9th May to 19th May	123	34	0.2	0.7	0%	2%	89
Dallas, MileZero Island (B)	3rd to 6th & 9th to 19th May	30	21	0.5	0.4	1%	2%	10
Dallas, West of Douglas (B)	3rd to 9th May	56	50	3.9	4.0	7%	8%	6
Montreal, North of Dallas (B)*	4th to 19th May	11	4	1.8	0.7	17%	19%	7

		AUGUST						
		3 Ships in Port, 8pm to 11pm both Directions						
		Totals		Exceeding Speed Limit				Excess Vehicles/ 15min
		Ships	No Ships	Ships	No Ships	Ships	No Ships	
		Average Vehicle Counts / 15 min				Vehicle %		
Dallas, South of Simcoe (B)*	22nd August to 6th September	109	26	6.2	1.2	6%	5%	83
Douglas, North of Simcoe (B)	22nd Aug to 1st Sep & 5th to 11th Sep	74	48	29.0	27.7	39%	58%	26
Oswego, North of Ontario (B)*	22nd August to 6th September	61	22	5.9	0.7	10%	3%	38
Dallas, West of Dock (B)*	22nd August to 8th September	98	30	0.2	0.6	0%	2%	68
Dallas, West of Montreal (B)*	22nd August to 6th September	64	26	1.8	1.3	3%	5%	38
Dallas, East of Douglas (B)	22nd August to 6th September	76	47	6.6	6.4	9%	14%	30

Streets which vehicles are most likely to use when taking the most direct route between Ogden Point and Downtown are indicated with an asterisk (*)

Summary Charts:

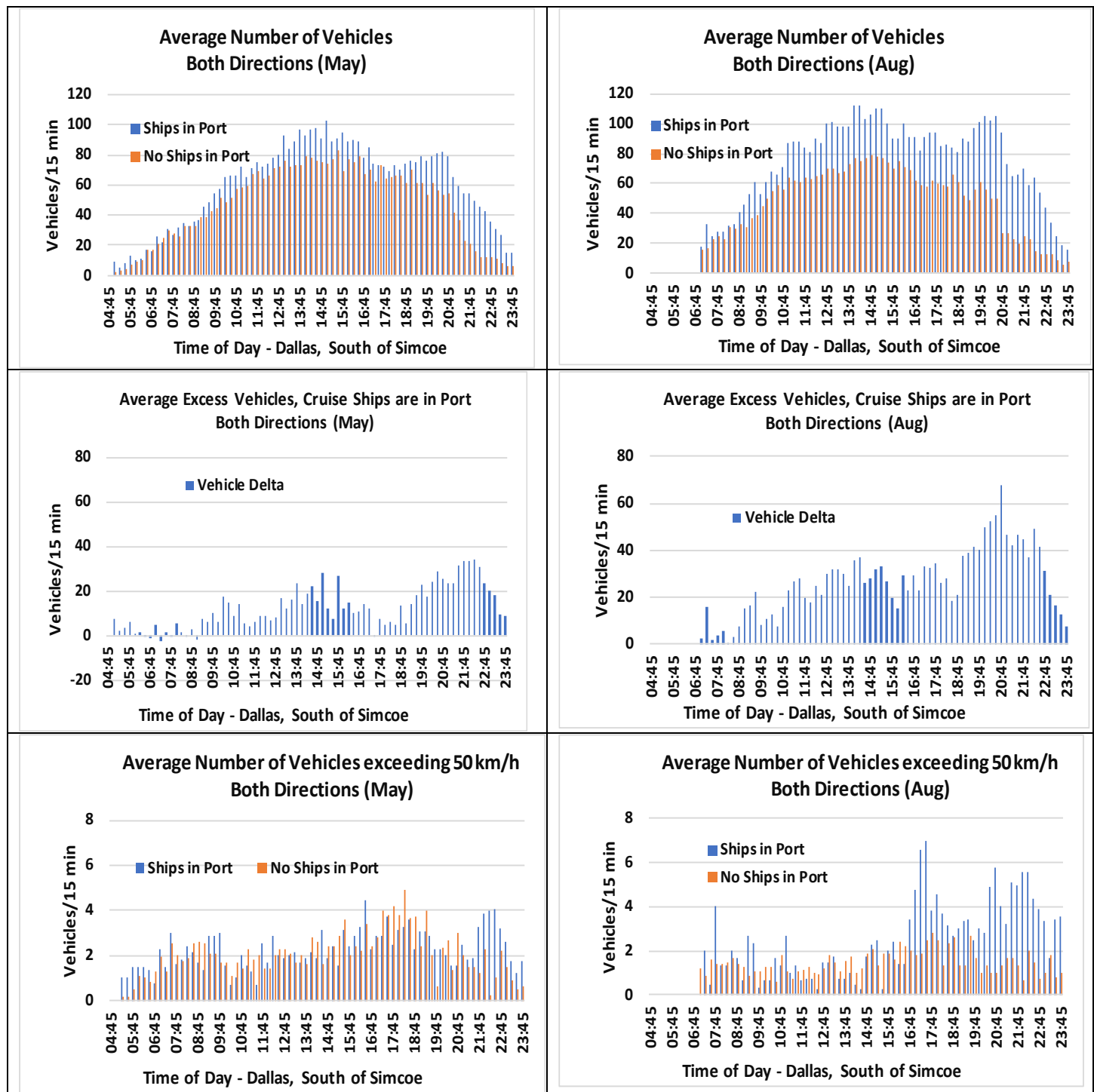
Notes

- The following ten pages of charts follow provide comparisons between “Ships in Port” and “No Ships in Port” for:
 - Each quarter hour period
 - Both May & August
 - Each of the thirteen traffic counters, combined total for both directions
 - The average number of vehicles
 - The average excess vehicles (“Ships in Port” minus “No Ships in Port”)
 - The average number of vehicles exceeding the speed limit
- Pages 9 to 13 – Charts for any number of ships in port, all time periods
- Pages 14 to 18 – Charts for the peak times, three ships in port, 8pm to 11pm
- Streets which passenger vehicles are most likely to use when travelling between Ogden Point and Downtown are indicated with an asterisk (*); on these streets higher vehicle counts are expected when cruise ships are in port.
- It is important to note that the total number of vehicles on days without cruise ship activity can vary by up to 27% (see Page 22). Therefore, the 'Excess Vehicle / 15 min' figures should be considered as indicative of the impact of cruise ship traffic rather than precise values.

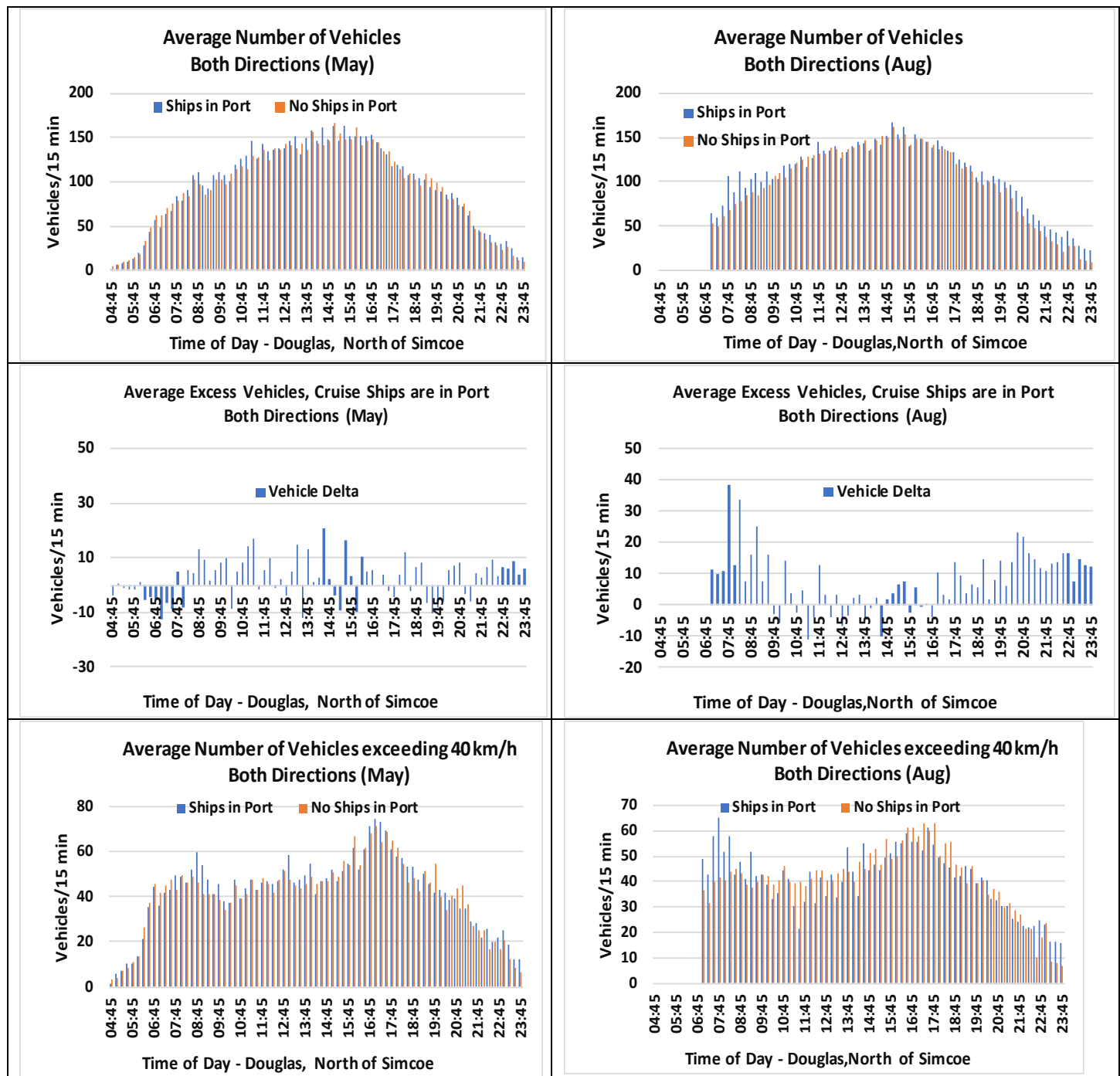
Observations

- In the charts for “Any number of ships, all time periods”:
 - The “excess vehicle count” is generally positive for the streets marked with an asterisk (*)
 - For streets marked with an asterisk (*) the peak excess traffic generally occurs between 8pm and 11pm.
- For the “3 Ships, 8pm to 11pm” charts the “excess vehicle count” is positive for all periods for the streets marked with an asterisk (*)

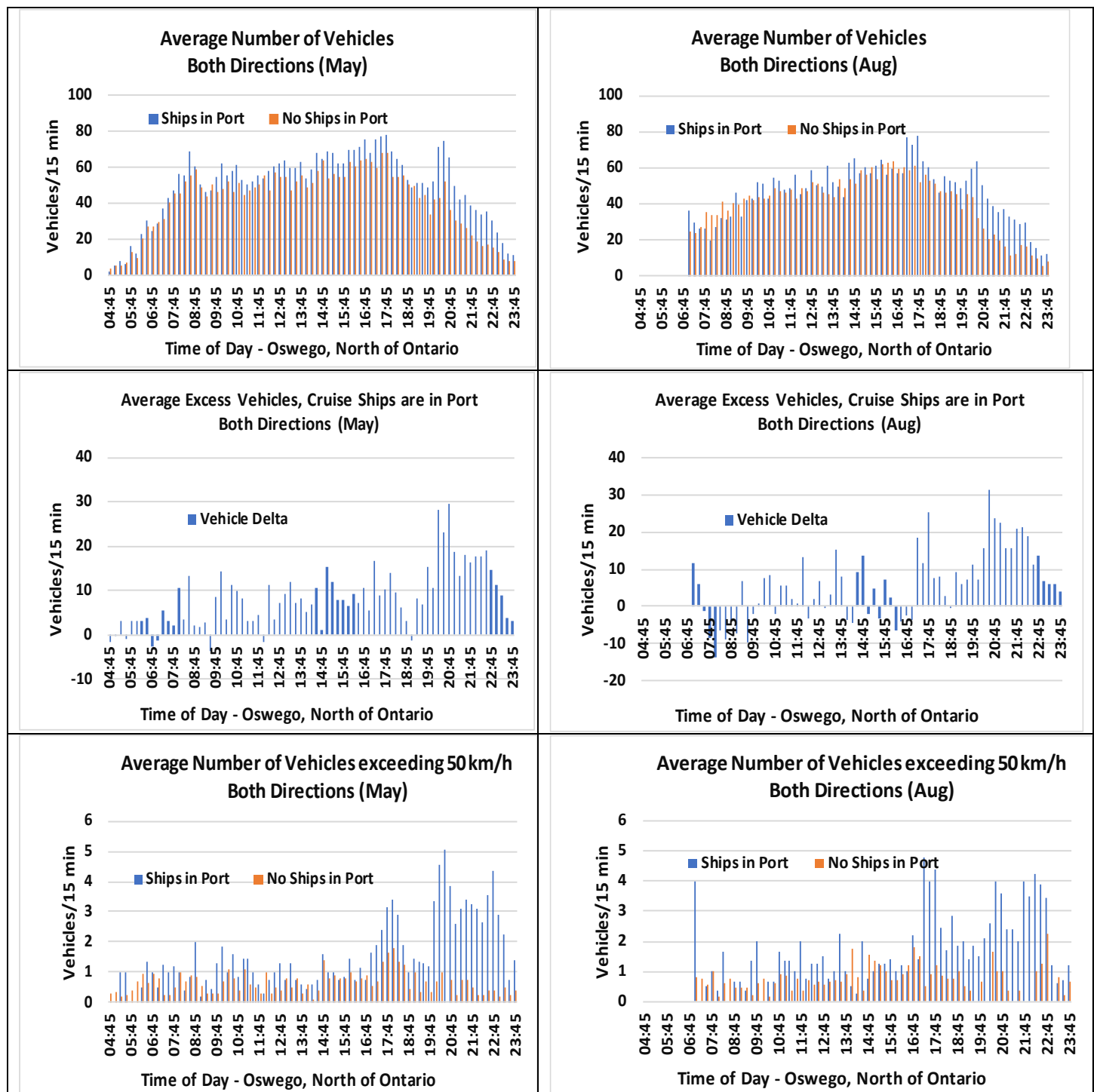
Dallas, South of Simcoe* - Any number of ships in port, all times, both directions, May & August



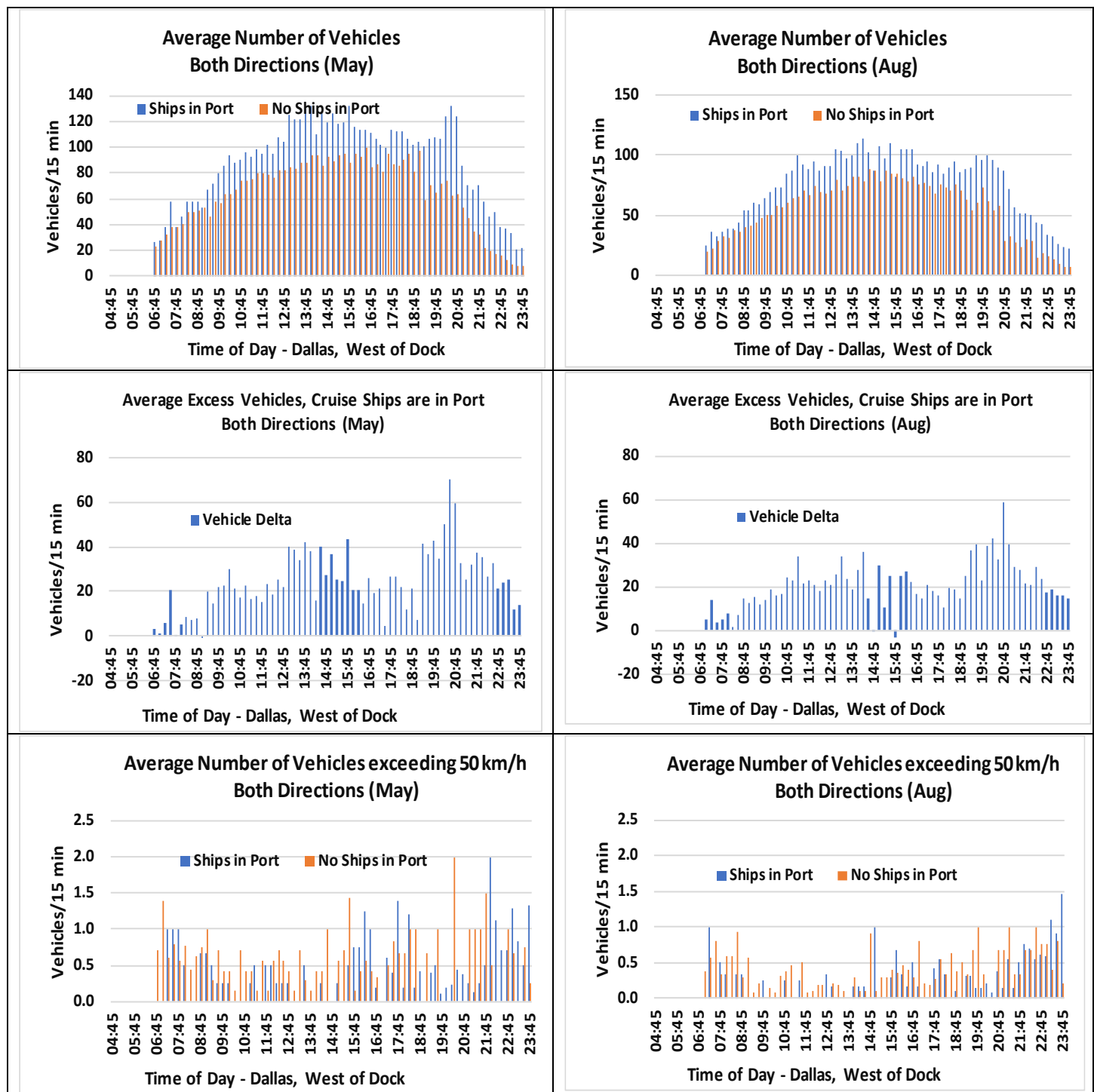
Douglas, North of Simcoe - Any number of ships in port, all times, both directions, May & August



Oswego, North of Ontario* - Any number of ships in port, all times, both directions, May & August

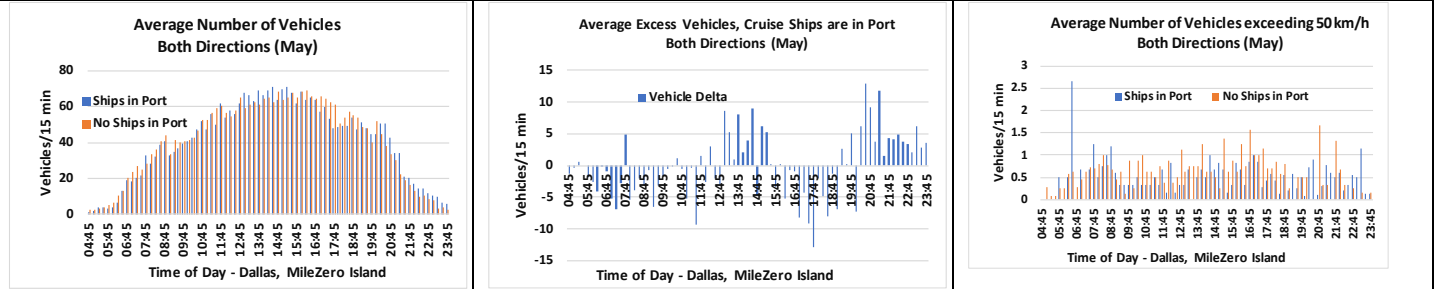


Dallas, West of Dock* - Any number of ships in port, all times, both directions, May & August

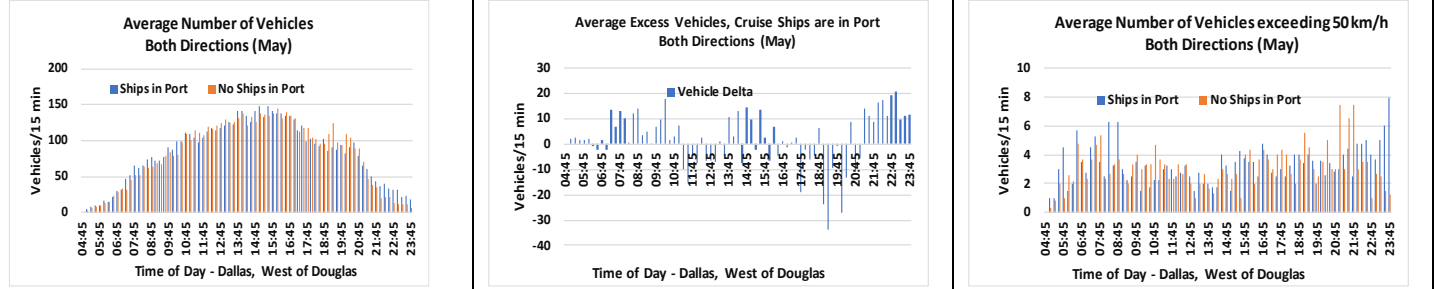


Any number of ships in port, all times, both directions

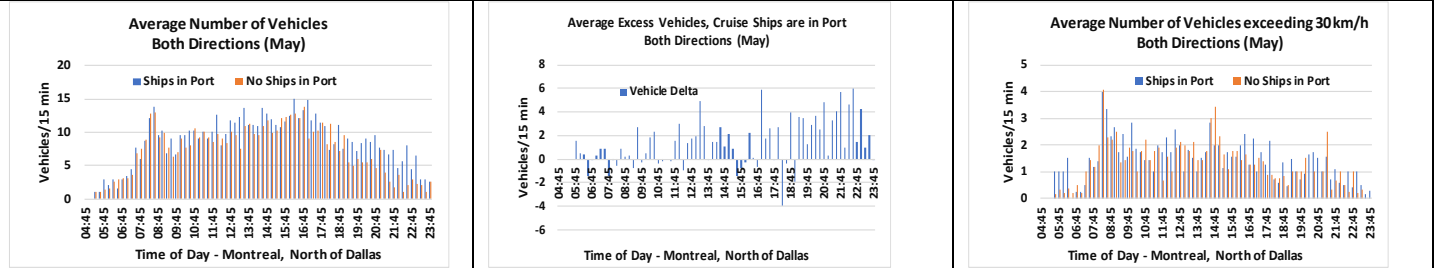
Dallas Mile Zero Island, May



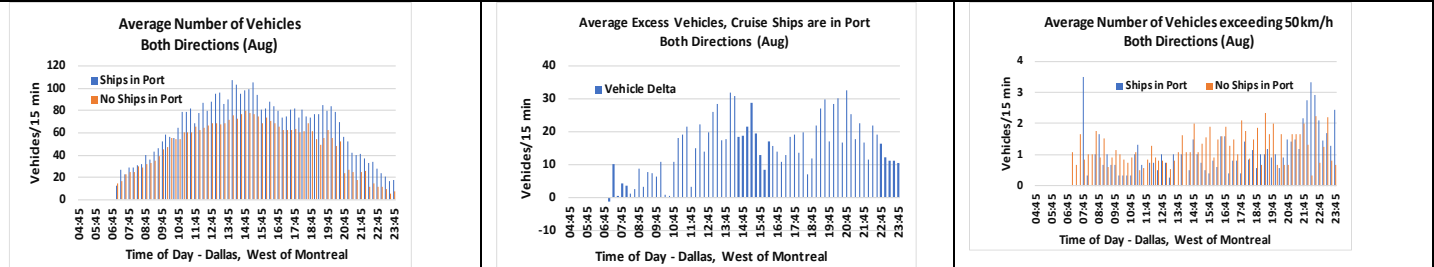
Dallas, West of Douglas, May



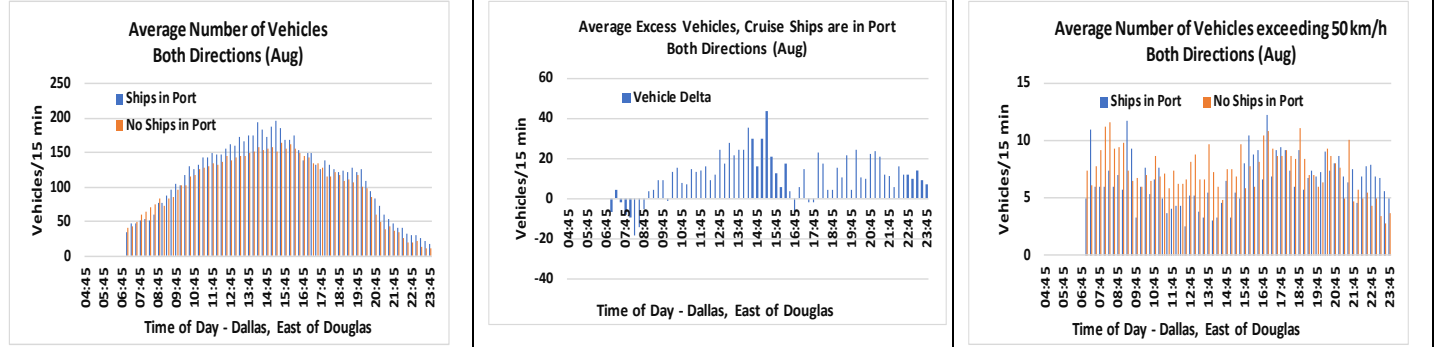
Montreal, North of Dallas*, May



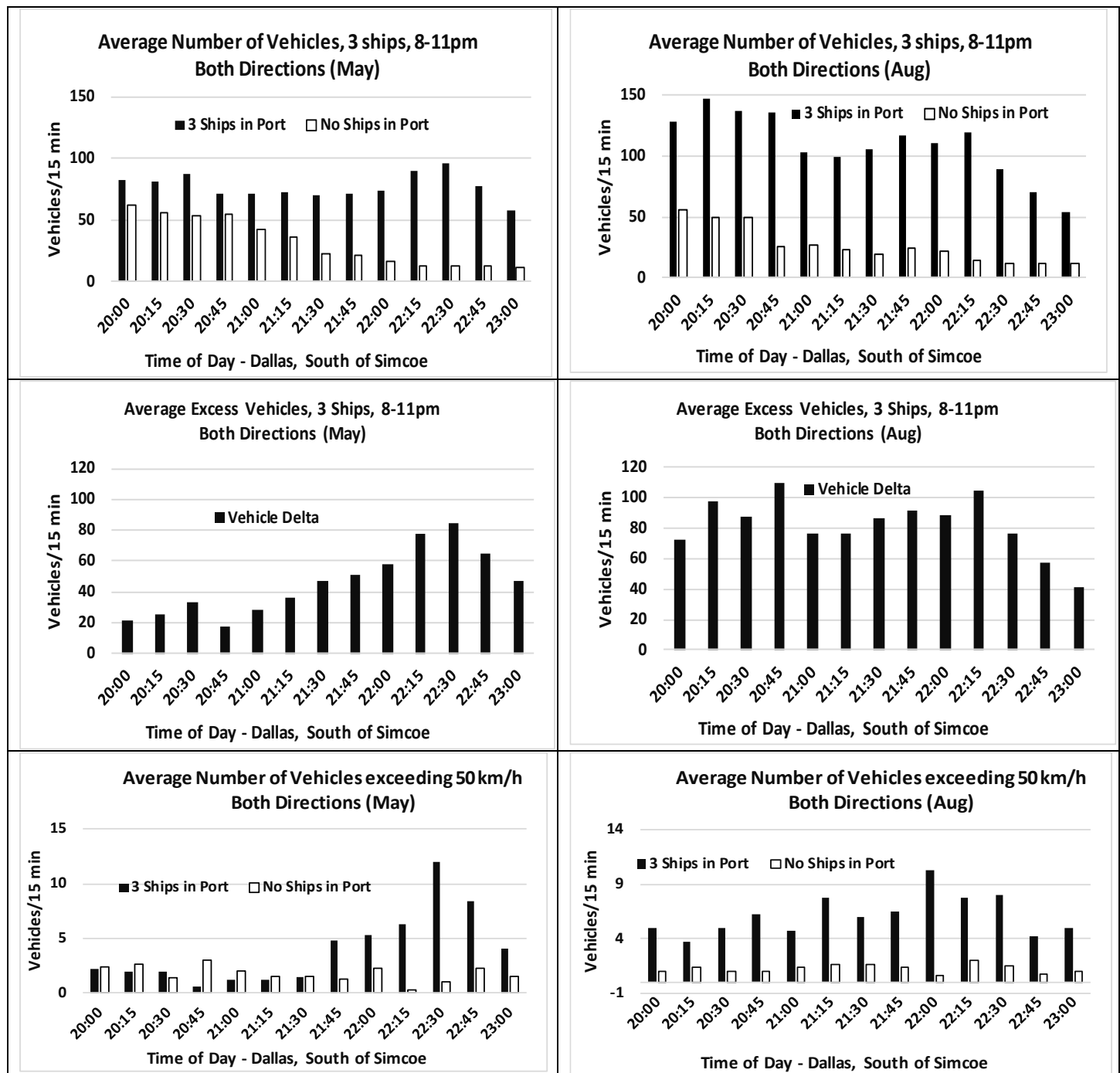
Dallas, West of Montreal*, August



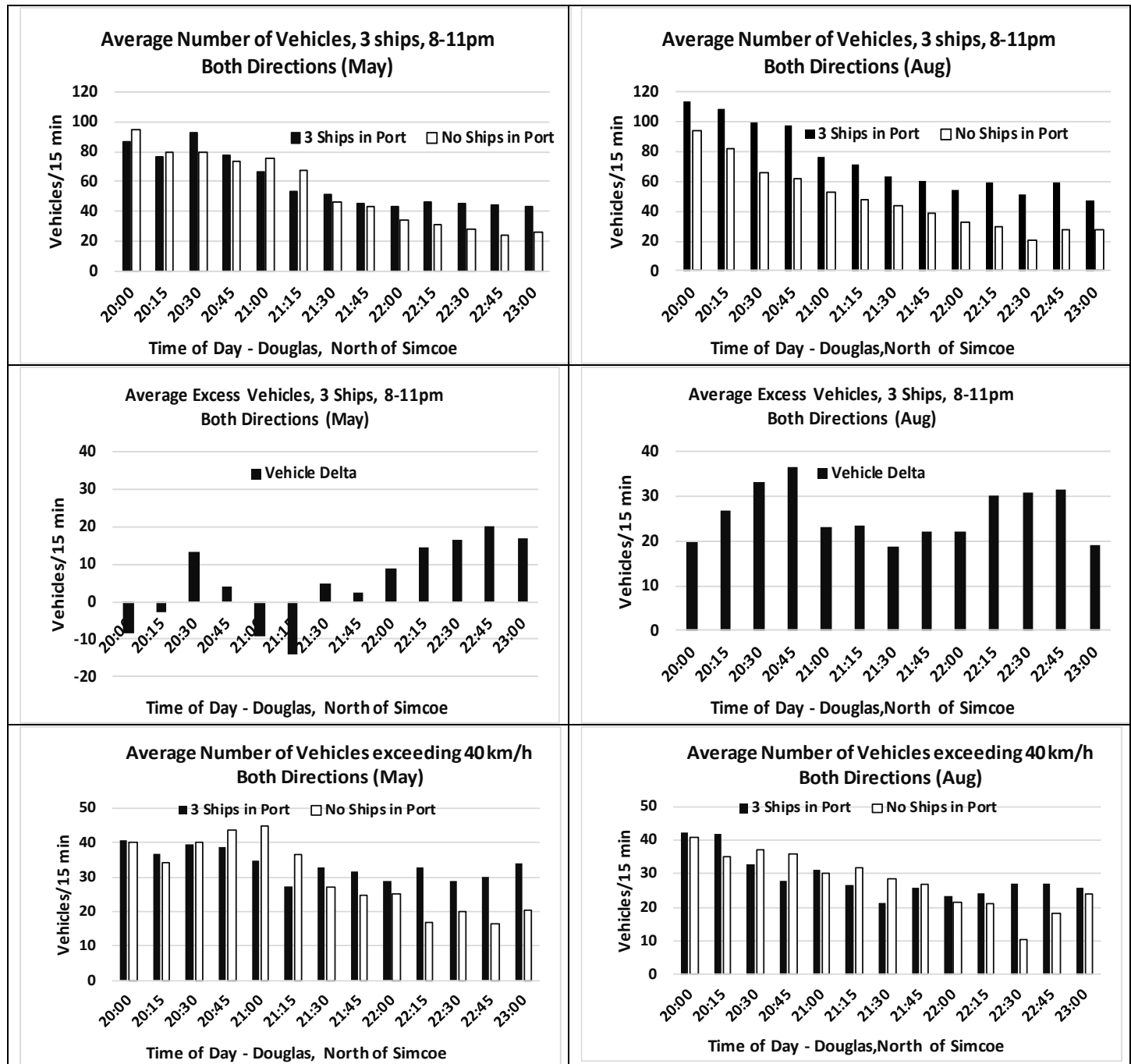
Dallas, East of Douglas, August



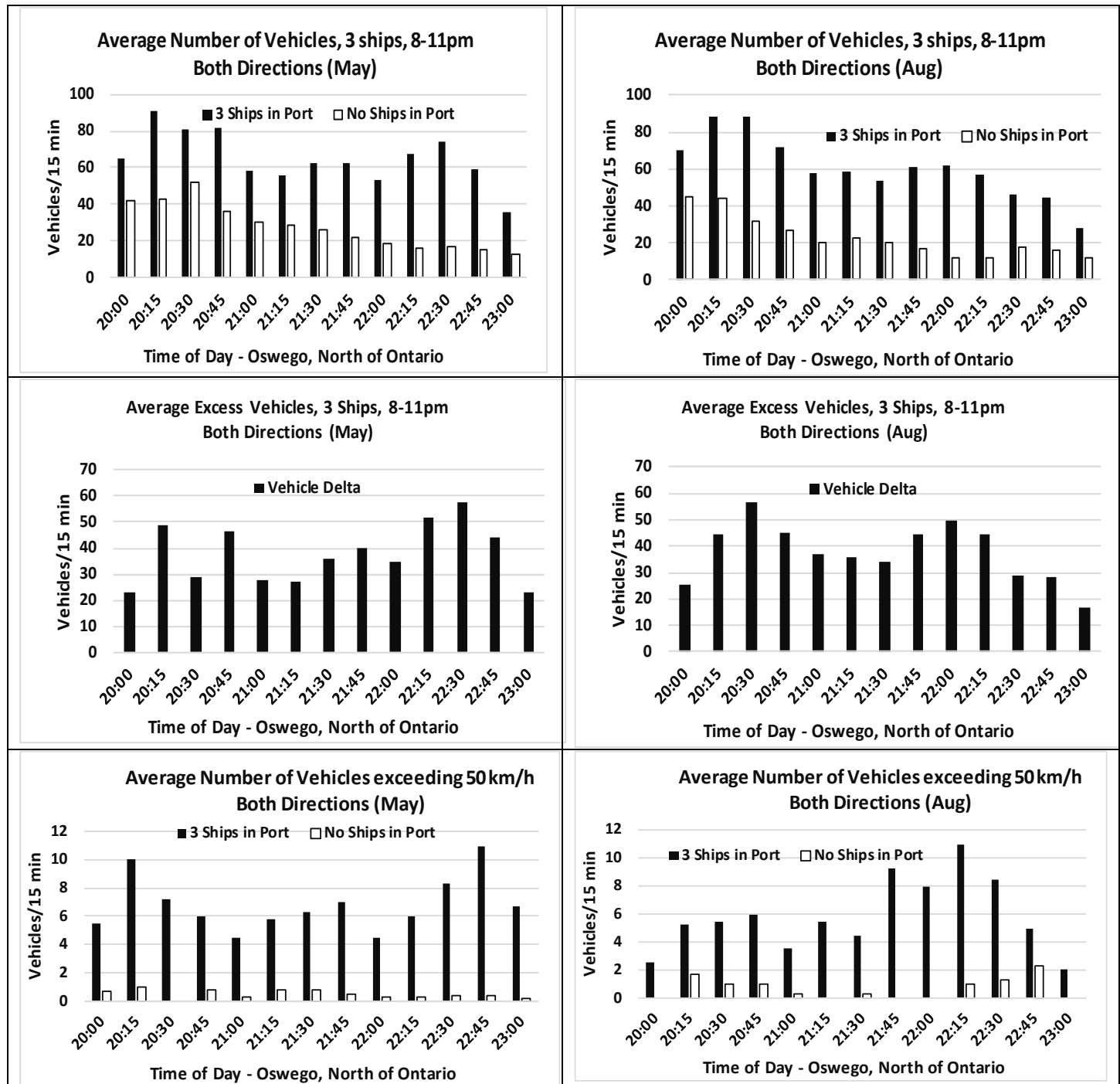
Dallas, South of Simcoe* – 3 Ships in Port, 8pm to 11pm, both directions, May & August



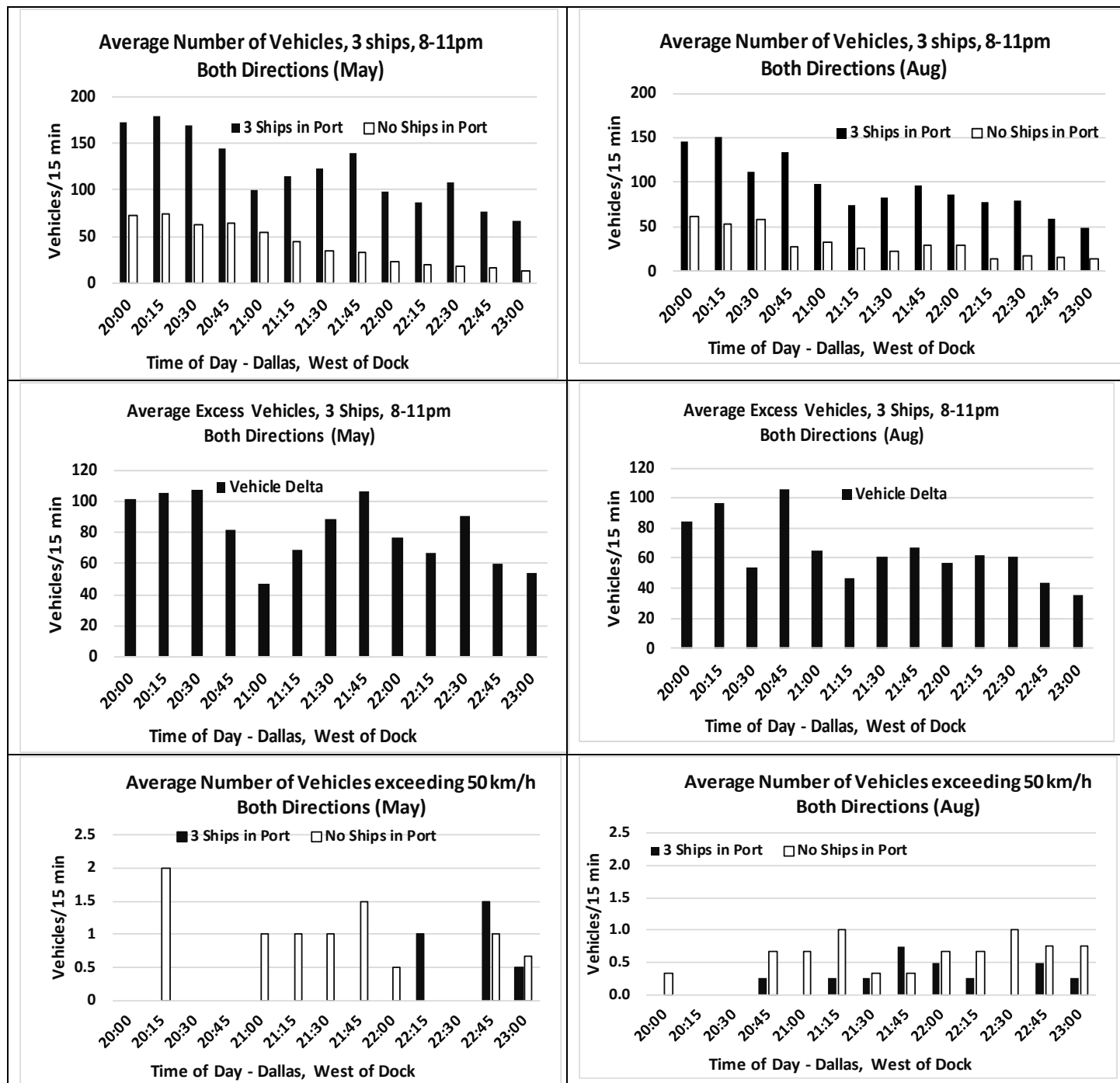
Douglas, North of Simcoe – 3 Ships in Port, 8pm to 11pm, both directions, May & August



Oswego, North of Ontario* – 3 Ships in Port, 8pm to 11pm, both directions, May & August

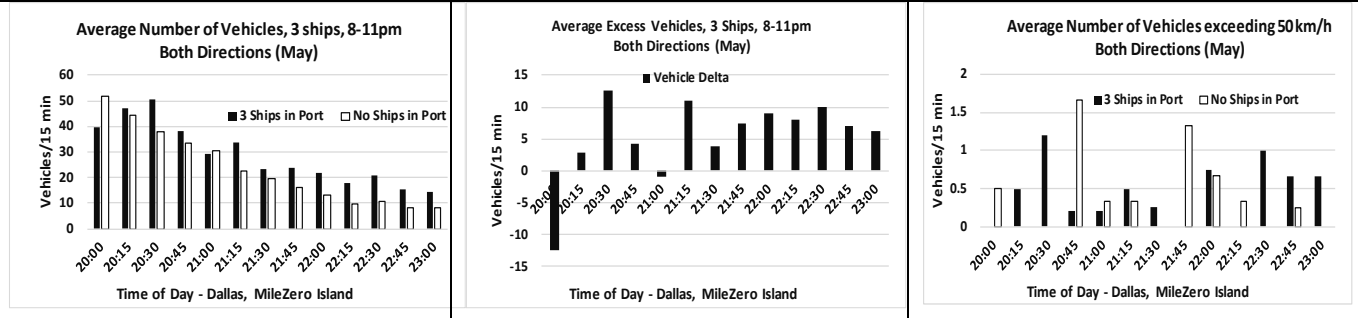


Dallas, West of Dock* – 3 Ships in Port, 8pm to 11pm, both directions, May & August

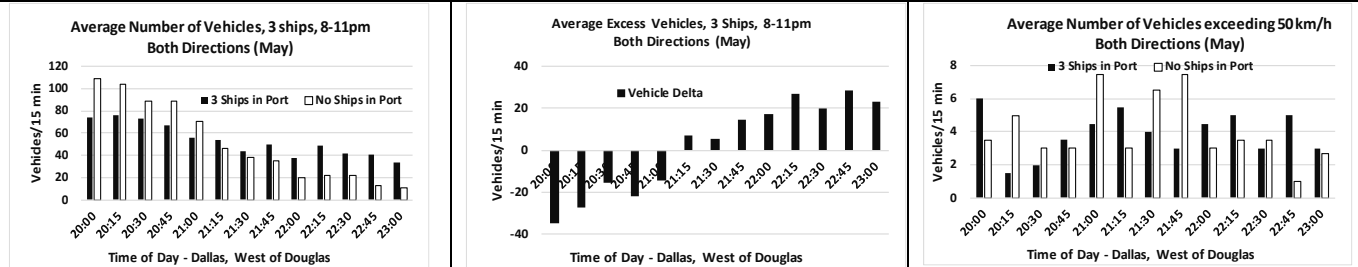


3 Ships in Port, 8pm to 11pm, both directions

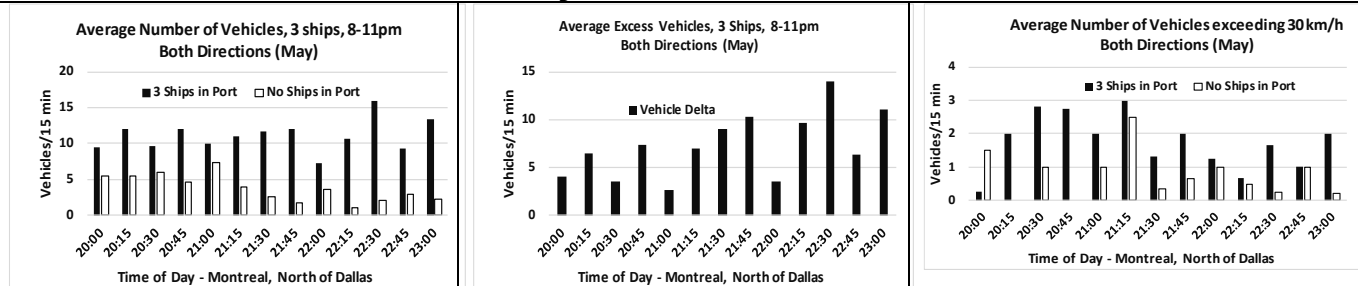
Dallas, Mile Zero Island – May



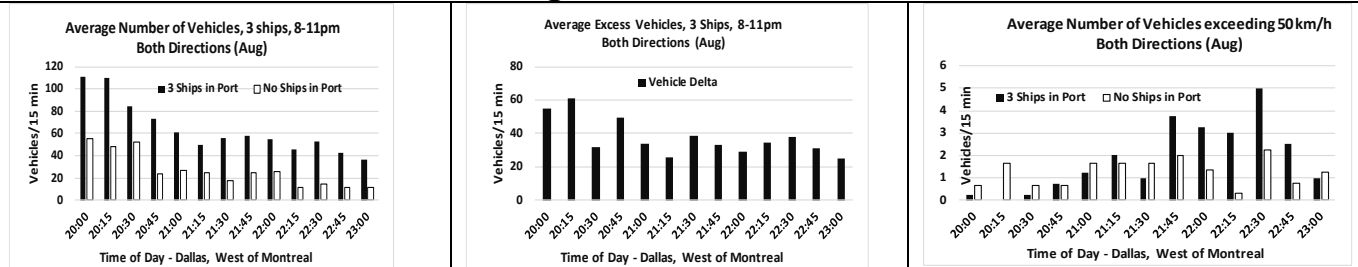
Dallas, West of Douglas – May



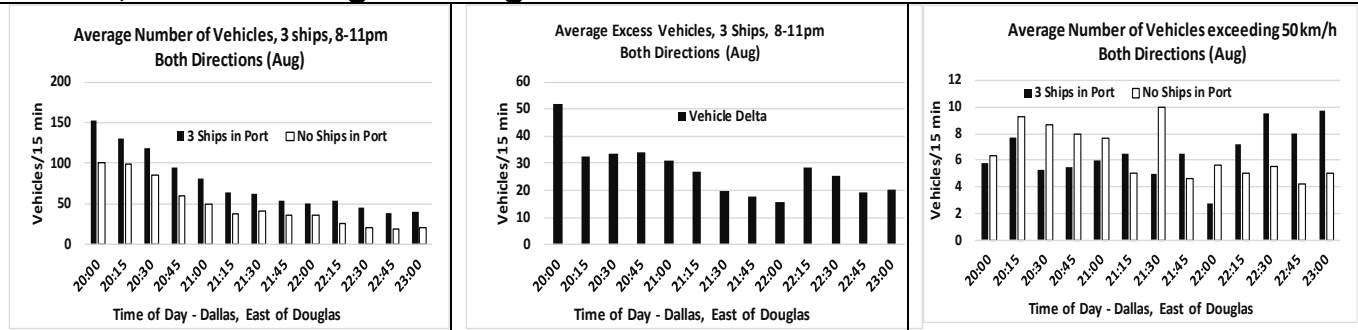
Montreal, North of Dallas* – May



Dallas, West of Montreal* – August



Dallas, East of Douglas - August



Bus and Heavy Vehicle Counts

The table below includes the data from ten of the fifteen “Class Bin” categories. Note that only two (Bus and Two Axle/Six tire) of the categories have a significant volume. (Page 33)

The charts below are for the peak times, “3 Ships, 8pm to 11pm”. The highest “excess vehicle” count occurs on the bus routes to/from Ogden Point

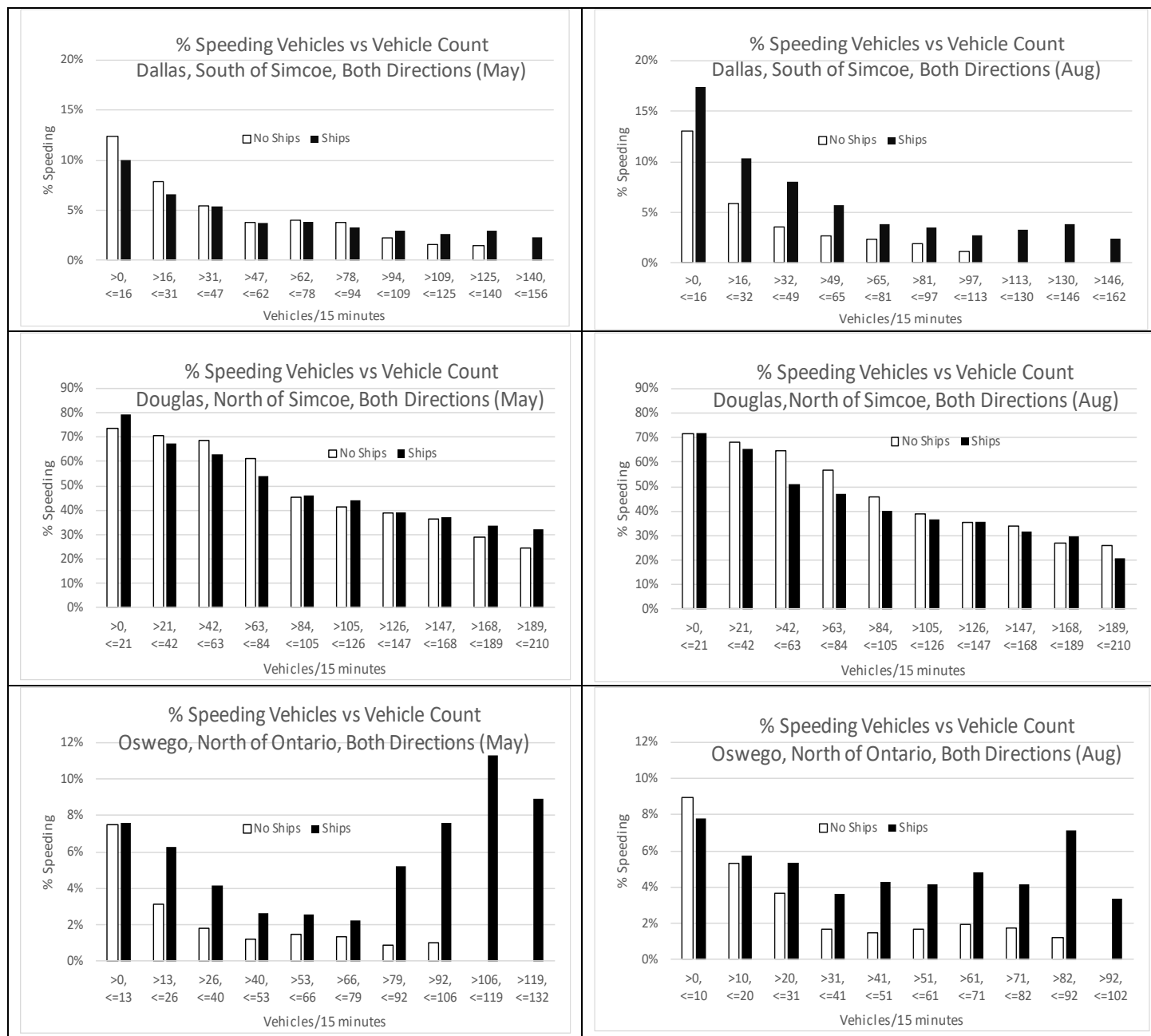
May	Buses & Heavy Vehicles/15min		Excess Vehicles /15 min
3 Ships in Port, 8pm to 11pm both Directions	Ships	No Ships	
	Average		
Dallas, South of Simcoe (B)*	4	2	3
Douglas, North of Simcoe (B)	6	3	3
Oswego, North of Ontario (B)*	2	2	0
Dallas, West of Dock (B)*	6	3	4
Dallas, MileZero Island (B)	5	2	3
Dallas, West of Douglas (B)	4	2	2
Montreal, North of Dallas (B)*	1	1	0

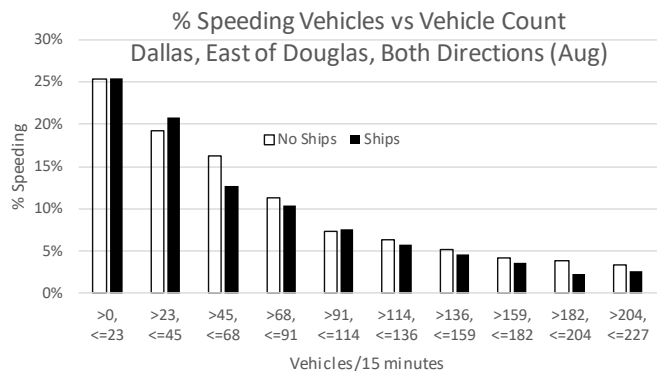
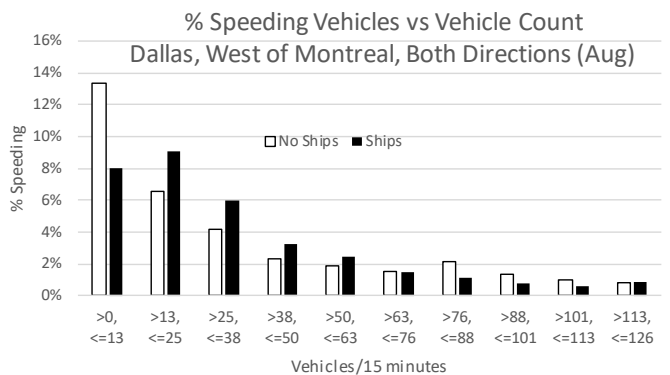
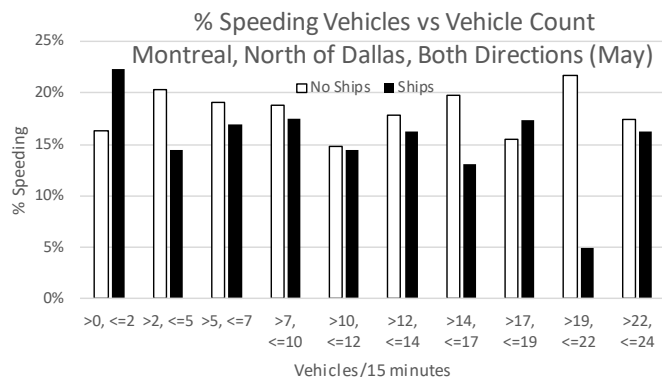
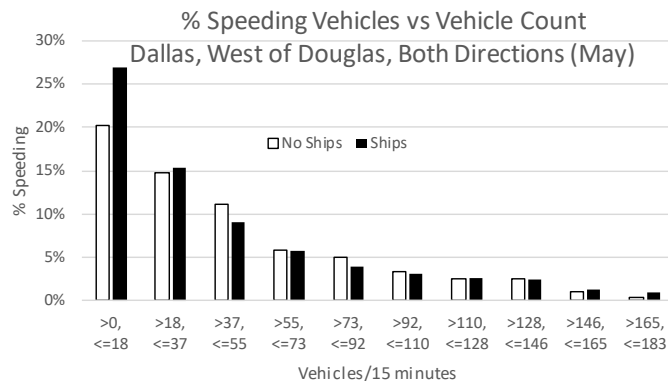
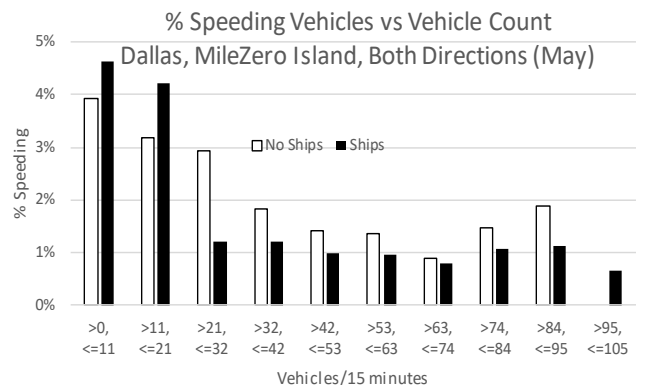
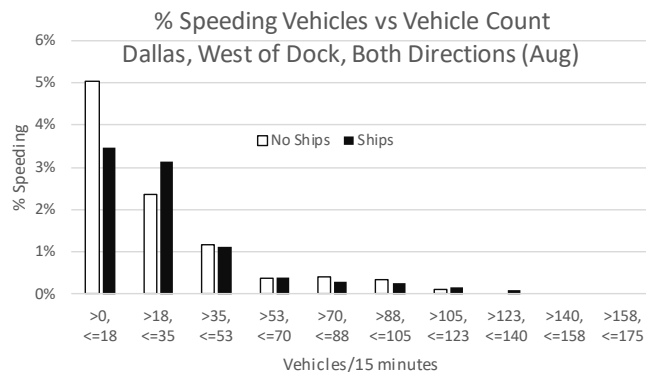
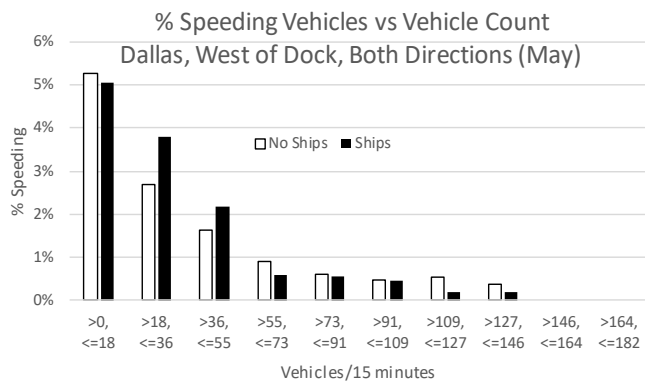
August / September	Buses & Heavy Vehicles/15min		Excess Vehicles /15 min
3 Ships in Port, 8pm to 11pm both Directions	Ships	No Ships	
	Average		
Dallas, South of Simcoe (B)*	6	2	4
Douglas,North of Simcoe (B)	7	3	5
Oswego, North of Ontario (B)*	2	2	0
Dallas, West of Dock (B)*	7	2	5
Dallas, West of Montreal (B)*	3	2	1
Dallas, East of Douglas (B)	3	2	1

Relationship between Speeding and Vehicle Volume

The charts below show the relationship between the vehicle volume and the percentage of speeding vehicles.

The decrease in the percentage of speeding vehicles, as traffic volume increases, is evident for all streets except Oswego St. and Montreal St. (likely due to the low vehicle volume)





Traffic Volume Variations

Reasons for traffic count variations

There are several reasons for the daily variations in both the “Ship” and “No Ship” vehicle counts: These include:

- **Day of the week:** there will be differences between weekday and weekend vehicle volumes.
- **Weather:** bad weather will likely reduce the number of passengers leaving a ship
- **Road works or events:** will cause vehicles to take alternative routes.
- **Length of cruise ship visit:** a longer visit may spread the cruise ship vehicle traffic over a longer period.
- **Number of cruise ship passengers:** the number of passengers in port at any one time varies between **100** and **10,200**. (Page 24)
- **Time taken for passengers to disembark and embark:** the calculations have defined all the 15-minutes periods between a ship arrival and a ship departure as a “Ship in Port” period. This will tend to slightly underestimate the average excess vehicle count.

Vehicle count variations on non-cruise ship days.

	Maximum & Minimum Daily Vehicle Counts on "No Cruise Ship Days"												
	Dallas, South of Simcoe (B) *		Douglas, North of Simcoe (B)		Oswego, North of Ontario (B) *		Dallas, West of Dock (B) *		Dallas, Mile Zero Island (B)	Dallas, West of Douglas (B)	Montreal, North of Dallas (B) *	Dallas, West of Montreal (B)	Dallas, East of Douglas (B)
Highest													
Lowest													
	May	Aug	May	Aug	May	Aug	May	Aug	May	May	May	Aug	Aug
Minimum Daily Vehicles	3,290	2,991	7,050	6,629	2,893	2,783	4,087	3,496	3,073	6,314	490	2,939	6,592
Maximum Daily Vehicles	4,173	3,598	7,529	7,686	3,369	3,150	4,087	4,226	3,106	6,699	545	3,520	7,431
Delta %	27%	20%	7%	16%	16%	13%	0%	21%	1%	6%	11%	20%	13%
Number of "No Ship" Days	3	3	3	4	3	3	1	3	2	2	2	3	3

The table above shows the minimum and maximum vehicle counts for the “No Ship” days for both May and August. The difference between the daily maximum and daily minimum ranges from **1%** (Dallas, Mile Zero Island, May) and **27%** (Dallas, South of Simcoe, May)

Vehicle count variations for “3 ship” and “No Ship” days during the “8pm to 11pm” 15 minute periods

The following tables are available for all the thirteen counters however the two with the highest and lowest average excess vehicle count are included below. Dallas, South of Simcoe (August) = **83 (109 – 26)** and Dallas, West of Douglas (May) = **6 (56-50)**

Dallas, South of Simcoe, August							Dallas, West of Douglas, May						
Vehicles / 15 min					Vehicles / 15 min		Vehicles / 15 min					Vehicles / 15 min	
3 Ships		No Ships			Average		3 Ships		No Ships			Average	
Max	Min	Max	Min		3 Ships	No Ships	Max	Min	Max	Min		3 Ships	No Ships
20:00	143	105	72	41	129	56	20:00	81	67	122	96	74	109
20:15	162	127	58	35	148	50	20:15	89	64	109	99	77	104
20:30	152	121	57	36	137	50	20:30	74	73	106	72	74	89
20:45	146	128	35	14	137	26	20:45	75	59	97	81	67	89
21:00	125	85	31	25	104	27	21:00	59	53	71	70	56	71
21:15	119	80	26	20	100	23	21:15	67	40	57	36	54	47
21:30	120	94	24	17	106	20	21:30	48	40	44	33	44	39
21:45	132	102	33	14	117	25	21:45	55	44	44	26	50	35
22:00	123	96	25	18	111	22	22:00	46	29	24	16	38	20
22:15	144	95	19	13	120	15	22:15	49	49	25	19	49	22
22:30	106	74	14	10	90	13	22:30	42	42	23	21	42	22
22:45	79	57	12	5	70	12	22:45	41	41	15	10	41	13
23:00	62	49	15	3	54	13	23:00	34	34	14	8	34	11
					109	26						56	50

The “Max” and “Min” columns indicate the wide range in vehicle numbers observed during the various time periods. The green (bold, italic) cells in the “Max/Min” table show where the minimum vehicle count when “3 Ships are in Port” exceeds the maximum count when “No Ships are in Port”.

For the “Average” tables the green cell indicates where the vehicle count when “3 Ships are in Port” exceeds the average vehicle count when “No Ships are in Port”.

In summary, there is significant variation in both the daily and 15-min vehicle counts. On streets where vehicle excess volumes are low, typically the non taxi routes, this variance can exceed the difference between "Cruise" and "Non-Cruise" vehicle counts leading to occasional negative excess vehicle count.

Relationship between passenger count and vehicle count

The number of passengers in port for one, two or three “Ships in Port” combinations can vary widely, most noticeably in May.

	May				
	Number of Ships in Port				
	1	2	3		3
					8 -11 pm
	Passengers in Port				
Maximum	4,180	7,658	10,200		10,200
Minimum	100	1,540	4,886		7,794
Average	2,374	3,829	7,981		9,399

Considering this large variation in passenger counts, it is more logical to examine the relationship between the number of passengers and the number of vehicles, as opposed to the relationship between the number of ships and vehicles.

The table below establishes three passenger ranges, chosen to achieve as close an equal split as possible.

	Passenger Counts		
	<2,300	>=2,300	>=4,900
		<4,900	
% of Visits	38%	30%	32%
Max Pax	2,262	4,886	10,200
Min Pax	100	2,400	4,956
Avg Pax	1,759	3,719	7,937

These three passenger count ranges are used on the next page to examine the relationship between passenger and vehicle counts.

The table below indicate that, in general, the vehicle count increases as the passenger count increases.

Note there is a significant increase in speeding vehicles for both Oswego and Dallas, South of Simcoe when ships are in port particularly at the high passenger level.

The cells highlighted in green (bold, italic) indicate that the vehicle count is higher than the “0” (No Ship) value.

		Passengers							
		Average Vehicles / 15 min				Average Speeding Vehicles / 15 min			
		0	<2,300	>=2,300, <4,900	>=4900	0	<2,300	>=2,300, <4,900	>=4900
August / September									
Dallas, South of Simcoe (B)*	52	58	74	91	1.5	2.3	2.3	4.5	
Douglas,North of Simcoe (B)	110	84	97	93	43.3	34.4	37.8	36.3	
Oswego, North of Ontario (B)*	44	35	43	55	0.7	1.3	1.3	3.3	
Dallas, West of Dock (B)*	58	62	78	86	0.4	0.4	0.3	0.3	
Dallas, West of Montreal (B)*	52	53	64	66	1.2	1.1	1.2	1.3	
Dallas, East of Douglas (B)	110	92	112	99	7.6	5.9	7.0	7.3	

What Percentage of total ship visits is the “3 Ship, 8-11pm” combination?

The tables below indicate the “3 Ship, 8pm to 11pm” occurs between **15%** (May) and **23%** (August) of the time that ships are in port.

	4th to 19th May			
	Number of Ships in Port			
	1	2	3	3 8 -11 pm
Count of 15 min Periods	353	158	169	59
Total ship hours	88	79	127	44
% of time ships are in port	30%	27%	43%	15%
	100%			
	>5			
	4th to 19th May			
	Number of Ships in Port			
	1	2	3	3 8 -11 pm
Count of 15 min Periods	368	165	114	78
Total ship hours	92	83	86	59
% of time ships are in port	35%	32%	33%	23%
	100%			

APPENDIX

Map showing the Transtech traffic counter locations

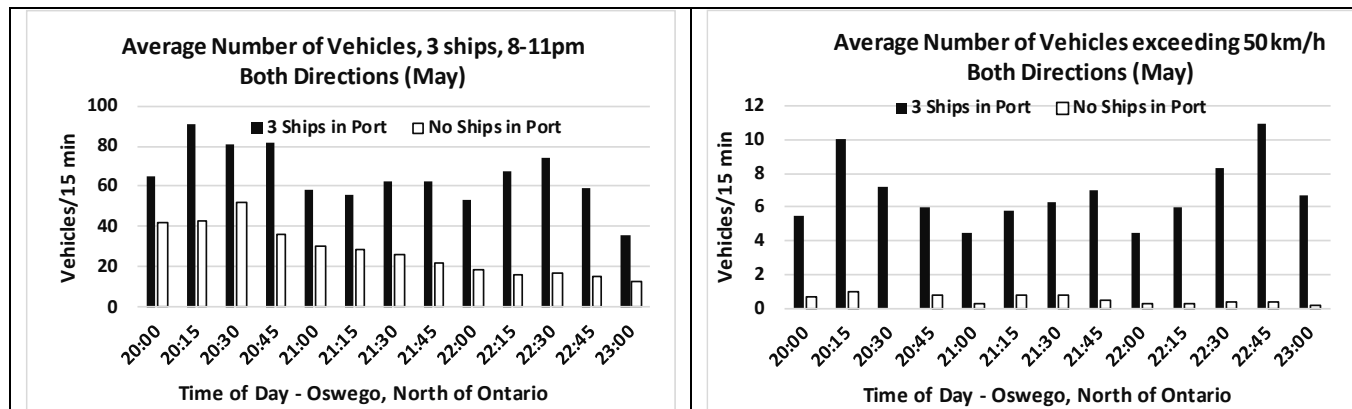


How the vehicle averages were calculated

Oswego Street, with the highest percentage of speeding vehicles when cruise ships are in port, is used as an example to show how the average vehicle volumes and speeding percentages in the preceding charts were calculated. The example is for 8pm to 11pm with three ships in port.

	May, Oswego											
	3 Ships in Port						No Ships in Port					
	Total Vehicles	15 min Periods	Vehicles / 15 min Period	Total Speeding Vehicles	Speeding Vehicles / Period	% Speeding Vehicles	Total Vehicles	15 min Periods	Vehicles / 15 min Period	Total Speeding Vehicles	Speeding Vehicles / Period	% Speeding Vehicles
20:00	260	4	65	22	5.5	8.5%	126	3	42	2	0.7	1.6%
20:15	365	4	91	40	10.0	11.0%	128	3	43	3	1.0	2.3%
20:30	404	5	81	36	7.2	8.9%	155	3	52	0	0.0	0.0%
20:45	328	4	82	24	6.0	7.3%	143	4	36	3	0.8	2.1%
21:00	233	4	58	18	4.5	7.7%	122	4	31	1	0.3	0.8%
21:15	223	4	56	23	5.8	10.3%	114	4	29	3	0.8	2.6%
21:30	249	4	62	25	6.3	10.0%	106	4	27	3	0.8	2.8%
21:45	249	4	62	28	7.0	11.2%	88	4	22	2	0.5	2.3%
22:00	212	4	53	18	4.5	8.5%	73	4	18	1	0.3	1.4%
22:15	203	3	68	18	6.0	8.9%	63	4	16	1	0.3	1.6%
22:30	223	3	74	25	8.3	11.2%	83	5	17	2	0.4	2.4%
22:45	178	3	59	33	11.0	18.5%	76	5	15	2	0.4	2.6%
23:00	107	3	36	20	6.7	18.7%	75	6	13	1	0.2	1.3%
Totals	3,234	49		330			1,352	53		24		
Average			66		6.7	10.2%			26		0.5	1.8%

Below are the charts based on this data.



Cruise Ship Scheduled and Actual Arrival & Departure Times

The actual arrival and departure times were requested from the Greater Victoria Harbour Authority (GVHA) but they were not provided. The actual times listed in the table below were instead obtained from the “Marine Traffic” website. The scheduled times were obtained from the GHVA website. For ships which arrived after midnight the scheduled arrival time of 23:59 has been used; this has no effect on the published averages but avoids “ship data” appearing on “no ship” days.

MAY						
Arrival Date	Ship Name	Pax	Scheduled		Actual	
			Arr	Dep	Arr	Dep
4 May	Royal Princess	3,560	7:00	23:00	5:49	22:57
4 May	Crown Princess	3,080	9:00	22:00	8:31	22:30
4 May	Majestic Princess	3,560	13:00	22:00	12:05	22:08
5 May	Ruby Princess	3,080	6:00	12:00	4:51	12:53
5 May	Volendam	1,440	12:00	23:00	11:33	23:05
5 May	Norwegian Bliss	4,250	19:30	23:59	19:29	23:59
5 May	Eurodam	2,104	20:00	23:59	18:52	23:59
6 May	Noordam	1,918	7:00	23:00	6:36	23:10
8 May	Carnival Spirit	2,124	20:00	23:59	19:00	23:50
9 May	National Geographic	100	7:00	23:00	6:46	23:13
9 May	Volendam	1,440	8:00	23:00	7:30	22:57
10 May	Radiance Of The Seas	2,500	9:00	17:30	8:30	18:28
10 May	Norwegian Sun	1,936	9:00	18:00	8:42	18:15
10 May	Seabourn Odyssey	450	12:00	18:00	11:11	18:39
10 May	Carnival Luminosa	2,260	20:00	23:59	18:59	23:59
11 May	Scenic Eclipse	228	8:00	19:00	7:48	19:11
11 May	Celebrity Millennium	2,034	11:00	20:00	11:35	20:34
11 May	Celebrity Solstice	2,850	12:30	20:00	12:10	20:14
12 May	Royal Princess	3,560	19:00	23:59	20:32	23:59
12 May	Norwegian Bliss	4,250	19:30	23:59	20:40	23:59
12 May	Eurodam	2,104	20:00	23:59	19:26	23:59
13 May	Discovery Princess	3,660	19:00	23:59	18:52	23:59
13 May	Norwegian Encore	3,998	19:30	23:59	19:28	23:59
13 May	Westerdam	1,840	20:00	23:59	20:12	23:59
14 May	Disney Wonder	2,400	8:30	18:30	9:25	18:24
14 May	Quantum Of The Seas	4,180	17:00	22:00	16:20	22:23
15 May	Carnival Spirit	2,124	20:00	23:59	19:21	23:54
17 May	Carnival Luminosa	2,260	20:00	23:59	19:01	23:59
18 May	Celebrity Solstice	2,850	17:30	23:59	16:55	23:59
19 May	Royal Princess	3,560	19:00	23:59	19:05	23:59
19 May	Norwegian Bliss	4,250	19:30	23:59	19:18	23:59
19 May	Eurodam	2,104	20:00	23:59	18:45	23:59
20 May	Celebrity Eclipse	2,850	8:00	18:00	7:27	18:21
20 May	Nieuw Amsterdam	2,106	10:00	18:00	9:07	17:54
20 May	Discovery Princess	3,660	19:00	23:59	18:39	23:59

AUGUST						
Arrival Date	Ship Name	Pax	Scheduled		Actual	
			Arr	Dep	Arr	Dep
23 Aug	Carnival Luminosa	2,260	20:00	23:59	19:27	23:59
24 Aug	Ovation Of The Seas	4,180	8:00	18:00	7:05	18:29
24 Aug	Celebrity Solstice	2,850	17:30	23:59	16:52	23:59
24 Aug	Norwegian Sun	1,936	13:00	23:59	12:32	23:53
25 Aug	Royal Princess	3,560	19:00	23:59	19:43	23:59
25 Aug	Norwegian Bliss	4,250	19:30	23:59	19:23	23:59
25 Aug	Eurodam	2,104	20:00	23:59	19:04	23:56
26 Aug	Discovery Princess	3,660	19:00	23:59	18:04	23:46
26 Aug	Norwegian Encore	3,998	19:30	23:59	19:10	23:59
26 Aug	Westerdam	1,840	20:00	23:59	19:29	23:59
27 Aug	Regatta	684	13:00	23:00	12:12	23:07
27 Aug	Quantum Of The Seas	4,180	17:00	22:00	16:11	22:14
28 Aug	Carnival Spirit	2,124	20:00	23:59	19:25	23:57
30 Aug	Carnival Luminosa	2,260	20:00	23:59	19:20	23:59
31 Aug	Ovation Of The Seas	4,180	17:00	22:00	15:57	22:20
31 Aug	Celebrity Solstice	2,850	17:30	23:59	16:28	23:41
1 Sep	Royal Princess	3,560	19:00	23:59	19:46	23:59
1 Sep	Norwegian Bliss	4,250	19:30	23:59	19:26	23:59
1 Sep	Eurodam	2,104	20:00	23:59	19:01	23:52
2 Sep	Discovery Princess	3,660	19:00	23:59	18:03	23:56
2 Sep	Norwegian Encore	3,998	19:30	23:59	19:08	23:59
2 Sep	Westerdam	1,840	20:00	23:59	19:34	23:59
3 Sep	Norwegian Sun	1,936	8:00	20:00	7:32	19:44
3 Sep	Quantum Of The Seas	4,180	17:00	22:00	16:12	22:17
4 Sep	Crown Princess	3,080	9:00	22:00	8:05	22:16
4 Sep	Carnival Spirit	2,124	20:00	23:59	19:26	23:59
6 Sep	Regatta	684	13:00	22:00	12:23	21:53
6 Sep	Carnival Luminosa	2,260	20:00	23:59	19:15	23:59
7 Sep	Ovation Of The Seas	4,180	11:00	22:00	9:58	21:55
7 Sep	Celebrity Solstice	2,850	17:30	23:59	16:51	23:52
8 Sep	Royal Princess	3,560	19:00	23:59	19:45	23:59
8 Sep	Norwegian Bliss	4,250	19:30	23:59	19:34	23:59
8 Sep	Eurodam	2,104	20:00	23:59	19:10	23:52
9 Sep	Discovery Princess	3,660	19:00	23:59	18:16	23:44
9 Sep	Norwegian Encore	3,998	19:30	23:59	19:15	23:59
9 Sep	Westerdam	1,840	20:00	23:59	19:33	23:59
10 Sep	Quantum Of The Seas	4,180	Passengers did not disembark			
11 Sep	Carnival Spirit	2,124	20:00	23:59	19:40	23:59
12 Sep	Norwegian Sun	1,936	13:00	23:59	12:25	23:53

Traffic Data

Locations and traffic counter deployment dates

Transtech located traffic counters on several James Bay streets in both May (7 counters) and August (6 counters). The locations and deployment periods are provided in the table below:

			May																
			3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Dallas, South of Simcoe (B)*	0	3/3	4/3	1/1	0	1/1	2/2	4/3	3/3	3/3	3/3	3/3	2/2	1/1	0	1/1	1/1	3/3	
Douglas, North of Simcoe (B)	0	3/3	4/3	1/1	0	1/1	2/2	4/3	3/3	3/3				1/1	0	1/1	1/1	3/3	
Oswego, North of Ontario (B)*	0	3/3	4/3	1/1	0	1/1	2/2	4/3	3/3	3/3	3/3	3/3	2/2	1/1	0	1/1	1/1	3/3	
Dallas, West of Dock (B)*							2/2	4/3	3/3	3/3	3/3	3/3	2/2	1/1	0	1/1	1/1	3/3	
Dallas, MileZero Island (B)	0	3/3	4/3	1/1			2/2	4/3	3/3	3/3	3/3	3/3	2/2	1/1	0	1/1	1/1	3/3	
Dallas, West of Douglas (B)	0	3/3	4/3	1/1	0	1/1	2/2												
Montreal, North of Dallas (B)*		3/3	4/3	1/1	0	1/1	2/2	4/3	3/3	3/3	3/3	3/3	2/2	1/1	0	1/1	1/1	3/3	

	August																				
	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11
Dallas, South of Simcoe (B)*	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3	3/3	2/2	2/2	0	2/0					
Douglas, North of Simcoe (B)	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3				0	2/2	2/2	3/3	3/3	0	1/0
Oswego, North of Ontario (B)*	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3	3/3	2/2	2/2	0	2/0					
Dallas, West of Dock (B)*	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3	3/3	2/2	2/2	0	2/2	2/2	3/3			
Dallas, West of Montreal (B)*	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3	3/3	2/2	2/2	0	2/0					
Dallas, East of Douglas (B)	0	1/1	3/3	3/3	3/3	2/2	1/1	0	1/1	2/2	3/3	3/3	2/2	2/2	0	2/0					

The colour coding is:

Pink = No cruise ship days

Green = cruise ship days, full day's data available

Orange = cruise ship days, partial day's data available

The numbers e.g., 4/3 indicate "Total cruise ships on that day" / "Maximum cruise ships in port at one time."

Data Collected

The traffic data for both vehicle counts and speeds was provided by Transtech in the form of several Excel workbooks. Below is a sample of the data, for both counts and speed, for one direction of one street. For each of the traffic categories data was collected every 15 minutes in both traffic directions. UVIC researchers and volunteers manually counted traffic on selected streets at various times to confirm the traffic counter accuracy.

- Traffic Volumes

		Dallas, South of Simcoe / Northbound, / August															
					8.7%												
		3.3%	66.6%	11.9%	4.7%	3.5%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	7.3%	100.0%
		1,211	24,136	4,328	1,689	1,263	57	26	78	9	16	0	1	0	778	2,641	36,233
		Class Bins															
		Cycles	Cars + Trailer	2-Axle Long	Bus	2-Axle 6-Tire	3-Axle Single	4-Axle Single	4-Axle Double	5-Axle Double	6-Axle Double	<6 Axle Multi	6-Axle Multi	>6 Axle Multi	Unclassified	Bike	
8/22/2023	0:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
8/22/2023	0:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8/22/2023	0:30	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4
8/22/2023	0:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Within this analysis “Vehicle Counts” refer to the total of all the 15 categories above. “Bus and Heavy Vehicles” refer to the 10 categories highlighted in green.

- Traffic Speeds

		0.0%	4.3%	23.9%	49.8%	19.2%	2.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Total		0	1,545	8,670	18,036	6,952	934	96	0	0	0	0	0	0	0	0	36,233
		Speed Bins															
		Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Date	Starting		0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130+	Total
8/22/2023	0:00		0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8/22/2023	0:15		0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
8/22/2023	0:30		0	0	0	1	3	0	0	0	0	0	0	0	0	0	4
8/22/2023	0:45		0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
8/22/2023	1:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Revision Table

3 rd July, 2024	Page 3	<ul style="list-style-type: none">• Include Oswego St in the 30km/h implementation.• The speed limit from Mile 0 along Dallas Road through Kingston to Belleville Streets be reduced to 40km/h