June 8, 2018

BY COURIER

City of Ottawa
Planning and Growth Management Department
110 Laurier Ave. W., 4th Floor,
Ottawa, Ontario K1P 1J1

Attention: **Mr. Asad Yousfani**
Project Manager, Infrastructure Approvals

Dear Sir:

Reference: **Six-Storey Mixed Use Building**
3443 Innes Road
Transportation Impact Assessment Report - Addendum No. 1
Novatech File No.117077

1.0 INTRODUCTION

A Transportation Impact Assessment Report (R-2017-193) dated December 2017 was prepared in support of a Zoning and Site Plan Control applications for 3443 Innes Road. Following the submission of the report, comments were received from the City of Ottawa dated February 15, 2018 with additional comments received by public consultation dated April 11, 2018.

This addendum provides intersection analysis for the buildout year, 2019, and a 5-year horizon, 2024 for the Innes Road and Pagé Road intersection. The additional comments are addressed under separate covering letter (dated June 8, 2018).

2.0 EXISTING TRAFFIC CONDITION

The City of Ottawa Traffic Services department confirmed the most recent turning movement count available is July 2015. These volumes were included as Figure 3 in the Transportation Impact Assessment Report.

It is understood that traffic movement counts prepared within 5-years are acceptable to the City for analysis purposes. The City typically collects turning movement data during the summer months, and the seasonal variation at Innes/Pagé is not expected to be any greater than any other urban locations within the City. There are no schools in the immediate vicinity of the Innes/Pagé intersection. The nearest schools include two schools on Forest Valley Drive over 1km from the site, two schools on Beauséjour over 2kms from the site, and one school on Longleaf over 1km from the site.

The existing signal timings provided by the City of Ottawa are included as **Attachment A**.

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The existing capacity of the Innes/Pagé intersection has been analyzed using Synchro traffic software. Intersection capacity analysis has been completed for the existing traffic condition based on existing geometry and traffic controls. The analysis of the key movements indicate the highest v/c ratio for the intersection as well as movements that may be affected by future site generated trips. The results of the analysis are summarized in **Table 1** for the weekday AM and PM peak hours. Detailed Synchro reports are included as **Attachment B**.

Table 1: Intersection Operations – Existing Traffic

Intersection	AM Peak			PM Peak		
	Key Movements	LOS	v/c ratio	Key Movements	LOS	v/c ratio
Innes and Pagé	EBL	A	0.35	EBL	A	0.30
	EBT	A	0.35	**EBT**	**F**	**1.0**
	WBT	B	0.69	**WBL**	**F**	**2.58**
	SB	A	0.53	SB	B	0.67

The Innes/Pagé intersection analysis indicates that the intersection is currently operating beyond its theoretical capacity. With the planned improvements in the City's TMP including the Brian Coburn Extension (completion in 2019) and Blackburn Hamlet Bypass Extension (completion between 2020 and 2025) we would expect the intersection operations would improve. These improvements would provide a major parallel arterial route south of the Innes Road corridor and may provide some relief to the east-west through volumes on Innes Road.

It should be noted that the westbound left turning volume has likely decreased since Pagé Road was closed at the Hydro corridor (north of the Brian Coburn Extension).

No mitigation measures are recommended to improve the existing traffic operations.

3.0 FUTURE TRAFFIC CONDITION

3.1 Background Growth

The 2016 TIS for the Plan of Subdivision application for 3490 Innes Road prepared by Parsons indicates that with Innes Road currently approaching capacity, the growth rate on Innes Road would be negligible.

The 2013 TIS for the retirement residence located at 2305 Pagé Road (opposite the subject property) prepared by IBI Group assumed a background growth rate of 0.5%. For the purposes of this addendum, a background growth rate of 0.5% was used for the projected future background traffic volumes.

The retirement residence at the southeast corner of the intersection was construction in 2014 and is reflected in the City's July 2015 count.

The site generated traffic for the subdivision located at 3490 Innes Road has been added to the 2024 background traffic volumes.

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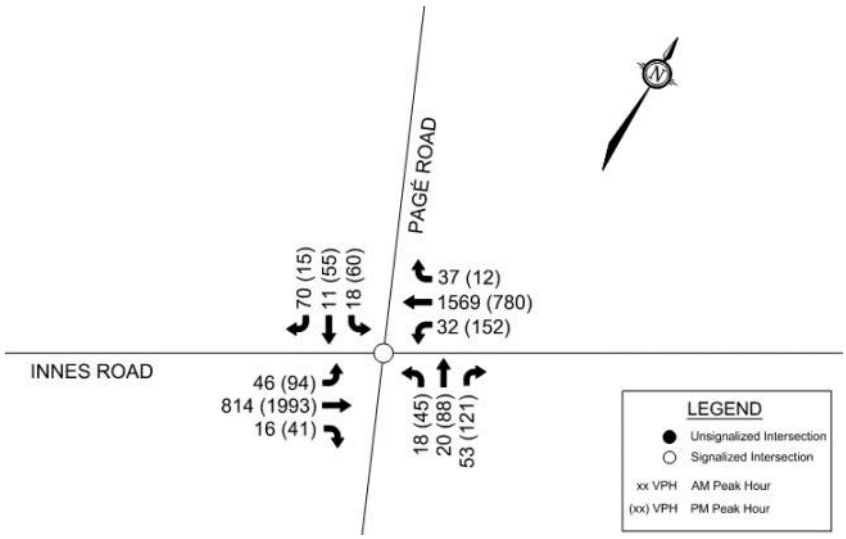
3.2 Future Background Intersection Operations

2019 Background Traffic

Background traffic volumes for the 2019 buildout year have been estimated by applying the background growth rate to the existing traffic volumes. Background traffic volumes for 2019 are shown in **Figure 1** for the weekday peak hours.

Figure 1: 2019 Background Traffic Volumes



Intersection capacity analysis has been completed for the background traffic condition based on existing geometry and traffic controls. The results of the analysis are summarized in **Table 2** for the weekday AM and PM peak hours. Detailed Synchro reports are included as **Attachment B**.

Table 2: Intersection Operations – 2019 Future Background Traffic

Intersection	AM Peak			PM Peak		
	Key Movements	LOS	v/c ratio	Key Movements	LOS	v/c ratio
Innes and Pagé	EBL	A	0.27	EBL	A	0.23
	EBT	A	0.32	EBT	D	0.89
	WBT	B	0.62	**WBL**	**F**	**2.34**
	SB	A	0.47	SB	B	0.62

It is noteworthy that the improved v/c ratio, compared to the existing condition, is a result of the increased peak hour factor for future conditions (PHF = 1.0), consistent with Appendix C of the City's 2017 TIA Guidelines. No mitigation measures are recommended to improve the 2019 future background traffic operations.

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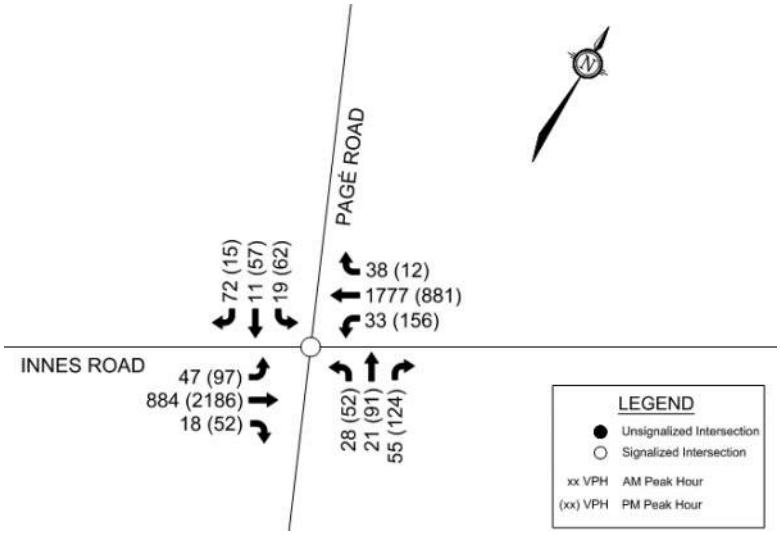
2024 Background Traffic

Background traffic volumes for the 2024 horizon year have been estimated by applying the background growth rate to the existing traffic volumes. The background volumes include the Plan of Subdivision located 3490 Innes Road as described in Section 4.3 of the TIA report and are shown in **Figure 2** for the weekday peak hours.

Figure 2: 2024 Background Traffic Volumes



Intersection capacity analysis has been completed for the background traffic condition based on existing geometry and traffic controls. The results of the analysis are summarized in **Table 3** for the weekday AM and PM peak hours. Detailed Synchro reports are included as **Attachment B**.

Table 3: Intersection Operations – 2024 Future Background Traffic

Intersection	AM Peak			PM Peak		
	Key Movements	LOS	v/c ratio	Key Movements	LOS	v/c ratio
Innes and Pagé	EBL	A	0.38	EBL	A	0.28
	EBT	A	0.35	EBT	E	0.99
	WBT	B	0.70	**WBL**	**F**	**2.44**
	SB	A	0.50	SB	B	0.61

The intersection operations analysis indicates marginally declined v/c ration in the 5-year horizon. We understand the Blackburn Hamlet Bypass Extension is scheduled for completion in 2025 and would expect improvements along the east-west corridor of Innes Road. No mitigation measures are recommended based on the 2024 future background traffic conditions.

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3.3 Site Generated Traffic Volumes

The site generated traffic volumes were provided in Figure 4 of the TIA report for the weekday AM and PM peak hours.

Total traffic for the 2019 buildout year and the 2024 horizon year have been calculated by adding the site generated traffic with the projected background traffic. The 2019 and 2024 total traffic volumes are shown in **Figure 3** and **Figure 4**.

Figure 3: 2019 Total Traffic Volumes

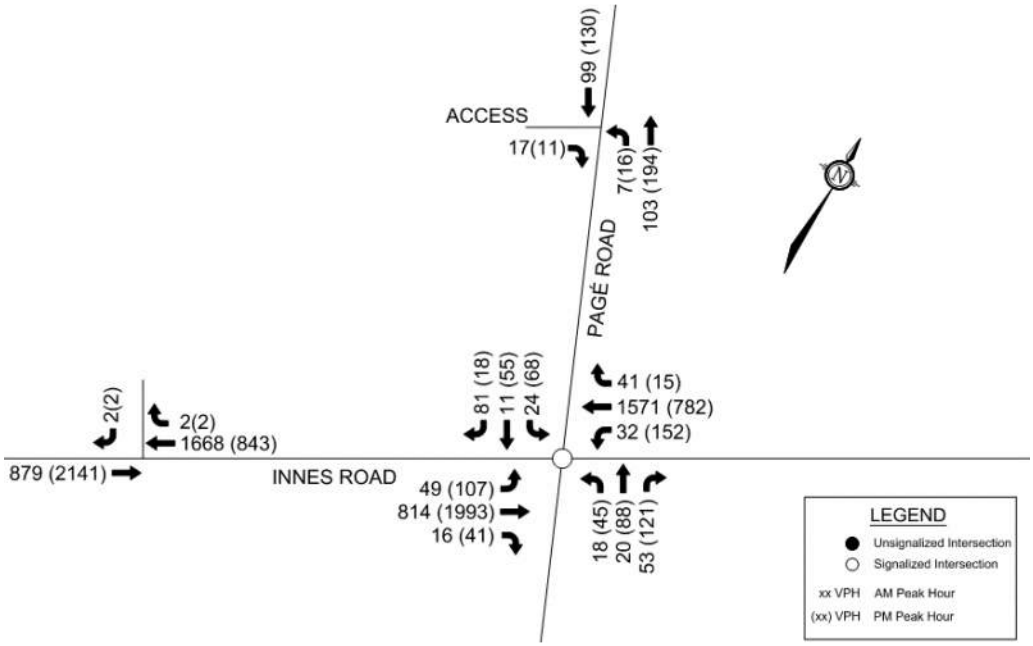

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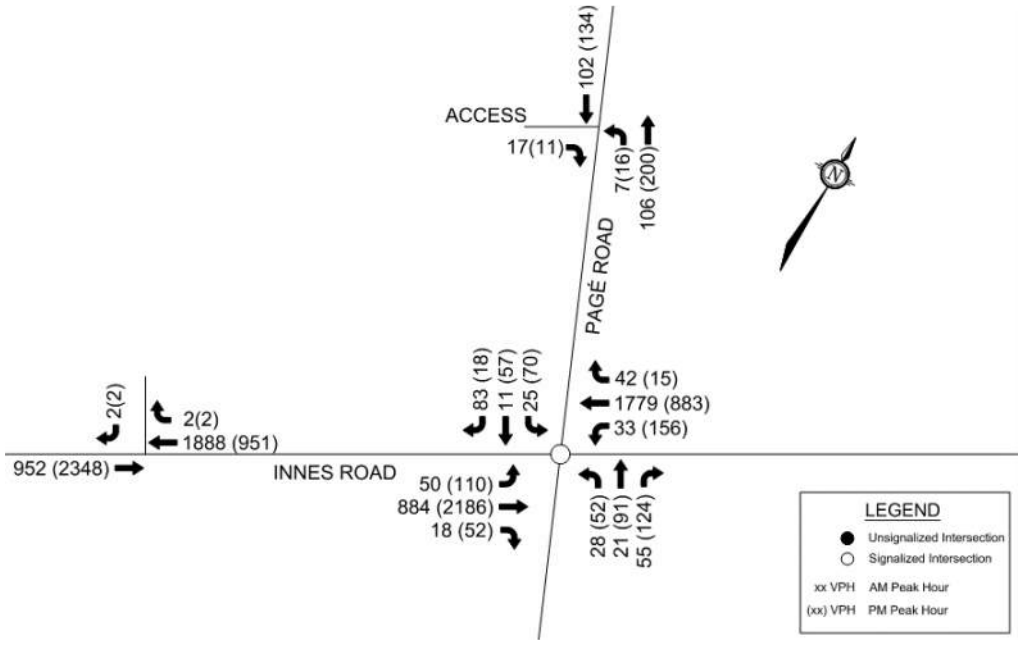
Figure 4: 2024 Total Traffic Volumes



4.0 IMPACT ANALYSIS

4.1 Future Intersection Operations

2019 Total Traffic

Intersection capacity analysis has been completed for the projected 2019 total traffic condition. The results of the analysis are summarized in **Table 4** for the weekday AM and PM peak hours. Detailed reports are included as **Attachment B**.

Table 4: Intersection Operations – 2019 Total Traffic

Intersection	AM Peak			PM Peak		
	Key Movements	LOS	v/c ratio	Key Movements	LOS	v/c ratio
Innes and Pagé	EBL	A	0.29	EBL	A	0.27
	EBT	A	0.32	EBT	D	0.89
	WBT	B	0.62	**WBL**	**F**	**2.34**
	SB	A	0.53	SB	B	0.69

The impacts of the development on the Innes Road through movement volume is minimal.

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The Synchro analysis identifies a 95th percentile southbound through queue length of 28m and 42m at the Innes/Pagé intersection during the AM and PM peak hour respectively. The proposed full-movement access onto Pagé Road is 44 meters north of the Innes Road, measured nearest edge to stop bar.

2024 Total Traffic

Intersection capacity analysis has been completed for the projected 2024 total traffic condition. The results of the analysis are summarized in **Table 5** for the weekday AM and PM peak hours. Detailed reports are included as **Attachment B**.

Table 5: Intersection Operations – 2024 Total Traffic

Intersection	AM Peak			PM Peak		
	Key Movements	LOS	v/c ratio	Key Movements	LOS	v/c ratio
Innes and Pagé	EBL	A	0.41	EBL	A	0.32
	EBT	A	0.35	EBT	E	0.99
	WBT	C	0.71	**WBL**	**F**	**2.44**
	SB	A	0.57	SB	B	0.67

The Synchro analysis identifies a 95th percentile southbound through queue length of 32m and 43m at the Innes/Pagé intersection during the AM and PM peak hour respectively. This suggests vehicles may occasionally queue to the site access during peak hours. Traffic entering the site may have to periodically rely on courtesy, particularly for the northbound left-turn movement onto the site. The full-movement site access is located as far north on the frontage of Pagé Road as possible. The northbound movement into the site access does not meet the warrant for a dedicated left-turn lane.

4.2 Intersection MMLOS

This section provides a review of the Innes/Pagé intersection using complete streets principles. The MMLOS guidelines produced by IBI Group in October 2015 were used to evaluate the multi-modal levels of service at the Innes/Pagé intersection. Schedule B of the City of Ottawa's Official Plan indicates the intersection is located in the General Urban Policy Area. The east leg of Innes Road is classified as an Arterial Mainstreet.

Pedestrian Level of Service (PLOS)

Exhibit 5 of the Addendum to the MMLOS guidelines has been used to evaluate the existing PLOS the Innes/Pagé intersection. Exhibit 22 of the MMLOS Guidelines suggests that the minimum desirable PLOS target of LOS C for arterials (Innes), collectors and local roads (Pagé). The results of the intersection PLOS analysis are shown in **Table 6**.

No crosswalks at the Innes/Pagé intersection can achieve the target PLOS C without significantly reducing the number of lanes and restricting turning movements.

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Table 6: PLOS Intersection Analysis

CRITERIA	North Approach		South Approach		East Approach		West Approach	
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	72	No	55	No	23	No	39
Lanes Crossed (3.5m Lane Width)	5		6		8		7	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		**37**		**20**		**-12**		**4**
LOS		**E**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		110		110		120		120
Pedestrian Walk Time		50.8		50.8		7.2		7.2
DELAY SCORE		**15.9**		**15.9**		**53.0**		**53.0**
LOS		**B**		**B**		**E**		**E**
OVERALL		**E**		**F**		**F**		**F**

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Bicycle Level of Service (BLOS)

Exhibit 12 of the MMLOS guidelines has been used to evaluate the existing BLOS the Innes/Pagé intersection. Exhibit 22 of the MMLOS Guidelines suggests that the minimum desirable BLOS target for Innes Road and Pagé Road is LOS C. The results of the intersection BLOS analysis are shown in **Table 7**.

Table 7: BLOS Intersection Analysis

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
North Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared Through/right-turn lane	A
		Left Turn Accommodation	No lane crossed, 50km/hr	B
South Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared Through/right-turn lane	A
		Left Turn Accommodation	No lane crossed, 50km/hr	B
East Approach	Bike Lane	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	2 or more lanes crossed, ≥ 50km/h	F
West Approach	Bike Lane	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	2 or more lanes crossed, ≥ 50km/h	F

The BLOS of the left turning movements on the east and west approaches of Innes/Pagé intersection could meet the target BLOS C by implementing two-stage left turn bike boxes. This is identified for the City's consideration to address the existing conditions, and is not a result of the development.

Transit Level of Service (TLOS)

Exhibit 16 of the MMLOS guidelines has been used to evaluate the existing TLOS the Innes/Pagé intersection. Exhibit 22 of the MMLOS Guidelines suggests a target TLOS of LOS D for Innes Road. The results of the intersection TLOS analysis are shown in **Table 8**.

Table 8: TLOS Intersection Analysis

Approach	Facility Type	Delay[1]	TLOS
North Approach	N/A (No transit service)	N/A	N/A
South Approach	N/A (No transit service)	N/A	N/A
East Approach	Mixed Traffic	10 seconds	B
West Approach	Mixed Traffic	35 seconds	D

1. Mixed traffic delay based on approach total delay in Synchro analysis

The Innes/Pagé intersection meets the desirable TLOS.

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Truck Level of Service (TkLOS)

Exhibit 21 of the MMLOS guidelines has been used to evaluate the existing TkLOS at relevant intersections within the study area. Innes Road is arterial truck route with a target TkLOS D, as defined in Exhibit 22 of the MMLOS Guidelines. Trucks are not permitted on Pagé Road. The results of the intersection TkLOS analysis are shown in **Table 9**.

Table 9: TkLOS Intersection Analysis

Approach	Effective Corner Radius	Number of Receiving Lanes on Departure from Intersection	LOS
North Approach	N/A	N/A	N/A
South Approach	N/A	N/A	N/A
East Approach	>15m	One	C
West Approach	>15m	One	C

The Innes/Pagé intersection meets the desirable TkLOS.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of the Transportation Impact Assessment Report (R-2017-193) dated December 2017 stand.

This addendum was prepared to provide intersection analysis for the buildout year, 2019, and a 5-year horizon, 2024 for the Innes Road and Pagé Road intersection.

With the planned improvements in the City's TMP including the Brian Coburn Extension (completion in 2019) and Blackburn Hamlet Bypass Extension (completion between 2020 and 2025) we would expect the intersection operations would improve. These improvements would provide a major parallel arterial route south of the Innes Road corridor and may provide some relief to the east-west through volumes on Innes Road. No mitigation measures are recommended based on the total traffic conditions.

Based on the results of the Innes Road and Pagé Road intersection MMLOS analysis:

- No crosswalks at the intersection can achieve the target PLOS C without significantly reducing the number of lanes and restricting turning movements.
- The BLOS of the left turning movements on the east and west approaches the intersection could meet the target BLOS C by implementing two-stage left turn bike boxes.
- The intersection meets the desirable TLOS.
- The intersection meets the desirable TkLOS.

The above mitigation measure for cyclists is identified for the City's consideration to address the existing condition, and is not a result of the development.

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Yours truly,

NOVATECH

Lisa Bowley, P.Eng.
Project Manager | Land Development Engineering

Attachments
Attachment A: Traffic Signal Timing
Attachment B: Synchro 10 Reports (page 1-30)
Attachment C: Disk with Synchro Files

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Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

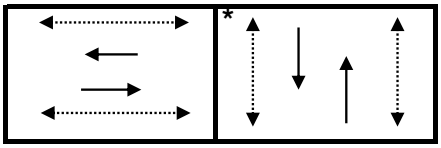
Intersection:	**Main:** Innes	**Side:**	Pagé
Controller:	**MS-3200**	**TSD:**	**6676**
Author:	Spencer Willows	**Date:**	07-Mar-2018

Existing Timing Plans†

	Plan						Ped Minimum Time		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**AM Rush** 11	***Walk***	***DW***	***A+R***
Cycle	110	90	110	75	90	120			
Offset	26	43	2	X	43	26			
EB Thru	74	54	74	39	54	84	15	17	3.7 + 2.5
WB Thru	74	54	74	39	54	84	15	17	3.7 + 2.5
NB Thru	36	36	36	36	36	36	7	22	3.0 + 3.8
SB Thru	36	36	36	36	36	36	7	22	3.0 + 3.8

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:10	4
6:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:00	4

Saturday

Time	Plan
0:10	4
7:00	2
9:00	5
20:00	2
22:00	4

Sunday

Time	Plan
0:10	4
7:00	2
10:00	5
19:00	2
22:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

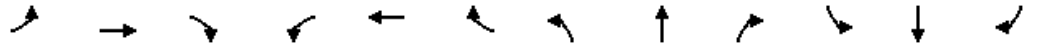
(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $56.50 ($50 + HST)

ATTACHMENT A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	810	16	32	1561	37	18	20	53	18	11	70
Future Volume (vph)	41	810	16	32	1561	37	18	20	53	18	11	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.997			0.921			0.904	
Flt Protected	0.950			0.950				0.990			0.991	
Satd. Flow (prot)	1695	3378	0	1695	3378	0	0	1613	0	0	1578	0
Flt Permitted	0.097			0.297				0.901			0.920	
Satd. Flow (perm)	173	3378	0	530	3378	0	0	1468	0	0	1465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			56			29	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		124.4			411.6			214.2			97.8	
Travel Time (s)		7.5			24.7			19.3			8.8	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	46	900	18	36	1734	41	20	22	59	20	12	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	918	0	36	1775	0	0	101	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	84.0	84.0		84.0	84.0		36.0	36.0		36.0	36.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	77.8	77.8		77.8	77.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		0	0	
Act Effct Green (s)	91.9	91.9		91.9	91.9			15.1			15.1	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.13			0.13	
v/c Ratio	0.35	0.35		0.09	0.69			0.43			0.53	
Control Delay	16.1	5.7		5.8	10.0			27.7			43.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	16.1	5.7		5.8	10.0			27.7			43.3	
LOS	B	A		A	A			C			D	
Approach Delay		6.2			9.9			27.7			43.3	
Approach LOS		A			A			C			D	
Queue Length 50th (m)	2.3	24.4		1.4	72.6			9.2			17.0	
Queue Length 95th (m)	15.1	57.7		6.7	167.6			21.2			28.9	
Internal Link Dist (m)		100.4			387.6			190.2			73.8	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	132	2588		405	2588			399			378	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.35	0.35		0.09	0.69			0.25			0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	

Analysis Period (min) 15

Splits and Phases: 1: Page Road & Innes Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	1983	41	151	776	12	45	88	120	60	55	15
Future Volume (vph)	94	1983	41	151	776	12	45	88	120	60	55	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.997			0.998			0.936			0.984	
Flt Protected	0.950			0.950				0.991			0.977	
Satd. Flow (prot)	1695	3378	0	1695	3382	0	0	1644	0	0	1712	0
Flt Permitted	0.295			0.055				0.909			0.558	
Satd. Flow (perm)	526	3378	0	98	3382	0	0	1508	0	0	978	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			2			8			6	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		201.6			411.6			214.2			116.7	
Travel Time (s)		12.1			24.7			19.3			10.5	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	2203	46	168	862	13	50	98	133	67	61	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	2249	0	168	875	0	0	281	0	0	145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	74.0	74.0		74.0	74.0		36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%		32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	67.8	67.8		67.8	67.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	73.0	73.0		73.0	73.0			24.0			24.0	
Actuated g/C Ratio	0.66	0.66		0.66	0.66			0.22			0.22	
v/c Ratio	0.30	1.00		2.58	0.39			0.84			0.67	
Control Delay	11.8	39.8		779.9	9.6			61.1			51.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	11.8	39.8		779.9	9.6			61.1			51.9	
LOS	B	D		F	A			E			D	
Approach Delay		38.6			133.7			61.1			51.9	
Approach LOS		D			F			E			D	
Queue Length 50th (m)	8.1	~232.9		~43.9	38.5			51.4			25.0	
Queue Length 95th (m)	19.3	#301.7		#84.6	55.4			76.1			43.0	
Internal Link Dist (m)		177.6			387.6			190.2			92.7	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	349	2242		65	2244			406			264	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.30	1.00		2.58	0.39			0.69			0.55	

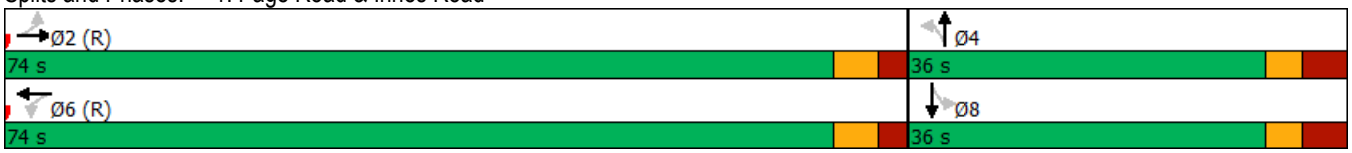
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 26 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.58			
Intersection Signal Delay: 66.7		Intersection LOS: E	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Page Road & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	814	16	32	1569	37	18	20	53	18	11	70
Future Volume (vph)	46	814	16	32	1569	37	18	20	53	18	11	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.997			0.921			0.905	
Flt Protected	0.950			0.950				0.990			0.991	
Satd. Flow (prot)	1695	3378	0	1695	3378	0	0	1613	0	0	1580	0
Flt Permitted	0.125			0.330				0.914			0.929	
Satd. Flow (perm)	223	3378	0	589	3378	0	0	1489	0	0	1481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			53			42	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		125.8			411.6			214.2			112.1	
Travel Time (s)		7.5			24.7			19.3			10.1	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	46	814	16	32	1569	37	18	20	53	18	11	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	830	0	32	1606	0	0	91	0	0	99	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	84.0	84.0		84.0	84.0		36.0	36.0		36.0	36.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	77.8	77.8		77.8	77.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		0	0	
Act Effct Green (s)	92.7	92.7		92.7	92.7			14.3			14.3	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.12			0.12	
v/c Ratio	0.27	0.32		0.07	0.62			0.41			0.47	
Control Delay	10.8	5.2		5.4	8.3			26.8			34.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	10.8	5.2		5.4	8.3			26.8			34.8	
LOS	B	A		A	A			C			C	
Approach Delay		5.5			8.3			26.8			34.8	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.9	19.1		1.1	53.1			7.9			12.0	
Queue Length 95th (m)	11.8	50.8		6.0	136.6			18.9			23.3	
Internal Link Dist (m)		101.8			387.6			190.2			88.1	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	172	2610		455	2611			402			392	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.27	0.32		0.07	0.62			0.23			0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	

Analysis Period (min) 15

Splits and Phases: 1: Page Road & Innes Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	1993	41	152	780	12	45	88	121	60	55	15
Future Volume (vph)	94	1993	41	152	780	12	45	88	121	60	55	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.997			0.998			0.936			0.984	
Flt Protected	0.950			0.950				0.991			0.977	
Satd. Flow (prot)	1695	3378	0	1695	3382	0	0	1643	0	0	1712	0
Flt Permitted	0.331			0.054				0.916			0.575	
Satd. Flow (perm)	591	3378	0	96	3382	0	0	1519	0	0	1008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			3			13			6	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		206.2			411.6			214.2			104.6	
Travel Time (s)		12.4			24.7			19.3			9.4	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	94	1993	41	152	780	12	45	88	121	60	55	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	2034	0	152	792	0	0	254	0	0	130	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	74.0	74.0		74.0	74.0		36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%		32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	67.8	67.8		67.8	67.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	74.6	74.6		74.6	74.6			22.4			22.4	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.20			0.20	
v/c Ratio	0.23	0.89		2.34	0.35			0.80			0.62	
Control Delay	9.9	21.8		671.8	8.6			57.1			50.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	9.9	21.8		671.8	8.6			57.1			50.2	
LOS	A	C		F	A			E			D	
Approach Delay		21.3			115.4			57.1			50.2	
Approach LOS		C			F			E			D	
Queue Length 50th (m)	6.5	155.4		~36.9	31.4			45.5			22.4	
Queue Length 95th (m)	16.4	#254.4		#76.7	48.8			66.9			38.1	
Internal Link Dist (m)		182.2			387.6			190.2			80.6	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	400	2292		65	2295			412			271	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.23	0.89		2.34	0.35			0.62			0.48	

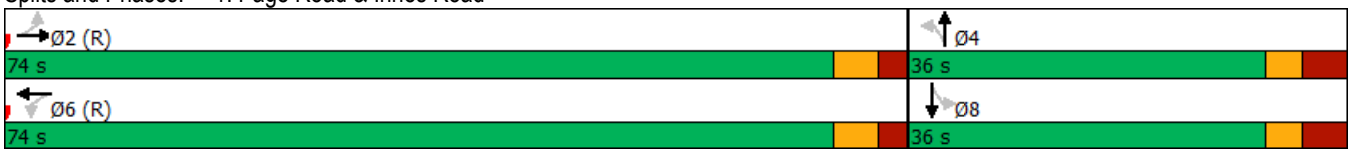
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 26 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.34			
Intersection Signal Delay: 50.7		Intersection LOS: D	
Intersection Capacity Utilization 102.1%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Page Road & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	884	18	33	1777	38	28	21	55	19	11	72
Future Volume (vph)	47	884	18	33	1777	38	28	21	55	19	11	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.997			0.929			0.905	
Flt Protected	0.950			0.950				0.987			0.991	
Satd. Flow (prot)	1695	3378	0	1695	3378	0	0	1623	0	0	1580	0
Flt Permitted	0.091			0.303				0.858			0.917	
Satd. Flow (perm)	162	3378	0	541	3378	0	0	1411	0	0	1462	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			45			26	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		161.9			411.6			214.2			104.5	
Travel Time (s)		9.7			24.7			19.3			9.4	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	47	884	18	33	1777	38	28	21	55	19	11	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	902	0	33	1815	0	0	104	0	0	102	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	84.0	84.0		84.0	84.0		36.0	36.0		36.0	36.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	77.8	77.8		77.8	77.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		0	0	
Act Effct Green (s)	92.1	92.1		92.1	92.1			14.9			14.9	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.12			0.12	
v/c Ratio	0.38	0.35		0.08	0.70			0.49			0.50	
Control Delay	18.3	5.6		5.7	10.2			34.5			43.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	18.3	5.6		5.7	10.2			34.5			43.0	
LOS	B	A		A	B			C			D	
Approach Delay		6.2			10.2			34.5			43.0	
Approach LOS		A			B			C			D	
Queue Length 50th (m)	2.4	23.3		1.3	74.6			12.3			16.0	
Queue Length 95th (m)	17.4	56.4		6.3	175.7			24.2			27.4	
Internal Link Dist (m)		137.9			387.6			190.2			80.5	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	124	2593		415	2593			377			375	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.38	0.35		0.08	0.70			0.28			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 74.7%		ICU Level of Service D	

Analysis Period (min) 15

Splits and Phases: 1: Page Road & Innes Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	2186	52	156	881	12	52	91	124	62	57	15
Future Volume (vph)	97	2186	52	156	881	12	52	91	124	62	57	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.997			0.998			0.937			0.985	
Flt Protected	0.950			0.950				0.990			0.977	
Satd. Flow (prot)	1695	3378	0	1695	3382	0	0	1644	0	0	1714	0
Flt Permitted	0.290			0.054				0.902			0.576	
Satd. Flow (perm)	517	3378	0	96	3382	0	0	1498	0	0	1010	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			2			8			6	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		181.7			411.6			214.2			109.8	
Travel Time (s)		10.9			24.7			19.3			9.9	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	97	2186	52	156	881	12	52	91	124	62	57	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	2238	0	156	893	0	0	267	0	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	74.0	74.0		74.0	74.0		36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%		32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	67.8	67.8		67.8	67.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	73.6	73.6		73.6	73.6			23.4			23.4	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.21			0.21	
v/c Ratio	0.28	0.99		2.44	0.39			0.82			0.61	
Control Delay	11.3	36.0		712.5	9.4			60.1			48.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	11.3	36.0		712.5	9.4			60.1			48.7	
LOS	B	D		F	A			E			D	
Approach Delay		34.9			114.0			60.1			48.7	
Approach LOS		C			F			E			D	
Queue Length 50th (m)	7.2	210.8		~39.1	38.5			48.9			22.9	
Queue Length 95th (m)	18.0	#299.2		#79.2	56.8			72.1			39.5	
Internal Link Dist (m)		157.7			387.6			190.2			85.8	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	346	2262		64	2264			403			272	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.28	0.99		2.44	0.39			0.66			0.49	

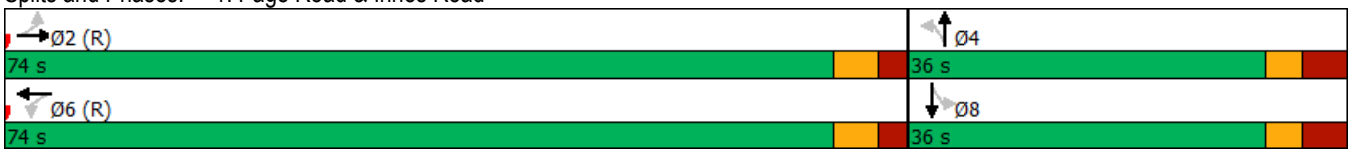
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 26 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.44			
Intersection Signal Delay: 59.1		Intersection LOS: E	
Intersection Capacity Utilization 108.0%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Page Road & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	814	16	32	1571	41	18	20	53	24	11	81
Future Volume (vph)	49	814	16	32	1571	41	18	20	53	24	11	81
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.996			0.921			0.906	
Flt Protected	0.950			0.950				0.990			0.990	
Satd. Flow (prot)	1695	3378	0	1695	3375	0	0	1613	0	0	1580	0
Flt Permitted	0.123			0.329				0.898			0.909	
Satd. Flow (perm)	219	3378	0	587	3375	0	0	1463	0	0	1451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			53			42	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		91.0			411.6			214.2			79.0	
Travel Time (s)		5.5			24.7			19.3			7.1	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	49	814	16	32	1571	41	18	20	53	24	11	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	830	0	32	1612	0	0	91	0	0	116	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	84.0	84.0		84.0	84.0		36.0	36.0		36.0	36.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	77.8	77.8		77.8	77.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		0	0	
Act Effct Green (s)	92.1	92.1		92.1	92.1			14.9			14.9	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.12			0.12	
v/c Ratio	0.29	0.32		0.07	0.62			0.40			0.53	
Control Delay	11.9	5.4		5.6	8.7			26.2			38.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	11.9	5.4		5.6	8.7			26.2			38.7	
LOS	B	A		A	A			C			D	
Approach Delay		5.8			8.6			26.2			38.7	
Approach LOS		A			A			C			D	
Queue Length 50th (m)	2.3	20.7		1.2	58.3			7.8			15.6	
Queue Length 95th (m)	13.1	50.8		6.0	137.9			19.0			28.0	
Internal Link Dist (m)		67.0			387.6			190.2			55.0	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	168	2592		450	2590			396			384	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.29	0.32		0.07	0.62			0.23			0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	

Analysis Period (min) 15

Splits and Phases: 1: Page Road & Innes Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	1993	41	152	782	15	45	88	121	68	55	18
Future Volume (vph)	107	1993	41	152	782	15	45	88	121	68	55	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.997			0.997			0.936			0.983	
Flt Protected	0.950			0.950				0.991			0.976	
Satd. Flow (prot)	1695	3378	0	1695	3379	0	0	1643	0	0	1708	0
Flt Permitted	0.329			0.054				0.911			0.564	
Satd. Flow (perm)	587	3378	0	96	3379	0	0	1511	0	0	987	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			3			13			7	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		91.0			411.6			214.2			79.0	
Travel Time (s)		5.5			24.7			19.3			7.1	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	107	1993	41	152	782	15	45	88	121	68	55	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	2034	0	152	797	0	0	254	0	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	74.0	74.0		74.0	74.0		36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%		32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	67.8	67.8		67.8	67.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	74.7	74.7		74.7	74.7			22.3			22.3	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.20			0.20	
v/c Ratio	0.27	0.89		2.34	0.35			0.80			0.69	
Control Delay	10.4	21.7		671.8	8.5			57.8			54.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	10.4	21.7		671.8	8.5			57.8			54.8	
LOS	B	C		F	A			E			D	
Approach Delay		21.1			114.8			57.8			54.8	
Approach LOS		C			F			E			D	
Queue Length 50th (m)	7.6	155.0		~36.9	31.5			45.6			24.6	
Queue Length 95th (m)	18.9	#254.4		#76.7	49.3			67.1			41.7	
Internal Link Dist (m)		67.0			387.6			190.2			55.0	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	398	2294		65	2294			410			267	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.27	0.89		2.34	0.35			0.62			0.53	

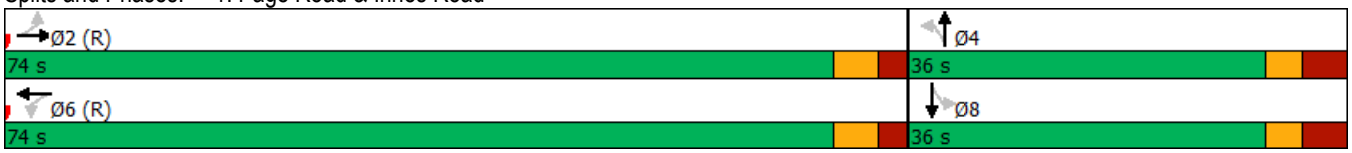
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 26 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.34			
Intersection Signal Delay: 50.7		Intersection LOS: D	
Intersection Capacity Utilization 103.8%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Page Road & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	884	18	33	1779	42	28	21	55	25	11	83
Future Volume (vph)	50	884	18	33	1779	42	28	21	55	25	11	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.997			0.997			0.929			0.906	
Flt Protected	0.950			0.950				0.987			0.990	
Satd. Flow (prot)	1695	3378	0	1695	3378	0	0	1623	0	0	1580	0
Flt Permitted	0.089			0.302				0.829			0.897	
Satd. Flow (perm)	159	3378	0	539	3378	0	0	1363	0	0	1432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			45			26	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		91.0			411.6			214.2			79.0	
Travel Time (s)		5.5			24.7			19.3			7.1	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	50	884	18	33	1779	42	28	21	55	25	11	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	902	0	33	1821	0	0	104	0	0	119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

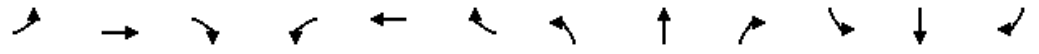
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	84.0	84.0		84.0	84.0		36.0	36.0		36.0	36.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	77.8	77.8		77.8	77.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		0	0	
Act Effct Green (s)	91.4	91.4		91.4	91.4			15.6			15.6	
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.13			0.13	
v/c Ratio	0.41	0.35		0.08	0.71			0.48			0.57	
Control Delay	21.0	5.9		5.9	10.7			34.0			47.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	21.0	5.9		5.9	10.7			34.0			47.2	
LOS	C	A		A	B			C			D	
Approach Delay		6.6			10.6			34.0			47.2	
Approach LOS		A			B			C			D	
Queue Length 50th (m)	2.9	25.2		1.4	81.2			12.1			19.6	
Queue Length 95th (m)	20.5	56.4		6.3	177.0			24.3			32.0	
Internal Link Dist (m)		67.0			387.6			190.2			55.0	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	121	2572		410	2572			365			368	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.41	0.35		0.08	0.71			0.28			0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	

Analysis Period (min) 15

Splits and Phases: 1: Page Road & Innes Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	2186	52	156	883	15	52	91	124	70	57	18
Future Volume (vph)	110	2186	52	156	883	15	52	91	124	70	57	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	75.0		0.0	90.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	40.0			7.6			7.6			7.6		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.997			0.997			0.937			0.983	
Flt Protected	0.950			0.950				0.990			0.976	
Satd. Flow (prot)	1695	3378	0	1695	3379	0	0	1644	0	0	1708	0
Flt Permitted	0.288			0.054				0.897			0.567	
Satd. Flow (perm)	514	3378	0	96	3379	0	0	1489	0	0	992	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			3			8			6	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		91.0			411.6			214.2			79.0	
Travel Time (s)		5.5			24.7			19.3			7.1	
Confl. Peds. (#/hr)			1			1			1			5
Confl. Bikes (#/hr)			3						2			
Peak Hour Factor	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. Flow (vph)	110	2186	52	156	883	15	52	91	124	70	57	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	2238	0	156	898	0	0	267	0	0	145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	43.8	43.8		43.8	43.8		35.8	35.8		35.8	35.8	
Total Split (s)	74.0	74.0		74.0	74.0		36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%		32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	67.8	67.8		67.8	67.8		29.2	29.2		29.2	29.2	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.8	3.8		3.8	3.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2			6.8			6.8	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	15.0	15.0		15.0	15.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	73.6	73.6		73.6	73.6			23.4			23.4	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.21			0.21	
v/c Ratio	0.32	0.99		2.44	0.40			0.83			0.67	
Control Delay	12.1	36.0		712.5	9.4			60.7			53.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	12.1	36.0		712.5	9.4			60.7			53.1	
LOS	B	D		F	A			E			D	
Approach Delay		34.9			113.5			60.7			53.1	
Approach LOS		C			F			E			D	
Queue Length 50th (m)	8.5	210.8		~39.1	38.7			49.0			25.2	
Queue Length 95th (m)	20.9	#299.2		#79.2	57.2			72.3			42.9	
Internal Link Dist (m)		67.0			387.6			190.2			55.0	
Turn Bay Length (m)	75.0			90.0								
Base Capacity (vph)	343	2262		64	2262			401			267	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.32	0.99		2.44	0.40			0.67			0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 26 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.44			
Intersection Signal Delay: 59.1		Intersection LOS: E	
Intersection Capacity Utilization 109.6%		ICU Level of Service H	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Page Road & Innes Road