

12/01882/OUT

LAND AT MAYNARD TERRACE, CLUTTON ADDENDUM TO TRANSPORT ASSESSMENT

Introduction

A planning application for the residential development of land at Maynard Terrace, Clutton was submitted at the end of April 2012. The planning application reference number is 12/01882/OUT.

Local residents have subsequently challenged the validity of the traffic survey data used within the Transport Assessment submitted as part of the application. This Addendum reviews the issues raised and updates the original report accordingly.

July 2010 Traffic Survey

FMW Consultancy Ltd commissioned PCC Traffic Information Consultancy Ltd to undertake a fully classified turning count survey of the Station Road / Clutton Hill / Maynard Terrace junction in Clutton. The survey was undertaken on 13th July 2010 with the results of the survey being used within the assessments of the traffic impact associated with the proposed development.

Local residents have subsequently undertaken their own survey of traffic flows on Clutton Hill and found these to be much higher than those identified from the July 2010 traffic survey. In light of this, FMW asked the traffic survey company to check the accuracy of the original survey data which identified an error in the labelling of the approaches to the junction (see email attached as **Appendix A** of this Addendum).

It would appear that the turning movements recorded were correct but that these were inadvertently recorded against the wrong approach names. Clutton Hill flows should have been Maynard Terrace, Maynard Terrace flows should have been Station Road and Station Road flows should have been Clutton Hill. The survey company has now corrected this error and provided revised results as attached as part of Appendix A.

Implications on Junction Assessments

Revised traffic flow diagrams for the 2010 base year (Figure 2.2a), the 2012 / 2017 'without development' scenario (Figure 6.1a) and the 2012 / 2017 'with development' scenario (Figure 6.2a) are attached as **Appendix B**.

These revised flows have been rerun through the PICADY models of both the existing Station Road / Clutton Hill / Maynard Terrace junction arrangement for the 'without development' scenarios, and for the proposed reconfiguration of the junction arrangement for the 'with development' scenario. The results are summarised in the Table overleaf with the full PICADY outputs being attached as **Appendix C**.

Scenario	Road	RFC (%)		Average Delay (min/veh)		Max Queue Length (vehs)	
		AM	PM	AM	PM	AM	PM
2012 Base Flows	Clutton Hill	-	-	-	-	-	-
	Site Access Road (Maynard Terrace)	9.1	4.2	0.12	0.12	0.10	0.04
	Station Road	2.4	7.2	0.11	0.10	0.03	0.09
2017 Base Flows	Clutton Hill	-	-	-	-	-	-
	Site Access Road (Maynard Terrace)	10.0	4.6	0.13	0.13	0.11	0.05
	Station Road	2.6	7.8	0.11	0.10	0.03	0.10
2017 Base Flows + Dev.	Station Road	-	-	-	-	-	-
	Clutton Hill	20.9	13.5	0.17	0.15	0.26	0.16
	Site Access Road (Maynard Terrace)	2.4	2.4	0.11	0.11	0.03	0.03

The results indicate that in 2017, post development of the Maynard Terrace site, the reconfigured Station Road / Clutton Hill / Maynard Terrace junction will operate with a Ratio of Flow to Capacity of just under 21%. A value of 85% is normally taken as being the maximum permissible to ensure appropriate levels of operational capacity. Average delay on Clutton Hill is approximately 10 seconds per vehicle with queue lengths never extending beyond one vehicle. The reconfigured junction will therefore operate satisfactorily in terms of the volume of traffic that will pass through it post development.

An independent Stage 1 Road Safety Audit has also been undertaken and agreed with the Highway Authority. This identified no specific road safety implications associated with the proposed reconfiguration of the Station Road / Clutton Hill / Maynard Terrace junction.

Summary

The original traffic survey on which the Transport Assessment was based has been found to be in error. This has now been corrected and the junction assessments revisited accordingly. The revised results indicate that the conclusions of the original Transport Assessment remain unaltered, i.e. the proposed reconfiguration of the Station Road / Clutton Hill / Maynard Terrace junction will provide sufficient mitigation to offset the impacts of the proposed 36 residential units accessed via Maynard Terrace.

APPENDIX A
CORRESPONDENCE WITH TRAFFIC SURVEY COMPANY

Agnieszka Szewczak

From: David Hayman [dave@pcctic.com]
Sent: 28 May 2012 12:11
To: Chris Miles
Subject: Clutton survey results
Attachments: 0434 Clutton Junction 2.xlsm

To Whom it may concern,

Following concerns recently raised regarding the accuracy of the classified turning movement count traffic survey we undertook for FMW Consultancy Ltd at the Clutton Hill / Maynard Terrace / Station Road junction, Clutton, Somerset on 13th July 2010, we have revisited the field sheets collated at the survey site to check the results previously presented. It would appear that although the turning movements were recorded correctly, they were inadvertently assigned to the wrong approaches. The vehicle numbers previously assigned to Clutton Hill should have been assigned to Maynard Terrace, the vehicle numbers previously assigned to Maynard Terrace should have been assigned to Station Road and the vehicle numbers previously assigned to Station Road should have been assigned to Clutton Hill. The attached spread sheet contains the corrected turning movement count data and please accept our apologies for this oversight.

Kind regards
David.

David Hayman
Director

PCC Traffic Information Consultancy Ltd
The American Barns, Banbury Road, Warwick,
Warwickshire CV35 0AE

Tel: 01926 650330



PCC Clutton - Manual Traffic Survey, Tuesday 13th July 2010



Junction: (2) Clutton Hill / Maynard Terrace / Station Road

Approach: Clutton Hill

TIME	Left to Maynard Terrace				Straight ahead to Station Road					
	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL
0700 - 0715	0	0	0	0	0	0	0	12	0	12
0715 - 0730	0	0	0	0	0	0	0	9	0	9
0730 - 0745	0	0	2	0	2	0	0	15	1	16
0745 - 0800	0	0	1	0	1	0	0	13	0	13
Hourly Total	0	0	3	0	3	0	0	49	1	50
0800 - 0815	0	0	1	0	1	0	0	13	0	13
0815 - 0830	0	0	1	0	1	0	0	14	2	16
0830 - 0845	1	0	0	0	1	0	0	27	0	27
0845 - 0900	1	0	0	0	1	0	0	17	0	17
Hourly Total	2	0	2	0	4	0	0	71	2	73
0900 - 0915	0	0	0	0	0	0	0	12	0	12
0915 - 0930	1	0	2	0	3	0	0	9	0	9
0930 - 0945	0	0	1	0	1	1	0	7	0	8
0945 - 1000	0	0	0	0	0	0	0	8	0	8
Hourly Total	1	0	3	0	4	1	0	36	0	37
Session Total	3	0	8	0	11	1	0	156	3	160
1600 - 1615	0	0	1	0	1	0	1	8	1	10
1615 - 1630	0	0	0	0	0	0	0	9	0	9
1630 - 1645	0	0	1	0	1	0	0	12	1	13
1645 - 1700	0	0	1	0	1	1	0	12	0	13
Hourly Total	0	0	3	0	3	1	1	41	2	45
1700 - 1715	0	0	6	0	6	1	0	13	0	14
1715 - 1730	0	0	1	0	1	0	0	5	0	5
1730 - 1745	0	0	1	0	1	0	0	7	3	10
1745 - 1800	0	0	2	0	2	0	0	10	0	10
Hourly Total	0	0	10	0	10	1	0	35	3	39
1800 - 1815	0	0	0	0	0	0	0	10	0	10
1815 - 1830	0	0	0	0	0	0	0	10	0	10
1830 - 1845	0	0	1	0	1	0	0	17	0	17
1845 - 1900	0	0	1	0	1	0	0	8	0	8
Hourly Total	0	0	2	0	2	0	0	45	0	45
Session Total	0	0	15	0	15	2	1	121	5	129

Junction: (2) Clutton Hill / Maynard Terrace / Station Road

Approach: Maynard Terrace

TIME	Left to Station Road					Right to Clutton Hill				
	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL
0700 - 0715	0	0	2	0	2	0	0	3	0	3
0715 - 0730	1	0	1	0	2	0	0	1	0	1
0730 - 0745	0	0	3	0	3	0	0	0	0	0
0745 - 0800	3	0	4	1	8	0	0	1	0	1
Hourly Total	4	0	10	1	15	0	0	5	0	5
0800 - 0815	9	0	11	0	20	0	0	1	0	1
0815 - 0830	1	0	7	0	8	0	0	2	0	2
0830 - 0845	4	0	7	1	12	0	1	3	1	5
0845 - 0900	3	0	7	0	10	0	0	2	0	2
Hourly Total	17	0	32	1	50	0	1	8	1	10
0900 - 0915	0	0	5	0	5	0	0	1	0	1
0915 - 0930	2	0	6	0	8	0	0	3	0	3
0930 - 0945	4	0	1	0	5	0	0	2	0	2
0945 - 1000	3	0	4	0	7	0	0	2	0	2
Hourly Total	9	0	16	0	25	0	0	8	0	8
Session Total	30	0	58	2	90	0	1	21	1	23
1600 - 1615	0	0	0	0	0	0	0	1	0	1
1615 - 1630	0	0	1	0	1	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	1	0	1	0	0	1	0	1
Hourly Total	0	0	2	0	2	0	0	2	0	2
1700 - 1715	0	0	5	0	5	0	0	1	0	1
1715 - 1730	1	2	4	0	7	0	0	0	0	0
1730 - 1745	3	0	0	0	3	0	0	2	0	2
1745 - 1800	1	0	1	0	2	0	0	3	0	3
Hourly Total	5	2	10	0	17	0	0	6	0	6
1800 - 1815	0	0	0	0	0	0	0	3	0	3
1815 - 1830	2	2	0	0	4	1	0	3	0	4
1830 - 1845	0	1	4	0	5	0	0	2	0	2
1845 - 1900	0	0	3	0	3	0	0	0	0	0
Hourly Total	2	3	7	0	12	1	0	8	0	9
Session Total	7	5	19	0	31	1	0	16	0	17

PCC Clutton - Manual Traffic Survey, Tuesday 13th July 2010



Junction: (2) Clutton Hill / Maynard Terrace / Station Road

Approach: Station Road

TIME	Straight ahead to Clutton Hill				Right to Maynard Terrace					
	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL	PEDS	P/CYCLE	LIGHT	HEAVY	TOTAL
0700 - 0715	0	0	7	1	8	3	0	0	0	3
0715 - 0730	0	0	3	0	3	1	0	0	0	1
0730 - 0745	0	0	11	0	11	1	0	1	0	2
0745 - 0800	0	0	10	1	11	0	0	2	0	2
Hourly Total	0	0	31	2	33	5	0	3	0	8
0800 - 0815	0	0	14	3	17	0	0	2	0	2
0815 - 0830	0	0	8	0	8	0	0	1	0	1
0830 - 0845	0	0	12	0	12	0	0	2	1	3
0845 - 0900	0	0	9	0	9	2	0	5	0	7
Hourly Total	0	0	43	3	46	2	0	10	1	13
0900 - 0915	0	0	8	0	8	3	0	2	0	5
0915 - 0930	0	0	9	0	9	0	0	0	0	0
0930 - 0945	0	0	7	0	7	25	0	3	0	28
0945 - 1000	0	0	6	0	6	0	0	3	0	3
Hourly Total	0	0	30	0	30	28	0	8	0	36
Session Total	0	0	104	5	109	35	0	21	1	57
1600 - 1615	0	0	15	0	15	11	0	4	0	15
1615 - 1630	0	0	13	2	15	6	0	1	0	7
1630 - 1645	0	0	17	1	18	3	1	3	0	7
1645 - 1700	0	0	10	0	10	0	0	6	0	6
Hourly Total	0	0	55	3	58	20	1	14	0	35
1700 - 1715	1	0	10	0	11	1	0	2	0	3
1715 - 1730	0	0	8	0	8	0	0	7	0	7
1730 - 1745	0	0	7	0	7	0	0	4	0	4
1745 - 1800	0	0	21	0	21	1	3	5	0	9
Hourly Total	1	0	46	0	47	2	3	18	0	23
1800 - 1815	0	0	17	0	17	1	2	6	0	9
1815 - 1830	0	2	13	0	15	1	2	8	0	11
1830 - 1845	0	1	12	1	14	0	2	7	0	9
1845 - 1900	0	0	15	0	15	1	1	3	0	5
Hourly Total	0	3	57	1	61	3	7	24	0	34
Session Total	1	3	158	4	166	25	11	56	0	92

APPENDIX B
REVISED TRAFFIC FLOW DIAGRAMS

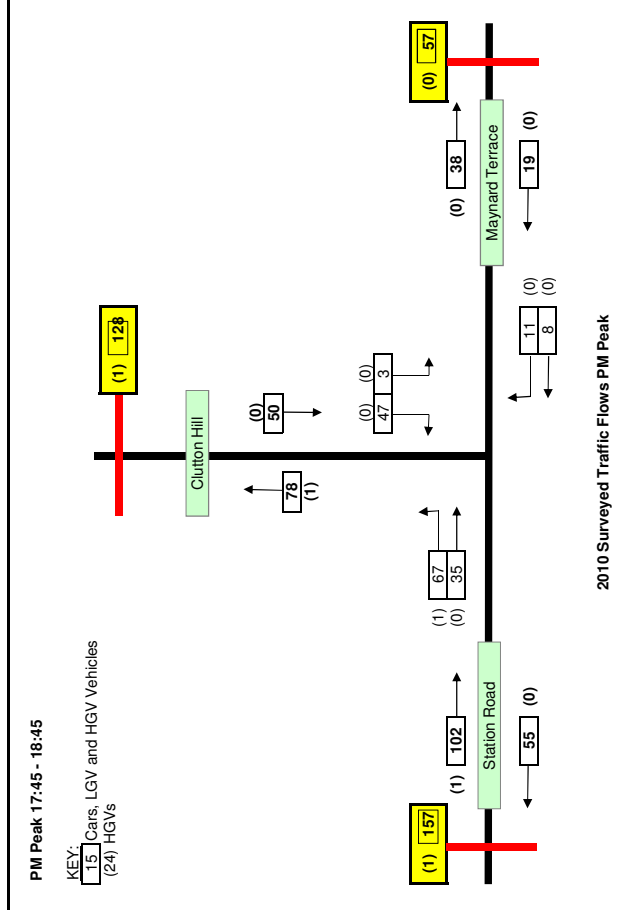
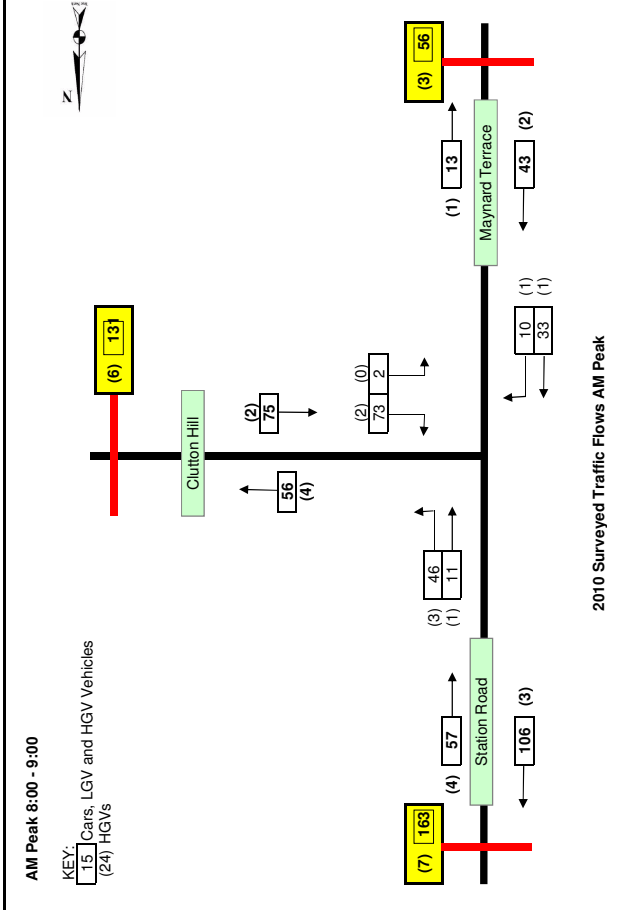
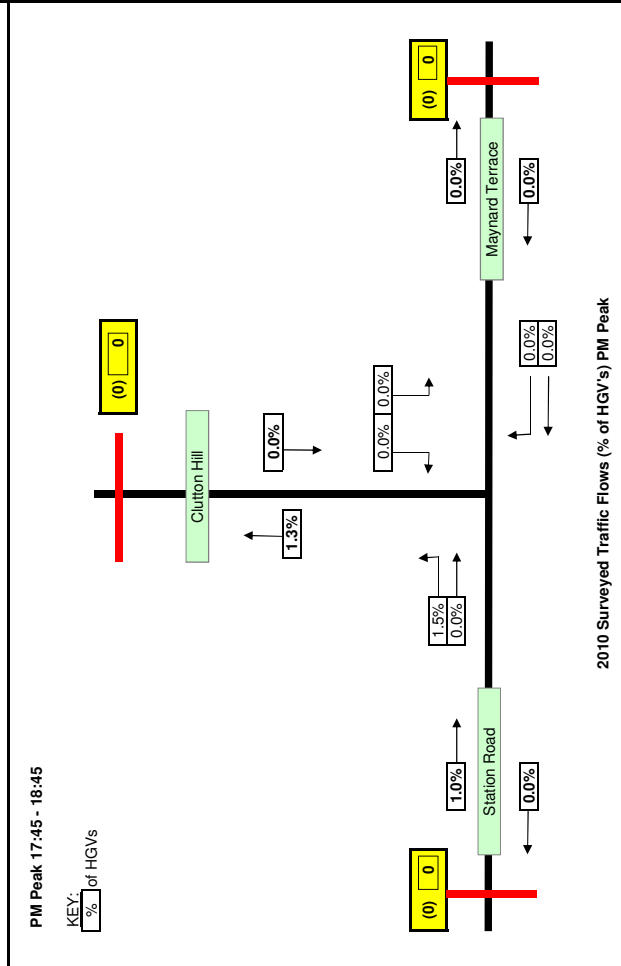
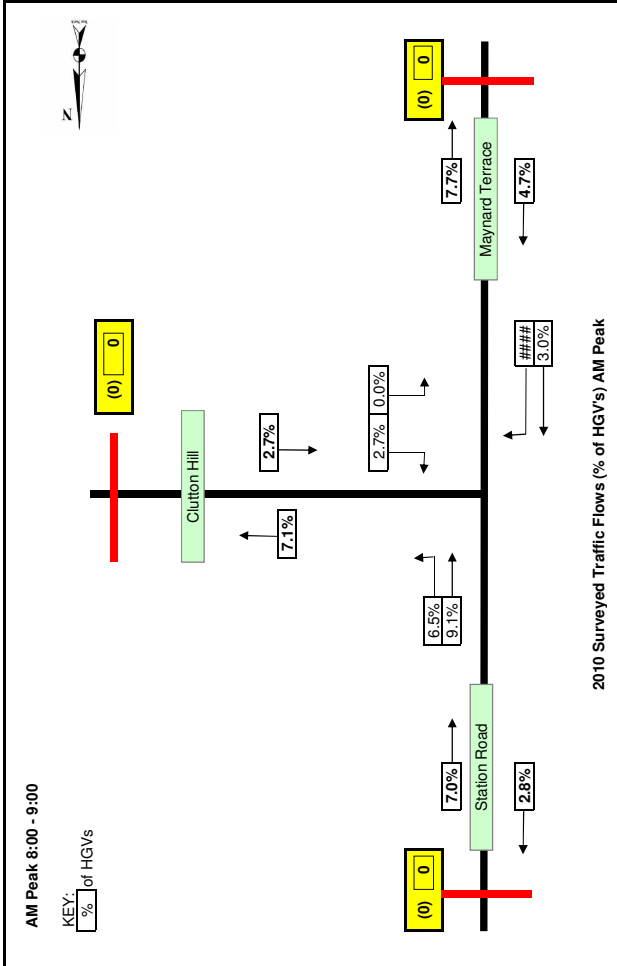


Figure 2.2a - Surveyed Traffic Flows (Maynard Terrace)

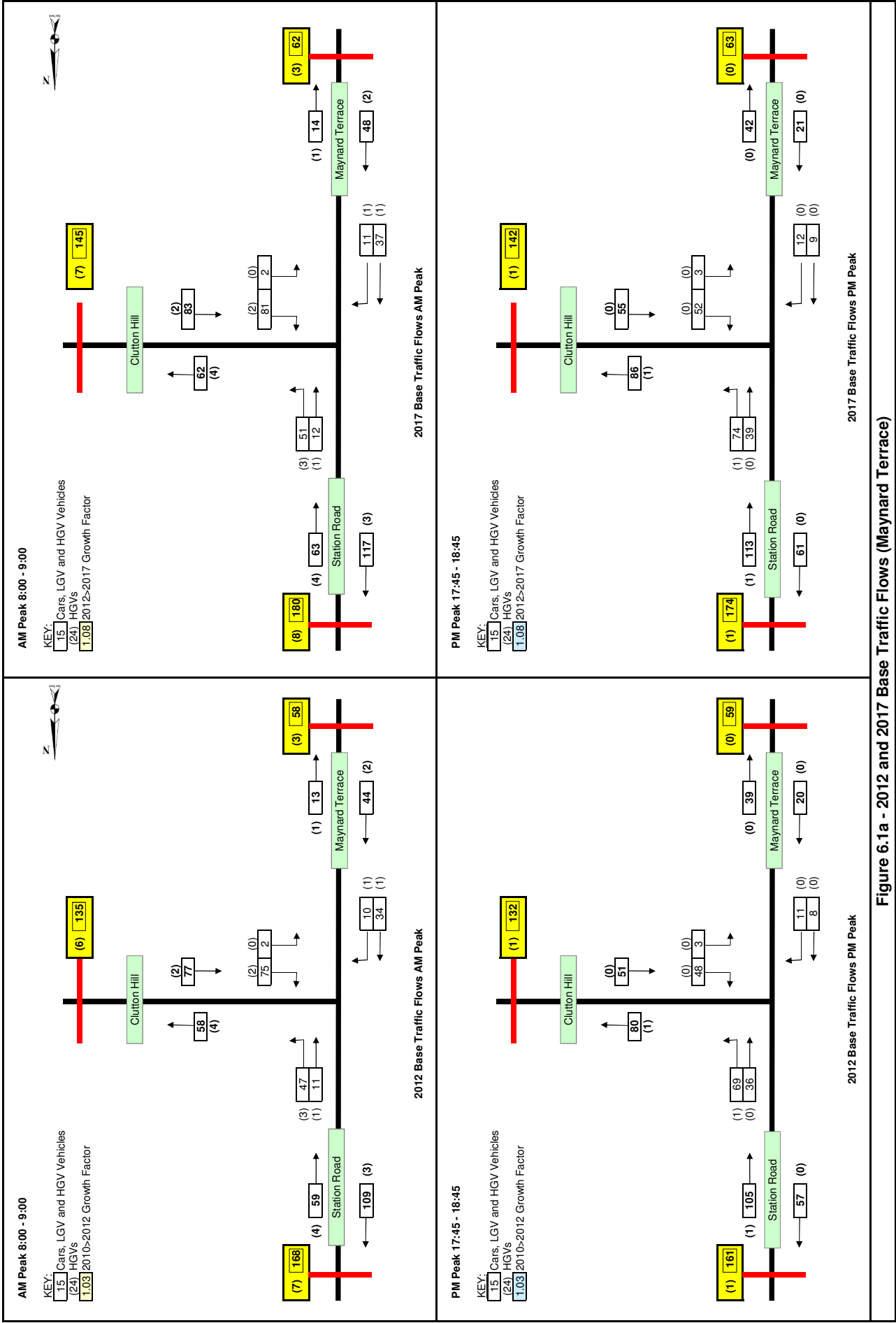


Figure 6.1a - 2012 and 2017 Base Traffic Flows (Maynard Terrace)

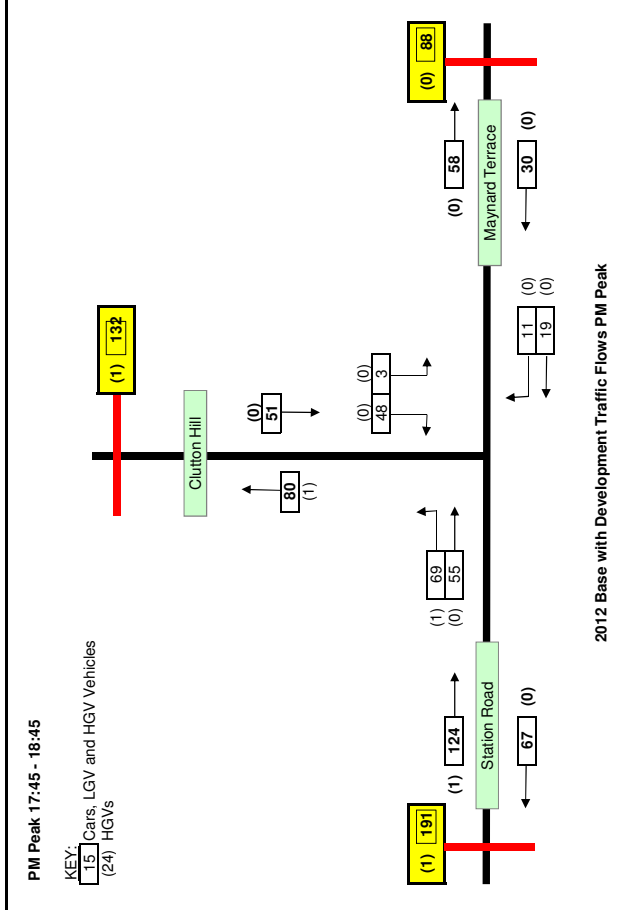
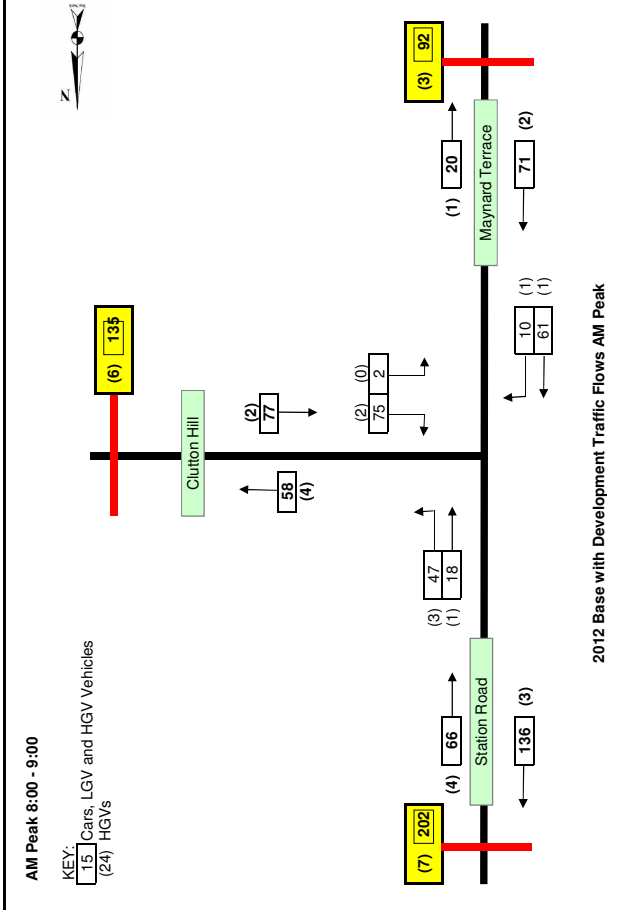
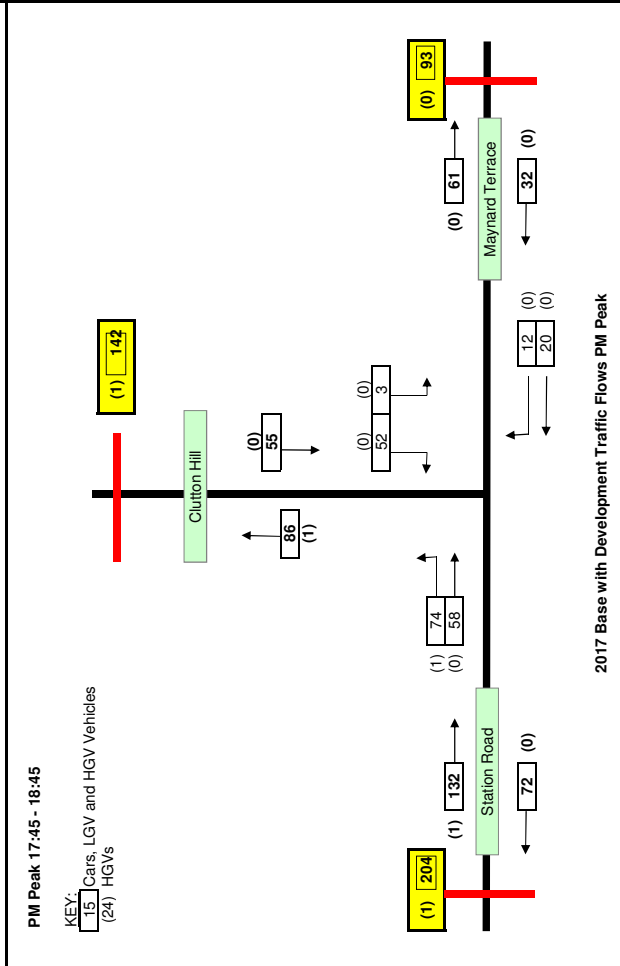
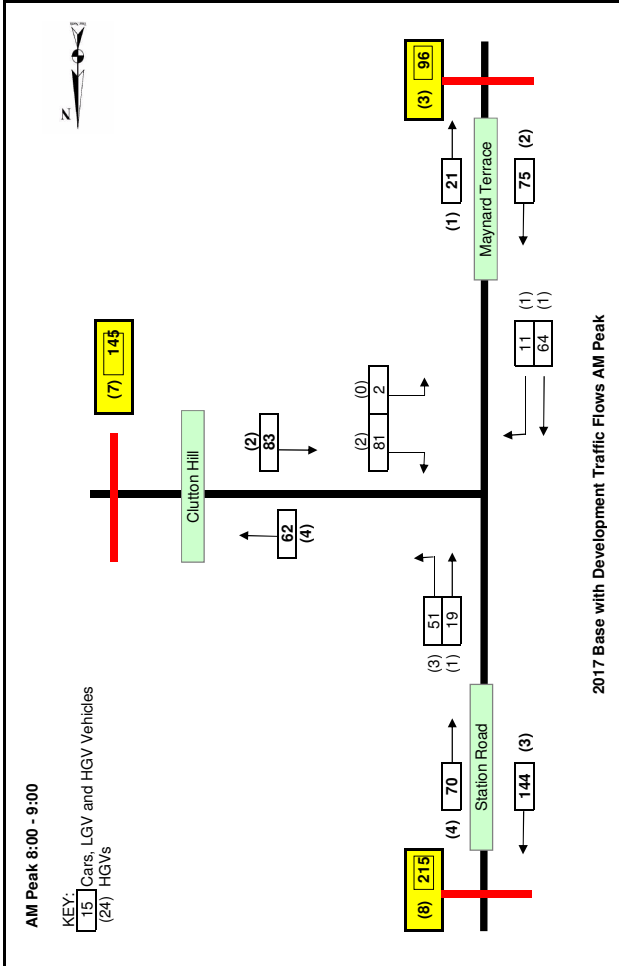


Figure 6.2a - 2012 and 2017 Base with Development Traffic Flows (Maynard Terrace)

APPENDIX C
REVISED PICADY OUTPUTS

PICADY

GUI Version: 5.00 AC
Analysis Program Release: 3.0 INTERIM (MAR 2006)

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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	\\F.\2012-05-28 Junction 2 - Station Road with Maynard Terrace Site Access\Junction 2 - Clutton & Maynard Terrace existing.vpi
Date Run	28 May 2012
Time Run	16:37:00
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Clutton Hill	100
Arm B	Maynard Terrace	100
Arm C	Station Road	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Junction 2 - Station Road / Maynard Terrace Site Access Junction
Location	Clutton
Date	03 March 2012
Enumerator	NH
Job Number	FMW0295
Status	-
Client	R.Sawyer
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.28
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	2.75
Minor Road Visibility To Right (m)	14
Minor Road Visibility To Left (m)	24
Major Road Right Turn Visibility (m)	29
Major Road Right Turn Blocks Traffic	Yes

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	479.949	0.083	0.209	0.131	0.298
B-C	616.913	0.089	0.226	-	-
C-B	590.757	0.216	0.216	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	17:30-19:00	90	15

ODTAB Turning Counts

Demand Set: 2012 Base Flows AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	2.0	75.0
Arm B	10.0	0.0	34.0
Arm C	47.0	11.0	0.0

Demand Set: 2012 Base Flows PM Peak
Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	0.0	3.0	48.0
Arm B	11.0	0.0	8.0
Arm C	69.0	36.0	0.0

Demand Set: 2017 Base Flows AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	2.0	81.0
Arm B	11.0	0.0	37.0
Arm C	51.0	12.0	0.0

Demand Set: 2017 Base Flows PM Peak
Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	0.0	3.0	52.0
Arm B	12.0	0.0	9.0
Arm C	74.0	39.0	0.0

ODTAB Synthesised Flows

Demand Set: 2012 Base Flows AM Peak

Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	0.962	08:00	1.444	08:30	0.962
Arm B	08:00	0.550	08:00	0.825	08:30	0.550
Arm C	08:00	0.725	08:00	1.088	08:30	0.725

Heavy Vehicles Percentages

Demand Set: 2012 Base Flows AM Peak

Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	2.7
Arm B	10.0	-	3.0
Arm C	6.5	9.1	-

Demand Set: 2012 Base Flows PM Peak

Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	1.5	0.0	-

Demand Set: 2017 Base Flows AM Peak

Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	2.7
Arm B	10.0	-	3.0
Arm C	6.5	9.1	-

Demand Set: 2017 Base Flows PM Peak

Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	1.5	0.0	-

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: 2012 Base Flows AM Peak
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	60.6	40.4	7.3	0.1	7.3	0.1
C-AB	16.4	11.0	2.1	0.1	2.1	0.1
C-A	63.4	42.3	-	-	-	-
A-B	2.8	1.8	-	-	-	-
A-C	103.2	68.8	-	-	-	-
All	246.4	164.3	9.4	0.0	9.4	0.0

Demand Set: 2012 Base Flows PM Peak
Modelling Period: 17:30-19:00

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	26.2	17.4	3.2	0.1	3.2	0.1
C-AB	55.3	36.8	6.6	0.1	6.6	0.1
C-A	89.3	59.5	-	-	-	-
A-B	4.1	2.8	-	-	-	-
A-C	66.1	44.0	-	-	-	-
All	240.9	160.6	9.8	0.0	9.8	0.0

Demand Set: 2017 Base Flows AM Peak
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	66.1	44.0	8.1	0.1	8.1	0.1
C-AB	18.1	12.0	2.4	0.1	2.4	0.1
C-A	68.6	45.8	-	-	-	-
A-B	2.8	1.8	-	-	-	-
A-C	111.5	74.3	-	-	-	-
All	267.0	178.0	10.4	0.0	10.4	0.0

Demand Set: 2017 Base Flows PM Peak
Modelling Period: 17:30-19:00

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	28.9	19.3	3.5	0.1	3.5	0.1
C-AB	60.3	40.2	7.2	0.1	7.2	0.1
C-A	95.2	63.5	-	-	-	-
A-B	4.1	2.8	-	-	-	-
A-C	71.6	47.7	-	-	-	-
All	260.1	173.4	10.8	0.0	10.8	0.0

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.39	8.35	0.046	-	0.04	0.05	-	0.7	0.13
	C-AB	0.82	10.54	0.078	-	0.08	0.10	-	1.5	0.10
	C-A	1.25	-	-	-	-	-	-	-	-
	A-B	0.06	-	-	-	-	-	-	-	-
	A-C	0.95	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:15-18:30	B-AC	0.39	8.35	0.046	-	0.05	0.05	-	0.7	0.13
	C-AB	0.82	10.54	0.078	-	0.10	0.10	-	1.5	0.10
	C-A	1.25	-	-	-	-	-	-	-	-
	A-B	0.06	-	-	-	-	-	-	-	-
	A-C	0.95	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:30-18:45	B-AC	0.31	8.44	0.037	-	0.05	0.04	-	0.6	0.12
	C-AB	0.65	10.41	0.063	-	0.10	0.08	-	1.2	0.10
	C-A	1.04	-	-	-	-	-	-	-	-
	A-B	0.04	-	-	-	-	-	-	-	-
	A-C	0.78	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:45-19:00	B-AC	0.26	8.50	0.031	-	0.04	0.03	-	0.5	0.12
	C-AB	0.54	10.32	0.052	-	0.08	0.06	-	1.0	0.10
	C-A	0.88	-	-	-	-	-	-	-	-
	A-B	0.04	-	-	-	-	-	-	-	-
	A-C	0.65	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

PICADY

GUI Version: 5.00 AC
Analysis Program Release: 3.0 INTERIM (MAR 2006)

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Run Analysis

Parameter	Values
File Run	\\F.\2012-05-28 Junction 2 - Station Road with Maynard Terrace Site Access\Junction 2 - Clutton & Maynard Terrace change of priority.vpi
Date Run	28 May 2012
Time Run	16:32:25
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Station Road	100
Arm B	Cutton Hill	100
Arm C	Maynard Terrace	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Junction 2 - Station Road / Maynard Terrace Change of Priority
Location	Clutton
Date	03 March 2012
Enumerator	NH
Job Number	FMW0295
Status	-
Client	R.Sawyer
Description	Revised Traffic Flows

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	2.60
Minor Road Visibility To Right (m)	17
Minor Road Visibility To Left (m)	14
Major Road Right Turn Visibility (m)	43
Major Road Right Turn Blocks Traffic	Yes

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	470.890	0.086	0.217	0.136	0.310
B-C	609.223	0.093	0.236	-	-
C-B	598.865	0.232	0.232	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	17:30-19:00	90	15

ODTAB Turning Counts

Demand Set: 2017 Base Flows with Development AM Peak

Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	51.0	19.0
Arm B	81.0	0.0	2.0
Arm C	64.0	11.0	0.0

Demand Set: 2017 Base Flows with Development PM Peak

Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	0.0	74.0	58.0
Arm B	52.0	0.0	3.0
Arm C	20.0	12.0	0.0

ODTAB Synthesised Flows

Demand Set: 2017 Base Flows with Development AM Peak

Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	0.875	08:00	1.313	08:30	0.875
Arm B	08:00	1.038	08:00	1.556	08:30	1.038
Arm C	08:00	0.938	08:00	1.406	08:30	0.938

Heavy Vehicles Percentages

Demand Set: 2017 Base Flows with Development AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	6.5	9.1
Arm B	2.7	-	0.0
Arm C	3.0	10.0	-

Demand Set: 2017 Base Flows with Development PM Peak
Modelling Period: 17:30-19:00

From/To	Arm A	Arm B	Arm C
Arm A	-	1.5	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: 2017 Base Flows with Development AM Peak
Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	114.2	76.2	18.7	0.2	18.7	0.2
C-AB	16.9	11.3	2.1	0.1	2.1	0.1
C-A	86.3	57.5	-	-	-	-
A-B	70.2	46.8	-	-	-	-
A-C	26.2	17.4	-	-	-	-
All	313.8	209.2	20.8	0.1	20.8	0.1

Demand Set: 2017 Base Flows with Development PM Peak
Modelling Period: 17:30-19:00

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	75.7	50.5	11.2	0.1	11.2	0.1
C-AB	17.1	11.4	1.9	0.1	1.9	0.1
C-A	27.0	18.0	-	-	-	-
A-B	101.9	67.9	-	-	-	-
A-C	79.8	53.2	-	-	-	-
All	301.4	201.0	13.1	0.0	13.1	0.0

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.01	7.48	0.135	-	0.12	0.15	-	2.3	0.15
	C-AB	0.23	9.67	0.024	-	0.02	0.03	-	0.4	0.11
	C-A	0.36	-	-	-	-	-	-	-	-
	A-B	1.36	-	-	-	-	-	-	-	-
	A-C	1.06	-	-	-	-	-	-	-	-
18:15-18:30	B-AC	1.01	7.48	0.135	-	0.15	0.16	-	2.3	0.15
	C-AB	0.23	9.67	0.024	-	0.03	0.03	-	0.4	0.11
	C-A	0.36	-	-	-	-	-	-	-	-
	A-B	1.36	-	-	-	-	-	-	-	-
	A-C	1.06	-	-	-	-	-	-	-	-
18:30-18:45	B-AC	0.82	7.57	0.109	-	0.16	0.12	-	1.9	0.15
	C-AB	0.19	9.72	0.019	-	0.03	0.02	-	0.3	0.10
	C-A	0.29	-	-	-	-	-	-	-	-
	A-B	1.11	-	-	-	-	-	-	-	-
	A-C	0.87	-	-	-	-	-	-	-	-
18:45-19:00	B-AC	0.69	7.63	0.090	-	0.12	0.10	-	1.5	0.14
	C-AB	0.15	9.76	0.016	-	0.02	0.02	-	0.3	0.10
	C-A	0.25	-	-	-	-	-	-	-	-
	A-B	0.93	-	-	-	-	-	-	-	-
	A-C	0.73	-	-	-	-	-	-	-	-

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Delays marked with '###' could not be calculated.

PICADY 5 Run Successful