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Whitby Business Park

Prepared for:
Scarborough Borough Council Regeneration Department

UNITED KINGDOM & IRELAND

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NYMNPA
25 JUL 2013

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NYM / 2013 / 0514/FL

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NYMNPA
25 JUL 2013

NR3 / 2013 / 0514 / FL

TABLE OF CONTENTS

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

1. INTRODUCTION

1.1 Background

In September 2012 a planning application (NY/2012/0333/FUL) was submitted by Scarborough Borough Council Regeneration Department (SBCRD) to construct a new access road within Whitby Business Park which would link the eastern end of Cholmley Way with Fairfield Way to create improved internal linkages within the overall Business Park.

The Business Park, located 1.5 miles south east of Whitby town centre, is accessed along the A171 Stainsacre Lane by two main site accesses known as Cholmley Way and Fairfield Way. The two main accesses are currently not linked within the site and are therefore two separate cul-de-sacs providing limited access arrangements especially for future development of adjacent land and also internal circulation. The current proposal to link Cholmley Way and Fairfield Way seeks to remedy those deficiencies.

It is noted that the current application is for engineering works only and any applications for new build development will need to be supported by a Transport Assessment which assesses the impact of additional traffic generation on these junctions.

Providing a linkage between Cholmley Way and Fairfield Way could lead to the re-assignment of existing traffic that enters the business park. A concern has been raised by North Yorkshire County Council (NYCC) Highways Department regarding the impact that re-assigned business park traffic could have on the operation of the A171 Stainsacre Lane / Cholmley Way junction, particularly given its close proximity to the new traffic signal junction located 55 metres to the south, providing access to Sainsburys supermarket.

Following discussions between SBCRD and NYCC Highways, it was agreed that a Junction Capacity Report would be prepared focusing on the A171 Stainsacre Way / Cholmley Way priority junction and the A171 Stainsacre Way / Sainsburys signal junction to assess the impact of re-assigned business park traffic.

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

2. OPERATION OF THE EXISTING HIGHWAY NETWORK

2.1 Existing Traffic Flows

Traffic surveys were carried out on the A171 Stainsacre Way / Cholmley Way Junction and the A171 Stainsacre Way / Sainsburys Junction to the south of Cholmley Way on Friday 16th November 2012 from 7.30am to 9.30am and 4.00pm to 6.00pm.

In addition a count was undertaken at the A171 Stainsacre Way / Fairfield Way junction so as to identify the amount of traffic currently using this junction in the peak hours to access / egress the business park.

The results of the survey show that the morning peak hour occurs between 08:30 and 09:30 and the evening peak hour occurs between 16:00 and 17:00. The 2012 AM and PM Peak base flows at all three junctions are shown in **Figures 1** and **2** respectively. The Raw data is provided in **Appendix A**.

Figure 1: 2012 Base Flows (AM Peak)

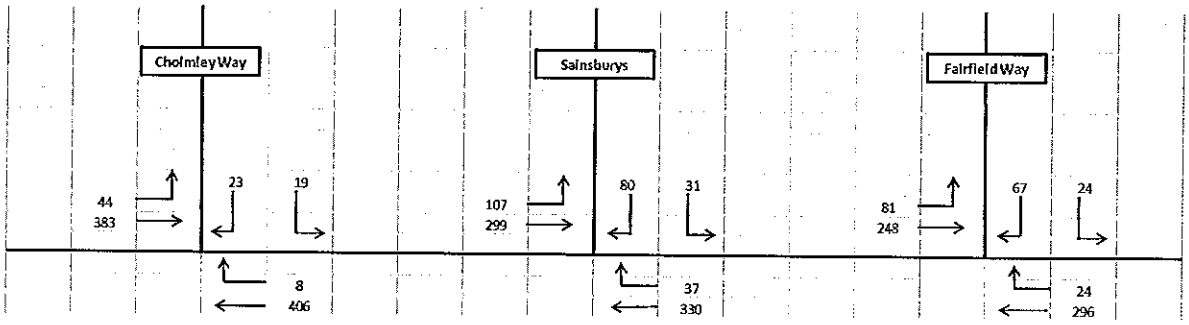
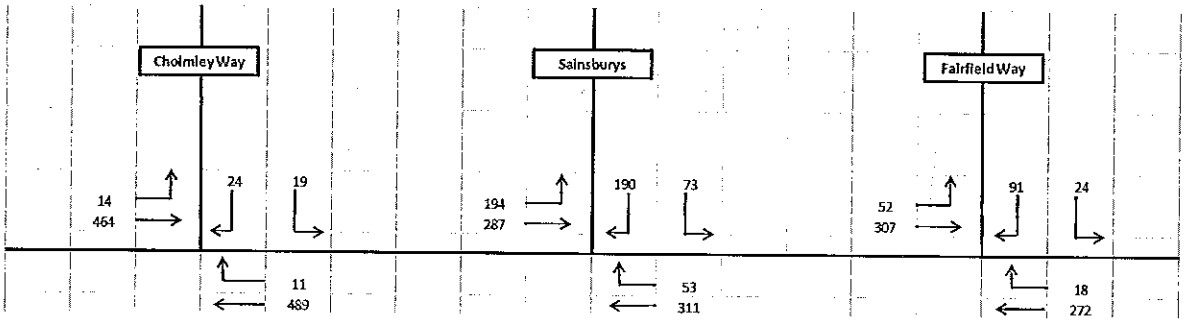


Figure 2: 2012 Base Flows (PM Peak)



NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

2.2 Junction Assessment Results – A171 Stainsacre Lane / Sainsburys Junction (2012)

Analysis of this traffic signal junction for the 2012 base year has been carried out using the computer programme LINSIG version 3. Junction parameters and signal timings associated with the junction have been obtained from the Transport Assessment (Planning Application 12/00479/FL) prepared by Vectos. A summary of the results for the AM and PM peak hours is shown in **Table 1**. Full model outputs are provided in **Appendix B**.

Table 1: LINSIG Output for A171Stainsacre Lane / Sainsburys Junction (2012 Base)

Approach	AM PEAK		PM PEAK	
	Degree of Saturation	Queue Length (pcus)	Degree of Saturation	Queue Length (pcus)
Stainsacre Lane (S) Ahead Right	34.4%	4.8	44.4%	5.9
Stainsacre Lane (N) Left Ahead	32.8%	3.6	47.1%	5.1
Sainsburys Site Access Right Left	32.3%	2.0	44.9%	4.2

It is usually considered that a DOS value in excess of 90.0% for any given approach indicates that the approach is reaching design capacity. The results in **Table 1** show that all approach arms operate within design capacity with a mean max queue of 4.8 pcus (27.6 metres) in the AM Peak and 5.9 pcus (33.9 metres) in the PM Peak.

The distance between the stop line on the Stainsacre North arm and the Cholmley Way junction to the north is approximately 55 metres. The results in **Table 1** show a mean max queue of 3.6 pcus (21 metres) in the AM Peak and 5.1 pcus (30 metres) in the PM Peak on the Stainsacre North arm and therefore do not affect the operation of the Cholmley Way junction.

Queue lengths obtained from the LINSIG model have been validated against on-site observations undertaken in November 2012 which identified a maximum queue length of 45 metres in the AM Peak hour and 35 metres in the PM Peak hour.

2.3 Junction Assessment Results – A171 Stainsacre Lane / Cholmley Way Junction (2012)

Analysis of this priority junction has been carried out using the computer programme PICADY and a summary of the results for the AM and PM peaks is shown in **Table 2**. Junction parameters have been obtained from the Transport Assessment (Planning Application Number 09/02118/FL) prepared by Savell Bird & Axon. Full model outputs are provided in **Appendix C**.

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

Table 2: PICADY Output for A171 Stainsacre Lane / Cholmley Way Junction (2012 Base)

Arm	AM PEAK		PM PEAK	
	Max RFC	Max Queue	Max RFC	Max Queue
Cholmley Way (Left Turn)	0.043	0.0	0.045	0.0
Cholmley Way (Right Turn)	0.076	0.1	0.089	0.1
Stainsacre Lane (S) (Right Turn)	0.016	0.0	0.022	0.0

It is usually considered that an RFC value in excess of 0.85 for any given approach indicates that the approach is at design capacity. The results show that the junction is currently operating well within design capacity.

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

3. FUTURE YEAR ASSESSMENT

3.1 Future Traffic Flows

A future year of 2017 has been selected to assess the impact of re-assigned business park traffic. This year has been chosen as it is five years after the submission of the planning application as required by Guidance on Transport Assessment (DfT, 2007).

Baseline flows for 2012 have therefore been uplifted to a 2017 Base Year by applying a growth factor using the National Trip End Model adjusted by local Tempro Growth factors for the Whitby area. The growth factor that has been applied to obtain the 2017 base flow is shown below:

- 2012 – 2017 (AM Peak) = 1.0673
- 2012 – 2017 (PM Peak) = 1.0684

The resulting 2017 Baseline flows for the AM and PM peaks are provided in **Figures 3** and **4.**

Figure 3: 2017 Base Flows (AM Peak)

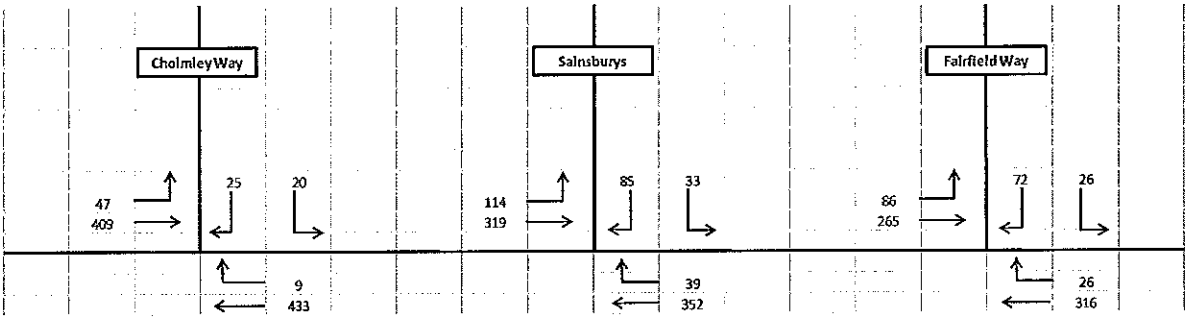
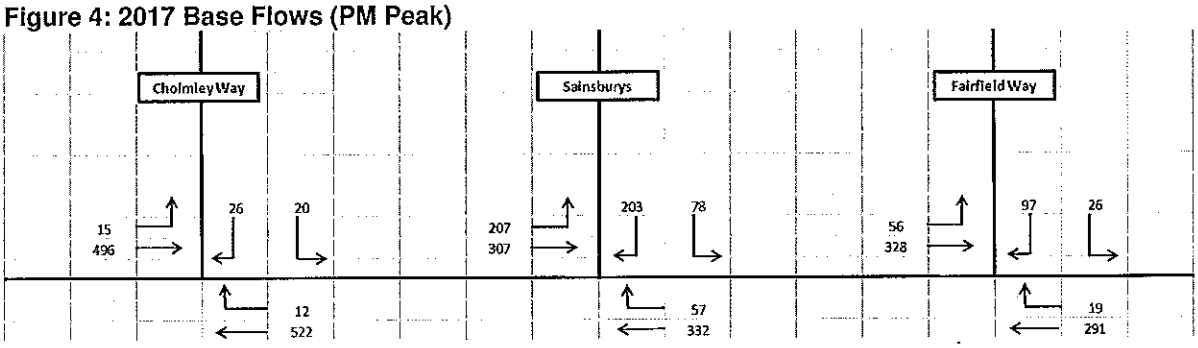


Figure 4: 2017 Base Flows (PM Peak)



3.2 Junction Assessment Results – A171 Stainsacre Lane / Sainsburys Junction (2017)

Analysis of this traffic signal junction for the 2017 Base Year has been carried out using the computer programme LINSIG Version 3 and a summary of the results for the AM and PM peaks is shown in **Table 3.** Full model outputs are provided in **Appendix D.**

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

Table 3: LINSIG Output for A171Stainsacre Lane / Sainsburys Junction (2017 Base)

Approach	AM PEAK		PM PEAK	
	Degree of Saturation	Queue Length (PCUs)	Degree of Saturation	Queue Length (PCUs)
Stainsacre Lane (S) Ahead Right	36.7%	5.3	47.4%	6.4
Stainsacre Lane (N) Left Ahead	35.0%	3.9	50.3%	5.8
Sainsburys Site Access Right Left	34.4%	2.1	48.0%	4.6

Again the results show that all approach arms operate within design capacity with a mean max queue of 5.3 pcus (31 metres) in the AM Peak and 6.4 pcus (37 metres) in the PM Peak. A mean max queue of 5.8 pcus occurs on the Stainsacre Lane North arm which equates to a queue length of approximately 34 metres.

3.3 Junction Assessment Results – A171 Stainsacre Lane / Cholmley Way Junction (2017)

Analysis of this priority junction for the 2017 Base Year has been carried out using the computer programme PICADY and a summary of the results for the AM and PM peaks is shown in **Table 4**. Full model outputs are provided in **Appendix E**.

Table 4: PICADY Output for A171 Stainsacre Lane / Cholmley Way Junction (2017)

Arm	AM PEAK		PM PEAK	
	Max RFC	Max Queue	Max RFC	Max Queue
Cholmley Way (Left Turn)	0.046	0.0	0.049	0.1
Cholmley Way (Right Turn)	0.086	0.1	0.101	0.1
Stainsacre Lane (S) (Right Turn)	0.018	0.0	0.025	0.0

It is usually considered that an RFC value in excess of 0.85 for any given approach indicates that the approach is at design capacity. Again the results show that the junction is currently operating well within design capacity for the future year of 2017

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

4. SENSITIVITY TESTING

To provide a robust assessment of the impact on the Chomley Way and Sainsburys junctions as a result of the possible re-assignment of existing business park traffic associated with the new link road, a sensitivity test has been undertaken at both junctions based on the following scenarios:

- Scenario 1 - 80% of existing business park traffic via Cholmley Way (see **Figure 5**);
- Scenario 2 - 20% of existing business park traffic via Cholmley Way (see **Figure 6**).

Figure 5: 2017 Re-assignment of Existing Business Park Traffic (80% via Cholmley Way)

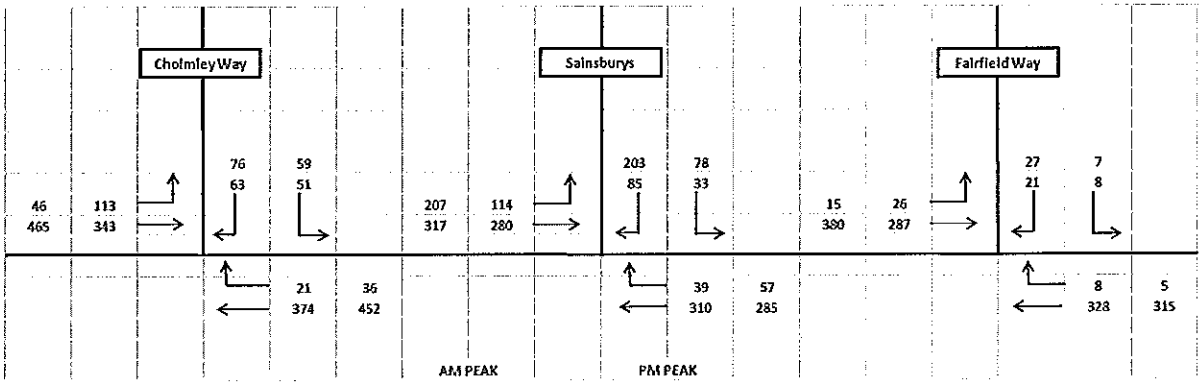
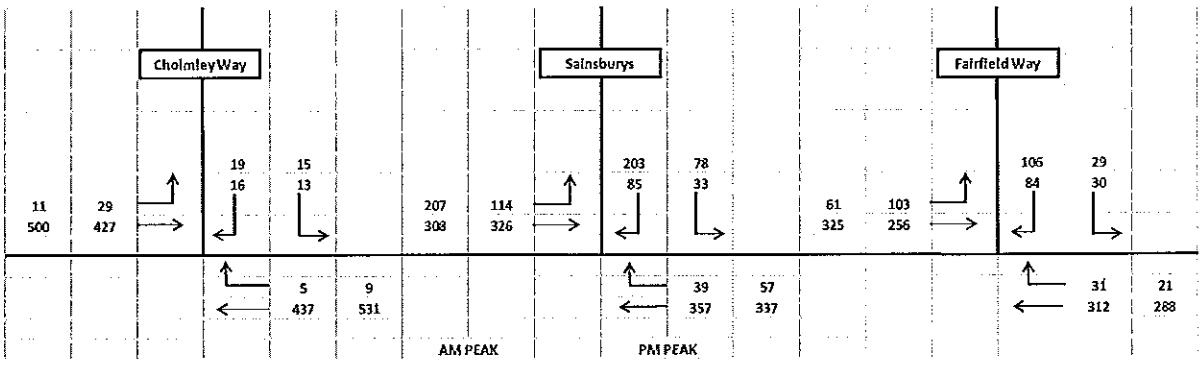


Figure 6: 2017 Re-assignment of Existing Business Park Traffic (20% via Cholmley Way)



NYMNPA
25 JUL 2013

NYMNPA/12013 / D 5 1½ / F L

4.1 Scenario 1

This scenario assumes that once the link road connecting Cholmley Way and Fairfield Way is built, 80% of existing business park traffic will access the site via Cholmley Way. The results of the modelling analysis are outlined below.

4.1.1 *Junction Assessment Results – A171 Stainsacre Lane / Sainsburys Junction (2017)*

Analysis of this traffic signal junction for Scenario 1 has been carried out using the computer programme LINSIG Version 3 and a summary of the results for the AM and PM peaks is shown in **Table 5**. Full model outputs are provided in **Appendix F.**

Table 5: LINSIG Output for A171Stainsacre Lane / Sainsburys Junction (2017)

Approach	AM PEAK		PM PEAK	
	Degree of Saturation	Queue Length (PCUs)	Degree of Saturation	Queue Length (PCUs)
Stainsacre Lane (S) Ahead Right	32.7%	4.5	41.3%	5.3
Stainsacre Lane (N) Left Ahead	31.7%	3.3	51.4%	6.2
Sainsburys Site Access Right Left	34.4%	2.1	48.0%	4.6

The results show that all approach arms operate within design capacity with a mean max queue of 4.5 pcus (26 metres) in the AM Peak and 6.2 pcus (36 metres) in the PM Peak. A mean max queue of 6.2 pcus occurs on the Stainsacre Lane North arm which equates to a queue length of approximately 36 metres. This queue length has no impact on the operation of the Cholmley Way junction.

4.1.2 *Junction Assessment Results – A171 Stainsacre Lane / Cholmley Way Junction (2017)*

Analysis of this priority junction for Scenario 1 has been carried out using the computer programme PICADY and a summary of the results for the AM and PM peaks is shown in **Table 6**. Full model outputs are provided in **Appendix G.**

Table 6: PICADY Output for A171 Stainsacre Way / Cholmley Way Junction (2017)

Arm	AM PEAK		PM PEAK	
	Max RFC	Max Queue	Max RFC	Max Queue
Cholmley Way (Left Turn)	0.119	0.1	0.149	0.2
Cholmley Way (Right Turn)	0.205	0.3	0.288	0.4
Stainsacre Lane (S) (Right Turn)	0.042	0.0	0.074	0.1

NYMNPA 25 JUL 2013

NYM / 2013 / 0514 / FL

It is usually considered that an RFC value in excess of 0.85 for any given approach indicates that the approach is at design capacity. Re-assigning 80% of business park traffic via the Cholmley Way junction shows that the junction operates well within design capacity.

4.2 Scenario 2

This scenario assumes that once the link road connecting Cholmley Way and Fairfield Way is built, 20% of existing business park traffic will access the site via Cholmley Way. The results of the modelling analysis are outlined below.

4.2.1 *Junction Assessment Results – A171 Stainsacre Lane / Sainsburys Junction (2017)*

Analysis of this traffic signal junction for Scenario 2 has been carried out using the computer programme LINSIG Version 3 and a summary of the results for the AM and PM peaks is shown in **Table 7**. Full model outputs are provided in **Appendix H.**

Table 7: LINSIG Output for A171 Stainsacre Lane / Sainsburys Junction (2017)

Approach	AM PEAK		PM PEAK	
	Degree of Saturation	Queue Length (PCUs)	Degree of Saturation	Queue Length (PCUs)
Stainsacre Lane (S) Ahead Right	37.2%	5.4	48.0%	6.5
Stainsacre Lane (N) Left Ahead	35.6%	4.0	50.4%	5.8
Sainsburys Site Access Right Left	34.4%	2.1	48.0%	4.6

The results show that all approach arms operate within design capacity with a mean max queue of 5.4 pcus (31 metres) in the AM Peak and 6.5 pcus (37 metres) in the PM Peak. A mean max queue of 5.8 pcus occurs on the Stainsacre Lane North arm which equates to a queue length of approximately 34 metres. This queue length has no impact on the operation of the Cholmley Way junction.

4.2.2 *Junction Assessment Results – A171 Stainsacre Lane / Cholmley Way Junction (2017)*

Analysis of this priority junction for Scenario 2 has been carried out using the computer programme PICADY and a summary of the results for the AM and PM peaks is shown in **Table 8**. Full model outputs are provided in **Appendix I.**

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

Table 8: PICADY Output for A171 Stainsacre Lane / Cholmley Way Junction (2017)

Arm	AM PEAK		PM PEAK	
	Max RFC	Max Queue	Max RFC	Max Queue
Cholmley Way (Left Turn)	0.030	0.0	0.036	0.0
Cholmley Way (Right Turn)	0.055	0.1	0.074	0.1
Stainsacre Lane (S) (Right Turn)	0.010	0.0	0.019	0.0

It is usually considered that an RFC value in excess of 0.85 for any given approach indicates that the approach is at design capacity. Re-assigning 20% of business park traffic via the Cholmley Way junction shows that the junction operates well within design capacity.

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

5. CONCLUSION

Whitby Business Park is accessed along the A171 Stainsacre Lane by two main site accesses which are Cholmley Way and Fairfield Way. The two main accesses are not linked within the site and are therefore two separate cul-de-sacs.

A planning application has been submitted to North Yorkshire County Council for a new link road within Whitby Business Park connecting Cholmley Way and Fairfield Way which results in a through route

Following discussions between SBCRD and NYCC Highways, it was agreed that a Junction Capacity Report would be prepared focusing on the A171 Stainsacre Way / Cholmley Way priority junction and the A171 Stainsacre Way / Sainsburys signal junction to assess the impact of re-assigned business park traffic.

Sensitivity testing has been undertaken at both junctions for the year 2017 (5 years after application as required by GTA). The scenarios tested are for 80% of existing business park traffic accessing the site via Cholmley Way and 20% of existing business park traffic accessing the site via Cholmley Way.

The results show that both junctions operate well within design capacity for both scenarios tested and that queue lengths at the Sainsburys junction on the Stainsacre Lane North arm do not impact on the operation of the Cholmley Way junction.

Existing distance between junctions = 55 metres

Mean Max Queue

2017 AM Peak Existing = 22.5 metres

2017 AM Peak (with 80% via Cholmley Way) = 19 metres

2017 AM Peak (with 20% via Cholmley Way) = 23 metres

2017 PM Peak Existing = 33.5 metres

2017 PM Peak (with 80% via Cholmley Way) = 36 metres

2017 PM Peak (with 20% via Cholmley Way) = 33.5 metres

In summary, it is concluded that the application for a new link road connecting Cholmley Way and Fairfield Way which would result in the re-assignment of existing business park traffic currently accessing / egressing the park will have no impact on the operation of either the A171 Stainsacre Lane / Cholmley Way junction or the A171 Stainsacre Lane / Sainsburys junction.

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

APPENDICES

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

APPENDIX A

NYMNPA
25 JUL 2013

Whitby - Manual Traffic Survey, Friday 16th November 2012

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FUL

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Junction: (1) Stainsacre Lane / Cholmley Way

Approach: Stainsacre Lane (North)

	Left to Cholmley Way								Ahead to Stainsacre Lane (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	3	0	0	0	0	3	0	0	23	15	0	6	0	44
0745 - 0800	0	0	6	1	0	2	0	9	0	1	66	22	0	7	1	97
Hourly Total	0	0	9	1	0	2	0	12	0	1	89	37	0	13	1	141
0800 - 0815	0	0	8	1	0	0	0	9	1	1	77	21	0	9	1	110
0815 - 0830	0	0	8	1	0	0	0	9	0	0	66	16	1	6	2	91
0830 - 0845	0	0	9	0	0	0	0	9	0	0	62	12	0	3	1	78
0845 - 0900	0	0	15	2	1	1	0	19	0	0	83	16	0	6	3	108
Hourly Total	0	0	40	4	1	1	0	46	1	1	288	65	1	24	7	387
0900 - 0915	0	0	7	2	0	0	0	9	0	0	75	18	0	4	3	100
0915 - 0930	0	0	6	1	0	0	0	7	0	0	72	17	0	6	2	97
Hourly Total	0	0	13	3	0	0	0	16	0	0	147	35	0	10	5	197
Session Total	0	0	62	8	1	3	0	74	1	2	524	137	1	47	13	725
1600 - 1615	0	0	1	1	0	0	0	2	0	2	97	8	0	7	1	115
1615 - 1630	0	0	6	1	0	1	0	8	0	1	98	24	0	2	4	129
1630 - 1645	0	0	1	1	0	0	0	2	0	1	95	10	0	4	6	116
1645 - 1700	0	0	0	2	0	0	0	2	0	2	87	11	0	1	3	104
Hourly Total	0	0	8	5	0	1	0	14	0	6	377	53	0	14	14	464
1700 - 1715	0	0	2	0	0	1	0	3	0	0	71	7	0	0	0	78
1715 - 1730	0	0	1	1	0	1	0	3	0	0	94	6	0	2	1	103
1730 - 1745	0	0	1	0	0	0	0	1	0	1	69	7	0	2	3	82
1745 - 1800	0	0	0	0	0	0	0	0	0	0	74	10	1	1	1	87
Hourly Total	0	0	4	1	0	2	0	7	0	1	308	30	1	5	5	350
Session Total	0	0	12	6	0	3	0	21	0	7	685	83	1	19	19	814

Whitby - Manual Traffic Survey, Friday 16th November 2012

NYMNPA
25 JUL 2013

Produced by Road Data Services Ltd.

Junction: (1) Stainsacre Lane / Cholmley Way

Approach: Cholmley Way

	Left to Stainsacre Lane (South)								Right to Stainsacre Lane (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	2
0745 - 0800	0	0	1	0	0	0	0	1	0	0	2	5	0	1	0	8
Hourly Total	0	0	1	0	0	1	0	2	0	0	2	6	0	2	0	10
0800 - 0815	0	0	0	1	0	0	0	1	0	0	3	2	0	1	0	6
0815 - 0830	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
0830 - 0845	0	0	2	1	0	1	0	4	0	0	2	0	1	1	0	4
0845 - 0900	0	0	5	0	0	0	0	5	0	0	4	0	0	1	0	5
Hourly Total	0	0	7	2	0	1	0	10	0	0	11	3	1	3	0	18
0900 - 0915	0	0	4	1	0	0	0	5	0	0	6	3	0	0	0	9
0915 - 0930	0	0	2	3	0	0	0	5	0	0	4	1	0	0	0	5
Hourly Total	0	0	6	4	0	0	0	10	0	0	10	4	0	0	0	14
Session Total	0	0	14	6	0	2	0	22	0	0	23	13	1	5	0	42
1600 - 1615	0	0	5	1	0	0	0	6	0	0	6	0	0	0	0	6
1615 - 1630	0	0	5	0	0	0	0	5	0	0	4	1	0	0	0	5
1630 - 1645	0	0	4	0	0	0	0	4	0	0	7	0	0	0	0	7
1645 - 1700	0	0	2	2	0	0	0	4	0	0	4	2	0	0	0	6
Hourly Total	0	0	16	3	0	0	0	19	0	0	21	3	0	0	0	24
1700 - 1715	0	0	6	0	0	0	0	6	1	0	9	1	0	0	0	11
1715 - 1730	0	0	0	0	0	1	0	1	0	0	7	0	0	0	0	7
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Hourly Total	0	0	6	0	0	1	0	7	1	0	16	1	0	1	0	19
Session Total	0	0	22	3	0	1	0	26	1	0	37	4	0	1	0	43

NYM / 2013 / 0517 / A1

Whitby - Manual Traffic Survey, Friday 16th November 2012

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / 21

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Junction: (1) Stainsacre Lane / Cholmley Way

Approach: Stainsacre Lane (South)

	Ahead to Stainsacre Lane (North)								Right to Cholmley Way							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	1	25	12	0	0	6	44	0	0	1	0	0	0	0	1
0745 - 0800	0	0	35	14	0	6	7	62	0	0	0	0	0	0	0	0
Hourly Total	0	1	60	26	0	6	13	106	0	0	1	0	0	0	0	1
0800 - 0815	0	0	47	17	0	3	2	69	0	0	2	1	0	0	0	3
0815 - 0830	0	0	61	15	0	4	3	83	0	0	0	1	0	1	0	2
0830 - 0845	0	1	74	24	0	4	2	105	0	0	0	0	0	0	0	0
0845 - 0900	0	0	76	26	0	3	1	106	0	0	3	2	0	0	0	5
Hourly Total	0	1	258	82	0	14	8	363	0	0	5	4	0	1	0	10
0900 - 0915	0	0	73	22	0	5	2	102	0	0	1	0	0	0	0	1
0915 - 0930	0	1	64	24	0	2	2	93	0	0	2	0	0	0	0	2
Hourly Total	0	1	137	46	0	7	4	195	0	0	3	0	0	0	0	3
Session Total	0	3	455	154	0	27	25	664	0	0	9	4	0	1	0	14
1600 - 1615	0	1	110	17	0	3	2	133	0	0	2	0	0	0	0	2
1615 - 1630	1	0	108	13	0	4	2	128	0	0	3	0	0	0	0	3
1630 - 1645	0	0	99	20	0	3	1	123	0	0	1	3	0	0	0	4
1645 - 1700	0	1	87	11	1	3	3	106	0	0	1	1	0	0	0	2
Hourly Total	1	2	404	61	1	13	8	490	0	0	7	4	0	0	0	11
1700 - 1715	0	1	135	17	0	1	1	155	0	0	0	0	0	0	0	0
1715 - 1730	0	0	89	12	0	0	0	101	0	0	0	0	0	0	0	0
1730 - 1745	0	0	65	7	0	2	1	75	0	0	0	0	0	0	0	0
1745 - 1800	0	0	89	4	0	0	0	93	0	0	0	0	0	0	0	0
Hourly Total	0	1	378	40	0	3	2	424	0	0	0	0	0	0	0	0
Session Total	1	3	782	101	1	16	10	914	0	0	7	4	0	0	0	11

NYMNPA
25 JUL 2013

Whitby - Manual Traffic Survey, Friday 16th November 2012

Produced by Road Data Services Ltd.

Junction: (2) Stainsacre Lane / Site Access

Approach: Site Access

	Left to Stainsacre Lane (South)								Right to Stainsacre Lane (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	2
0745 - 0800	0	1	4	0	0	0	0	5	0	0	9	1	0	0	0	10
Hourly Total	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**11**	**1**	**0**	**0**	**0**	**12**
0800 - 0815	0	0	9	5	0	0	0	14	0	0	9	1	0	0	0	10
0815 - 0830	0	1	5	0	0	0	0	6	0	0	10	1	0	0	0	11
0830 - 0845	0	0	1	0	0	0	0	1	0	0	13	0	0	0	0	13
0845 - 0900	0	0	7	1	0	0	0	8	0	0	20	2	0	0	0	22
Hourly Total	**0**	**1**	**22**	**6**	**0**	**0**	**0**	**29**	**0**	**0**	**52**	**4**	**0**	**0**	**0**	**56**
0900 - 0915	0	0	7	1	0	0	0	8	0	0	19	0	0	0	0	19
0915 - 0930	0	0	12	2	0	0	0	14	0	0	25	1	0	0	0	26
Hourly Total	**0**	**0**	**19**	**3**	**0**	**0**	**0**	**22**	**0**	**0**	**44**	**1**	**0**	**0**	**0**	**45**
Session Total	**0**	**2**	**46**	**9**	**0**	**0**	**0**	**57**	**0**	**0**	**107**	**6**	**0**	**0**	**0**	**113**
1600 - 1615	0	0	18	2	0	0	0	20	0	0	48	3	0	0	0	51
1615 - 1630	0	0	17	2	0	0	0	19	0	0	49	1	0	0	1	51
1630 - 1645	0	0	12	0	0	0	0	12	0	0	46	2	0	0	0	48
1645 - 1700	0	0	18	4	0	0	0	22	0	1	37	2	0	0	0	40
Hourly Total	**0**	**0**	**65**	**8**	**0**	**0**	**0**	**73**	**0**	**1**	**180**	**8**	**0**	**0**	**1**	**190**
1700 - 1715	0	0	15	0	0	0	0	15	0	0	48	2	0	0	0	50
1715 - 1730	0	0	17	0	0	0	0	17	0	0	47	3	0	0	0	50
1730 - 1745	0	0	10	0	0	0	0	10	0	0	29	5	0	0	0	34
1745 - 1800	0	0	10	2	0	0	0	12	0	0	38	1	0	0	0	39
Hourly Total	**0**	**0**	**52**	**2**	**0**	**0**	**0**	**54**	**0**	**0**	**162**	**11**	**0**	**0**	**0**	**173**
Session Total	**0**	**0**	**117**	**10**	**0**	**0**	**0**	**127**	**0**	**1**	**342**	**19**	**0**	**0**	**1**	**363**

NYM / 2013 / 0311 / FUL

NPA
25 JUL 2013

NYM / 2013 / 0514 / FUL

Whitby - Manual Traffic Survey, Friday 16th November 2012

Produced by Road Data Services Ltd.

Junction: (2) Stainsacre Lane / Site Access

Approach: Stainsacre Lane (North)

	Left to Site Access								Ahead to Stainsacre Lane (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	3	1	0	0	0	4	0	0	18	13	0	7	0	38
0745 - 0800	0	1	9	2	0	0	0	12	0	0	59	20	0	5	1	85
Hourly Total	0	1	12	3	0	0	0	16	0	0	77	33	0	12	1	123
0800 - 0815	0	0	19	3	0	0	0	22	1	1	59	18	0	11	2	92
0815 - 0830	0	0	18	1	0	0	0	19	0	0	46	17	1	5	1	70
0830 - 0845	0	0	18	0	0	0	0	18	0	0	46	13	0	5	1	65
0845 - 0900	0	0	25	3	0	0	0	28	0	0	64	13	0	6	4	87
Hourly Total	0	0	80	7	0	0	0	87	1	1	215	61	1	27	8	314
0900 - 0915	0	0	30	2	0	0	0	32	0	0	49	17	0	4	3	73
0915 - 0930	0	0	28	1	0	0	0	29	0	0	46	20	0	7	1	74
Hourly Total	0	0	58	3	0	0	0	61	0	0	95	37	0	11	4	147
Session Total	0	1	150	13	0	0	0	164	1	1	387	131	1	50	13	584
1600 - 1615	0	1	52	2	0	0	0	55	0	2	51	6	0	8	1	68
1615 - 1630	0	0	38	4	0	0	1	43	0	1	64	19	0	1	2	87
1630 - 1645	0	0	46	5	0	0	0	51	0	0	52	6	0	5	6	69
1645 - 1700	0	2	41	2	0	0	0	45	0	0	46	12	0	1	4	63
Hourly Total	0	3	177	13	0	0	1	194	0	3	213	43	0	15	13	287
1700 - 1715	0	0	41	2	0	0	0	43	0	0	38	6	0	0	0	44
1715 - 1730	0	0	43	3	0	0	0	46	0	0	51	3	0	3	1	58
1730 - 1745	0	0	30	3	0	0	0	33	0	1	39	2	0	3	3	48
1745 - 1800	0	0	27	3	0	0	0	30	0	0	48	8	1	0	1	58
Hourly Total	0	0	141	11	0	0	0	152	0	1	176	19	1	6	5	208
Session Total	0	3	318	24	0	0	1	346	0	4	389	62	1	21	18	495

Whitby - Manual Traffic Survey, Friday 16th November 2012

NYMNPA
25 JUL 2013

Produced by Road Data Services Ltd.

Junction: (2) Stainsacre Lane / Site Access

Approach: Stainsacre Lane (South)

	Ahead to Stainsacre Lane (North)								Right to Site Access							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	1	23	13	0	0	7	44	0	0	2	0	0	0	0	2
0745 - 0800	0	0	28	12	0	5	6	51	0	0	7	0	0	0	0	7
Hourly Total	**0**	**1**	**51**	**25**	**0**	**5**	**13**	**95**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**9**
0800 - 0815	0	0	42	18	0	4	2	66	0	1	7	1	0	0	0	9
0815 - 0830	0	0	50	15	0	5	4	74	0	0	2	1	0	0	0	3
0830 - 0845	0	1	61	25	0	4	2	93	0	0	6	2	0	0	0	8
0845 - 0900	0	0	61	24	0	2	0	87	0	0	6	0	0	0	0	6
Hourly Total	**0**	**1**	**214**	**82**	**0**	**15**	**8**	**320**	**0**	**1**	**21**	**4**	**0**	**0**	**0**	**26**
0900 - 0915	0	0	54	22	0	6	3	85	0	0	10	0	0	0	0	10
0915 - 0930	0	1	39	22	0	2	1	65	0	0	10	2	0	1	0	13
Hourly Total	**0**	**1**	**93**	**44**	**0**	**8**	**4**	**150**	**0**	**0**	**20**	**2**	**0**	**1**	**0**	**23**
Session Total	**0**	**3**	**358**	**151**	**0**	**28**	**25**	**565**	**0**	**1**	**50**	**6**	**0**	**1**	**0**	**58**
1600 - 1615	0	1	64	15	0	3	2	85	0	0	13	1	0	0	0	14
1615 - 1630	1	0	61	10	0	4	1	77	1	0	13	0	0	0	0	14
1630 - 1645	0	0	56	22	0	3	2	83	0	0	16	0	0	0	0	16
1645 - 1700	0	0	50	10	1	4	2	67	0	0	10	0	0	0	0	10
Hourly Total	**1**	**1**	**231**	**57**	**1**	**14**	**7**	**312**	**1**	**0**	**52**	**1**	**0**	**0**	**0**	**54**
1700 - 1715	0	1	90	15	0	0	1	107	0	0	13	0	0	0	0	13
1715 - 1730	0	0	41	10	0	0	0	51	0	0	14	2	0	0	0	16
1730 - 1745	0	0	37	4	0	2	1	44	0	0	7	1	0	0	0	8
1745 - 1800	0	0	50	2	0	0	0	52	0	0	13	0	0	0	0	13
Hourly Total	**0**	**1**	**218**	**31**	**0**	**2**	**2**	**254**	**0**	**0**	**47**	**3**	**0**	**0**	**0**	**50**
Session Total	**1**	**2**	**449**	**88**	**1**	**16**	**9**	**566**	**1**	**0**	**99**	**4**	**0**	**0**	**0**	**104**

NYM / 2013 / 0574 / A

NYMNPA
25 JUL 2013

Whitby - Manual Traffic Survey, Friday 16th November 2012

Produced by Road Data Services Ltd.

Junction: (3) Stainsacre Lane / Fairfield Way

Approach: Stainsacre Lane (North)

	Left to Fairfield Way								Ahead to Stainsacre Lane (South)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	10	8	0	2	0	20	0	0	10	5	0	5	0	20
0745 - 0800	0	1	19	10	0	2	0	32	0	0	45	11	0	4	1	61
Hourly Total	0	1	29	18	0	4	0	52	0	0	55	16	0	9	1	81
0800 - 0815	1	0	18	10	0	1	0	30	0	1	47	12	0	9	1	70
0815 - 0830	0	0	11	10	0	1	0	22	0	1	43	8	1	4	2	59
0830 - 0845	0	0	14	6	0	1	1	22	0	0	33	7	0	5	0	45
0845 - 0900	0	0	20	3	0	1	4	28	0	0	52	11	0	5	0	68
Hourly Total	1	0	63	29	0	4	5	102	0	2	175	38	1	23	3	242
0900 - 0915	0	0	11	9	0	0	1	21	0	0	47	9	0	4	2	62
0915 - 0930	0	0	4	5	0	0	1	10	0	0	51	16	0	6	0	73
Hourly Total	0	0	15	14	0	0	2	31	0	0	98	25	0	10	2	135
Session Total	1	1	107	61	0	8	7	185	0	2	328	79	1	42	6	458
1600 - 1615	0	0	9	0	0	4	0	13	0	1	62	7	0	3	1	74
1615 - 1630	0	0	6	6	0	1	2	15	0	2	71	14	0	1	0	88
1630 - 1645	0	0	6	1	0	1	5	13	0	0	59	6	0	3	1	69
1645 - 1700	0	0	4	4	0	0	3	11	0	0	60	14	0	1	1	76
Hourly Total	0	0	25	11	0	6	10	52	0	3	252	41	0	8	3	307
1700 - 1715	0	0	5	0	0	0	0	5	0	0	48	5	0	0	0	53
1715 - 1730	0	0	2	1	0	2	1	6	0	0	66	2	0	2	0	70
1730 - 1745	0	1	7	1	0	1	2	12	0	0	43	2	0	1	1	47
1745 - 1800	0	0	1	1	0	0	0	2	0	0	56	8	1	0	1	66
Hourly Total	0	1	15	3	0	3	3	25	0	0	213	17	1	3	2	236
Session Total	0	1	40	14	0	9	13	77	0	3	465	58	1	11	5	543

NYMNPA
25 JUL 2013

Whitby - Manual Traffic Survey, Friday 16th November 2012

Produced by Road Data Services Ltd.

Junction: (3) Stainsacre Lane / Fairfield Way

Approach: Stainsacre Lane (South)

	Ahead to Stainsacre Lane (North)								Right to Fairfield Way							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	1	23	4	0	0	0	28	0	0	1	1	0	0	0	2
0745 - 0800	0	0	34	6	0	2	1	43	0	1	3	0	0	0	0	4
Hourly Total	0	1	57	10	0	2	1	71	0	1	4	1	0	0	0	6
0800 - 0815	0	1	46	11	0	3	1	62	0	0	4	2	0	0	0	6
0815 - 0830	0	1	47	8	0	1	1	58	0	0	4	0	0	0	0	4
0830 - 0845	0	0	66	14	0	1	1	82	0	0	3	3	0	1	2	9
0845 - 0900	0	0	57	15	0	1	1	74	0	0	3	3	0	1	0	7
Hourly Total	0	2	216	48	0	6	4	276	0	0	14	8	0	2	2	26
0900 - 0915	0	0	56	18	0	6	0	80	0	0	1	0	0	1	2	4
0915 - 0930	0	0	40	16	0	3	1	60	0	0	1	2	0	0	1	4
Hourly Total	0	0	96	34	0	9	1	140	0	0	2	2	0	1	3	8
Session Total	0	3	369	92	0	17	6	487	0	1	20	11	0	3	5	40
1600 - 1615	0	1	56	10	0	1	2	70	0	0	2	2	0	2	0	6
1615 - 1630	1	0	57	10	0	3	1	72	0	0	3	1	0	1	0	5
1630 - 1645	0	0	55	15	0	3	1	74	0	0	4	2	0	1	0	7
1645 - 1700	0	0	46	6	1	2	2	57	0	0	0	0	0	0	0	0
Hourly Total	1	1	214	41	1	9	6	273	0	0	9	5	0	4	0	18
1700 - 1715	0	0	70	12	0	0	1	83	0	0	0	2	0	0	0	2
1715 - 1730	0	0	42	12	0	0	0	54	0	0	1	1	0	1	1	4
1730 - 1745	0	0	37	1	0	1	1	40	0	0	2	1	0	0	0	3
1745 - 1800	0	0	55	2	0	0	0	57	0	0	1	0	0	1	1	3
Hourly Total	0	0	204	27	0	1	2	234	0	0	4	4	0	2	2	12
Session Total	1	1	418	68	1	10	8	507	0	0	13	9	0	6	2	30

NYMNPA / 2013 / 0517

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FUL

Whitby - Manual Traffic Survey, Friday 16th November 2012

Produced by Road Data Services Ltd.

Junction: (3) Stainsacre Lane / Fairfield Way

Approach: Fairfield Way

	Left to Stainsacre Lane (South)								Right to Stainsacre Lane (North)							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0730 - 0745	0	0	1	3	0	1	1	6	0	0	2	9	0	0	7	18
0745 - 0800	0	0	1	1	0	0	0	2	0	0	2	5	0	3	5	15
Hourly Total	0	0	2	4	0	1	1	8	0	0	4	14	0	3	12	33
0800 - 0815	0	0	0	3	0	1	3	7	0	0	5	8	0	1	1	15
0815 - 0830	0	0	1	2	0	0	0	3	0	0	3	9	0	4	3	19
0830 - 0845	0	0	3	0	0	1	0	4	0	0	3	13	0	2	0	18
0845 - 0900	0	0	2	4	0	1	0	7	0	0	7	10	0	0	0	17
Hourly Total	0	0	6	9	0	3	3	21	0	0	18	40	0	7	4	69
0900 - 0915	0	0	3	3	0	0	0	6	0	0	8	4	0	1	3	16
0915 - 0930	0	0	3	4	0	0	0	7	0	1	7	7	0	1	0	16
Hourly Total	0	0	6	7	0	0	0	13	0	1	15	11	0	2	3	32
Session Total	0	0	14	20	0	4	4	42	0	1	37	65	0	12	19	134
1600 - 1615	0	0	5	2	0	0	0	7	0	0	21	5	0	2	0	28
1615 - 1630	0	0	2	1	0	0	0	3	1	0	16	1	0	1	0	19
1630 - 1645	0	0	6	1	0	1	0	8	0	0	17	6	0	1	0	24
1645 - 1700	0	0	5	1	0	0	0	6	0	0	15	4	0	1	1	21
Hourly Total	0	0	18	5	0	1	0	24	1	0	69	16	0	5	1	92
1700 - 1715	0	0	3	2	0	0	0	5	0	1	29	2	0	0	0	32
1715 - 1730	0	0	3	1	0	0	0	4	0	0	14	1	0	0	0	15
1730 - 1745	0	0	2	0	0	0	0	2	0	0	8	3	0	1	0	12
1745 - 1800	0	0	3	1	0	0	0	4	1	0	7	1	0	0	0	9
Hourly Total	0	0	11	4	0	0	0	15	1	1	58	7	0	1	0	68
Session Total	0	0	29	9	0	1	0	39	2	1	127	23	0	6	1	160

NYM / 2013 / 0514 / EL

APPENDIX B

NYMNIPA
25 JUL 2013

NYM / 2013 / 0514 / FL

LinSig V1 style report

User and Project Details

Project:	
Title:	
Location:	
File name:	Stainsacre Lane Sainsburys Access.lsg3x
Author:	
Company:	
Address:	
Notes:	

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Ind. Arrow	A	4	4
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7

NYMNPA
25 JUL 2013

NYM / 2013 / D 5 1 4 / F L 4

LinSig V1 style report

Phase Intergreens Matrix

		Starting Phase									
		A	B	C	D	E	F	G	H	I	J
Terminating Phase	A		-	-	5	-	-	9	-	7	-
	B	-		-	7	7	5	-	9	-	-
	C	-	-		-	-	5	-	9	7	-
	D	5	5	-		-	-	9	-	-	9
	E	-	5	-	-		-	-	-	-	9
	F	-	5	5	-	-		-	-	-	-
	G	9	-	-	9	-	-		-	-	-
	H	-	9	9	-	-	-	-		-	-
	I	9	-	9	-	-	-	-	-		-
	J	-	-	-	9	9	-	-	-	-	

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1		9	9	9	9
	2	9		7	9	9
	3	9	X		9	9
	4	9	9	9		9
	5	9	X	9	9	

NYMNPA
25 JUL 2013

Phases in Stage

Stage No.	Phases in Stage
1	A B C J
2	A E F H
3	D E H I
4	C D E
5	B C G J

LinSig V1 style report

Give-Way Lane Input Data

Junction: Unnamed Junction										
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (Stainsacre Lane (S))	6/1 (Right)	1439	2/2	1.09	2/2	3.00	-	0.50	3	3.00

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FUL

NYM / 2013 / 0514 / FL 4

LinSig V1 style report

Lane Input Data

Junction: Unnamed Junction

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Stainsacre Lane (S))	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
1/2 (Stainsacre Lane (S))	O	A F	2	3	7.0	Geom	-	3.50	0.00	N	Arm 6 Right	7.00
2/1 (Stainsacre Lane (N))	U	C	2	3	4.0	Geom	-	3.50	0.00	Y	Arm 6 Left	14.00
2/2 (Stainsacre Lane (N))	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
3/1 (Sainsburys Access)	U	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Left	16.00
3/2 (Sainsburys Access)	U	D	2	3	4.0	Geom	-	3.50	0.00	N	Arm 4 Right	10.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2012 Base AM Peak'	08:30	09:30	01:00	
2: '2012 Base PM Peak'	16:00	17:00	01:00	
3: '2017 Base AM Peak'	08:30	09:30	01:00	
4: '2017 Base PM Peak'	16:00	17:00	01:00	
5: '2017 AM Peak Sensitivity Test 80% Cholmley Way'	08:30	09:30	01:00	
6: '2017 PM Peak Sensitivity Test 80% Cholmley Way'	16:00	17:00	01:00	
7: '2017 AM Peak Sensitivity Test 20% Cholmley Way'	08:30	09:30	01:00	
8: '2017 PM Peak Sensitivity Test 20% Cholmley Way'	16:00	17:00	01:00	

25 JUL 2013

Stage Timings

Scenario 1: 'Scenario 1' (FG1: '2012 Base AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	38	0	11	7
Change Point	0	47	56	74

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	34.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	34.4%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	47	4	367	1965:1734	1065	34.4%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	54	-	406	1965:1775	1237	32.8%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	18:13	-	111	1797:1830	343	32.3%
4/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	33	3	1	3.1	0.7	0.0	3.8	-	-	-	-
Unnamed Junction	-	-	33	3	1	3.1	0.7	0.0	3.8	-	-	-	-
1/1+1/2	367	367	33	3	1	1.2	0.3	0.0	1.4	14.2	4.6	0.3	4.8
2/2+2/1	406	406	-	-	-	0.9	0.2	-	1.1	10.0	3.4	0.2	3.6
3/1+3/2	111	111	-	-	-	1.0	0.2	-	1.2	39.9	1.8	0.2	2.0
4/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 161.3 Total Delay for Signalled Lanes (pcuHr): 3.81 Cycle Time (s): 90

PRC Over All Lanes (%): 161.3 Total Delay Over All Lanes(pcuHr): 3.81

NYMINPA
25 JUL 2013

NYM / 2013 / 0314 / P1

NYM / 2013 / 0514 / FL

Stage Timings

Scenario 1: 'Scenario 1' (FG2: '2012 Base PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	26	0	23	7
Change Point	0	35	44	74

NYMNPA
25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	47.1%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	47.1%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	35	4	364	1965:1734	820	44.4%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	42	-	481	1965:1775	1022	47.1%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	30:25	-	263	1797:1830	586	44.9%
4/1		U	N/A	N/A	-		-	-	-	501	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	360	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	247	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	47	4	2	5.6	1.2	0.0	6.8	-	-	-	-
Unnamed Junction	-	-	47	4	2	5.6	1.2	0.0	6.8	-	-	-	-
1/1+1/2	364	364	47	4	2	1.9	0.4	0.0	2.3	22.9	5.5	0.4	5.9
2/2+2/1	481	481	-	-	-	1.9	0.4	-	2.3	17.5	4.7	0.4	5.1
3/1+3/2	263	263	-	-	-	1.8	0.4	-	2.2	29.5	3.7	0.4	4.2
4/1	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	360	360	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	247	247	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 91.2 Total Delay for Signalled Lanes (pcuHr): 6.81 Cycle Time (s): 90

PRC Over All Lanes (%): 91.2 Total Delay Over All Lanes(pcuHr): 6.81

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / 1

NYM / 2013 / 0514 / FL

APPENDIX C

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / Ex 1

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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Run with file:-
"K:\Transport Projects\47062865 - Whitby Business Park\PICADY\Stainsacre Cholmley Way Junction 2012 Base.vpi"
(drive-on-the-left) at 13:44:51 on Thursday, 29 November 2012

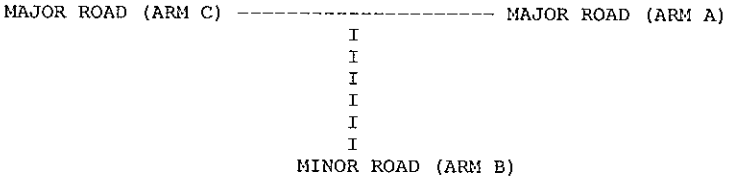
RUN INFORMATION

RUN TITLE: A171 Stainsacre Lane j/w Cholmley Way
LOCATION: Whitby
DATE: 19/11/12
CLIENT: SBC
ENUMERATOR: 34338js [UK1001927D]
JOB NUMBER:
STATUS:
DESCRIPTION:

NYMNPA
25 JUL 2013

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS A171 Stainsacre Lane (N)
ARM B IS Cholmley Way
ARM C IS Stainsacre Lane (S)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

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GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.80 M.
- VISIBILITY	(VC-B)	250.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	126.0 M.
- VISIBILITY TO RIGHT	(VB-A)	27.0 M.
- LANE 1 WIDTH	(WB-C)	-
- LANE 2 WIDTH	(WB-A)	-
- WIDTH AT 0 M FROM JUNC.		10.00 M.
- WIDTH AT 5 M FROM JUNC.		7.15 M.
- WIDTH AT 10 M FROM JUNC.		4.71 M.
- WIDTH AT 15 M FROM JUNC.		4.02 M.
- WIDTH AT 20 M FROM JUNC.		3.94 M.
- LENGTH OF FLARED SECTION		2 VEHS

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / PL

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.34	8.01	5.34
ARM B	15.00	45.00	75.00	0.52	0.79	0.52
ARM C	15.00	45.00	75.00	5.18	7.76	5.18

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.103	0.897
		0.0	44.0	383.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.548	0.000	0.452
		23.0	0.0	19.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.981	0.019	0.000
		406.0	8.0	0.0
		(10.0)	(10.0)	(0.0)

NYMNPA
25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.24	8.78	0.027		0.00	0.03	0.4		0.12
B-A	0.29	6.55	0.044		0.00	0.05	0.7		0.16
C-A	5.09								
C-B	0.10	10.05	0.010		0.00	0.01	0.1		0.10
A-B	0.55								
A-C	4.81								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.28	8.51	0.033		0.03	0.03	0.5		0.12
B-A	0.34	6.13	0.056		0.05	0.06	0.9		0.17
C-A	6.08								
C-B	0.12	9.74	0.012		0.01	0.01	0.2		0.10
A-B	0.66								
A-C	5.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.35	8.13	0.043		0.03	0.04	0.7		0.13
B-A	0.42	5.55	0.076		0.06	0.08	1.2		0.19
C-A	7.45								
C-B	0.15	9.33	0.016		0.01	0.02	0.2		0.11
A-B	0.81								
A-C	7.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.35	8.13	0.043		0.04	0.04	0.7		0.13
B-A	0.42	5.55	0.076		0.08	0.08	1.2		0.19
C-A	7.45								
C-B	0.15	9.33	0.016		0.02	0.02	0.2		0.11
A-B	0.81								
A-C	7.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.28	8.51	0.033		0.04	0.03	0.5		0.12
B-A	0.34	6.13	0.056		0.08	0.06	0.9		0.17
C-A	6.08								
C-B	0.12	9.74	0.012		0.02	0.01	0.2		0.10
A-B	0.66								
A-C	5.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.24	8.78	0.027		0.03	0.03	0.4		0.12
B-A	0.29	6.55	0.044		0.06	0.05	0.7		0.16
C-A	5.09								
C-B	0.10	10.05	0.010		0.01	0.01	0.2		0.10
A-B	0.55								
A-C	4.81								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

NMANIPA
25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1
09.45	0.0

NYM / 2013 / 0514 / FL

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	26.2	17.4	3.2	0.12	3.2	0.12
B-A	31.7	21.1	5.6	0.18	5.6	0.18
C-A	558.8	372.6				
C-B	11.0	7.3	1.1	0.10	1.1	0.10
A-B	60.6	40.4				
A-C	527.2	351.4				
ALL	1215.4	810.3	9.9	0.01	9.9	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

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25 JUL 2013

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2013 / 0514 / FL

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way Demand Set

TIME PERIOD BEGINS 15.45 AND ENDS 17.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.97	8.96	5.97
ARM B	15.00	45.00	75.00	0.54	0.81	0.54
ARM C	15.00	45.00	75.00	6.25	9.38	6.25

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
15.45 - 17.15	ARM A	0.000	0.029	0.971
		0.0	14.0	464.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.558	0.000	0.442
		24.0	0.0	19.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.978	0.022	0.000
		489.0	11.0	0.0
		(10.0)	(10.0)	(0.0)

NYMNPA
25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.24	8.52	0.028		0.00	0.03	0.4		0.12
B-A	0.30	6.17	0.049		0.00	0.05	0.7		0.17
C-A	6.14								
C-B	0.14	9.86	0.014		0.00	0.01	0.2		0.10
A-B	0.18								
A-C	5.82								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.28	8.20	0.035		0.03	0.04	0.5		0.13
B-A	0.36	5.67	0.063		0.05	0.07	1.0		0.19
C-A	7.33								
C-B	0.16	9.52	0.017		0.01	0.02	0.3		0.11
A-B	0.21								
A-C	6.95								

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.35	7.76	0.045		0.04	0.05	0.7		0.13
B-A	0.44	4.97	0.089		0.07	0.10	1.4		0.22
C-A	8.97								
C-B	0.20	9.06	0.022		0.02	0.02	0.3		0.11
A-B	0.26								
A-C	8.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.35	7.75	0.045		0.05	0.05	0.7		0.14
B-A	0.44	4.97	0.089		0.10	0.10	1.4		0.22
C-A	8.97								
C-B	0.20	9.06	0.022		0.02	0.02	0.3		0.11
A-B	0.26								
A-C	8.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.28	8.20	0.035		0.05	0.04	0.6		0.13
B-A	0.36	5.67	0.063		0.10	0.07	1.1		0.19
C-A	7.33								
C-B	0.16	9.52	0.017		0.02	0.02	0.3		0.11
A-B	0.21								
A-C	6.95								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.24	8.52	0.028		0.04	0.03	0.4		0.12
B-A	0.30	6.17	0.049		0.07	0.05	0.8		0.17
C-A	6.14								
C-B	0.14	9.86	0.014		0.02	0.01	0.2		0.10
A-B	0.18								
A-C	5.82								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0

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25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.1
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	26.2	17.4	3.3	0.13	3.3	0.13
B-A	33.0	22.0	6.4	0.19	6.4	0.19
C-A	673.1	448.7				
C-B	15.1	10.1	1.6	0.11	1.6	0.11
A-B	19.3	12.8				
A-C	638.7	425.8				
ALL	1405.3	936.9	11.4	0.01	11.4	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 13:45:23 on 29/11/2012]

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25 JUL 2013

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APPENDIX D

NYMINPA
25 JUL 2013

NYM / 2013 / 0514 / FL 1

Lsg V1 style report

Stage Timings

Scenario 1: 'Scenario 1' (FG3: '2017 Base AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	38	0	11	7
Change Point	0	47	56	74

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25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	36.7%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	36.7%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	47	4	391	1965:1734	1065	36.7%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	54	-	433	1965:1775	1236	35.0%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	18:13	-	118	1797:1830	343	34.4%
4/1		U	N/A	N/A	-		-	-	-	437	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	352	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	153	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	35	3	1	3.3	0.8	0.0	4.1	-	-	-	-
Unnamed Junction	-	-	35	3	1	3.3	0.8	0.0	4.1	-	-	-	-
1/1+1/2	391	391	35	3	1	1.3	0.3	0.0	1.6	14.4	5.0	0.3	5.3
2/2+2/1	433	433	-	-	-	1.0	0.3	-	1.2	10.1	3.6	0.3	3.9
3/1+3/2	118	118	-	-	-	1.1	0.3	-	1.3	40.2	1.9	0.3	2.1
4/1	437	437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	352	352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	153	153	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 145.2
PRC Over All Lanes (%): 145.2

Total Delay for Signalled Lanes (pcuHr): 4.11
Total Delay Over All Lanes(pcuHr): 4.11

Cycle Time (s): 90

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25 JUL 2013

NYM / 2013 / 0514 / A1

MVM / 2013 / 0514 / FL

Stage Timings

Scenario 1: 'Scenario 1' (FG4: '2017 Base PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	26	0	23	7
Change Point	0	35	44	74

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LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	50.3%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	50.3%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	35	4	389	1965:1734	821	47.4%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	42	-	514	1965:1775	1021	50.3%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	30:25	-	281	1797:1830	586	48.0%
4/1		U	N/A	N/A	-		-	-	-	535	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	51	4	2	6.0	1.4	0.0	7.4	-	-	-	-
Unnamed Junction	-	-	51	4	2	6.0	1.4	0.0	7.4	-	-	-	-
1/1+1/2	389	389	51	4	2	2.1	0.4	0.0	2.5	23.3	5.9	0.4	6.4
2/2+2/1	514	514	-	-	-	2.1	0.5	-	2.6	17.9	5.3	0.5	5.8
3/1+3/2	281	281	-	-	-	1.9	0.5	-	2.3	30.0	4.2	0.5	4.6
4/1	535	535	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	264	264	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 78.8
PRC Over All Lanes (%): 78.8

Total Delay for Signalled Lanes (pcuHr): 7.42
Total Delay Over All Lanes(pcuHr): 7.42

Cycle Time (s): 90

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APPENDIX E

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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RELEASE 3.0 (JUNE 2006)

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Run with file:-
"K:\Transport Projects\47062865 - Whitby Business Park\PICADY\Stainsacre Cholmley Way Junction 2017 Base.vpi"
(drive-on-the-left) at 13:52:00 on Thursday, 29 November 2012

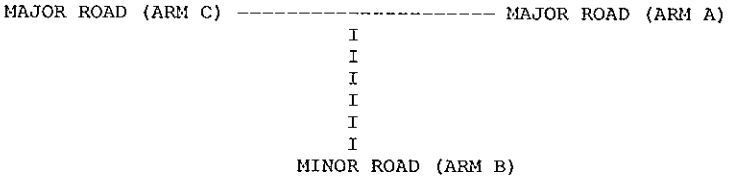
RUN INFORMATION
****

RUN TITLE: A171 Stainsacre Lane j/w Cholmley Way
LOCATION: Whitby
DATE: 19/11/12
CLIENT: SBC
ENUMERATOR: 34338js [UK1001927D]
JOB NUMBER:
STATUS:
DESCRIPTION:

NYMNPA
25 JUL 2013

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A171 Stainsacre Lane (N)
ARM B IS Cholmley Way
ARM C IS Stainsacre Lane (S)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

NYM / 2013 / 0514 / FL 4

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.80 M.
- VISIBILITY	(VC-B)	250.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	126.0 M.
- VISIBILITY TO RIGHT	(VB-A)	27.0 M.
- LANE 1 WIDTH	(WB-C)	-
- LANE 2 WIDTH	(WB-A)	-
- WIDTH AT 0 M FROM JUNC.		10.00 M.
- WIDTH AT 5 M FROM JUNC.		7.15 M.
- WIDTH AT 10 M FROM JUNC.		4.71 M.
- WIDTH AT 15 M FROM JUNC.		4.02 M.
- WIDTH AT 20 M FROM JUNC.		3.94 M.
- LENGTH OF FLARED SECTION		2 VEHS

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

NYMANPA 25 JUL 2013

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2013 / 0514 / F1

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.70	8.55	5.70
ARM B	15.00	45.00	75.00	0.56	0.84	0.56
ARM C	15.00	45.00	75.00	5.53	8.29	5.53

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.103	0.897
		0.0	47.0	409.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.556	0.000	0.444
		25.0	0.0	20.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.980	0.020	0.000
		433.0	9.0	0.0
		(10.0)	(10.0)	(0.0)

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25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.25	8.66	0.029		0.00	0.03	0.4		0.12
B-A	0.31	6.42	0.049		0.00	0.05	0.7		0.16
C-A	5.43								
C-B	0.11	9.94	0.011		0.00	0.01	0.2		0.10
A-B	0.59								
A-C	5.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.30	8.37	0.036		0.03	0.04	0.5		0.12
B-A	0.37	5.97	0.063		0.05	0.07	1.0		0.18
C-A	6.49								
C-B	0.13	9.62	0.014		0.01	0.01	0.2		0.11
A-B	0.70								
A-C	6.13								

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.37	7.96	0.046		0.04	0.05	0.7		0.13
B-A	0.46	5.35	0.086		0.07	0.09	1.3		0.20
C-A	7.95								
C-B	0.17	9.17	0.018		0.01	0.02	0.3		0.11
A-B	0.86								
A-C	7.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.37	7.96	0.046		0.05	0.05	0.7		0.13
B-A	0.46	5.35	0.086		0.09	0.09	1.4		0.20
C-A	7.95								
C-B	0.17	9.17	0.018		0.02	0.02	0.3		0.11
A-B	0.86								
A-C	7.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.30	8.37	0.036		0.05	0.04	0.6		0.12
B-A	0.37	5.97	0.063		0.09	0.07	1.0		0.18
C-A	6.49								
C-B	0.13	9.62	0.014		0.02	0.01	0.2		0.11
A-B	0.70								
A-C	6.13								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.25	8.66	0.029		0.04	0.03	0.5		0.12
B-A	0.31	6.42	0.049		0.07	0.05	0.8		0.16
C-A	5.43								
C-B	0.11	9.94	0.011		0.01	0.01	0.2		0.10
A-B	0.59								
A-C	5.13								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

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25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1
09.45	0.1

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QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	27.5	18.4	3.4	0.12	3.4	0.12
B-A	34.4	22.9	6.3	0.18	6.3	0.18
C-A	596.0	397.3				
C-B	12.4	8.3	1.3	0.11	1.3	0.11
A-B	64.7	43.1				
A-C	563.0	375.3				
ALL	1298.0	865.3	11.0	0.01	11.0	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

NYMNPA
25 JUL 2013

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2013 / D 5 1 4 / F L

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way Demand Set

TIME PERIOD BEGINS 15.45 AND ENDS 17.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.39	9.58	6.39
ARM B	15.00	45.00	75.00	0.57	0.86	0.57
ARM C	15.00	45.00	75.00	6.68	10.01	6.68

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
15.45 - 17.15	ARM A	0.000	0.029	0.971
		0.0	15.0	496.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.565	0.000	0.435
		26.0	0.0	20.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.978	0.022	0.000
		522.0	12.0	0.0
		(10.0)	(10.0)	(0.0)

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25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.25	8.38	0.030		0.00	0.03	0.4		0.12
B-A	0.33	6.01	0.054		0.00	0.06	0.8		0.18
C-A	6.55								
C-B	0.15	9.74	0.015		0.00	0.02	0.2		0.10
A-B	0.19								
A-C	6.22								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.30	8.04	0.037		0.03	0.04	0.6		0.13
B-A	0.39	5.47	0.071		0.06	0.08	1.1		0.20
C-A	7.82								
C-B	0.18	9.38	0.019		0.02	0.02	0.3		0.11
A-B	0.22								
A-C	7.43								

NYM / 2013 / 0514 / FL

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.37	7.56	0.049		0.04	0.05	0.7		0.14
B-A	0.48	4.72	0.101		0.08	0.11	1.6		0.24
C-A	9.58								
C-B	0.22	8.88	0.025		0.02	0.03	0.4		0.12
A-B	0.28								
A-C	9.10								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.37	7.56	0.049		0.05	0.05	0.8		0.14
B-A	0.48	4.72	0.101		0.11	0.11	1.7		0.24
C-A	9.58								
C-B	0.22	8.88	0.025		0.03	0.03	0.4		0.12
A-B	0.28								
A-C	9.10								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.30	8.04	0.037		0.05	0.04	0.6		0.13
B-A	0.39	5.47	0.071		0.11	0.08	1.2		0.20
C-A	7.82								
C-B	0.18	9.38	0.019		0.03	0.02	0.3		0.11
A-B	0.22								
A-C	7.43								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.25	8.38	0.030		0.04	0.03	0.5		0.12
B-A	0.33	6.01	0.054		0.08	0.06	0.9		0.18
C-A	6.55								
C-B	0.15	9.74	0.015		0.02	0.02	0.2		0.10
A-B	0.19								
A-C	6.22								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.1
16.45	0.1
17.00	0.0
17.15	0.0

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25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.1
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1

NYM / 2013 / 0514 / F1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	27.5	18.4	3.6	0.13	3.6	0.13
B-A	35.8	23.9	7.3	0.20	7.3	0.20
C-A	718.5	479.0				
C-B	16.5	11.0	1.8	0.11	1.8	0.11
A-B	20.6	13.8				
A-C	682.7	455.1				
ALL	1501.7	1001.1	12.7	0.01	12.7	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 13:52:41 on 29/11/2012]

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25 JUL 2013

NYM / 2013 / 0514 / F

APPENDIX F

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

Stage Timings

Scenario 1: 'Scenario 1' (FG5: '2017 AM Peak Sensitivity Test 80% Cholmley Way', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	38	0	11	7
Change Point	0	47	56	74

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25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	34.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	34.4%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	47	4	349	1965:1734	1068	32.7%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	54	-	394	1965:1775	1242	31.7%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	18:13	-	118	1797:1630	343	34.4%
4/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	153	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	35	3	1	3.0	0.7	0.0	3.8	-	-	-	-
Unnamed Junction	-	-	35	3	1	3.0	0.7	0.0	3.8	-	-	-	-
1/1+1/2	349	349	35	3	1	1.1	0.2	0.0	1.4	14.0	4.2	0.2	4.5
2/2+2/1	394	394	-	-	-	0.8	0.2	-	1.1	9.9	3.1	0.2	3.3
3/1+3/2	118	118	-	-	-	1.1	0.3	-	1.3	40.2	1.9	0.3	2.1
4/1	395	395	-	-	-	0.0	0.0	-	0 0	0.0	0.0	0.0	0.0
5/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	153	153	-	-	-	0.0	0.0	-	0 0	0.0	0.0	0.0	0 0

C1

PRC for Signalled Lanes (%): 162.0
PRC Over All Lanes (%): 162.0

Total Delay for Signalled Lanes (pcuHr): 3.75
Total Delay Over All Lanes(pcuHr): 3.75

Cycle Time (s): 90

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL 1

L...Sig V1 style report

Stage Timings

Scenario 1: 'Scenario 1' (FG6: '2017 PM Peak Sensitivity Test 80% Cholmley Way', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	26	0	23	7
Change Point	0	35	44	74

NYMNPA
25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	51.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	51.4%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	35	4	342	1965:1734	827	41.3%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	42	-	524	1965:1775	1019	51.4%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	30:25	-	281	1797:1830	586	48.0%
4/1		U	N/A	N/A	-		-	-	-	488	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	51	4	2	5.8	1.3	0.0	7.1	-	-	-	-
Unnamed Junction	-	-	51	4	2	5.8	1.3	0.0	7.1	-	-	-	-
1/1+1/2	342	342	51	4	2	1.8	0.4	0.0	2.1	22.3	5.0	0.4	5.3
2/2+2/1	524	524	-	-	-	2.1	0.5	-	2.6	18.1	5.7	0.5	6.2
3/1+3/2	281	281	-	-	-	1.9	0.5	-	2.3	30.0	4.2	0.5	4.6
4/1	488	488	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	264	264	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 74.9 Total Delay for Signalled Lanes (pcuHr): 7.11 Cycle Time (s): 90
PRC Over All Lanes (%): 74.9 Total Delay Over All Lanes(pcuHr): 7.11

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NYM / 2013 / 0514 / 1

NYM / 2013 / 0514 / FL 1

APPENDIX G

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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Run with file:-
"K:\Transport Projects\47062865 - Whitby Business Park\PICADY\
Stainsacre Cholmley Way Junction 2017 80% Cholmley.vpi"
(drive-on-the-left) at 13:56:43 on Thursday, 29 November 2012

RUN INFORMATION
****

RUN TITLE: A171 Stainsacre Lane j/w Cholmley Way
LOCATION: Whitby
DATE: 19/11/12
CLIENT: SBC
ENUMERATOR: 34338js [UK1001927D]
JOB NUMBER:
STATUS:
DESCRIPTION:

NYMNPA
25 JUL 2013

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS A171 Stainsacre Lane (N)
ARM B IS Cholmley Way
ARM C IS Stainsacre Lane (S)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

NYM / 2013 / 0514 / FL

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.80 M.
- VISIBILITY	(VC-B)	250.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	126.0 M.
- VISIBILITY TO RIGHT	(VB-A)	27.0 M.
- LANE 1 WIDTH	(WB-C)	-
- LANE 2 WIDTH	(WB-A)	-
- WIDTH AT 0 M FROM JUNC.		10.00 M.
- WIDTH AT 5 M FROM JUNC.		7.15 M.
- WIDTH AT 10 M FROM JUNC.		4.71 M.
- WIDTH AT 15 M FROM JUNC.		4.02 M.
- WIDTH AT 20 M FROM JUNC.		3.94 M.
- LENGTH OF FLARED SECTION		2 VEHS

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

NYMNPA
25 JUL 2013

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2013 / 0514 / FL

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.70	8.55	5.70
ARM B	15.00	45.00	75.00	1.42	2.14	1.42
ARM C	15.00	45.00	75.00	4.94	7.41	4.94

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.248	0.752
		0.0	113.0	343.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.553	0.000	0.447
		63.0	0.0	51.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.947	0.053	0.000
		374.0	21.0	0.0
		(10.0)	(10.0)	(0.0)

NYMNPA
25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.64	8.63	0.074		0.00	0.08	1.2		
B-A	0.79	6.61	0.120		0.00	0.13	1.9		0.12
C-A	4.69								0.17
C-B	0.26	9.94	0.027		0.00	0.03	0.4		
A-B	1.42								0.10
A-C	4.30								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.76	8.33	0.092		0.08	0.10	1.5		
B-A	0.94	6.20	0.152		0.13	0.18	2.6		0.13
C-A	5.60								0.19
C-B	0.31	9.62	0.033		0.03	0.03	0.5		
A-B	1.69								0.11
A-C	5.14								

NYM / 2013 / 0514 / FL

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.94	7.89	0.119		0.10	0.13	1.9		0.14
B-A	1.16	5.63	0.205		0.18	0.25	3.7		0.22
C-A	6.86								
C-B	0.39	9.17	0.042		0.03	0.04	0.6		0.11
A-B	2.07								
A-C	6.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.94	7.89	0.119		0.13	0.13	2.0		0.14
B-A	1.16	5.63	0.205		0.25	0.26	3.8		0.22
C-A	6.86								
C-B	0.39	9.17	0.042		0.04	0.04	0.7		0.11
A-B	2.07								
A-C	6.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.76	8.32	0.092		0.13	0.10	1.6		0.13
B-A	0.94	6.20	0.152		0.26	0.18	2.8		0.19
C-A	5.60								
C-B	0.31	9.62	0.033		0.04	0.03	0.5		0.11
A-B	1.69								
A-C	5.14								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.64	8.63	0.074		0.10	0.08	1.2		0.13
B-A	0.79	6.61	0.120		0.18	0.14	2.1		0.17
C-A	4.69								
C-B	0.26	9.94	0.027		0.03	0.03	0.4		0.10
A-B	1.42								
A-C	4.30								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1
09.45	0.1

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25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	70.2	46.8	9.4	0.13	9.4	0.13
B-A	86.7	57.8	17.0	0.20	17.0	0.20
C-A	514.8	343.2				
C-B	28.9	19.3	3.1	0.11	3.1	0.11
A-B	155.5	103.7				
A-C	472.1	314.7				
ALL	1328.3	885.5	29.5	0.02	29.5	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2019 / 0514 / SL 4

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way Demand Set

TIME PERIOD BEGINS 15.45 AND ENDS 17.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.39	9.58	6.39
ARM B	15.00	45.00	75.00	1.69	2.53	1.69
ARM C	15.00	45.00	75.00	6.10	9.15	6.10

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
15.45 - 17.15	ARM A	0.000	0.090	0.910
		0.0	46.0	465.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.563	0.000	0.437
		76.0	0.0	59.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.926	0.074	0.000
		452.0	36.0	0.0
		(10.0)	(10.0)	(0.0)

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25 JUL 2019

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.74	8.23	0.090		0.00	0.10	1.4		0.13
B-A	0.95	6.09	0.156		0.00	0.18	2.6		0.19
C-A	5.67								
C-B	0.45	9.74	0.046		0.00	0.05	0.7		0.11
A-B	0.58								
A-C	5.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.88	7.83	0.113		0.10	0.13	1.8		0.14
B-A	1.14	5.57	0.204		0.18	0.25	3.7		0.23
C-A	6.77								
C-B	0.54	9.38	0.058		0.05	0.06	0.9		0.11
A-B	0.69								
A-C	6.97								

NYM / 2013 / 0514 / F1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	1.08	7.25	0.149		0.13	0.17	2.5		0.16
B-A	1.39	4.85	0.288		0.25	0.39	5.6		0.29
C-A	8.29								
C-B	0.66	8.88	0.074		0.06	0.08	1.2		0.12
A-B	0.84								
A-C	8.53								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	1.08	7.25	0.149		0.17	0.17	2.6		0.16
B-A	1.39	4.85	0.288		0.39	0.40	5.9		0.29
C-A	8.29								
C-B	0.66	8.88	0.074		0.08	0.08	1.2		0.12
A-B	0.84								
A-C	8.53								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.88	7.82	0.113		0.17	0.13	2.0		0.14
B-A	1.14	5.57	0.204		0.40	0.26	4.1		0.23
C-A	6.77								
C-B	0.54	9.38	0.058		0.08	0.06	0.9		0.11
A-B	0.69								
A-C	6.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.74	8.22	0.090		0.13	0.10	1.5		0.13
B-A	0.95	6.09	0.157		0.26	0.19	2.9		0.20
C-A	5.67								
C-B	0.45	9.74	0.046		0.06	0.05	0.7		0.11
A-B	0.58								
A-C	5.83								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.1
16.15	0.1
16.30	0.2
16.45	0.2
17.00	0.1
17.15	0.1

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.2
16.15	0.3
16.30	0.4
16.45	0.4
17.00	0.3
17.15	0.2

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25 JUL 2013

NYM / 2013 / 0514 / FL

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	81.2	54.1	11.9	0.15	11.9	0.15
B-A	104.6	69.7	24.8	0.24	24.8	0.24
C-A	622.1	414.8				
C-B	49.6	33.0	5.7	0.11	5.7	0.11
A-B	63.3	42.2				
A-C	640.0	426.7				
ALL	1560.9	1040.6	42.4	0.03	42.4	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 13:57:12 on 29/11/2012]

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25 JUL 2013

NYM / 2013 / 0514 / PL

APPENDIX H

NYMNPA
25 JUL 2013

NYM / 2013 / 0514 / FL

(Sig V1 style report

Stage Timings

Scenario 1: 'Scenario 1' (FG7: '2017 AM Peak Sensitivity Test 20% Cholmley Way', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	38	0	11	7
Change Point	0	47	56	74

NYMNPA
25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	37.2%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	37.2%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	47	4	396	1965:1734	1065	37.2%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	54	-	440	1965:1775	1236	35.6%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	18:13	-	118	1797:1830	343	34.4%
4/1		U	N/A	N/A	-		-	-	-	442	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	359	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	153	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	35	3	1	3.3	0.8	0.0	4.2	-	-	-	-
Unnamed Junction	-	-	35	3	1	3.3	0.8	0.0	4.2	-	-	-	-
1/1+1/2	396	396	35	3	1	1.3	0.3	0.0	1.6	14.5	5.1	0.3	5.4
2/2+2/1	440	440	-	-	-	1.0	0.3	-	1.2	10.2	3.7	0.3	4.0
3/1+3/2	118	118	-	-	-	1.1	0.3	-	1.3	40.2	1.9	0.3	2.1
4/1	442	442	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	359	359	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	153	153	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 142.0
PRC Over All Lanes (%): 142.0

Total Delay for Signalled Lanes (pcuHr): 4.16
Total Delay Over All Lanes(pcuHr): 4.16

Cycle Time (s): 90

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25 JUL 2013

NYM / 2013 / 0514 / A

NYM / 2013 / 0514 / F6

Stage Timings

Scenario 1: 'Scenario 1' (FG8: '2017 PM Peak Sensitivity Test 20% Cholmley Way', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	5
Duration	26	0	23	7
Change Point	0	35	44	74

NYMNPA
25 JUL 2013

LinSig V1 style report

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	50.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	50.4%
1/1+1/2	Stainsacre Lane (S) Ahead Right	U+O	N/A	N/A	A	F	1	35	4	394	1965:1734	820	48.0%
2/2+2/1	Stainsacre Lane (N) Ahead Left	U	N/A	N/A	B C		1	42	-	515	1965:1775	1021	50.4%
3/1+3/2	Sainsburys Access Right Left	U	N/A	N/A	E D		1	30:25	-	281	1797:1830	586	48.0%
4/1		U	N/A	N/A	-		-	-	-	540	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	386	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	51	4	2	6.0	1.4	0.0	7.5	-	-	-	-
Unnamed Junction	-	-	51	4	2	6.0	1.4	0.0	7.5	-	-	-	-
1/1+1/2	394	394	51	4	2	2.1	0.5	0.0	2.6	23.4	6.1	0.5	6.5
2/2+2/1	515	515	-	-	-	2.1	0.5	-	2.6	18.0	5.3	0.5	5.8
3/1+3/2	281	281	-	-	-	1.9	0.5	-	2.3	30.0	4.2	0.5	4.6
4/1	540	540	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	386	386	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	264	264	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 78.4
PRC Over All Lanes (%): 78.4

Total Delay for Signalled Lanes (pcuHr): 7.48
Total Delay Over All Lanes(pcuHr): 7.48

Cycle Time (s): 90

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25 JUL 2013

NYM / 2013 / 0514 / FUL

APPENDIX I

NYMNPA
25 JUL 2013

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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Run with file:-
"K:\Transport Projects\47062865 - Whitby Business Park\PICADY\
Stainsacre Cholmley Way Junction 2017 20% Cholmley.vpi"
(drive-on-the-left) at 13:58:10 on Thursday, 29 November 2012

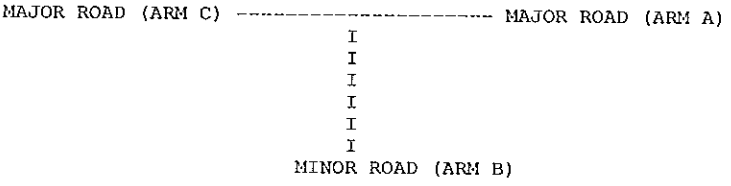
RUN INFORMATION
****

RUN TITLE: A171 Stainsacre Lane j/w Cholmley Way
LOCATION: Whitby
DATE: 19/11/12
CLIENT: SBC
ENUMERATOR: 34338js [UK1001927D]
JOB NUMBER:
STATUS:
DESCRIPTION:

NYMNPA
25 JUL 2013

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A171 Stainsacre Lane (N)
ARM B IS Cholmley Way
ARM C IS Stainsacre Lane (S)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

MYM-L-2013 / 0 5 1 4 / P L

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.80 M.
- VISIBILITY	(VC-B)	250.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	126.0 M.
- VISIBILITY TO RIGHT	(VB-A)	27.0 M.
- LANE 1 WIDTH	(WB-C)	-
- LANE 2 WIDTH	(WB-A)	-
- WIDTH AT 0 M FROM JUNC.		10.00 M.
- WIDTH AT 5 M FROM JUNC.		7.15 M.
- WIDTH AT 10 M FROM JUNC.		4.71 M.
- WIDTH AT 15 M FROM JUNC.		4.02 M.
- WIDTH AT 20 M FROM JUNC.		3.94 M.
- LENGTH OF FLARED SECTION		2 VEHS

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYMNPA
25 JUL 2013

NYM / 2013 / 0514

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.70	8.55	5.70
ARM B	15.00	45.00	75.00	0.36	0.54	0.36
ARM C	15.00	45.00	75.00	5.53	8.29	5.53

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.064	0.936
		0.0	29.0	427.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.552	0.000	0.448
		16.0	0.0	13.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.989	0.011	0.000
		437.0	5.0	0.0
		(10.0)	(10.0)	(0.0)

NYMNPA
25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.16	8.67	0.019		0.00	0.02	0.3		0.12
B-A	0.20	6.39	0.031		0.00	0.03	0.5		0.16
C-A	5.48								
C-B	0.06	9.94	0.006		0.00	0.01	0.1		0.10
A-B	0.36								
A-C	5.36								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.19	8.39	0.023		0.02	0.02	0.3		0.12
B-A	0.24	5.93	0.040		0.03	0.04	0.6		0.18
C-A	6.55								
C-B	0.07	9.62	0.008		0.01	0.01	0.1		0.10
A-B	0.43								
A-C	6.40								

NYM / 2013 / 0514 / FL

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.24	7.98	0.030		0.02	0.03	0.4		0.13
B-A	0.29	5.30	0.055		0.04	0.06	0.8		0.20
C-A	8.02								
C-B	0.09	9.17	0.010		0.01	0.01	0.1		0.11
A-B	0.53								
A-C	7.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.24	7.98	0.030		0.03	0.03	0.5		0.13
B-A	0.29	5.30	0.055		0.06	0.06	0.9		0.20
C-A	8.02								
C-B	0.09	9.17	0.010		0.01	0.01	0.2		0.11
A-B	0.53								
A-C	7.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.19	8.38	0.023		0.03	0.02	0.4		0.12
B-A	0.24	5.93	0.040		0.06	0.04	0.7		0.18
C-A	6.55								
C-B	0.07	9.62	0.008		0.01	0.01	0.1		0.10
A-B	0.43								
A-C	6.40								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.16	8.67	0.019		0.02	0.02	0.3		0.12
B-A	0.20	6.39	0.031		0.04	0.03	0.5		0.16
C-A	5.48								
C-B	0.06	9.94	0.006		0.01	0.01	0.1		0.10
A-B	0.36								
A-C	5.36								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

NYMNPA
25 JUL 2013

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.1
09.15	0.1
09.30	0.0
09.45	0.0

NYM/2013/0514/F1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	17.9	11.9	2.2	0.12	2.2	0.12
B-A	22.0	14.7	3.9	0.18	3.9	0.18
C-A	601.5	401.0				
C-B	6.9	4.6	0.7	0.11	0.7	0.11
A-B	39.9	26.6				
A-C	587.7	391.8				
ALL	1275.9	850.6	6.9	0.01	6.9	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

NYMNPA
25 JUL 2013

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
589.60	0.22	0.09

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
489.07	0.22	0.09	0.14	0.31

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
765.67	0.29	0.29

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

NYM / 2013 / 0514 / 4

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: A171 Stainsacre Lane j/w Cholmley Way Demand Set

TIME PERIOD BEGINS 15.45 AND ENDS 17.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.39	9.58	6.39
ARM B	15.00	45.00	75.00	0.43	0.64	0.43
ARM C	15.00	45.00	75.00	6.75	10.13	6.75

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
15.45 - 17.15	ARM A	0.000	0.022	0.978
		0.0	11.0	500.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.559	0.000	0.441
		19.0	0.0	15.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.983	0.017	0.000
		531.0	9.0	0.0
		(10.0)	(10.0)	(0.0)

NYM ANPA
25 JUL 2013

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.19	8.43	0.022		0.00	0.02	0.3		0.12
B-A	0.24	5.98	0.040		0.00	0.04	0.6		0.17
C-A	6.66								
C-B	0.11	9.74	0.012		0.00	0.01	0.2		0.10
A-B	0.14								
A-C	6.27								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.22	8.09	0.028		0.02	0.03	0.4		0.13
B-A	0.28	5.44	0.052		0.04	0.05	0.8		0.19
C-A	7.96								
C-B	0.13	9.38	0.014		0.01	0.01	0.2		0.11
A-B	0.16								
A-C	7.49								

NYM / 2013 / 0514 / F1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.28	7.62	0.036		0.03	0.04	0.5		0.14
B-A	0.35	4.69	0.074		0.05	0.08	1.1		0.23
C-A	9.74								
C-B	0.17	8.88	0.019		0.01	0.02	0.3		0.11
A-B	0.20								
A-C	9.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.28	7.62	0.036		0.04	0.04	0.6		0.14
B-A	0.35	4.69	0.074		0.08	0.08	1.2		0.23
C-A	9.74								
C-B	0.17	8.88	0.019		0.02	0.02	0.3		0.11
A-B	0.20								
A-C	9.18								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.22	8.09	0.028		0.04	0.03	0.4		0.13
B-A	0.28	5.44	0.052		0.08	0.06	0.9		0.19
C-A	7.96								
C-B	0.13	9.38	0.014		0.02	0.01	0.2		0.11
A-B	0.16								
A-C	7.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	0.19	8.42	0.022		0.03	0.02	0.4		0.12
B-A	0.24	5.98	0.040		0.06	0.04	0.6		0.17
C-A	6.66								
C-B	0.11	9.74	0.012		0.01	0.01	0.2		0.10
A-B	0.14								
A-C	6.27								

NYMINPA
25 JUL 2013

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.1
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.0

NYM / 2013 / 0514 / FL 4

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0
17.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	20.6	13.8	2.6	0.13	2.6	0.13
B-A	26.2	17.4	5.2	0.20	5.2	0.20
C-A	730.9	487.3				
C-B	12.4	8.3	1.3	0.11	1.3	0.11
A-B	15.1	10.1				
A-C	688.2	458.8				
ALL	1493.4	995.6	9.2	0.01	9.2	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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NYMNPA
25 JUL 2013