

Memo

To: Ryan Cook
From: Jeff Suggett, M. Sc.
Date: April 7th 2021
File: Pelham Traffic Retainer
cc:
Re: **All-Way Stop Control Warrant: Pelham Street and Shorthill Place**

1.0 Introduction

Wood has been retained by the Town of Pelham to conduct an all-way stop warrant at the following intersection of Pelham Street and Shorthill Place. **Figure 1** illustrates the location of the study area.



Figure 1: Pelham Street and Shorthill Place Intersection

Pelham Street at Shorthill Place is a three-way intersection with stop control on the minor road (Shorthill Place). The surrounding land use is residential. The posted/statutory speed limit on both approaches is 50 km/h, with semi-urban paved cross-sections and illumination.

Town of Pelham
7th April, 2021

2.0 Methodology and Analysis

The subject intersection was evaluated according to the Ontario Traffic Manual Book 5: Regulatory Signs, three-way stop control warrant. On Thursday, March 25th, 2021, Pyramid Traffic Inc. collected intersection turning movement counts (TMCs) during the periods of 7 AM to 9 AM, and 11 AM to 6 PM. These are provided in **Appendix A**, with peak hours indicated.

Due to the nature of the intersection and roadways, the warrant used for minor roads was chosen over arterial roads for this location. For this warrant, there are two conditions that must be satisfied for all-way intersection control: the minimum volume condition and the volume split condition. For a three-leg intersection warrant, the combined minor approach volume must exceed 350 vehicles in an hour period. Furthermore, the volume split between the major and the minor road must not exceed 75/25 for three-way intersections.

3.0 Application of Stop Control Warrants

A three-way stop control warrant was conducted for the Pelham Street at Shorthill Place intersection. The warrants can be found in **Appendix B**.

At the intersection, the dominant traffic volumes were experienced on the east and west approaches of Canboro Road. There was a recorded total of 3 pedestrians during the entirety of the study, all crossing the east approach. The peak traffic volumes were between the hours of 8 AM and 9 AM, 1 PM and 2 PM, and 4:15 PM and 5:15 PM.

The results of the warrant for a three-leg all-way stop control for minor roads, indicated that the intersection of Pelham Street and Shorthill Place does not meet either criteria.

Maximum volume for the peak hours was a combined 147 vehicles for all approaches, which falls far below the minimum of 350 vehicles. The volume split was roughly 94/6 favouring the major road, Pelham Street. This value also fails to exceed the volume split requirement for the warrant.

Since neither criterion is satisfied, the three-way stop control warrant is not met.

Additional considerations were made to assess the need for three-way stop control at the intersection based on approach sightlines. It was observed that all approaches provide sufficient sight distance, such that three-way stop control is not warranted.

4.0 Recommendations

Given the above findings, it is recommended that the intersection of Pelham Street and Shorthill Place remain in operation as stop-control on the minor road



Appendix A – Turning Movement Count

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Wood Environment & Infrastructure Solutions
a Division of Wood Canada Limited
Registered office: 2020 Winston Park Drive, Suite 700, Oakville, Ontario L6H 6X7
Registered in Canada No. 773289-9; GST: 899879050 RT0008; DUNS: 25-362-6642



Pelham St @ Shorthill PI

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Pelham

Site #: 0000000001

Intersection: Pelham St & Shorthill PI

TFR File #: 1

Count date: 25-Mar-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Pelham St runs N/S

North Leg Total: 60

North Entering: 34

North Peds: 0

Peds Cross: ∇

Heavys	4	0	4
Trucks	0	0	0
Cars	27	3	30
Totals	31	3	

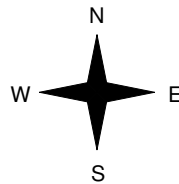
Heavys	1
Trucks	1
Cars	24
Totals	26

East Leg Total: 9

East Entering: 1

East Peds: 0

Peds Cross: ∇



	Cars	Trucks	Heavys	Totals
Northbound	1	0	0	1
Southbound	0	0	0	0
Eastbound	1	0	0	

Shorthill PI



Cars	Trucks	Heavys	Totals
8	0	0	8

Cars	27	Cars	23	5	28
Trucks	0	Trucks	1	0	1
Heavys	4	Heavys	1	0	1
Totals	31	Totals	25	5	

Peds Cross: ∇

South Peds: 2

South Entering: 30

South Leg Total: 61

Comments

Pelham St @ Shorthill PI

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 13:00:00

To: 14:00:00

Municipality: Pelham

Site #: 0000000001

Intersection: Pelham St & Shorthill PI

TFR File #: 1

Count date: 25-Mar-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

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

Major Road: Pelham St runs N/S

North Leg Total: 101

North Entering: 49

North Peds: 0

Peds Cross: \nlessgtr

Heavys	2	0	2
Trucks	1	1	2
Cars	45	0	45
Totals	48	1	

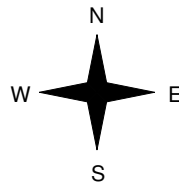
Heavys	1
Trucks	4
Cars	47
Totals	52

East Leg Total: 18

East Entering: 10

East Peds: 0

Peds Cross: \nlessgtr



	Cars	Trucks	Heavys	Totals
Left Turn	6	0	0	6
Right Turn	4	0	0	4
Totals	10	0	0	

Shorthill PI



Cars	Trucks	Heavys	Totals
7	1	0	8

Pelham St

Cars	49	Cars	41	7	48
Trucks	1	Trucks	4	0	4
Heavys	2	Heavys	1	0	1
Totals	52	Totals	46	7	

Peds Cross: \nlessgtr

South Peds: 2

South Entering: 53

South Leg Total: 105

Comments

Pelham St @ Shorthill PI

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Municipality: Pelham

Site #: 0000000001

Intersection: Pelham St & Shorthill PI

TFR File #: 1

Count date: 25-Mar-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

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

Major Road: Pelham St runs N/S

North Leg Total: 138

North Entering: 65

North Peds: 0

Peds Cross: \nlessgtr

Heavys	0	0	0
Trucks	0	1	1
Cars	62	2	64
Totals	62	3	

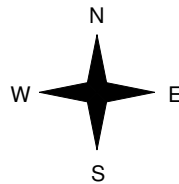
Heavys	1
Trucks	1
Cars	71
Totals	73

East Leg Total: 15

East Entering: 10

East Peds: 0

Peds Cross: \nlessgtr



	Cars	Trucks	Heavys	Totals
Northbound	3	0	0	3
Southbound	6	1	0	7
	9	1	0	

Shorthill PI



	Cars	Trucks	Heavys	Totals
Eastbound	4	1	0	5

Cars	68	Cars	68	2	70
Trucks	1	Trucks	1	0	1
Heavys	0	Heavys	1	0	1
Totals	69	Totals	70	2	

Peds Cross: \nlessgtr

South Peds: 3

South Entering: 72

South Leg Total: 141

Comments

Pelham St @ Shorthill PI

Total Count Diagram

Municipality: Pelham
Site #: 0000000001
Intersection: Pelham St & Shorthill PI
TFR File #: 1
Count date: 25-Mar-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

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

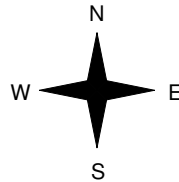
Major Road: Pelham St runs N/S

North Leg Total: 704
 North Entering: 344
 North Peds: 9
 Peds Cross: ∇

Heavys	8	0	8
Trucks	3	2	5
Cars	318	13	331
Totals	329	15	

Heavys	8
Trucks	7
Cars	345
Totals	360

East Leg Total: 101
 East Entering: 57
 East Peds: 3
 Peds Cross: ∇



Cars	Trucks	Heavys	Totals
30	0	2	32
23	2	0	25
53	2	2	

Shorthill PI



Pelham St

Cars	341	Cars	315	27	342
Trucks	5	Trucks	7	2	9
Heavys	8	Heavys	6	0	6
Totals	354	Totals	328	29	

Peds Cross: ∇
 South Peds: 21
 South Entering: 357
 South Leg Total: 711

Comments

Appendix B – Stop Warrant

All-Way Stop Warrant Analysis: Minor Roads

Location: Pelham Street and Shorthill Place
Date: 25th March 2021
Posted Speed: 50 km/h
Minor Street: Shorthill Place
Major Street: Pelham Street
Intersection Type: 3 Way Stop

Conditions: According to Ontario Traffic Manual Book 5 - (March,2000)

Condition 1: Total vehicle volume on all intersection approaches exceeds 350 for the highest hour recorded

Condition 2: Volume split (Vehicles Only) does not exceed 75/25

Calculation Summary:										
	Hourly Period								Total	Total Number of Peds
	6:00 to 07:00	07:00 to 08:00	8:00 to 09:00	11:00 to 12:00	13:00 to 14:00	15:00 to 16:00	16:15 to 17:15	17:00 to 18:00		
Combined Minor Approach Volume (Including Peds)			1		10		10		21	3
Combined Major Approach Volume (Not Including Ped)			64		102		137		303	
Total Combined Volume	0	0	65	0	112	0	147	0		
Minimum Total Combined / Hour	350	350	350	350	350	350	350	350		
Criteria Met	NO	NO	NO	NO	NO	NO	NO	NO		
Condition 1:						Not Met				
Total Volume Split	Major	94.4%								
	Minor	5.6%								
Minimum Split Criteria		75/25								
Criteria Met		NO								
Condition 2:						Not Met				

RESULT OF ANALYSIS:	All-Way Stop - NOT WARRANTED
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Additional Considerations If Warrented:		
Sight Lines	Where sight lines prohibit an operator of a passenger car vehicle from observing a minimum distance of 84 metres	NO
Geometric Design	(A) A distance of 250m must be maintained between traffic control devices, signals, other stop signs or legal pedestrian crossovers	YES
	(B) All-Way stop sign must only be used at two like roadways. Each approach should contain the same number of lanes and have non-skewed approaches	YES



To: Ryan Cook

From: Jeff Suggett, M. Sc.

Client: Town of Pelham

Project Name Pelham Traffic Studies

Project No. 2018-5290.030

Subject: All-Way Stop Control Warrants (2 Locations)

TECHNICAL MEMORANDUM

1 INTRODUCTION

Associated Engineering (Ont.) Ltd. was retained by the Town of Pelham to conduct all-way stop control warrants on Hurricane Road at Pelham Street and Station Street at Pelham Town Square. **Figure 1-1** outlines the location of the intersections.

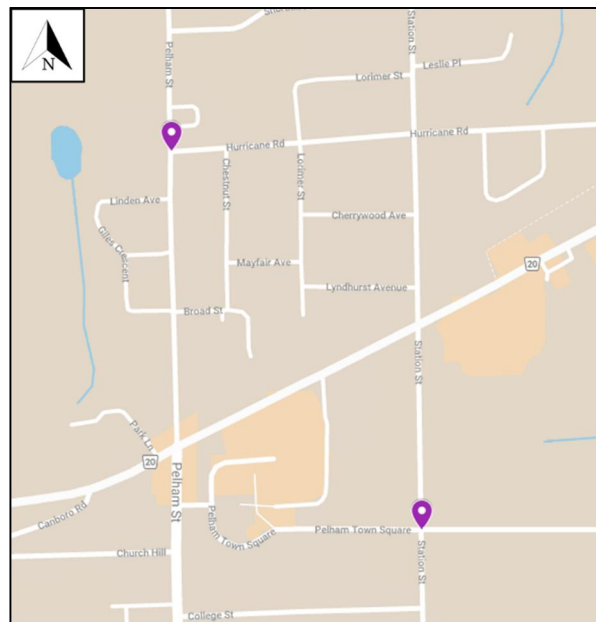


Figure 1-1
Location of Intersections

Hurricane Road at Pelham Street is a three-way intersection with stop control on the minor road (Hurricane Road). The intersection is located in a residential subdivision and the posted speed limit on both roadways is 50 kilometres per hour (km/h). Both roads have a rural cross-section, and all approaches are illuminated.

Station Street at Pelham Town Square is a four-way intersection with stop control on the minor road (Pelham Town Square). The east-leg of the intersection was recently constructed. The posted speed limit on both roadways is 50 kilometres per hour (km/h). The two roads have an urban-cross section and all approaches are illuminated.

2 METHODOLOGY AND ANALYSIS

The *Ontario Traffic Manual Book 5: Regulatory Signs* was used to conduct a three-way stop control warrant for Hurricane Road at Pelham Street, and a four-way stop control warrant for Station Street at Pelham Town Square. On Wednesday, April 3rd, 2019, Pyramid Traffic Inc. collected the intersection turning movement counts (TMCs) during the periods of 7:00 a.m. – 9:00 a.m., 11:00 a.m. – 2:00 p.m., and 3:00 p.m. – 6:00 p.m., which are provided in **Appendix A**.

Due to the nature of the Town's roads, the warrant for minor roads was used. Two conditions must be satisfied for three-way stop control and four-way stop control: the minimum volume condition and the volume split condition. For three-way stop control and four-way stop control, the total vehicle volume on all intersection approaches must exceed 350 for the highest hour recorded. Furthermore, the volume split between the major and minor road must not exceed 75/25 for three-way intersections and 65/35 for the four-way intersection.

3 APPLICATION OF STOP CONTROL WARRANTS

A three-way stop control warrant was conducted for Hurricane Road at Pelham Street, and a four-way stop control warrant was conducted for Station Street at Pelham Town Square. The results for both warrants are shown in **Appendix B**.

3.1 Hurricane Road at Pelham Street

At the intersection of Hurricane Road at Pelham Street, the dominant traffic volumes were found to be experienced along the north/south approaches on Pelham Street. There were 17 pedestrians counted throughout the entire collection period across the east approach. Peak traffic volumes were experienced during 8:00 a.m. – 9:00 a.m., 12:15 p.m. – 1:15 p.m., and 4:15 p.m. – 5:15 p.m.

The results of the application of the three-way stop control warrant for minor roads indicated that the intersection of Hurricane Road and Pelham Street does not meet the first (minimum volume condition) criteria; however, it does meet the second criteria (volume split condition). Volume for the highest hour was 216 vehicles, falling far below the minimum requirements. The volume split was roughly 67/33, with the major road taking the larger portion. However, as both criteria must be satisfied, the three-way stop control warrant is not met.

3.2 Station Street at Pelham Town Square

At the intersection of Station Street at Pelham Town Square, the dominant traffic volumes were found to be experienced along the north/south approaches on Station Street. There were 28 pedestrians counted throughout the entire collection period across the east and west approaches. Peak traffic volumes were experienced during 8:00 a.m. – 9:00 a.m., 12:00 p.m. – 1:00 p.m., and 3:30 p.m. – 4:30 p.m.

The results of the application of the four-way stop control warrant for minor roads indicated that the intersection of Station Street at Pelham Town Square meets both criteria (minimum volume condition and volume split condition). Volumes during 3:00 p.m. – 4:00 p.m. and 4:00 p.m. – 5:00 p.m. both exceeded the minimum requirement of 350 vehicles, at 450 vehicles and 417 vehicles, respectively. The volume split was roughly 54/46, with the major road taking the slightly larger portion. Since both criteria are satisfied, the four-way stop control warrant is met.

4 RECOMMENDATIONS

Given the above findings, it is recommended that the intersection of Hurricane Road at Pelham Street remain in operation as stop-control on the minor road. For the intersection of Station Street at Pelham Town Square, it is recommended that stop-control be implemented along all approaches.

Respectfully submitted,
Associated Engineering (Ont.) Ltd.

Prepared by:



Jocelyn Lee
Transportation Technician

Reviewed by:



Jeff Suggett, M. Sc.
Acting Manager, Transportation

Stamped by:



Geoff Burn, P. Eng.
Division Manager

Appendix A – Turning Movement Counts



Hurricane Rd @ Pelham St

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Fonthill

Site #: 0000000001

Intersection: Pelham St & Hurricane Rd

TFR File #: 1

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Rick W

** Non-Signalized Intersection **

Major Road: Pelham St runs N/S

North Leg Total: 111

North Entering: 72

North Peds: 4

Peds Cross: \bowtie

Heavys	1	1	2
Trucks	8	1	9
Cars	38	23	61
Totals	47	25	

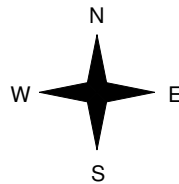
Heavys	0
Trucks	6
Cars	33
Totals	39

East Leg Total: 58

East Entering: 22

East Peds: 5

Peds Cross: \bowtie



	Cars	Trucks	Heavys	Totals
Northbound	9	1	0	10
Southbound	10	2	0	12
	19	3	0	

Hurricane Rd



Pelham St

Cars	48	Cars	24	11	35
Trucks	10	Trucks	5	0	5
Heavys	1	Heavys	0	0	0
Totals	59	Totals	29	11	

Peds Cross: \bowtie

South Peds: 1

South Entering: 40

South Leg Total: 99

Comments

Hurricane Rd @ Pelham St

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:15:00

To: 13:15:00

Municipality: Fonthill

Site #: 0000000001

Intersection: Pelham St & Hurricane Rd

TFR File #: 1

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Rick W

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

Major Road: Pelham St runs N/S

North Leg Total: 133

North Entering: 63

North Peds: 3

Peds Cross: \bowtie

Heavys	0	0	0
Trucks	2	2	4
Cars	46	13	59
Totals	48	15	

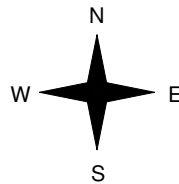
Heavys	0
Trucks	6
Cars	64
Totals	70

East Leg Total: 74

East Entering: 46

East Peds: 3

Peds Cross: \bowtie



Cars	Trucks	Heavys	Totals
22	3	0	25
20	1	0	21
42	4	0	

Hurricane Rd



Cars	Trucks	Heavys	Totals
24	4	0	28

Cars	66	Cars	42	11	53
Trucks	3	Trucks	3	2	5
Heavys	0	Heavys	0	0	0
Totals	69	Totals	45	13	

Peds Cross: \bowtie

South Peds: 3

South Entering: 58

South Leg Total: 127

Comments

Hurricane Rd @ Pelham St

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Municipality: Fonthill

Site #: 0000000001

Intersection: Pelham St & Hurricane Rd

TFR File #: 1

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Rick W

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

Major Road: Pelham St runs N/S

North Leg Total: 139

North Entering: 62

North Peds: 2

Peds Cross: \bowtie

Heavys	0	0	0
Trucks	6	1	7
Cars	42	13	55
Totals	48	14	

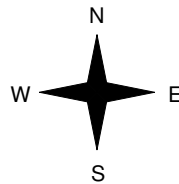
Heavys	1
Trucks	10
Cars	66
Totals	77

East Leg Total: 136

East Entering: 108

East Peds: 0

Peds Cross: \bowtie



Cars	Trucks	Heavys	Totals
32	7	1	40
62	6	0	68
94	13	1	

Hurricane Rd



Pelham St

Cars	104	Cars	34	13	47
Trucks	12	Trucks	3	1	4
Heavys	0	Heavys	0	0	0
Totals	116	Totals	37	14	

Cars	Trucks	Heavys	Totals
26	2	0	28

Peds Cross: \bowtie

South Peds: 0

South Entering: 51

South Leg Total: 167

Comments

Hurricane Rd @ Pelham St

Total Count Diagram

Municipality: Fonthill
Site #: 0000000001
Intersection: Pelham St & Hurricane Rd
TFR File #: 1
Count date: 3-Apr-2019

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Rick W

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

Major Road: Pelham St runs N/S

North Leg Total: 955
 North Entering: 487
 North Peds: 17
 Peds Cross: \bowtie

Heavys	1	1	2
Trucks	34	12	46
Cars	320	119	439
Totals	355	132	

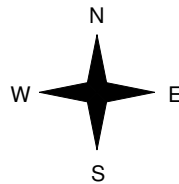


Heavys	6
Trucks	58
Cars	404
Totals	468

East Leg Total: 640
 East Entering: 417
 East Peds: 19
 Peds Cross: \bowtie



Pelham St



Cars	Trucks	Heavys	Totals
166	27	4	197



Cars	Trucks	Heavys	Totals
198	22	0	220
364	49	4	

Hurricane Rd



Pelham St



Cars	518
Trucks	56
Heavys	1
Totals	575



Cars	238	78	316
Trucks	31	13	44
Heavys	2	0	2
Totals	271	91	

Peds Cross: \bowtie
 South Peds: 8
 South Entering: 362
 South Leg Total: 937

Comments

Station St @ Pelham Town Square

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Fonthill

Site #: 0000000002

Intersection: Station St & Pelham Town Square

TFR File #: 2

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Diane

** Non-Signalized Intersection **

Major Road: Station St runs N/S

North Leg Total: 212

North Entering: 98

North Peds: 1

Peds Cross: \times

Heavys	1	0	0	1
Trucks	3	2	0	5
Cars	17	70	5	92
Totals	21	72	5	



Heavys 1

Trucks 9

Cars 104

Totals 114

East Leg Total: 66

East Entering: 34

East Peds: 0

Peds Cross: \times

Heavys	Trucks	Cars	Totals
1	9	66	76

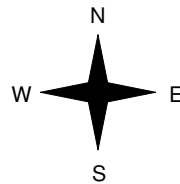


Pelham Town Square

Heavys	Trucks	Cars	Totals
1	7	13	21
0	0	10	10
0	7	5	12
1	14	28	



Station St



Station St

Cars	Trucks	Heavys	Totals
6	0	0	6
11	1	0	12
16	0	0	16
33	1	0	

Pelham Town Square



Cars	Trucks	Heavys	Totals
31	1	0	32

Peds Cross: \times

West Peds: 0

West Entering: 43

West Leg Total: 119

Cars	91	Cars	38	85	16	139
Trucks	9	Trucks	5	2	1	8
Heavys	0	Heavys	0	0	0	0
Totals	100	Totals	43	87	17	



Peds Cross: \times

South Peds: 2

South Entering: 147

South Leg Total: 247

Comments

Station St @ Pelham Town Square

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Fonthill

Site #: 0000000002

Intersection: Station St & Pelham Town Square

TFR File #: 2

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Diane

** Non-Signalized Intersection **

Major Road: Station St runs N/S

North Leg Total: 168

North Entering: 78

North Peds: 1

Peds Cross: \times

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	34	43	1	78
Totals	34	43	1	



Heavys	0
Trucks	1
Cars	89
Totals	90

East Leg Total: 71

East Entering: 36

East Peds: 0

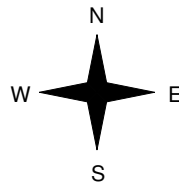
Peds Cross: \times

Heavys	0
Trucks	0
Cars	82
Totals	82



Pelham Town Square

Heavys	0
Trucks	1
Cars	42
Totals	43
Heavys	0
Trucks	0
Cars	20
Totals	20
Heavys	0
Trucks	1
Cars	48
Totals	49
Heavys	0
Trucks	2
Cars	110
Totals	112



Station St



Cars	2
Trucks	0
Heavys	0
Totals	2
Cars	15
Trucks	0
Heavys	0
Totals	15
Cars	19
Trucks	0
Heavys	0
Totals	19
Cars	36
Trucks	0
Heavys	0
Totals	36

Pelham Town Square



Cars	35
Trucks	0
Heavys	0
Totals	35

Peds Cross: \times

West Peds: 0

West Entering: 112

West Leg Total: 194

Cars	110
Trucks	1
Heavys	0
Totals	111
Cars	33
Trucks	0
Heavys	0
Totals	33
Cars	45
Trucks	0
Heavys	0
Totals	45
Cars	14
Trucks	0
Heavys	0
Totals	14
Cars	92
Trucks	0
Heavys	0
Totals	92



Peds Cross: \times

South Peds: 0

South Entering: 92

South Leg Total: 203

Comments

Station St @ Pelham Town Square

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 15:30:00

To: 16:30:00

Municipality: Fonthill

Site #: 0000000002

Intersection: Station St & Pelham Town Square

TFR File #: 2

Count date: 3-Apr-2019

Weather conditions:

Clear/Dry

Person(s) who counted:

Diane

** Non-Signalized Intersection **

Major Road: Station St runs N/S

North Leg Total: 215

North Entering: 91

North Peds: 3

Peds Cross: \times

Heavys	0	0	0	0
Trucks	1	1	0	2
Cars	27	60	2	89
Totals	28	61	2	



Heavys 0

Trucks 5

Cars 119

Totals 124

East Leg Total: 142

East Entering: 115

East Peds: 12

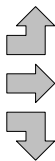
Peds Cross: \times

Heavys	0	Trucks	2	Cars	102	Totals	104
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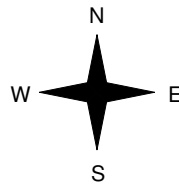


Pelham Town Square

Heavys	0	Trucks	1	Cars	33	Totals	34
	0		0		16		16
	0		0		62		62
	0		1		111		



Station St



Station St

Cars	12	Trucks	0	Heavys	0	Totals	12
	39		0		0		39
	64		0		0		64
	115		0		0		

Pelham Town Square



Cars	27	Trucks	0	Heavys	0	Totals	27
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Peds Cross: \times

West Peds: 5

West Entering: 112

West Leg Total: 216

Cars	186
Trucks	1
Heavys	0
Totals	187



Cars	36	74	9	119
Trucks	1	4	0	5
Heavys	0	0	0	0
Totals	37	78	9	

Peds Cross: \times

South Peds: 3

South Entering: 124

South Leg Total: 311

Comments

Station St @ Pelham Town Square

Total Count Diagram

Municipality: Fonthill
Site #: 0000000002
Intersection: Station St & Pelham Town Square
TFR File #: 2
Count date: 3-Apr-2019

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Diane

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

Major Road: Station St runs N/S

North Leg Total: 1258
 North Entering: 577
 North Peds: 14
 Peds Cross: \times

	Heavys	Trucks	Cars	Totals
Station St (N)	1	0	0	1
Station St (S)	11	12	0	23
Pelham Town Square (W)	166	370	17	553
Totals	178	382	17	

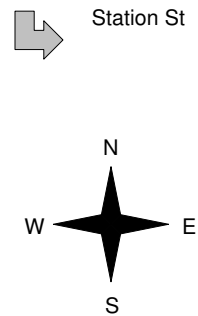
	Heavys	Trucks	Cars	Totals
Station St (N)	2	27	652	681
Station St (S)	11	12	0	23
Pelham Town Square (E)	166	370	17	553
Totals	178	382	17	

East Leg Total: 661
 East Entering: 462
 East Peds: 21
 Peds Cross: \times

Heavys	Trucks	Cars	Totals
1	21	557	579

Pelham Town Square

Heavys	Trucks	Cars	Totals
1	12	191	204
0	0	103	103
0	11	356	367
1	23	650	



Station St

Cars	Trucks	Heavys	Totals
39	2	0	41
174	2	0	176
245	0	0	245
458	4	0	

Pelham Town Square

Cars	Trucks	Heavys	Totals
198	1	0	199

Peds Cross: \times
 West Peds: 7
 West Entering: 674
 West Leg Total: 1253

	Cars	Trucks	Heavys	Totals
Station St (N)	217	422	78	717
Station St (S)	8	13	1	22
Pelham Town Square (W)	0	1	0	1
Totals	225	436	79	

Peds Cross: \times
 South Peds: 11
 South Entering: 740
 South Leg Total: 1734

Comments

Appendix B –Stop Control Warrants



All-Way Stop Warrant Analysis: Minor Roads

Location: Hurricane Road at Pelham Street
Date: Wednesday, April 03, 2019
Posted Speed: 50 km/h
Minor Street: Hurricane Road
Major Street: Pelham Street
Intersection Type: 3 Way Stop

Conditions: According to Ontario Traffic Manual Book 5 - (March,2000)

Condition 1: Total vehicle volume on all intersection approaches exceeds 350 for the highest hour recorded

Condition 2: Volume split (Vehicles Only) does not exceed 75/25

Calculation Summary:										
	Hourly Period								Total	Total Number of Peds
	6:00 to 07:00	07:00 to 08:00	8:00 to 09:00	11:00 to 12:00	12:00 to 13:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00		
Combined Minor Approach Volume (Including Peds)		25	27	36	42	67	104	95	396	17
Combined Major Approach Volume (Not Including Ped)		68	112	113	124	119	112	111	759	
Total Combined Volume	0	93	139	149	166	186	216	206		
Minimum Total Combined / Hour	350	350	350	350	350	350	350	350		
Criteria Met	NO	NO	NO	NO	NO	NO	NO	NO		
Condition 1:						Not Met				
Total Volume Split	Major	66.7%								
	Minor	33.3%								
Minimum Split Criteria		75/25								
Criteria Met		YES								
Condition 2:						Met				

RESULT OF ANALYSIS:	All-Way Stop - NOT WARRANTED
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Additional Considerations If Warrented:		
Sight Lines	Where sight lines prohibit an operator of a passenger car vehicle from observing a minimum distance of 84 metres	N/A
Geometric Design	(A) A distance of 250m must be maintained between traffic control devices, signals, other stop signs or legal pedestrian crossovers	N/A
	(B) All-Way stop sign must only be used at two like roadways. Each approach should contain the same number of lanes and have non-skewed approaches	N/A

All-Way Stop Warrant Analysis: Minor Roads

Location: Station Street at Pelham Town Square
Date: Wednesday, April 03, 2019
Posted Speed: 50 km/h
Minor Street: Pelham Town Square
Major Street: Station Street
Intersection Type: 4 Way Stop

Conditions: According to Ontario Traffic Manual Book 5 - (March 2000)

Condition 1: Total vehicle volume on all intersection approaches exceeds 350 for the highest hour recorded

Condition 2: Volume split (Vehicles Only) does not exceed 65/35

Calculation Summary:										
	Hourly Period								Total	Total Number of Peds
	6:00 to 07:00	07:00 to 08:00	8:00 to 09:00	11:00 to 12:00	12:00 to 13:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00		
Combined Minor Approach Volume (Including Peds)		23	77	128	148	224	240	181	1021	28
Combined Major Approach Volume (Not Including Ped)		74	245	143	170	226	177	139	1174	
Total Combined Volume	0	97	322	271	318	450	417	320		
Minimum Total Combined / Hour	350	350	350	350	350	350	350	350		
Criteria Met	NO	NO	NO	NO	NO	YES	YES	NO		
Condition 1:						Met				
Total Volume Split	Major	54.2%								
	Minor	45.8%								
Minimum Split Criteria		65/35								
Criteria Met		YES								
Condition 2:						Met				

RESULT OF ANALYSIS:	All-Way Stop - WARRENTED
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Additional Considerations If Warrented:		
Sight Lines	Where sight lines prohibit an operator of a passenger car vehicle from observing a minimum distance of 84 metres	N/A
Geometric Design	(A) A distance of 250m must be maintained between traffic control devices, signals, other stop signs or legal pedestrian crossovers	N/A
	(B) All-Way stop sign must only be used at two like roadways. Each approach should contain the same number of lanes and have non-skewed approaches	N/A