Waterman Boreham
Transport Planning

1st Issue

FORECASTING REPORT

for

LAND SOUTH OF LEOMINSTER

on behalf of

MOSAIC ESTATES

G/209605
6th April 2010

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Contents

Appendices

1. INTRODUCTION

Purpose of Report

1.1 This Forecasting Report has been prepared by Waterman Boreham (WB) on behalf of Mosaic Estates. The Forecasting Report outlines the methodology for the production of the Future Year Scenario Matrices for the PARAMICS model of the town of Leominster, Herefordshire. These Future Year Scenario Matrices have been created using the existing base model, which is discussed in the Local Model Validation Report (LMVR) produced by Waterman Boreham on the 11th March 2010.

1.2 The report also discusses the trip generation and distribution assumptions of a proposed development to the south of Leominster. These assumptions have been used to create a development matrix which has been added to the forecast year base matrix to create the Development Scenario Matrices, which are also discussed in this report.

Study Objectives

1.3 The principal objective of the PARAMICS microsimulation modelling has been to enable an assessment of the existing junction and vehicle interactions on the key routes within the town of Leominster. It is the intention that this model be used as the basis for further assessments to be carried out of the traffic generation, reassignment and consequent implications associated with a proposed development and link road connecting the A44 with the A49 to the south of Leominster.

Report Structure

1.4 The production of the PARAMICS forecast model can be logically sub-divided into two stages as follows:

Stage 1 Future Year Scenario

Stage 2 Development Scenario

1.5 These stages will be discussed in turn in the following chapters.

2. FUTURE YEAR SCENARIO

Introduction

2.1 This chapter outlines the methodology used to create the Future Year Scenario. The chapter therefore outlines how background growth factors were calculated and applied to the base matrix to create the future year base matrix. In addition, the chapter also discusses how the traffic of committed development was introduced into this future year base matrix.

Base Matrix

2.2 The creation of the AM and PM Peak base matrices is discussed in the existing Local Model Validation Report produced by Waterman Boreham on the 11th March 2010. The matrices are based on a 3 hour peak with the AM traffic modelled from 07:00 – 10:00 and the PM peak modelled from 16:00 – 19:00. The base matrices used in the base model are included as Appendix 1, and the associated zone plan is also included as Appendix 2.

2.3 The base matrices are split into two, with the first matrix incorporating light vehicles and the second matrix incorporating Heavy Goods Vehicles.

Tempro Growth Factors

2.4 The forecast year is 2026, which is based on the timeframe of the emerging Herefordshire Local Development Framework. The 2026 growth factors have been calculated using Tempro and include fuel and income adjustments.

2.5 As discussed later in the chapter, the committed development traffic is included in the Future Year Scenario. Thus, in order to avoid an overestimation of background growth, the Tempro factor has been calculated based on a low growth assumption.

2.6 The calculated Tempro Growth factors are summarised in Table 2.1 below.

Table 2.1: Tempro Growth Factors

Peak Hour	Growth Factor
AM Peak	1.0980
PM Peak	1.1119

2.7 The Tempro growth factors shown in Table 2.1 have been applied to the Base Matrices shown in Appendix 1, the results of which are shown in Appendix 3.

Committed Development Traffic

2.8 The traffic associated with the Barons Cross Camp development to the west of Leominster has also been accounted for in the Future Year Scenario. The Traffic Generation Rates of the Barons Cross Development have been extracted from the Transport Assessment produced in May 2005 by Taylor Woodrow and are shown Table 2.2 below.

Table 2.2: Barons Cross Trip Rates (3 Hour Peak)

Peak Hour	Arrivals	Departures	Total
AM Peak (07:00 – 10:00)	0.42	1.09	1.51
PM Peak (16:00 – 19:00)	1.17	0.73	1.9

2.9 These traffic generation rates have been applied to the proposed development of 455 units (including 30 units at the garage site). The resultant traffic generation is shown in Table 2.3 below.

Table 2.3: Barons Cross Traffic Generation (3 Hour Peak)

Peak Hour	Arrivals	Departures	Total
AM Peak (07:00 – 10:00)	191	496	687
PM Peak (16:00 – 19:00)	532	332	865

2.10 The Barons Cross development can be accessed by either Cholstrey Road or Monkland Road via the Residential streets to the south, however as the principle aim of the model is to assess the traffic impact on Baron's Cross Road and not the operation of the Barons Cross Road / Monkland Road / Cholstrey Road junction, it has been decided that, for the purpose of simplification, all traffic will be loaded onto Monkland Road (zone 15).

2.11 The distribution of traffic for the Barons Cross development has been based on journey to work census data for the Leominster South Ward, which is included as Appendix 4. The journey to work census data has been assigned proportionally based on the likely route choice to and from the Barons Cross development. This allowed distribution percentages to be calculated for the allocated approach and departure zones. The results of this calculation are shown in Table 2.4, with full details of the analysis shown as Appendix 5.

Table 2.4: Calculated distributions based on journey to work census data

Approach / Departure Route	Inbound		Outbound	
	Allocated Approach zone	Calculated Percentage	Allocated Approach zone	Calculated Percentage
East via A44	25	4%	25	5%
East and South via A49 and B4361 Hereford Road (Traffic to and from Hampton Court Ward)	25, 23	4% (Split equally across allocated zones)	25, 23	4% (Split equally across allocated zones)
Leominster North Ward	16, 13, 10, 9, 5, 29, 2	17% (Split equally across allocated zones)	16, 13, 10, 9, 5, 29, 2	4% (Split equally across allocated zones)
Leominster South	5, 14, 12, 8, 4, 17, 18, 19, 20, 21, 28, 22, 26, 24, 23, 30	18% (Split equally across allocated zones)	5, 14, 12, 8, 6, 7, 17, 18, 19, 20, 21, 28, 22, 26, 24, 23, 30	40% (Split equally across allocated zones)
North via B4361 North Road	2	6%	2	4%
North East via A49	1	17%	1	8%
North West via B4360 Cholstrey Road	16	4%	16	1%
South via B4361 Hereford Road	23	14%	23	25%
West via Monkland Road	15	16%	15	8%

2.12 The percentages above have been used to create a proportional distribution matrix which is included as Appendix 6. This matrix excludes traffic going to and from zone 15 which will travel west and will therefore not enter the model network.

2.13 In order to create the committed development matrices the AM and PM Peak traffic generation figures shown in Table 2.3 have been applied to the proportional distribution matrix at Appendix 6, the results of which are shown as Appendix 7. This traffic has been added to the factored base matrices shown at Appendix 3 to create the Future Year Scenario matrices, included as Appendix 8.

3. DEVELOPMENT SCENARIO

Introduction

3.1 This chapter discusses the methodology for creating the matrix for the Development Scenario. The chapter therefore includes details of the traffic generation of the development and its distribution. In addition, the chapter also discusses how the Future Year Scenario matrices were adjusted to take account of the proposed link road and how the development matrices were combined with these amended matrices to create the Development Scenario matrices.

Details of Development

3.2 The development is proposed to encompass 1700 houses and associated community facilities. Details of the level of employment has yet to be agreed, however, for the purpose of this report the total land set aside is approximately 30 acres (12.14 Ha). Full details of the employment land including location, area and the nature of employment use are dependant on further discussions with Herefordshire Council, Advantage West Midlands and other key stakeholders.

3.3 A calculation has been made using the TRICS database of the likely Gross Floor Area (GFA) of the proposed employment use that could occupy this site. This involved the extraction of Land Area and GFA information from within the TRICS database, as shown in Table 3.1 below. This information has been used to calculate an average site GFA to area ratio by dividing the average GFA by the average site area (31915m2 / 14.64Ha = 2181m2 per Ha).

3.4 The calculated site area to GFA ratio was then used to calculate the amount of GFA, which is likely to occupy the 30 acre or 12.14 Ha site (12.14ha * 2181m2 per Ha = 26,474m2).

Table 3.1. Table Comparing Gross Floor Area with Site Area for Business Park Sites Surveyed in the TRICS Database

Site	GFA (sqm)	Site Area (ha)	GFA / Site Area
CA-02-B-01	118448	61.5	1926
CF-02-B-01	12000	4	3000
CF-02-B-02	2578	2.03	1270
DC-02-B-01	1570	0.38	4132
EB-02-B-03	6675	1.84	3628
NT-02-B-01	4618	0.73	6326
TW-02-B-03	77513	31.97	2425
Average	31915	14.64	2181

3.5 It is proposed that the development will also facilitate the introduction of a link road to the south of Leominster which will connect the A44 with the A49. In addition, it is also proposed that all traffic from the development will access the local road network via this link road.

Traffic Generation

3.6 In order to establish the traffic generation in relation to the development proposals the TRICS Database has been used to derive development traffic for each land use within the development area. The TRICS Database provides trip rate information based on existing development trip attractions observed at similar sites throughout the United Kingdom.

3.7 For the purpose of this Forecasting Report the traffic generation for proposed local community facilities has not been taken into account. The generated trips from this use will not have an impact on the adjacent highway network, as these trips will be internal to the development site.

3.8 Traffic generation rates for the residential and employment uses have been extracted from the TRICS (2008) database. The sites used in the TRICS analysis were chosen on the basis of their similarity to the proposed development in terms of size and location. The resultant traffic rates for 1700 houses and 26474m^2 of employment use are shown in Table 3.2 and 3.3. These rates have been used to calculate the traffic generation associated with the development proposals as shown in Tables 3.4 and 3.5 respectively. The full TRICS output is provided as Appendix 9.

Table 3.2: Residential Trip Rates (per unit)

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
0.399	1.037	1.436	1.092	0.674	1.766

Table 3.3: Employment (business park) Trip Rates (per 100m2)

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
3.565	0.999	4.564	0.873	3.099	3.972

Table 3.4: Residential Trip Generation (1,700 units)

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
678	1763	2441	1856	1146	3002

Table 3.5: Employment (business park) Trip Generation (26,474m2)

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
944	264	1208	231	820	1052

Reduction Factor due to Internalisation

3.9 As the development contains a mixture of residential and employment uses it is likely that a number of trips will be internalised, with residents of the development accessing the proposed employment by sustainable modes.

3.10 In order to calculate the likely proportion of these internal trips, journey to work census data for the development ward (South Leominster) has been analysed. This data shows that approximately 52% of census respondents within the ward travel less than 2km to work. It is therefore reasonable to assume that at least half of this percentage (26%) of employment trips would be internalised within the development. As such, a reduction of 26% has been applied to all employment trips. Similarly, as these trips will be travelling to and from the residential development, a mirrored reduction has also been made to residential trips. Tables 3.6 and 3.7 below summarise the forecast traffic generation taking account of internalisation in relation to the proposed residential and employment uses within the development site.

Table 3.6: Residential Traffic Generation, taking account of internalisation.

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
610	1518	2128	1644	1086	2730

Table 3.7: Employment (business park) Traffic Generation, taking account of internalisation.

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
699	196	895	171	608	779

3.11 The employment and residential traffic generations shown in Table 3.6 and 3.7 have been combined to create the total development traffic generation of the site, which is shown in Table 3.8.

Table 3.8 Total Development Trip Generation

AM Peak Hour (07:00 – 10:00)			PM Peak Hour (16:00 – 19:00)		
In	Out	Total	In	Out	Total
1309	1714	3023	1815	1694	3508

Development Distribution

3.12 It has been assumed that the development will have a similar distribution to that previously calculated for the committed development (Appendix 6), however, an adjustment has been made to take account of the fact that this distribution is likely to change as a result of the introduction of the link road. This adjustment switches traffic from zone 1 to zone 25 thereby allowing development traffic travelling to and from the A49 to access the development without crossing the town centre.

3.13 An additional zone (zone 31) has been added for the inclusion of development traffic. The traffic from this zone will access the network via the link road.

3.14 The development distribution is included as Appendix 10. The traffic generation figures have been applied to this distribution to create the AM and PM peak matrices which are shown as Appendix 11.

Development Scenario

3.15 In order to create the development scenario, adjustments were first required to the existing Future Year Scenario matrices to take account of the introduction of the link road. It has therefore been assumed that 50% of the background traffic travelling across the network, arriving and departing at zone 1 to and from zone 15 and 16, will have knowledge of the area and will therefore use the A49 to access the link road and thus avoid the traffic congestion within the town centre. As, such an adjustment has been made such that 50% of this traffic will now travel further along the A49 and access the network via zone 25.

3.16 An adjustment has also been made to the committed development matrix, which assumes that all traffic from zone 1 will switch to zone 25 thereby allowing development traffic travelling to and from the A49 to access the development without crossing the town centre, in the same way as that provided for with the development matrix.

3.17 The resultant adjusted Future Year matrices are shown as Appendix 12. The development matrices have been added to these matrices to create the Development Scenario matrices as shown as Appendix 13.

Appendices

APPENDIX 1

Base Matrices

AM Peak Hour Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	159	64	0	32	101	9	19	1	6	0	2	24	50	39	41	20	33	0	16	7	0	29	4	14	12	4	5	45	5
2	356	0	55	0	30	95	9	18	1	6	0	2	24	48	39	41	19	32	0	15	7	0	29	4	14	12	4	5	42	4
3	1	0	0	0	2	7	1	2	0	1	0	0	8	19	17	18	3	7	0	4	2	0	13	2	7	6	1	1	1	2
4	142	59	0	0	3	22	1	4	0	1	0	0	11	29	24	25	4	12	0	6	3	0	18	2	8	7	1	2	2	2
5	61	36	0	0	0	99	0	0	0	0	0	0	6	20	17	18	0	5	0	3	1	0	12	1	5	4	0	1	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	11	8	0	0	0	0	0	0	0	0	0	0	25	94	55	60	0	2	0	1	1	0	8	1	4	3	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	13	9	0	0	0	0	2	8	0	0	0	0	1	12	11	12	1	3	0	2	1	0	9	1	5	4	0	1	0	1
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
12	5	4	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	1	0	1	1	0	5	1	3	2	0	0	0	1
13	45	36	0	0	10	0	37	128	0	3	0	0	0	2	4	5	14	23	0	12	6	0	24	4	12	10	4	4	0	4
14	39	32	0	0	10	0	31	87	0	4	0	0	0	0	89	115	13	21	0	12	6	0	22	4	12	10	4	5	0	4
15	58	50	0	0	24	2	58	129	0	19	0	2	11	127	0	38	29	37	0	22	11	0	33	7	18	16	11	10	0	8
16	61	51	0	0	23	1	62	150	0	18	0	1	8	200	52	0	28	38	0	21	11	0	33	7	18	15	10	9	0	7
17	39	27	0	0	1	0	2	2	0	1	0	0	12	36	28	30	0	469	0	32	6	0	61	3	18	14	1	3	0	3
18	30	22	0	0	2	0	4	4	0	2	0	0	12	30	25	26	200	0	0	44	4	0	81	2	17	13	0	1	0	2
19	7	6	0	0	0	0	0	1	0	0	0	0	4	9	9	10	4	23	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	10	8	0	0	2	0	2	2	0	2	0	1	6	12	11	12	9	23	0	0	0	0	116	0	5	3	0	0	0	0
22	3	2	0	0	0	0	0	0	0	0	0	0	2	3	4	4	1	1	0	0	0	0	2	0	0	0	0	0	0	0
23	25	21	0	0	8	1	11	10	2	5	0	2	15	25	23	23	39	112	0	0	62	0	0	0	81	29	0	0	0	0
24	3	2	0	0	1	0	1	1	0	1	0	0	2	3	4	4	1	1	0	0	0	0	0	0	10	13	0	0	0	0
25	11	10	0	0	3	0	4	4	1	3	0	1	7	13	12	13	11	21	0	0	3	0	37	61	0	551	0	0	0	55
26	9	8	0	0	3	0	3	3	1	2	0	1	6	10	10	11	8	14	0	0	1	0	11	34	393	0	0	0	0	9
27	13	10	0	0	0	0	0	1	0	0	0	0	5	16	14	15	21	0	0	0	0	0	0	0	0	0	0	0	0	0
28	4	4	0	0	0	0	0	1	0	0	0	0	3	6	6	6	2	3	0	0	0	0	0	0	0	0	0	0	0	0
29	102	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Hour Base (HGV Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	15	0	0	0	4	0	3	0	0	0	0	0	5	8	8	1	2	0	2	0	0	1	0	1	1	1	0	24	0
2	13	0	0	0	0	1	0	1	0	0	0	0	0	2	4	4	0	1	0	1	0	0	0	0	0	0	0	0	2	0
3	4	0	0	0	0	1	0	1	0	0	0	0	0	3	6	5	0	1	0	1	0	0	0	0	0	0	0	0	5	0
4	10	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	1	1	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
14	5	2	3	0	1	0	1	1	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0
15	11	5	7	0	4	0	4	5	0	0	0	0	4	7	0	0	3	3	0	3	0	0	1	0	1	1	2	0	0	0
16	8	4	5	0	3	0	2	3	0	0	0	0	1	2	0	0	2	2	0	2	0	0	1	0	1	1	1	0	0	0
17	3	1	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	36	0	0	0	4
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	28	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0

PM Peak Hour Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	451	0	0	48	122	7	16	0	9	1	2	56	93	64	70	40	47	0	18	9	1	33	1	12	9	0	2	26	0
2	277	0	0	0	34	87	5	13	0	8	1	1	48	82	58	63	31	39	0	15	8	1	30	1	11	8	0	1	17	0
3	103	83	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0
4	143	125	0	0	9	42	2	4	0	3	1	1	35	67	46	50	14	23	0	8	5	1	22	1	7	5	0	1	1	0
5	51	47	0	0	0	53	1	1	0	1	1	1	8	21	16	18	1	2	0	1	1	1	7	1	2	2	0	1	1	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	18	17	0	0	1	0	1	0	0	2	0	1	73	184	85	98	1	2	0	1	1	1	7	1	2	2	0	1	1	0
9	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	1	0	1	1	1	1	0	1	0	0
10	22	21	0	0	1	0	2	6	0	0	0	1	6	35	21	25	1	4	0	2	2	1	9	1	3	3	0	1	1	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	0
12	2	2	0	0	1	0	1	1	0	1	0	0	1	2	2	2	1	1	0	1	1	1	2	1	1	2	0	1	1	0
13	54	52	0	0	16	0	16	68	0	4	0	0	0	7	6	9	14	21	0	10	6	1	21	1	8	6	0	1	3	0
14	87	84	0	0	36	1	39	160	0	23	0	1	3	0	210	335	33	40	0	18	10	1	31	1	12	10	0	2	8	0
15	69	67	0	0	33	1	35	92	0	24	0	1	11	137	0	62	31	36	0	19	12	1	30	1	13	11	0	4	11	0
16	67	65	0	0	30	1	32	92	0	20	0	1	7	157	38	0	28	34	0	17	10	1	28	1	12	10	0	3	9	0
17	38	36	0	0	2	0	1	1	0	2	1	1	26	60	39	44	0	342	0	18	8	1	48	1	9	6	0	1	1	0
18	54	51	0	0	7	0	1	5	0	3	1	1	38	72	49	54	419	0	0	62	7	1	99	1	12	8	0	1	2	0
19	12	11	0	0	2	0	1	1	0	2	1	1	10	20	17	18	5	8	0	0	0	0	0	0	0	0	0	0	1	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	10	9	0	0	2	1	1	1	0	1	1	1	9	15	13	14	6	7	0	0	0	0	50	1	1	1	0	0	2	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	43	42	0	0	17	1	7	14	0	10	1	3	35	53	42	45	70	145	0	0	162	1	0	0	36	8	0	0	6	0
24	2	2	0	0	1	1	1	1	0	1	1	1	2	3	4	4	2	1	0	0	1	1	1	0	62	36	0	0	1	0
25	24	23	0	0	9	1	4	8	0	6	1	2	21	30	26	28	26	39	0	0	11	1	116	27	0	538	0	0	4	0
26	10	10	0	0	3	1	1	3	0	2	1	1	9	14	13	14	8	9	0	0	2	1	2	11	547	0	0	0	1	0
27	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	4	0	1	1	1	15	1	3	2	0	1	0	0
28	3	3	0	0	1	0	1	1	0	1	1	1	3	5	5	5	1	1	0	0	0	0	0	0	0	0	0	0	1	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	0	0	1	1	1	1	0	1	1	1	3	4	5	5	1	2	0	0	1	0	1	0	53	5	0	0	1	0

PM Peak Hour Base (HGV Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	7	7	0	0	0	1	1	1	2	0	0	3	4	8	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	1	1	0	0	2	2	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15	10	5	0	0	0	0	0	5	0	0	0	0	0	0	0	2	2	2	0	2	0	1	1	0	0	0	2	0	8	0
16	7	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	5	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	14	0	0	0	3
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 2

Zone Plan

REV	DATE	AMENDMENTS	DRAWN	CHK	APP

Waterman Boreham Ltd
Regent House
Hubert Road
Brentwood
Essex
CM14 4JE
Telephone: (01277) 238 100
Facsimile: (01277) 238 150
Email: enquiries@waterman-boreham.com

Waterman Boreham
Transport Planning

nqa. ISO 9001 Registered

INVESTOR IN PEOPLE

Client

Mosaic Estates

Project

Leominster, Herefordshire

Title

Zone Plan

Team	Drawn	Checked	Approved
R	RF	20.01.10	20.01.10

Scale @ A3	Date
1:NTS	Jan 2010

Project No.	Drawing No.	Rev
209605	2	-

Purpose of Issue
☐ _____ ☐ Preliminary ☐ For Tender ☐ For Construction
☐ ☑ For Information ☐ For Approval ☐ As Built

R:\Projects\209605 – Land to S.W of Leominster\DWG

APPENDIX 3

Future Year Base Matrices

AM Peak Hour Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	175	70	0	35	111	10	21	1	7	0	2	26	55	43	45	22	36	0	18	8	0	32	4	15	13	4	5	49	5
2	391	0	60	0	33	104	10	20	1	7	0	2	26	53	43	45	21	35	0	18	8	0	32	4	15	13	4	5	46	4
3	1	0	0	0	2	8	1	2	0	1	0	0	9	21	19	20	3	8	0	4	2	0	14	2	8	7	1	1	1	2
4	156	65	0	0	3	24	1	4	0	1	0	0	12	32	26	27	4	13	0	7	3	0	20	2	9	8	1	2	2	2
5	67	40	0	0	0	109	0	0	0	0	0	0	7	22	19	20	0	5	0	3	1	0	13	1	5	4	0	1	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	12	9	0	0	0	0	0	0	0	0	0	0	27	103	80	66	0	2	0	1	1	0	9	1	4	3	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	14	10	0	0	0	0	2	9	0	0	0	0	1	13	12	13	1	3	0	2	1	0	10	1	5	4	0	1	0	1
11	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
12	5	4	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	1	0	1	1	0	5	1	3	2	0	0	0	1
13	49	40	0	0	11	0	41	141	0	3	0	0	0	2	4	5	15	25	0	13	7	0	26	4	13	11	4	4	0	4
14	43	35	0	0	11	0	34	96	0	4	0	0	0	0	98	126	14	23	0	13	7	0	24	4	13	11	4	5	0	4
15	64	55	0	0	26	2	64	142	0	21	0	2	12	139	0	42	32	41	0	24	12	0	36	8	20	18	12	11	0	9
16	67	56	0	0	25	1	68	165	0	20	0	1	9	220	57	0	31	42	0	23	12	0	36	8	20	16	11	10	0	8
17	43	30	0	0	1	0	2	2	0	1	0	0	13	40	31	33	0	515	0	35	7	0	67	3	20	15	1	3	0	3
18	33	24	0	0	2	0	4	4	0	2	0	0	13	33	27	29	220	0	0	48	4	0	89	2	19	14	0	1	0	2
19	8	7	0	0	0	0	0	1	0	0	0	0	4	10	10	11	4	25	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	9	0	0	2	0	2	2	0	2	0	1	7	13	12	13	10	25	0	0	0	0	127	0	5	3	0	0	0	0
22	3	2	0	0	0	0	0	0	0	0	0	0	2	3	4	4	1	1	0	0	0	0	2	0	0	0	0	0	0	0
23	27	23	0	0	9	1	12	11	2	5	0	2	16	27	25	25	43	123	0	0	68	0	0	0	89	32	0	0	0	0
24	3	2	0	0	1	0	1	1	0	1	0	0	2	3	4	4	1	1	0	0	0	0	0	0	11	14	0	0	0	0
25	12	11	0	0	3	0	4	4	1	3	0	1	8	14	13	14	12	23	0	0	3	0	41	67	0	605	0	0	0	60
26	10	9	0	0	3	0	3	3	1	2	0	1	7	11	11	12	9	15	0	0	1	0	12	37	432	0	0	0	0	10
27	14	11	0	0	0	0	0	1	0	0	0	0	5	18	15	16	23	0	0	0	0	0	0	0	0	0	0	0	0	0
28	4	4	0	0	0	0	0	1	0	0	0	0	3	7	7	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0
29	112	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Hour Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	16	0	0	0	4	0	3	0	0	0	0	0	5	9	9	1	2	0	2	0	0	1	0	1	1	1	0	26	0
2	14	0	0	0	0	1	0	1	0	0	0	0	0	2	4	4	0	1	0	1	0	0	0	0	0	0	0	0	2	0
3	4	0	0	0	0	1	0	1	0	0	0	0	0	3	7	5	0	1	0	1	0	0	0	0	0	0	0	0	5	0
4	11	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	1	1	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	5	2	3	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
15	12	5	8	0	4	0	4	5	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0
16	9	4	5	0	3	0	2	3	0	0	0	0	1	2	0	0	2	2	0	2	0	0	1	0	1	1	2	0	0	0
17	3	1	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	3	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	40	0	0	0	4
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	31	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0

PM Peak Hour Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	501	0	0	53	136	8	18	0	10	1	2	62	103	71	78	44	52	0	20	10	1	37	1	13	10	0	2	29	0
2	308	0	0	0	38	97	6	14	0	9	1	1	53	91	64	70	34	43	0	17	9	1	33	1	12	9	0	1	19	0
3	115	92	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0
4	159	139	0	0	10	47	2	4	0	3	1	1	39	74	51	56	16	26	0	9	6	1	24	1	8	6	0	1	1	0
5	57	52	0	0	0	59	1	1	0	1	1	1	9	23	18	20	1	2	0	1	1	1	8	1	2	2	0	1	1	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	20	19	0	0	1	0	1	0	0	2	0	1	81	205	95	109	1	2	0	1	1	1	8	1	2	2	0	1	1	0
9	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	1	0	1	1	1	1	0	1	0	0
10	24	23	0	0	1	0	2	7	0	0	0	1	7	39	23	28	1	4	0	2	2	1	10	1	3	3	0	1	1	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	0
12	2	2	0	0	1	0	1	1	0	1	0	0	1	2	2	2	1	1	0	1	1	1	2	1	1	2	0	1	1	0
13	80	58	0	0	18	0	18	76	0	4	0	0	0	8	7	10	16	23	0	11	7	1	23	1	9	7	0	1	3	0
14	97	93	0	0	40	1	43	178	0	26	0	1	3	0	244	372	37	44	0	20	11	1	34	1	13	11	0	2	9	0
15	77	74	0	0	37	1	39	102	0	27	0	1	12	152	0	89	34	40	0	21	13	1	33	1	14	12	0	4	12	0
16	74	72	0	0	33	1	36	102	0	22	0	1	8	175	42	0	31	38	0	19	11	1	31	1	13	11	0	3	10	0
17	42	40	0	0	2	0	1	1	0	2	1	1	29	67	43	49	0	380	0	20	7	1	53	1	10	7	0	1	1	0
18	60	57	0	0	8	0	1	6	0	3	1	1	42	80	54	60	466	0	0	69	8	1	110	1	13	9	0	1	2	0
19	13	12	0	0	2	0	1	1	0	2	1	1	11	22	19	20	6	9	0	0	0	0	0	0	0	0	0	0	1	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	10	0	0	2	1	1	1	0	1	1	1	10	17	14	16	7	8	0	0	0	0	56	1	1	1	0	0	2	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	48	47	0	0	19	1	8	16	0	11	1	3	39	59	47	50	78	161	0	0	180	1	0	0	40	9	0	0	7	0
24	2	2	0	0	1	1	1	1	0	1	1	1	2	3	4	4	2	1	0	0	1	1	1	0	69	40	0	0	1	0
25	27	26	0	0	10	1	4	9	0	7	1	2	23	33	29	31	29	43	0	0	12	1	129	30	0	598	0	0	4	0
26	11	11	0	0	3	1	1	3	0	2	1	1	10	16	14	16	9	10	0	0	2	1	2	12	608	0	0	0	1	0
27	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	4	0	1	1	1	17	1	3	2	0	1	0	0
28	3	3	0	0	1	0	1	1	0	1	1	1	3	6	6	6	1	1	0	0	0	0	0	0	0	0	0	0	1	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	0	0	1	1	1	1	0	1	1	1	3	4	6	6	1	2	0	0	1	0	1	0	59	6	0	0	1	0

PM Peak Hour Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	8	8	0	0	0	1	1	1	2	0	0	3	4	9	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	1	1	0	0	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
15	11	6	0	0	0	0	0	6	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	8	4	0	0	0	0	0	3	0	0	0	0	0	0	0	2	2	2	0	2	0	1	1	0	0	0	2	0	9	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	6	0
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 4

Journey to Work Census Data (Leominster Ward)

Results options B : (By Origin)

Minimum Number to be considered in total column : 0

This provides a 100 % sample.

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Total	Home	Underground *	Train	Bus	Taxi	CarDriver	CarPassenger	Motorcycle	Bicycle	OnFoot	Other	Pool #
00AS	Hillingdon	00ASGM	Eastcote and East Ruislip	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CH	Gateshead	00CHFT	Teams	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CN	Birmingham	00CNGL	Sutton Four Oaks	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CQ	Coventry	00CQFC	Cheylesmore	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00FK	Derby	00FKMZ	Alvaston	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GANY	Aylestone	20	0	0	0	0	0	17	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPA	Belmont	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPB	Bircher	61	0	0	0	3	3	46	9	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPD	Bromyard	37	0	0	0	0	0	31	3	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPE	Burghill, Holmer and Lyde	6	0	0	0	0	0	3	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPF	Castle	6	0	0	0	0	0	6	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPG	Central	141	0	0	9	14	0	103	11	0	0	4	0	n/a
00GA	Herefordshire, County of	00GAPH	Credenhill	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPJ	Frome	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPK	Golden Cross with Weobley	36	0	0	0	0	0	29	4	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPM	Golden Valley South	6	0	0	0	0	0	6	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPN	Hagley	9	0	0	0	0	0	9	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPP	Hampton Court	64	0	0	0	0	0	51	9	0	0	4	0	n/a
00GA	Herefordshire, County of	00GAPQ	Hollington	38	0	0	0	3	0	31	4	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPT	Kington Town	9	0	0	0	0	0	6	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPU	Ledbury	14	0	0	0	0	0	10	4	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPW	Leominster North	105	0	0	0	0	3	52	8	3	10	29	0	n/a
00GA	Herefordshire, County of	00GAPX	Leominster South	1434	300	0	3	12	8	497	76	5	52	478	3	n/a
00GA	Herefordshire, County of	00GAPZ	Mortimer	5	0	0	0	0	0	5	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQB	Pembridge and Lyonshall with Titley	54	0	0	0	3	0	35	10	0	0	6	0	n/a
00GA	Herefordshire, County of	00GAQD	Pontrilas	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQE	Ross-on-Wye East	6	0	0	0	0	0	3	0	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAQG	St Martins and Hinton	6	0	0	0	0	0	6	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQH	St Nicholas	21	0	0	3	3	0	15	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQJ	Stoney Street	7	0	0	0	0	0	7	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQK	Sutton Walls	4	0	0	0	0	0	4	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQL	Three Elms	85	0	0	0	4	0	73	8	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQM	Tupsley	9	0	0	0	3	0	6	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQN	Upton	26	0	0	0	0	0	17	3	3	0	3	0	n/a
00GA	Herefordshire, County of	00GAQQ	Wormsley Ridge	6	0	0	0	0	0	6	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFPF	Lawley and Overdale	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFPT	The Nedge	3	0	0	0	0	3	0	0	0	0	0	0	n/a
00HX	Swindon	00HXNA	Central	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNSU	Presteigne	8	0	0	0	0	0	8	0	0	0	0	0	n/a
00PD	The Vale of Glamorgan	00PDNC	Castleland	3	0	0	3	0	0	0	0	0	0	0	0	n/a
00PP	Monmouthshire	00PPPA	Drybridge	6	0	0	0	3	0	3	0	0	0	0	0	n/a
00PT	Cardiff	00PTPK	Trowbridge	3	0	0	0	0	0	3	0	0	0	0	0	n/a
16UD	Carlisle	16UDGP	Longtown & Rockcliffe	3	0	0	0	0	0	3	0	0	0	0	0	n/a
17UJ	North East Derbyshire	17UJHE	Wingerworth	3	0	0	0	0	0	3	0	0	0	0	0	n/a
23UD	Forest of Dean	23UDHG	Redmarley	3	0	0	0	0	0	3	0	0	0	0	0	n/a

Results options B : (By Origin)

Minimum Number to be considered in total column : 0

This provides a 100 % sample.

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Total	Home	Underground *	Train	Bus	Taxi	CarDriver	CarPassenger	Motorcycle	Bicycle	OnFoot	Other	Pool #
23UE	Gloucester	23UEFT	Barton and Tredworth	3	0	0	0	0	0	3	0	0	0	0	0	n/a
24UL	Rushmoor	24ULGE	Wellington	3	0	0	0	0	0	0	3	0	0	0	0	n/a
29UQ	Tunbridge Wells	29UQGK	Paddock Wood East	3	0	0	0	0	0	0	0	0	0	3	0	n/a
37UB	Ashfield	37UBGG	Woodhouse	3	0	0	0	3	0	0	0	0	0	0	0	n/a
39UB	Bridgnorth	39UBGM	Morville	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UC	North Shropshire	39UCGM	Market Drayton East	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UC	North Shropshire	39UCGT	Sutton	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGH	Bitterley with Stoke St Milborough	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGJ	Bucknell	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGK	Burford	7	0	0	0	0	0	7	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGL	Caynham with Ashford	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGY	Ludlow St Laurence's	10	0	0	0	0	0	10	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGZ	Ludlow St Peter's	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFHA	Ludlow Sheet with Ludford	10	0	0	0	0	0	10	0	0	0	0	0	n/a
40UD	South Somerset	40UDKD	Crewkerne	3	0	0	0	0	0	3	0	0	0	0	0	n/a
41UF	South Staffordshire	41UFHM	Bilbrook	3	0	0	0	3	0	0	0	0	0	0	0	n/a
44UE	Stratford-on-Avon	44UEHR	Tanworth	3	0	0	0	0	0	3	0	0	0	0	0	n/a
44UF	Warwick	44UFGH	Milverton	3	0	0	0	0	0	0	0	0	0	3	0	n/a
47UC	Malvern Hills	47UCHZ	Link	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJD	Pickersleigh	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJJ	Tenbury	23	0	0	0	0	0	17	3	0	3	0	0	n/a
47UC	Malvern Hills	47UCJN	Woodbury	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEFR	Cathedral	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEFU	Nunnery	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEFX	St Clement	4	0	0	0	0	0	4	0	0	0	0	0	n/a
47UF	Wychavon	47UFHK	Hartlebury	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UF	Wychavon	47UFHR	Norton and Whittington	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UG	Wyre Forest	47UGGK	Sutton Park	3	0	0	0	0	0	3	0	0	0	0	0	n/a
8888	Depart from UK to Abroad	888888	Depart from UK to Abroad	3	0	0	0	0	0	3	0	0	0	0	0	n/a
9999	Outside of the UK	999999	Outside of the UK	6	0	0	0	3	0	0	3	0	0	0	0	n/a

* Not in Northern Ireland
# Only in Northern Ireland

Results options B : (By Destination)

Minimum Number to be considered in total column : 0

This provides a 100 % sample.

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Total	Home	Underground *	Train	Bus	Taxi	CarDriver	CarPassenger	Motorcycle	Bicycle	OnFoot	Other	Pool #
00CN	Birmingham	00CNFB	Aston	3	0	0	0	0	0	0	3	0	0	0	0	n/a
00CN	Birmingham	00CNFL	Handsworth	3	0	0	0	0	0	0	3	0	0	0	0	n/a
00CN	Birmingham	00CNFT	Longbridge	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CN	Birmingham	00CNFZ	Perry Barr	6	0	0	0	0	0	3	3	0	0	0	0	n/a
00CN	Birmingham	00CNGG	Soho	3	0	0	0	0	0	0	3	0	0	0	0	n/a
00CN	Birmingham	00CNGP	Washwood Heath	3	0	0	0	0	0	0	3	0	0	0	0	n/a
00CQ	Coventry	00CQFS	Woodlands	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CR	Dudley	00CRFM	Kingswinford North and Wall Heath	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CR	Dudley	00CRFY	Sedgley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CS	Sandwell	00CSFB	Blackheath	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00CW	Wolverhampton	00CWFT	Tettenhall Wightwick	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GANY	Aylestone	24	0	0	0	0	0	24	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GANZ	Backbury	8	0	0	0	0	0	8	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPA	Belmont	27	0	0	0	3	0	18	6	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPB	Bircher	177	0	0	0	3	0	156	15	0	3	0	0	n/a
00GA	Herefordshire, County of	00GAPC	Bringsty	20	0	0	0	0	0	17	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPD	Bromyard	52	0	0	0	0	0	46	3	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPE	Burghill, Holmer and Lyde	28	0	0	0	3	0	22	0	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPF	Castle	46	0	0	0	0	0	46	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPG	Central	17	0	0	0	0	0	10	3	0	0	4	0	n/a
00GA	Herefordshire, County of	00GAPH	Credenhill	31	0	0	0	0	0	31	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPJ	Frome	19	0	0	0	0	0	19	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPK	Golden Cross with Weobley	113	0	0	0	3	0	101	9	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPL	Golden Valley North	5	0	0	0	0	0	5	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPM	Golden Valley South	7	0	0	0	0	0	4	0	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPN	Hagley	29	0	0	0	0	0	29	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPP	Hampton Court	128	0	0	0	0	0	111	14	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAPQ	Hollington	10	0	0	0	0	0	7	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPR	Hope End	16	0	0	0	0	0	13	0	0	3	0	0	n/a
00GA	Herefordshire, County of	00GAPT	Kington Town	55	0	0	0	0	0	48	7	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPU	Ledbury	27	0	0	0	0	0	19	4	0	0	4	0	n/a
00GA	Herefordshire, County of	00GAPW	Leominster North	898	0	0	0	10	4	466	71	4	56	287	0	n/a
00GA	Herefordshire, County of	00GAPX	Leominster South	1434	300	0	3	12	8	497	76	5	52	478	3	n/a
00GA	Herefordshire, County of	00GAPY	Llangarron	10	0	0	0	0	0	10	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAPZ	Mortimer	92	0	0	0	3	0	80	6	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAQA	Old Gore	5	0	0	0	0	0	5	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQB	Pembridge and Lyonshall with Titley	139	0	0	0	6	0	112	15	3	0	3	0	n/a
00GA	Herefordshire, County of	00GAQD	Pontrilas	15	0	0	0	0	0	15	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQF	Ross-on-Wye West	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQG	St Martins and Hinton	28	0	0	0	0	0	19	3	0	0	6	0	n/a
00GA	Herefordshire, County of	00GAQH	St Nicholas	37	0	0	3	6	0	25	0	0	0	3	0	n/a
00GA	Herefordshire, County of	00GAQJ	Stoney Street	10	0	0	0	0	0	10	0	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQK	Sutton Walls	38	0	0	0	0	0	32	0	3	3	0	0	n/a
00GA	Herefordshire, County of	00GAQL	Three Elms	71	0	0	0	3	0	59	3	3	0	3	0	n/a
00GA	Herefordshire, County of	00GAQM	Tupsley	55	0	0	6	6	0	40	3	0	0	0	0	n/a
00GA	Herefordshire, County of	00GAQN	Upton	157	0	0	0	3	0	136	12	0	0	6	0	n/a
00GA	Herefordshire, County of	00GAQP	Valletts	18	0	0	0	0	0	12	6	0	0	0	0	n/a

Results options B : (By Destination)

Minimum Number to be considered in total column : 0

This provides a 100 % sample.

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Total	Home	Underground *	Train	Bus	Taxi	CarDriver	CarPassenger	Motorcycle	Bicycle	OnFoot	Other	Pool #
00GA	Herefordshire, County of	00GAQQ	Wormsley Ridge	44	0	0	0	0	0	44	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFNS	Cuckoo Oak	3	0	0	0	0	0	0	0	0	0	3	0	n/a
00GF	Telford and Wrekin	00GFNU	Donnington	3	0	0	0	0	0	0	0	0	0	3	0	n/a
00GF	Telford and Wrekin	00GFPC	Horsehay and Lightmoor	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFPE	Ketley and Oakengates	3	0	0	0	0	0	0	0	0	0	3	0	n/a
00GF	Telford and Wrekin	00GFPF	Lawley and Overdale	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFPT	The Nedge	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00GF	Telford and Wrekin	00GFPX	Wrockwardine Wood and Trench	3	0	0	0	0	0	0	0	0	0	3	0	n/a
00GL	Stoke-on-Trent	00GLNG	Hanley West and Shelton	3	0	0	0	0	0	0	0	0	0	3	0	n/a
00LC	Medway	00LCPJ	Twydall	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00MR	Portsmouth	00MRMQ	Central Southsea	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNQJ	Beguildy	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNQL	Blaen Hafren	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNQR	Churchstoke	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNQT	Cwm-twrch	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNQX	Felin-fâch	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNRD	Hay	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNRF	Knighton	13	0	0	0	0	0	13	0	0	0	0	0	n/a
00NN	Powys	00NNRH	Llanbadarn Fawr	7	0	0	0	0	0	7	0	0	0	0	0	n/a
00NN	Powys	00NNRM	Llandrindod North	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNSA	Llanidloes	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00NN	Powys	00NNST	Old Radnor	12	0	0	0	0	0	12	0	0	0	0	0	n/a
00NN	Powys	00NNSU	Presteigne	18	0	0	0	0	0	12	3	0	3	0	0	n/a
00NN	Powys	00NNTA	St. Mary	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00PM	Torfaen	00PMND	Blaenavon	3	0	0	0	0	0	3	0	0	0	0	0	n/a
00PP	Monmouthshire	00PPPX	Rogiet	3	0	0	0	0	0	3	0	0	0	0	0	n/a
17UC	Bolsover	17UCGU	South Normanton West	3	0	0	0	0	0	3	0	0	0	0	0	n/a
18UB	East Devon	18UBHP	Sidmouth Rural	3	0	0	0	0	0	0	3	0	0	0	0	n/a
23UD	Forest of Dean	23UDGL	Bromesberrow and Dymock	3	0	0	0	0	0	3	0	0	0	0	0	n/a
23UD	Forest of Dean	23UDGX	Lydbrook and Ruardean	3	0	0	0	0	0	3	0	0	0	0	0	n/a
23UG	Tewkesbury	23UGGP	Coombe Hill	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UB	Bridgnorth	39UBGD	Broseley East	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UC	North Shropshire	39UCGE	Clive and Myddle	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UC	North Shropshire	39UCGM	Market Drayton East	3	0	0	0	0	0	0	0	0	0	3	0	n/a
39UD	Oswestry	39UDFZ	Llanyblodwel and Pant	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UE	Shrewsbury and Atcham	39UEFZ	Bagley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UE	Shrewsbury and Atcham	39UEGA	Battlefield and Heathgates	3	0	0	3	0	0	0	0	0	0	0	0	n/a
39UE	Shrewsbury and Atcham	39UEGL	Haughmond and Attingham	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UE	Shrewsbury and Atcham	39UEGT	Rea Valley	3	0	0	3	0	0	0	0	0	0	0	0	n/a
39UE	Shrewsbury and Atcham	39UEGW	Severn Valley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGG	Bishop's Castle with Onny Valley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGH	Bitterley with Stoke St Milborough	8	0	0	0	0	0	8	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGJ	Bucknell	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGK	Burford	11	0	0	0	0	0	11	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGL	Caynham with Ashford	21	0	0	0	3	0	18	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGP	Church Stretton South	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGQ	Clee	20	0	0	0	0	0	20	0	0	0	0	0	n/a

Results options B : (By Destination)

Minimum Number to be considered in total column : 0

This provides a 100 % sample.

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Total	Home	Underground *	Train	Bus	Taxi	CarDriver	CarPassenger	Motorcycle	Bicycle	OnFoot	Other	Pool #
39UF	South Shropshire	39UFGR	Cleobury Mortimer	9	0	0	0	0	0	9	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGS	Clun	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGT	Clun Forest	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGU	Corve Valley	7	0	0	0	0	0	4	3	0	0	0	0	n/a
39UF	South Shropshire	39UFGW	Kemp Valley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
39UF	South Shropshire	39UFGX	Ludlow Henley	26	0	0	0	7	0	16	3	0	0	0	0	n/a
39UF	South Shropshire	39UFGY	Ludlow St Laurence's	21	0	0	0	5	0	13	3	0	0	0	0	n/a
39UF	South Shropshire	39UFGZ	Ludlow St Peter's	56	0	0	0	15	0	33	5	0	0	3	0	n/a
39UF	South Shropshire	39UFHA	Ludlow Sheet with Ludford	76	0	0	0	16	0	56	4	0	0	0	0	n/a
39UF	South Shropshire	39UFHB	Stokesay	16	0	0	3	0	0	10	3	0	0	0	0	n/a
39UF	South Shropshire	39UFHD	Wistanstow with Hopesay	3	0	0	0	0	0	3	0	0	0	0	0	n/a
41UE	Newcastle-under-Lyme	41UEGB	Bradwell	3	0	0	3	0	0	0	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHQ	Alfrick and Leigh	5	0	0	0	0	0	5	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHR	Baldwin	6	0	0	0	0	0	6	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHS	Broadheath	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHU	Dyson Perrins	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHY	Lindridge	10	0	0	0	0	0	10	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCHZ	Link	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJB	Martley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJD	Pickersleigh	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJE	Powick	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJJ	Tenbury	48	0	0	0	0	0	48	0	0	0	0	0	n/a
47UC	Malvern Hills	47UCJN	Woodbury	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UD	Redditch	47UDFP	Batchley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEFQ	Bedwardine	4	0	0	0	0	0	4	0	0	0	0	0	n/a
47UE	Worcester	47UEFR	Cathedral	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEFY	St John	5	0	0	0	0	0	5	0	0	0	0	0	n/a
47UE	Worcester	47UEFZ	St Peter's Parish	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UE	Worcester	47UEGC	Warndon Parish North	4	0	0	0	0	0	4	0	0	0	0	0	n/a
47UF	Wychavon	47UFHA	Droitwich South East	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UF	Wychavon	47UFHC	Droitwich West	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UF	Wychavon	47UFHM	Honeybourne and Pebworth	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UF	Wychavon	47UFHR	Norton and Whittington	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UG	Wyre Forest	47UGFU	Aggborough and Spennells	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UG	Wyre Forest	47UGFX	Bewdley and Arley	3	0	0	0	0	0	3	0	0	0	0	0	n/a
47UG	Wyre Forest	47UGGK	Sutton Park	3	0	0	0	0	0	3	0	0	0	0	0	n/a

* Not in Northern Ireland
# Only in Northern Ireland

APPENDIX 5

Calculation of Committed Development Distribution

Census Report for South Leominster Ward

Results options B : (By Destination Inbound)

Minimum Number to be considered in total column : 0

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Inbound Direction	Zone	CarDriver	%
00CQ	Coventry	00CQFS	Woodlands	E	25	3	
00GA	Herefordshire, County of	00GAPC	Bringsty	E	25	17	
00GA	Herefordshire, County of	00GAPD	Bromyard	E	25	46	
00LC	Medway	00LCPJ	Twydall	E	25	3	
00MR	Portsmouth	00MRMQ	Central Southsea	E	25	3	
47UC	Malvern Hills	47UCHS	Broadheath	E	25	3	
47UC	Malvern Hills	47UCJB	Martley	E	25	3	
47UC	Malvern Hills	47UCJE	Powick	E	25	3	
47UD	Redditch	47UDFP	Batchley	E	25	3	4%
47UE	Worcester	47UEFQ	Bedwardine	E	25	4	
47UE	Worcester	47UEFR	Cathedral	E	25	3	
47UE	Worcester	47UEFY	St John	E	25	5	
47UE	Worcester	47UEFZ	St Peter's Parish	E	25	3	
47UE	Worcester	47UEGC	Warndon Parish North	E	25	4	
47UF	Wychavon	47UFHM	Honeybourne and Pebworth	E	25	3	
47UF	Wychavon	47UFHR	Norton and Whittington	E	25	3	
00GA	Herefordshire, County of	00GAPP	Hampton Court	E/S	25, 25 Split Equal	111	4%
00GA	Herefordshire, County of	00GAPW	Leominster North	Leominster North	16, 13, 10, 9, 5, 29, 2 Split Equal	488	17%
00GA	Herefordshire, County of	00GAPX	Leominster South	Leominster South	15, 14, 12, 8, 4, 17, 18, 19, 20, 21, 28, 22, 26, 24, 23, 30 Split Equal	497	18%
00GA	Herefordshire, County of	00GAPB	Bircher	N	2	156	6%
39UB	Bridgnorth	39UBGD	Broseley East	N	2	3	
00CN	Birmingham	00CNFB	Aston	NE	25	0	
00CN	Birmingham	00CNFL	Handsworth	NE	25	0	
00CN	Birmingham	00CNFT	Longbridge	NE	25	3	
00CN	Birmingham	00CNFZ	Perry Barr	NE	25	3	
00CN	Birmingham	00CNGG	Soho	NE	25	0	
00CN	Birmingham	00CNGP	Washwood Heath	NE	25	0	
00CR	Dudley	00CRFM	Kingswinford North and Wall Heath	NE	25	3	
00CR	Dudley	00CRFY	Sedgley	NE	25	3	
00CS	Sandwell	00CSFB	Blackheath	NE	25	3	
00CW	Wolverhampton	00CWFT	Tettenhall Wightwick	NE	25	3	
00GA	Herefordshire, County of	00GAQN	Upton	NE	25	138	
00GF	Telford and Wrekin	00GFNS	Cuckoo Oak	NE	25	0	
00GF	Telford and Wrekin	00GFNU	Donnington	NE	25	0	
00GF	Telford and Wrekin	00GFPC	Horsehay and Lightmoor	NE	25	3	
00GF	Telford and Wrekin	00GFPE	Ketley and Oakengates	NE	25	0	
00GF	Telford and Wrekin	00GFPF	Lawley and Overdale	NE	25	3	
00GF	Telford and Wrekin	00GFPT	The Nedge	NE	25	3	
00GF	Telford and Wrekin	00GFPX	Wrockwardine Wood and Trench	NE	25	0	
00GL	Stoke-on-Trent	00GLNG	Hanley West and Shelton	NE	25	0	
00NN	Powys	00NNQR	Churchstoke	NE	25	3	
17UC	Bolsover	17UCGU	South Normanton West	NE	25	3	
39UC	North Shropshire	39UCGE	Clive and Myddle	NE	25	3	
39UC	North Shropshire	39UCGM	Market Drayton East	NE	25	0	
39UD	Oswestry	39UDFZ	Llanyblodwel and Pant	NE	25	3	
39UE	Shrewsbury and Atcham	39UEFZ	Bagley	NE	25	3	
39UE	Shrewsbury and Atcham	39UEGA	Battlefield and Heathgates	NE	25	0	
39UE	Shrewsbury and Atcham	39UEGL	Haughmond and Attingham	NE	25	3	17%
39UE	Shrewsbury and Atcham	39UEGT	Rea Valley	NE	25	0	
39UE	Shrewsbury and Atcham	39UEGW	Severn Valley	NE	25	3	
39UF	South Shropshire	39UFCH	Bitterley with Stoke St Milborough	NE	25	8	
39UF	South Shropshire	39UFCK	Burford	NE	25	11	
39UF	South Shropshire	39UFGL	Caynham with Ashford	NE	25	18	
39UF	South Shropshire	39UFGP	Church Stretton South	NE	25	3	
39UF	South Shropshire	39UFGQ	Clee	NE	25	20	
39UF	South Shropshire	39UFGR	Cleobury Mortimer	NE	25	9	
39UF	South Shropshire	39UFGU	Corve Valley	NE	25	4	
39UF	South Shropshire	39UFGX	Ludlow Henley	NE	25	16	
39UF	South Shropshire	39UFGY	Ludlow St Laurence's	NE	25	13	
39UF	South Shropshire	39UFGZ	Ludlow St Peter's	NE	25	33	
39UF	South Shropshire	39UFHA	Ludlow Sheet with Ludford	NE	25	56	
39UF	South Shropshire	39UFHB	Stokesay	NE	25	10	
39UF	South Shropshire	39UFHD	Wistanstow with Hopesay	NE	25	3	
41UE	Newcastle-under-Lyme	41UECB	Bradwell	NE	25	0	
47UC	Malvern Hills	47UCHQ	Alfrick and Leigh	NE	25	5	
47UC	Malvern Hills	47UCHR	Baldwin	NE	25	6	
47UC	Malvern Hills	47UCHY	Lindridge	NE	25	10	
47UC	Malvern Hills	47UCJJ	Tenbury	NE	25	48	
47UC	Malvern Hills	47UCJN	Woodbury	NE	25	3	
47UF	Wychavon	47UFHA	Droitwich South East	NE	25	3	
47UF	Wychavon	47UFHC	Droitwich West	NE	25	3	
47UG	Wyre Forest	47UGFJ	Aggborough and Spennells	NE	25	3	
47UG	Wyre Forest	47UGFX	Bewdley and Arley	NE	25	3	
47UG	Wyre Forest	47UGGK	Sutton Park	NE	25	3	

Census Report for South Leominster Ward

Results options B : (By Destination Inbound)

Minimum Number to be considered in total column : 0

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Inbound Direction	Zone	CarDriver	%
00GA	Herefordshire, County of	00GAPZ	Mortimer	NW	16	80	
00NN	Powys	00NNQJ	Begulidy	NW	16	3	
00NN	Powys	00NNRF	Knighton	NW	16	13	
00NN	Powys	00NNSU	Prestelgne	NW	16	12	
39UF	South Shropshire	39UFGG	Bishop's Castle with Onny Valley	NW	16	3	4%
39UF	South Shropshire	39UFGJ	Bucknell	NW	16	3	
39UF	South Shropshire	39UFGS	Clun	NW	16	3	
39UF	South Shropshire	39UFGT	Clun Forest	NW	16	3	
39UF	South Shropshire	39UFGW	Kemp Valley	NW	16	3	
00GA	Herefordshire, County of	00GANY	Aylestone	S	23	24	
00GA	Herefordshire, County of	00GANZ	Backbury	S	23	8	
00GA	Herefordshire, County of	00GAPA	Belmont	S	23	18	
00GA	Herefordshire, County of	00GAPE	Burghill, Holmer and Lyde	S	23	22	
00GA	Herefordshire, County of	00GAPG	Central	S	23	10	
00GA	Herefordshire, County of	00GAPJ	Frome	S	23	19	
00GA	Herefordshire, County of	00GAPN	Hagley	S	23	29	
00GA	Herefordshire, County of	00GAPQ	Hollington	S	23	7	
00GA	Herefordshire, County of	00GAPR	Hope End	S	23	13	
00GA	Herefordshire, County of	00GAPU	Ledbury	S	23	19	
00GA	Herefordshire, County of	00GAPY	Llangarron	S	23	10	
00GA	Herefordshire, County of	00GAQA	Old Gore	S	23	5	
00GA	Herefordshire, County of	00GAQD	Pontrilas	S	23	15	
00GA	Herefordshire, County of	00GAQF	Ross-on-Wye West	S	23	3	14%
00GA	Herefordshire, County of	00GAQH	St Nicholas	S	23	25	
00GA	Herefordshire, County of	00GAQK	Sutton Walls	S	23	32	
00GA	Herefordshire, County of	00GAQL	Three Elms	S	23	59	
00GA	Herefordshire, County of	00GAQM	Tupsley	S	23	40	
00GA	Herefordshire, County of	00GAQP	Valletts	S	23	12	
00PM	Torfaen	00PMND	Blaenavon	S	23	3	
00PP	Monmouthshire	00PPPX	Roglet	S	23	3	
18UB	East Devon	18UBHP	Sidmouth Rural	S	23	0	
23UD	Forest of Dean	23UDGL	Bromesberrow and Dymock	S	23	3	
23UD	Forest of Dean	23UDGX	Lydbrook and Ruardean	S	23	3	
23UG	Tewkesbury	23UGGP	Coombe Hill	S	23	3	
47UC	Malvern Hills	47UCHJ	Dyson Perrins	S	23	3	
47UC	Malvern Hills	47UCHZ	Link	S	23	3	
47UC	Malvern Hills	47UCJD	Pickersleigh	S	23	3	
00GA	Herefordshire, County of	00GAPF	Castle	W	15	46	
00GA	Herefordshire, County of	00GAPH	Credenhill	W	15	31	
00GA	Herefordshire, County of	00GAPK	Golden Cross with Weobley	W	15	101	
00GA	Herefordshire, County of	00GAPL	Golden Valley North	W	15	5	
00GA	Herefordshire, County of	00GAPM	Golden Valley South	W	15	4	
00GA	Herefordshire, County of	00GAPT	Kington Town	W	15	48	
00GA	Herefordshire, County of	00GAQB	Pembridge and Lyonshall with Title	W	15	112	
00GA	Herefordshire, County of	00GAQG	St Martins and Hinton	W	15	19	
00GA	Herefordshire, County of	00GAQJ	Stoney Street	W	15	10	
00GA	Herefordshire, County of	00GAQQ	Wormsley Ridge	W	15	44	16%
00NN	Powys	00NNQL	Blaen Hafren	W	15	3	
00NN	Powys	00NNQT	Cwm-twrch	W	15	3	
00NN	Powys	00NNQX	Felin-fach	W	15	3	
00NN	Powys	00NNRD	Hay	W	15	3	
00NN	Powys	00NNRH	Llanbadarn Fawr	W	15	7	
00NN	Powys	00NNRM	Llandrindod North	W	15	3	
00NN	Powys	00NNSA	Llanidloes	W	15	3	
00NN	Powys	00NNST	Old Radnor	W	15	12	
00NN	Powys	00NNTA	St. Mary	W	15	3	

* Not in Northern Ireland
# Only in Northern Ireland

Census Report for South Leominster Ward

Results options B : (By Origin Outbound)

Minimum Number to be considered in total column : 0

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Outbound Direction	Zone	CarDriver	%
00AS	Hillingdon	00ASGM	Eastcote and East Ruislip	E	25	3	
00CH	Gateshead	00CHFT	Teams	E	25	3	
00CQ	Coventry	00CQFC	Cheylesmore	E	25	3	
00GA	Herefordshire, County of	00GAPD	Bromyard	E	25	31	
29UQ	Tunbridge Wells	29UQGK	Paddock Wood East	E	25	0	
37UB	Ashfield	37UBCG	Woodhouse	E	25	0	5%
44UE	Stratford-on-Avon	44UEHR	Tanworth	E	25	3	
44UF	Warwick	44UFGH	Milverton	E	25	0	
47UE	Worcester	47UEFR	Cathedral	E	25	3	
47UE	Worcester	47UEFU	Nunnery	E	25	3	
47UE	Worcester	47UEFX	St Clement	E	25	4	
47UF	Wychavon	47UFHR	Norton and Whittington	E	25	3	
00GA	Herefordshire, County of	00GAPP	Hampton Court	E/S	25, 23 Split Equal	51	4%
00GA	Herefordshire, County of	00GAPW	Leominster North	Leominster North	16, 13, 10, 9, 5, 29, 2 Split Equal	52	4%
00GA	Herefordshire, County of	00GAPX	Leominster South	Leominster South	15, 14, 12, 8, 6, 7, 17, 18, 19, 20, 21, 28, 22, 26, 24, 23, 30 Split Equal	497	40%
00GA	Herefordshire, County of	00GAPB	Bircher	N	2	46	4%
00CN	Birmingham	00CNGL	Sutton Four Oaks	NE	25	3	
00FK	Derby	00FKMZ	Alvaston	NE	25	3	
00GA	Herefordshire, County of	00GAQN	Upton	NE	25	17	
00GF	Telford and Wrekin	00GFPF	Lawley and Overdale	NE	25	3	
00GF	Telford and Wrekin	00GFPT	The Nedge	NE	25	0	
16UD	Carlisle	16UDGP	Longtown & Rockcliffe	NE	25	3	
17UJ	North East Derbyshire	17UJHE	Wingerworth	NE	25	3	
39UB	Bridgnorth	39UBGM	Morville	NE	25	3	
39UC	North Shropshire	39UCGM	Market Drayton East	NE	25	3	
39UC	North Shropshire	39UCGT	Sutton	NE	25	3	
39UF	South Shropshire	39UFGH	Bitterley with Stoke St Milborough	NE	25	3	8%
39UF	South Shropshire	39UFGK	Burford	NE	25	7	
39UF	South Shropshire	39UFGL	Caynham with Ashford	NE	25	3	
39UF	South Shropshire	39UFGY	Ludlow St Laurence's	NE	25	10	
39UF	South Shropshire	39UFGZ	Ludlow St Peter's	NE	25	3	
39UF	South Shropshire	39UFHA	Ludlow Sheet with Ludford	NE	25	10	
41UF	South Staffordshire	41UFHM	Bilbrook	NE	25	0	
47UC	Malvern Hills	47UCJJ	Tenbury	NE	25	17	
47UC	Malvern Hills	47UCJN	Woodbury	NE	25	3	
47UF	Wychavon	47UFHK	Hartlebury	NE	25	3	
47UG	Wyre Forest	47UGGK	Sutton Park	NE	25	3	
00GA	Herefordshire, County of	00GAPZ	Mortimer	NW	16	5	
00NN	Powys	00NNSU	Prestelgne	NW	16	8	1%
39UF	South Shropshire	39UFGJ	Bucknell	NW	16	3	

Census Report for South Leominster Ward

Results options B : (By Origin Outbound)

Minimum Number to be considered in total column : 0

Local_Authority_Code	Local_Authority_Name	Ward_Code	Ward_Name	Outbound Direction	Zone	CarDriver	%
00GA	Herefordshire, County of	00GANY	Aylestone	S	23	17	
00GA	Herefordshire, County of	00GAPA	Belmont	S	23	3	
00GA	Herefordshire, County of	00GAPE	Burghill, Holmer and Lyde	S	23	3	
00GA	Herefordshire, County of	00GAPC	Central	S	23	103	
00GA	Herefordshire, County of	00GAPJ	Frome	S	23	3	
00GA	Herefordshire, County of	00GAPN	Hagley	S	23	9	
00GA	Herefordshire, County of	00GAPQ	Hollington	S	23	31	
00GA	Herefordshire, County of	00GAPU	Ledbury	S	23	10	
00GA	Herefordshire, County of	00GAQD	Pontrilas	S	23	3	
00GA	Herefordshire, County of	00GAQE	Ross-on-Wye East	S	23	3	
00GA	Herefordshire, County of	00GAQH	St Nicholas	S	23	16	
00GA	Herefordshire, County of	00GAQK	Sutton Walls	S	23	4	
00GA	Herefordshire, County of	00GAQL	Three Elms	S	23	73	25%
00GA	Herefordshire, County of	00GAQM	Tupsley	S	23	6	
00HX	Swindon	00HXNA	Central	S	23	3	
00PD	The Vale of Glamorgan	00PDNC	Castleland	S	23	0	
00PP	Monmouthshire	00PPPA	Drybridge	S	23	3	
00PT	Cardiff	00PTPK	Trowbridge	S	23	3	
23UD	Forest of Dean	23UDHG	Redmarley	S	23	3	
23UE	Gloucester	23UEFT	Barton and Tredworth	S	23	3	
24UL	Rushmoor	24ULGE	Wellington	S	23	0	
40UD	South Somerset	40UDKD	Crewkerne	S	23	3	
47UC	Malvern Hills	47UCHZ	Link	S	23	3	
47UC	Malvern Hills	47UCJD	Pickersleigh	S	23	3	
00GA	Herefordshire, County of	00GAPF	Castle	W	15	6	
00GA	Herefordshire, County of	00GAPH	Credenhill	W	15	3	
00GA	Herefordshire, County of	00GAPK	Golden Cross with Weobley	W	15	29	
00GA	Herefordshire, County of	00GAPM	Golden Valley South	W	15	6	
00GA	Herefordshire, County of	00GAPT	Kington Town	W	15	6	8%
00GA	Herefordshire, County of	00GAQB	Pembridge and Lyonshall with Title	W	15	35	
00GA	Herefordshire, County of	00GAQG	St Martins and Hinton	W	15	6	
00GA	Herefordshire, County of	00GAQJ	Stoney Street	W	15	7	
00GA	Herefordshire, County of	00GAQQ	Wormsley Ridge	W	15	6	
8888	Depart from UK to Abroad	888888	Depart from UK to Abroad	Exclude	-	3	
9999	Outside of the UK	999999	Outside of the UK	Exclude	-	0	

APPENDIX 6

Committed Development Distribution Matrix

Committed Development Distribution Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1															17%															
2															8%															
3															0%															
4															1%															
5															2%															
6															0%															
7															0%															
8															1%															
9															2%															
10															2%															
11															0%															
12															1%															
13															2%															
14															1%															
15	8%	4%	0%	0%	1%	2%	2%	2%	1%	1%	0%	2%	1%	2%	-	2%	2%	2%	2%	2%	2%	2%	29%	2%	7%	2%	0%	2%	1%	2%
16															7%															
17															1%															
18															1%															
19															1%															
20															1%															
21															1%															
22															1%															
23															17%															
24															1%															
25															6%															
26															1%															
27															0%															
28															1%															
29															2%															
30															1%															

APPENDIX 7

Committed Development Matrix

AM Peak Hour Committed Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	41	22	0	0	3	12	12	12	3	3	0	12	3	12	0	9	12	12	12	12	12	12	146	12	33	12	0	12	3	12
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour Committed Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	28	14	0	0	2	8	8	8	2	2	0	8	2	8	0	6	8	8	8	8	8	8	98	8	22	8	0	8	2	8
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 8

Future Year Scenario Matrices

AM Peak Hour Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	175	70	0	35	111	10	21	1	7	0	2	26	55	43	45	22	36	0	18	8	0	32	4	15	13	4	5	49	5
2	391	0	60	0	33	104	10	20	1	7	0	2	26	53	43	45	21	35	0	18	8	0	32	4	15	13	4	5	46	4
3	1	0	0	0	2	8	1	2	0	1	0	0	9	21	19	20	3	8	0	4	2	0	14	2	8	7	1	1	1	2
4	156	65	0	0	3	24	1	4	0	1	0	0	12	32	26	27	4	13	0	7	3	0	20	2	9	8	1	2	2	2
5	67	40	0	0	0	109	0	0	0	0	0	0	7	22	19	20	0	5	0	3	1	0	13	1	5	4	0	1	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	12	9	0	0	0	0	0	0	0	0	0	0	27	103	60	66	0	2	0	1	1	0	9	1	4	3	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	14	10	0	0	0	0	2	9	0	0	0	0	1	13	12	13	1	3	0	2	1	0	10	1	5	4	0	1	0	1
11	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
12	5	4	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	1	0	1	1	0	5	1	3	2	0	0	0	1
13	49	40	0	0	11	0	41	141	0	3	0	0	0	2	4	5	15	25	0	13	7	0	26	4	13	11	4	4	0	4
14	43	35	0	0	11	0	34	98	0	4	0	0	0	0	98	126	14	23	0	13	7	0	24	4	13	11	4	5	0	4
15	64	55	0	0	26	2	64	142	0	21	0	2	12	139	0	42	32	41	0	24	12	0	36	8	20	18	12	11	0	9
16	67	58	0	0	25	1	68	165	0	20	0	1	9	220	57	0	31	42	0	23	12	0	36	8	20	16	11	10	0	8
17	43	30	0	0	1	0	2	2	0	1	0	0	13	40	31	33	0	515	0	35	7	0	67	3	20	15	1	3	0	3
18	33	24	0	0	2	0	4	4	0	2	0	0	13	33	27	29	220	0	0	48	4	0	89	2	19	14	0	1	0	2
19	8	7	0	0	0	0	0	1	0	0	0	0	4	10	10	11	4	25	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	9	0	0	2	0	2	2	0	2	0	1	7	13	12	13	10	25	0	0	0	0	127	0	5	3	0	0	0	0
22	3	2	0	0	0	0	0	0	0	0	0	0	2	3	4	4	1	1	0	0	0	0	2	0	0	0	0	0	0	0
23	27	23	0	0	9	1	12	11	2	5	0	2	16	27	25	25	43	123	0	0	68	0	0	0	89	32	0	0	0	0
24	3	2	0	0	1	0	1	1	0	1	0	0	2	3	4	4	1	1	0	0	0	0	0	0	11	14	0	0	0	0
25	12	11	0	0	3	0	4	4	1	3	0	1	8	14	13	14	12	23	0	0	3	0	41	67	0	605	0	0	0	60
26	10	9	0	0	3	0	3	3	1	2	0	1	7	11	11	12	9	15	0	0	1	0	12	37	432	0	0	0	0	10
27	14	11	0	0	0	0	0	1	0	0	0	0	5	18	15	16	23	0	0	0	0	0	0	0	0	0	0	0	0	0
28	4	4	0	0	0	0	0	1	0	0	0	0	3	7	7	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0
29	112	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Hour Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	16	0	0	0	4	0	3	0	0	0	0	0	5	9	9	1	2	0	2	0	0	1	0	1	1	1	0	26	0
2	14	0	0	0	0	1	0	1	0	0	0	0	0	2	4	4	0	1	0	1	0	0	0	0	0	0	0	0	2	0
3	4	0	0	0	0	1	0	1	0	0	0	0	0	3	7	5	0	1	0	1	0	0	0	0	0	0	0	0	5	0
4	11	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	1	1	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	5	2	3	0	1	0	1	1	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0
15	12	5	8	0	4	0	4	5	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0
16	9	4	5	0	3	0	2	3	0	0	0	0	1	2	0	0	2	2	0	2	0	0	1	0	1	1	1	0	0	0
17	3	1	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7	3	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	1	0	40	0	0	0	4
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	31	0	0	0	0	1
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0

AM Peak Hour Committed Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	41	22	0	0	3	12	12	12	3	3	0	12	3	12	0	9	12	12	12	12	12	12	146	12	33	12	0	12	3	12
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	501	0	0	53	136	8	18	0	10	1	2	82	103	71	78	44	52	0	20	10	1	37	1	13	10	0	2	29	0
2	308	0	0	0	38	97	6	14	0	9	1	1	53	91	64	70	34	43	0	17	9	1	33	1	12	9	0	1	19	0
3	115	92	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0
4	159	139	0	0	10	47	2	4	0	3	1	1	39	74	51	56	16	26	0	9	6	1	24	1	8	6	0	1	1	0
5	57	52	0	0	0	59	1	1	0	1	1	1	9	23	18	20	1	2	0	1	1	1	8	1	2	2	0	1	1	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	20	19	0	0	1	0	1	0	0	2	0	1	81	205	95	109	1	2	0	1	1	1	8	1	2	2	0	1	1	0
9	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	1	0	1	1	1	1	0	1	0	0
10	24	23	0	0	1	0	2	7	0	0	0	1	7	39	23	28	1	4	0	2	2	1	10	1	3	3	0	1	1	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	0
12	2	2	0	0	1	0	1	1	0	1	0	0	1	2	2	2	1	1	0	1	1	1	2	1	1	2	0	1	1	0
13	60	58	0	0	18	0	18	76	0	4	0	0	0	8	7	10	16	23	0	11	7	1	23	1	9	7	0	1	3	0
14	97	93	0	0	40	1	43	178	0	26	0	1	3	0	244	372	37	44	0	20	11	1	34	1	13	11	0	2	9	0
15	77	74	0	0	37	1	39	102	0	27	0	1	12	152	0	69	34	40	0	21	13	1	33	1	14	12	0	4	12	0
16	74	72	0	0	33	1	36	102	0	22	0	1	8	175	42	0	31	38	0	19	11	1	31	1	13	11	0	3	10	0
17	42	40	0	0	2	0	1	1	0	2	1	1	29	67	43	49	0	380	0	20	7	1	53	1	10	7	0	1	1	0
18	60	57	0	0	8	0	1	6	0	3	1	1	42	80	54	60	486	0	0	69	8	1	110	1	13	9	0	1	2	0
19	13	12	0	0	2	0	1	1	0	2	1	1	11	22	19	20	6	9	0	0	0	0	0	0	0	0	0	0	1	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	10	0	0	2	1	1	1	0	1	1	1	10	17	14	16	7	8	0	0	0	0	56	1	1	1	0	0	2	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	48	47	0	0	19	1	8	16	0	11	1	3	39	59	47	50	78	161	0	0	180	1	0	0	40	9	0	0	7	0
24	2	2	0	0	1	1	1	1	0	1	1	1	2	3	4	4	2	1	0	0	1	1	1	0	69	40	0	0	1	0
25	27	26	0	0	10	1	4	9	0	7	1	2	23	33	29	31	29	43	0	0	12	1	129	30	0	598	0	0	4	0
26	11	11	0	0	3	1	1	3	0	2	1	1	10	16	14	16	9	10	0	0	2	1	2	12	608	0	0	0	1	0
27	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	4	0	1	1	1	17	1	3	2	0	1	0	0
28	3	3	0	0	1	0	1	1	0	1	1	1	3	6	6	6	1	1	0	0	0	0	0	0	0	0	0	0	1	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	0	0	1	1	1	1	0	1	1	1	3	4	6	6	1	2	0	0	1	0	1	0	59	6	0	0	1	0

PM Peak Hour Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	8	8	0	0	0	1	1	1	2	0	0	3	4	9	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	1	1	0	0	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	11	6	0	0	0	0	0	6	0	0	0	0	0	0	0	2	2	2	0	2	0	1	1	0	0	0	2	0	9	0
16	8	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	6	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	16	0	0	0	3
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour Committed Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	28	14	0	0	2	8	8	8	2	2	0	8	2	8	0	6	8	8	8	8	8	8	98	8	22	8	0	8	2	8
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 9

TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	ES	EAST SUSSEX	1 days
04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
06	**WEST MIDLANDS**		
	ST	STAFFORDSHIRE	1 days
09	**NORTH**		
	TV	TEES VALLEY	1 days
11	**SCOTLAND**		
	SR	STIRLING	1 days

Main parameter selection:

Parameter: Number of dwellings
Range: 101 to 491 (units:)

Date Range: 01/01/00 to 19/10/08

Selected survey days:

Monday	2 days
Tuesday	1 days
Thursday	2 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3

Selected Location Sub Categories:

Residential Zone	2
Out of Town	1
No Sub Category	2

Optional parameter selection:

Use Class:

C3	5 days

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days

Optional parameter selection (Cont.):

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

Travel Plan:

Not Known	2 days
No	3 days

LIST OF SITES relevant to selection parameters

1 **ES-03-A-01** **MIXED HOUSES/FLATS, LEWES** **EAST SUSSEX**
OLD MALLING WAY
SOUTH MALLING
LEWES
Total Number of dwellings: 491
Survey date: THURSDAY *29/03/01* *Survey Type: MANUAL*

2 **SF-03-A-03** **MIXED HOUSES, BURY ST EDMDS** **SUFFOLK**
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Total Number of dwellings: 101
Survey date: MONDAY *15/05/06* *Survey Type: MANUAL*

3 **SR-03-A-01** **DETACHED, STIRLING** **STIRLING**
BENVIEW

STIRLING
Total Number of dwellings: 115
Survey date: MONDAY *23/04/07* *Survey Type: MANUAL*

4 **ST-03-A-03** **MIXED HOUSES, STAFFORD** **STAFFORDSHIRE**
QUEENSVILLE

STAFFORD
Total Number of dwellings: 224
Survey date: TUESDAY *04/07/00* *Survey Type: MANUAL*

5 **TV-03-A-01** **MIXED HOUSES/FLATS, HARTLEPL** **TEES VALLEY**
POWLETT ROAD

HARTLEPOOL
Total Number of dwellings: 225
Survey date: THURSDAY *14/04/05* *Survey Type: MANUAL*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

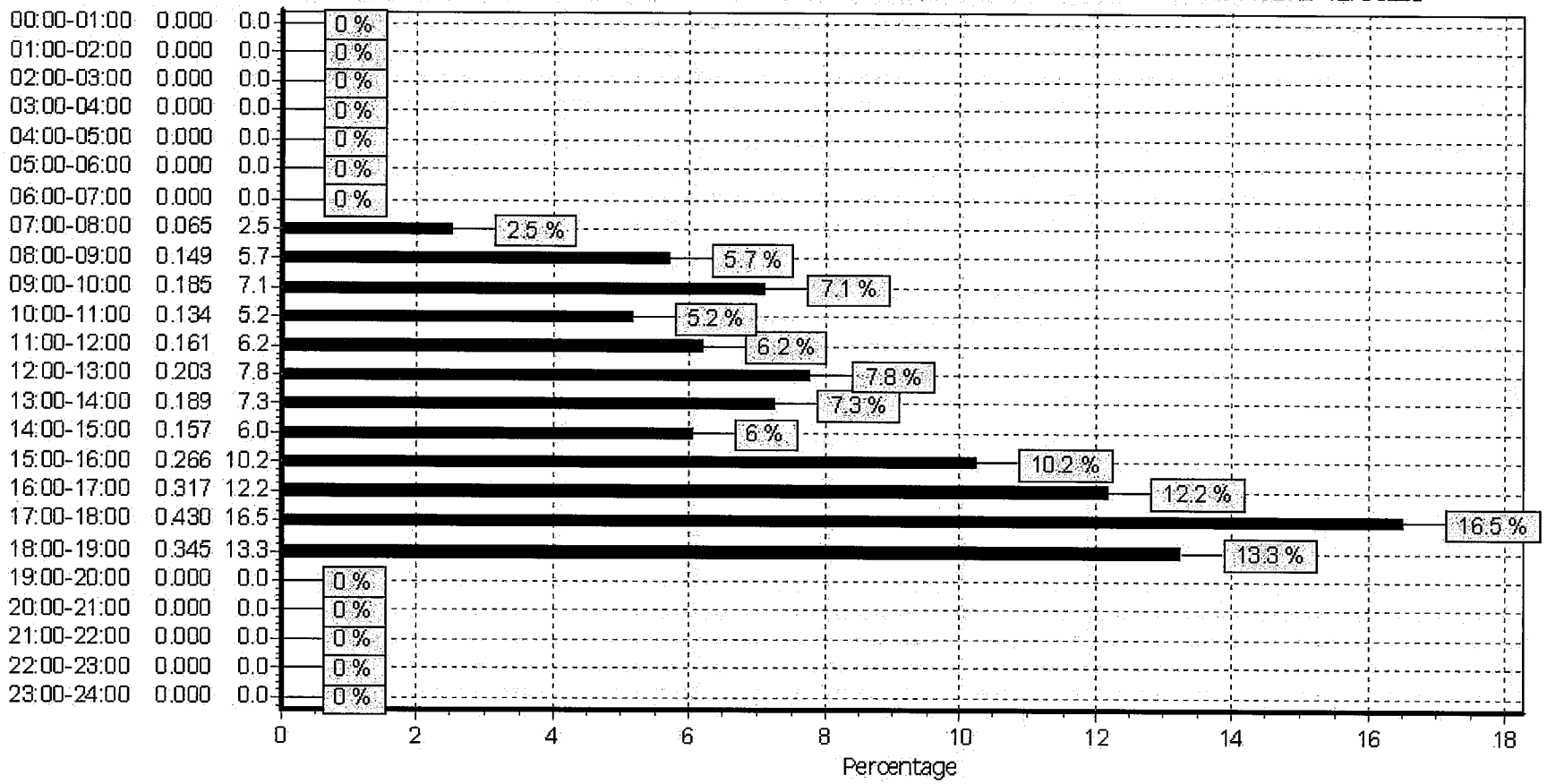
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	5	231	0.065	5	231	0.307	5	231	0.372
08:00 - 09:00	5	231	0.149	**5**	**231**	**0.503**	5	231	0.652
09:00 - 10:00	5	231	0.185	5	231	0.227	5	231	0.412
10:00 - 11:00	5	231	0.134	5	231	0.159	5	231	0.293
11:00 - 12:00	5	231	0.161	5	231	0.156	5	231	0.317
12:00 - 13:00	5	231	0.203	5	231	0.173	5	231	0.376
13:00 - 14:00	5	231	0.189	5	231	0.174	5	231	0.363
14:00 - 15:00	5	231	0.157	5	231	0.165	5	231	0.322
15:00 - 16:00	5	231	0.266	5	231	0.193	5	231	0.459
16:00 - 17:00	5	231	0.317	5	231	0.192	5	231	0.509
17:00 - 18:00	**5**	**231**	**0.430**	5	231	0.228	**5**	**231**	**0.658**
18:00 - 19:00	5	231	0.345	5	231	0.254	5	231	0.599
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.601			2.731			5.332

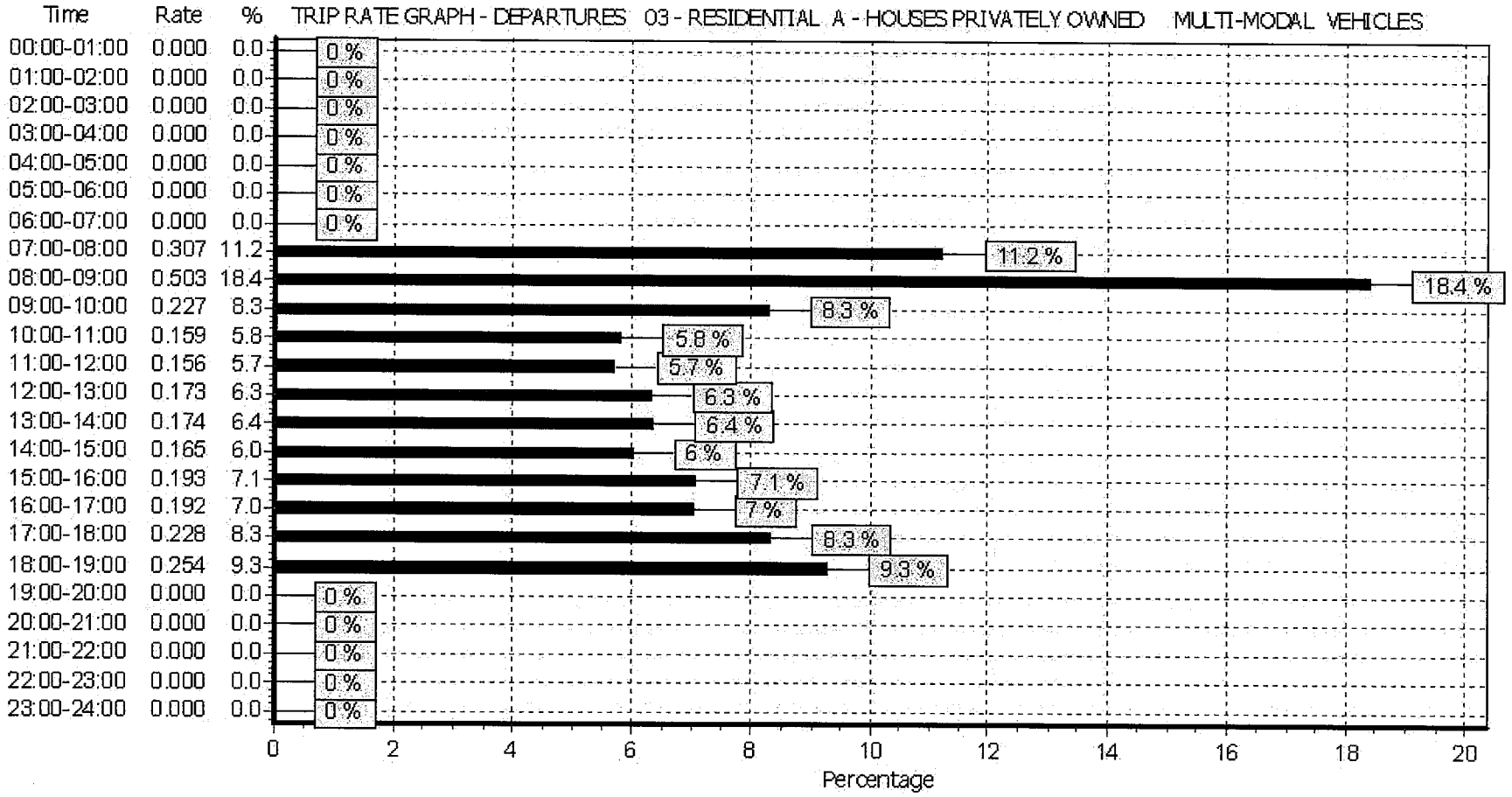
Parameter summary

Trip rate parameter range selected:	101 - 491 (units:)
Survey date date range:	01/01/00 - 19/10/08
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	YES
Surveys manually removed from selection:	5

TRIP RATE GRAPH - ARRIVALS 03 - RESIDENTIAL A - HOUSES PRIVATELY OWNED MULTI-MODAL VEHICLES

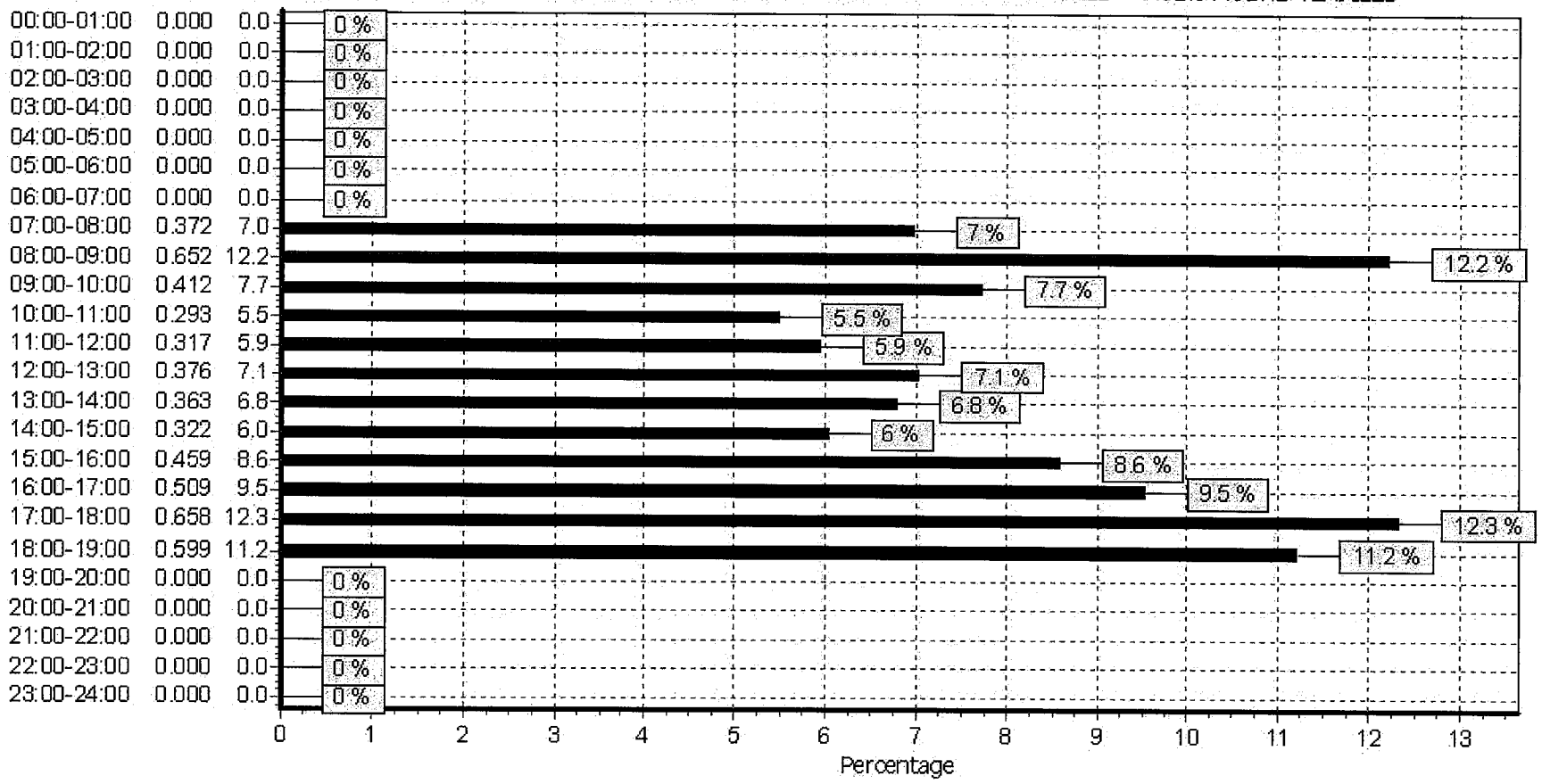
Time	Rate	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	0.065	2.5
08:00-09:00	0.149	5.7
09:00-10:00	0.185	7.1
10:00-11:00	0.134	5.2
11:00-12:00	0.161	6.2
12:00-13:00	0.203	7.8
13:00-14:00	0.189	7.3
14:00-15:00	0.157	6.0
15:00-16:00	0.266	10.2
16:00-17:00	0.317	12.2
17:00-18:00	0.430	16.5
18:00-19:00	0.345	13.3
19:00-20:00	0.000	0.0
20:00-21:00	0.000	0.0
21:00-22:00	0.000	0.0
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0




Time Rate % TRIP RATE GRAPH - DEPARTURES 03 - RESIDENTIAL A - HOUSES PRIVATELY OWNED MULTI-MODAL VEHICLES
00:00-01:00 0.000 0.0
01:00-02:00 0.000 0.0
02:00-03:00 0.000 0.0
03:00-04:00 0.000 0.0
04:00-05:00 0.000 0.0
05:00-06:00 0.000 0.0
06:00-07:00 0.000 0.0
07:00-08:00 0.307 11.2
08:00-09:00 0.503 18.4
09:00-10:00 0.227 8.3
10:00-11:00 0.159 5.8
11:00-12:00 0.156 5.7
12:00-13:00 0.173 6.3
13:00-14:00 0.174 6.4
14:00-15:00 0.165 6.0
15:00-16:00 0.193 7.1
16:00-17:00 0.192 7.0
17:00-18:00 0.228 8.3
18:00-19:00 0.254 9.3
19:00-20:00 0.000 0.0
20:00-21:00 0.000 0.0
21:00-22:00 0.000 0.0
22:00-23:00 0.000 0.0
23:00-24:00 0.000 0.0
0 %
11.2 %
18.4 %
8.3 %
5.8 %
5.7 %
6.3 %
6.4 %
6 %
7.1 %
7 %
8.3 %
9.3 %
0
2
4
6
8
10
12
14
16
18
20
Percentage

TRIP RATE GRAPH - TOTALS 03 - RESIDENTIAL A - HOUSES PRIVATELY OWNED MULTI-MODAL VEHICLES

Time	Rate	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	0.372	7.0
08:00-09:00	0.652	12.2
09:00-10:00	0.412	7.7
10:00-11:00	0.293	5.5
11:00-12:00	0.317	5.9
12:00-13:00	0.376	7.1
13:00-14:00	0.363	6.8
14:00-15:00	0.322	6.0
15:00-16:00	0.459	8.6
16:00-17:00	0.509	9.5
17:00-18:00	0.658	12.3
18:00-19:00	0.599	11.2
19:00-20:00	0.000	0.0
20:00-21:00	0.000	0.0
21:00-22:00	0.000	0.0
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0



TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
MULTI-MODAL VEHICLES

Selected regions and areas:

04	**EAST ANGLIA**		
	SF	SUFFOLK	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
	ST	STAFFORDSHIRE	1 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NO	NORTH LINCOLNSHIRE	1 days

Main parameter selection:

Parameter: Gross floor area
Range: 1574 to 17197 (units: sqm)

Date Range: 01/01/00 to 10/10/08

Selected survey days:

Tuesday	2 days
Wednesday	1 days
Thursday	2 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town	5

Selected Location Sub Categories:

Industrial Zone	3
Commercial Zone	1
Residential Zone	1

Optional parameter selection:

Use Class:

Not Known	2 days
B1	3 days

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days

Optional parameter selection (Cont.):

Population within 5 miles:

50,001 to 75,000	2 days
75,001 to 100,000	3 days

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	2 days

Travel Plan:

Not Known	1 days
No	4 days

LIST OF SITES relevant to selection parameters

1 **NO-02-B-02** **BUSINESS PARK, SCUNTHORPE** **NORTH LINCOLNSHIRE**
DONCASTER ROAD

SCUNTHORPE
Total Gross floor area: 1574 sqm
Survey date: THURSDAY *22/09/05* *Survey Type: MANUAL*

2 **SF-02-B-01** **BUSINESS PK, BURY ST EDMUNDS** **SUFFOLK**
KEMPSON WAY

BURY ST EDMUNDS
Total Gross floor area: 2480 sqm
Survey date: WEDNESDAY *10/05/06* *Survey Type: MANUAL*

3 **SH-02-B-01** **BUSINESS PARK, SHREWSBURY** **SHROPSHIRE**
WELSHPOOL ROAD

SHREWSBURY
Total Gross floor area: 17197 sqm
Survey date: TUESDAY *14/06/05* *Survey Type: MANUAL*

4 **ST-02-B-03** **BUSINESS PARK, STAFFORD** **STAFFORDSHIRE**
FRANK FOLEY WAY
GREYFRIARS
STAFFORD
Total Gross floor area: 4064 sqm
Survey date: THURSDAY *06/07/00* *Survey Type: MANUAL*

5 **WO-02-B-01** **BUSINESS PARK, REDDITCH** **WORCESTERSHIRE**
BURNT MEADOW ROAD
MOORS MOAT NTH IND. EST
REDDITCH
Total Gross floor area: 3525 sqm
Survey date: TUESDAY *02/05/06* *Survey Type: MANUAL*

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK

MULTI-MODAL VEHICLES

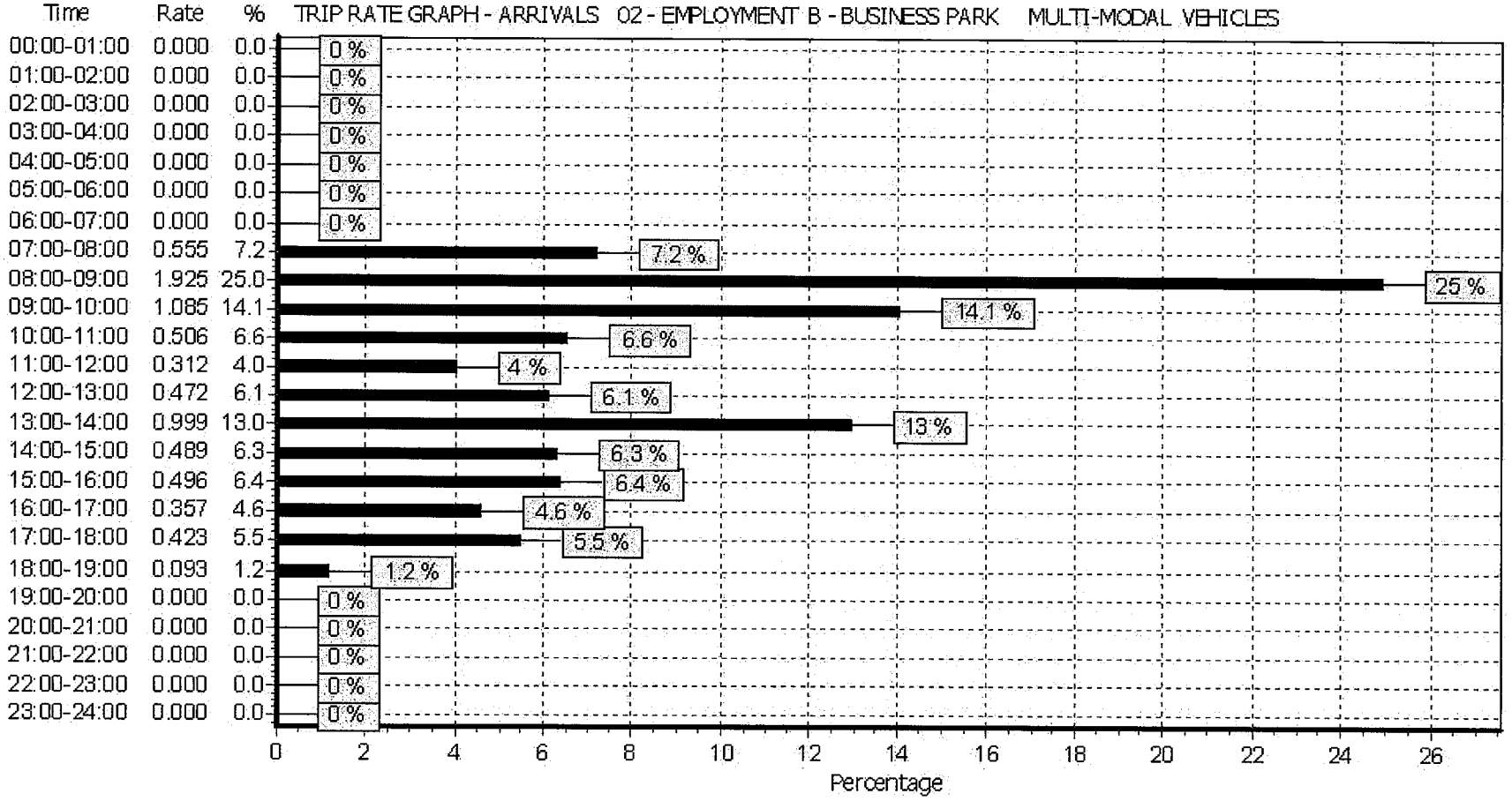
Calculation factor: 100 sqm

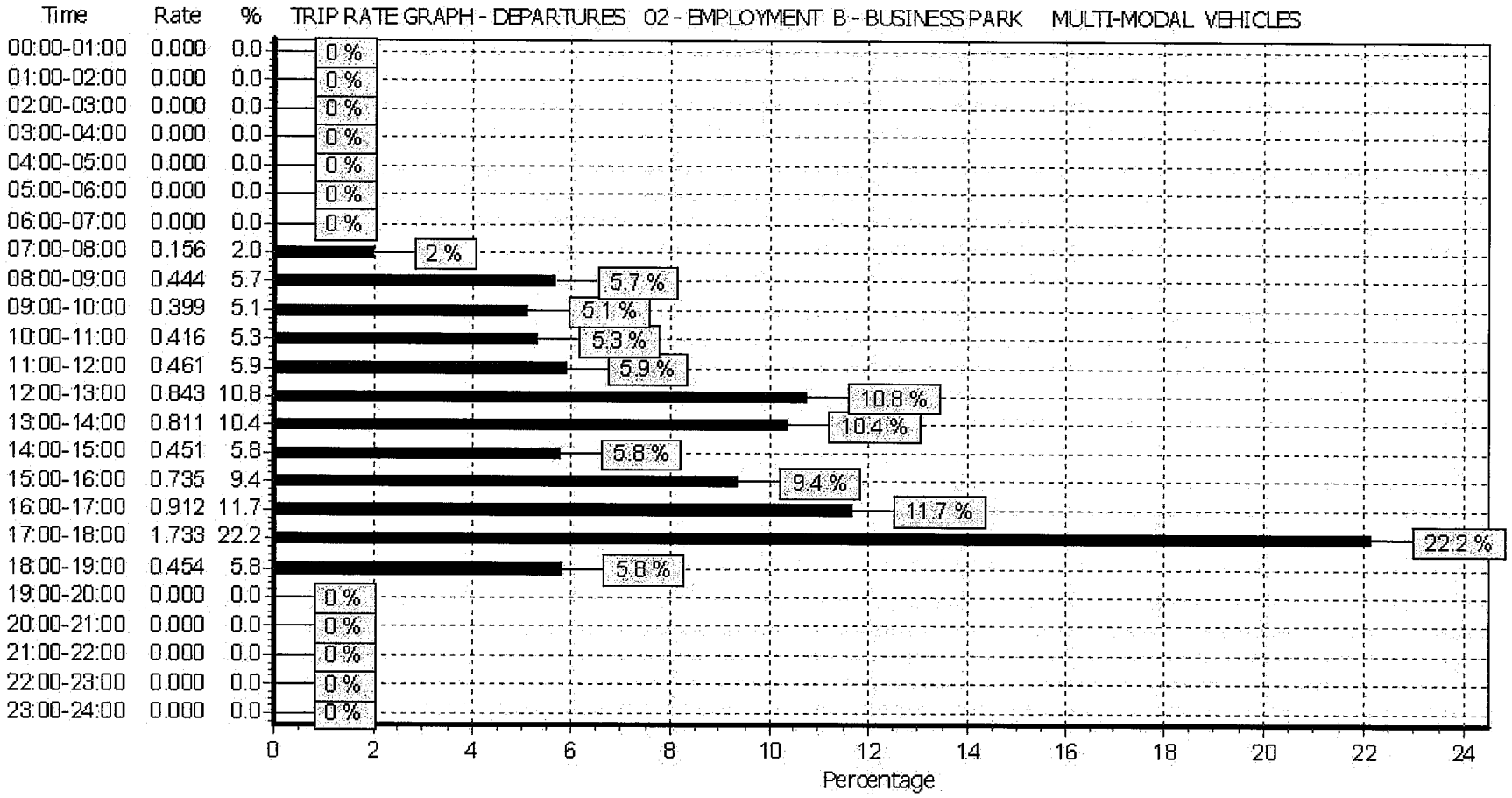
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30	0	0	0.000	0	0	0.000	0	0	0.000
00:30 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 01:30	0	0	0.000	0	0	0.000	0	0	0.000
01:30 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 02:30	0	0	0.000	0	0	0.000	0	0	0.000
02:30 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 03:30	0	0	0.000	0	0	0.000	0	0	0.000
03:30 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 04:30	0	0	0.000	0	0	0.000	0	0	0.000
04:30 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 05:30	0	0	0.000	0	0	0.000	0	0	0.000
05:30 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 06:30	0	0	0.000	0	0	0.000	0	0	0.000
06:30 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 07:30	5	5768	0.208	5	5768	0.080	5	5768	0.288
07:30 - 08:00	5	5768	0.347	5	5768	0.076	5	5768	0.423
08:00 - 08:30	5	5768	0.687	5	5768	0.250	5	5768	0.937
08:30 - 09:00	**5**	**5768**	**1.238**	5	5768	0.194	**5**	**5768**	**1.432**
09:00 - 09:30	5	5768	0.700	5	5768	0.212	5	5768	0.912
09:30 - 10:00	5	5768	0.385	5	5768	0.187	5	5768	0.572
10:00 - 10:30	5	5768	0.298	5	5768	0.218	5	5768	0.516
10:30 - 11:00	5	5768	0.208	5	5768	0.198	5	5768	0.406
11:00 - 11:30	5	5768	0.146	5	5768	0.232	5	5768	0.378
11:30 - 12:00	5	5768	0.166	5	5768	0.229	5	5768	0.395
12:00 - 12:30	5	5768	0.229	5	5768	0.479	5	5768	0.708
12:30 - 13:00	5	5768	0.243	5	5768	0.364	5	5768	0.607
13:00 - 13:30	5	5768	0.489	5	5768	0.433	5	5768	0.922
13:30 - 14:00	5	5768	0.510	5	5768	0.378	5	5768	0.888
14:00 - 14:30	5	5768	0.215	5	5768	0.156	5	5768	0.371
14:30 - 15:00	5	5768	0.274	5	5768	0.295	5	5768	0.569
15:00 - 15:30	5	5768	0.243	5	5768	0.361	5	5768	0.604
15:30 - 16:00	5	5768	0.253	5	5768	0.374	5	5768	0.627
16:00 - 16:30	5	5768	0.184	5	5768	0.420	5	5768	0.604
16:30 - 17:00	5	5768	0.173	5	5768	0.492	5	5768	0.665
17:00 - 17:30	5	5768	0.267	**5**	**5768**	**0.870**	5	5768	1.137
17:30 - 18:00	5	5768	0.156	5	5768	0.863	5	5768	1.019
18:00 - 18:30	5	5768	0.069	5	5768	0.336	5	5768	0.405
18:30 - 19:00	5	5768	0.024	5	5768	0.118	5	5768	0.142
19:00 - 19:30	0	0	0.000	0	0	0.000	0	0	0.000
19:30 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 20:30	0	0	0.000	0	0	0.000	0	0	0.000
20:30 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 21:30	0	0	0.000	0	0	0.000	0	0	0.000
21:30 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 22:30	0	0	0.000	0	0	0.000	0	0	0.000
22:30 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 23:30	0	0	0.000	0	0	0.000	0	0	0.000
23:30 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			7.712			7.815			15.527

Parameter summary

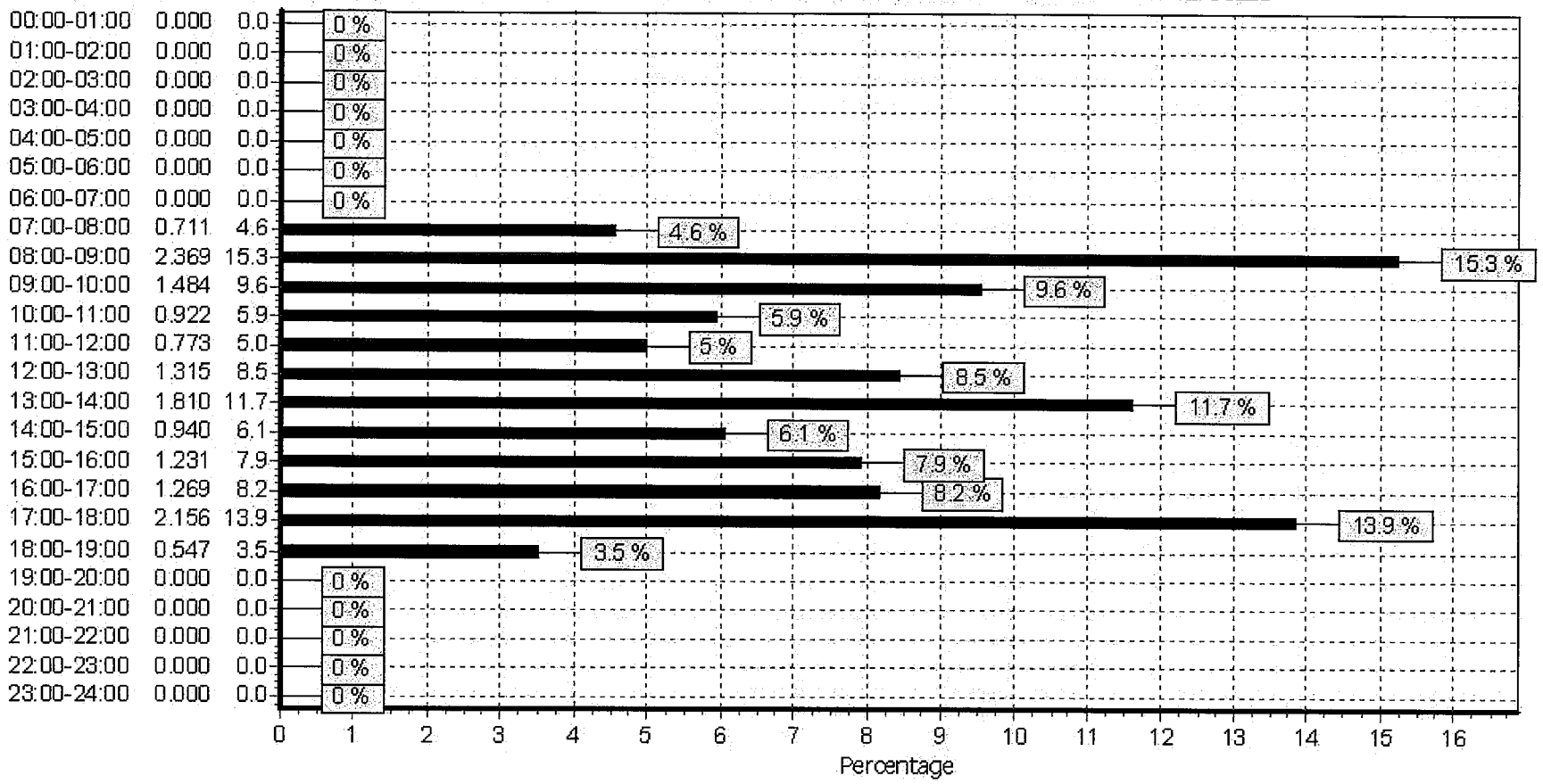
Trip rate parameter range selected:	1574 - 17197 (units: sqm)
Survey date date range:	01/01/00 - 10/10/08
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Optional parameters used in selection:	YES
Surveys manually removed from selection:	1


Time Rate % TRIP RATE GRAPH - ARRIVALS 02 - EMPLOYMENT B - BUSINESS PARK MULTI-MODAL VEHICLES
00:00-01:00 0.000 0.0 0 %
01:00-02:00 0.000 0.0 0 %
02:00-03:00 0.000 0.0 0 %
03:00-04:00 0.000 0.0 0 %
04:00-05:00 0.000 0.0 0 %
05:00-06:00 0.000 0.0 0 %
06:00-07:00 0.000 0.0 0 %
07:00-08:00 0.555 7.2 7.2 %
08:00-09:00 1.925 25.0 25 %
09:00-10:00 1.085 14.1 14.1 %
10:00-11:00 0.506 6.6 6.6 %
11:00-12:00 0.312 4.0 4 %
12:00-13:00 0.472 6.1 6.1 %
13:00-14:00 0.999 13.0 13 %
14:00-15:00 0.489 6.3 6.3 %
15:00-16:00 0.496 6.4 6.4 %
16:00-17:00 0.357 4.6 4.6 %
17:00-18:00 0.423 5.5 5.5 %
18:00-19:00 0.093 1.2 1.2 %
19:00-20:00 0.000 0.0 0 %
20:00-21:00 0.000 0.0 0 %
21:00-22:00 0.000 0.0 0 %
22:00-23:00 0.000 0.0 0 %
23:00-24:00 0.000 0.0 0 %
0 2 4 6 8 10 12 14 16 18 20 22 24 26
Percentage


Time Rate % TRIP RATE GRAPH - DEPARTURES 02 - EMPLOYMENT B - BUSINESS PARK MULTI-MODAL VEHICLES
00:00-01:00 0.000 0.0 0 %
01:00-02:00 0.000 0.0 0 %
02:00-03:00 0.000 0.0 0 %
03:00-04:00 0.000 0.0 0 %
04:00-05:00 0.000 0.0 0 %
05:00-06:00 0.000 0.0 0 %
06:00-07:00 0.000 0.0 0 %
07:00-08:00 0.156 2.0 2 %
08:00-09:00 0.444 5.7 5.7 %
09:00-10:00 0.399 5.1 5.1 %
10:00-11:00 0.416 5.3 5.3 %
11:00-12:00 0.461 5.9 5.9 %
12:00-13:00 0.843 10.8 10.8 %
13:00-14:00 0.811 10.4 10.4 %
14:00-15:00 0.451 5.8 5.8 %
15:00-16:00 0.735 9.4 9.4 %
16:00-17:00 0.912 11.7 11.7 %
17:00-18:00 1.733 22.2 22.2 %
18:00-19:00 0.454 5.8 5.8 %
19:00-20:00 0.000 0.0 0 %
20:00-21:00 0.000 0.0 0 %
21:00-22:00 0.000 0.0 0 %
22:00-23:00 0.000 0.0 0 %
23:00-24:00 0.000 0.0 0 %
0 2 4 6 8 10 12 14 16 18 20 22 24
Percentage

TRIP RATE GRAPH - TOTALS 02 - EMPLOYMENT B - BUSINESS PARK MULTI-MODAL VEHICLES

Time	Rate	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	0.711	4.6
08:00-09:00	2.369	15.3
09:00-10:00	1.484	9.6
10:00-11:00	0.922	5.9
11:00-12:00	0.773	5.0
12:00-13:00	1.315	8.5
13:00-14:00	1.810	11.7
14:00-15:00	0.940	6.1
15:00-16:00	1.231	7.9
16:00-17:00	1.269	8.2
17:00-18:00	2.156	13.9
18:00-19:00	0.547	3.5
19:00-20:00	0.000	0.0
20:00-21:00	0.000	0.0
21:00-22:00	0.000	0.0
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0



APPENDIX 10

Development Distribution

Development Distribution

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1																															0%
2																															8%
3																															0%
4																															1%
5																															2%
6																															0%
7																															0%
8																															1%
9																															2%
10																															2%
11																															0%
12																															1%
13																															2%
14																															1%
15																															18%
16																															7%
17																															1%
18																															1%
19																															1%
20																															1%
21																															1%
22																															1%
23																															17%
24																															1%
25																															23%
26																															1%
27																															0%
28																															1%
29																															2%
30																															1%
31	0%	4%	0%	0%	1%	2%	2%	2%	1%	1%	0%	2%	1%	2%	11%	2%	2%	2%	2%	2%	2%	2%	29%	2%	15%	2%	0%	2%	1%	2%	

APPENDIX 11

Development Matrices

AM Peak Development Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1																															0
2																															106
3																															0
4																															15
5																															31
6																															0
7																															0
8																															15
9																															31
10																															31
11																															0
12																															15
13																															31
14																															15
15																															230
16																															89
17																															15
18																															15
19																															15
20																															15
21																															15
22																															15
23																															225
24																															15
25																															300
26																															15
27																															0
28																															15
29																															31
30																															15
31	0	74	0	0	10	41	41	41	10	10	0	41	10	41	185	33	41	41	41	41	41	41	503	41	257	41	0	41	10	41	

PM Peak Development Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1																															0
2																															147
3																															0
4																															20
5																															43
6																															0
7																															0
8																															20
9																															43
10																															43
11																															0
12																															20
13																															43
14																															20
15																															319
16																															123
17																															20
18																															20
19																															20
20																															20
21																															20
22																															20
23																															312
24																															20
25																															415
26																															20
27																															0
28																															20
29																															43
30																															20
31	0	73	0	0	10	40	40	40	10	10	0	40	10	40	183	32	40	40	40	40	40	40	497	40	254	40	0	40	10	40	

APPENDIX 12

Adjusted Future Year Matrices

AM Peak Hour Adjusted Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	175	70	0	35	111	10	21	1	7	0	2	26	55	21	23	22	36	0	18	8	0	32	4	15	13	4	5	49	5	0
2	391	0	60	0	33	104	10	20	1	7	0	2	26	53	43	45	21	35	0	16	8	0	32	4	15	13	4	5	46	4	0
3	1	0	0	0	2	8	1	2	0	1	0	0	9	21	19	20	3	8	0	4	2	0	14	2	8	7	1	1	1	2	0
4	156	65	0	0	3	24	1	4	0	1	0	0	12	32	26	27	4	13	0	7	3	0	20	2	9	8	1	2	2	2	0
5	67	40	0	0	0	109	0	0	0	0	0	0	7	22	19	20	0	5	0	3	1	0	13	1	5	4	0	1	0	1	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	12	9	0	0	0	0	0	0	0	0	0	0	27	103	60	66	0	2	0	1	1	0	9	1	4	3	0	0	0	1	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	14	10	0	0	0	0	2	9	0	0	0	0	1	13	12	13	1	3	0	2	1	0	10	1	5	4	0	1	0	1	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0
12	5	4	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	1	0	1	1	0	5	1	3	2	0	0	0	1	0
13	49	40	0	0	11	0	41	141	0	3	0	0	0	2	4	5	15	25	0	13	7	0	26	4	13	11	4	4	0	4	0
14	43	35	0	0	11	0	34	96	0	4	0	0	0	0	98	126	14	23	0	13	7	0	24	4	13	11	4	5	0	4	0
15	32	55	0	0	26	2	64	142	0	21	0	2	12	139	0	42	32	41	0	24	12	0	36	8	52	18	12	11	0	9	0
16	33	56	0	0	25	1	68	165	0	20	0	1	9	220	57	0	31	42	0	23	12	0	36	8	53	16	11	10	0	8	0
17	43	30	0	0	1	0	2	2	0	1	0	0	13	40	31	33	0	515	0	35	7	0	67	3	20	15	1	3	0	3	0
18	33	24	0	0	2	0	4	4	0	2	0	0	13	33	27	29	220	0	0	48	4	0	89	2	19	14	0	1	0	2	0
19	8	7	0	0	0	0	0	1	0	0	0	0	4	10	10	11	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	9	0	0	2	0	2	2	0	2	0	1	7	13	12	13	10	25	0	0	0	0	127	0	5	3	0	0	0	0	0
22	3	2	0	0	0	0	0	0	0	0	0	0	2	3	4	4	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0
23	27	23	0	0	9	1	12	11	2	5	0	2	16	27	25	25	43	123	0	0	68	0	0	0	89	32	0	0	0	0	0
24	3	2	0	0	1	0	1	1	0	1	0	0	2	3	4	4	1	1	0	0	0	0	0	0	11	14	0	0	0	0	0
25	12	11	0	0	3	0	4	4	1	3	0	1	8	14	35	37	12	23	0	0	3	0	41	67	0	605	0	0	0	60	0
26	10	9	0	0	3	0	3	3	1	2	0	1	7	11	11	12	9	15	0	0	1	0	12	37	432	0	0	0	0	10	0
27	14	11	0	0	0	0	0	1	0	0	0	0	5	18	15	16	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	4	4	0	0	0	0	0	1	0	0	0	0	3	7	7	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
29	112	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Hour Adjusted Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	16	0	0	0	4	0	3	0	0	0	0	0	5	4	4	1	2	0	2	0	0	1	0	1	1	1	0	26	0	0
2	14	0	0	0	0	1	0	1	0	0	0	0	0	2	4	4	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0
3	4	0	0	0	0	1	0	1	0	0	0	0	0	3	7	5	0	1	0	1	0	0	0	0	0	0	0	0	5	0	0
4	11	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	1	1	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
14	5	2	3	0	1	0	1	1	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0	0
15	12	5	8	0	4	0	4	5	0	0	0	0	4	8	0	0	3	3	0	3	0	0	1	0	1	1	0	0	0	0	0
16	9	4	5	0	3	0	2	3	0	0	0	0	1	2	0	0	2	2	0	2	0	0	1	0	1	1	1	0	0	0	0
17	3	1	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	40	0	0	0	4	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	31	0	0	0	0	1	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Adjusted Committed Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1															0															
2															15															
3															0															
4															2															
5															5															
6															0															
7															0															
8															2															
9															5															
10															5															
11															0															
12															2															
13															5															
14															2															
15	0	22	0	0	3	12	12	12	3	3	0	12	3	12	-	9	12	12	12	12	12	12	146	12	74	12	0	12	3	12
16															13															
17															2															
18															2															
19															2															
20															2															
21															2															
22															2															
23															33															
24															2															
25															44															
26															2															
27															0															
28															2															
29															5															
30															2															

PM Peak Hour Adjusted Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	501	0	0	53	136	8	18	0	10	1	2	62	103	36	39	44	52	0	20	10	1	37	1	13	10	0	2	29	0	0
2	308	0	0	0	38	97	6	14	0	9	1	1	53	91	64	70	34	43	0	17	9	1	33	1	12	9	0	1	19	0	0
3	115	92	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0
4	159	139	0	0	10	47	2	4	0	3	1	1	39	74	51	56	16	26	0	9	6	1	24	1	8	6	0	1	1	0	0
5	57	52	0	0	0	59	1	1	0	1	1	1	9	23	18	20	1	2	0	1	1	1	8	1	2	2	0	1	1	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	20	19	0	0	1	0	1	0	0	2	0	1	81	205	95	109	1	2	0	1	1	1	8	1	2	2	0	1	1	0	0
9	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	1	0	1	1	1	1	0	1	0	0	0
10	24	23	0	0	1	0	2	7	0	0	0	1	7	39	23	28	1	4	0	2	2	1	10	1	3	3	0	1	1	0	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0
12	2	2	0	0	1	0	1	1	0	1	0	0	1	2	2	2	1	1	0	1	1	1	2	1	1	2	0	1	1	0	0
13	60	58	0	0	18	0	18	76	0	4	0	0	0	8	7	10	16	23	0	11	7	1	23	1	9	7	0	1	3	0	0
14	97	93	0	0	40	1	43	178	0	26	0	1	3	0	244	372	37	44	0	20	11	1	34	1	13	11	0	2	9	0	0
15	38	74	0	0	37	1	39	102	0	27	0	1	12	152	0	69	34	40	0	21	13	1	33	1	53	12	0	4	12	0	0
16	37	72	0	0	33	1	36	102	0	22	0	1	8	175	42	0	31	38	0	19	11	1	31	1	51	11	0	3	10	0	0
17	42	40	0	0	2	0	1	1	0	2	1	1	29	67	43	49	0	380	0	20	7	1	53	1	10	7	0	1	1	0	0
18	60	57	0	0	8	0	1	6	0	3	1	1	42	80	54	60	466	0	0	69	8	1	110	1	13	9	0	1	2	0	0
19	13	12	0	0	2	0	1	1	0	2	1	1	11	22	19	20	6	9	0	0	0	0	0	0	0	0	0	0	1	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	10	0	0	2	1	1	1	0	1	1	1	10	17	14	16	7	8	0	0	0	0	56	1	1	1	0	0	2	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	48	47	0	0	19	1	8	16	0	11	1	3	39	59	47	50	78	161	0	0	180	1	0	0	40	9	0	0	7	0	0
24	2	2	0	0	1	1	1	1	0	1	1	1	2	3	4	4	2	1	0	0	1	1	1	0	69	40	0	0	1	0	0
25	27	26	0	0	10	1	4	9	0	7	1	2	23	33	64	70	29	43	0	0	12	1	129	30	0	598	0	0	4	0	0
26	11	11	0	0	3	1	1	3	0	2	1	1	10	16	14	16	9	10	0	0	2	1	2	12	608	0	0	0	1	0	0
27	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	4	0	1	1	1	17	1	3	2	0	1	0	0	0
28	3	3	0	0	1	0	1	1	0	1	1	1	3	6	6	6	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	0	0	1	1	1	1	0	1	1	1	3	4	6	6	1	2	0	0	1	0	1	0	59	6	0	0	1	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour Adjusted Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	8	8	0	0	0	1	1	1	2	0	0	3	4	9	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	1	1	0	0	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
15	11	6	0	0	0	0	0	6	0	0	0	0	0	0	0	2	2	2	0	2	0	1	1	0	0	0	2	0	9	0	0
16	8	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	6	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	16	0	0	0	3	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Adjusted Committed Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1															0															
2															43															
3															0															
4															6															
5															13															
6															0															
7															0															
8															6															
9															13															
10															13															
11															0															
12															6															
13															13															
14															6															
15	0	14	0	0	2	8	8	8	2	2	0	8	2	8	-	6	8	8	8	8	8	8	98	8	50	8	0	8	2	8
16															36															
17															6															
18															6															
19															6															
20															6															
21															6															
22															6															
23															92															
24															6															
25															122															
26															6															
27															0															
28															6															
29															13															
30															6															

APPENDIX 13

Development Scenario Matrices

AM Peak Hour Adjusted Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	175	70	0	35	111	10	21	1	7	0	2	26	55	21	23	22	36	0	18	8	0	32	4	15	13	4	5	49	5	0
2	391	0	60	0	33	104	10	20	1	7	0	2	26	53	43	45	21	35	0	16	8	0	32	4	15	13	4	5	46	4	0
3	1	0	0	0	2	8	1	2	0	1	0	0	9	21	19	20	3	8	0	4	2	0	14	2	8	7	1	1	1	2	0
4	156	65	0	0	3	24	1	4	0	1	0	0	12	32	26	27	4	13	0	7	3	0	20	2	9	8	1	2	2	2	0
5	67	40	0	0	0	109	0	0	0	0	0	0	7	22	19	20	0	5	0	3	1	0	13	1	5	4	0	1	0	1	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	12	9	0	0	0	0	0	0	0	0	0	0	27	103	60	66	0	2	0	1	1	0	9	1	4	3	0	0	0	1	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	14	10	0	0	0	0	2	9	0	0	0	0	1	13	12	13	1	3	0	2	1	0	10	1	5	4	0	1	0	1	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0
12	5	4	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	1	0	1	1	0	5	1	3	2	0	0	0	1	0
13	49	40	0	0	11	0	41	141	0	3	0	0	0	2	4	5	15	25	0	13	7	0	26	4	13	11	4	4	0	4	0
14	43	35	0	0	11	0	34	96	0	4	0	0	0	0	98	126	14	23	0	13	7	0	24	4	13	11	4	5	0	4	0
15	32	55	0	0	26	2	64	142	0	21	0	2	12	139	0	42	32	41	0	24	12	0	36	8	52	18	12	11	0	9	0
16	33	56	0	0	25	1	68	165	0	20	0	1	9	220	57	0	31	42	0	23	12	0	36	8	53	16	11	10	0	8	0
17	43	30	0	0	1	0	2	2	0	1	0	0	13	40	31	33	0	515	0	35	7	0	67	3	20	15	1	3	0	3	0
18	33	24	0	0	2	0	4	4	0	2	0	0	13	33	27	29	220	0	0	48	4	0	89	2	19	14	0	1	0	2	0
19	8	7	0	0	0	0	0	1	0	0	0	0	4	10	10	11	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	9	0	0	2	0	2	2	0	2	0	1	7	13	12	13	10	25	0	0	0	0	127	0	5	3	0	0	0	0	0
22	3	2	0	0	0	0	0	0	0	0	0	0	2	3	4	4	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0
23	27	23	0	0	9	1	12	11	2	5	0	2	16	27	25	25	43	123	0	0	68	0	0	0	89	32	0	0	0	0	0
24	3	2	0	0	1	0	1	1	0	1	0	0	2	3	4	4	1	1	0	0	0	0	0	0	11	14	0	0	0	0	0
25	12	11	0	0	3	0	4	4	1	3	0	1	8	14	35	37	12	23	0	0	3	0	41	67	0	605	0	0	0	60	0
26	10	9	0	0	3	0	3	3	1	2	0	1	7	11	11	12	9	15	0	0	1	0	12	37	432	0	0	0	0	10	0
27	14	11	0	0	0	0	0	1	0	0	0	0	5	18	15	16	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	4	4	0	0	0	0	0	1	0	0	0	0	3	7	7	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
29	112	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Hour Adjusted Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	16	0	0	0	4	0	3	0	0	0	0	0	5	4	4	1	2	0	2	0	0	1	0	1	1	1	0	26	0	0
2	14	0	0	0	0	1	0	1	0	0	0	0	0	2	4	4	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0
3	4	0	0	0	0	1	0	1	0	0	0	0	0	3	7	5	0	1	0	1	0	0	0	0	0	0	0	0	5	0	0
4	11	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	3	1	1	0	0	0	0	0	0	0	0	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	4	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
14	5	2	3	0	1	0	1	1	0	0	0	0	0	0	3	3	1	1	0	1	0	0	1	0	1	1	0	0	0	0	0
15	12	5	8	0	4	0	4	5	0	0	0	0	4	8	0	0	3	3	0	3	0	0	1	0	1	1	2	0	0	0	0
16	9	4	5	0	3	0	2	3	0	0	0	0	1	2	0	0	2	2	0	2	0	0	1	0	1	1	1	0	0	0	0
17	3	1	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	0	2	1	0	40	0	0	0	4	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	31	0	0	0	0	1	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM Peak Adjusted Committed + Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
15	0	22	0	0	3	12	12	12	3	3	0	12	3	12	0	9	12	12	12	12	12	12	146	12	74	12	0	12	3	12	230
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
31	0	74	0	0	10	41	41	41	10	10	0	41	10	41	185	33	41	41	41	41	41	41	503	41	257	41	0	41	10	41	

PM Peak Hour Adjusted Future Year Base (Light Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	501	0	0	53	136	8	18	0	10	1	2	62	103	36	39	44	52	0	20	10	1	37	1	13	10	0	2	29	0	0
2	308	0	0	0	38	97	6	14	0	9	1	1	53	91	64	70	34	43	0	17	9	1	33	1	12	9	0	1	19	0	0
3	115	92	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0
4	159	139	0	0	10	47	2	4	0	3	1	1	39	74	51	56	16	26	0	9	6	1	24	1	8	6	0	1	1	0	0
5	57	52	0	0	0	59	1	1	0	1	1	1	9	23	18	20	1	2	0	1	1	1	8	1	2	2	0	1	1	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	20	19	0	0	1	0	1	0	0	2	0	1	81	205	95	109	1	2	0	1	1	1	8	1	2	2	0	1	1	0	0
9	1	1	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	1	0	1	1	1	1	0	1	0	0	0
10	24	23	0	0	1	0	2	7	0	0	0	1	7	39	23	28	1	4	0	2	2	1	10	1	3	3	0	1	1	0	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0
12	2	2	0	0	1	0	1	1	0	1	0	0	1	2	2	2	1	1	0	1	1	1	2	1	1	2	0	1	1	0	0
13	60	58	0	0	18	0	18	76	0	4	0	0	0	8	7	10	16	23	0	11	7	1	23	1	9	7	0	1	3	0	0
14	97	93	0	0	40	1	43	178	0	26	0	1	3	0	244	372	37	44	0	20	11	1	34	1	13	11	0	2	9	0	0
15	38	74	0	0	37	1	39	102	0	27	0	1	12	152	0	69	34	40	0	21	13	1	33	1	53	12	0	4	12	0	0
16	37	72	0	0	33	1	36	102	0	22	0	1	8	175	42	0	31	38	0	19	11	1	31	1	51	11	0	3	10	0	0
17	42	40	0	0	2	0	1	1	0	2	1	1	29	67	43	49	0	380	0	20	7	1	53	1	10	7	0	1	1	0	0
18	60	57	0	0	8	0	1	6	0	3	1	1	42	80	54	60	466	0	0	69	8	1	110	1	13	9	0	1	2	0	0
19	13	12	0	0	2	0	1	1	0	2	1	1	11	22	19	20	6	9	0	0	0	0	0	0	0	0	0	0	1	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	11	10	0	0	2	1	1	1	0	1	1	1	10	17	14	16	7	8	0	0	0	0	56	1	1	1	0	0	2	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	48	47	0	0	19	1	8	16	0	11	1	3	39	59	47	50	78	161	0	0	180	1	0	0	40	9	0	0	7	0	0
24	2	2	0	0	1	1	1	1	0	1	1	1	2	3	4	4	2	1	0	0	1	1	1	0	69	40	0	0	1	0	0
25	27	26	0	0	10	1	4	9	0	7	1	2	23	33	64	70	29	43	0	0	12	1	129	30	0	598	0	0	4	0	0
26	11	11	0	0	3	1	1	3	0	2	1	1	10	16	14	16	9	10	0	0	2	1	2	12	608	0	0	0	1	0	0
27	1	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	4	0	1	1	1	17	1	3	2	0	1	0	0	0
28	3	3	0	0	1	0	1	1	0	1	1	1	3	6	6	6	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	3	3	0	0	1	1	1	1	0	1	1	1	3	4	6	6	1	2	0	0	1	0	1	0	59	6	0	0	1	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour Adjusted Future Year Base (HGV Traffic Matrix)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	8	8	0	0	0	1	1	1	2	0	0	3	4	9	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	1	1	0	0	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	11	6	0	0	0	0	0	6	0	0	0	0	0	0	0	2	2	2	0	2	0	1	1	0	0	0	2	0	9	0	0
16	8	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	6	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	16	0	0	0	3	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Adjusted Committed + Development Matrix

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
15	0	14	0	0	2	8	8	8	2	2	0	8	2	8	0	6	8	8	8	8	8	8	98	8	50	8	0	8	2	8	319
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	123
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	312
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	415
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
31	0	73	0	0	10	40	40	40	10	10	0	40	10	40	183	32	40	40	40	40	40	40	497	40	254	40	0	40	10	40	0

Waterman Boreham
Transport Planning

FINAL

LOCAL MODEL VALIDATION REPORT

for

LAND SOUTH OF LEOMINSTER

on behalf of

MOSAIC ESTATES

G/209605
11th March 2010

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Title:	Local Model Validation Report
Project:	Land South of Leominster
Client:	Mosaic Estates
Issue:	Final
Project No.	G/209605

Prepared by: Ross Ferrington pp Ross Ferrington Date 11-03-10

Checked by: James Duffy Date 11-03-10

Authorised for issue by Carl Tonks Date 11/3/10

Contents

Figures

Appendices

1. INTRODUCTION

Purpose of Report

1.1 This Local Model Validation Report (LMVR) has been prepared by Waterman Boreham (WB) on behalf of Mosaic Estates. The LMVR outlines the methodology engaged in the preparation and calibration of a PARAMICS microsimulation model of the principal highway network within the town of Leominster, Herefordshire. The report also provides details of the validation of the completed model.

Study Objectives

1.2 The principal objective of the PARAMICS microsimulation modelling has been to enable an assessment of the existing junction and vehicle interactions on the key routes within the town of Leominster. It is the intention that this model be used as the basis for further assessments to be carried out of the traffic generation, reassignment and consequent implications associated with a proposed development and associated link road connecting the A44 with the A49 to the south of Leominster.

Scoping Report

1.3 A scoping report was issued in August 2009 in order to define the scope of the Leominster model. In addition to this scoping model further discussion and meetings were held with Herefordshire County Council (HCC) to further clarify the specification for the model.

1.4 It was agreed that, in terms of area, the model should encompass the key through routes from the A44 to the A49. This included the route from the east along the A44, the clockwise routes around Leominster town centre towards the north of the A49 and the anticlockwise route around the south of Leominster along the B4361 and through the Leominster Enterprise Park to the A49 / Worcester Road junction. In addition, HCC also confirmed that the model should cover any important junctions which are either used as access roads or as rat runs through large built up areas.

1.5 The model therefore includes the following junctions:

- A44 / Cholstrey Road
- A44 Baron’s Cross Road / Morrisons Access
- A44 Baron's Cross Road / Buckfield Road
- A44 Baron's Cross Road / Ropewalk Avenue
- A44 Baron's Cross Road / Ashfield Lane
- A44 Bargates / Pierrepoint Close

- A44 Bargates/ Westfield Walk
- A44 Bargates / Cursneh Road / West Road / Dishley Road
- Green Lane / Cursneh Street / Rainbow Street
- Broad Street / New Street
- Bridge Street / Mill Street / Broad Street
- Dishley Street / Ryelands Road / Westbury Street
- Westbury Street / South Street / High Street
- Ins and Outs from the Hospital Access on South Street
- South Street / Churchill Avenue
- Southern Avenue / South Street
- Southern Avenue / Worcester Road

1.6 It was also agreed that the model would focus on the AM and PM peak time periods as this is when traffic levels on the network are at their greatest.

Report Structure

1.7 The production of the PARAMICS microsimulation model can be logically sub-divided into three stages as follows:

Stage 1 Data Collection

Stage 2 PARAMICS network build and matrices –
To produce a base model representing the current conditions of the study area and the creation of trip matrices from the data gathered in Stage 1

Stage 3 Calibration and Validation –
Process to include comparison of modelled against observed traffic flows, queuing and observed driver behaviour

1.8 These stages will be discussed in turn in the following chapters.

2. DATA COLLECTION

Introduction

2.1 This chapter outlines the data collection used to form the basis of the model. This information was used to form a picture of the existing conditions during the peak periods.

Traffic Surveys

2.2 Traffic count data in the form of fully classified manual turning counts were carried out by Paul Castle Consultancy on Tuesday 30 June 2009 and Thursday 8th October 2009, during the AM Peak (07:00 – 08:00), and PM Peak (16:00 – 19:00).

2.3 Table 2.1 below gives location and details of each of these surveys.

Table 2.1 – Locations of Traffic Survey Sites

No.	Location	Survey Type	Date
1	A44 / Cholstrey Road	Manual Classified Turning Count	30/06/09
2	A44 Baron's Cross Road / Morrisons Access	Manual Classified Turning Count	30/06/09
3	A44 Baron's Cross Road / Buckfield Road	Manual Classified Turning Count	08/10/09
4	A44 Baron's Cross Road / Ropewalk Avenue	Manual Classified Turning Count	08/10/09
5	A44 Baron's Cross Road / Ashfield Lane	Manual Classified Turning Count	08/10/09
6	A44 Bargates / Pierrepoint Close	Manual Classified Turning Count	08/10/09
7	A44 Bargates/ Westfield Walk	Manual Classified Turning Count	08/10/09
8	A44 Bargates / Cursneh Road / West Road / Dishley Road	Manual Classified Turning Count	30/06/09
9	Green Lane / Cursneh Street / Rainbow Street	Manual Classified Turning Count	08/10/09
10	Broad Street / New Street	Manual Classified Turning Count	30/06/09
11	Bridge Street / Mill Street / Broad Street	Manual Classified Turning Count	30/06/09
12	Dishley Street / Ryelands Road / Westbury Street	Manual Classified Turning Count	30/06/09
13	Westbury Street / South Street / High Street	Manual Classified Turning Count	30/06/09
14	Ins and Outs from the Hospital Access on South Street	Classified Count of Ins and Outs	08/10/09
15	South Street / Churchill Avenue	Manual Classified Turning Count	08/10/09
16	Southern Avenue / South Street	Manual Classified Turning Count	08/10/09
17	Southern Avenue / Worcester Road	Manual Classified Turning Count	08/10/09

2.4 This data was used in the preparation of the base matrices which will be discussed later in this report.

2.5 The junction survey results have been included with this report as *Appendix 7*. In addition, summaries of the vehicle turning movements are also shown in the flow diagrams provided as Figure 2.1 and 2.2. These flow diagrams show that there is more traffic on the network during the PM peak than there is in the AM, with a total junction flow of 56638 vehicles in the PM, compared with 46454 in the AM.

Site Visits

2.6 Site visits were undertaken on 17th and 18th of November 2009 to ensure that the traffic data obtained over these survey dates afforded a representative snapshot of the network's performance, allowing for normal weekly variation. The site visit also allowed junction measurements to be carried and notes to be made on key features such as bus stops and pedestrian crossings that would need to be included within the model.

2.7 Particular attention was given to the operation of the A44 Bargates / Cursneh Road / West Road / Dishley Road junction or Bargates signal junction as it is otherwise known. This junction acts as the main focal point for all routes into and out of the town centre. As such, queue observations, measurements of saturation flows and junction timings were carried out at this junction in order to provide an accurate picture of how the junction operates on the ground.

2.8 Journey time surveys were also carried out during the PM peak on the 18th November. These surveys were undertaken to monitor journey times through the network during the busiest peak, to provide further information to further augment the validation process.

Further information gathering

2.9 Further, information was also gathered to inform the construction of the base model. Ordnance Survey mapping was obtained of the entire model area to aid the production of the network. In addition, signal timing data was also obtained from Herefordshire County Council for the following locations:

- The Bargates signal junction
- The pedestrian crossing on Broad Street to the south of Bridge St
- The pedestrian crossing on Westbury Street adjacent to Aldi
- The pedestrian crossing on South Street adjacent to Leominster Community Hospital
- The pedestrian crossing on Baron's Cross Road outside the Morrisons Store

3. DEVELOPMENT OF THE PARAMICS PHYSICAL NETWORK

3.1 The existing highway network's geometry has been identified using ordnance survey data with on-site observation of driver behaviour, road markings and lane usage incorporated where relevant.

3.2 The construction of the PARAMICS microsimulation base network required the inclusion of the physical properties of the network such as link lengths, road speeds, junction layouts, lane markings and restrictions. This information was obtained over a number of site visits including observations on driver behaviour and queuing with digital ordnance survey data used to obtain specific geometries supplemented by on site measurements. The details of the survey dates have previously been identified.

3.3 To provide a robust assessment of the highway network it is necessary to ensure that the peak period is not modelled 'cold' on an empty network whereby capacity issues only develop as the model run progresses. This is achieved by running an equivalent set of matrices for a reduced time period prior to the peak period being assessed. This prevents a more capacity-favourable and unrealistic assessment of the peak period, that could occur when running the model on an unloaded network.

4. PARAMICS TRIP MATRICES AND PARAMETERS

4.1 Origin / Destination matrices have been prepared from traffic survey turning count information and the results included in the models.

4.2 OD Matrices were used to form the template for zone distribution throughout the PARAMICS network. 30 zones were created to represent the entry/exit points to the network (See *Appendix 1* for Zone Plan).

4.3 The matrices were calculated for Friday AM Peak (07.00 - 10.00) & Friday PM peak (16.00 - 19.00).

4.4 The model traffic flows were further disaggregated into two vehicle specific matrices to reflect the distributions of various vehicle types. These matrices consist of cars/light goods and medium/heavy goods vehicles.

5. MODEL VALIDATION

5.1 The validation of the base models involved a comparison between the observed and modelled link and turning counts. The Design Manual for Roads and Bridges (DMRB) accepted method of flow validation takes the form of a statistical measurement known as Geoffrey Edward Havers (GEH). The GEH statistic was used in the validation of this model and is defined below:

$$GEH = \sqrt{[(Vo - Va)2/(0.5x(Vo + Va))]}$$

Where Vo = Observed Traffic Flow and Va = Assigned / Modelled Traffic Flow. The benefit of using the GEH statistic is that it gives an indication of the significance of individual differences.

5.2 Comparisons have been made between the observed turning counts and the equivalent modelled flows for all the available surveyed turning counts, with the results included at the end of this report.

5.3 The assignment acceptability guidelines are set out in DMRB and suggest that 85% of comparisons should have a GEH value of less than 5 as shown in Table 5.1 below and defined in DMRB Volume 12, Sec.2 Chapter 4 Table 4.2.

Table 5.1 – Assignment Acceptability Guidelines

Criteria and Measures **Assigned Model Hourly Flows compared with Observed Flows**		**Acceptability Guideline**
Flow Criteria		
1. Observed flow < 700 vph	Modelled flow within ± 100 vph	> 85% of links
Observed flow 700 – 2,700 vph	Modelled flow within ± 15%	> 85% of links
Observed flow > 2,700 vph	Modelled flow within ± 400 vph	> 85% of links
2. Total screenline flows (normally > 5 links) to be within 5%		All (or nearly all) screenlines
GEH Criteria		> 85% of links
3. GEH Statistic for individual links < 5		All (or nearly all) screenlines
4. GEH Statistic for screenline totals < 4		
NOTE: 1. Screenlines containing high flow routes such as motorways should be presented both including and excluding such routes. 2. All comparisons should be based on directional hourly flows.		

5.4 The results of the validation procedure are summarised in Tables 5.6 and 5.7 with the full list of GEH values for specific turning counts included in *Appendices 2 and 3* for all time periods. Table 5.6 compares the model's demand flow (*Appendix 2*) against the survey data and Table 5.7 compares the model's actual flow (*Appendix 3*).

Table 5.6 – Validation against Model Demand Flows Summary

	Friday AM 2009 Base		Friday PM 2009 Base	
	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria
Cars Meeting Criteria (%)	100%	100%	100%	100%
HGV's Meeting Criteria (%)	100%	100%	100.%	100%

Table 5.7 – Validation against Model's Actual Flows Summary

	Friday AM 2009 Base 07:00 to 08:00		Friday AM 2009 Base 08:00 to 09:00		Friday AM 2009 Base 09:00 to 10:00		Friday AM 2009 Base 07:00 to 10:00	
	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria
Number of Links Meeting Criteria (%)	96.4%	100%	98.2%	99.1%	99.1%	99.1%	100%	100%

Table 5.8 – Validation against Model's Actual Flows Summary

	Friday PM 2009 Base 16:00 to 17:00		Friday PM 2009 Base 17:00 to 18:00		Friday PM 2009 Base 18:00 to 19:00		Friday PM 2009 Base16:00 to 19:00	
	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria	GEH Criteria	Flow Criteria
Number of Links Meeting Criteria (%)	100%	100%	99.1%	100%	99.1%	100%	100%	100%

5.5 The above summarised results demonstrate that, when measured against the DMRB criteria identified in Paragraph 5.3, above, the GEH values achieved in this model represent excellent validation of the modelled assignment and congestion characteristics.

Additional Validation Results

5.6 To reinforce the validation given by the turn counts GEH above, journey times were measured on the routes listed below and their comparison to the equivalent journey timings obtained from the model batch runs. The modelled journey times are validated against a criterion of being within 60 seconds of observed journey times. *Appendix 4* indicates the results obtained using this criteria for the PM period.

- From Broad Street / Mill Street roundabout to Cursneh Road by the signalised junction.
- From Cursneh Road by the signalised junction to Morrison's / Baron's Cross Road roundabout.
- From Southern Avenue / Worcester Road roundabout to Dishley Street by the signalised junction.
- From Dishley Street by the signalised junction to Morrison's / Baron's Cross Road roundabout
- From Morrison's / Baron's Cross Road roundabout to Dishley Street by the signalised junction
- From Dishley Street by the signalised junction to Southern Avenue / Worcester Road roundabout.
- From Morrison's / Baron's Cross Road roundabout to Cursneh Road by the signalised junction.
- From Cursneh Road by the signalised junction to Broad Street / Mill Street roundabout

5.7 The results shown in *Appendix 4* show that during the PM peak period 87.5% of modelled journey times are within 60 seconds of the surveyed journey times. This further validates the performance of this model in terms of assignment and congestion across the modelled network.

6. VALIDATION SUMMARY AND CONCLUSION

6.1 The validation description, above, has demonstrated that both the AM and PM peak hour models have performed well with:

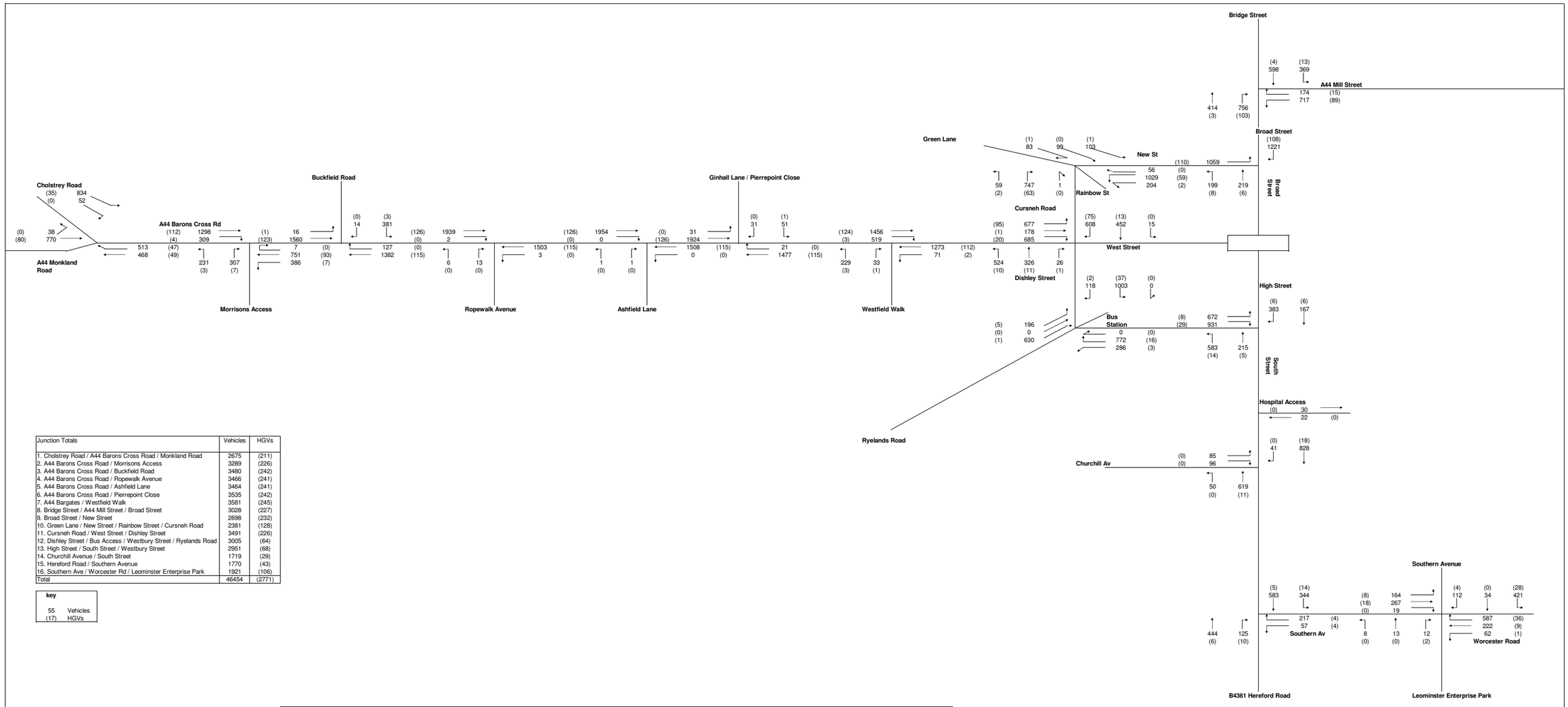
GEH<5 for 96.4% of turning count traffic during the 07:00 – 08:00 period and 100% when the 07:00 – 10:00 period is considered.

GEH<5 for 99.1% of turning count traffic during the 18:00 – 19:00 period and 100% when the 16:00 – 19:00 period is considered, and;

6.2 Modelled journey times are within 60 seconds of the observed journey times for 87.5% of journeys in the PM peak period.

6.3 From the above, it is concluded that the constructed base model validates acceptably and thereby provides a sound base for forecasting future traffic conditions, under the scenarios to be examined in assessment of the development and link road options for Leominster.

FIGURES



Junction Totals	Vehicles	HGVs
1. Cholstrey Road / A44 Barons Cross Road / Monkland Road	2675	(211)
2. A44 Barons Cross Road / Morrisons Access	3289	(226)
3. A44 Barons Cross Road / Buckfield Road	3480	(242)
4. A44 Barons Cross Road / Ropewalk Avenue	3466	(241)
5. A44 Barons Cross Road / Ashfield Lane	3464	(241)
6. A44 Barons Cross Road / Pierrepoint Close	3535	(242)
7. A44 Bargates / Westfield Walk	3581	(245)
8. Bridge Street / A44 Mill Street / Broad Street	3028	(227)
9. Broad Street / New Street	2698	(232)
10. Green Lane / New Street / Rainbow Street / Cursneh Road	2381	(128)
11. Cursneh Road / West Street / Dishley Street	3491	(226)
12. Dishley Street / Bus Access / Westbury Street / Ryelands Road	3005	(64)
13. High Street / South Street / Westbury Street	2951	(68)
14. Churchill Avenue / South Street	1719	(29)
15. Hereford Road / Southern Avenue	1770	(43)
16. Southern Ave / Worcester Rd / Leominster Enterprise Park	1921	(106)
Total	46454	(2771)

key

55 Vehicles
(17) HGVs

Figure 2.1

Project No.	File name:	Title
209605	Base Flows.xls	Observed Flows AM Peak (07:00 - 10:00)

Client: Mosaic Estates

Project: Leominster

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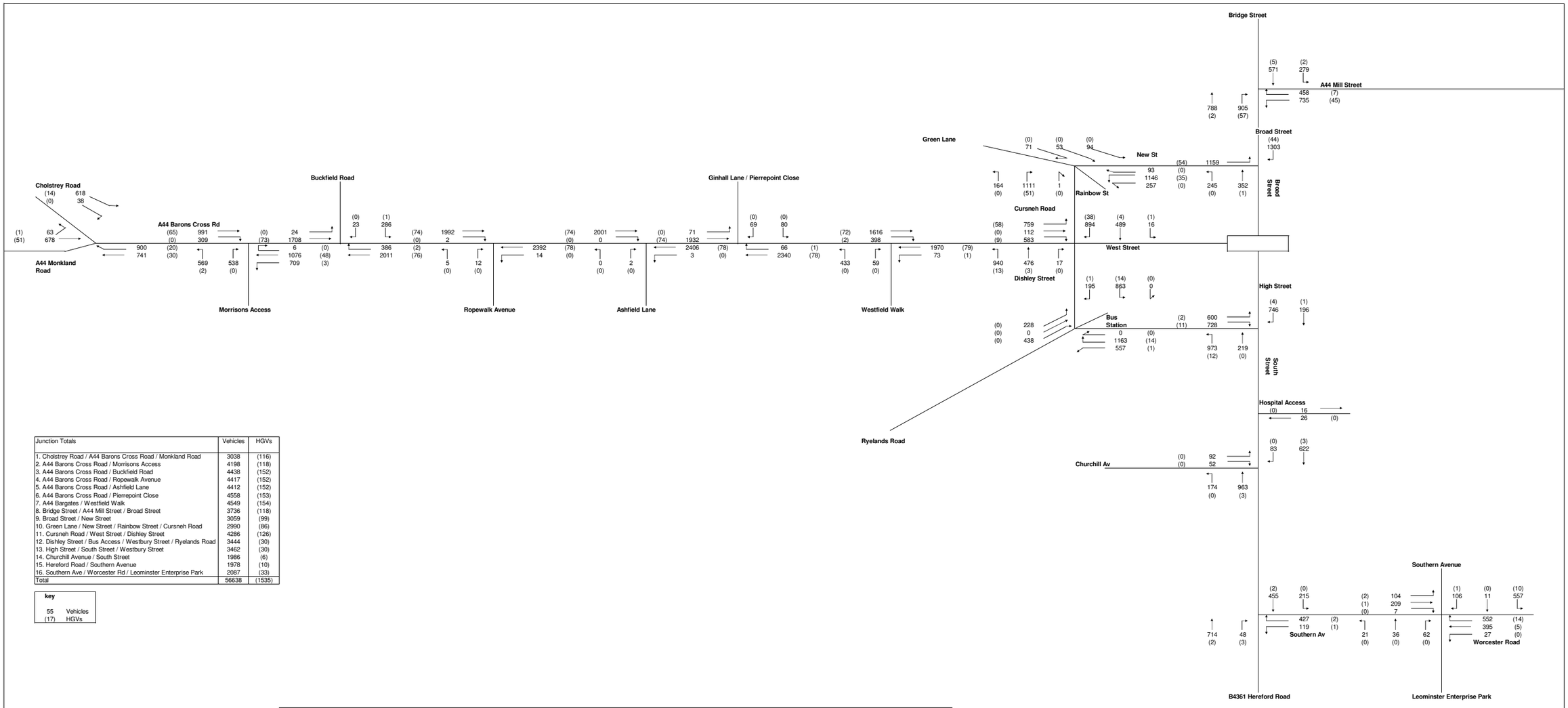
Waterman Boreham
Transport Planning



Junction Totals	Vehicles	HGVs
1. Cholstrey Road / A44 Barons Cross Road / Monkland Road	3038	(116)
2. A44 Barons Cross Road / Morrisons Access	4198	(118)
3. A44 Barons Cross Road / Buckfield Road	4438	(152)
4. A44 Barons Cross Road / Ropewalk Avenue	4417	(152)
5. A44 Barons Cross Road / Ashfield Lane	4412	(152)
6. A44 Barons Cross Road / Pierrepoint Close	4558	(153)
7. A44 Bargates / Westfield Walk	4549	(154)
8. Bridge Street / A44 Mill Street / Broad Street	3736	(118)
9. Broad Street / New Street	3059	(99)
10. Green Lane / New Street / Rainbow Street / Cursneh Road	2990	(86)
11. Cursneh Road / West Street / Dishley Street	4286	(126)
12. Dishley Street / Bus Access / Westbury Street / Ryelands Road	3444	(30)
13. High Street / South Street / Westbury Street	3462	(30)
14. Churchill Avenue / South Street	1986	(6)
15. Hereford Road / Southern Avenue	1978	(10)
16. Southern Ave / Worcester Rd / Leominster Enterprise Park	2087	(33)
Total	56638	(1535)

key

55 Vehicles
(17) HGVs

		Client: Mosaic Estates	Waterman Boreham Ltd Matthew House 22-28 Colston Street Bristol BS1 5AD Telephone: (0117) 917 5960 Facsimile: (0117) 917 5970 Email: enquiries@waterman-boreham.com Waterman Boreham Transport Planning
Figure 2.2		Project: Leominster	
Project No.: 209605	File name: Base Flows.xls	Title: Observed Flows PM Peak (16:00 - 19:00)	

APPENDICES

APPENDIX 1

Zone Plan

REV	DATE	AMENDMENTS	DRAWN	CHK	APP

Waterman Boreham Ltd
Regent House
Hubert Road
Brentwood
Essex
CM14 4JE
Telephone: (01277) 238 100
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Waterman Boreham
Transport Planning

nqa. ISO 9001 Registered

INVESTOR IN PEOPLE

Client

Mosaic Estates

Project

Leominster, Herefordshire

Title

Zone Plan

Team	Drawn	Checked	Approved
R	RF	20.01.10	20.01.10

Scale @ A3	Date
1:NTS	Jan 2010

Project No.	Drawing No.	Rev
209605	2	-

Purpose of Issue
☐ _____ ☐ Preliminary ☐ For Tender ☐ For Construction
☐ ☑ For Information ☐ For Approval ☐ As Built

R:\Projects\209605 – Land to S.W of Leominster\DWG

APPENDIX 2

Demand Validation Results Base 2009

Friday AM Base 2009 Matrix Estimation Demand Flows GEH For Cars
Model 209605 Friday AM Base 2009
Survey Report

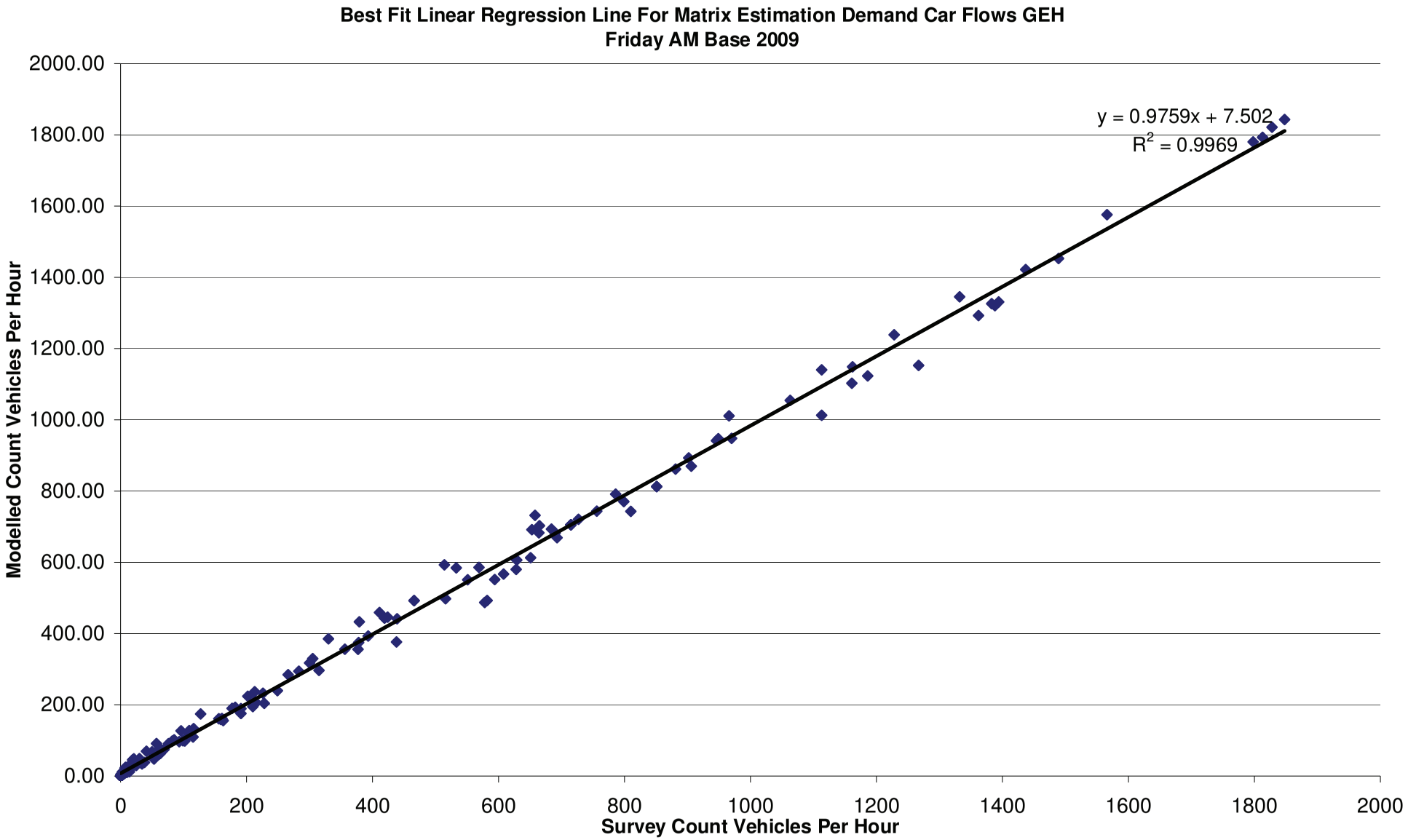
Node		Survey Count	Final Count	GEH Criteria	Flow Criteria
From	To				
'2:7	'7:8	1489	1452.88	0.94	✓
'2:7	'7:9	0	0.00	0.00	✓
'2:6	'6:5	52	52.00	0.00	✓
'3:2	'2:7	799	770.39	1.02	✓
'3:2	'2:6	52	52.00	0.00	✓
'5:6	'6:2	727	720.89	0.23	✓
'6:2	'2:7	690	682.49	0.29	✓
'6:2	'2:3	38	38.40	0.06	✓
'7:2	'2:6	0	0.00	0.00	✓
'7:2	'2:3	466	492.32	1.20	✓
'8:7	'7:9	419	443.70	1.19	✓
'8:7	'7:2	466	492.32	1.20	✓
'9:6	'6:2	0	0.00	0.00	✓
'9:6	'6:5	419	443.70	1.19	✓
11:14b	14c:15	228	204.11	1.63	✓
11:14b	14a:16	300	317.52	1.00	✓
11:14b	14b:11	0	0.00	0.00	✓
15:14c	14a:16	1186	1123.33	1.84	✓
15:14c	14b:11	305	329.54	1.38	✓
15:14c	14c:15	0	0.00	0.00	✓
16:14a	14b:11	379	433.02	2.68	✓
16:14a	14c:15	658	731.91	2.80	✓
16:14a	14a:16	0	0.00	0.00	✓
'18:21	'21:24	1437	1421.75	0.40	✓
'18:21	'21:122	15	19.11	0.99	✓
'22:23	'23:25	1828	1821.45	0.15	✓
'22:23	'23:41	0	0.00	0.00	✓
'23:25	'25:26	1798	1780.37	0.42	✓
'23:25	'25:36	31	45.93	2.41	✓
'23:22	'22:42	3	11.83	3.24	✓
'23:22	'22:24	1388	1320.57	1.83	✓
'24:22	'22:23	1813	1793.13	0.47	✓
'24:22	'22:42	2	3.28	0.79	✓
'24:21	'21:18	1267	1152.81	3.28	✓
'24:21	'21:122	127	174.16	3.84	✓
'25:23	'23:41	0	0.00	0.00	✓
'25:23	'23:22	1394	1330.94	1.71	✓
'26:27	'27:28	1848	1843.02	0.12	✓
'26:27	'27:31	0	0.00	0.00	✓
'26:25	'25:23	1362	1292.74	1.90	✓
'26:25	'25:36	21	33.43	2.38	✓
'27:28	'28:29	1332	1345.20	0.36	✓
'27:28	'28:34	516	497.82	0.81	✓
'28:29	'29:90	177	189.87	0.95	✓
'28:29	'29:69	665	702.81	1.45	✓
'28:29	'29:61	582	492.97	3.84	✓
'28:27	'27:26	1383	1326.17	1.54	✓
'28:27	'27:31	4	8.88	1.92	✓

'29:28	'28:34	69	74.68	0.67	✓
'29:28	'28:27	1161	1102.54	1.74	✓
'31:27	'27:28	0	0.00	0.00	✓
'31:27	'27:26	0	0.00	0.00	✓
'34:28	'28:29	32	40.45	1.40	✓
'34:28	'28:27	226	232.52	0.43	✓
'36:25	'25:26	51	62.65	1.55	✓
'36:25	'25:23	31	38.20	1.22	✓
'41:23	'23:25	1	4.85	2.25	✓
'41:23	'23:22	1	1.46	0.42	✓
'42:22	'22:23	13	28.33	3.37	✓
'42:22	'22:24	6	6.41	0.16	✓
47:68a	68b:51	628	579.98	1.95	✓
47:68a	68c:50	159	159.00	0.00	✓
47:68a	68a:47	0	0.00	0.00	✓
50:68c	68a:47	356	356.00	0.00	✓
50:68c	68b:51	594	551.77	1.76	✓
50:68c	68c:50	0	0.00	0.00	✓
51:68b	68c:50	411	459.23	2.31	✓
51:68b	68a:47	653	691.56	1.49	✓
51:68b	68b:51	0	0.00	0.00	✓
'52:53	'53:56	109	118.89	0.93	✓
'52:53	'53:137	1113	1012.85	3.07	✓
'54:57	'57:63	1228	1238.76	0.31	✓
'54:57	'57:136	76	90.90	1.63	✓
'56:53	'53:137	109	127.56	1.71	✓
'56:53	'53:52	2	1.88	0.09	✓
'57:54	'54:137	949	946.95	0.07	✓
'59:54	'54:57	191	189.25	0.13	✓
'59:54	'54:137	213	201.95	0.77	✓
'61:62	'62:63	684	693.15	0.35	✓
'61:62	'62:67	1	5.34	2.44	✓
'61:62	'62:65	57	91.21	3.97	✓
'61:29	'29:90	15	20.25	1.25	✓
'61:29	'29:69	439	441.32	0.11	✓
'61:29	'29:28	533	584.31	2.17	✓
'63:57	'57:54	786	791.46	0.19	✓
'63:57	'57:136	0	0.00	0.00	✓
'63:62	'62:67	202	223.98	1.51	✓
'63:62	'62:61	970	947.91	0.71	✓
'63:62	'62:65	56	66.87	1.39	✓
'65:62	'62:63	102	98.31	0.37	✓
'65:62	'62:67	99	99.00	0.00	✓
'65:62	'62:61	82	97.97	1.68	✓
'69:29	'29:90	25	29.65	0.89	✓
'69:29	'29:28	514	592.91	3.35	✓
'69:29	'29:61	315	296.73	1.04	✓
73:75a	75a:74	191	175.69	1.13	✓
73:75a	75a:76	629	606.39	0.91	✓
74:75a	75a:76	966	1011.00	1.43	✓
74:75a	75a:73	116	133.13	1.53	✓
76:122z	122z:124	29	41.52	2.11	✓
76:122z	122z:78	1566	1575.88	0.25	✓
76:75a	75a:73	283	294.36	0.67	✓
76:75a	75a:74	756	743.60	0.45	✓
78:77c	77c:79	664	682.83	0.73	✓

78:77c	77c:81	902	893.05	0.30	✓
78:122z	122z:124	0	0.00	0.00	✓
78:122z	122z:76	946	941.50	0.15	✓
79:77c	77c:81	161	161.59	0.05	✓
79:77c	77c:78	377	355.82	1.11	✓
81:77c	77c:78	569	585.67	0.69	✓
81:77c	77c:79	210	194.87	1.06	✓
'81:84	'84:86	182	192.97	0.80	✓
'81:84	'84:129	881	861.67	0.65	✓
'83:81	81:77c	64	75.06	1.33	✓
'83:81	'81:84	0	0.00	0.00	✓
'84:81	81:77c	715	705.49	0.36	✓
'84:81	'81:83	0	0.00	0.00	✓
'84:129	'129:133	30	49.04	3.03	✓
'84:129	'129:130	851	812.63	1.33	✓
'85:130	'130:129	693	668.99	0.92	✓
'86:84	'84:81	0	0.00	0.00	✓
'86:84	'84:129	0	0.00	0.00	✓
'93:95	'95:98	906	870.01	1.21	✓
'93:95	'95:97	0	0.00	0.00	✓
'94:85	'85:130	85	101.85	1.74	✓
'94:85	85:136z	96	126.96	2.93	✓
'97:95	'95:98	2	2.37	0.25	✓
'97:95	'95:93	7	22.26	3.99	✓
'98:99	'99:102	330	385.11	2.91	✓
'98:99	'99:100	578	487.28	3.93	✓
'98:95	'95:97	0	0.00	0.00	✓
'98:95	'95:93	651	612.96	1.51	✓
'100:99	'99:102	115	109.44	0.53	✓
'100:99	'99:98	438	376.31	3.06	✓
'102:103	'103:104	424	446.06	1.06	✓
'102:103	'103:139	21	48.48	4.66	✓
'102:99	'99:100	53	47.80	0.73	✓
'102:99	'99:98	213	236.65	1.58	✓
'104:103	'103:102	266	284.45	1.11	✓
'104:103	'103:139	63	63.42	0.05	✓
106:107c	107d:108	8	24.47	4.09	✓
106:107c	107a:110	13	13.00	0.00	✓
106:107c	107b:113	10	10.00	0.00	✓
106:107c	107c:106	0	0.00	0.00	✓
108:107d	107a:110	156	160.78	0.38	✓
108:107d	107b:113	249	239.84	0.59	✓
108:107d	107c:106	19	45.45	4.66	✓
108:107d	107d:108	0	0.00	0.00	✓
110:107a	107b:113	393	393.00	0.00	✓
110:107a	107c:106	34	34.00	0.00	✓
110:107a	107d:108	108	113.34	0.51	✓
110:107a	107a:110	0	0.00	0.00	✓
113:107b	107c:106	61	61.00	0.00	✓
113:107b	107d:108	213	210.06	0.20	✓
113:107b	107a:110	551	551.00	0.00	✓
113:107b	107b:113	0	0.00	0.00	✓
'122:21	'21:24	378	374.66	0.17	✓
'122:21	'21:18	14	12.12	0.52	✓
124:122z	122z:78	0	0.00	0.00	✓
124:122z	122z:76	93	96.46	0.36	✓

77c:81	'81:84	1063	1054.64	0.26	✓
77c:81	'81:83	0	0.00	0.00	✓
'129:84	'84:81	715	705.49	0.36	✓
'129:84	'84:86	0	0.00	0.00	✓
'129:130	'130:85	851	812.63	1.33	✓
'130:129	'129:84	715	705.49	0.36	✓
'130:129	'129:133	0	0.00	0.00	✓
'130:85	85:136z	810	743.05	2.40	✓
'130:85	'85:94	41	69.59	3.84	✓
'134:130	'130:129	22	36.50	2.68	✓
'134:130	'130:85	0	0.00	0.00	✓
'136:57	'57:54	163	155.49	0.59	✓
'136:57	'57:63	0	0.00	0.00	✓
'137:54	'54:57	1113	1140.41	0.82	✓
'137:53	'53:56	0	0.00	0.00	✓
'137:53	'53:52	1162	1148.91	0.39	✓
'139:103	'103:104	0	0.00	0.00	✓
'139:103	'103:102	0	0.00	0.00	✓
136z:85	'85:130	608	567.14	1.69	✓
136z:85	'85:94	50	68.08	2.35	✓

Flow Criteria	100.00%
GEH	100.00%


Best Fit Linear Regression Line For Matrix Estimation Demand Car Flows GEH
Friday AM Base 2009
y = 0.9759x + 7.502
R2 = 0.9969
Modelled Count Vehicles Per Hour
Survey Count Vehicles Per Hour
2000.00
1800.00
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
0
200
400
600
800
1000
1200
1400
1600
1800
2000

Friday AM Base 2009 Matrix Estimation Demand Flows GEH For HGV
Model 209605 Friday AM Base 2009
Survey Report

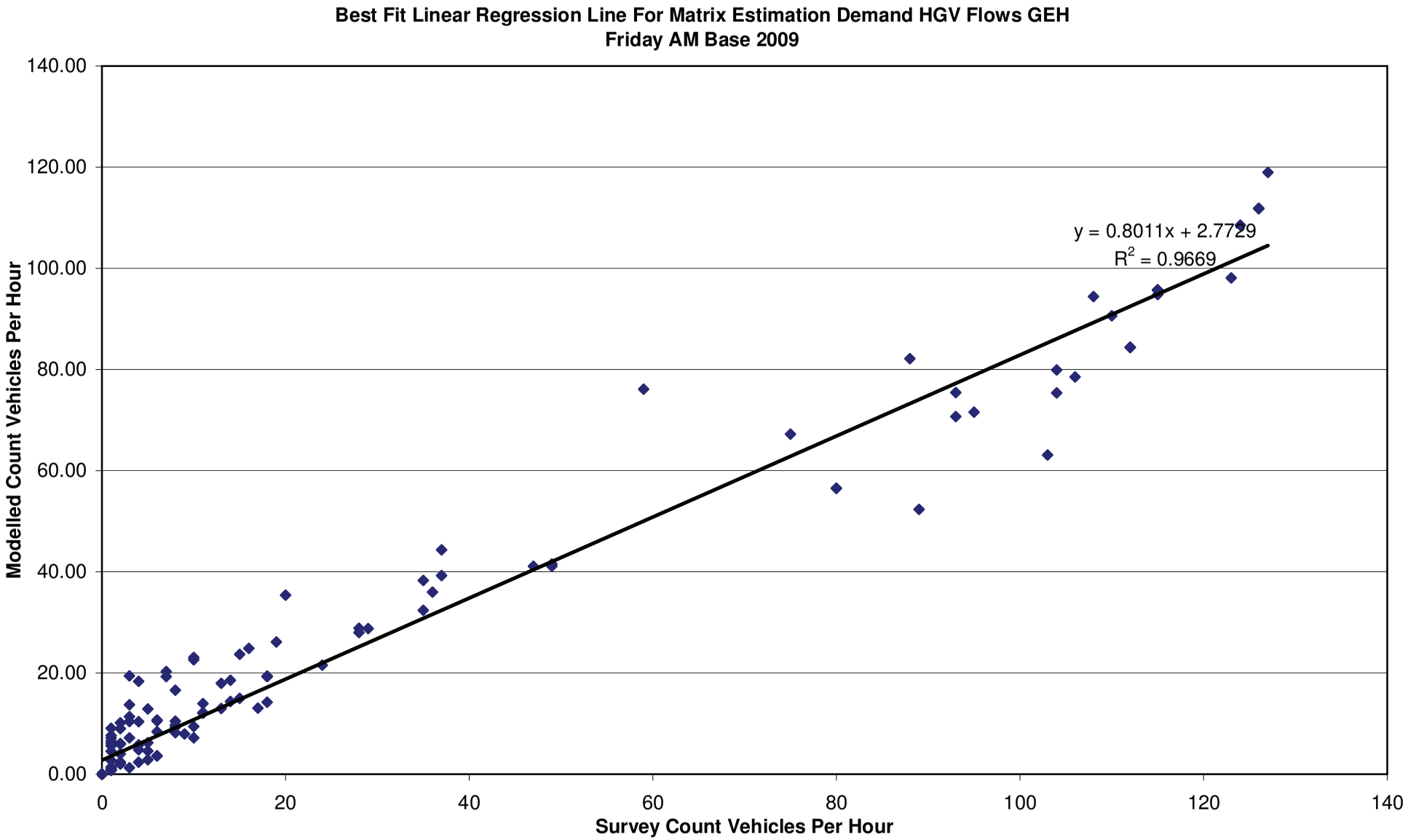
Node		Survey Count	Final Count	GEH Criteria	Flow Criteria
From	To				
'2:7	'7:8	115	94.82	1.97	✓
'2:7	'7:9	0	0.00	0.00	✓
'2:6	'6:5	0	0.00	0.00	✓
'3:2	'2:7	35	38.29	0.54	✓
'3:2	'2:6	0	0.00	0.00	✓
'5:6	'6:2	80	56.53	2.84	✓
'6:2	'2:7	80	56.53	2.84	✓
'6:2	'2:3	0	0.00	0.00	✓
'7:2	'2:6	0	0.00	0.00	✓
'7:2	'2:3	49	41.10	1.18	✓
'8:7	'7:9	49	41.52	1.11	✓
'8:7	'7:2	47	41.10	0.89	✓
'9:6	'6:2	0	0.00	0.00	✓
'9:6	'6:5	49	41.52	1.11	✓
11:14b	14c:15	3	7.18	1.85	✓
11:14b	14a:16	7	19.30	3.39	✓
11:14b	14b:11	0	0.00	0.00	✓
15:14c	14a:16	112	84.42	2.78	✓
15:14c	14b:11	4	10.39	2.38	✓
15:14c	14c:15	0	0.00	0.00	✓
16:14a	14b:11	7	20.28	3.60	✓
16:14a	14c:15	93	75.44	1.91	✓
16:14a	14a:16	0	0.00	0.00	✓
'18:21	'21:24	123	98.11	2.37	✓
'18:21	'21:122	1	5.61	2.54	✓
'22:23	'23:25	126	111.83	1.30	✓
'22:23	'23:41	0	0.00	0.00	✓
'23:25	'25:26	126	111.83	1.30	✓
'23:25	'25:36	0	0.00	0.00	✓
'23:22	'22:42	0	0.00	0.00	✓
'23:22	'22:24	115	95.72	1.88	✓
'24:22	'22:23	126	111.83	1.30	✓
'24:22	'22:42	0	0.00	0.00	✓
'24:21	'21:18	115	95.72	1.88	✓
'24:21	'21:122	0	0.00	0.00	✓
'25:23	'23:41	0	0.00	0.00	✓
'25:23	'23:22	115	95.72	1.88	✓
'26:27	'27:28	127	118.97	0.72	✓
'26:27	'27:31	0	0.00	0.00	✓
'26:25	'25:23	115	95.72	1.88	✓
'26:25	'25:36	0	0.00	0.00	✓
'27:28	'28:29	124	108.55	1.43	✓
'27:28	'28:34	3	10.42	2.86	✓
'28:29	'29:90	1	7.64	3.20	✓
'28:29	'29:69	20	35.40	2.93	✓
'28:29	'29:61	95	71.59	2.57	✓
'28:27	'27:26	115	95.72	1.88	✓
'28:27	'27:31	0	0.00	0.00	✓

'29:28	'28:34	2	5.95	1.98	✓
'29:28	'28:27	112	84.34	2.79	✓
'31:27	'27:28	0	0.00	0.00	✓
'31:27	'27:26	0	0.00	0.00	✓
'34:28	'28:29	1	6.08	2.70	✓
'34:28	'28:27	3	11.38	3.13	✓
'36:25	'25:26	1	7.14	3.04	✓
'36:25	'25:23	0	0.00	0.00	✓
'41:23	'23:25	0	0.00	0.00	✓
'41:23	'23:22	0	0.00	0.00	✓
'42:22	'22:23	0	0.00	0.00	✓
'42:22	'22:24	0	0.00	0.00	✓
47:68a	68b:51	89	52.35	4.36	✓
47:68a	68c:50	15	15.00	0.00	✓
47:68a	68a:47	0	0.00	0.00	✓
50:68c	68a:47	13	13.00	0.00	✓
50:68c	68b:51	4	18.37	4.30	✓
50:68c	68c:50	0	0.00	0.00	✓
51:68b	68c:50	3	19.44	4.91	✓
51:68b	68a:47	103	63.09	4.38	✓
51:68b	68b:51	0	0.00	0.00	✓
'52:53	'53:56	0	0.00	0.00	✓
'52:53	'53:137	93	70.71	2.46	✓
'54:57	'57:63	88	82.16	0.63	✓
'54:57	'57:136	28	28.86	0.16	✓
'56:53	'53:137	15	23.70	1.98	✓
'56:53	'53:52	2	4.00	1.16	✓
'57:54	'54:137	110	90.62	1.94	✓
'59:54	'54:57	8	16.60	2.45	✓
'59:54	'54:137	6	10.52	1.57	✓
'61:62	'62:63	104	75.37	3.02	✓
'61:62	'62:67	0	0.00	0.00	✓
'61:62	'62:65	2	10.17	3.31	✓
'61:29	'29:90	0	0.00	0.00	✓
'61:29	'29:69	13	17.97	1.26	✓
'61:29	'29:28	75	67.22	0.92	✓
'63:57	'57:54	104	79.91	2.51	✓
'63:57	'57:136	0	0.00	0.00	✓
'63:62	'62:67	2	6.05	2.02	✓
'63:62	'62:61	59	76.11	2.08	✓
'63:62	'62:65	0	0.00	0.00	✓
'65:62	'62:63	1	4.53	2.12	✓
'65:62	'62:67	0	0.00	0.00	✓
'65:62	'62:61	1	9.07	3.60	✓
'69:29	'29:90	1	0.74	0.28	✓
'69:29	'29:28	10	23.07	3.21	✓
'69:29	'29:61	11	13.95	0.84	✓
73:75a	75a:74	5	12.89	2.64	✓
73:75a	75a:76	1	1.41	0.37	✓
74:75a	75a:76	37	44.36	1.15	✓
74:75a	75a:73	2	9.01	2.99	✓
76:122z	122z:124	1	6.52	2.85	✓
76:122z	122z:78	37	39.26	0.37	✓
76:75a	75a:73	3	1.27	1.18	✓
76:75a	75a:74	16	24.87	1.96	✓
78:77c	77c:79	8	10.47	0.81	✓

78:77c	77c:81	29	28.79	0.04	✓
78:122z	122z:124	1	0.83	0.18	✓
78:122z	122z:76	19	26.14	1.50	✓
79:77c	77c:81	6	3.62	1.08	✓
79:77c	77c:78	6	8.41	0.90	✓
81:77c	77c:78	14	18.55	1.13	✓
81:77c	77c:79	5	2.85	1.08	✓
'81:84	'84:86	17	13.07	1.01	✓
'81:84	'84:129	18	19.35	0.31	✓
'83:81	81:77c	8	9.30	0.44	✓
'83:81	'81:84	0	0.00	0.00	✓
'84:81	81:77c	11	12.11	0.33	✓
'84:81	'81:83	0	0.00	0.00	✓
'84:129	'129:133	0	0.00	0.00	✓
'84:129	'129:130	18	19.35	0.31	✓
'85:130	'130:129	11	12.11	0.33	✓
'86:84	'84:81	0	0.00	0.00	✓
'86:84	'84:129	0	0.00	0.00	✓
'93:95	'95:98	18	19.35	0.31	✓
'93:95	'95:97	0	0.00	0.00	✓
'94:85	'85:130	0	0.00	0.00	✓
'94:85	85:136z	0	0.00	0.00	✓
'97:95	'95:98	1	1.25	0.23	✓
'97:95	'95:93	1	2.68	1.24	✓
'98:99	'99:102	14	14.38	0.10	✓
'98:99	'99:100	5	6.21	0.51	✓
'98:95	'95:97	0	0.00	0.00	✓
'98:95	'95:93	10	9.42	0.19	✓
'100:99	'99:102	10	7.18	0.96	✓
'100:99	'99:98	6	3.61	1.09	✓
'102:103	'103:104	24	21.56	0.51	✓
'102:103	'103:139	0	0.00	0.00	✓
'102:99	'99:100	4	2.38	0.91	✓
'102:99	'99:98	4	5.81	0.82	✓
'104:103	'103:102	8	8.19	0.07	✓
'104:103	'103:139	5	4.59	0.19	✓
106:107c	107d:108	0	0.00	0.00	✓
106:107c	107a:110	0	0.00	0.00	✓
106:107c	107b:113	2	2.00	0.00	✓
106:107c	107c:106	0	0.00	0.00	✓
108:107d	107a:110	8	9.72	0.58	✓
108:107d	107b:113	18	14.24	0.94	✓
108:107d	107c:106	0	0.00	0.00	✓
108:107d	107d:108	0	0.00	0.00	✓
110:107a	107b:113	28	28.00	0.00	✓
110:107a	107c:106	0	0.00	0.00	✓
110:107a	107d:108	4	4.83	0.39	✓
110:107a	107a:110	0	0.00	0.00	✓
113:107b	107c:106	1	1.00	0.00	✓
113:107b	107d:108	9	7.95	0.36	✓
113:107b	107a:110	36	36.00	0.00	✓
113:107b	107b:113	0	0.00	0.00	✓
'122:21	'21:24	3	13.72	3.71	✓
'122:21	'21:18	0	0.00	0.00	✓
124:122z	122z:78	0	0.00	0.00	✓
124:122z	122z:76	0	0.00	0.00	✓

77c:81	'81:84	35	32.41	0.45	✓
77c:81	'81:83	0	0.00	0.00	✓
'129:84	'84:81	11	12.11	0.33	✓
'129:84	'84:86	0	0.00	0.00	✓
'129:130	'130:85	18	19.35	0.31	✓
'130:129	'129:84	11	12.11	0.33	✓
'130:129	'129:133	0	0.00	0.00	✓
'130:85	85:136z	18	19.35	0.31	✓
'130:85	'85:94	0	0.00	0.00	✓
'134:130	'130:129	0	0.00	0.00	✓
'134:130	'130:85	0	0.00	0.00	✓
'136:57	'57:54	6	10.72	1.63	✓
'136:57	'57:63	0	0.00	0.00	✓
'137:54	'54:57	108	94.41	1.35	✓
'137:53	'53:56	10	22.61	3.12	✓
'137:53	'53:52	106	78.53	2.86	✓
'139:103	'103:104	2	2.40	0.27	✓
'139:103	'103:102	0	0.00	0.00	✓
136z:85	'85:130	11	12.11	0.33	✓
136z:85	'85:94	0	0.00	0.00	✓

Flow Criteria	100.00%
GEH	100.00%


Best Fit Linear Regression Line For Matrix Estimation Demand HGV Flows GEH
Friday AM Base 2009
y = 0.8011x + 2.7729
R2 = 0.9669
Modelled Count Vehicles Per Hour
Survey Count Vehicles Per Hour
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
0
20
40
60
80
100
120
140

Friday PM Base 2009 Matrix Estimation Demand Flows GEH For Cars
Model 209605 Friday PM Base 2009
Survey Report

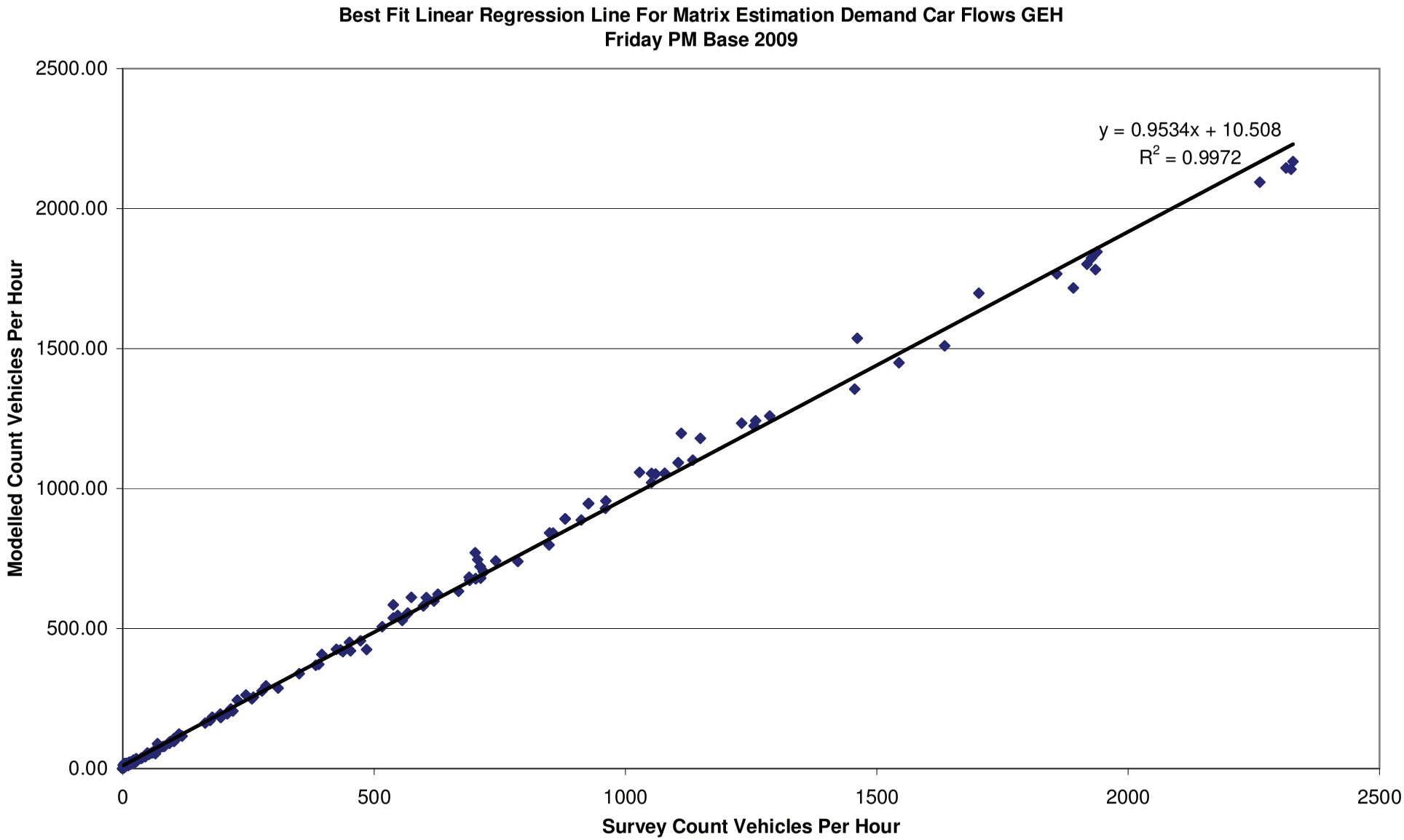
Node		Survey Count	Final Count	GEH Criteria	Flow Criteria
From	To				
'2:7	'7:8	1231	1233.44	0.07	✓
'2:7	'7:9	0	0.00	0.00	✓
'2:6	'6:5	38	38.00	0.00	✓
'3:2	'2:7	604	610.65	0.27	✓
'3:2	'2:6	38	38.00	0.00	✓
'5:6	'6:2	689	683.44	0.21	✓
'6:2	'2:7	627	622.79	0.17	✓
'6:2	'2:3	62	60.65	0.17	✓
'7:2	'2:6	0	0.00	0.00	✓
'7:2	'2:3	880	892.11	0.41	✓
'8:7	'7:9	711	721.27	0.38	✓
'8:7	'7:2	880	892.11	0.41	✓
'9:6	'6:2	0	0.00	0.00	✓
'9:6	'6:5	711	721.27	0.38	✓
11:14b	14c:15	567	555.44	0.49	✓
11:14b	14a:16	538	584.86	1.98	✓
11:14b	14b:11	0	0.00	0.00	✓
15:14c	14a:16	926	946.14	0.66	✓
15:14c	14b:11	309	287.30	1.26	✓
15:14c	14c:15	0	0.00	0.00	✓
16:14a	14b:11	706	746.58	1.51	✓
16:14a	14c:15	1028	1057.95	0.93	✓
16:14a	14a:16	0	0.00	0.00	✓
'18:21	'21:24	1635	1509.85	3.16	✓
'18:21	'21:122	24	21.16	0.60	✓
'22:23	'23:25	1927	1823.64	2.39	✓
'22:23	'23:41	0	0.00	0.00	✓
'23:25	'25:26	1858	1767.00	2.14	✓
'23:25	'25:36	71	69.98	0.12	✓
'23:22	'22:42	14	22.96	2.08	✓
'23:22	'22:24	2314	2144.92	3.58	✓
'24:22	'22:23	1918	1801.53	2.70	✓
'24:22	'22:42	2	3.70	1.01	✓
'24:21	'21:18	1935	1782.40	3.54	✓
'24:21	'21:122	384	369.20	0.76	✓
'25:23	'23:41	3	15.49	4.11	✓
'25:23	'23:22	2328	2167.88	3.38	✓
'26:27	'27:28	1938	1845.53	2.13	✓
'26:27	'27:31	0	0.00	0.00	✓
'26:25	'25:23	2262	2094.52	3.59	✓
'26:25	'25:36	65	53.34	1.52	✓
'27:28	'28:29	1544	1449.55	2.44	✓
'27:28	'28:34	396	407.65	0.58	✓
'28:29	'29:90	112	123.37	1.05	✓
'28:29	'29:69	574	611.55	1.54	✓
'28:29	'29:61	701	770.81	2.57	✓
'28:27	'27:26	2324	2140.71	3.88	✓
'28:27	'27:31	0	0.00	0.00	✓

'29:28	'28:34	72	71.63	0.04	✓
'29:28	'28:27	1891	1716.76	4.10	✓
'31:27	'27:28	2	11.66	3.70	✓
'31:27	'27:26	3	7.14	1.84	✓
'34:28	'28:29	59	56.19	0.37	✓
'34:28	'28:27	433	423.95	0.44	✓
'36:25	'25:26	80	78.53	0.16	✓
'36:25	'25:23	69	88.85	2.23	✓
'41:23	'23:25	2	13.34	4.09	✓
'41:23	'23:22	0	0.00	0.00	✓
'42:22	'22:23	12	22.11	2.45	✓
'42:22	'22:24	5	6.68	0.69	✓
47:68a	68b:51	690	672.22	0.68	✓
47:68a	68c:50	451	451.00	0.00	✓
47:68a	68a:47	0	0.00	0.00	✓
50:68c	68a:47	277	277.00	0.00	✓
50:68c	68b:51	566	551.98	0.59	✓
50:68c	68c:50	0	0.00	0.00	✓
51:68b	68c:50	786	739.93	1.67	✓
51:68b	68a:47	848	798.94	1.71	✓
51:68b	68b:51	0	0.00	0.00	✓
'52:53	'53:56	0	0.00	0.00	✓
'52:53	'53:137	1256	1224.20	0.90	✓
'54:57	'57:63	1461	1537.04	1.96	✓
'54:57	'57:136	43	44.24	0.19	✓
'56:53	'53:137	3	18.14	4.66	✓
'56:53	'53:52	178	183.50	0.41	✓
'57:54	'54:137	1105	1092.49	0.38	✓
'59:54	'54:57	351	338.94	0.65	✓
'59:54	'54:137	245	262.88	1.12	✓
'61:62	'62:63	1060	1052.35	0.24	✓
'61:62	'62:67	1	12.07	4.33	✓
'61:62	'62:65	164	162.63	0.11	✓
'61:29	'29:90	15	15.22	0.06	✓
'61:29	'29:69	485	425.11	2.81	✓
'61:29	'29:28	856	841.29	0.51	✓
'63:57	'57:54	1105	1092.49	0.38	✓
'63:57	'57:136	49	55.90	0.95	✓
'63:62	'62:67	257	249.33	0.48	✓
'63:62	'62:61	1111	1197.37	2.54	✓
'63:62	'62:65	93	90.34	0.28	✓
'65:62	'62:63	94	96.04	0.21	✓
'65:62	'62:67	53	53.00	0.00	✓
'65:62	'62:61	71	84.24	1.50	✓
'69:29	'29:90	17	20.94	0.91	✓
'69:29	'29:28	927	947.10	0.66	✓
'69:29	'29:61	473	456.24	0.78	✓
73:75a	75a:74	228	244.68	1.09	✓
73:75a	75a:76	438	417.57	0.99	✓
74:75a	75a:76	849	841.82	0.25	✓
74:75a	75a:73	194	194.85	0.06	✓
76:122z	122z:124	0	0.00	0.00	✓
76:122z	122z:78	1287	1259.39	0.77	✓
76:75a	75a:73	556	529.12	1.15	✓
76:75a	75a:74	1149	1179.60	0.90	✓
78:77c	77c:79	598	580.86	0.71	✓

78:77c	77c:81	717	705.80	0.42	✓
78:122z	122z:124	0	0.00	0.00	✓
78:122z	122z:76	1703	1697.73	0.13	✓
79:77c	77c:81	195	182.19	0.93	✓
79:77c	77c:78	742	741.68	0.01	✓
81:77c	77c:78	961	956.05	0.16	✓
81:77c	77c:79	219	205.67	0.91	✓
'81:84	'84:86	194	186.59	0.54	✓
'81:84	'84:129	718	701.40	0.62	✓
'83:81	81:77c	102	107.35	0.52	✓
'83:81	'81:84	0	0.00	0.00	✓
'84:81	81:77c	1078	1054.37	0.72	✓
'84:81	'81:83	0	0.00	0.00	✓
'84:129	'129:133	16	23.17	1.62	✓
'84:129	'129:130	702	678.23	0.91	✓
'85:130	'130:129	1052	1021.48	0.95	✓
'86:84	'84:81	0	0.00	0.00	✓
'86:84	'84:129	0	0.00	0.00	✓
'93:95	'95:98	668	633.40	1.36	✓
'93:95	'95:97	3	15.62	4.14	✓
'94:85	'85:130	92	91.85	0.02	✓
'94:85	85:136z	52	50.69	0.18	✓
'97:95	'95:98	0	0.00	0.00	✓
'97:95	'95:93	0	0.00	0.00	✓
'98:99	'99:102	215	212.93	0.14	✓
'98:99	'99:100	453	420.47	1.56	✓
'98:95	'95:97	3	4.82	0.92	✓
'98:95	'95:93	1134	1101.56	0.97	✓
'100:99	'99:102	45	42.26	0.42	✓
'100:99	'99:98	712	680.34	1.20	✓
'102:103	'103:104	260	255.18	0.30	✓
'102:103	'103:139	0	0.00	0.00	✓
'102:99	'99:100	118	115.95	0.19	✓
'102:99	'99:98	425	426.03	0.05	✓
'104:103	'103:102	516	506.71	0.41	✓
'104:103	'103:139	0	0.00	0.00	✓
106:107c	107d:108	21	30.43	1.86	✓
106:107c	107a:110	36	36.00	0.00	✓
106:107c	107b:113	62	62.00	0.00	✓
106:107c	107c:106	0	0.00	0.00	✓
108:107d	107a:110	102	96.75	0.53	✓
108:107d	107b:113	208	195.36	0.89	✓
108:107d	107c:106	7	18.89	3.30	✓
108:107d	107d:108	0	0.00	0.00	✓
110:107a	107b:113	547	547.00	0.00	✓
110:107a	107c:106	11	11.00	0.00	✓
110:107a	107d:108	105	103.74	0.12	✓
110:107a	107a:110	0	0.00	0.00	✓
113:107b	107c:106	27	27.00	0.00	✓
113:107b	107d:108	390	372.54	0.89	✓
113:107b	107a:110	538	538.00	0.00	✓
113:107b	107b:113	0	0.00	0.00	✓
'122:21	'21:24	285	295.38	0.61	✓
'122:21	'21:18	23	22.13	0.18	✓
124:122z	122z:78	28	27.27	0.14	✓
124:122z	122z:76	2	11.00	3.53	✓

77c:81	'81:84	912	887.99	0.80	✓
77c:81	'81:83	0	0.00	0.00	✓
'129:84	'84:81	1052	1054.37	0.07	✓
'129:84	'84:86	0	0.00	0.00	✓
'129:130	'130:85	702	678.23	0.91	✓
'130:129	'129:84	1078	1054.37	0.72	✓
'130:129	'129:133	0	0.00	0.00	✓
'130:85	85:136z	619	598.32	0.84	✓
'130:85	'85:94	83	79.91	0.34	✓
'134:130	'130:129	26	32.89	1.27	✓
'134:130	'130:85	0	0.00	0.00	✓
'136:57	'57:54	0	0.00	0.00	✓
'136:57	'57:63	0	0.00	0.00	✓
'137:54	'54:57	1259	1242.34	0.47	✓
'137:53	'53:56	0	0.00	0.00	✓
'137:53	'53:52	1456	1355.37	2.68	✓
'139:103	'103:104	57	55.81	0.16	✓
'139:103	'103:102	27	35.28	1.48	✓
136z:85	'85:130	960	929.63	0.99	✓
136z:85	'85:94	174	171.92	0.16	✓

Flow Criteria	100.00%
GEH	100.00%


Best Fit Linear Regression Line For Matrix Estimation Demand Car Flows GEH
Friday PM Base 2009
y = 0.9534x + 10.508
R2 = 0.9972
Modelled Count Vehicles Per Hour
Survey Count Vehicles Per Hour
2500.00
2000.00
1500.00
1000.00
500.00
0.00
0
500
1000
1500
2000
2500

Friday PM Base 2009 Matrix Estimation Demand Flows GEH For HGV
Model 209605 Friday PM Base 2009
Survey Report

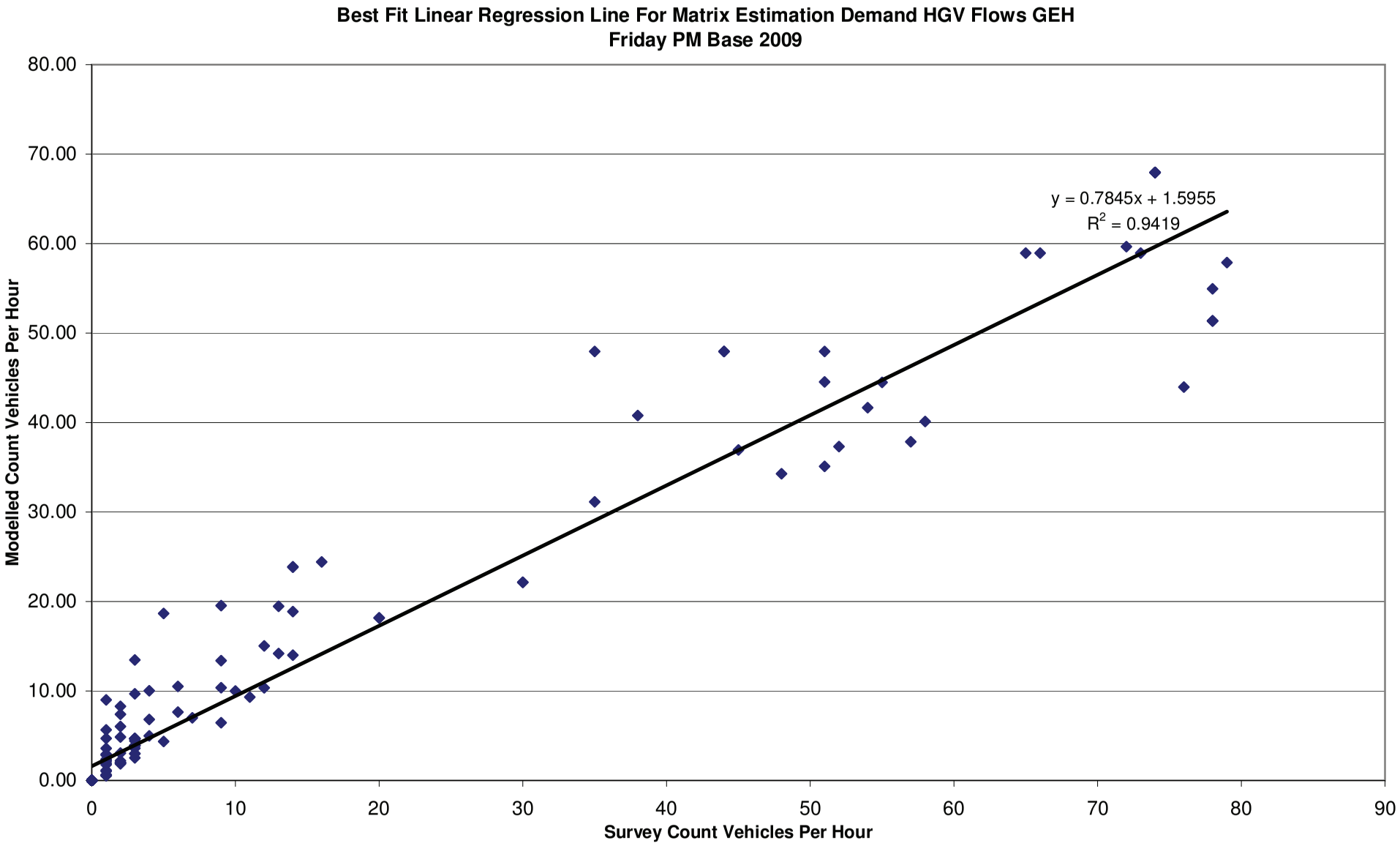
Node		Survey Count	Final Count	GEH Criteria	Flow Criteria
From	To				
'2:7	'7:8	66	58.95	0.89	✓
'2:7	'7:9	0	0.00	0.00	✓
'2:6	'6:5	0	0.00	0.00	✓
'3:2	'2:7	14	23.84	2.26	✓
'3:2	'2:6	0	0.00	0.00	✓
'5:6	'6:2	52	37.32	2.20	✓
'6:2	'2:7	51	35.11	2.42	✓
'6:2	'2:3	1	2.21	0.95	✓
'7:2	'2:6	0	0.00	0.00	✓
'7:2	'2:3	20	18.16	0.42	✓
'8:7	'7:9	30	22.15	1.54	✓
'8:7	'7:2	20	18.16	0.42	✓
'9:6	'6:2	0	0.00	0.00	✓
'9:6	'6:5	30	22.15	1.54	✓
11:14b	14c:15	2	6.04	2.02	✓
11:14b	14a:16	0	0.00	0.00	✓
11:14b	14b:11	0	0.00	0.00	✓
15:14c	14a:16	65	58.95	0.77	✓
15:14c	14b:11	0	0.00	0.00	✓
15:14c	14c:15	0	0.00	0.00	✓
16:14a	14b:11	3	9.69	2.66	✓
16:14a	14c:15	48	34.27	2.14	✓
16:14a	14a:16	0	0.00	0.00	✓
'18:21	'21:24	73	58.95	1.73	✓
'18:21	'21:122	0	0.00	0.00	✓
'22:23	'23:25	74	67.95	0.72	✓
'22:23	'23:41	0	0.00	0.00	✓
'23:25	'25:26	74	67.95	0.72	✓
'23:25	'25:36	0	0.00	0.00	✓
'23:22	'22:42	0	0.00	0.00	✓
'23:22	'22:24	78	51.36	3.31	✓
'24:22	'22:23	74	67.95	0.72	✓
'24:22	'22:42	0	0.00	0.00	✓
'24:21	'21:18	76	43.96	4.14	✓
'24:21	'21:122	2	7.40	2.49	✓
'25:23	'23:41	0	0.00	0.00	✓
'25:23	'23:22	78	51.36	3.31	✓
'26:27	'27:28	74	67.95	0.72	✓
'26:27	'27:31	0	0.00	0.00	✓
'26:25	'25:23	78	51.36	3.31	✓
'26:25	'25:36	1	3.59	1.71	✓
'27:28	'28:29	72	59.67	1.52	✓
'27:28	'28:34	2	8.28	2.77	✓
'28:29	'29:90	0	0.00	0.00	✓
'28:29	'29:69	9	19.54	2.79	✓
'28:29	'29:61	58	40.12	2.55	✓
'28:27	'27:26	78	54.95	2.83	✓
'28:27	'27:31	1	2.93	1.38	✓

'29:28	'28:34	1	2.37	1.06	✓
'29:28	'28:27	79	57.88	2.55	✓
'31:27	'27:28	0	0.00	0.00	✓
'31:27	'27:26	0	0.00	0.00	✓
'34:28	'28:29	0	0.00	0.00	✓
'34:28	'28:27	0	0.00	0.00	✓
'36:25	'25:26	0	0.00	0.00	✓
'36:25	'25:23	0	0.00	0.00	✓
'41:23	'23:25	0	0.00	0.00	✓
'41:23	'23:22	0	0.00	0.00	✓
'42:22	'22:23	0	0.00	0.00	✓
'42:22	'22:24	0	0.00	0.00	✓
47:68a	68b:51	45	36.93	1.26	✓
47:68a	68c:50	7	7.00	0.00	✓
47:68a	68a:47	0	0.00	0.00	✓
50:68c	68a:47	2	2.00	0.00	✓
50:68c	68b:51	5	18.67	3.97	✓
50:68c	68c:50	0	0.00	0.00	✓
51:68b	68c:50	3	13.47	3.65	✓
51:68b	68a:47	57	37.85	2.78	✓
51:68b	68b:51	0	0.00	0.00	✓
'52:53	'53:56	6	7.65	0.63	✓
'52:53	'53:137	44	47.95	0.58	✓
'54:57	'57:63	51	47.95	0.43	✓
'54:57	'57:136	0	0.00	0.00	✓
'56:53	'53:137	0	0.00	0.00	✓
'56:53	'53:52	4	6.82	1.21	✓
'57:54	'54:137	54	41.66	1.78	✓
'59:54	'54:57	0	0.00	0.00	✓
'59:54	'54:137	1	2.84	1.33	✓
'61:62	'62:63	51	44.54	0.93	✓
'61:62	'62:67	0	0.00	0.00	✓
'61:62	'62:65	0	0.00	0.00	✓
'61:29	'29:90	1	2.18	0.93	✓
'61:29	'29:69	4	4.99	0.46	✓
'61:29	'29:28	38	40.79	0.44	✓
'63:57	'57:54	35	31.14	0.67	✓
'63:57	'57:136	9	13.40	1.31	✓
'63:62	'62:67	0	0.00	0.00	✓
'63:62	'62:61	35	47.95	2.01	✓
'63:62	'62:65	0	0.00	0.00	✓
'65:62	'62:63	0	0.00	0.00	✓
'65:62	'62:67	0	0.00	0.00	✓
'65:62	'62:61	0	0.00	0.00	✓
'69:29	'29:90	0	0.00	0.00	✓
'69:29	'29:28	13	19.47	1.61	✓
'69:29	'29:61	3	4.42	0.74	✓
73:75a	75a:74	0	0.00	0.00	✓
73:75a	75a:76	0	0.00	0.00	✓
74:75a	75a:76	14	18.88	1.20	✓
74:75a	75a:73	1	5.65	2.55	✓
76:122z	122z:124	1	4.69	2.19	✓
76:122z	122z:78	13	14.19	0.32	✓
76:75a	75a:73	1	0.54	0.52	✓
76:75a	75a:74	14	23.89	2.27	✓
78:77c	77c:79	2	4.86	1.54	✓

78:77c	77c:81	11	9.32	0.53	✓
78:122z	122z:124	1	0.64	0.40	✓
78:122z	122z:76	16	24.43	1.87	✓
79:77c	77c:81	1	1.03	0.03	✓
79:77c	77c:78	4	10.03	2.28	✓
81:77c	77c:78	12	15.04	0.83	✓
81:77c	77c:79	0	0.00	0.00	✓
'81:84	'84:86	9	6.45	0.92	✓
'81:84	'84:129	3	3.90	0.49	✓
'83:81	81:77c	9	10.37	0.44	✓
'83:81	'81:84	0	0.00	0.00	✓
'84:81	81:77c	3	4.67	0.85	✓
'84:81	'81:83	0	0.00	0.00	✓
'84:129	'129:133	0	0.00	0.00	✓
'84:129	'129:130	3	3.90	0.49	✓
'85:130	'130:129	3	4.67	0.85	✓
'86:84	'84:81	0	0.00	0.00	✓
'86:84	'84:129	0	0.00	0.00	✓
'93:95	'95:98	2	1.96	0.03	✓
'93:95	'95:97	1	1.94	0.78	✓
'94:85	'85:130	0	0.00	0.00	✓
'94:85	85:136z	0	0.00	0.00	✓
'97:95	'95:98	0	0.00	0.00	✓
'97:95	'95:93	0	0.00	0.00	✓
'98:99	'99:102	0	0.00	0.00	✓
'98:99	'99:100	2	1.96	0.03	✓
'98:95	'95:97	1	0.60	0.45	✓
'98:95	'95:93	3	4.67	0.85	✓
'100:99	'99:102	3	2.99	0.00	✓
'100:99	'99:98	2	2.20	0.14	✓
'102:103	'103:104	3	2.99	0.00	✓
'102:103	'103:139	0	0.00	0.00	✓
'102:99	'99:100	1	0.53	0.53	✓
'102:99	'99:98	2	3.07	0.67	✓
'104:103	'103:102	3	3.60	0.33	✓
'104:103	'103:139	3	2.52	0.29	✓
106:107c	107d:108	0	0.00	0.00	✓
106:107c	107a:110	0	0.00	0.00	✓
106:107c	107b:113	0	0.00	0.00	✓
106:107c	107c:106	0	0.00	0.00	✓
108:107d	107a:110	2	1.85	0.11	✓
108:107d	107b:113	1	1.14	0.13	✓
108:107d	107c:106	0	0.00	0.00	✓
108:107d	107d:108	0	0.00	0.00	✓
110:107a	107b:113	10	10.00	0.00	✓
110:107a	107c:106	0	0.00	0.00	✓
110:107a	107d:108	1	1.77	0.65	✓
110:107a	107a:110	0	0.00	0.00	✓
113:107b	107c:106	0	0.00	0.00	✓
113:107b	107d:108	5	4.36	0.30	✓
113:107b	107a:110	14	14.00	0.00	✓
113:107b	107b:113	0	0.00	0.00	✓
'122:21	'21:24	1	9.00	3.58	✓
'122:21	'21:18	0	0.00	0.00	✓
124:122z	122z:78	0	0.00	0.00	✓
124:122z	122z:76	0	0.00	0.00	✓

77c:81	'81:84	12	10.35	0.49	✓
77c:81	'81:83	0	0.00	0.00	✓
'129:84	'84:81	3	4.67	0.85	✓
'129:84	'84:86	0	0.00	0.00	✓
'129:130	'130:85	3	3.90	0.49	✓
'130:129	'129:84	3	4.67	0.85	✓
'130:129	'129:133	0	0.00	0.00	✓
'130:85	85:136z	3	3.90	0.49	✓
'130:85	'85:94	0	0.00	0.00	✓
'134:130	'130:129	0	0.00	0.00	✓
'134:130	'130:85	0	0.00	0.00	✓
'136:57	'57:54	6	10.51	1.57	✓
'136:57	'57:63	0	0.00	0.00	✓
'137:54	'54:57	44	47.95	0.58	✓
'137:53	'53:56	0	0.00	0.00	✓
'137:53	'53:52	55	44.49	1.49	✓
'139:103	'103:104	0	0.00	0.00	✓
'139:103	'103:102	0	0.00	0.00	✓
136z:85	'85:130	3	4.67	0.85	✓
136z:85	'85:94	0	0.00	0.00	✓

Flow Criteria	100.00%
GEH	100.00%


Best Fit Linear Regression Line For Matrix Estimation Demand HGV Flows GEH
Friday PM Base 2009
y = 0.7845x + 1.5955
R2 = 0.9419
Modelled Count Vehicles Per Hour
Survey Count Vehicles Per Hour
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
0
10
20
30
40
50
60
70
80
90

APPENDIX 3

Actual Validation Results Base 2009

R/209605 Leominster
AM Base 2009 07:00 to 08:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	187	240	3.6	✓	53	
Cholstrey Road	A44 Monkland Road	13	17	1.0	✓	4	
A44 Barons Cross Road	A44 Monkland Road	121	125	0.4	✓	4	
A44 Barons Cross Road	Cholstrey Road	138	138	0.0	✓	0	
A44 Monkland Road	Cholstrey Road	10	11	0.3	✓	1	**Total**
A44 Monkland Road	A44 Barons Cross Road	185	218	2.3	✓	33	95
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	349	341	0.4	✓	-8	
A44 Barons Cross Road (West)	**Morrisons Access**	**54**	**116**	**6.7**	**✓**	**62**	
A44 Barons Cross Road (East)	Morrisons Access	67	111	4.7	✓	44	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	217	193	1.7	✓	-24	
Morrisons Access	A44 Barons Cross Road (West)	40	69	3.9	✓	29	Total
Morrisons Access	**A44 Barons Cross Road (East)**	**49**	**92**	**5.1**	**✓**	**43**	146
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	4	7	1.3	✓	3	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	399	426	1.3	✓	27	
Buckfield Road	A44 Barons Cross Road (East)	125	110	1.4	✓	-15	
Buckfield Road	A44 Barons Cross Road (West)	5	3	1.0	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	321	303	1.0	✓	-18	Total
A44 Barons Cross Road (East)	Buckfield Road	28	37	1.6	✓	9	4
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	524	535	0.5	✓	11	
A44 Barons Cross Road (West)	Ropewalk Avenue	0	1	1.4	✓	1	
A44 Barons Cross Road (East)	Ropewalk Avenue	0	1	1.4	✓	1	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	347	340	0.4	✓	-7	
Ropewalk Avenue	A44 Barons Cross Road (West)	2	1	0.8	✓	-1	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	2	7	2.4	✓	5	10
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	527	539	0.5	✓	12	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	347	341	0.3	✓	-6	
Ashfield Lane	A44 Barons Cross Road (West)	0	1	1.4	✓	1	Total
Ashfield Lane	A44 Barons Cross Road (East)	1	1	0.0	✓	0	7
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	4	15	3.6	✓	11	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	524	524	0.0	✓	0	
Ginhall Lane	A44 Barons Cross Road (East)	8	18	2.8	✓	10	
Ginhall Lane	A44 Barons Cross Road (West)	4	14	3.3	✓	10	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	343	326	0.9	✓	-17	Total
A44 Barons Cross Road (East)	Ginhall Lane	10	3	2.7	✓	-7	7
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	433	381	2.6	✓	-52	
A44 Barons Cross Road (West)	Westfield Walk	102	156	4.8	✓	54	
A44 Barons Cross Road (East)	Westfield Walk	16	14	0.5	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	304	249	3.3	✓	-55	
Westfield Walk	A44 Barons Cross Road (West)	52	82	3.7	✓	30	Total
Westfield Walk	A44 Barons Cross Road (East)	11	13	0.6	✓	2	-23
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	168	134	2.8	✓	-34	
A44 Barons Cross Road	West Street	25	27	0.4	✓	2	
A44 Barons Cross Road	Dishley Street	221	232	0.7	✓	11	
Cursneh Road	West Street	0	0	0.0	✓	0	
Cursneh Road	Dishley Street	90	88	0.2	✓	-2	
Cursneh Road	A44 Barons Cross Road	146	133	1.1	✓	-13	
Dishley Street	A44 Barons Cross Road	121	132	1.0	✓	11	
Dishley Street	Cursneh Road	66	60	0.8	✓	-6	Total
Dishley Street	West Street	1	2	0.8	✓	1	-30

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	10	23	3.2	✓	13	
Cursneh Road	New Street	172	171	0.1	✓	-1	
Cursneh Road	Rainbow Street	0	1	1.4	✓	1	
Green Lane	New Street	22	35	2.4	✓	13	
Green Lane	Rainbow Street	19	30	2.2	✓	11	
Green Lane	Cursneh Road	26	21	1.0	✓	-5	
New Street	Rainbow Street	48	82	4.2	✓	34	
New Street	Cursneh Road	272	204	4.4	✓	-68	Total
New Street	Green Lane	15	22	1.6	✓	7	5
New Street / Broad Street / High Street							
New Street	Broad Street	238	263	1.6	✓	25	
Broad Street	New Street	248	298	3.0	✓	50	
High Street	New Street	27	44	2.9	✓	17	Total
High Street	Broad Street	36	68	4.4	✓	32	124
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	76	125	4.9	✓	49	
Broad Street	A44 Mill Street	190	203	0.9	✓	13	
Bridge Street	A44 Mill Street	131	120	1.0	✓	-11	
Bridge Street	Broad Street	114	149	3.1	✓	35	
A44 Mill Street	Broad Street	130	160	2.5	✓	30	Total
A44 Mill Street	Bridge Street	33	59	3.8	✓	26	142
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	293	280	0.8	✓	-13	
Dishley Street	Ryelands Road	14	37	4.6	✓	23	
Westbury Street	**Ryelands Road**	**49**	**99**	**5.8**	**✓**	**50**	
Westbury Street	Dishley Street	184	158	2.0	✓	-26	
Ryelands Road	Dishley Street	34	40	1.0	✓	6	Total
Ryelands Road	Westbury Street	151	201	3.8	✓	50	90
Westbury Street / High Street / South Street							
Westbury Street	High Street	156	206	3.7	✓	50	
Westbury Street	South Street	271	261	0.6	✓	-10	
High Street	**South Street**	**25**	**57**	**5.0**	**✓**	**32**	
High Street	Westbury Street	59	101	4.7	✓	42	
South Street	Westbury Street	99	130	2.9	✓	31	Total
South Street	High Street	20	68	7.2	✓	48	193
Hospital In & Out							
Hospital Out	Hospital In	5	12	2.4	✓	7	Total
Hospital In	Hospital Out	4	8	1.6	✓	4	11
South Street / Churchill Avenue							
South Street (North)	South Street (South)	257	225	2.1	✓	-32	
South Street (North)	Churchill Avenue	5	20	4.2	✓	15	
South Street (South)	Churchill Avenue	12	20	2.0	✓	8	
South Street (South)	South Street (North)	140	146	0.5	✓	6	
Churchill Avenue	South Street (North)	12	25	3.0	✓	13	Total
Churchill Avenue	South Street (South)	28	40	2.1	✓	12	22
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	92	113	2.1	✓	21	
South Street	B4361 Hereford Road	200	151	3.7	✓	-49	
Southern Avenue	B4361 Hereford Road	17	15	0.5	✓	-2	
Southern Avenue	South Street	36	52	2.4	✓	16	
B4361 Hereford Road	South Street	116	107	0.9	✓	-9	Total
B4361 Hereford Road	Southern Avenue	38	37	0.2	✓	-1	-24

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	29	53	3.7	✓	24	
Southern Avenue (West)	Worchester Road	87	75	1.3	✓	-12	
Southern Avenue (West)	Enterprise Park	4	10	2.3	✓	6	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	145	139	0.5	✓	-6	
Southern Avenue (North)	Enterprise Park	9	13	1.2	✓	4	
Southern Avenue (North)	Southern Avenue (West)	27	27	0.0	✓	0	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	17	21	0.9	✓	4	
Worchester Road	Southern Avenue (West)	48	61	1.8	✓	13	
Worchester Road	Southern Avenue (North)	146	189	3.3	✓	43	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	0	6	3.5	✓	6	
Enterprise Park	Southern Avenue (North)	0	4	2.8	✓	4	
Enterprise Park	Worchester Road	0	4	2.8	✓	4	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	90

Summary	
GEH<5	96.4%
5<=GEH<=10	3.6%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
AM Base 2009 08:00 to 09:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	365	284	4.5	✓	-81	
Cholstrey Road	A44 Monkland Road	27	18	1.9	✓	-9	
A44 Barons Cross Road	A44 Monkland Road	183	177	0.4	✓	-6	
A44 Barons Cross Road	Cholstrey Road	190	201	0.8	✓	11	
A44 Monkland Road	Cholstrey Road	16	13	0.8	✓	-3	**Total**
A44 Monkland Road	A44 Barons Cross Road	318	253	3.8	✓	-65	-153
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	**A44 Barons Cross Road (East)**	**556**	**420**	**6.2**	☒	**-136**	
A44 Barons Cross Road (West)	Morrisons Access	129	115	1.3	✓	-14	
A44 Barons Cross Road (East)	Morrisons Access	141	173	2.6	✓	32	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	290	308	1.0	✓	18	
Morrisons Access	A44 Barons Cross Road (West)	83	70	1.5	✓	-13	Total
Morrisons Access	A44 Barons Cross Road (East)	102	121	1.8	✓	19	-94
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	5	9	1.5	✓	4	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	614	531	3.5	✓	-83	
Buckfield Road	A44 Barons Cross Road (East)	155	135	1.7	✓	-20	
Buckfield Road	A44 Barons Cross Road (West)	2	4	1.2	✓	2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	563	478	3.7	✓	-85	Total
A44 Barons Cross Road (East)	Buckfield Road	50	65	2.0	✓	15	-167
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	768	663	3.9	✓	-105	
A44 Barons Cross Road (West)	Ropewalk Avenue	1	2	0.8	✓	1	
A44 Barons Cross Road (East)	Ropewalk Avenue	1	4	1.9	✓	3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	611	540	3.0	✓	-71	
Ropewalk Avenue	A44 Barons Cross Road (West)	2	2	0.0	✓	0	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	7	10	1.0	✓	3	-169
A44 Barons Cross Road / Ashfield Lane						0	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	776	672	3.9	✓	-104	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	613	543	2.9	✓	-70	
Ashfield Lane	A44 Barons Cross Road (West)	0	1	1.4	✓	1	Total
Ashfield Lane	A44 Barons Cross Road (East)	0	2	2.0	✓	2	-171
A44 Barons Cross Road / Ginhall Lane						0	
A44 Barons Cross Road (West)	Ginhall Lane	11	15	1.1	✓	4	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	765	655	4.1	✓	-110	
Ginhall Lane	A44 Barons Cross Road (East)	23	25	0.4	✓	2	
Ginhall Lane	A44 Barons Cross Road (West)	14	12	0.6	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	599	532	2.8	✓	-67	Total
A44 Barons Cross Road (East)	Ginhall Lane	7	13	1.9	✓	6	-167
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	517	502	0.7	✓	-15	
A44 Barons Cross Road (West)	Westfield Walk	272	264	0.5	✓	-8	
A44 Barons Cross Road (East)	Westfield Walk	29	27	0.4	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	527	463	2.9	✓	-64	
Westfield Walk	A44 Barons Cross Road (West)	78	85	0.8	✓	7	Total
Westfield Walk	A44 Barons Cross Road (East)	11	18	1.8	✓	7	-75
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	251	198	3.5	✓	-53	
A44 Barons Cross Road	West Street	55	48	1.0	✓	-7	
A44 Barons Cross Road	Dishley Street	251	262	0.7	✓	11	
Cursneh Road	West Street	8	8	0.0	✓	0	
Cursneh Road	Dishley Street	196	178	1.3	✓	-18	
Cursneh Road	A44 Barons Cross Road	224	240	1.1	✓	16	
Dishley Street	A44 Barons Cross Road	196	250	3.6	✓	54	
Dishley Street	Cursneh Road	129	110	1.7	✓	-19	Total
Dishley Street	West Street	6	6	0.0	✓	0	-16

Cursneh Road / Green Lane / New Street / Rainbow Street						0	
Cursneh Road	Green Lane	19	33	2.7	✓	14	
Cursneh Road	New Street	307	272	2.1	✓	-35	
Cursneh Road	Rainbow Street	1	2	0.8	✓	1	
Green Lane	New Street	50	37	2.0	✓	-13	
Green Lane	Rainbow Street	39	32	1.2	✓	-7	
Green Lane	Cursneh Road	34	38	0.7	✓	4	
New Street	Rainbow Street	77	77	0.0	✓	0	
New Street	Cursneh Road	449	390	2.9	✓	-59	Total
New Street	Green Lane	26	23	0.6	✓	-3	-98
New Street / Broad Street / High Street							
New Street	Broad Street	418	360	2.9	✓	-58	
Broad Street	New Street	515	457	2.6	✓	-58	
High Street	New Street	67	76	1.1	✓	9	Total
High Street	Broad Street	71	74	0.4	✓	3	-104
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	152	161	0.7	✓	9	
Broad Street	A44 Mill Street	287	264	1.4	✓	-23	
Bridge Street	A44 Mill Street	154	126	2.4	✓	-28	
Bridge Street	Broad Street	279	210	4.4	✓	-69	
A44 Mill Street	Broad Street	288	233	3.4	✓	-55	Total
A44 Mill Street	Bridge Street	69	61	1.0	✓	-8	-174
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	401	382	1.0	✓	-19	
Dishley Street	Ryelands Road	50	50	0.0	✓	0	
Westbury Street	Ryelands Road	109	96	1.3	✓	-13	
Westbury Street	Dishley Street	316	296	1.1	✓	-20	
Ryelands Road	Dishley Street	74	72	0.2	✓	-2	Total
Ryelands Road	**Westbury Street**	**293**	**201**	**5.9**	**✓**	**-92**	-146
Westbury Street / High Street / South Street							
Westbury Street	High Street	276	241	2.2	✓	-35	
Westbury Street	South Street	413	326	4.5	✓	-87	
High Street	South Street	74	57	2.1	✓	-17	
High Street	Westbury Street	143	126	1.5	✓	-17	
South Street	Westbury Street	254	224	1.9	✓	-30	Total
South Street	High Street	96	68	3.1	✓	-28	-214
Hospital In & Out							
Hospital Out	Hospital In	12	19	1.8	✓	7	Total
Hospital In	Hospital Out	9	13	1.2	✓	4	11
South Street / Churchill Avenue							
South Street (North)	South Street (South)	322	268	3.1	✓	-54	
South Street (North)	Churchill Avenue	23	25	0.4	✓	2	
South Street (South)	Churchill Avenue	21	22	0.2	✓	1	
South Street (South)	South Street (North)	269	209	3.9	✓	-60	
Churchill Avenue	South Street (North)	44	40	0.6	✓	-4	Total
Churchill Avenue	South Street (South)	43	39	0.6	✓	-4	-119
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	147	139	0.7	✓	-8	
South Street	B4361 Hereford Road	213	170	3.1	✓	-43	
Southern Avenue	B4361 Hereford Road	15	18	0.7	✓	3	
Southern Avenue	South Street	106	86	2.0	✓	-20	
B4361 Hereford Road	South Street	185	138	3.7	✓	-47	Total
B4361 Hereford Road	Southern Avenue	51	38	1.9	✓	-13	-128

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	70	58	1.5	✓	-12	
Southern Avenue (West)	Worchester Road	113	87	2.6	✓	-26	
Southern Avenue (West)	Enterprise Park	10	15	1.4	✓	5	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	151	143	0.7	✓	-8	
Southern Avenue (North)	Enterprise Park	13	10	0.9	✓	-3	
Southern Avenue (North)	Southern Avenue (West)	51	39	1.8	✓	-12	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	26	22	0.8	✓	-4	
Worchester Road	Southern Avenue (West)	106	78	2.9	✓	-28	
Worchester Road	Southern Avenue (North)	247	193	3.6	✓	-54	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	6	10	1.4	✓	4	
Enterprise Park	Southern Avenue (North)	6	4	0.9	✓	-2	
Enterprise Park	Worchester Road	6	3	1.4	✓	-3	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	-143

Summary	
GEH<5	98.2%
5<=GEH<=10	1.8%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	99.1%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
AM Base 2009 09:00 to 10:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	282	297	0.9	☒	15	
Cholstrey Road	A44 Monkland Road	12	17	1.3	✓	5	
A44 Barons Cross Road	A44 Monkland Road	164	185	1.6	✓	21	
A44 Barons Cross Road	Cholstrey Road	185	209	1.7	✓	24	
A44 Monkland Road	Cholstrey Road	12	13	0.3	✓	1	**Total**
A44 Monkland Road	A44 Barons Cross Road	267	263	0.2	✓	-4	62
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	423	448	1.2	✓	25	
A44 Barons Cross Road (West)	Morrisons Access	126	111	1.4	✓	-15	
A44 Barons Cross Road (East)	Morrisons Access	178	175	0.2	✓	-3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	244	324	4.7	✓	80	
Morrisons Access	A44 Barons Cross Road (West)	108	71	3.9	✓	-37	Total
Morrisons Access	A44 Barons Cross Road (East)	156	123	2.8	✓	-33	17
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	7	7	0.0	✓	0	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	547	564	0.7	✓	17	
Buckfield Road	A44 Barons Cross Road (East)	101	148	4.2	✓	47	
Buckfield Road	A44 Barons Cross Road (West)	7	4	1.3	✓	-3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	498	494	0.2	✓	-4	Total
A44 Barons Cross Road (East)	Buckfield Road	49	68	2.5	✓	19	76
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	647	711	2.5	✓	64	
A44 Barons Cross Road (West)	Ropewalk Avenue	1	1	0.0	✓	0	
A44 Barons Cross Road (East)	Ropewalk Avenue	2	4	1.2	✓	2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	545	556	0.5	✓	11	
Ropewalk Avenue	A44 Barons Cross Road (West)	2	2	0.0	✓	0	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	4	11	2.6	✓	7	84
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	651	721	2.7	✓	70	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	548	561	0.6	✓	13	
Ashfield Lane	A44 Barons Cross Road (West)	1	1	0.0	✓	0	Total
Ashfield Lane	A44 Barons Cross Road (East)	0	2	2.0	✓	2	85
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	16	15	0.3	✓	-1	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	635	706	2.7	✓	71	
Ginhall Lane	A44 Barons Cross Road (East)	20	26	1.3	✓	6	
Ginhall Lane	A44 Barons Cross Road (West)	13	11	0.6	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	535	550	0.6	✓	15	Total
A44 Barons Cross Road (East)	Ginhall Lane	4	15	3.6	✓	11	100
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	506	559	2.3	✓	53	
A44 Barons Cross Road (West)	Westfield Walk	145	172	2.1	✓	27	
A44 Barons Cross Road (East)	Westfield Walk	26	33	1.3	✓	7	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	442	448	0.3	✓	6	
Westfield Walk	A44 Barons Cross Road (West)	99	78	2.2	✓	-21	Total
Westfield Walk	A44 Barons Cross Road (East)	11	17	1.6	✓	6	78
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	258	240	1.1	✓	-18	
A44 Barons Cross Road	West Street	98	107	0.9	✓	9	
A44 Barons Cross Road	Dishley Street	213	230	1.1	✓	17	
Cursneh Road	West Street	7	12	1.6	✓	5	
Cursneh Road	Dishley Street	166	178	0.9	✓	12	
Cursneh Road	A44 Barons Cross Road	238	272	2.1	✓	34	
Dishley Street	A44 Barons Cross Road	207	249	2.8	✓	42	
Dishley Street	Cursneh Road	131	139	0.7	✓	8	Total
Dishley Street	West Street	19	17	0.5	✓	-2	107

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	30	38	1.4	✓	8	
Cursneh Road	New Street	268	340	4.1	✓	72	
Cursneh Road	Rainbow Street	0	2	2.0	✓	2	
Green Lane	New Street	31	33	0.4	✓	2	
Green Lane	Rainbow Street	41	32	1.5	✓	-9	
Green Lane	Cursneh Road	23	38	2.7	✓	15	
New Street	Rainbow Street	79	78	0.1	✓	-1	
New Street	**Cursneh Road**	**308**	**423**	**6.0**	**✓**	**115**	Total
New Street	Green Lane	15	21	1.4	✓	6	210
New Street / Broad Street / High Street							
New Street	Broad Street	403	435	1.6	✓	32	
Broad Street	New Street	458	480	1.0	✓	22	
High Street	New Street	105	78	2.8	✓	-27	Total
High Street	Broad Street	112	78	3.5	✓	-34	-7
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	186	204	1.3	✓	18	
Broad Street	A44 Mill Street	279	300	1.2	✓	21	
Bridge Street	A44 Mill Street	84	124	3.9	✓	40	
Bridge Street	Broad Street	205	215	0.7	✓	10	
A44 Mill Street	Broad Street	299	248	3.1	✓	-51	Total
A44 Mill Street	Bridge Street	72	59	1.6	✓	-13	25
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	309	357	2.6	✓	48	
Dishley Street	Ryelands Road	54	47	1.0	✓	-7	
Westbury Street	Ryelands Road	128	106	2.0	✓	-22	
Westbury Street	Dishley Street	272	326	3.1	✓	54	
Ryelands Road	Dishley Street	88	83	0.5	✓	-5	Total
Ryelands Road	Westbury Street	186	199	0.9	✓	13	81
Westbury Street / High Street / South Street							
Westbury Street	High Street	240	230	0.7	✓	-10	
Westbury Street	South Street	247	313	3.9	✓	66	
High Street	South Street	68	51	2.2	✓	-17	
High Street	Westbury Street	181	140	3.2	✓	-41	
South Street	Westbury Street	230	244	0.9	✓	14	Total
South Street	High Street	99	65	3.8	✓	-34	-22
Hospital In & Out							
Hospital Out	Hospital In	13	18	1.3	✓	5	Total
Hospital In	Hospital Out	9	14	1.5	✓	5	10
South Street / Churchill Avenue							
South Street (North)	South Street (South)	249	259	0.6	✓	10	
South Street (North)	Churchill Avenue	13	22	2.2	✓	9	
South Street (South)	Churchill Avenue	17	22	1.1	✓	5	
South Street (South)	South Street (North)	210	226	1.1	✓	16	
Churchill Avenue	South Street (North)	29	38	1.6	✓	9	Total
Churchill Avenue	South Street (South)	25	39	2.5	✓	14	63
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	105	127	2.0	✓	22	
South Street	B4361 Hereford Road	170	172	0.2	✓	2	
Southern Avenue	B4361 Hereford Road	25	16	2.0	✓	-9	
Southern Avenue	South Street	75	96	2.3	✓	21	
B4361 Hereford Road	South Street	143	144	0.1	✓	1	Total
B4361 Hereford Road	Southern Avenue	36	41	0.8	✓	5	42

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	65	56	1.2	✓	-9	
Southern Avenue (West)	Worchester Road	67	87	2.3	✓	20	
Southern Avenue (West)	Enterprise Park	5	16	3.4	✓	11	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	115	143	2.5	✓	28	
Southern Avenue (North)	Enterprise Park	12	13	0.3	✓	1	
Southern Avenue (North)	Southern Avenue (West)	34	46	1.9	✓	12	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	19	23	0.9	✓	4	
Worchester Road	Southern Avenue (West)	68	81	1.5	✓	13	
Worchester Road	Southern Avenue (North)	194	201	0.5	✓	7	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	2	11	3.5	✓	9	
Enterprise Park	Southern Avenue (North)	7	4	1.3	✓	-3	
Enterprise Park	Worchester Road	6	4	0.9	✓	-2	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	91

Summary	
GEH<5	99.1%
5<=GEH<=10	0.9%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	99.1%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
AM Base 2009 07:00 to 10:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	834	821	0.5	✓	-13	
Cholstrey Road	A44 Monkland Road	52	52	0.0	✓	0	
A44 Barons Cross Road	A44 Monkland Road	468	487	0.9	✓	19	
A44 Barons Cross Road	Cholstrey Road	513	547	1.5	✓	34	
A44 Monkland Road	Cholstrey Road	38	36	0.3	✓	-2	**Total**
A44 Monkland Road	A44 Barons Cross Road	770	733	1.3	✓	-37	1
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1298	1209	2.5	✓	-89	
A44 Barons Cross Road (West)	Morrisons Access	309	342	1.8	✓	33	
A44 Barons Cross Road (East)	Morrisons Access	386	459	3.6	✓	73	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	751	825	2.6	✓	74	
Morrisons Access	A44 Barons Cross Road (West)	231	210	1.4	✓	-21	Total
Morrisons Access	A44 Barons Cross Road (East)	307	335	1.6	✓	28	98
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	16	23	1.6	✓	7	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1560	1521	1.0	✓	-39	
Buckfield Road	A44 Barons Cross Road (East)	381	393	0.6	✓	12	
Buckfield Road	A44 Barons Cross Road (West)	14	11	0.8	✓	-3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1382	1275	2.9	✓	-107	Total
A44 Barons Cross Road (East)	Buckfield Road	127	170	3.5	✓	43	-87
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1939	1909	0.7	✓	-30	
A44 Barons Cross Road (West)	Ropewalk Avenue	2	4	1.2	✓	2	
A44 Barons Cross Road (East)	Ropewalk Avenue	3	8	2.1	✓	5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1503	1440	1.6	✓	-63	
Ropewalk Avenue	A44 Barons Cross Road (West)	6	5	0.4	✓	-1	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	13	27	3.1	✓	14	-73
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1954	1931	0.5	✓	-23	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1508	1445	1.6	✓	-63	
Ashfield Lane	A44 Barons Cross Road (West)	1	3	1.4	✓	2	Total
Ashfield Lane	A44 Barons Cross Road (East)	1	4	1.9	✓	3	-81
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	31	45	2.3	✓	14	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1924	1885	0.9	✓	-39	
Ginhall Lane	A44 Barons Cross Road (East)	51	69	2.3	✓	18	
Ginhall Lane	A44 Barons Cross Road (West)	31	36	0.9	✓	5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1477	1408	1.8	✓	-69	Total
A44 Barons Cross Road (East)	Ginhall Lane	21	33	2.3	✓	12	-59
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1456	1441	0.4	✓	-15	
A44 Barons Cross Road (West)	Westfield Walk	519	501	0.8	✓	-18	
A44 Barons Cross Road (East)	Westfield Walk	71	74	0.4	✓	3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1273	1200	2.1	✓	-73	
Westfield Walk	A44 Barons Cross Road (West)	229	245	1.0	✓	16	Total
Westfield Walk	A44 Barons Cross Road (East)	33	47	2.2	✓	14	-73
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	677	571	4.2	✓	-106	
A44 Barons Cross Road	West Street	178	182	0.3	✓	4	
A44 Barons Cross Road	Dishley Street	685	723	1.4	✓	38	
Cursneh Road	West Street	15	20	1.2	✓	5	
Cursneh Road	Dishley Street	452	443	0.4	✓	-9	
Cursneh Road	A44 Barons Cross Road	608	644	1.4	✓	36	
Dishley Street	A44 Barons Cross Road	524	630	4.4	✓	106	
Dishley Street	Cursneh Road	326	309	1.0	✓	-17	Total
Dishley Street	West Street	26	25	0.2	✓	-1	56

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	59	94	4.0	✓	35	
Cursneh Road	New Street	747	783	1.3	✓	36	
Cursneh Road	Rainbow Street	1	4	1.9	✓	3	
Green Lane	New Street	103	105	0.2	✓	2	
Green Lane	Rainbow Street	99	94	0.5	✓	-5	
Green Lane	Cursneh Road	83	96	1.4	✓	13	
New Street	Rainbow Street	204	237	2.2	✓	33	
New Street	Cursneh Road	1029	1016	0.4	✓	-13	Total
New Street	Green Lane	56	65	1.2	✓	9	113
New Street / Broad Street / High Street							
New Street	Broad Street	1059	1057	0.1	✓	-2	
Broad Street	New Street	1221	1235	0.4	✓	14	
High Street	New Street	199	198	0.1	✓	-1	Total
High Street	Broad Street	219	220	0.1	✓	1	12
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	414	491	3.6	✓	77	
Broad Street	A44 Mill Street	756	767	0.4	✓	11	
Bridge Street	A44 Mill Street	369	370	0.1	✓	1	
Bridge Street	Broad Street	598	574	1.0	✓	-24	
A44 Mill Street	Broad Street	717	640	3.0	✓	-77	Total
A44 Mill Street	Bridge Street	174	180	0.5	✓	6	-6
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	1003	1019	0.5	✓	16	
Dishley Street	Ryelands Road	118	133	1.3	✓	15	
Westbury Street	Ryelands Road	286	301	0.9	✓	15	
Westbury Street	Dishley Street	772	779	0.3	✓	7	
Ryelands Road	Dishley Street	196	194	0.1	✓	-2	Total
Ryelands Road	Westbury Street	630	600	1.2	✓	-30	21
Westbury Street / High Street / South Street							
Westbury Street	High Street	672	677	0.2	✓	5	
Westbury Street	South Street	931	900	1.0	✓	-31	
High Street	South Street	167	165	0.2	✓	-2	
High Street	Westbury Street	383	367	0.8	✓	-16	
South Street	Westbury Street	583	598	0.6	✓	15	Total
South Street	High Street	215	201	1.0	✓	-14	-43
Hospital In & Out							
Hospital Out	Hospital In	30	49	3.0	✓	19	Total
Hospital In	Hospital Out	22	34	2.3	✓	12	31
South Street / Churchill Avenue							
South Street (North)	South Street (South)	828	752	2.7	✓	-76	
South Street (North)	Churchill Avenue	41	67	3.5	✓	26	
South Street (South)	Churchill Avenue	50	65	2.0	✓	15	
South Street (South)	South Street (North)	619	580	1.6	✓	-39	
Churchill Avenue	South Street (North)	85	103	1.9	✓	18	Total
Churchill Avenue	South Street (South)	96	118	2.1	✓	22	-34
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	344	380	1.9	✓	36	
South Street	B4361 Hereford Road	583	493	3.9	✓	-90	
Southern Avenue	B4361 Hereford Road	57	52	0.7	✓	-5	
Southern Avenue	South Street	217	234	1.1	✓	17	
B4361 Hereford Road	South Street	444	389	2.7	✓	-55	Total
B4361 Hereford Road	Southern Avenue	125	116	0.8	✓	-9	-106

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	164	166	0.2	✓	2	
Southern Avenue (West)	Worchester Road	267	248	1.2	✓	-19	
Southern Avenue (West)	Enterprise Park	19	41	4.0	✓	22	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	421	425	0.2	✓	4	
Southern Avenue (North)	Enterprise Park	34	35	0.2	✓	1	
Southern Avenue (North)	Southern Avenue (West)	112	112	0.0	✓	0	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	62	66	0.5	✓	4	
Worchester Road	Southern Avenue (West)	222	221	0.1	✓	-1	
Worchester Road	Southern Avenue (North)	587	584	0.1	✓	-3	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	8	26	4.4	✓	18	
Enterprise Park	Southern Avenue (North)	13	12	0.3	✓	-1	
Enterprise Park	Worchester Road	12	11	0.3	✓	-1	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	26

Summary	
GEH<5	100.0%
5<=GEH<=10	0.0%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
PM Base 2009 16:00 to17:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	195	215	1.4	✓	20	
Cholstrey Road	A44 Monkland Road	15	13	0.5	✓	-2	
A44 Barons Cross Road	A44 Monkland Road	274	248	1.6	✓	-26	
A44 Barons Cross Road	Cholstrey Road	302	304	0.1	✓	2	
A44 Monkland Road	Cholstrey Road	23	23	0.0	✓	0	**Total**
A44 Monkland Road	A44 Barons Cross Road	244	226	1.2	✓	-18	-24
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	346	344	0.1	✓	-2	
A44 Barons Cross Road (West)	Morrisons Access	93	98	0.5	✓	5	
A44 Barons Cross Road (East)	Morrisons Access	251	256	0.3	✓	5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	364	372	0.4	✓	8	
Morrisons Access	A44 Barons Cross Road (West)	214	180	2.4	✓	-34	Total
Morrisons Access	A44 Barons Cross Road (East)	162	209	3.5	✓	47	29
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	8	8	0.0	✓	0	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	627	546	3.3	✓	-81	
Buckfield Road	A44 Barons Cross Road (East)	85	107	2.2	✓	22	
Buckfield Road	A44 Barons Cross Road (West)	12	7	1.6	✓	-5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	701	622	3.1	✓	-79	Total
A44 Barons Cross Road (East)	Buckfield Road	93	126	3.2	✓	33	-110
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	712	653	2.3	✓	-59	
A44 Barons Cross Road (West)	Ropewalk Avenue	0	1	1.4	✓	1	
A44 Barons Cross Road (East)	Ropewalk Avenue	8	8	0.0	✓	0	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	792	745	1.7	✓	-47	
Ropewalk Avenue	A44 Barons Cross Road (West)	2	3	0.6	✓	1	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	3	6	1.4	✓	3	-101
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	714	659	2.1	✓	-55	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	1	5	2.3	✓	4	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	802	754	1.7	✓	-48	
Ashfield Lane	A44 Barons Cross Road (West)	0	0	0.0	✓	0	Total
Ashfield Lane	A44 Barons Cross Road (East)	1	4	1.9	✓	3	-96
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	28	26	0.4	✓	-2	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	687	637	1.9	✓	-50	
Ginhall Lane	A44 Barons Cross Road (East)	30	27	0.6	✓	-3	
Ginhall Lane	A44 Barons Cross Road (West)	18	28	2.1	✓	10	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	785	730	2.0	✓	-55	Total
A44 Barons Cross Road (East)	Ginhall Lane	27	20	1.4	✓	-7	-107
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	583	518	2.8	✓	-65	
A44 Barons Cross Road (West)	Westfield Walk	136	145	0.8	✓	9	
A44 Barons Cross Road (East)	Westfield Walk	25	20	1.1	✓	-5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	673	608	2.6	✓	-65	
Westfield Walk	A44 Barons Cross Road (West)	137	144	0.6	✓	7	Total
Westfield Walk	A44 Barons Cross Road (East)	15	20	1.2	✓	5	-114
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	258	286	1.7	✓	28	
A44 Barons Cross Road	West Street	51	52	0.1	✓	1	
A44 Barons Cross Road	Dishley Street	182	202	1.4	✓	20	
Cursneh Road	West Street	9	11	0.6	✓	2	
Cursneh Road	Dishley Street	160	151	0.7	✓	-9	
Cursneh Road	A44 Barons Cross Road	308	306	0.1	✓	-2	
Dishley Street	A44 Barons Cross Road	322	326	0.2	✓	4	
Dishley Street	Cursneh Road	168	159	0.7	✓	-9	Total
Dishley Street	West Street	9	6	1.1	✓	-3	32

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	55	55	0.0	✓	0	
Cursneh Road	New Street	371	385	0.7	✓	14	
Cursneh Road	Rainbow Street	0	4	2.8	✓	4	
Green Lane	New Street	36	32	0.7	✓	-4	
Green Lane	Rainbow Street	15	18	0.7	✓	3	
Green Lane	Cursneh Road	28	32	0.7	✓	4	
New Street	Rainbow Street	95	84	1.2	✓	-11	
New Street	Cursneh Road	432	437	0.2	✓	5	Total
New Street	Green Lane	33	29	0.7	✓	-4	11
New Street / Broad Street / High Street							
New Street	Broad Street	357	397	2.1	✓	40	
Broad Street	New Street	404	449	2.2	✓	45	
High Street	New Street	119	117	0.2	✓	-2	Total
High Street	Broad Street	88	89	0.1	✓	1	84
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	264	262	0.1	✓	-2	
Broad Street	A44 Mill Street	326	287	2.2	✓	-39	
Bridge Street	A44 Mill Street	91	97	0.6	✓	6	
Bridge Street	Broad Street	208	191	1.2	✓	-17	
A44 Mill Street	Broad Street	283	255	1.7	✓	-28	Total
A44 Mill Street	Bridge Street	163	153	0.8	✓	-10	-90
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	254	287	2.0	✓	33	
Dishley Street	Ryelands Road	80	63	2.0	✓	-17	
Westbury Street	Ryelands Road	200	186	1.0	✓	-14	
Westbury Street	Dishley Street	416	413	0.1	✓	-3	
Ryelands Road	Dishley Street	80	87	0.8	✓	7	Total
Ryelands Road	Westbury Street	154	149	0.4	✓	-5	1
Westbury Street / High Street / South Street							
Westbury Street	High Street	176	201	1.8	✓	25	
Westbury Street	South Street	238	243	0.3	✓	5	
High Street	South Street	76	62	1.7	✓	-14	
High Street	Westbury Street	291	268	1.4	✓	-23	
South Street	Westbury Street	327	327	0.0	✓	0	Total
South Street	High Street	69	74	0.6	✓	5	-2
Hospital In & Out							
Hospital Out	Hospital In	9	7	0.7	✓	-2	Total
Hospital In	Hospital Out	14	10	1.2	✓	-4	-6
South Street / Churchill Avenue							
South Street (North)	South Street (South)	223	206	1.2	✓	-17	
South Street (North)	Churchill Avenue	32	25	1.3	✓	-7	
South Street (South)	Churchill Avenue	44	57	1.8	✓	13	
South Street (South)	South Street (North)	338	321	0.9	✓	-17	
Churchill Avenue	South Street (North)	26	31	0.9	✓	5	Total
Churchill Avenue	South Street (South)	11	17	1.6	✓	6	-17
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	80	70	1.2	✓	-10	
South Street	B4361 Hereford Road	161	147	1.1	✓	-14	
Southern Avenue	B4361 Hereford Road	35	40	0.8	✓	5	
Southern Avenue	South Street	157	146	0.9	✓	-11	
B4361 Hereford Road	South Street	243	234	0.6	✓	-9	Total
B4361 Hereford Road	Southern Avenue	25	16	2.0	✓	-9	-48

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	45	34	1.8	✓	-11	
Southern Avenue (West)	Worchester Road	62	64	0.3	✓	2	
Southern Avenue (West)	Enterprise Park	2	5	1.6	✓	3	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	169	191	1.6	✓	22	
Southern Avenue (North)	Enterprise Park	5	3	1.0	✓	-2	
Southern Avenue (North)	Southern Avenue (West)	48	35	2.0	✓	-13	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	12	7	1.6	✓	-5	
Worchester Road	Southern Avenue (West)	130	130	0.0	✓	0	
Worchester Road	Southern Avenue (North)	201	182	1.4	✓	-19	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	10	9	0.3	✓	-1	
Enterprise Park	Southern Avenue (North)	16	13	0.8	✓	-3	
Enterprise Park	Worchester Road	25	21	0.8	✓	-4	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	-31

Summary	
GEH<5	100.0%
5<=GEH<=10	0.0%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
PM Base 2009 17:00 to 18:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	254	229	1.6	✓	-25	
Cholstrey Road	A44 Monkland Road	15	12	0.8	✓	-3	
A44 Barons Cross Road	A44 Monkland Road	278	271	0.4	✓	-7	
A44 Barons Cross Road	Cholstrey Road	357	338	1.0	✓	-19	
A44 Monkland Road	Cholstrey Road	25	21	0.8	✓	-4	**Total**
A44 Monkland Road	A44 Barons Cross Road	235	239	0.3	✓	4	-54
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	377	369	0.4	✓	-8	
A44 Barons Cross Road (West)	Morrisons Access	114	98	1.6	✓	-16	
A44 Barons Cross Road (East)	Morrisons Access	253	279	1.6	✓	26	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	426	425	0.0	✓	-1	
Morrisons Access	A44 Barons Cross Road (West)	208	184	1.7	✓	-24	Total
Morrisons Access	A44 Barons Cross Road (East)	185	211	1.8	✓	26	3
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	10	6	1.4	✓	-4	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	613	573	1.6	✓	-40	
Buckfield Road	A44 Barons Cross Road (East)	101	108	0.7	✓	7	
Buckfield Road	A44 Barons Cross Road (West)	5	7	0.8	✓	2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	789	693	3.5	✓	-96	Total
A44 Barons Cross Road (East)	Buckfield Road	175	143	2.5	✓	-32	-163
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	714	675	1.5	✓	-39	
A44 Barons Cross Road (West)	Ropewalk Avenue	0	1	1.4	✓	1	
A44 Barons Cross Road (East)	Ropewalk Avenue	4	7	1.3	✓	3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	963	833	4.3	✓	-130	
Ropewalk Avenue	A44 Barons Cross Road (West)	1	3	1.4	✓	2	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	1	7	3.0	✓	6	-157
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	715	685	1.1	✓	-30	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	1	5	2.3	✓	4	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	964	842	4.1	✓	-122	
Ashfield Lane	A44 Barons Cross Road (West)	0	0	0.0	✓	0	Total
Ashfield Lane	A44 Barons Cross Road (East)	0	4	2.8	✓	4	-144
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	23	23	0.0	✓	0	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	692	667	1.0	✓	-25	
Ginhall Lane	A44 Barons Cross Road (East)	27	31	0.7	✓	4	
Ginhall Lane	A44 Barons Cross Road (West)	36	31	0.9	✓	-5	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	929	817	3.8	✓	-112	Total
A44 Barons Cross Road (East)	Ginhall Lane	20	21	0.2	✓	1	-137
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	563	561	0.1	✓	-2	
A44 Barons Cross Road (West)	Westfield Walk	154	142	1.0	✓	-12	
A44 Barons Cross Road (East)	Westfield Walk	28	27	0.2	✓	-1	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	775	691	3.1	✓	-84	
Westfield Walk	A44 Barons Cross Road (West)	171	147	1.9	✓	-24	Total
Westfield Walk	A44 Barons Cross Road (East)	19	21	0.4	✓	2	-121
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	282	302	1.2	✓	20	
A44 Barons Cross Road	West Street	37	41	0.6	✓	4	
A44 Barons Cross Road	Dishley Street	214	231	1.1	✓	17	
Cursneh Road	West Street	5	3	1.0	✓	-2	
Cursneh Road	Dishley Street	183	163	1.5	✓	-20	
Cursneh Road	A44 Barons Cross Road	359	363	0.2	✓	4	
Dishley Street	A44 Barons Cross Road	344	355	0.6	✓	11	
Dishley Street	Cursneh Road	156	159	0.2	✓	3	Total
Dishley Street	West Street	6	7	0.4	✓	1	38

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	51	57	0.8	✓	6	
Cursneh Road	New Street	345	401	2.9	✓	56	
Cursneh Road	Rainbow Street	1	3	1.4	✓	2	
Green Lane	New Street	39	33	1.0	✓	-6	
Green Lane	Rainbow Street	12	16	1.1	✓	4	
Green Lane	Cursneh Road	22	33	2.1	✓	11	
New Street	Rainbow Street	82	81	0.1	✓	-1	
New Street	Cursneh Road	484	495	0.5	✓	11	Total
New Street	Green Lane	39	29	1.7	✓	-10	73
New Street / Broad Street / High Street							
New Street	Broad Street	437	414	1.1	✓	-23	
Broad Street	New Street	523	483	1.8	✓	-40	
High Street	New Street	115	133	1.6	✓	18	Total
High Street	Broad Street	132	93	3.7	✓	-39	-84
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	286	274	0.7	✓	-12	
Broad Street	A44 Mill Street	352	297	3.1	✓	-55	
Bridge Street	A44 Mill Street	106	92	1.4	✓	-14	
Bridge Street	Broad Street	196	213	1.2	✓	17	
A44 Mill Street	Broad Street	256	267	0.7	✓	11	Total
A44 Mill Street	Bridge Street	177	156	1.6	✓	-21	-74
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	342	313	1.6	✓	-29	
Dishley Street	Ryelands Road	62	74	1.5	✓	12	
Westbury Street	Ryelands Road	240	178	4.3	✓	-62	
Westbury Street	Dishley Street	414	427	0.6	✓	13	
Ryelands Road	Dishley Street	81	91	1.1	✓	10	Total
Ryelands Road	Westbury Street	169	142	2.2	✓	-27	-83
Westbury Street / High Street / South Street							
Westbury Street	High Street	248	205	2.9	✓	-43	
Westbury Street	South Street	279	259	1.2	✓	-20	
High Street	South Street	71	63	1.0	✓	-8	
High Street	Westbury Street	262	258	0.2	✓	-4	
South Street	Westbury Street	388	340	2.5	✓	-48	Total
South Street	High Street	87	67	2.3	✓	-20	-143
Hospital In & Out							
Hospital Out	Hospital In	5	9	1.5	✓	4	Total
Hospital In	Hospital Out	10	14	1.2	✓	4	8
South Street / Churchill Avenue							
South Street (North)	South Street (South)	207	214	0.5	✓	7	
South Street (North)	Churchill Avenue	26	29	0.6	✓	3	
South Street (South)	**Churchill Avenue**	**99**	**53**	**5.3**	**✓**	**-46**	
South Street (South)	South Street (North)	346	322	1.3	✓	-24	
Churchill Avenue	South Street (North)	39	34	0.8	✓	-5	Total
Churchill Avenue	South Street (South)	25	21	0.8	✓	-4	-69
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	71	75	0.5	✓	4	
South Street	B4361 Hereford Road	155	151	0.3	✓	-4	
Southern Avenue	B4361 Hereford Road	62	44	2.5	✓	-18	
Southern Avenue	South Street	177	150	2.1	✓	-27	
B4361 Hereford Road	South Street	253	231	1.4	✓	-22	Total
B4361 Hereford Road	Southern Avenue	16	14	0.5	✓	-2	-69

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	27	35	1.4	✓	8	
Southern Avenue (West)	Worchester Road	95	68	3.0	✓	-27	
Southern Avenue (West)	Enterprise Park	4	7	1.3	✓	3	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	246	187	4.0	✓	-59	
Southern Avenue (North)	Enterprise Park	4	4	0.0	✓	0	
Southern Avenue (North)	Southern Avenue (West)	34	36	0.3	✓	2	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	10	8	0.7	✓	-2	
Worchester Road	Southern Avenue (West)	185	134	4.0	✓	-51	
Worchester Road	Southern Avenue (North)	192	187	0.4	✓	-5	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	8	10	0.7	✓	2	
Enterprise Park	Southern Avenue (North)	13	11	0.6	✓	-2	
Enterprise Park	Worchester Road	28	18	2.1	✓	-10	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	-141

Summary	
GEH<5	99.1%
5<=GEH<=10	0.9%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
PM Base 2009 18:00 to 19:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	169	203	2.5	✓	34	
Cholstrey Road	A44 Monkland Road	8	12	1.3	✓	4	
A44 Barons Cross Road	A44 Monkland Road	189	245	3.8	✓	56	
A44 Barons Cross Road	Cholstrey Road	241	297	3.4	✓	56	
A44 Monkland Road	Cholstrey Road	15	20	1.2	✓	5	**Total**
A44 Monkland Road	A44 Barons Cross Road	199	215	1.1	✓	16	171
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	268	318	2.9	✓	50	
A44 Barons Cross Road (West)	Morrisons Access	102	101	0.1	✓	-1	
A44 Barons Cross Road (East)	Morrisons Access	205	235	2.0	✓	30	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	286	351	3.6	✓	65	
Morrisons Access	A44 Barons Cross Road (West)	147	188	3.2	✓	41	Total
Morrisons Access	A44 Barons Cross Road (East)	191	190	0.1	✓	-1	184
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	6	7	0.4	✓	1	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	468	501	1.5	✓	33	
Buckfield Road	A44 Barons Cross Road (East)	100	92	0.8	✓	-8	
Buckfield Road	A44 Barons Cross Road (West)	6	7	0.4	✓	1	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	521	581	2.6	✓	60	Total
A44 Barons Cross Road (East)	Buckfield Road	118	125	0.6	✓	7	94
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	566	596	1.2	✓	30	
A44 Barons Cross Road (West)	Ropewalk Avenue	2	1	0.8	✓	-1	
A44 Barons Cross Road (East)	Ropewalk Avenue	2	8	2.7	✓	6	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	637	701	2.5	✓	64	
Ropewalk Avenue	A44 Barons Cross Road (West)	2	2	0.0	✓	0	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	8	6	0.8	✓	-2	97
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	572	600	1.2	✓	28	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	1	4	1.9	✓	3	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	640	705	2.5	✓	65	
Ashfield Lane	A44 Barons Cross Road (West)	0	0	0.0	✓	0	Total
Ashfield Lane	A44 Barons Cross Road (East)	1	3	1.4	✓	2	98
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	20	25	1.1	✓	5	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	553	576	1.0	✓	23	
Ginhall Lane	A44 Barons Cross Road (East)	23	26	0.6	✓	3	
Ginhall Lane	A44 Barons Cross Road (West)	15	31	3.3	✓	16	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	626	677	2.0	✓	51	Total
A44 Barons Cross Road (East)	Ginhall Lane	19	14	1.2	✓	-5	93
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	470	467	0.1	✓	-3	
A44 Barons Cross Road (West)	Westfield Walk	108	139	2.8	✓	31	
A44 Barons Cross Road (East)	Westfield Walk	20	22	0.4	✓	2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	522	540	0.8	✓	18	
Westfield Walk	A44 Barons Cross Road (West)	125	151	2.2	✓	26	Total
Westfield Walk	A44 Barons Cross Road (East)	25	19	1.3	✓	-6	68
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	219	259	2.6	✓	40	
A44 Barons Cross Road	West Street	24	28	0.8	✓	4	
A44 Barons Cross Road	Dishley Street	187	205	1.3	✓	18	
Cursneh Road	West Street	2	3	0.6	✓	1	
Cursneh Road	Dishley Street	146	134	1.0	✓	-12	
Cursneh Road	A44 Barons Cross Road	227	243	1.0	✓	16	
Dishley Street	A44 Barons Cross Road	274	316	2.4	✓	42	
Dishley Street	Cursneh Road	152	156	0.3	✓	4	Total
Dishley Street	West Street	2	4	1.2	✓	2	115

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	58	53	0.7	✓	-5	
Cursneh Road	New Street	395	359	1.9	✓	-36	
Cursneh Road	Rainbow Street	0	3	2.4	✓	3	
Green Lane	New Street	19	33	2.7	✓	14	
Green Lane	Rainbow Street	26	16	2.2	✓	-10	
Green Lane	Cursneh Road	21	25	0.8	✓	4	
New Street	Rainbow Street	80	83	0.3	✓	3	
New Street	Cursneh Road	330	351	1.1	✓	21	Total
New Street	Green Lane	21	31	2.0	✓	10	4
New Street / Broad Street / High Street							
New Street	Broad Street	365	372	0.4	✓	7	
Broad Street	New Street	376	383	0.4	✓	7	
High Street	**New Street**	**42**	**87**	**5.6**	**✓**	**45**	Total
High Street	Broad Street	101	97	0.4	✓	-4	55
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	238	254	1.0	✓	16	
Broad Street	A44 Mill Street	227	270	2.7	✓	43	
Bridge Street	A44 Mill Street	82	99	1.8	✓	17	
Bridge Street	Broad Street	167	167	0.0	✓	0	
A44 Mill Street	Broad Street	196	212	1.1	✓	16	Total
A44 Mill Street	Bridge Street	118	151	2.8	✓	33	125
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	267	274	0.4	✓	7	
Dishley Street	Ryelands Road	53	61	1.1	✓	8	
Westbury Street	Ryelands Road	117	191	6.0	✓	74	
Westbury Street	Dishley Street	333	394	3.2	✓	61	
Ryelands Road	Dishley Street	67	78	1.3	✓	11	Total
Ryelands Road	Westbury Street	115	144	2.5	✓	29	190
Westbury Street / High Street / South Street							
Westbury Street	High Street	176	195	1.4	✓	19	
Westbury Street	South Street	211	232	1.4	✓	21	
High Street	South Street	49	64	2.0	✓	15	
High Street	Westbury Street	193	256	4.2	✓	63	
South Street	Westbury Street	258	315	3.4	✓	57	Total
South Street	High Street	63	77	1.7	✓	14	189
Hospital In & Out							
Hospital Out	Hospital In	2	6	2.0	✓	4	Total
Hospital In	Hospital Out	2	12	3.8	✓	10	14
South Street / Churchill Avenue							
South Street (North)	South Street (South)	192	200	0.6	✓	8	
South Street (North)	Churchill Avenue	25	25	0.0	✓	0	
South Street (South)	Churchill Avenue	31	60	4.3	✓	29	
South Street (South)	South Street (North)	279	307	1.6	✓	28	
Churchill Avenue	South Street (North)	27	29	0.4	✓	2	Total
Churchill Avenue	South Street (South)	16	15	0.3	✓	-1	66
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	64	66	0.2	✓	2	
South Street	B4361 Hereford Road	139	146	0.6	✓	7	
Southern Avenue	B4361 Hereford Road	22	14	1.9	✓	-8	
Southern Avenue	South Street	93	139	4.3	✓	46	
B4361 Hereford Road	South Street	218	224	0.4	✓	6	Total
B4361 Hereford Road	Southern Avenue	7	16	2.7	✓	9	62

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	32	31	0.2	✓	-1	
Southern Avenue (West)	Worchester Road	52	63	1.5	✓	11	
Southern Avenue (West)	Enterprise Park	1	6	2.7	✓	5	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	142	194	4.0	✓	52	
Southern Avenue (North)	Enterprise Park	2	3	0.6	✓	1	
Southern Avenue (North)	Southern Avenue (West)	24	33	1.7	✓	9	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	5	11	2.1	✓	6	
Worchester Road	Southern Avenue (West)	83	127	4.3	✓	44	
Worchester Road	Southern Avenue (North)	159	189	2.3	✓	30	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	3	9	2.4	✓	6	
Enterprise Park	Southern Avenue (North)	7	13	1.9	✓	6	
Enterprise Park	Worchester Road	9	21	3.1	✓	12	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	181

Summary	
GEH<5	99.1%
5<=GEH<=10	0.9%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{\left(V_O - V_A\right)^2 / \left(0.5 \times \left(V_O + V_A\right)\right)}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

R/209605 Leominster
PM Base 2009 16:00 to 19:00
TURN COUNT COMPARISONS

Vehicle Movement		Survey	Modelled		Flow	Absolute	
From	To	Flows	Flows	GEH	Criteria	Difference	
Cholstrey Road / A44 Barons Cross Road / A44 Monkland Road							
Cholstrey Road	A44 Barons Cross Road	618	647	1.2	✓	29	
Cholstrey Road	A44 Monkland Road	38	37	0.2	✓	-1	
A44 Barons Cross Road	A44 Monkland Road	741	763	0.8	✓	22	
A44 Barons Cross Road	Cholstrey Road	900	939	1.3	✓	39	
A44 Monkland Road	Cholstrey Road	63	64	0.1	✓	1	**Total**
A44 Monkland Road	A44 Barons Cross Road	678	680	0.1	✓	2	92
A44 Barons Cross Road / Morrisons Access							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	991	1031	1.3	✓	40	
A44 Barons Cross Road (West)	Morrisons Access	309	297	0.7	✓	-12	
A44 Barons Cross Road (East)	Morrisons Access	709	770	2.2	✓	61	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1076	1149	2.2	✓	73	
Morrisons Access	A44 Barons Cross Road (West)	569	552	0.7	✓	-17	Total
Morrisons Access	A44 Barons Cross Road (East)	538	610	3.0	✓	72	217
A44 Barons Cross Road / Buckfield Road							
A44 Barons Cross Road (West)	Buckfield Road	24	21	0.6	✓	-3	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1708	1620	2.2	✓	-88	
Buckfield Road	A44 Barons Cross Road (East)	286	307	1.2	✓	21	
Buckfield Road	A44 Barons Cross Road (West)	23	21	0.4	✓	-2	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	2011	1895	2.6	✓	-116	Total
A44 Barons Cross Road (East)	Buckfield Road	386	393	0.4	✓	7	-181
A44 Barons Cross Road / Ropewalk Avenue							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1992	1924	1.5	✓	-68	
A44 Barons Cross Road (West)	Ropewalk Avenue	2	3	0.6	✓	1	
A44 Barons Cross Road (East)	Ropewalk Avenue	14	24	2.3	✓	10	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	2392	2279	2.3	✓	-113	
Ropewalk Avenue	A44 Barons Cross Road (West)	5	7	0.8	✓	2	Total
Ropewalk Avenue	A44 Barons Cross Road (East)	12	19	1.8	✓	7	-161
A44 Barons Cross Road / Ashfield Lane							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	2001	1944	1.3	✓	-57	
A44 Barons Cross Road (West)	Ashfield Lane	0	0	0.0	✓	0	
A44 Barons Cross Road (East)	Ashfield Lane	3	14	3.8	✓	11	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	2406	201	61.1	✓	-2205	
Ashfield Lane	A44 Barons Cross Road (West)	0	0	0.0	✓	0	Total
Ashfield Lane	A44 Barons Cross Road (East)	2	11	3.5	✓	9	-2242
A44 Barons Cross Road / Ginhall Lane							
A44 Barons Cross Road (West)	Ginhall Lane	71	74	0.4	✓	3	
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1932	1880	1.2	✓	-52	
Ginhall Lane	A44 Barons Cross Road (East)	80	84	0.4	✓	4	
Ginhall Lane	A44 Barons Cross Road (West)	69	90	2.4	✓	21	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	2340	2225	2.4	✓	-115	Total
A44 Barons Cross Road (East)	Ginhall Lane	66	56	1.3	✓	-10	-149
A44 Barons Cross Road / Westfield Walk							
A44 Barons Cross Road (West)	A44 Barons Cross Road (East)	1616	1546	1.8	✓	-70	
A44 Barons Cross Road (West)	Westfield Walk	398	425	1.3	✓	27	
A44 Barons Cross Road (East)	Westfield Walk	73	69	0.5	✓	-4	
A44 Barons Cross Road (East)	A44 Barons Cross Road (West)	1970	1840	3.0	✓	-130	
Westfield Walk	A44 Barons Cross Road (West)	433	441	0.4	✓	8	Total
Westfield Walk	A44 Barons Cross Road (East)	59	60	0.1	✓	1	-168
A44 Barons Cross Road / Cursneh Road / West Street / Dishley Street							
A44 Barons Cross Road	Cursneh Road	759	848	3.1	✓	89	
A44 Barons Cross Road	West Street	112	121	0.8	✓	9	
A44 Barons Cross Road	Dishley Street	583	638	2.2	✓	55	
Cursneh Road	West Street	16	17	0.2	✓	1	
Cursneh Road	Dishley Street	489	449	1.8	✓	-40	
Cursneh Road	A44 Barons Cross Road	894	912	0.6	✓	18	
Dishley Street	A44 Barons Cross Road	940	997	1.8	✓	57	
Dishley Street	Cursneh Road	476	473	0.1	✓	-3	Total
Dishley Street	West Street	17	20	0.7	✓	3	189

Cursneh Road / Green Lane / New Street / Rainbow Street							
Cursneh Road	Green Lane	164	164	0.0	✓	0	
Cursneh Road	New Street	1111	1146	1.0	✓	35	
Cursneh Road	Rainbow Street	1	10	3.8	✓	9	
Green Lane	New Street	94	98	0.4	✓	4	
Green Lane	Rainbow Street	53	50	0.4	✓	-3	
Green Lane	Cursneh Road	71	90	2.1	✓	19	
New Street	Rainbow Street	257	247	0.6	✓	-10	
New Street	Cursneh Road	1146	1284	4.0	✓	138	Total
New Street	Green Lane	93	90	0.3	✓	-3	189
New Street / Broad Street / High Street							
New Street	Broad Street	1159	1183	0.7	✓	24	
Broad Street	New Street	1303	1315	0.3	✓	12	
High Street	New Street	352	348	0.2	✓	-4	Total
High Street	Broad Street	245	270	1.6	✓	25	57
Broad Street / Bridge Street / A44 Mill Street							
Broad Street	Bridge Street	788	791	0.1	✓	3	
Broad Street	A44 Mill Street	905	854	1.7	✓	-51	
Bridge Street	A44 Mill Street	279	289	0.6	✓	10	
Bridge Street	Broad Street	571	571	0.0	✓	0	
A44 Mill Street	Broad Street	735	734	0.0	✓	-1	Total
A44 Mill Street	Bridge Street	458	461	0.1	✓	3	-36
Dishley Street / Westbury Street / Ryelands Road							
Dishley Street	Westbury Street	863	875	0.4	✓	12	
Dishley Street	Ryelands Road	195	198	0.2	✓	3	
Westbury Street	Ryelands Road	557	556	0.0	✓	-1	
Westbury Street	Dishley Street	1163	1233	2.0	✓	70	
Ryelands Road	Dishley Street	228	256	1.8	✓	28	Total
Ryelands Road	Westbury Street	438	434	0.2	✓	-4	108
Westbury Street / High Street / South Street							
Westbury Street	High Street	600	600	0.0	✓	0	
Westbury Street	South Street	728	735	0.3	✓	7	
High Street	South Street	196	188	0.6	✓	-8	
High Street	Westbury Street	746	782	1.3	✓	36	
South Street	Westbury Street	973	984	0.4	✓	11	Total
South Street	High Street	219	217	0.1	✓	-2	44
Hospital In & Out							
Hospital Out	Hospital In	16	23	1.6	✓	7	Total
Hospital In	Hospital Out	26	36	1.8	✓	10	17
South Street / Churchill Avenue							
South Street (North)	South Street (South)	622	620	0.1	✓	-2	
South Street (North)	Churchill Avenue	83	97	1.5	✓	14	
South Street (South)	Churchill Avenue	174	170	0.3	✓	-4	
South Street (South)	South Street (North)	963	949	0.5	✓	-14	
Churchill Avenue	South Street (North)	92	94	0.2	✓	2	Total
Churchill Avenue	South Street (South)	52	53	0.1	✓	1	-3
South Street / Southern Avenue / B4361 Hereford Road							
South Street	Southern Avenue	215	211	0.3	✓	-4	
South Street	B4361 Hereford Road	455	444	0.5	✓	-11	
Southern Avenue	B4361 Hereford Road	119	125	0.5	✓	6	
Southern Avenue	South Street	427	434	0.3	✓	7	
B4361 Hereford Road	South Street	714	688	1.0	✓	-26	Total
B4361 Hereford Road	Southern Avenue	48	46	0.3	✓	-2	-30

Southern Avenue / Worchester Road / Enterprise Park							
Southern Avenue (West)	Southern Avenue (North)	104	100	0.4	✓	-4	
Southern Avenue (West)	Worchester Road	209	195	1.0	✓	-14	
Southern Avenue (West)	Enterprise Park	7	18	3.1	✓	11	
Southern Avenue (West)	Southern Avenue (West)	0	0	0.0	✓	0	
Southern Avenue (North)	Worchester Road	557	572	0.6	✓	15	
Southern Avenue (North)	Enterprise Park	11	10	0.3	✓	-1	
Southern Avenue (North)	Southern Avenue (West)	106	104	0.2	✓	-2	
Southern Avenue (North)	Southern Avenue (North)	0	0	0.0	✓	0	
Worchester Road	Enterprise Park	27	26	0.2	✓	-1	
Worchester Road	Southern Avenue (West)	395	390	0.3	✓	-5	
Worchester Road	Southern Avenue (North)	552	559	0.3	✓	7	
Worchester Road	Worchester Road	0	0	0.0	✓	0	
Enterprise Park	Southern Avenue (West)	21	28	1.4	✓	7	
Enterprise Park	Southern Avenue (North)	36	37	0.2	✓	1	
Enterprise Park	Worchester Road	52	60	1.1	✓	8	Total
Enterprise Park	Enterprise Park	0	0	0.0	✓	0	22

Summary	
GEH<5	100.0%
5<=GEH<=10	0.0%
10<GEH<=20	0.0%
GEH>20	0.0%
Flow Criteria	100.0%

The model validation of the base models involved a comparison between modelled and observed turning flows. The Design Manual for Roads and Bridges (DMRB) accepted method is the statistical measurement called GEH, and has been used as defined below. Comparisons have been made between the observed turning counts and the models equivalent flows as shown above.

$$GEH = \sqrt{(V_O - V_A)^2 / (0.5 \times (V_O + V_A))}$$

Where V_O = Observed traffic flow and V_A = Assigned traffic flows

The DMRB suggests that 85% of comparisons should have a GEH value of less than 5.

APPENDIX 4

Journey Time Validation

Leominster **09/03/2010**

PM Journey Times Comparsion

Broad Street To Morrisons

On Site Journey Times (s)		Model Journey Times (s)		Difference (s)	
Split at Bargates Signals	Split at Morrisons	Split at Bargates Signals	Split at Morrisons	Split at Bargates Signals	Split at Morrisons
180	118	162	110.4	18	8

Morrisons To Broad Street

On Site Journey Times		Model Journey Times		Difference (s)	
Split at Bargates Signals	Split at Broad Street	Split at Bargates Signals	Split at Broad Street	Split at Bargates Signals	Split at Broad Street
125	73	132.8	83.2	-7	-10

Southern Avenue To Morrisons

On Site Journey Times		Model Journey Times		Difference (s)	
Split at Bargates Signals	Split at Morrisons	Split at Bargates Signals	Split at Morrisons	Split at Bargates Signals	Split at Morrisons
487	125	337.3	110.4	149	14

Morrisons To Southern Avenue

On Site Journey Times		Model Journey Times		Difference (s)	
Split at Bargates Signals	Split at Southern Avenue (s)	Split at Bargates Signals	Split at Southern Avenue (s)	Split at Bargates Signals	Split at Southern Avenue (s)
225	212	192.9	188.6	32	23

APPENDIX 5

Signal Data

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Facilities/Modes Enabled and Mode Priority Levels

Facilities

☑ Manual Control	☐ Part Time	☐	☐
☐ Manual Step On Mode	☑ Master Time Clock	☐ Integral OTU	☐
☑ CLF (Base Time)	☑ RED Lamp Monitoring	☐ Extend All Red	
☐ CLF (non-Base Time)	☑ Lamp Monitoring	☐ Fail To Flashing	12 Starting Intergreen
☐ UTC Facility	☐ Linked Fixed Time	☐ Ripple Change	
☐ Hurry Call Mode	☑ FT To Current MAX	☐ Non-UK	
☐ Priority	☐ Speed Measurement		
☐ Emergency Vehicles	☐ Download To Level 3		

Mode Priority

PRIORITY	1	2	3	4	5	6	7	8	9	10	11
Part Time	○	○	○	○	○	○	○	○	○	○	○
Emergency Vehicle	○	○	○	○	○	○	○	○	○	○	○
Hurry Call	○	○	○	○	○	○	○	○	○	○	○
Selected Man Cntl	◉	○	○	○	○	○	○	○	○	○	○
UTC	○	○	○	○	○	○	○	○	○	○	○
Manual Step On	○	○	○	○	○	○	○	○	○	○	○
Selected FT or VA or CLF	○	◉	○	○	○	○	○	○	○	○	○
Cableless Link (CLF)	○	○	◉	○	○	○	○	○	○	○	○
Priority Vehicle	○	○	○	○	○	○	○	○	○	○	○
Vehicle Actuated	○	○	○	◉	○	○	○	○	○	○	○
Fixed Time	○	○	○	○	◉	○	○	○	○	○	○

Configuration Complexity

○ Low ○ Medium ○ High ◉ Maximum

standard.BDF
Default PROM data file

Correspondence Monitoring to Inc.

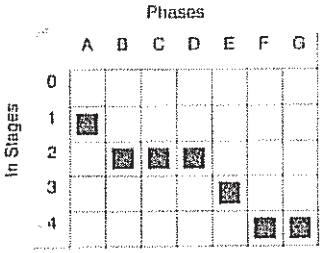
☐ Reds ☐ Ambers
☐ Switched Signs

Flash Rate (ms)

400 Off 400 On

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phases in Stages



Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Stages in Streams

Stream Data

	0	1	2	3	4	5	6	7
Phase or Stage to revert to in absence of demands/extensions	1							
Startup Stage	1							
Part-Time switch off stage								
Standalone Pedestrian	☐	☐	☐	☐	☐	☐	☐	☐

NB For a Stand-Alone Stream, the reversion must be to All Red stage or Traffic stage/phase to meet TR01A1

Stages

	0	1	2	3	4
0	■	■	■	■	■

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase Type and Conditions

Phase Type and Conditions — ◉ Phases A to P ○

Phase	Title	Type	App Type	Term Type	Assoc Phase
A	DISHLEY STREET	0 - UK Traffic	0	0 -	
B	NEW ROAD	0 - UK Traffic	0	0 -	
C	NEW ROAD RIGHT TURN	2 - UK GreenArrow	0	2 -	B
D	BARGATES LEFT TURN	2 - UK GreenArrow	0	1 -	E
E	BARGATES	0 - UK Traffic	0	0 -	
F	PEDS ACROSS DISHLEY STREET	1 - UK Pedestrian	0	0 -	
G	PEDS ACROSS BARGATES	1 - UK Pedestrian	0	0 -	

App Types: 0 = Always Appears, 1 = Appears if dem'd prior to interstage, 2 = If dem'd, 3 = If dem'd before end of window time
Term Types: 0 = Term's at end of stage, 1 = Term's when Assoc phase gains R.O.W, 2 = Term's when Assoc phase loses R.O.W.

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Opposing and Conflicting Phases

Select Stream(s) To Configure: ○ All ○ 1 ○ ○ ○ ○ ○ ○ ○ ○ — Initialise

To Phase

From Phase	A	B	C	D	E	F	G
A		Co	Co	Co	Co	Co	Co
B	Co		o	o	Co	Co	Co
C	Co	o		o	Co	Co	Co
D	Co	o	o		o	Co	Co
E	Co	Co	Co	o		Co	Co
F	Co	Co	Co	Co	Co		o
G	Co	Co	Co	Co	Co	o	

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase Minimums, Maximums, Extensions, Ped. Leaving periods

Phase Minimums, Maximums, Extensions, Ped. Leaving periods

Phases A to P ○

Phase	Min Green	Min Ped Clr	Extensions	Maximums A	B	C	D	E	F	G	H	Pre-timed
A	7	0	1.6	30	14	14	10	10	10	10	10	☐
B	7	0	1.6	30	14	14	10	10	10	10	10	☐
C	4	0	1.6	30	7	7	7	7	7	7	7	☐
D	4	0	0.0	22	0	0	0	0	0	0	0	☐
E	7	0	11.6	22	12	9	22	22	22	22	22	☐
F	10	0	0.0	0	0	0	0	0	0	0	0	☐
G	10	0	0.0	0	0	0	0	0	0	0	0	☐

NB For Standalone Streams see Help for use of Max Sets

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase Intergreen Times

Select Stream(s) To Configure

○ All ○ 0 ○ ○ ○ ○ ○ ○ ○ ○

NB On a Stand Alone Pelican/Toucan/Puffin Stream the Intergreens between Pedestrian and Traffic Phases are controlled by the timings (PBT, PIT, CMX, CDY, CRD and PAR), therefore 0 should be entered for the appropriate intergreen times in grid below

To Phase

From Phase	A	B	C	D	E	F	G
A		6	6	6	6	5	7
B	6				6	7	7
C	5				5	7	7
D	5					7	5
E	6	6	6			9	5
F	11	11	8	8	8		
G	8	8	8	11	11		

Police Request. 7/11/08

* D to A 5 - 6
E to A 6 - 7
B to E 6 - 7
C to E 5 - 6

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Handset Intergreen Limits

HIGH 199

Copy Intergreen Values

To Phase

From Phase	A	B	C	D	E	F	G
A		4	4	4	4	3	5
B	4				4	5	5
C	3				3	5	5
D	3					5	3
E	4	4	4			5	3
F	9	9	6	6	6		
G	6	6	6	9	9		

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase Timing Handset Ranges

Phase Timing Handsel Ranges

Initialise Min Green Limits

Phase	Min. Green Min.	Min. Green Max.	Phase	Min. Green Min.	Min. Green Max.
A	3	255	Q		
B	3	255	R		
C	3	255	S		
D	3	255	T		
E	3	255	U		
F	3	255	V		
G	3	255	W		
H			X		
I			Y		
J			Z		
K			A2		
L			B2		
M			C2		
N			D2		
O			E2		
P			F2		

Max. Green — Min. 7 — Max. 60

Vehicle Extension — Min. 0.0 — Max. 4.0

Phase Delay — Min. 2 — Max. 10

Starting I/G — Min. 2 — Max. 10

Min Ped Clr (PBT) — Min. 0 — Max. 10

Traffic Phase Leaving — Min. 3.0 — Max. 3.0

Traffic Phase Red/Amber — Min. 2 — Max. 2

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase - VA Demand and Extend Definitions

VA Demand and Extend Definitions

(•) Phases A to P ( )

Demands

For Unlatched demands precede the name with a #.
Conditioning MUST be used to specify unlatched demands.

Phase				
A	AXYZ			
B	BX1	BYZ		
C	BX2			
D				
E	EXYZ			
F	PEDF			
G	PEDG			

Extensions

AXYZ			
BX1	BYZ		
BX2	FLOOPC		
EXYZ			

Works Order : 4302322
EM Number : 61103 ,
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Phase Internal/Revertive Demands

Phase Internal/Revertive Demands

Start-up Vehicle Responsive Demands

A	B	C	D	E	F	G									
☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

A	B	C	D	E	F	G									
☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unstarved Demands that Start Maximum Timers

A	B	C	D	E	F	G									
☑	☑	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Revertive Phase Demands

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	B	B		E											

Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Stage - Prohibited, Alternative, Ignored Moves

Stage - Prohibited, Alternative, Ignored Moves

Sets

- (•) 1
- ( ) 2
- ( ) 3
- ( ) 4

Modes	Restrictions Apply To	No Restrictions
	○	○
Cableless Linking	(•)	○
Vehicle Actuated	(•)	○
	○	○

Modes	Restrictions Apply To	No Restrictions
Manual	(•)	○
	○	○
	○	○
	○	○

To Stage

From Stage	0	1	2	3	4
0			1		
1					
2	3	3			3
3					
4					

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Stage Internal Demands / Ped. Window Times

Stage Internal Demands / Ped. Window Times

Start-up Vehicle Responsive Demands

0	1	2	3	4												
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Demands Inserted When Leaving Manual and Fixed Time Modes

0	1	2	3	4												
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Unlatched Demands that Start Maximum Timers

0	1	2	3	4												
☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Window Times

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	0	0	0											

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Fixed Time

Fixed Time

Stage Moves & Times (Not Fixed Time to Current Max)

Current Stage	0	1	2	3	4	5	6	7
Next Stage								
Time								

Current Stage	8	9	10	11	12	13	14	15
Next Stage								
Time								

Current Stage	16	17	18	19	20	21	22	23
Next Stage								
Time								

Current Stage	24	25	26	27	28	29	30	31
Next Stage								
Time								

Phases Demanded and Extended under Fixed Time to Current Max

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Demand	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Q	R	S	T	U	V	W	X	Y	Z	A2	B2	C2	D2	E2	F2
Demand	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extend	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

CLF - Base Time

CLF - Base Time

Controller Base Date: XX/XX/XX

Controller Base Time: 02:00:00

Plan Offset

	Minutes	Seconds
Plan 0	0	0
Plan 1	0	0
Plan 2	0	0
Plan 3	0	0
Plan 4	0	0
Plan 5	0	0
Plan 6	0	0
Plan 7	0	0

Handsel Range Limits

	Minutes	Seconds
Min	0	0
Max	255	59

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

CLF - Demand Dependent Moves

Clear Grid Data

Notes:
If no data is entered for a stage then a demand for any phases in that stage will be considered.

The data specified on this screen applies to both UTC and CLF modes of operation

Phases

Stages

	A	B	C	D	E	F	G
0							
1							
2			■				
3							
4							

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

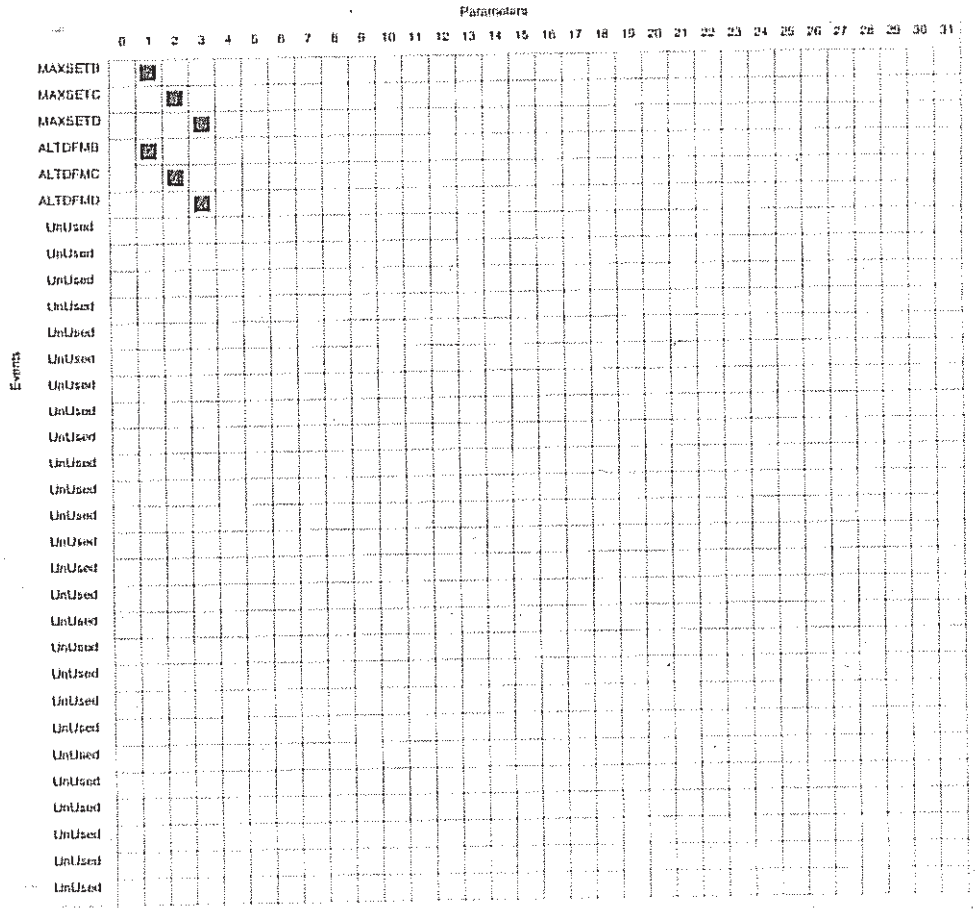
MTC - Time Switch Parameters

MTC - Time Switch Parameters

	Type	Event		Type	Event
0	Alternate Max	MAXSETB	16	No Action	
1	Alternate Max	MAXSETC	17	No Action	
2	Alternate Max	MAXSETD	18	No Action	
3	Alternate DFM	ALTDFMB	19	No Action	
4	Alternate DFM	ALTDFMC	20	No Action	
5	Alternate DFM	ALTDFMD	21	No Action	
6	No Action		22	No Action	
7	No Action		23	No Action	
8	No Action		24	No Action	
9	No Action		25	No Action	
10	No Action		26	No Action	
11	No Action		27	No Action	
12	No Action		28	No Action	
13	No Action		29	No Action	
14	No Action		30	No Action	
15	No Action		31	No Action	

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

MTC - Time Switch Parameters Array



Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Master Time Clock - Day Type

Master Time Clock - Day Type

No.	Mon	Tue	Wed	Thu	Fri	Sat	Sun
0	☐	☐	☐	☐	☐	☑	☐
1	☐	☐	☐	☐	☐	☐	☑
2	☑	☐	☐	☐	☐	☐	☐
3	☐	☑	☐	☐	☐	☐	☐
4	☐	☐	☑	☐	☐	☐	☐
5	☐	☐	☐	☑	☐	☐	☐
6	☐	☐	☐	☐	☑	☐	☐
7	☑	☑	☑	☑	☑	☑	☑
8	☑	☑	☑	☑	☑	☑	☐
9	☑	☑	☑	☑	☑	☐	☐
10	☐	☐	☐	☐	☐	☐	☐
11	☐	☐	☐	☐	☐	☐	☐
12	☐	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	☐
14	☐	☐	☐	☐	☐	☐	☐
15	☐	☐	☐	☐	☐	☐	☐

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

LMU - General

LMU - General

Lamp Monitoring - LMU Voltage

- (•) 200-240
- ( ) 50-0-50, 100-120

Red Lamp Monitoring

Max Red Bulb Wattage: 50

- ☐ RLF2 Cancels RLM additional Intergreens
- ☐ RLF2 Only Cleared by RFL = 1
- ☐ RLF1 Only Cleared by RFL = 1

RLM Additional Intergreen Handset Limits

Minimum	Maximum
2	10

Streams with Phase Black Out on RLF2

☐ 0 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

LMU - Sensors

LMU - Sensors

On-Board Sensors

Sensor\ Phase	Type	Bulb Wattage
1\A	As Seq	40
2\B	As Seq	40
3\C	As Seq	40
4\D	As Seq	40
5\E	As Seq	40
6\F	As Seq	40
7\G	As Seq	40
8\H	As Seq	40
9\I		
10\J		
11\K		
12\L		
13\M		
14\N		
15\O		
16\P		

On Board Sensors

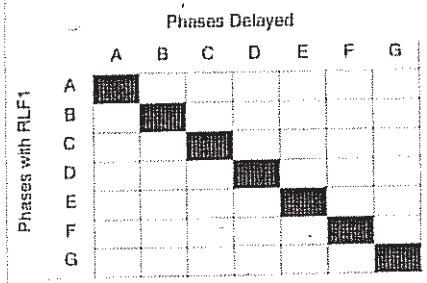
Sensor\ Phase	Type	Bulb Wattage
17\Q		
18\R		
19\S		
20\T		
21\U		
22\V		
23\W		
24\X		
25\Y		
26\Z		
27\A2		
28\B2		
29\C2		
30\D2		
31\E2		
32\F2		

External Sensors

Sensor\ Pin	Drive	Type	Bulb Wattage
33\b14		Reg Sign	7
34\z16		Reg Sign	7
35\z14		Reg Sign	7
36\z12		Reg Sign	7
37\b14			
38\z16			
39\z14			
40\z12			
41\b14			
42\z16			
43\z14			
44\z12			
45\b14			
46\z16			
47\z14			
48\z12			

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

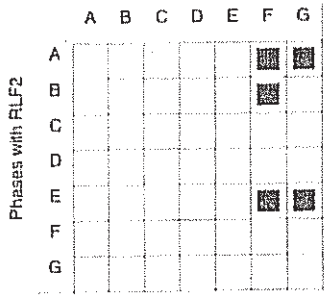
RLM Additional Intergreens



Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

RLM Phase Inhibits

Phases Inhibited



Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Manual Panel

Manual Panel

Stage Buttons and LEDs

Button No	Title	Called Stage for Stream 0 1 2 3 4 5 6 7
0	ALL RED	0
1	MAIN ROAD	1
2	BARGATES LEFT TURN AND NEW ROAD RIGHT TURN	2
3	BARGATES	3
4	PEDS ALL ROUND	4
5		
6		
7		

General LEDs

	AUX 1	AUX 2	AUX 3	AUX 4 (Hurry Call)	AUX 5 (Higher Priority)
Conditioned	☐	☐	☐	☐	☐

General Buttons

	None	SW1	SW2	SW3
Momentary		☐	☐	☐
Dim Override	◉	○	○	○
RR	◉	○	○	○

Manual Signals On

- ○ Immediate Signals On
- ◉ As Signals OFF to ON

Manual Mode Enable

- ◉ Always
- ○ When Handset Plugged in (Note 1)
- ○ When 'MND' Command Entered

Note 1.
For this to operate Special Conditioning is required

Mode Select Switches Disabled

☐ VA ☐ Fixed Time ☐ CLF

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Special Conditioning

```
; CONDITIONING FOR PHASE D LEFT TURN GREEN ARROW.
;**************************************************

STAGE2.PHASED::=+LCFBE        ; STAGE 2 AND PHASE D TO NOW INSERT A DEMAND FOR PHASE E AND PREVENT STAGE 0, 1 AND 4.
               *=PRVST0
               *=PRVST1
               *=PRVST4
```


Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Special Instructions

61103

Board	Position	Skt	Port	Type I or O	Line	Cable	Block
CPU	A	X31	0	I	00 - 07	101	1TB6
CPU	A	X31	1	I	08 - 15		1TB8
CPU	A	X30	11	O	88 - 91	105	1TB4

The socket X3 on the CPU pcb is the double stacked one
X31 = Inner (nearest the board)
X30 = Outer

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Call Cancel

Call Cancel

Unit No	Input Name	Call Delay	Cancel Delay	Phase Demanded (Unlatched Demand)
0	PLOOPC	3	3	C
1		0	0	
2		0	0	
3		0	0	
4		0	0	
5		0	0	
6		0	0	
7		0	0	

Works Order : 4302322
EM Number : 61103
Engineer : S DEAKIN
Intersection : DISHLEY STREET / NEW ROAD BARGATES

Input/Output

Input/Output

Enable Signal Required Chec

Port: (•) 0 ( ) 1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( ) 7 ( ) 8 ( ) 9 ( ) 10 ( ) 11

	DET No	Port No	Bit No	Type I or O	Name	Req'd	Inv	U/D	Mac	DFM	DFM Group	Ext time	Used By: Phs	UTC	SDE	Pri	HC	CC	AR	UD	Term Block	Term No
○	0	0	0	I	AXYZ	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☐	☐	☐	1TBG	1
○	1	0	1	I	BX1	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☐	☐	☐	1TBG	2
○	2	0	2	I	BYZ	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☐	☐	☐	1TBG	3
○	3	0	3	I	BX2	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☐	☐	☐	1TBG	4
○	4	0	4	I	PLOOPC	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☑	☐	☐	1TBG	5
○	5	0	5	I	EXYZ	☑	☐	☐	☐	A	0		☑	☐	☐	☐	☐	☐	☐	☐	1TBG	6
○	6	0	6	I	PEDF	☑	☐	☐	☐	N			☑	☐	☐	☐	☐	☐	☐	☐	1TBG	7
○	7	0	7	I	PEDG	☑	☐		☐	N			☑	☐	☐	☐	☐	☐	☐	☐	1TBG	8

Add | Delete | Move | Clear Used By

APPENDIX 6

Vehicle Profiles

Bargates Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	30	07:00	10	1.72%	10	1.75%	33.33%		10	0	
		07:05	10	1.72%	10	1.75%	33.33%		10	0	
		07:10	10	1.72%	10	1.75%	33.33%	100.00%	10	0	0
07:15	22	07:15	7	1.26%	9	1.59%	36.94%		8	1	
		07:20	7	1.26%	8	1.43%	33.33%		7	0	
		07:25	7	1.26%	7	1.28%	29.73%	100.00%	7	-1	0
07:30	41	07:30	14	2.35%	9	1.65%	27.24%		11	-2	
		07:35	14	2.35%	12	2.02%	33.33%		14	0	
		07:40	14	2.35%	14	2.39%	39.42%	100.00%	16	2	0
07:45	45	07:45	15	2.58%	14	2.46%	32.32%		15	0	
		07:50	15	2.58%	15	2.54%	33.33%		15	0	
		07:55	15	2.58%	15	2.62%	34.35%	100.00%	15	0	0
08:00	33	08:00	11	1.89%	14	2.39%	36.94%		12	1	
		08:05	11	1.89%	12	2.15%	33.33%		11	0	
		08:10	11	1.89%	11	1.92%	29.73%	100.00%	10	-1	0
08:15	57	08:15	19	3.26%	14	2.39%	27.89%		16	-3	
		08:20	19	3.26%	16	2.85%	33.33%		19	0	
		08:25	19	3.26%	19	3.32%	38.78%	100.00%	22	3	0
08:30	53	08:30	18	3.04%	19	3.24%	34.15%		18	0	
		08:35	18	3.04%	18	3.16%	33.33%		18	0	
		08:40	18	3.04%	18	3.08%	32.52%	100.00%	17	0	0
08:45	70	08:45	23	4.01%	20	3.41%	30.40%		21	-2	
		08:50	23	4.01%	21	3.74%	33.33%		23	0	
		08:55	23	4.01%	23	4.07%	36.27%	100.00%	25	2	0
09:00	63	09:00	21	3.61%	23	3.94%	34.52%		22	1	
		09:05	21	3.61%	22	3.80%	33.33%		21	0	
		09:10	21	3.61%	21	3.66%	32.14%	100.00%	20	-1	0
09:15	63	09:15	21	3.61%	21	3.66%	33.33%		21	0	
		09:20	21	3.61%	21	3.66%	33.33%		21	0	
		09:25	21	3.61%	21	3.66%	33.33%	100.00%	21	0	0
09:30	48	09:30	16	2.75%	19	3.37%	36.48%		18	2	
		09:35	16	2.75%	18	3.08%	33.33%		16	0	
		09:40	16	2.75%	16	2.79%	30.19%	100.00%	14	-2	0
09:45	57	09:45	19	3.26%	17	2.97%	31.48%		18	-1	
		09:50	19	3.26%	18	3.14%	33.33%		19	0	
		09:55	19	3.26%	19	3.32%	35.19%	100.00%	20	1	0
		Totals	582	100.00%	573	100.00%			582	0	

Bargates Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	6	07:00	2	1.13%	2	1.17%	33.33%		2	0	
		07:05	2	1.13%	2	1.17%	33.33%		2	0	
		07:10	2	1.13%	2	1.17%	33.33%	100.00%	2	0	0
07:15	5	07:15	2	0.94%	2	1.10%	35.42%		2	0	
		07:20	2	0.94%	2	1.04%	33.33%		2	0	
		07:25	2	0.94%	2	0.97%	31.25%	100.00%	2	0	0
07:30	5	07:30	2	0.94%	2	0.97%	33.33%		2	0	
		07:35	2	0.94%	2	0.97%	33.33%		2	0	
		07:40	2	0.94%	2	0.97%	33.33%	100.00%	2	0	0
07:45	9	07:45	3	1.69%	2	1.23%	27.54%		2	-1	
		07:50	3	1.69%	3	1.49%	33.33%		3	0	
		07:55	3	1.69%	3	1.75%	39.13%	100.00%	4	1	0
08:00	8	08:00	3	1.51%	3	1.69%	34.67%		3	0	
		08:05	3	1.51%	3	1.62%	33.33%		3	0	
		08:10	3	1.51%	3	1.56%	32.00%	100.00%	3	0	0
08:15	8	08:15	3	1.51%	3	1.56%	33.33%		3	0	
		08:20	3	1.51%	3	1.56%	33.33%		3	0	
		08:25	3	1.51%	3	1.56%	33.33%	100.00%	3	0	0
08:30	15	08:30	5	2.82%	3	2.01%	27.19%		4	-1	
		08:35	5	2.82%	4	2.46%	33.33%		5	0	
		08:40	5	2.82%	5	2.92%	39.47%	100.00%	6	1	0
08:45	23	08:45	8	4.33%	6	3.44%	28.96%		7	-1	
		08:50	8	4.33%	7	3.96%	33.33%		8	0	
		08:55	8	4.33%	8	4.47%	37.70%	100.00%	9	1	0
09:00	16	09:00	5	3.01%	7	4.02%	37.58%		6	1	
		09:05	5	3.01%	6	3.57%	33.33%		5	0	
		09:10	5	3.01%	5	3.11%	29.09%	100.00%	5	-1	0
09:15	26	09:15	9	4.90%	6	3.76%	28.43%		7	-1	
		09:20	9	4.90%	8	4.41%	33.33%		9	0	
		09:25	9	4.90%	9	5.06%	38.24%	100.00%	10	1	0
09:30	33	09:30	11	6.21%	9	5.51%	30.80%		10	-1	
		09:35	11	6.21%	10	5.97%	33.33%		11	0	
		09:40	11	6.21%	11	6.42%	35.87%	100.00%	12	1	0
09:45	23	09:45	8	4.33%	10	5.77%	37.55%		9	1	
		09:50	8	4.33%	9	5.12%	33.33%		8	0	
		09:55	8	4.33%	8	4.47%	29.11%	100.00%	7	-1	0
		Totals	177	100.00%	171	100.00%			177	0	

Bargates Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	46	07:00	15	2.31%	15	2.30%	33.33%		15	0	
		07:05	15	2.31%	15	2.30%	33.33%		15	0	
		07:10	15	2.31%	15	2.30%	33.33%	100.00%	15	0	0
07:15	46	07:15	15	2.31%	15	2.30%	33.33%		15	0	
		07:20	15	2.31%	15	2.30%	33.33%		15	0	
		07:25	15	2.31%	15	2.30%	33.33%	100.00%	15	0	0
07:30	58	07:30	19	2.91%	17	2.51%	30.86%		18	-1	
		07:35	19	2.91%	18	2.71%	33.33%		19	0	
		07:40	19	2.91%	19	2.91%	35.80%	100.00%	21	1	0
07:45	69	07:45	23	3.46%	21	3.09%	31.46%		22	-1	
		07:50	23	3.46%	22	3.27%	33.33%		23	0	
		07:55	23	3.46%	23	3.46%	35.20%	100.00%	24	1	0
08:00	56	08:00	19	2.81%	22	3.24%	35.73%		20	1	
		08:05	19	2.81%	20	3.02%	33.33%		19	0	
		08:10	19	2.81%	19	2.81%	30.94%	100.00%	17	-1	0
08:15	63	08:15	21	3.16%	19	2.92%	32.05%		20	-1	
		08:20	21	3.16%	20	3.04%	33.33%		21	0	
		08:25	21	3.16%	21	3.16%	34.62%	100.00%	22	1	0
08:30	75	08:30	25	3.76%	22	3.36%	31.46%		24	-1	
		08:35	25	3.76%	24	3.56%	33.33%		25	0	
		08:40	25	3.76%	25	3.76%	35.21%	100.00%	26	1	0
08:45	49	08:45	16	2.46%	22	3.32%	38.34%		19	2	
		08:50	16	2.46%	19	2.89%	33.33%		16	0	
		08:55	16	2.46%	16	2.45%	28.32%	100.00%	14	-2	0
09:00	59	09:00	20	2.96%	17	2.62%	31.34%		18	-1	
		09:05	20	2.96%	19	2.79%	33.33%		20	0	
		09:10	20	2.96%	20	2.96%	35.33%	100.00%	21	1	0
09:15	49	09:15	16	2.46%	19	2.79%	35.46%		17	1	
		09:20	16	2.46%	17	2.62%	33.33%		16	0	
		09:25	16	2.46%	16	2.45%	31.21%	100.00%	15	-1	0
09:30	50	09:30	17	2.51%	16	2.47%	33.11%		17	0	
		09:35	17	2.51%	17	2.49%	33.33%		17	0	
		09:40	17	2.51%	17	2.51%	33.56%	100.00%	17	0	0
09:45	45	09:45	15	2.26%	16	2.42%	34.52%		16	1	
		09:50	15	2.26%	16	2.34%	33.33%		15	0	
		09:55	15	2.26%	15	2.25%	32.14%	100.00%	14	-1	0
		Totals	665	100.00%	665	100.00%			665	0	

Cursneh Road Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	0	07:00	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:05	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:10	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
07:15	0	07:15	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:20	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:25	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
07:30	0	07:30	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:35	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:40	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
07:45	0	07:45	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:50	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:55	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
08:00	0	08:00	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		08:05	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		08:10	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
08:15	1	08:15	0	2.22%	0	0.79%	16.67%		0	0	
		08:20	0	2.22%	0	1.59%	33.33%		0	0	
		08:25	0	2.22%	0	2.38%	50.00%	100.00%	1	0	0
08:30	2	08:30	1	4.44%	0	3.17%	26.67%		1	0	
		08:35	1	4.44%	1	3.97%	33.33%		1	0	
		08:40	1	4.44%	1	4.76%	40.00%	100.00%	1	0	0
08:45	5	08:45	2	11.11%	1	7.14%	25.00%		1	0	
		08:50	2	11.11%	1	9.52%	33.33%		2	0	
		08:55	2	11.11%	2	11.90%	41.67%	100.00%	2	0	0
09:00	3	09:00	1	6.67%	1	10.32%	39.39%		1	0	
		09:05	1	6.67%	1	8.73%	33.33%		1	0	
		09:10	1	6.67%	1	7.14%	27.27%	100.00%	1	0	0
09:15	0	09:15	0	0.00%	1	4.76%	66.67%		0	0	
		09:20	0	0.00%	0	2.38%	33.33%		0	0	
		09:25	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
09:30	1	09:30	0	2.22%	0	0.79%	16.67%		0	0	
		09:35	0	2.22%	0	1.59%	33.33%		0	0	
		09:40	0	2.22%	0	2.38%	50.00%	100.00%	1	0	0
09:45	3	09:45	1	6.67%	1	3.97%	23.81%		1	0	
		09:50	1	6.67%	1	5.56%	33.33%		1	0	
		09:55	1	6.67%	1	7.14%	42.86%	100.00%	1	0	0
		Totals	15	100.00%	14	100.00%			#DIV/0!	#DIV/0!	

Cursneh Road Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	12	07:00	4	0.91%	4	0.93%	33.33%		4	0	
		07:05	4	0.91%	4	0.93%	33.33%		4	0	
		07:10	4	0.91%	4	0.93%	33.33%	100.00%	4	0	0
07:15	24	07:15	8	1.82%	5	1.24%	26.67%		6	-2	
		07:20	8	1.82%	7	1.55%	33.33%		8	0	
		07:25	8	1.82%	8	1.86%	40.00%	100.00%	10	2	0
07:30	24	07:30	8	1.82%	8	1.86%	33.33%		8	0	
		07:35	8	1.82%	8	1.86%	33.33%		8	0	
		07:40	8	1.82%	8	1.86%	33.33%	100.00%	8	0	0
07:45	28	07:45	9	2.13%	8	1.97%	31.67%		9	0	
		07:50	9	2.13%	9	2.07%	33.33%		9	0	
		07:55	9	2.13%	9	2.18%	35.00%	100.00%	10	0	0
08:00	29	08:00	10	2.20%	9	2.20%	32.95%		10	0	
		08:05	10	2.20%	10	2.23%	33.33%		10	0	
		08:10	10	2.20%	10	2.25%	33.72%	100.00%	10	0	0
08:15	46	08:15	15	3.49%	12	2.69%	28.65%		13	-2	
		08:20	15	3.49%	13	3.13%	33.33%		15	0	
		08:25	15	3.49%	15	3.57%	38.02%	100.00%	17	2	0
08:30	56	08:30	19	4.25%	16	3.83%	31.22%		17	-1	
		08:35	19	4.25%	18	4.09%	33.33%		19	0	
		08:40	19	4.25%	19	4.35%	35.44%	100.00%	20	1	0
08:45	62	08:45	21	4.71%	19	4.51%	32.22%		20	-1	
		08:50	21	4.71%	20	4.66%	33.33%		21	0	
		08:55	21	4.71%	21	4.82%	34.44%	100.00%	21	1	0
09:00	38	09:00	13	2.89%	18	4.20%	39.13%		15	2	
		09:05	13	2.89%	15	3.57%	33.33%		13	0	
		09:10	13	2.89%	13	2.95%	27.54%	100.00%	10	-2	0
09:15	43	09:15	14	3.26%	13	3.08%	31.99%		14	-1	
		09:20	14	3.26%	14	3.21%	33.33%		14	0	
		09:25	14	3.26%	14	3.34%	34.68%	100.00%	15	1	0
09:30	35	09:30	12	2.66%	13	3.13%	35.69%		12	1	
		09:35	12	2.66%	13	2.93%	33.33%		12	0	
		09:40	12	2.66%	12	2.72%	30.97%	100.00%	11	-1	0
09:45	42	09:45	14	3.19%	12	2.90%	31.37%		13	-1	
		09:50	14	3.19%	13	3.08%	33.33%		14	0	
		09:55	14	3.19%	14	3.26%	35.29%	100.00%	15	1	0
		Totals	439	100.00%	429	100.00%			439	0	

Cursneh Road Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	23	07:00	8	1.44%	8	1.46%	33.33%		8	0	
		07:05	8	1.44%	8	1.46%	33.33%		8	0	
		07:10	8	1.44%	8	1.46%	33.33%	100.00%	8	0	0
07:15	17	07:15	6	1.06%	7	1.34%	36.84%		6	1	
		07:20	6	1.06%	6	1.21%	33.33%		6	0	
		07:25	6	1.06%	6	1.08%	29.82%	100.00%	5	-1	0
07:30	28	07:30	9	1.75%	7	1.32%	28.31%		8	-1	
		07:35	9	1.75%	8	1.55%	33.33%		9	0	
		07:40	9	1.75%	9	1.78%	38.36%	100.00%	11	1	0
07:45	52	07:45	17	3.25%	12	2.29%	27.27%		14	-3	
		07:50	17	3.25%	15	2.80%	33.33%		17	0	
		07:55	17	3.25%	17	3.31%	39.39%	100.00%	20	3	0
08:00	41	08:00	14	2.56%	16	3.08%	36.07%		15	1	
		08:05	14	2.56%	15	2.85%	33.33%		14	0	
		08:10	14	2.56%	14	2.61%	30.60%	100.00%	13	-1	0
08:15	48	08:15	16	3.00%	14	2.76%	31.63%		15	-1	
		08:20	16	3.00%	15	2.91%	33.33%		16	0	
		08:25	16	3.00%	16	3.06%	35.04%	100.00%	17	1	0
08:30	50	08:30	17	3.13%	16	3.10%	32.88%		16	0	
		08:35	17	3.13%	16	3.14%	33.33%		17	0	
		08:40	17	3.13%	17	3.18%	33.78%	100.00%	17	0	0
08:45	64	08:45	21	4.00%	18	3.48%	30.71%		20	-2	
		08:50	21	4.00%	20	3.78%	33.33%		21	0	
		08:55	21	4.00%	21	4.08%	35.96%	100.00%	23	2	0
09:00	54	09:00	18	3.38%	20	3.86%	35.27%		19	1	
		09:05	18	3.38%	19	3.65%	33.33%		18	0	
		09:10	18	3.38%	18	3.44%	31.40%	100.00%	17	-1	0
09:15	52	09:15	17	3.25%	18	3.40%	33.76%		18	0	
		09:20	17	3.25%	18	3.35%	33.33%		17	0	
		09:25	17	3.25%	17	3.31%	32.91%	100.00%	17	0	0
09:30	52	09:30	17	3.25%	17	3.31%	33.33%		17	0	
		09:35	17	3.25%	17	3.31%	33.33%		17	0	
		09:40	17	3.25%	17	3.31%	33.33%	100.00%	17	0	0
09:45	52	09:45	17	3.25%	17	3.31%	33.33%		17	0	
		09:50	17	3.25%	17	3.31%	33.33%		17	0	
		09:55	17	3.25%	17	3.31%	33.33%	100.00%	17	0	0
		Totals	533	100.00%	523	100.00%			533	0	

Dishley Street Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	11	07:00	4	0.71%	4	0.73%	33.33%		4	0	
		07:05	4	0.71%	4	0.73%	33.33%		4	0	
		07:10	4	0.71%	4	0.73%	33.33%	100.00%	4	0	0
07:15	20	07:15	7	1.30%	5	0.94%	27.45%		5	-1	
		07:20	7	1.30%	6	1.14%	33.33%		7	0	
		07:25	7	1.30%	7	1.34%	39.22%	100.00%	8	1	0
07:30	39	07:30	13	2.53%	9	1.76%	26.87%		10	-3	
		07:35	13	2.53%	11	2.18%	33.33%		13	0	
		07:40	13	2.53%	13	2.61%	39.80%	100.00%	16	3	0
07:45	49	07:45	16	3.18%	14	2.83%	30.90%		15	-1	
		07:50	16	3.18%	15	3.05%	33.33%		16	0	
		07:55	16	3.18%	16	3.27%	35.77%	100.00%	18	1	0
08:00	40	08:00	13	2.59%	15	3.07%	35.66%		14	1	
		08:05	13	2.59%	14	2.87%	33.33%		13	0	
		08:10	13	2.59%	13	2.67%	31.01%	100.00%	12	-1	0
08:15	61	08:15	20	3.96%	16	3.14%	29.01%		18	-3	
		08:20	20	3.96%	18	3.61%	33.33%		20	0	
		08:25	20	3.96%	20	4.07%	37.65%	100.00%	23	3	0
08:30	40	08:30	13	2.59%	18	3.61%	38.30%		15	2	
		08:35	13	2.59%	16	3.14%	33.33%		13	0	
		08:40	13	2.59%	13	2.67%	28.37%	100.00%	11	-2	0
08:45	52	08:45	17	3.37%	15	2.94%	30.56%		16	-1	
		08:50	17	3.37%	16	3.21%	33.33%		17	0	
		08:55	17	3.37%	17	3.47%	36.11%	100.00%	19	1	0
09:00	57	09:00	19	3.70%	18	3.58%	32.33%		18	-1	
		09:05	19	3.70%	18	3.70%	33.33%		19	0	
		09:10	19	3.70%	19	3.81%	34.34%	100.00%	20	1	0
09:15	48	09:15	16	3.11%	18	3.61%	35.29%		17	1	
		09:20	16	3.11%	17	3.41%	33.33%		16	0	
		09:25	16	3.11%	16	3.21%	31.37%	100.00%	15	-1	0
09:30	41	09:30	14	2.66%	15	3.05%	35.13%		14	1	
		09:35	14	2.66%	14	2.89%	33.33%		14	0	
		09:40	14	2.66%	14	2.74%	31.54%	100.00%	13	-1	0
09:45	56	09:45	19	3.63%	15	3.07%	30.07%		17	-2	
		09:50	19	3.63%	17	3.41%	33.33%		19	0	
		09:55	19	3.63%	19	3.74%	36.60%	100.00%	20	2	0
		Totals	514	100.00%	499	100.00%			514	0	

Dishley Street Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	7	07:00	2	0.74%	2	0.76%	33.33%		2	0	
		07:05	2	0.74%	2	0.76%	33.33%		2	0	
		07:10	2	0.74%	2	0.76%	33.33%	100.00%	2	0	0
07:15	17	07:15	6	1.80%	3	1.12%	25.20%		4	-1	
		07:20	6	1.80%	5	1.48%	33.33%		6	0	
		07:25	6	1.80%	6	1.84%	41.46%	100.00%	7	1	0
07:30	13	07:30	4	1.38%	5	1.70%	36.43%		5	0	
		07:35	4	1.38%	5	1.55%	33.33%		4	0	
		07:40	4	1.38%	4	1.41%	30.23%	100.00%	4	0	0
07:45	25	07:45	8	2.65%	6	1.84%	26.98%		7	-2	
		07:50	8	2.65%	7	2.28%	33.33%		8	0	
		07:55	8	2.65%	8	2.71%	39.68%	100.00%	10	2	0
08:00	22	08:00	7	2.33%	8	2.60%	34.78%		8	0	
		08:05	7	2.33%	8	2.49%	33.33%		7	0	
		08:10	7	2.33%	7	2.39%	31.88%	100.00%	7	0	0
08:15	22	08:15	7	2.33%	7	2.39%	33.33%		7	0	
		08:20	7	2.33%	7	2.39%	33.33%		7	0	
		08:25	7	2.33%	7	2.39%	33.33%	100.00%	7	0	0
08:30	37	08:30	12	3.92%	9	2.93%	28.13%		10	-2	
		08:35	12	3.92%	11	3.47%	33.33%		12	0	
		08:40	12	3.92%	12	4.01%	38.54%	100.00%	14	2	0
08:45	46	08:45	15	4.87%	13	4.34%	31.01%		14	-1	
		08:50	15	4.87%	14	4.66%	33.33%		15	0	
		08:55	15	4.87%	15	4.99%	35.66%	100.00%	16	1	0
09:00	33	09:00	11	3.49%	14	4.52%	37.20%		12	1	
		09:05	11	3.49%	12	4.05%	33.33%		11	0	
		09:10	11	3.49%	11	3.58%	29.46%	100.00%	10	-1	0
09:15	38	09:15	13	4.02%	12	3.76%	31.80%		12	-1	
		09:20	13	4.02%	12	3.94%	33.33%		13	0	
		09:25	13	4.02%	13	4.12%	34.86%	100.00%	13	1	0
09:30	25	09:30	8	2.65%	11	3.65%	38.26%		10	1	
		09:35	8	2.65%	10	3.18%	33.33%		8	0	
		09:40	8	2.65%	8	2.71%	28.41%	100.00%	7	-1	0
09:45	30	09:45	10	3.17%	9	2.89%	31.37%		9	-1	
		09:50	10	3.17%	9	3.07%	33.33%		10	0	
		09:55	10	3.17%	10	3.25%	35.29%	100.00%	11	1	0
		Totals	315	100.00%	307	100.00%			315	0	

Dishley Street Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
07:00	1	07:00	0	1.33%	0	1.43%	33.33%		0	0	
		07:05	0	1.33%	0	1.43%	33.33%		0	0	
		07:10	0	1.33%	0	1.43%	33.33%	100.00%	0	0	0
07:15	0	07:15	0	0.00%	0	0.95%	66.67%		0	0	
		07:20	0	0.00%	0	0.48%	33.33%		0	0	
		07:25	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
07:30	0	07:30	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:35	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:40	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
07:45	0	07:45	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:50	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		07:55	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
08:00	1	08:00	0	1.33%	0	0.48%	16.67%		0	0	
		08:05	0	1.33%	0	0.95%	33.33%		0	0	
		08:10	0	1.33%	0	1.43%	50.00%	100.00%	1	0	0
08:15	2	08:15	1	2.67%	0	1.90%	26.67%		1	0	
		08:20	1	2.67%	1	2.38%	33.33%		1	0	
		08:25	1	2.67%	1	2.86%	40.00%	100.00%	1	0	0
08:30	0	08:30	0	0.00%	0	1.90%	66.67%		0	0	
		08:35	0	0.00%	0	0.95%	33.33%		0	0	
		08:40	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
08:45	3	08:45	1	4.00%	0	1.43%	16.67%		1	-1	
		08:50	1	4.00%	1	2.86%	33.33%		1	0	
		08:55	1	4.00%	1	4.29%	50.00%	100.00%	2	1	0
09:00	2	09:00	1	2.67%	1	3.81%	38.10%		1	0	
		09:05	1	2.67%	1	3.33%	33.33%		1	0	
		09:10	1	2.67%	1	2.86%	28.57%	100.00%	1	0	0
09:15	6	09:15	2	8.00%	1	4.76%	23.81%		1	-1	
		09:20	2	8.00%	2	6.67%	33.33%		2	0	
		09:25	2	8.00%	2	8.57%	42.86%	100.00%	3	1	0
09:30	4	09:30	1	5.33%	2	7.62%	38.10%		2	0	
		09:35	1	5.33%	2	6.67%	33.33%		1	0	
		09:40	1	5.33%	1	5.71%	28.57%	100.00%	1	0	0
09:45	6	09:45	2	8.00%	2	6.67%	29.17%		2	0	
		09:50	2	8.00%	2	7.62%	33.33%		2	0	
		09:55	2	8.00%	2	8.57%	37.50%	100.00%	2	0	0
		Totals	25	100.00%	23	100.00%			#DIV/0!	#DIV/0!	

Bargates Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	60	16:00	20	2.85%	20	2.84%	33.33%		20	0	
		16:05	20	2.85%	20	2.84%	33.33%		20	0	
		16:10	20	2.85%	20	2.84%	33.33%	100.00%	20	0	0
16:15	54	16:15	18	2.57%	19	2.75%	34.52%		19	1	
		16:20	18	2.57%	19	2.65%	33.33%		18	0	
		16:25	18	2.57%	18	2.56%	32.14%	100.00%	17	-1	0
16:30	64	16:30	21	3.04%	19	2.71%	31.50%		20	-1	
		16:35	21	3.04%	20	2.87%	33.33%		21	0	
		16:40	21	3.04%	21	3.03%	35.16%	100.00%	23	1	0
16:45	53	16:45	18	2.52%	20	2.86%	35.49%		19	1	
		16:50	18	2.52%	19	2.68%	33.33%		18	0	
		16:55	18	2.52%	18	2.51%	31.18%	100.00%	17	-1	0
17:00	57	17:00	19	2.71%	18	2.57%	32.53%		19	0	
		17:05	19	2.71%	19	2.64%	33.33%		19	0	
		17:10	19	2.71%	19	2.70%	34.13%	100.00%	19	0	0
17:15	83	17:15	28	3.95%	22	3.11%	29.45%		24	-3	
		17:20	28	3.95%	25	3.52%	33.33%		28	0	
		17:25	28	3.95%	28	3.93%	37.22%	100.00%	31	3	0
17:30	60	17:30	20	2.85%	25	3.57%	37.11%		22	2	
		17:35	20	2.85%	23	3.20%	33.33%		20	0	
		17:40	20	2.85%	20	2.84%	29.56%	100.00%	18	-2	0
17:45	61	17:45	20	2.90%	20	2.86%	33.15%		20	0	
		17:50	20	2.90%	20	2.87%	33.33%		20	0	
		17:55	20	2.90%	20	2.89%	33.52%	100.00%	20	0	0
18:00	59	18:00	20	2.81%	20	2.86%	33.71%		20	0	
		18:05	20	2.81%	20	2.83%	33.33%		20	0	
		18:10	20	2.81%	20	2.79%	32.96%	100.00%	19	0	0
18:15	48	18:15	16	2.28%	18	2.62%	35.70%		17	1	
		18:20	16	2.28%	17	2.45%	33.33%		16	0	
		18:25	16	2.28%	16	2.27%	30.97%	100.00%	15	-1	0
18:30	51	18:30	17	2.43%	16	2.32%	32.67%		17	0	
		18:35	17	2.43%	17	2.37%	33.33%		17	0	
		18:40	17	2.43%	17	2.41%	34.00%	100.00%	17	0	0
18:45	51	18:45	17	2.43%	17	2.41%	33.33%		17	0	
		18:50	17	2.43%	17	2.41%	33.33%		17	0	
		18:55	17	2.43%	17	2.41%	33.33%	100.00%	17	0	0
		Totals	701	100.00%	704	100.00%			701	0	

Bargates Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	15	16:00	5	4.46%	5	4.39%	33.33%		5	0	
		16:05	5	4.46%	5	4.39%	33.33%		5	0	
		16:10	5	4.46%	5	4.39%	33.33%	100.00%	5	0	0
16:15	15	16:15	5	4.46%	5	4.39%	33.33%		5	0	
		16:20	5	4.46%	5	4.39%	33.33%		5	0	
		16:25	5	4.46%	5	4.39%	33.33%	100.00%	5	0	0
16:30	12	16:30	4	3.57%	5	4.09%	35.90%		4	0	
		16:35	4	3.57%	4	3.80%	33.33%		4	0	
		16:40	4	3.57%	4	3.51%	30.77%	100.00%	4	0	0
16:45	9	16:45	3	2.68%	4	3.22%	36.67%		3	0	
		16:50	3	2.68%	3	2.92%	33.33%		3	0	
		16:55	3	2.68%	3	2.63%	30.00%	100.00%	3	0	0
17:00	10	17:00	3	2.98%	3	2.73%	32.18%		3	0	
		17:05	3	2.98%	3	2.83%	33.33%		3	0	
		17:10	3	2.98%	3	2.92%	34.48%	100.00%	3	0	0
17:15	9	17:15	3	2.68%	3	2.83%	34.52%		3	0	
		17:20	3	2.68%	3	2.73%	33.33%		3	0	
		17:25	3	2.68%	3	2.63%	32.14%	100.00%	3	0	0
17:30	9	17:30	3	2.68%	3	2.63%	33.33%		3	0	
		17:35	3	2.68%	3	2.63%	33.33%		3	0	
		17:40	3	2.68%	3	2.63%	33.33%	100.00%	3	0	0
17:45	9	17:45	3	2.68%	3	2.63%	33.33%		3	0	
		17:50	3	2.68%	3	2.63%	33.33%		3	0	
		17:55	3	2.68%	3	2.63%	33.33%	100.00%	3	0	0
18:00	3	18:00	1	0.89%	2	2.05%	46.67%		1	0	
		18:05	1	0.89%	2	1.46%	33.33%		1	0	
		18:10	1	0.89%	1	0.88%	20.00%	100.00%	1	0	0
18:15	4	18:15	1	1.19%	1	0.97%	30.30%		1	0	
		18:20	1	1.19%	1	1.07%	33.33%		1	0	
		18:25	1	1.19%	1	1.17%	36.36%	100.00%	1	0	0
18:30	8	18:30	3	2.38%	2	1.56%	26.67%		2	-1	
		18:35	3	2.38%	2	1.95%	33.33%		3	0	
		18:40	3	2.38%	3	2.34%	40.00%	100.00%	3	1	0
18:45	9	18:45	3	2.68%	3	2.44%	32.05%		3	0	
		18:50	3	2.68%	3	2.53%	33.33%		3	0	
		18:55	3	2.68%	3	2.63%	34.62%	100.00%	3	0	0
		Totals	112	100.00%	114	100.00%			112	0	

Bargates Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	50	16:00	17	2.90%	17	2.92%	33.33%		17	0	
		16:05	17	2.90%	17	2.92%	33.33%		17	0	
		16:10	17	2.90%	17	2.92%	33.33%	100.00%	17	0	0
16:15	43	16:15	14	2.50%	16	2.78%	35.05%		15	1	
		16:20	14	2.50%	15	2.64%	33.33%		14	0	
		16:25	14	2.50%	14	2.51%	31.62%	100.00%	14	-1	0
16:30	41	16:30	14	2.38%	14	2.47%	33.87%		14	0	
		16:35	14	2.38%	14	2.43%	33.33%		14	0	
		16:40	14	2.38%	14	2.39%	32.80%	100.00%	13	0	0
16:45	43	16:45	14	2.50%	14	2.43%	32.81%		14	0	
		16:50	14	2.50%	14	2.47%	33.33%		14	0	
		16:55	14	2.50%	14	2.51%	33.86%	100.00%	15	0	0
17:00	50	17:00	17	2.90%	15	2.64%	31.70%		16	-1	
		17:05	17	2.90%	16	2.78%	33.33%		17	0	
		17:10	17	2.90%	17	2.92%	34.97%	100.00%	17	1	0
17:15	54	17:15	18	3.14%	17	2.99%	32.49%		18	0	
		17:20	18	3.14%	18	3.07%	33.33%		18	0	
		17:25	18	3.14%	18	3.15%	34.18%	100.00%	18	0	0
17:30	47	17:30	16	2.73%	17	3.01%	34.91%		16	1	
		17:35	16	2.73%	16	2.88%	33.33%		16	0	
		17:40	16	2.73%	16	2.74%	31.76%	100.00%	15	-1	0
17:45	60	17:45	20	3.48%	17	2.99%	30.74%		18	-2	
		17:50	20	3.48%	19	3.25%	33.33%		20	0	
		17:55	20	3.48%	20	3.50%	35.93%	100.00%	22	2	0
18:00	41	18:00	14	2.38%	18	3.13%	37.79%		15	2	
		18:05	14	2.38%	16	2.76%	33.33%		14	0	
		18:10	14	2.38%	14	2.39%	28.87%	100.00%	12	-2	0
18:15	45	18:15	15	2.61%	14	2.47%	32.32%		15	0	
		18:20	15	2.61%	15	2.55%	33.33%		15	0	
		18:25	15	2.61%	15	2.62%	34.35%	100.00%	15	0	0
18:30	43	18:30	14	2.50%	15	2.59%	33.84%		15	0	
		18:35	14	2.50%	15	2.55%	33.33%		14	0	
		18:40	14	2.50%	14	2.51%	32.82%	100.00%	14	0	0
18:45	57	18:45	19	3.31%	16	2.78%	30.36%		17	-2	
		18:50	19	3.31%	17	3.05%	33.33%		19	0	
		18:55	19	3.31%	19	3.32%	36.31%	100.00%	21	2	0
		Totals	574	100.00%	572	100.00%			574	0	

Cursneh Road Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	6	16:00	2	13.33%	2	12.00%	33.33%		2	0	
		16:05	2	13.33%	2	12.00%	33.33%		2	0	
		16:10	2	13.33%	2	12.00%	33.33%	100.00%	2	0	0
16:15	2	16:15	1	4.44%	2	9.33%	46.67%		1	0	
		16:20	1	4.44%	1	6.67%	33.33%		1	0	
		16:25	1	4.44%	1	4.00%	20.00%	100.00%	0	0	0
16:30	0	16:30	0	0.00%	0	2.67%	66.67%		0	0	
		16:35	0	0.00%	0	1.33%	33.33%		0	0	
		16:40	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
16:45	1	16:45	0	2.22%	0	0.67%	16.67%		0	0	
		16:50	0	2.22%	0	1.33%	33.33%		0	0	
		16:55	0	2.22%	0	2.00%	50.00%	100.00%	1	0	0
17:00	0	17:00	0	0.00%	0	1.33%	66.67%		0	0	
		17:05	0	0.00%	0	0.67%	33.33%		0	0	
		17:10	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
17:15	1	17:15	0	2.22%	0	0.67%	16.67%		0	0	
		17:20	0	2.22%	0	1.33%	33.33%		0	0	
		17:25	0	2.22%	0	2.00%	50.00%	100.00%	1	0	0
17:30	1	17:30	0	2.22%	0	2.00%	33.33%		0	0	
		17:35	0	2.22%	0	2.00%	33.33%		0	0	
		17:40	0	2.22%	0	2.00%	33.33%	100.00%	0	0	0
17:45	2	17:45	1	4.44%	0	2.67%	26.67%		1	0	
		17:50	1	4.44%	1	3.33%	33.33%		1	0	
		17:55	1	4.44%	1	4.00%	40.00%	100.00%	1	0	0
18:00	1	18:00	0	2.22%	1	3.33%	41.67%		0	0	
		18:05	0	2.22%	0	2.67%	33.33%		0	0	
		18:10	0	2.22%	0	2.00%	25.00%	100.00%	0	0	0
18:15	0	18:15	0	0.00%	0	1.33%	66.67%		0	0	
		18:20	0	0.00%	0	0.67%	33.33%		0	0	
		18:25	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
18:30	0	18:30	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		18:35	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		18:40	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
18:45	1	18:45	0	2.22%	0	0.67%	16.67%		0	0	
		18:50	0	2.22%	0	1.33%	33.33%		0	0	
		18:55	0	2.22%	0	2.00%	50.00%	100.00%	1	0	0
		Totals	15	100.00%	17	100.00%			#DIV/0!	#DIV/0!	

Cursneh Road Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	46	16:00	15	3.16%	15	3.14%	33.33%		15	0	
		16:05	15	3.16%	15	3.14%	33.33%		15	0	
		16:10	15	3.16%	15	3.14%	33.33%	100.00%	15	0	0
16:15	35	16:15	12	2.41%	14	2.89%	36.49%		13	1	
		16:20	12	2.41%	13	2.64%	33.33%		12	0	
		16:25	12	2.41%	12	2.39%	30.17%	100.00%	11	-1	0
16:30	49	16:30	16	3.37%	13	2.70%	29.82%		15	-2	
		16:35	16	3.37%	15	3.02%	33.33%		16	0	
		16:40	16	3.37%	16	3.34%	36.84%	100.00%	18	2	0
16:45	29	16:45	10	1.99%	14	2.89%	39.56%		11	2	
		16:50	10	1.99%	12	2.43%	33.33%		10	0	
		16:55	10	1.99%	10	1.98%	27.10%	100.00%	8	-2	0
17:00	54	17:00	18	3.71%	12	2.54%	27.25%		15	-3	
		17:05	18	3.71%	15	3.11%	33.33%		18	0	
		17:10	18	3.71%	18	3.68%	39.42%	100.00%	21	3	0
17:15	46	17:15	15	3.16%	17	3.50%	35.16%		16	1	
		17:20	15	3.16%	16	3.32%	33.33%		15	0	
		17:25	15	3.16%	15	3.14%	31.51%	100.00%	14	-1	0
17:30	44	17:30	15	3.02%	15	3.09%	33.83%		15	0	
		17:35	15	3.02%	15	3.04%	33.33%		15	0	
		17:40	15	3.02%	15	3.00%	32.84%	100.00%	14	0	0
17:45	37	17:45	12	2.54%	14	2.84%	35.31%		13	1	
		17:50	12	2.54%	13	2.68%	33.33%		12	0	
		17:55	12	2.54%	12	2.52%	31.36%	100.00%	12	-1	0
18:00	40	18:00	13	2.75%	13	2.59%	32.48%		13	0	
		18:05	13	2.75%	13	2.66%	33.33%		13	0	
		18:10	13	2.75%	13	2.73%	34.19%	100.00%	14	0	0
18:15	41	18:15	14	2.82%	13	2.75%	33.06%		14	0	
		18:20	14	2.82%	14	2.77%	33.33%		14	0	
		18:25	14	2.82%	14	2.79%	33.61%	100.00%	14	0	0
18:30	30	18:30	10	2.06%	12	2.54%	36.96%		11	1	
		18:35	10	2.06%	11	2.29%	33.33%		10	0	
		18:40	10	2.06%	10	2.04%	29.70%	100.00%	9	-1	0
18:45	34	18:45	11	2.34%	10	2.14%	31.97%		11	0	
		18:50	11	2.34%	11	2.23%	33.33%		11	0	
		18:55	11	2.34%	11	2.32%	34.69%	100.00%	12	0	0
		Totals	485	100.00%	489	100.00%			485	0	

Cursneh Road Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	68	16:00	23	2.65%	23	2.62%	33.33%		23	0	
		16:05	23	2.65%	23	2.62%	33.33%		23	0	
		16:10	23	2.65%	23	2.62%	33.33%	100.00%	23	0	0
16:15	67	16:15	22	2.61%	23	2.61%	33.50%		22	0	
		16:20	22	2.61%	22	2.59%	33.33%		22	0	
		16:25	22	2.61%	22	2.58%	33.17%	100.00%	22	0	0
16:30	83	16:30	28	3.23%	24	2.79%	31.04%		26	-2	
		16:35	28	3.23%	26	2.99%	33.33%		28	0	
		16:40	28	3.23%	28	3.20%	35.62%	100.00%	30	2	0
16:45	78	16:45	26	3.04%	27	3.13%	34.03%		27	1	
		16:50	26	3.04%	27	3.07%	33.33%		26	0	
		16:55	26	3.04%	26	3.00%	32.64%	100.00%	25	-1	0
17:00	92	17:00	31	3.58%	28	3.18%	31.55%		29	-2	
		17:05	31	3.58%	29	3.36%	33.33%		31	0	
		17:10	31	3.58%	31	3.54%	35.11%	100.00%	32	2	0
17:15	100	17:15	33	3.89%	32	3.65%	32.42%		32	-1	
		17:20	33	3.89%	32	3.75%	33.33%		33	0	
		17:25	33	3.89%	33	3.85%	34.25%	100.00%	34	1	0
17:30	80	17:30	27	3.12%	31	3.59%	35.90%		29	2	
		17:35	27	3.12%	29	3.34%	33.33%		27	0	
		17:40	27	3.12%	27	3.08%	30.77%	100.00%	25	-2	0
17:45	73	17:45	24	2.84%	26	2.99%	34.37%		25	1	
		17:50	24	2.84%	25	2.90%	33.33%		24	0	
		17:55	24	2.84%	24	2.81%	32.30%	100.00%	24	-1	0
18:00	72	18:00	24	2.80%	24	2.80%	33.49%		24	0	
		18:05	24	2.80%	24	2.79%	33.33%		24	0	
		18:10	24	2.80%	24	2.77%	33.18%	100.00%	24	0	0
18:15	60	18:15	20	2.34%	23	2.62%	35.42%		21	1	
		18:20	20	2.34%	21	2.46%	33.33%		20	0	
		18:25	20	2.34%	20	2.31%	31.25%	100.00%	19	-1	0
18:30	44	18:30	15	1.71%	18	2.10%	36.94%		16	2	
		18:35	15	1.71%	16	1.90%	33.33%		15	0	
		18:40	15	1.71%	15	1.69%	29.73%	100.00%	13	-2	0
18:45	39	18:45	13	1.52%	14	1.63%	34.70%		14	1	
		18:50	13	1.52%	14	1.57%	33.33%		13	0	
		18:55	13	1.52%	13	1.50%	31.97%	100.00%	12	-1	0
		Totals	856	100.00%	866	100.00%			856	0	

Dishley Street Left

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	74	16:00	25	2.66%	25	2.65%	33.33%		25	0	
		16:05	25	2.66%	25	2.65%	33.33%		25	0	
		16:10	25	2.66%	25	2.65%	33.33%	100.00%	25	0	0
16:15	74	16:15	25	2.66%	25	2.65%	33.33%		25	0	
		16:20	25	2.66%	25	2.65%	33.33%		25	0	
		16:25	25	2.66%	25	2.65%	33.33%	100.00%	25	0	0
16:30	76	16:30	25	2.73%	25	2.67%	33.04%		25	0	
		16:35	25	2.73%	25	2.70%	33.33%		25	0	
		16:40	25	2.73%	25	2.72%	33.63%	100.00%	26	0	0
16:45	93	16:45	31	3.34%	27	2.92%	31.17%		29	-2	
		16:50	31	3.34%	29	3.13%	33.33%		31	0	
		16:55	31	3.34%	31	3.33%	35.50%	100.00%	33	2	0
17:00	85	17:00	28	3.06%	30	3.23%	34.35%		29	1	
		17:05	28	3.06%	29	3.14%	33.33%		28	0	
		17:10	28	3.06%	28	3.04%	32.32%	100.00%	27	-1	0
17:15	88	17:15	29	3.16%	29	3.08%	32.95%		29	0	
		17:20	29	3.16%	29	3.11%	33.33%		29	0	
		17:25	29	3.16%	29	3.15%	33.72%	100.00%	30	0	0
17:30	83	17:30	28	2.98%	29	3.09%	33.99%		28	1	
		17:35	28	2.98%	28	3.03%	33.33%		28	0	
		17:40	28	2.98%	28	2.97%	32.68%	100.00%	27	-1	0
17:45	84	17:45	28	3.02%	28	2.98%	33.20%		28	0	
		17:50	28	3.02%	28	2.99%	33.33%		28	0	
		17:55	28	3.02%	28	3.01%	33.47%	100.00%	28	0	0
18:00	81	18:00	27	2.91%	28	2.97%	33.74%		27	0	
		18:05	27	2.91%	27	2.93%	33.33%		27	0	
		18:10	27	2.91%	27	2.90%	32.93%	100.00%	27	0	0
18:15	67	18:15	22	2.41%	25	2.73%	35.50%		24	1	
		18:20	22	2.41%	24	2.57%	33.33%		22	0	
		18:25	22	2.41%	22	2.40%	31.16%	100.00%	21	-1	0
18:30	61	18:30	20	2.19%	22	2.33%	34.39%		21	1	
		18:35	20	2.19%	21	2.25%	33.33%		20	0	
		18:40	20	2.19%	20	2.18%	32.28%	100.00%	20	-1	0
18:45	61	18:45	20	2.19%	20	2.18%	33.33%		20	0	
		18:50	20	2.19%	20	2.18%	33.33%		20	0	
		18:55	20	2.19%	20	2.18%	33.33%	100.00%	20	0	0
		Totals	927	100.00%	931	100.00%			927	0	

Dishley Street Straight

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	41	16:00	14	2.89%	14	2.89%	33.33%		14	0	
		16:05	14	2.89%	14	2.89%	33.33%		14	0	
		16:10	14	2.89%	14	2.89%	33.33%	100.00%	14	0	0
16:15	43	16:15	14	3.03%	14	2.93%	32.81%		14	0	
		16:20	14	3.03%	14	2.98%	33.33%		14	0	
		16:25	14	3.03%	14	3.03%	33.86%	100.00%	15	0	0
16:30	37	16:30	12	2.61%	14	2.89%	35.04%		13	1	
		16:35	12	2.61%	13	2.75%	33.33%		12	0	
		16:40	12	2.61%	12	2.61%	31.62%	100.00%	12	-1	0
16:45	45	16:45	15	3.17%	13	2.79%	31.23%		14	-1	
		16:50	15	3.17%	14	2.98%	33.33%		15	0	
		16:55	15	3.17%	15	3.17%	35.43%	100.00%	16	1	0
17:00	38	17:00	13	2.68%	14	3.00%	35.26%		13	1	
		17:05	13	2.68%	13	2.84%	33.33%		13	0	
		17:10	13	2.68%	13	2.68%	31.40%	100.00%	12	-1	0
17:15	41	17:15	14	2.89%	13	2.75%	32.50%		13	0	
		17:20	14	2.89%	13	2.82%	33.33%		14	0	
		17:25	14	2.89%	14	2.89%	34.17%	100.00%	14	0	0
17:30	41	17:30	14	2.89%	14	2.89%	33.33%		14	0	
		17:35	14	2.89%	14	2.89%	33.33%		14	0	
		17:40	14	2.89%	14	2.89%	33.33%	100.00%	14	0	0
17:45	35	17:45	12	2.47%	13	2.75%	35.14%		12	1	
		17:50	12	2.47%	12	2.61%	33.33%		12	0	
		17:55	12	2.47%	12	2.46%	31.53%	100.00%	11	-1	0
18:00	43	18:00	14	3.03%	13	2.65%	31.13%		13	-1	
		18:05	14	3.03%	13	2.84%	33.33%		14	0	
		18:10	14	3.03%	14	3.03%	35.54%	100.00%	15	1	0
18:15	40	18:15	13	2.82%	14	2.96%	34.15%		14	0	
		18:20	13	2.82%	14	2.89%	33.33%		13	0	
		18:25	13	2.82%	13	2.82%	32.52%	100.00%	13	0	0
18:30	29	18:30	10	2.04%	12	2.56%	37.07%		11	1	
		18:35	10	2.04%	11	2.30%	33.33%		10	0	
		18:40	10	2.04%	10	2.04%	29.59%	100.00%	9	-1	0
18:45	40	18:45	13	2.82%	11	2.30%	29.97%		12	-1	
		18:50	13	2.82%	12	2.56%	33.33%		13	0	
		18:55	13	2.82%	13	2.82%	36.70%	100.00%	15	1	0
		Totals	473	100.00%	473	100.00%			473	0	

Dishley Street Right

Time starting	15 Minute Flow	Time ending	5 Minute Flow	Period %ages	Harmonic Mean	Period %ages			5 Minute Flows	Difference	
16:00	0	16:00	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		16:05	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		16:10	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
16:15	5	16:15	2	9.80%	1	3.33%	16.67%		1	-1	
		16:20	2	9.80%	1	6.67%	33.33%		2	0	
		16:25	2	9.80%	2	10.00%	50.00%	100.00%	3	1	0
16:30	1	16:30	0	1.96%	1	7.33%	52.38%		1	0	
		16:35	0	1.96%	1	4.67%	33.33%		0	0	
		16:40	0	1.96%	0	2.00%	14.29%	100.00%	0	0	0
16:45	3	16:45	1	5.88%	1	3.33%	23.81%		1	0	
		16:50	1	5.88%	1	4.67%	33.33%		1	0	
		16:55	1	5.88%	1	6.00%	42.86%	100.00%	1	0	0
17:00	0	17:00	0	0.00%	1	4.00%	66.67%		0	0	
		17:05	0	0.00%	0	2.00%	33.33%		0	0	
		17:10	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
17:15	0	17:15	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		17:20	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		17:25	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
17:30	3	17:30	1	5.88%	0	2.00%	16.67%		1	-1	
		17:35	1	5.88%	1	4.00%	33.33%		1	0	
		17:40	1	5.88%	1	6.00%	50.00%	100.00%	2	1	0
17:45	3	17:45	1	5.88%	1	6.00%	33.33%		1	0	
		17:50	1	5.88%	1	6.00%	33.33%		1	0	
		17:55	1	5.88%	1	6.00%	33.33%	100.00%	1	0	0
18:00	1	18:00	0	1.96%	1	4.67%	46.67%		0	0	
		18:05	0	1.96%	1	3.33%	33.33%		0	0	
		18:10	0	1.96%	0	2.00%	20.00%	100.00%	0	0	0
18:15	0	18:15	0	0.00%	0	1.33%	66.67%		0	0	
		18:20	0	0.00%	0	0.67%	33.33%		0	0	
		18:25	0	0.00%	0	0.00%	0.00%	100.00%	0	0	0
18:30	0	18:30	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		18:35	0	0.00%	0	0.00%	#DIV/0!		#DIV/0!	#DIV/0!	
		18:40	0	0.00%	0	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	####
18:45	1	18:45	0	1.96%	0	0.67%	16.67%		0	0	
		18:50	0	1.96%	0	1.33%	33.33%		0	0	
		18:55	0	1.96%	0	2.00%	50.00%	100.00%	1	0	0
		Totals	17	100.00%	17	100.00%			#DIV/0!	#DIV/0!	

APPENDIX 7

Traffic Survey Count

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (1) B4360 Cholstrey Road / A44 Baron's Cross Road / A44 Monkland Road

Approach: B4360 Cholstrey Road

	Left to A44 Baron's Cross Road							Right to A44 Monkland Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	19	6	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	33	5	3	0	0	0	0	4	2	0	0	0
0730 - 0745	0	1	53	9	4	0	1	0	0	1	0	0	0	0
0745 - 0800	0	1	42	11	1	1	2	0	0	3	3	0	0	2
0800 - 0815	0	0	66	8	4	3	0	0	0	7	0	0	0	0
0815 - 0830	0	1	75	6	4	0	0	0	0	10	1	0	0	0
0830 - 0845	0	0	101	7	5	0	1	0	0	4	0	0	0	0
0845 - 0900	0	1	81	4	1	0	3	0	0	5	0	0	0	0
0900 - 0915	0	1	55	4	0	0	3	0	0	4	1	0	0	0
0915 - 0930	0	0	63	6	2	1	1	0	0	1	1	0	0	0
0930 - 0945	0	0	65	4	2	1	1	0	0	0	1	0	0	0
0945 - 1000	0	1	71	5	1	2	0	0	0	4	0	0	0	0
	Left to A44 Baron's Cross Road							Right to A44 Monkland Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	50	4	1	4	1	0	0	2	2	0	0	0
1615 - 1630	1	0	40	4	1	0	1	0	0	3	0	0	0	0
1630 - 1645	1	0	31	9	0	0	0	0	0	5	0	0	0	0
1645 - 1700	0	1	42	7	1	1	1	0	0	2	1	0	0	0
1700 - 1715	0	1	55	8	1	1	0	0	0	2	2	0	0	0
1715 - 1730	0	2	76	5	1	0	4	0	0	3	0	0	0	0
1730 - 1745	0	0	57	5	0	0	0	0	0	3	1	0	0	0
1745 - 1800	0	0	42	3	0	0	0	0	0	3	1	0	0	0
1800 - 1815	1	0	44	5	0	3	0	0	0	2	0	0	0	0
1815 - 1830	0	0	36	1	0	0	1	0	0	3	0	0	0	0
1830 - 1845	0	0	31	7	0	0	1	0	0	0	0	0	0	0
1845 - 1900	0	0	41	1	0	0	0	0	0	3	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (1) B4360 Cholstrey Road / A44 Baron's Cross Road / A44 Monkland Road

Approach: A44 Baron's Cross Road

	W/B to A44 Monkland Road							Right to B4360 Cholstrey Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	13	3	1	3	1	0	0	8	7	2	2	1
0715 - 0730	0	0	17	5	0	7	1	0	0	14	6	1	1	1
0730 - 0745	0	0	26	5	1	0	3	0	0	33	10	2	1	1
0745 - 0800	0	0	29	6	3	2	4	0	2	33	13	3	2	1
0800 - 0815	0	0	34	5	1	0	2	1	0	30	5	4	1	0
0815 - 0830	0	0	34	11	0	7	1	0	0	38	10	5	1	1
0830 - 0845	0	0	30	10	2	1	1	0	1	38	11	2	0	1
0845 - 0900	0	0	30	13	0	5	2	0	0	34	7	3	1	0
0900 - 0915	0	0	33	12	1	1	0	0	0	33	5	2	2	1
0915 - 0930	0	0	27	3	4	3	0	0	0	33	6	2	3	0
0930 - 0945	0	0	25	5	0	3	0	0	0	37	9	1	0	0
0945 - 1000	1	0	33	10	3	1	1	0	0	41	5	3	3	0
	W/B to A44 Monkland Road							Right to B4360 Cholstrey Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	1	56	6	1	2	1	0	0	67	6	1	0	1
1615 - 1630	0	0	55	8	1	1	0	0	0	63	11	0	0	0
1630 - 1645	0	1	63	8	3	4	1	0	2	67	6	3	0	0
1645 - 1700	0	0	60	6	0	0	3	0	1	67	9	1	1	0
1700 - 1715	0	1	61	11	0	1	2	0	0	91	12	2	1	0
1715 - 1730	0	2	61	5	0	2	0	0	1	76	11	3	0	0
1730 - 1745	0	0	64	8	0	2	0	0	0	65	9	2	1	0
1745 - 1800	1	0	55	6	1	1	2	0	0	79	3	1	1	0
1800 - 1815	0	0	44	8	0	5	0	0	0	60	11	1	0	1
1815 - 1830	0	1	40	3	0	0	0	0	0	67	5	1	0	0
1830 - 1845	0	0	40	3	0	3	0	0	0	42	6	0	0	0
1845 - 1900	0	2	36	4	1	2	0	0	0	46	1	0	1	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (1) B4360 Cholstrey Road / A44 Baron's Cross Road / A44 Monkland Road

Approach: A44 Monkland Road

	Left to B4360 Cholstrey Road							E/B to A44 Baron's Cross Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	3	0	0	0	0	1	18	14	2	4	0
0715 - 0730	0	0	2	1	0	0	0	0	1	24	10	1	6	0
0730 - 0745	0	0	2	0	0	0	1	0	0	39	12	2	2	0
0745 - 0800	0	0	2	0	0	0	0	0	0	35	11	3	2	0
0800 - 0815	0	0	2	0	0	0	1	0	0	56	11	3	2	0
0815 - 0830	0	0	4	1	0	0	0	0	0	58	8	4	6	0
0830 - 0845	0	0	4	0	0	0	1	0	1	66	13	5	2	0
0845 - 0900	0	0	5	0	0	0	1	1	1	71	5	5	3	0
0900 - 0915	0	0	1	0	0	0	0	0	1	59	6	3	3	1
0915 - 0930	0	0	2	1	0	0	0	0	0	53	8	3	2	1
0930 - 0945	0	0	2	0	0	0	0	0	0	49	7	4	4	1
0945 - 1000	0	0	5	1	0	0	1	0	0	48	9	6	3	1
	Left to B4360 Cholstrey Road							E/B to A44 Baron's Cross Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	3	1	0	1	1	0	0	45	7	3	2	3
1615 - 1630	0	0	4	1	0	0	1	0	0	52	2	1	5	1
1630 - 1645	0	0	5	2	0	0	1	0	0	58	10	4	1	2
1645 - 1700	0	0	4	2	0	0	1	0	0	41	7	4	2	0
1700 - 1715	0	0	4	3	0	0	0	0	0	50	7	1	3	1
1715 - 1730	0	0	6	0	0	0	1	0	0	54	2	2	1	1
1730 - 1745	0	0	8	0	0	0	0	0	0	44	6	3	3	2
1745 - 1800	0	0	4	0	0	0	1	0	0	50	2	3	4	0
1800 - 1815	0	0	5	1	0	0	1	0	0	45	6	1	3	0
1815 - 1830	0	0	2	2	0	0	0	0	2	40	4	0	1	1
1830 - 1845	0	0	1	1	0	0	0	0	0	38	8	0	0	1
1845 - 1900	0	0	3	0	0	0	0	0	0	44	5	2	2	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (2) A44 Baron's Cross Road / Store Access

Approach: A44 Baron's Cross Road (East)

	Left to Store Access							W/B to A44 Baron's Cross Road (West)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	5	4	1	0	0	0	0	17	7	3	5	2
0715 - 0730	0	0	7	1	0	0	0	0	0	23	11	1	8	2
0730 - 0745	0	0	16	5	0	0	0	0	0	44	12	3	1	4
0745 - 0800	0	0	24	2	2	0	0	0	2	56	17	5	4	5
0800 - 0815	0	0	28	1	1	0	0	1	0	47	8	6	1	2
0815 - 0830	0	0	22	4	0	0	0	0	0	57	19	3	8	2
0830 - 0845	0	0	36	4	0	0	0	0	0	49	18	4	1	2
0845 - 0900	1	0	38	6	0	1	0	0	0	45	15	3	6	1
0900 - 0915	0	0	40	3	1	0	0	0	0	47	10	2	3	1
0915 - 0930	0	0	36	3	1	0	0	0	0	33	8	6	6	0
0930 - 0945	0	0	39	1	0	0	0	0	0	45	11	1	3	0
0945 - 1000	0	0	47	7	0	0	1	1	0	49	10	6	4	0
	Left to Store Access							W/B to A44 Baron's Cross Road (West)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	50	6	1	0	0	0	1	76	6	2	2	2
1615 - 1630	0	1	67	0	1	0	1	0	0	61	16	1	1	0
1630 - 1645	0	1	54	2	0	0	0	0	2	88	11	5	4	0
1645 - 1700	0	0	64	5	0	1	1	0	1	73	16	1	1	2
1700 - 1715	0	0	59	4	0	0	1	0	1	108	20	1	2	1
1715 - 1730	0	0	73	5	0	0	0	0	3	97	10	3	2	0
1730 - 1745	0	0	60	1	0	0	0	0	0	74	13	2	3	0
1745 - 1800	1	0	47	4	0	0	1	1	0	78	9	2	2	1
1800 - 1815	0	1	54	3	0	0	0	0	0	69	13	1	5	1
1815 - 1830	0	0	53	1	0	0	0	0	1	71	7	1	0	0
1830 - 1845	0	0	42	5	0	0	0	0	0	46	8	0	3	0
1845 - 1900	0	0	44	3	0	0	0	0	2	56	2	1	3	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (2) A44 Baron's Cross Road / Store Access

Approach: Store Access

	Left to A44 Baron's Cross Road (West)							Right to A44 Baron's Cross Road (East)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	4	3	0	0	0	0	0	5	6	0	0	0
0715 - 0730	0	0	7	0	0	0	0	0	0	8	0	1	0	0
0730 - 0745	0	0	15	3	0	0	0	0	1	14	5	0	0	0
0745 - 0800	0	0	5	2	1	0	0	0	0	8	2	0	0	0
0800 - 0815	0	0	17	2	0	0	0	0	0	16	3	3	0	0
0815 - 0830	0	0	15	2	1	0	0	0	0	25	3	0	0	0
0830 - 0845	0	1	20	3	0	0	0	0	0	21	3	0	0	0
0845 - 0900	0	0	18	5	0	0	1	0	0	25	3	0	0	0
0900 - 0915	0	0	21	7	1	0	0	0	0	38	2	1	0	1
0915 - 0930	0	0	26	1	0	0	0	0	0	34	5	2	0	1
0930 - 0945	0	0	19	3	0	0	0	0	0	37	1	0	0	0
0945 - 1000	0	0	25	5	0	0	1	0	0	31	5	0	0	0
	Left to A44 Baron's Cross Road (West)							Right to A44 Baron's Cross Road (East)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	48	6	0	0	0	0	0	38	4	0	0	0
1615 - 1630	0	0	57	3	0	0	0	0	0	41	2	0	0	0
1630 - 1645	0	1	43	3	1	0	1	0	0	47	2	0	0	0
1645 - 1700	0	0	53	0	0	0	1	0	0	27	1	0	0	0
1700 - 1715	0	0	45	3	1	0	1	0	1	39	0	0	0	0
1715 - 1730	0	1	39	5	0	0	0	0	0	43	2	0	0	0
1730 - 1745	0	0	53	5	0	0	0	0	0	51	3	0	0	0
1745 - 1800	0	0	57	0	0	0	1	0	0	46	1	0	0	0
1800 - 1815	0	0	37	6	0	0	0	1	0	51	1	0	0	0
1815 - 1830	0	0	36	1	0	0	0	0	0	47	3	0	0	0
1830 - 1845	0	0	37	1	0	0	0	0	1	44	4	0	0	0
1845 - 1900	0	0	26	3	0	0	0	0	1	36	5	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (2) A44 Baron's Cross Road / Store Access

Approach: A44 Baron's Cross Road (West)

	E/B to A44 Baron's Cross Road (East)							Right to Store Access						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	1	32	19	2	4	0	0	0	5	2	0	0	0
0715 - 0730	0	1	46	14	3	6	0	0	0	11	1	1	0	0
0730 - 0745	0	0	76	19	6	2	1	0	1	16	2	0	0	0
0745 - 0800	0	1	64	19	4	3	2	0	0	13	3	0	0	0
0800 - 0815	0	0	94	16	6	5	0	0	0	29	3	2	0	0
0815 - 0830	0	1	107	13	8	6	0	0	0	27	1	0	0	0
0830 - 0845	0	0	138	16	10	2	1	0	1	29	4	0	0	0
0845 - 0900	1	1	121	6	5	3	3	0	1	30	3	1	0	0
0900 - 0915	0	2	88	7	3	3	3	0	0	26	3	0	0	1
0915 - 0930	0	0	91	10	5	3	1	0	0	23	4	0	0	1
0930 - 0945	0	0	85	9	6	5	2	0	0	31	2	0	0	0
0945 - 1000	0	1	85	11	7	5	1	0	0	34	3	0	0	0
	E/B to A44 Baron's Cross Road (East)							Right to Store Access						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	67	9	4	6	4	0	0	28	2	0	0	0
1615 - 1630	0	0	74	6	2	5	2	0	0	18	0	0	0	0
1630 - 1645	2	0	63	16	4	1	2	0	0	25	3	0	0	0
1645 - 1700	0	1	67	14	5	3	1	1	0	17	0	0	0	0
1700 - 1715	0	0	86	13	2	4	1	0	1	19	2	0	0	0
1715 - 1730	0	2	107	5	3	1	5	0	0	24	2	0	0	0
1730 - 1745	0	0	67	11	3	3	2	0	0	32	0	0	0	0
1745 - 1800	0	0	62	3	3	4	0	0	0	33	2	0	0	0
1800 - 1815	1	0	61	8	1	6	0	0	0	27	3	0	0	0
1815 - 1830	0	0	56	4	0	1	2	0	0	22	1	0	0	0
1830 - 1845	0	0	50	13	0	0	2	0	2	19	2	0	0	0
1845 - 1900	0	0	61	3	2	2	0	0	0	25	3	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (3) B4361 Bridge Street / A44 Mill Street / A44 Broad Street

Approach: B4361 Bridge Street

	Left to A44 Mill Street							S/B to A44 Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	0	14	5	0	1	1	4	0	12	7	0	0	0
0715 - 0730	0	0	20	3	1	1	2	1	0	16	7	0	0	1
0730 - 0745	0	0	33	5	1	1	0	1	1	28	8	0	0	0
0745 - 0800	0	0	42	4	0	0	1	3	1	30	6	0	0	0
0800 - 0815	0	0	31	3	0	0	0	2	0	33	15	0	0	1
0815 - 0830	0	0	35	4	0	0	0	1	0	46	10	1	0	1
0830 - 0845	0	1	35	5	1	0	1	4	1	88	7	0	0	1
0845 - 0900	0	1	34	5	1	0	1	2	0	72	7	0	0	2
0900 - 0915	0	0	22	2	0	1	0	1	0	43	6	1	0	1
0915 - 0930	0	0	12	3	2	0	1	3	0	49	3	0	0	1
0930 - 0945	0	0	15	6	2	0	0	0	0	36	6	0	0	0
0945 - 1000	0	0	18	0	1	0	0	0	0	54	5	2	0	0
	Left to A44 Mill Street							S/B to A44 Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	18	3	0	0	0	1	0	50	3	1	0	1
1615 - 1630	0	1	18	3	0	0	1	2	0	39	4	0	0	2
1630 - 1645	0	0	20	4	0	2	1	1	0	49	8	0	0	1
1645 - 1700	0	0	21	2	0	0	0	1	1	48	6	0	0	0
1700 - 1715	0	0	27	4	0	0	0	3	1	39	8	1	1	0
1715 - 1730	1	0	18	3	0	0	0	2	0	39	7	0	0	0
1730 - 1745	0	0	28	2	0	0	0	2	0	35	0	0	0	1
1745 - 1800	0	0	21	3	0	0	0	0	0	56	9	1	0	1
1800 - 1815	0	0	24	1	0	0	0	2	0	51	8	0	0	0
1815 - 1830	0	0	18	0	0	0	0	0	0	36	0	1	0	0
1830 - 1845	0	0	20	1	0	0	0	2	1	33	1	0	0	0
1845 - 1900	0	0	17	1	0	0	0	1	1	37	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (3) B4361 Bridge Street / A44 Mill Street / A44 Broad Street

Approach: A44 Mill Street

	Left to A44 Broad Street							Right to B4361 Bridge Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	12	3	3	5	1	0	0	5	1	1	0	0
0715 - 0730	0	0	19	7	0	8	0	0	0	0	2	0	1	0
0730 - 0745	0	1	18	6	2	1	0	0	0	6	1	0	0	0
0745 - 0800	0	0	28	8	6	4	1	0	0	10	6	0	0	0
0800 - 0815	0	0	36	7	1	4	0	0	0	5	6	1	0	0
0815 - 0830	0	0	45	12	1	8	1	1	0	10	2	0	0	0
0830 - 0845	0	0	56	14	1	2	1	0	0	15	5	0	1	0
0845 - 0900	0	0	80	8	5	8	2	0	0	20	4	0	0	0
0900 - 0915	0	0	67	9	1	3	0	0	0	11	6	3	1	1
0915 - 0930	1	0	59	12	5	6	0	0	0	11	1	3	0	0
0930 - 0945	0	0	50	8	2	3	0	0	1	10	4	3	0	0
0945 - 1000	0	0	55	9	5	5	0	0	1	16	2	0	1	0
	Left to A44 Broad Street							Right to B4361 Bridge Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	55	8	0	0	0	0	0	29	9	1	0	0
1615 - 1630	0	0	61	4	1	2	0	0	0	33	5	1	1	2
1630 - 1645	0	0	65	3	2	5	0	0	0	30	12	0	1	1
1645 - 1700	0	0	63	9	2	3	0	0	2	36	2	3	0	0
1700 - 1715	0	1	49	7	2	4	0	0	1	46	3	0	0	0
1715 - 1730	0	0	66	7	1	2	0	1	0	40	3	0	0	0
1730 - 1745	0	1	46	8	1	2	0	0	0	37	3	0	0	0
1745 - 1800	0	1	52	4	2	3	0	0	0	42	3	0	0	1
1800 - 1815	0	1	45	10	1	6	0	1	2	33	3	0	0	0
1815 - 1830	0	1	41	7	1	0	0	0	0	22	2	0	0	1
1830 - 1845	0	0	39	6	1	1	1	0	1	22	3	0	0	1
1845 - 1900	0	2	32	3	0	3	0	0	0	31	2	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: **(3) B4361 Bridge Street / A44 Mill Street / A44 Broad Street**

Approach: A44 Broad Street

	N/B to B4361 Bridge Street							Right to A44 Mill Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	2	0	11	1	0	0	1	0	0	24	9	6	6	0
0715 - 0730	0	1	15	5	0	0	1	0	0	26	6	3	1	0
0730 - 0745	2	0	11	7	0	0	0	0	0	41	7	3	6	0
0745 - 0800	1	0	13	13	0	0	0	0	0	40	8	2	2	0
0800 - 0815	1	1	27	7	0	0	4	0	0	40	13	2	4	0
0815 - 0830	0	0	29	10	0	0	1	1	0	40	3	5	10	0
0830 - 0845	1	0	31	6	0	0	1	0	0	58	6	6	5	0
0845 - 0900	0	0	30	11	1	0	2	0	0	75	10	4	6	0
0900 - 0915	0	0	46	4	0	0	2	0	0	45	8	4	3	0
0915 - 0930	2	0	42	5	1	0	0	0	0	55	11	3	5	2
0930 - 0945	1	0	33	2	1	0	1	0	1	49	12	2	6	0
0945 - 1000	0	0	45	7	0	0	1	0	0	55	12	6	3	1
	N/B to B4361 Bridge Street							Right to A44 Mill Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	2	0	69	5	0	0	2	0	0	67	8	1	9	0
1615 - 1630	2	0	48	4	0	0	0	0	0	72	4	2	4	0
1630 - 1645	3	0	58	7	1	0	0	0	0	58	6	3	3	0
1645 - 1700	0	0	63	9	0	0	2	0	3	80	5	3	1	1
1700 - 1715	3	1	56	5	0	0	0	0	0	73	14	1	4	1
1715 - 1730	1	0	72	6	0	0	0	0	0	88	8	2	4	0
1730 - 1745	5	0	67	2	0	0	1	0	2	76	7	2	1	3
1745 - 1800	0	0	67	11	0	0	0	0	0	58	7	3	4	0
1800 - 1815	0	0	49	1	0	0	0	0	0	50	7	0	5	0
1815 - 1830	4	0	61	5	0	0	0	1	0	50	4	0	3	0
1830 - 1845	6	1	43	8	1	0	0	0	0	48	6	1	0	1
1845 - 1900	1	0	62	8	0	0	1	0	3	45	7	1	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (4) Broad Street / New Street

Approach: A44 Broad Street

	S/B to Broad Street							Right to A44 New Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	0	26	10	3	5	1
0715 - 0730	0	0	0	0	0	0	0	0	0	35	18	2	8	1
0730 - 0745	0	0	0	0	0	0	0	0	1	48	15	1	2	0
0745 - 0800	0	0	0	0	0	0	0	3	0	55	9	7	4	1
0800 - 0815	0	0	0	0	0	0	0	3	0	63	20	3	4	1
0815 - 0830	0	0	0	0	0	0	0	0	1	90	17	2	7	2
0830 - 0845	0	0	0	0	0	0	0	0	0	126	20	4	4	3
0845 - 0900	0	0	0	0	0	0	0	1	0	128	16	6	5	3
0900 - 0915	0	0	0	0	0	0	0	0	0	95	13	4	4	1
0915 - 0930	0	0	0	0	0	0	0	1	0	95	15	5	4	1
0930 - 0945	0	0	0	0	0	0	0	0	0	85	15	8	3	1
0945 - 1000	0	0	0	0	0	0	0	0	0	89	10	8	5	1
	S/B to Broad Street							Right to A44 New Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	0	0	0	99	10	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	34	3	1	2	0
1630 - 1645	0	0	0	0	0	0	0	0	0	124	10	2	3	1
1645 - 1700	0	0	0	0	0	0	0	1	0	106	3	4	3	0
1700 - 1715	0	0	0	0	0	0	0	2	2	132	16	1	5	0
1715 - 1730	0	0	0	0	0	0	0	0	0	124	9	1	1	0
1730 - 1745	0	0	0	0	0	0	0	0	1	92	8	1	3	1
1745 - 1800	0	0	0	0	0	0	0	0	1	110	15	2	3	1
1800 - 1815	0	0	0	0	0	0	0	3	2	100	14	1	3	0
1815 - 1830	0	0	0	0	0	0	0	0	2	87	9	3	1	0
1830 - 1845	0	0	0	0	0	0	0	0	1	68	5	1	1	1
1845 - 1900	0	0	0	0	0	0	0	0	1	76	5	0	2	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (4) Broad Street / New Street

Approach: Broad Street

	Left to A44 New Street							N/B to A44 Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	6	4	0	0	0	0	0	5	1	0	0	0
0715 - 0730	1	0	3	0	0	0	1	1	1	2	2	0	0	0
0730 - 0745	1	0	3	3	0	0	0	0	0	7	1	1	0	0
0745 - 0800	0	0	6	2	0	0	0	0	0	15	2	0	0	0
0800 - 0815	0	0	8	7	1	0	0	0	0	6	6	0	0	0
0815 - 0830	0	0	10	3	3	1	0	0	0	12	2	1	1	0
0830 - 0845	0	0	15	3	0	0	0	0	0	14	5	0	0	0
0845 - 0900	0	0	12	3	1	0	0	0	0	20	4	0	0	0
0900 - 0915	0	0	16	1	0	0	0	0	0	26	6	2	0	0
0915 - 0930	1	0	26	7	0	0	0	1	1	19	2	0	0	0
0930 - 0945	0	0	26	3	1	0	0	2	0	19	4	0	0	0
0945 - 1000	0	0	22	2	1	0	1	0	0	29	4	1	0	0
	Left to A44 New Street							N/B to A44 Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	1	0	18	8	0	0	0	0	0	33	2	0	0	0
1615 - 1630	0	0	6	1	0	0	0	0	0	7	0	0	0	0
1630 - 1645	1	0	26	2	0	0	1	1	0	30	4	0	0	0
1645 - 1700	0	0	25	2	0	0	0	0	0	37	6	0	0	0
1700 - 1715	0	2	39	2	0	0	1	1	0	39	4	0	0	0
1715 - 1730	0	0	28	7	0	0	0	0	0	35	2	0	0	1
1730 - 1745	0	0	22	2	0	0	0	0	0	31	2	0	0	0
1745 - 1800	0	0	14	1	0	0	0	0	0	15	4	0	0	0
1800 - 1815	0	0	13	2	0	0	0	2	1	28	2	0	0	0
1815 - 1830	0	0	11	2	0	0	0	1	0	21	4	0	0	0
1830 - 1845	0	0	5	1	0	0	1	1	1	18	3	1	0	0
1845 - 1900	0	0	6	2	0	0	0	0	1	21	3	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (4) Broad Street / New Street

Approach: A44 New Street

	Left to A44 Broad Street							Right to Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	0	35	7	5	6	2	0	0	0	0	0	0	0
0715 - 0730	0	0	40	11	4	2	0	0	0	0	0	0	0	0
0730 - 0745	1	0	45	11	4	5	0	0	0	0	0	0	0	0
0745 - 0800	0	0	54	1	4	4	2	0	0	0	0	0	0	0
0800 - 0815	0	1	54	11	5	2	1	0	0	0	0	0	0	0
0815 - 0830	1	0	72	9	5	10	2	0	0	0	0	0	0	0
0830 - 0845	1	0	98	9	5	5	1	0	0	0	0	0	0	0
0845 - 0900	0	0	110	11	7	5	2	0	0	0	0	0	0	0
0900 - 0915	0	0	88	9	3	4	1	0	0	0	0	0	0	0
0915 - 0930	1	0	84	14	2	4	1	0	0	0	0	0	0	0
0930 - 0945	1	0	71	10	8	4	2	0	0	0	0	0	0	0
0945 - 1000	0	1	81	14	4	3	0	0	0	0	0	0	0	0
	Left to A44 Broad Street							Right to Broad Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	92	14	4	6	1	0	0	0	0	0	0	0
1615 - 1630	0	0	29	7	0	1	0	0	0	0	0	0	0	0
1630 - 1645	2	0	86	9	5	2	1	0	0	0	0	0	0	0
1645 - 1700	1	2	87	10	4	1	2	0	0	0	0	0	0	0
1700 - 1715	0	0	77	13	1	5	1	0	0	0	0	0	0	0
1715 - 1730	0	1	120	10	3	2	3	0	0	0	0	0	0	0
1730 - 1745	1	1	89	11	2	3	0	0	0	0	0	0	0	0
1745 - 1800	0	0	88	7	3	3	0	0	0	0	0	0	0	0
1800 - 1815	2	0	90	10	1	6	0	0	0	0	0	0	0	0
1815 - 1830	6	0	86	3	0	1	1	0	0	0	0	0	0	0
1830 - 1845	0	0	73	10	0	0	0	0	0	0	0	0	0	0
1845 - 1900	1	2	74	10	1	0	1	0	0	0	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (5) A44 Cursneh Road / West Street / B4361 Dishley Street / A44 Bargates

Approach: A44 Cursneh Road

	Left to West Street							S/B to B4361 Dishley Street							Right to A44 Bargates						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	0	9	3	1	0	0	0	0	15	8	1	3	1
0715 - 0730	0	0	0	0	0	0	0	0	0	19	5	0	0	1	0	0	12	5	0	8	0
0730 - 0745	0	0	0	0	0	0	0	0	0	17	7	0	0	0	0	0	23	5	2	3	0
0745 - 0800	0	0	0	0	0	0	0	0	1	22	6	1	0	1	0	0	41	11	5	4	0
0800 - 0815	0	0	0	0	0	0	0	0	0	24	5	0	1	1	0	0	33	8	1	1	0
0815 - 0830	0	0	0	1	0	0	0	0	0	38	8	1	1	1	0	0	37	11	2	6	0
0830 - 0845	0	0	1	1	0	0	0	0	0	55	1	0	0	1	0	0	37	13	2	4	0
0845 - 0900	0	0	4	1	0	0	0	0	0	56	6	0	0	2	0	0	49	15	0	5	2
0900 - 0915	0	0	3	0	0	0	0	0	1	34	4	2	0	0	0	0	47	7	2	4	0
0915 - 0930	0	0	0	0	0	0	0	0	0	42	1	1	0	0	0	0	43	9	1	8	0
0930 - 0945	0	0	1	0	0	0	0	0	0	27	8	3	0	1	0	0	42	10	2	4	0
0945 - 1000	0	0	3	0	0	0	1	0	0	37	5	2	0	0	0	0	48	4	3	4	0
	Left to West Street							S/B to B4361 Dishley Street							Right to A44 Bargates						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	6	0	0	0	0	0	0	44	2	0	0	0	0	1	58	10	1	0	1
1615 - 1630	0	0	2	0	0	0	0	0	0	30	5	1	0	1	0	0	60	7	0	1	0
1630 - 1645	0	0	0	0	0	0	0	0	0	42	7	0	0	1	0	0	80	3	3	5	0
1645 - 1700	0	0	1	0	0	0	0	0	0	25	4	0	0	0	0	0	68	10	1	1	0
1700 - 1715	0	0	0	0	0	0	0	0	0	49	5	1	1	1	1	1	85	7	1	4	0
1715 - 1730	0	0	1	0	1	0	0	0	0	41	5	0	0	0	0	2	90	10	2	2	0
1730 - 1745	0	0	1	0	0	0	0	0	0	38	6	0	0	0	0	1	74	6	0	2	0
1745 - 1800	0	1	2	0	0	0	0	1	0	34	3	0	0	1	0	0	68	5	1	2	0
1800 - 1815	0	0	1	0	0	0	0	0	0	38	2	0	1	0	0	1	58	14	1	5	0
1815 - 1830	0	0	0	0	0	0	0	0	0	40	1	0	0	1	0	1	52	8	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	29	1	0	0	0	0	0	38	6	1	1	0
1845 - 1900	0	0	1	0	0	0	0	0	0	31	3	0	0	0	0	2	35	4	1	3	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (5) A44 Cursneh Road / West Street / B4361 Dishley Street / A44 Bargates

Approach: West Street

	Left to B4361 Dishley Street							W/B to A44 Bargates							Right to A44 Cursneh Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left to B4361 Dishley Street							W/B to A44 Bargates							Right to A44 Cursneh Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	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	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (5) A44 Cursneh Road / West Street / B4361 Dishley Street / A44 Bargates

Approach: B4361 Dishley Street

	Left to A44 Bargates							N/B to A44 Cursneh Road							Right to West Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	9	2	0	0	0	1	0	5	2	4	0	1	0	0	0	1	0	0	0
0715 - 0730	0	0	17	3	1	0	3	0	0	13	4	0	0	1	0	0	0	0	0	0	0
0730 - 0745	1	0	30	9	0	0	2	0	0	8	5	0	0	0	0	0	0	0	0	0	0
0745 - 0800	1	1	35	14	1	0	1	0	0	19	6	0	0	0	0	0	0	0	0	0	0
0800 - 0815	1	0	35	5	1	0	3	0	0	16	6	0	0	3	0	0	1	0	0	0	0
0815 - 0830	0	0	46	15	2	0	2	0	0	16	6	1	0	1	0	0	2	0	0	0	0
0830 - 0845	0	0	32	8	0	0	2	0	0	34	3	0	1	2	0	0	0	0	0	0	0
0845 - 0900	0	0	41	11	0	0	3	0	0	39	7	0	0	3	0	0	2	1	0	0	0
0900 - 0915	0	0	46	11	1	0	2	1	0	31	2	1	1	0	0	0	1	1	0	0	0
0915 - 0930	0	0	38	10	4	0	0	0	0	34	4	0	1	0	0	0	6	0	0	0	0
0930 - 0945	0	0	37	4	0	0	0	0	0	20	5	1	0	1	0	0	3	1	1	0	0
0945 - 1000	0	0	49	7	0	0	1	0	1	29	1	0	1	0	0	0	5	1	0	0	0
	Left to A44 Bargates							N/B to A44 Cursneh Road							Right to West Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	65	9	1	1	1	0	0	37	4	0	0	1	0	0	0	0	0	0	0
1615 - 1630	0	1	65	9	2	0	1	0	0	38	5	1	0	0	0	0	5	0	0	0	0
1630 - 1645	0	1	68	8	1	0	0	0	0	31	6	1	0	0	0	0	1	0	0	0	0
1645 - 1700	0	0	83	10	0	0	2	0	0	38	7	0	0	3	0	0	2	1	0	0	0
1700 - 1715	0	0	73	12	0	0	1	0	0	34	4	1	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	78	10	1	0	0	0	0	35	6	0	0	0	0	0	0	0	0	0	0
1730 - 1745	1	2	67	16	0	2	0	1	1	37	4	0	0	1	0	0	3	0	0	0	0
1745 - 1800	0	0	74	10	1	0	2	0	0	32	3	0	0	0	0	0	3	0	0	0	0
1800 - 1815	0	0	72	9	0	0	1	0	0	41	2	0	0	0	0	0	1	0	0	0	0
1815 - 1830	0	0	65	2	1	2	0	0	0	39	1	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	55	6	1	0	0	0	0	26	3	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	57	4	0	0	0	1	0	38	2	0	0	1	0	0	1	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (5) A44 Cursneh Road / West Street / B4361 Dishley Street / A44 Bargates

Approach: A44 Bargates

	Left to A44 Cursneh Road							E/B to West Street							Right to B4361 Dishley Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	25	5	5	6	0	0	0	3	3	0	0	0	0	1	29	17	0	0	0
0715 - 0730	0	0	16	6	3	1	0	0	0	3	2	0	0	0	0	1	38	8	0	0	0
0730 - 0745	0	0	34	7	3	6	0	0	0	3	2	0	0	0	0	1	41	17	1	0	1
0745 - 0800	0	0	34	11	3	3	0	0	0	5	4	0	0	0	0	1	55	14	1	0	1
0800 - 0815	0	0	28	5	3	3	0	0	0	6	2	0	0	0	0	1	42	14	3	0	1
0815 - 0830	0	0	51	6	3	9	0	0	0	8	0	1	0	0	1	0	52	11	2	0	0
0830 - 0845	0	0	49	4	6	4	0	0	1	13	2	0	0	0	0	0	68	7	1	0	0
0845 - 0900	0	0	66	4	5	5	0	0	0	22	1	0	0	0	0	0	45	4	1	1	2
0900 - 0915	0	0	55	8	3	3	0	0	0	15	1	0	0	0	0	0	58	1	3	0	3
0915 - 0930	0	0	59	4	2	4	2	0	0	24	2	0	0	0	0	0	46	3	1	0	1
0930 - 0945	0	0	43	5	3	5	1	0	0	31	2	0	0	1	0	0	45	5	3	1	1
0945 - 1000	0	0	51	6	5	2	0	0	0	21	2	0	0	0	0	0	40	5	1	1	1
	Left to A44 Cursneh Road							E/B to West Street							Right to B4361 Dishley Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	52	8	2	8	0	0	0	14	1	0	0	0	0	0	47	3	0	0	2
1615 - 1630	0	0	51	3	2	4	0	0	0	14	1	0	0	0	0	0	38	5	1	0	3
1630 - 1645	1	0	60	4	3	4	0	1	0	12	0	0	0	0	0	0	38	3	1	0	2
1645 - 1700	0	0	50	3	3	1	0	0	0	8	1	0	0	0	0	0	35	8	3	0	0
1700 - 1715	0	1	50	7	1	3	1	0	0	10	0	0	0	0	0	1	45	5	0	0	0
1715 - 1730	0	0	76	7	2	4	0	0	0	8	1	0	0	0	0	1	51	3	2	0	3
1730 - 1745	0	0	53	7	1	2	1	0	0	8	1	0	0	0	0	0	45	2	0	0	2
1745 - 1800	0	0	56	5	4	4	0	0	0	9	0	0	0	1	0	0	57	3	1	0	1
1800 - 1815	0	0	53	6	0	5	0	0	0	3	0	0	0	0	0	0	39	2	0	1	1
1815 - 1830	1	0	46	2	1	2	1	0	0	3	1	0	0	0	1	0	42	3	0	0	1
1830 - 1845	2	0	46	5	0	0	0	0	0	5	3	0	0	0	0	0	35	8	0	0	1
1845 - 1900	0	2	47	4	2	0	0	0	0	8	1	0	0	0	0	0	53	4	0	0	2

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (6) B4361 Dishley Street / B4361 Westbury Street / Ryelands Road

Approach: B4361 Dishley Street

	Left to Bus Access							To B4361 Westbury Street							Right to Ryelands Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	2	34	17	1	0	0	0	0	1	0	0	0	0
0715 - 0730	0	0	0	0	0	0	1	0	0	49	18	1	0	0	0	0	4	2	0	0	1
0730 - 0745	0	0	0	0	0	0	0	0	1	67	17	3	0	1	0	0	4	2	0	0	0
0745 - 0800	0	0	0	0	0	0	2	2	2	67	17	2	0	0	0	0	1	0	0	0	0
0800 - 0815	0	0	0	0	0	0	1	0	0	63	21	5	1	0	0	0	4	2	0	0	0
0815 - 0830	0	0	0	0	0	0	0	1	0	100	11	2	0	1	0	0	10	1	0	0	0
0830 - 0845	0	0	0	0	0	0	1	0	0	102	12	2	0	1	0	0	16	2	1	1	0
0845 - 0900	0	0	0	0	0	0	1	0	0	73	5	3	1	2	0	0	13	0	0	0	0
0900 - 0915	0	0	0	0	0	0	1	0	2	73	4	4	0	2	0	0	8	3	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	68	2	2	0	2	0	0	14	3	0	0	1
0930 - 0945	0	0	0	0	0	0	0	0	0	60	9	5	1	0	0	0	14	2	0	0	0
0945 - 1000	0	0	0	0	0	0	2	0	1	66	11	4	0	0	0	0	8	2	0	0	0
	Left to Bus Access							To B4361 Westbury Street							Right to Ryelands Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	1	0	0	68	6	0	0	2	0	0	20	0	0	0	0
1615 - 1630	0	0	0	0	0	0	3	0	0	42	13	0	1	1	0	0	16	1	0	0	0
1630 - 1645	0	0	0	0	0	0	2	0	0	50	7	0	0	1	0	0	21	3	0	0	0
1645 - 1700	0	0	0	0	0	0	0	1	0	59	6	2	0	0	0	0	15	4	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	1	90	7	2	1	0	0	0	13	2	0	1	0
1715 - 1730	0	0	0	0	0	0	3	0	1	71	8	3	0	1	0	0	20	2	0	0	0
1730 - 1745	0	0	0	0	0	0	2	0	0	73	5	0	0	0	0	0	10	1	0	0	0
1745 - 1800	0	0	0	0	0	0	1	0	1	76	4	0	2	0	0	0	13	0	0	0	0
1800 - 1815	0	0	0	0	0	0	1	1	0	57	3	0	0	0	0	0	11	2	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	65	5	1	0	1	0	0	16	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	1	55	7	0	0	3	0	0	9	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	68	4	0	2	0	0	0	14	1	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (6) B4361 Dishley Street / B4361 Westbury Street / Ryelands Road

Approach: Bus Access

	Left to B4361 Westbury Street							W/B to Ryelands Road							Right to B4361 Dishley Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left to B4361 Westbury Street							W/B to Ryelands Road							Right to B4361 Dishley Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	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	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (6) B4361 Dishley Street / B4361 Westbury Street / Ryelands Road

Approach: B4361 Westbury Street

	Left to Ryelands Road							N/B to B4361 Dishley Street							Right to Bus Access						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	1	9	0	0	0	0	0	0	14	5	1	0	2	0	0	0	0	0	0	4
0715 - 0730	0	0	4	3	0	0	2	0	0	27	10	0	0	2	0	0	0	0	0	0	1
0730 - 0745	0	0	12	3	0	0	0	0	0	42	17	0	0	2	0	0	0	0	0	0	2
0745 - 0800	0	0	18	0	0	0	0	0	1	52	15	1	0	4	0	0	0	0	0	0	2
0800 - 0815	0	0	19	4	0	0	0	1	0	51	14	3	0	3	0	0	0	0	0	0	2
0815 - 0830	0	0	20	2	0	0	0	0	0	48	15	2	0	3	0	0	0	0	0	0	2
0830 - 0845	0	0	27	5	1	0	1	0	0	62	9	0	1	6	0	0	0	0	0	0	1
0845 - 0900	2	1	27	4	0	0	0	0	0	92	19	0	0	0	0	0	0	0	0	0	1
0900 - 0915	0	1	19	4	0	0	1	0	0	58	14	1	1	3	0	0	0	0	0	0	1
0915 - 0930	0	0	33	5	1	0	1	0	0	46	10	3	0	1	0	0	0	0	0	0	0
0930 - 0945	0	0	29	2	0	0	0	0	0	52	10	0	0	2	0	0	0	0	0	0	2
0945 - 1000	0	0	31	3	1	0	1	1	0	57	17	3	0	1	0	0	0	0	0	0	0
	Left to Ryelands Road							N/B to B4361 Dishley Street							Right to Bus Access						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	36	1	0	0	1	0	0	93	12	2	0	0	0	0	0	0	0	0	0
1615 - 1630	2	1	39	3	1	0	1	0	1	82	16	1	1	1	0	0	0	0	0	0	1
1630 - 1645	3	2	56	5	0	0	0	0	1	92	8	2	0	1	0	0	0	0	0	0	1
1645 - 1700	0	0	53	6	0	0	1	0	0	89	18	0	0	4	0	0	0	0	0	0	4
1700 - 1715	0	1	73	4	0	0	1	0	0	84	18	0	0	1	0	0	0	0	0	0	1
1715 - 1730	1	1	58	4	0	0	0	0	0	88	13	1	0	1	0	0	0	0	0	0	1
1730 - 1745	0	0	53	3	0	0	2	2	3	105	15	0	1	0	0	0	0	0	0	0	0
1745 - 1800	0	1	34	11	0	0	1	0	0	75	13	1	0	2	0	0	0	0	0	0	2
1800 - 1815	0	0	43	3	0	0	0	1	0	99	3	1	2	0	0	0	0	0	0	0	0
1815 - 1830	1	0	25	0	0	0	1	0	0	75	5	1	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	24	1	0	0	0	0	0	71	8	1	0	0	0	0	0	0	0	0	0
1845 - 1900	0	1	18	3	0	0	0	3	0	64	3	0	0	1	0	0	0	0	0	0	1

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (6) B4361 Dishley Street / B4361 Westbury Street / Ryelands Road

Approach: Ryelands Road

	Left to B4361 Dishley Street							To Bus Access							Right to B4361 Westbury Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	5	1	1	0	0	0	0	0	0	0	0	0	0	0	12	8	0	0	0
0715 - 0730	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	1	23	7	0	0	0
0730 - 0745	0	0	1	4	0	0	0	0	0	0	0	0	0	1	0	2	48	8	0	0	1
0745 - 0800	0	0	12	2	1	0	0	0	0	0	0	0	0	0	0	0	41	4	0	0	0
0800 - 0815	0	0	9	3	0	0	0	0	0	0	0	0	0	1	0	0	53	6	0	0	0
0815 - 0830	0	0	8	3	0	0	0	0	0	0	0	0	0	1	1	0	57	8	0	0	0
0830 - 0845	1	0	22	5	0	0	0	0	0	0	0	0	0	1	1	1	77	2	0	0	1
0845 - 0900	1	0	22	1	1	0	2	0	0	0	0	0	0	1	0	2	77	12	0	1	4
0900 - 0915	0	0	16	2	1	0	0	0	0	0	0	0	0	0	1	2	41	7	0	0	0
0915 - 0930	0	0	23	1	0	0	0	0	0	0	0	0	0	2	0	0	47	1	0	0	0
0930 - 0945	0	0	21	3	0	0	0	0	0	0	0	0	0	2	0	1	46	3	0	0	0
0945 - 1000	0	1	18	2	1	0	0	0	0	0	0	0	0	2	0	0	36	5	0	0	0
	Left to B4361 Dishley Street							To Bus Access							Right to B4361 Westbury Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	14	0	0	0	0	0	0	0	0	0	0	1	1	0	28	5	0	0	0
1615 - 1630	0	0	20	4	0	0	0	0	0	0	0	0	0	0	0	0	35	2	0	0	1
1630 - 1645	0	0	20	3	0	0	0	0	0	0	0	0	0	1	0	0	38	2	0	0	3
1645 - 1700	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	1	40	4	0	0	0
1700 - 1715	0	0	21	5	0	0	0	0	0	0	0	0	0	1	0	0	37	3	0	0	1
1715 - 1730	0	0	22	2	0	0	0	0	0	0	0	0	0	0	0	0	42	3	0	0	2
1730 - 1745	0	0	14	0	0	0	0	0	0	0	0	0	0	0	1	0	37	1	0	0	0
1745 - 1800	0	0	17	0	0	0	0	0	0	0	0	0	0	0	1	0	43	3	0	0	2
1800 - 1815	0	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	28	3	0	0	0
1815 - 1830	0	1	22	1	0	0	0	0	0	0	0	0	0	0	1	0	34	2	0	0	0
1830 - 1845	0	0	15	2	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	0	1
1845 - 1900	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	22	1	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (7) High Street / B4361 South Street / B4361 Westbury Street

Approach: High Street

	S/B to B4361 South Street							Right to B4361 Westbury Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	0	8	3	0	0	0	0	0	5	1	1	0	0
0715 - 0730	1	0	5	3	0	0	0	0	0	12	5	0	0	0
0730 - 0745	2	0	2	1	0	0	0	0	0	13	6	0	0	1
0745 - 0800	1	0	2	0	1	0	0	0	0	9	7	0	0	0
0800 - 0815	2	0	7	2	0	0	0	1	0	18	8	0	0	1
0815 - 0830	0	0	14	2	0	0	0	0	0	30	9	1	0	0
0830 - 0845	0	1	22	1	1	0	0	0	0	27	5	1	1	1
0845 - 0900	0	0	21	2	2	0	2	0	1	34	9	0	0	0
0900 - 0915	0	0	9	3	0	0	0	0	0	33	8	0	1	0
0915 - 0930	0	0	19	0	0	1	0	0	0	31	8	1	0	1
0930 - 0945	2	1	17	0	0	0	0	1	0	44	6	0	0	1
0945 - 1000	1	0	14	4	1	0	0	0	0	41	8	0	0	0
	S/B to B4361 South Street							Right to B4361 Westbury Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	17	2	0	0	0	0	0	60	6	1	0	0
1615 - 1630	2	0	12	1	0	0	0	0	0	50	2	1	0	0
1630 - 1645	1	0	22	4	0	0	0	2	0	75	5	1	0	2
1645 - 1700	0	0	16	2	0	0	0	0	1	80	10	0	0	1
1700 - 1715	1	0	14	3	0	0	0	0	1	74	8	1	0	0
1715 - 1730	1	1	16	2	0	0	0	0	1	66	7	0	0	1
1730 - 1745	1	1	21	0	0	0	0	0	1	66	2	0	0	0
1745 - 1800	0	0	12	2	1	0	0	0	3	31	7	0	0	0
1800 - 1815	1	0	12	1	0	0	0	1	0	61	4	0	0	0
1815 - 1830	0	1	7	0	0	0	0	0	0	45	2	0	0	0
1830 - 1845	1	0	12	1	0	0	0	0	1	31	6	0	0	0
1845 - 1900	0	0	12	4	0	0	0	2	0	41	3	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (7) High Street / B4361 South Street / B4361 Westbury Street

Approach: B4361 South Street

	Left to B4361 Westbury Street							N/B to High Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	0	12	3	0	0	5	0	0	3	1	0	0	0
0715 - 0730	0	0	17	4	0	0	1	0	0	3	0	0	0	1
0730 - 0745	0	0	23	8	0	0	2	1	0	3	1	0	0	0
0745 - 0800	0	0	24	7	1	0	2	0	0	5	4	0	0	0
0800 - 0815	0	0	45	8	3	0	1	1	0	6	3	1	0	0
0815 - 0830	0	0	39	6	1	0	2	0	0	16	8	1	1	0
0830 - 0845	0	0	56	9	0	0	2	2	0	25	1	0	0	0
0845 - 0900	1	0	76	11	0	0	5	2	0	27	5	2	0	1
0900 - 0915	0	0	46	9	1	0	0	1	0	36	5	0	0	0
0915 - 0930	0	1	53	11	3	0	0	0	0	23	1	0	0	0
0930 - 0945	0	0	36	5	0	0	1	1	0	12	3	0	0	0
0945 - 1000	1	0	52	9	4	1	0	1	0	18	1	0	0	0
	Left to B4361 Westbury Street							N/B to High Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	2	0	71	5	1	0	2	1	0	17	1	0	0	0
1615 - 1630	0	2	73	16	1	1	0	0	0	16	1	0	0	0
1630 - 1645	1	1	74	10	1	0	4	0	0	13	1	0	0	1
1645 - 1700	1	0	61	13	0	0	1	0	2	16	4	0	0	1
1700 - 1715	0	0	84	12	0	0	2	1	0	25	0	0	0	0
1715 - 1730	3	3	76	13	1	0	1	0	0	23	0	0	0	0
1730 - 1745	0	0	89	11	0	1	3	0	1	13	2	0	0	0
1745 - 1800	0	0	87	13	1	0	1	0	0	20	4	0	0	0
1800 - 1815	1	0	77	3	1	2	0	0	0	9	1	0	0	0
1815 - 1830	0	0	55	4	1	0	0	0	0	11	1	0	0	0
1830 - 1845	0	1	60	5	1	0	1	0	1	20	1	0	0	0
1845 - 1900	1	0	47	2	0	0	0	0	0	16	4	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (7) High Street / B4361 South Street / B4361 Westbury Street

Approach: B4361 Westbury Street

	Left to High Street							Right to B4361 South Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	1	17	10	1	0	2	0	0	32	15	0	0	2
0715 - 0730	0	0	26	8	1	0	1	0	2	39	15	0	0	1
0730 - 0745	0	0	43	6	0	0	1	0	1	68	17	2	0	1
0745 - 0800	1	0	39	4	1	0	0	1	0	66	16	1	0	0
0800 - 0815	0	0	43	5	0	0	0	2	0	75	14	5	1	0
0815 - 0830	1	0	67	5	1	0	0	1	0	89	18	1	0	0
0830 - 0845	1	1	64	9	0	0	1	1	0	109	5	2	0	1
0845 - 0900	0	2	74	6	2	0	2	0	0	80	11	1	2	2
0900 - 0915	0	3	60	3	0	0	0	0	1	59	3	4	0	0
0915 - 0930	1	0	52	3	0	0	1	0	1	58	3	2	0	1
0930 - 0945	0	1	60	4	1	0	1	0	0	45	5	4	1	1
0945 - 1000	0	0	45	11	1	0	0	0	0	53	7	3	0	0
	Left to High Street							Right to B4361 South Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	1	0	44	6	0	0	0	0	0	50	5	0	0	2
1615 - 1630	0	0	36	5	0	0	1	0	0	45	8	0	1	1
1630 - 1645	0	0	39	5	0	0	0	0	0	46	6	0	0	1
1645 - 1700	0	1	37	3	1	0	0	1	0	69	7	1	0	0
1700 - 1715	1	0	54	7	0	0	1	0	1	77	6	1	1	0
1715 - 1730	0	1	58	4	1	0	0	0	0	63	5	2	0	0
1730 - 1745	1	0	62	3	0	0	0	0	0	58	6	0	0	1
1745 - 1800	0	1	56	3	0	0	0	0	0	54	4	0	2	2
1800 - 1815	0	0	52	5	0	0	0	1	0	43	2	0	0	0
1815 - 1830	0	0	35	7	0	0	0	0	0	60	1	1	0	1
1830 - 1845	0	0	35	5	0	0	1	0	1	51	3	0	0	1
1845 - 1900	0	0	35	2	0	0	0	0	0	45	3	0	2	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (8) A49 Ludlow Road / A44 / A44 Mill Street

Approach: Un-Named Road

	Left to A49 Ludlow Road							S/B to A44							Right to A44 Mill Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	1	1	0	0	0	0	0	5	1	3	1	0	0	0	3	0	1	1	0
0715 - 0730	0	0	2	0	0	0	0	0	0	7	2	0	0	0	0	0	2	1	0	0	0
0730 - 0745	0	0	3	2	0	0	0	0	0	8	1	0	1	0	0	0	4	0	0	0	0
0745 - 0800	0	0	3	1	0	0	0	0	0	11	0	0	1	0	0	0	4	0	1	1	0
0800 - 0815	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0
0815 - 0830	0	0	2	1	0	0	0	0	0	5	1	0	3	0	0	0	2	0	0	1	1
0830 - 0845	0	0	2	1	0	0	0	0	0	6	2	0	0	0	0	0	6	2	0	0	0
0845 - 0900	0	0	2	1	0	0	0	0	0	5	1	1	0	0	0	0	7	1	0	1	0
0900 - 0915	0	0	1	1	0	1	0	0	0	5	1	1	0	0	0	0	4	1	1	0	0
0915 - 0930	0	0	4	1	0	0	0	0	0	6	0	0	2	0	0	0	6	0	0	1	0
0930 - 0945	0	0	2	0	1	0	0	0	1	5	2	0	1	0	0	0	3	2	0	0	0
0945 - 1000	0	0	2	1	1	0	0	0	0	3	2	0	0	0	0	0	3	1	0	0	0
	Left to A49 Ludlow Road							S/B to A44							Right to A44 Mill Street						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	6	1	1	0	0	0	0	4	2	0	1	1	0	0	3	1	0	0	0
1615 - 1630	0	0	6	0	2	0	1	0	0	3	1	0	3	0	0	0	3	0	0	0	0
1630 - 1645	0	0	7	1	1	1	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
1645 - 1700	0	1	4	1	0	0	0	0	0	5	1	1	0	0	0	0	5	0	0	0	0
1700 - 1715	0	0	8	0	1	1	0	0	0	5	2	0	2	0	0	0	6	1	0	1	0
1715 - 1730	0	0	6	1	0	0	0	0	0	5	1	0	0	0	0	0	5	3	0	0	0
1730 - 1745	0	0	9	0	0	0	0	0	0	6	1	0	0	1	0	0	5	0	0	0	0
1745 - 1800	0	0	5	0	0	1	0	0	0	6	1	0	0	0	0	0	5	0	0	0	0
1800 - 1815	0	0	4	1	0	0	0	0	0	4	0	0	1	0	0	0	3	0	0	0	0
1815 - 1830	0	0	3	1	1	0	0	0	0	6	0	0	2	0	0	0	5	0	0	0	0
1830 - 1845	0	0	4	1	1	0	0	0	0	4	0	0	0	0	0	0	3	0	0	0	0
1845 - 1900	0	0	5	0	0	0	0	0	0	5	0	1	0	0	0	0	4	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (8) A49 Ludlow Road / A44 / A44 Mill Street

Approach: A49 Ludlow Road

	Left to A44							W/B to A44 Mill Street							Right to Un-Named Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	28	11	2	4	0	0	0	8	2	0	4	0	0	0	4	0	0	0	0
0715 - 0730	0	1	34	13	3	7	0	0	0	10	5	0	0	0	0	0	4	2	0	0	0
0730 - 0745	0	2	54	15	2	7	0	0	0	12	5	1	0	0	0	0	6	0	0	1	0
0745 - 0800	0	0	66	14	2	4	1	0	0	17	7	3	2	1	0	0	2	0	1	0	0
0800 - 0815	0	0	83	12	3	6	0	0	0	27	11	2	2	0	0	0	2	2	0	0	0
0815 - 0830	0	0	76	8	4	6	0	0	0	24	5	2	3	0	0	0	3	1	0	1	0
0830 - 0845	0	0	49	8	1	5	2	0	0	33	12	2	0	1	0	0	1	2	0	0	0
0845 - 0900	0	1	69	16	5	3	0	1	0	51	7	2	5	2	0	0	4	1	0	0	0
0900 - 0915	0	0	66	5	1	3	0	1	0	55	9	2	0	1	0	0	2	1	0	0	0
0915 - 0930	0	0	61	10	3	6	0	0	0	49	5	6	2	0	0	0	6	1	0	1	0
0930 - 0945	0	0	39	4	5	8	3	0	0	21	6	3	0	0	0	0	2	0	0	0	0
0945 - 1000	0	0	41	5	1	4	0	0	0	35	7	2	2	0	0	0	2	3	0	0	0
	Left to A44							W/B to A44 Mill Street							Right to Un-Named Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	44	14	4	5	2	0	0	35	6	0	0	0	0	0	3	1	0	0	2
1615 - 1630	0	1	49	19	1	4	0	0	0	36	2	0	1	0	0	0	4	0	0	3	0
1630 - 1645	0	0	35	17	1	0	2	0	0	49	2	1	0	0	0	0	2	0	0	0	0
1645 - 1700	0	0	54	11	3	4	0	0	0	43	7	0	1	0	0	0	3	1	0	0	0
1700 - 1715	0	0	45	16	2	5	1	0	0	32	5	0	3	0	0	0	3	1	0	0	0
1715 - 1730	0	0	58	18	2	5	1	0	0	42	5	0	0	0	0	0	4	1	0	2	0
1730 - 1745	0	0	32	9	0	5	0	0	0	20	7	1	0	0	0	0	5	0	0	0	0
1745 - 1800	0	0	43	6	0	5	0	0	0	39	1	0	1	0	0	0	3	1	0	0	0
1800 - 1815	0	1	39	3	2	3	1	0	0	34	5	0	4	0	0	0	2	0	1	0	0
1815 - 1830	0	1	36	6	1	2	1	0	2	29	3	0	0	0	0	0	3	1	0	0	0
1830 - 1845	0	0	34	5	1	2	0	0	0	22	3	0	0	1	0	0	2	0	0	0	0
1845 - 1900	0	0	29	2	0	4	0	0	1	21	2	0	2	0	0	0	6	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (8) A49 Ludlow Road / A44 / A44 Mill Street

Approach: A44

	Left to A44 Mill Street							N/B to Un-Named Road							Right to A49 Ludlow Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	6	1	3	1	1	0	0	4	0	1	0	0	0	0	21	13	3	3	2
0715 - 0730	0	0	6	4	0	8	0	0	0	5	2	0	0	0	0	0	30	9	1	3	2
0730 - 0745	0	1	12	1	2	2	0	0	0	6	0	0	1	0	0	0	31	11	1	1	0
0745 - 0800	0	1	22	8	2	0	0	0	0	3	0	2	1	0	0	0	35	13	3	5	1
0800 - 0815	0	0	18	9	0	2	0	0	0	6	1	0	0	0	0	0	25	11	0	3	0
0815 - 0830	0	0	34	3	2	3	0	0	0	5	2	0	2	2	0	0	41	14	5	2	0
0830 - 0845	1	0	34	5	2	1	0	0	0	2	2	0	1	0	0	0	26	15	3	6	0
0845 - 0900	0	0	54	10	3	3	0	0	0	2	1	0	0	0	6	0	34	14	4	4	1
0900 - 0915	0	0	40	3	2	3	0	0	0	2	1	0	1	0	0	0	34	7	1	6	1
0915 - 0930	0	0	29	8	2	3	0	0	0	5	1	0	1	0	0	0	37	17	3	2	0
0930 - 0945	0	0	29	8	4	1	0	0	0	2	0	1	0	0	0	0	26	6	2	4	0
0945 - 1000	0	1	29	3	4	4	1	0	0	3	1	0	0	0	2	0	38	12	4	4	0
	Left to A44 Mill Street							N/B to Un-Named Road							Right to A49 Ludlow Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	24	10	0	0	0	0	0	4	1	0	2	2	0	0	50	8	8	3	0
1615 - 1630	0	0	35	6	2	4	0	0	0	6	0	0	1	0	0	0	54	17	1	1	1
1630 - 1645	0	0	33	12	1	5	1	0	1	2	1	0	1	0	0	0	71	14	3	0	1
1645 - 1700	0	0	40	7	4	1	0	0	0	4	1	0	0	0	0	0	67	15	1	2	0
1700 - 1715	0	2	47	7	1	1	0	0	0	8	1	0	0	0	0	0	78	6	0	2	0
1715 - 1730	0	0	51	2	1	1	0	0	0	6	1	0	0	0	0	0	93	6	0	1	1
1730 - 1745	0	1	44	2	0	4	1	0	0	8	0	0	1	0	0	0	72	13	1	6	0
1745 - 1800	0	2	37	6	2	2	1	0	0	4	1	0	1	0	0	0	77	9	1	3	0
1800 - 1815	0	1	41	8	1	1	0	0	0	4	0	0	0	0	0	1	59	6	0	2	0
1815 - 1830	0	0	28	1	2	0	1	0	0	4	2	0	1	0	0	0	58	5	2	3	0
1830 - 1845	0	0	22	5	0	1	0	0	0	3	0	0	1	0	0	0	35	2	0	5	0
1845 - 1900	0	1	29	2	0	1	0	0	0	7	0	0	0	0	0	0	40	7	1	2	1

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (8) A49 Ludlow Road / A44 / A44 Mill Street

Approach: A44 Mill Street

	Left to Un-Named Road							E/B to A49 Ludlow Road							Right to A44						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	5	1	2	0	0	0	0	14	7	2	2	0	0	0	17	10	7	4	0
0715 - 0730	0	0	3	0	0	0	0	0	0	19	4	0	0	2	0	0	25	4	3	2	0
0730 - 0745	0	0	9	2	0	1	0	0	0	30	6	2	1	0	0	0	32	6	4	5	1
0745 - 0800	0	0	4	1	0	0	0	0	0	28	8	0	1	0	0	0	44	5	1	1	1
0800 - 0815	0	0	3	0	0	1	0	0	0	56	12	0	1	0	0	0	0	1	4	2	2
0815 - 0830	0	0	4	0	0	0	0	0	0	34	2	2	1	0	0	0	40	9	3	6	0
0830 - 0845	0	0	8	0	1	0	0	0	1	25	5	2	2	0	0	0	48	6	4	5	0
0845 - 0900	0	0	9	1	1	1	0	0	0	44	8	1	4	0	0	1	40	6	6	2	0
0900 - 0915	0	0	5	0	1	0	0	0	0	26	7	2	1	0	0	0	43	5	2	2	0
0915 - 0930	0	0	4	0	0	0	0	0	0	27	7	2	2	0	0	0	34	5	2	2	2
0930 - 0945	0	1	6	3	0	1	0	0	0	23	5	1	2	0	0	0	26	7	3	2	0
0945 - 1000	0	0	3	0	0	0	0	0	0	20	3	4	1	0	0	0	27	7	5	1	0
	Left to Un-Named Road							E/B to A49 Ludlow Road							Right to A44						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	8	2	0	0	0	0	0	26	5	1	2	0	0	0	33	7	0	6	0
1615 - 1630	0	0	4	0	2	0	0	0	0	34	3	0	2	1	0	1	45	4	0	2	0
1630 - 1645	0	0	3	2	1	2	0	0	0	40	4	1	1	0	1	0	38	8	1	1	0
1645 - 1700	0	0	6	0	0	1	0	0	0	42	6	1	0	1	0	3	27	5	1	1	0
1700 - 1715	0	0	7	1	1	0	0	0	0	52	13	1	0	0	0	0	49	9	1	5	0
1715 - 1730	0	0	5	2	0	1	0	0	0	42	10	0	2	0	0	0	56	2	2	2	0
1730 - 1745	0	0	7	1	0	0	1	0	0	64	2	1	0	0	0	0	55	5	1	0	2
1745 - 1800	0	0	6	1	0	1	0	0	0	28	4	1	3	0	0	0	47	4	3	0	0
1800 - 1815	0	0	4	0	0	1	0	0	0	29	6	0	0	0	0	0	34	3	0	4	0
1815 - 1830	0	0	3	0	0	0	0	1	0	31	2	0	1	0	0	0	24	0	0	2	0
1830 - 1845	0	0	5	0	0	0	0	0	0	29	3	0	0	0	0	0	29	0	2	0	0
1845 - 1900	0	0	2	0	0	0	0	0	1	33	2	2	0	0	0	0	22	3	2	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (9) A44 / A44 Worcester Road / A49 / Worcester Road

Approach: A44

	Left to A44 Worcester Road							S/B to A49							Right to Worcester Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	7	4	1	2	0	0	0	36	12	11	7	0	0	0	10	6	0	0	0
0715 - 0730	0	0	11	1	2	1	0	0	1	35	10	4	7	0	0	0	17	9	0	1	0
0730 - 0745	0	0	15	4	3	5	0	0	0	54	12	2	7	1	0	2	24	5	0	1	0
0745 - 0800	0	0	14	1	1	1	0	0	0	58	12	3	5	0	0	0	49	6	0	0	2
0800 - 0815	0	0	7	0	3	2	0	0	0	44	4	2	7	2	0	0	34	9	2	0	0
0815 - 0830	0	0	8	4	2	6	0	0	0	61	7	3	7	0	0	0	52	7	1	2	0
0830 - 0845	0	0	21	2	1	3	0	0	0	43	11	4	4	0	0	0	40	4	0	3	2
0845 - 0900	0	0	19	2	3	0	0	0	2	53	11	9	4	0	0	0	40	9	1	0	0
0900 - 0915	0	0	20	2	0	2	0	0	0	57	4	4	3	0	0	0	34	6	0	0	0
0915 - 0930	0	0	13	1	2	2	1	0	0	63	6	3	9	1	0	0	28	6	0	0	0
0930 - 0945	0	0	5	6	2	1	0	0	0	44	5	6	9	3	0	0	21	3	1	0	0
0945 - 1000	0	0	8	4	1	1	0	0	0	41	4	4	4	0	0	0	23	6	1	0	0
	Left to A44 Worcester Road							S/B to A49							Right to Worcester Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	21	6	1	4	0	0	0	39	11	1	8	3	0	0	23	6	1	0	0
1615 - 1630	0	0	25	2	0	1	0	0	2	41	12	2	6	0	0	0	29	9	0	2	0
1630 - 1645	0	0	14	3	1	0	1	1	0	32	19	0	1	0	0	0	28	5	1	0	1
1645 - 1700	0	1	16	1	2	0	0	0	0	40	9	1	5	0	0	1	27	7	2	0	0
1700 - 1715	0	0	18	2	1	5	0	0	0	46	14	2	4	1	0	1	35	10	0	3	0
1715 - 1730	0	0	31	3	0	1	0	0	0	53	7	4	6	1	0	0	33	10	0	0	0
1730 - 1745	0	0	29	6	0	1	2	0	0	44	7	1	2	0	0	0	26	4	0	2	1
1745 - 1800	0	0	24	1	1	0	0	0	0	45	6	2	4	0	0	0	26	3	0	1	0
1800 - 1815	0	1	11	1	0	1	0	0	0	43	3	2	5	1	0	0	20	2	0	2	0
1815 - 1830	0	0	17	1	0	2	0	0	1	37	3	1	4	0	0	0	15	3	0	0	0
1830 - 1845	0	0	12	2	1	0	0	0	0	33	3	2	2	1	0	0	25	1	0	0	0
1845 - 1900	0	0	14	3	1	0	0	0	0	24	1	2	4	0	0	0	16	1	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (9) A44 / A44 Worcester Road / A49 / Worcester Road

Approach: A44 Worcester Road

	Left to A49							W/B to Worcester Road							Right to A44						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	3	0	0	0	0	0	0	2	3	0	0	0	0	0	6	4	2	2	0
0715 - 0730	0	0	4	1	0	0	0	0	0	12	4	0	0	0	0	0	16	1	2	3	1
0730 - 0745	0	0	4	0	0	0	0	0	0	9	1	0	0	0	0	0	13	4	0	2	0
0745 - 0800	0	0	4	2	0	1	0	0	0	23	4	0	0	1	0	0	23	7	3	1	0
0800 - 0815	0	0	4	1	0	1	0	0	0	28	4	0	0	0	0	0	20	5	0	3	0
0815 - 0830	0	0	3	1	0	0	0	1	0	16	2	0	0	0	0	0	26	5	1	1	0
0830 - 0845	0	0	9	1	1	0	0	0	0	25	2	0	1	3	0	0	26	5	2	1	0
0845 - 0900	0	0	3	0	0	0	0	0	0	25	7	0	0	1	0	0	36	4	0	1	0
0900 - 0915	0	0	2	0	0	0	0	0	0	14	2	0	0	0	0	0	19	2	1	2	0
0915 - 0930	0	0	3	1	0	0	0	0	0	8	2	0	0	0	0	0	28	8	1	3	0
0930 - 0945	0	1	2	1	1	1	0	0	0	17	2	0	0	0	0	0	17	4	3	2	0
0945 - 1000	0	0	3	1	0	0	0	0	0	11	3	1	0	0	0	0	25	1	4	5	0
	Left to A49							W/B to Worcester Road							Right to A44						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	1	7	0	0	0	0	0	0	14	2	0	0	0	0	0	28	2	2	1	0
1615 - 1630	0	0	0	2	0	0	0	0	0	10	1	0	0	1	0	0	26	3	2	0	1
1630 - 1645	0	0	3	2	1	0	0	0	0	20	5	0	0	2	0	0	27	7	1	4	0
1645 - 1700	0	0	3	1	1	0	0	0	0	23	9	1	0	0	0	0	25	3	2	0	0
1700 - 1715	0	0	3	1	0	2	0	0	0	19	5	0	0	0	0	0	32	4	0	0	0
1715 - 1730	0	0	4	1	0	0	0	1	0	8	1	0	0	0	0	0	32	1	0	0	0
1730 - 1745	0	0	2	0	0	0	0	0	2	20	5	0	1	1	0	0	28	1	1	2	0
1745 - 1800	0	0	5	0	0	0	0	0	0	6	4	0	0	0	0	0	21	0	2	2	0
1800 - 1815	0	0	3	0	0	1	0	0	0	13	3	0	1	0	0	1	20	3	1	2	0
1815 - 1830	0	2	3	1	0	0	0	0	0	10	1	0	0	0	0	0	26	2	1	0	1
1830 - 1845	0	0	1	0	0	0	0	0	0	8	1	0	0	0	0	0	13	6	0	1	0
1845 - 1900	0	0	2	0	0	0	0	0	0	11	0	0	0	0	0	0	19	1	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (9) A44 / A44 Worcester Road / A49 / Worcester Road

Approach: A49

	Left to Worcester Road							N/B to A44							Right to A44 Worcester Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	9	4	0	2	0	0	0	21	4	4	2	2	0	0	2	4	0	0	0
0715 - 0730	0	0	10	6	1	1	0	0	0	18	7	0	6	0	0	0	12	3	0	0	0
0730 - 0745	0	0	10	4	0	0	0	0	0	20	4	2	2	0	0	0	9	3	2	0	0
0745 - 0800	0	1	20	9	1	2	0	0	1	27	11	4	5	0	0	0	14	4	0	0	0
0800 - 0815	0	0	12	7	1	0	0	0	0	22	11	0	1	0	0	0	17	6	0	0	0
0815 - 0830	0	0	27	6	0	0	0	0	0	35	9	6	3	2	0	0	15	4	1	1	1
0830 - 0845	0	0	25	8	5	1	0	0	0	25	12	1	6	0	0	0	11	2	0	1	2
0845 - 0900	0	0	31	2	4	2	0	6	0	32	16	5	5	0	0	0	15	6	0	0	0
0900 - 0915	0	0	17	5	2	0	0	0	0	42	4	2	7	1	0	0	14	2	0	0	0
0915 - 0930	0	0	17	2	1	3	0	0	0	31	12	3	3	0	0	0	11	1	2	1	0
0930 - 0945	1	0	8	3	2	1	0	0	1	33	7	3	3	0	0	0	10	2	1	0	0
0945 - 1000	0	0	17	5	4	0	0	2	0	33	10	3	2	0	0	0	16	6	1	0	0
	Left to Worcester Road							N/B to A44							Right to A44 Worcester Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	19	8	1	0	0	0	0	33	12	5	2	2	0	0	19	0	0	0	0
1615 - 1630	0	0	19	5	2	1	0	0	0	50	16	0	6	0	0	0	17	3	0	1	1
1630 - 1645	0	0	9	4	2	0	0	0	1	52	11	2	3	2	0	0	16	4	0	0	0
1645 - 1700	0	0	16	3	2	0	0	0	0	59	12	3	3	0	0	0	18	4	0	0	0
1700 - 1715	0	0	18	4	0	0	0	0	0	49	2	0	1	0	0	0	23	3	0	1	0
1715 - 1730	0	0	21	5	0	0	0	0	0	75	6	0	2	0	0	0	19	2	0	0	0
1730 - 1745	0	0	20	5	1	0	0	0	0	53	9	1	7	2	0	0	20	3	1	0	0
1745 - 1800	0	1	17	4	0	0	0	0	3	70	9	1	5	1	0	0	16	0	0	0	0
1800 - 1815	0	0	17	2	1	0	0	0	2	66	8	0	0	0	0	0	20	2	0	0	0
1815 - 1830	0	0	15	3	1	0	0	0	0	47	4	3	4	0	0	0	18	1	0	0	0
1830 - 1845	0	0	13	1	0	0	0	0	0	34	1	0	6	0	0	0	10	0	0	0	0
1845 - 1900	0	0	10	0	1	0	0	0	1	39	6	1	3	1	0	0	12	1	1	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (10) A49 / B4361 Hereford Road

Approach: A49 (North)

	Left to Un-Named Road							S/B to A49 (South)							Right to B4361 Hereford Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	2	0	0	0	0	0	1	30	23	10	10	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	1	56	18	5	7	0	0	0	0	0	0	0	0
0730 - 0745	0	0	4	1	0	0	0	0	1	64	18	3	8	0	0	0	0	0	0	0	0
0745 - 0800	0	0	8	1	0	0	0	0	0	84	32	6	8	2	0	0	0	1	0	0	0
0800 - 0815	1	0	3	1	0	0	0	0	0	76	9	2	7	1	0	0	0	0	0	0	0
0815 - 0830	0	0	2	0	0	0	0	0	0	96	12	5	9	0	0	0	1	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	96	18	7	4	1	0	0	1	0	1	0	0
0845 - 0900	0	0	0	1	0	0	0	0	0	71	17	8	4	0	0	0	1	0	0	0	0
0900 - 0915	1	0	2	0	0	0	0	0	1	73	10	7	7	1	0	0	3	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	68	13	3	8	0	0	0	0	0	0	0	0
0930 - 0945	0	0	1	0	0	1	0	0	1	71	15	11	10	1	0	0	1	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	64	12	8	6	2	0	0	0	1	0	0	0
	Left to Un-Named Road							S/B to A49 (South)							Right to B4361 Hereford Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	0	0	1	71	17	2	11	4	0	0	0	1	0	0	0
1615 - 1630	0	0	0	0	0	0	0	1	0	78	20	4	7	0	0	0	1	0	1	0	0
1630 - 1645	0	0	0	0	0	0	0	0	1	72	24	2	1	0	0	0	0	1	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	76	19	3	6	1	0	0	1	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	1	1	100	21	1	4	1	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	74	12	2	5	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	102	14	3	7	1	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	1	71	11	2	3	0	0	0	0	0	0	0	0
1800 - 1815	0	0	1	0	0	0	0	0	0	73	5	0	11	1	0	0	1	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	2	66	7	2	3	0	0	0	1	0	0	1	0
1830 - 1845	0	1	2	0	0	0	0	0	0	57	7	1	2	1	0	0	0	0	0	0	0
1845 - 1900	0	0	2	0	0	0	0	0	0	44	4	2	5	0	0	0	0	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (10) A49 / B4361 Hereford Road

Approach: Un-Named Road

	Left to A49 (South)							W/B to B4361 Hereford Road							Right to A49 (North)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	0	2	0	0	0	0	1	0	5	0	0	0	0	0	0	3	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
0745 - 0800	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
0800 - 0815	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left to A49 (South)							W/B to B4361 Hereford Road							Right to A49 (North)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	1	2	1	0	1	0	0	0	4	0	0	0	0	0	0	3	2	0	0	0
1615 - 1630	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0
1630 - 1645	0	0	2	0	0	0	0	0	0	1	1	0	0	0	0	0	3	1	0	0	0
1645 - 1700	0	0	4	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0
1700 - 1715	0	0	4	1	0	1	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0
1715 - 1730	0	0	3	0	0	0	0	0	0	1	0	0	0	0	1	0	5	0	0	0	0
1730 - 1745	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0
1745 - 1800	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
1815 - 1830	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (10) A49 / B4361 Hereford Road

Approach: A49 (South)

	Left to B4361 Hereford Road							N/B to A49 (North)							Right to Un-Named Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	11	1	0	0	1	0	0	30	15	4	4	2	0	0	4	0	0	0	0
0715 - 0730	0	0	13	3	0	0	2	0	0	41	14	2	6	0	0	0	2	0	0	0	0
0730 - 0745	0	0	20	10	1	0	2	0	1	38	13	4	5	0	0	0	1	1	0	0	0
0745 - 0800	0	0	35	13	2	0	0	0	1	57	25	4	4	0	0	1	5	4	0	1	0
0800 - 0815	0	0	41	7	1	1	2	0	0	53	20	2	2	0	0	0	4	0	0	1	0
0815 - 0830	0	0	71	5	2	0	2	0	0	73	20	7	4	3	0	0	2	1	0	0	0
0830 - 0845	0	0	40	12	2	0	3	6	0	64	22	5	8	2	0	0	3	1	0	0	0
0845 - 0900	0	0	34	6	0	0	2	0	0	80	21	8	6	0	0	0	1	0	0	0	0
0900 - 0915	0	0	47	5	0	0	3	0	0	67	12	3	5	1	0	0	2	0	0	0	0
0915 - 0930	0	0	25	8	2	0	0	0	0	65	15	5	9	0	0	0	0	0	0	0	0
0930 - 0945	0	0	40	11	2	0	1	2	1	51	14	6	4	0	0	0	1	0	0	0	0
0945 - 1000	0	0	32	11	3	1	0	0	0	66	18	8	2	0	0	0	3	0	0	0	0
	Left to B4361 Hereford Road							N/B to A49 (North)							Right to Un-Named Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	55	9	2	0	0	0	0	71	20	5	2	2	0	0	0	0	0	0	0
1615 - 1630	0	1	80	8	2	0	1	0	0	83	19	1	7	1	0	0	0	0	0	0	0
1630 - 1645	1	2	55	5	0	0	3	0	1	69	17	5	3	2	0	0	1	0	0	0	0
1645 - 1700	0	0	53	8	1	0	1	0	0	90	19	4	3	0	0	0	0	0	0	0	0
1700 - 1715	0	0	64	7	0	0	1	0	1	86	12	1	3	0	0	0	0	0	0	0	0
1715 - 1730	0	0	58	11	0	0	1	1	0	109	13	0	2	0	0	0	2	0	0	0	0
1730 - 1745	1	0	77	7	0	0	1	0	0	91	16	2	6	2	0	0	0	0	0	1	0
1745 - 1800	0	0	64	15	1	0	0	0	5	110	12	0	5	1	0	0	0	0	0	0	0
1800 - 1815	1	0	61	1	0	0	1	0	1	102	12	1	1	0	0	0	0	0	0	1	0
1815 - 1830	0	0	39	3	0	0	0	0	0	76	8	4	4	0	0	0	0	1	0	0	0
1830 - 1845	0	0	44	6	1	0	1	0	1	57	3	2	5	0	0	0	1	0	0	0	0
1845 - 1900	0	0	31	5	0	0	0	0	0	59	6	2	3	1	0	0	1	0	0	0	0

Leominster - Manual Traffic Survey, Tuesday 30th June 2009

Junction: (10) A49 / B4361 Hereford Road

Approach: B4361 Hereford Road

	Left to A49 (North)							E/B to Un-Named Road							Right to A49 (South)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	9	0	2	0
0715 - 0730	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	2	40	7	0	2	1
0730 - 0745	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	49	14	0	0	1
0745 - 0800	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	57	8	0	0	2
0800 - 0815	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	1	53	8	0	0	1
0815 - 0830	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	49	6	1	0	1
0830 - 0845	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	41	10	0	0	0
0845 - 0900	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	49	5	1	1	2
0900 - 0915	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	40	3	3	0	4
0915 - 0930	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	36	3	4	0	4
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	41	6	0	0	2
0945 - 1000	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	41	5	0	0	2
	Left to A49 (North)							E/B to Un-Named Road							Right to A49 (South)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	8	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	6	0	0	0
1630 - 1645	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	38	12	0	0	1
1645 - 1700	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	32	7	3	0	1
1700 - 1715	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	59	6	0	0	1
1715 - 1730	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	58	5	2	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	2	1	0	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	2	0	0	0
1800 - 1815	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	37	5	1	0	2
1815 - 1830	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	31	3	1	0	1
1830 - 1845	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	34	1	0	0	0
1845 - 1900	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	33	0	0	0	1

Leominster - Manual Traffic Survey, Thursday 8th October 2009

Junction: (11) Buckfield Road / Barons Cross Road

Approach: Buckfield Road

	Left to Barons Cross Road (East)							Right to Barons Cross Road (West)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	1	1	20	2	1	0	0	0	0	0	0	0	0	0
0715 - 0730	1	0	24	6	1	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	26	2	0	0	0	0	0	1	1	0	0	0
0745 - 0800	0	1	35	8	0	0	1	0	0	3	0	0	0	0
0800 - 0815	0	0	25	3	0	0	0	0	0	1	0	0	0	0
0815 - 0830	0	0	34	2	0	0	1	0	0	0	0	0	0	0
0830 - 0845	0	0	51	2	0	0	1	0	0	0	0	0	0	0
0845 - 0900	0	0	34	4	0	0	1	0	0	1	0	0	0	0
0900 - 0915	0	0	13	2	0	0	0	0	0	2	0	0	0	0
0915 - 0930	1	0	20	1	0	0	1	0	0	2	1	0	0	0
0930 - 0945	0	0	33	2	1	0	0	0	0	1	0	0	0	0
0945 - 1000	0	0	27	2	0	0	1	0	0	1	0	0	0	0
	Left to Barons Cross Road (East)							Right to Barons Cross Road (West)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	1	17	1	0	0	0	0	0	1	0	0	0	0
1615 - 1630	1	0	22	1	1	0	1	0	0	3	0	0	0	1
1630 - 1645	0	0	18	4	0	0	1	0	0	3	1	0	0	0
1645 - 1700	0	0	17	4	0	0	1	0	0	3	1	0	0	0
1700 - 1715	0	0	21	3	0	0	1	0	0	1	0	0	0	0
1715 - 1730	0	0	19	3	0	0	1	0	0	0	0	0	0	0
1730 - 1745	0	0	23	2	0	0	0	0	0	2	0	0	0	0
1745 - 1800	0	0	26	4	0	0	0	0	0	1	1	0	0	0
1800 - 1815	0	0	18	4	0	0	1	0	0	1	0	0	0	0
1815 - 1830	0	0	13	3	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	31	0	0	0	0	0	0	3	0	0	0	0
1845 - 1900	0	0	30	1	0	0	0	0	0	2	0	0	0	0

Leominster - Manual Traffic Survey, Thursday 8th October 2009

Junction: (11) Buckfield Road / Barons Cross Road

Approach: Barons Cross Road (East)

	W/B to Barons Cross Road (West)							Right to Buckfield Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	35	11	2	2	3	0	0	1	1	0	0	0
0715 - 0730	0	1	49	19	1	4	3	0	0	6	1	0	0	0
0730 - 0745	0	0	63	28	7	3	3	0	0	7	0	0	0	0
0745 - 0800	0	1	74	15	3	5	3	0	0	10	2	0	0	0
0800 - 0815	0	0	110	24	3	4	3	0	0	8	3	0	0	0
0815 - 0830	0	0	108	22	6	3	3	0	0	9	2	0	0	0
0830 - 0845	0	0	109	23	9	4	3	0	0	10	2	0	0	0
0845 - 0900	0	0	113	17	4	4	0	0	0	15	1	0	0	0
0900 - 0915	1	1	101	12	6	6	1	0	0	15	2	0	0	1
0915 - 0930	0	1	103	14	3	8	1	0	0	9	1	0	0	0
0930 - 0945	0	0	99	9	8	8	0	0	0	9	1	0	0	0
0945 - 1000	0	1	96	13	6	6	1	0	0	7	5	0	0	0
	W/B to Barons Cross Road (West)							Right to Buckfield Road						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	2	132	20	3	5	2	1	0	18	1	1	0	0
1615 - 1630	0	1	160	18	2	10	1	0	1	22	1	0	0	0
1630 - 1645	0	0	158	10	4	2	2	0	0	18	6	0	0	0
1645 - 1700	0	0	156	13	5	3	3	0	0	19	7	0	0	0
1700 - 1715	0	1	177	12	4	3	1	0	0	38	4	0	0	0
1715 - 1730	2	1	186	15	4	3	0	0	0	46	3	0	0	0
1730 - 1745	0	1	175	23	3	6	0	2	0	41	8	0	0	0
1745 - 1800	0	1	150	23	2	3	1	0	0	25	9	1	0	1
1800 - 1815	0	1	153	23	1	5	2	0	0	34	6	0	0	0
1815 - 1830	0	1	107	10	0	0	1	0	0	24	1	0	0	0
1830 - 1845	0	0	96	12	4	3	0	1	1	32	4	0	0	0
1845 - 1900	0	0	101	5	1	0	0	0	0	14	3	0	0	0

Leominster - Manual Traffic Survey, Thursday 8th October 2009

Junction: (11) Buckfield Road / Barons Cross Road

Approach: Barons Cross Road (West)

	Left to Buckfield Road							E/B to Barons Cross Road (East)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	0	1	0	0	0	0	0	44	15	4	5	0
0715 - 0730	0	0	0	0	0	0	0	0	0	58	18	5	7	1
0730 - 0745	0	0	1	0	0	0	0	1	3	87	25	2	4	0
0745 - 0800	0	0	1	1	0	0	0	0	1	86	24	7	8	2
0800 - 0815	0	0	2	0	0	0	0	0	1	95	18	4	4	1
0815 - 0830	0	0	1	0	0	0	0	0	0	121	18	5	5	1
0830 - 0845	0	0	1	0	0	0	0	0	0	135	20	6	5	1
0845 - 0900	0	0	1	0	0	0	0	0	1	153	15	7	3	2
0900 - 0915	0	0	1	0	1	0	0	0	0	125	14	6	9	0
0915 - 0930	0	0	1	0	0	0	1	0	1	120	8	5	0	1
0930 - 0945	0	0	1	0	0	0	0	0	0	106	13	7	5	0
0945 - 1000	0	0	2	1	0	0	0	0	1	110	9	5	5	1
	Left to Buckfield Road							E/B to Barons Cross Road (East)						
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
1600 - 1615	0	0	1	0	0	0	0	0	4	131	19	4	8	2
1615 - 1630	0	0	2	0	0	0	0	0	0	112	17	4	7	2
1630 - 1645	0	0	3	0	0	0	0	0	0	125	19	5	6	1
1645 - 1700	0	0	2	0	0	0	0	0	0	132	26	6	6	1
1700 - 1715	0	0	0	0	0	0	0	0	1	138	16	2	4	3
1715 - 1730	0	0	3	0	0	0	0	0	3	142	14	0	2	5
1730 - 1745	0	0	1	0	0	0	0	0	1	118	17	0	4	0
1745 - 1800	0	0	6	0	0	0	0	1	0	137	17	1	1	1
1800 - 1815	0	0	1	0	0	0	0	0	1	114	10	1	5	0
1815 - 1830	0	0	4	1	0	0	0	0	3	109	9	1	1	1
1830 - 1845	0	0	0	0	0	0	0	2	0	105	13	0	2	2
1845 - 1900	0	1	0	0	0	0	0	0	0	87	8	2	1	0

Waterman Boreham
Transport Planning

1st Issue

OPTION TESTING REPORT

for

LAND SOUTH OF LEOMINSTER

on behalf of

MOSAIC ESTATES

R/209605
6th April 2010

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Title:	Option Testing Report
Project:	Land South of Leominster
Client:	Mosaic Estates
Issue:	1st Issue
Project No.	R/209605

Prepared by: Ross Ferrington pp Ross Ferrington Date 6th April 2010

Checked by: James Duffy Date 6th April 2010

Authorised for issue by Carl Tonks Date 6th April 2010

Contents

Appendices

1. MODELS DEFINITION

Future Year Scenario

1.1 This model uses the Future Year Scenario matrices discussed in the forecasting report. For the purposes of this model it has been assumed that the timings of the Bargates traffic signal junction will remain the same as those in Base 2009.

Development Scenario

1.2 This model uses the Development Scenario matrices discussed in the forecasting report. The development scenario incorporates the new link road from A44 Baron's Cross Road to B4361 Hereford Road. An additional zone 31 has been added to the middle of the link road to represent the new development site.

1.3 The development is shown accessing the link road via a new roundabout. The junction of Cholstrey Road / A44 Baron's Cross Road / Monkland Road has been changed to a roundabout which connects the link road to the existing network, and another new roundabout has been added to allow the link road to connect to the existing network at Hereford Road.

1.4 A Linsig model was undertaken for the Bargates signal junction using turning counts provided by the Paramics model. The maximum timings provided by this model were fed back into the final Paramics model used for batch runs.

2. DATA COLLECTION

2.1 For each model a comparison has been undertaken of journey times & network statistics. The journey times compared are those used in the base model in its validation (see *Appendix 1*).

- From Broad Street / Mill Street roundabout to Cursneh Road by the signalised junction.
- From Cursneh Road by the signalised junction to Morrison's / Baron's Cross Road roundabout.
- From Southern Avenue / Worcester Road roundabout to Dishley Street by the signalised junction.
- From Dishley Street by the signalised junction to Morrison's / Baron's Cross Road roundabout.
- From Morrison's / Baron's Cross Road roundabout to Dishley Street by the signalised junction.
- From Dishley Street by the signalised junction to Southern Avenue / Worcester Road roundabout.
- From Morrison's / Baron's Cross Road roundabout to Cursneh Road by the signalised junction.
- From Cursneh Road by the signalised junction to Broad Street / Mill Street roundabout.

2.2 The network statistics comparison was against the 2009 base, which was compared against average delay per vehicle, total distance all the vehicles travel in metres, total number of vehicles entering the model, average speed of each vehicle & the average journey time to take each vehicle to get to their destination (see *Appendix 2*).

3. RESULTS

3.1 **AM Peak - Future Year Scenario**, all 8 journey times increased against the Base 2009. The worst affected were Morrison's to Cursneh Road and Morrison's to Dishley Street which are 266 and 358 seconds longer compared with the base 2009. The network statistics show that the average speed reduced from 18mph to 9mph throughout the model and average journey increased to 5 minutes 07 seconds compared to the Base 2009 which was 2 minutes 42 seconds. The mean delays increased from 161 seconds to 339 seconds per vehicle.

3.2 **PM Peak – Future Year Scenario**, all 8 journey times increased against the Base 2009. The worst affected were Southern Avenue to A44 Bargates and Morrison's to Dishley Street which are 1123 and 305 seconds longer compared to Base 2009. The network statistics show that the average speed reduced from 17mph to 3mph throughout the model and average journey increased to 12 minutes 35 seconds compared to the Base 2009 which was 2 minutes 53 seconds. The mean delays increased from 172 seconds to 915 seconds per vehicle.

3.3 **Implications of Background Growth** – The comparison results show that the additional background traffic growth is predicted to cause a significant worsening in delays by 2026. This is emphasised by the mean delay results which show an increase of 111% in mean delays when compared with the Base 2009 results in the AM Peak, and an increase of 432% in mean delays when compared with the Base 2009 results in the PM Peak.

3.4 **AM Peak – Development Scenario**, 3 out of 8 journey times increased compared to Base 2009 the worst affected were Southern Avenue to A44 Bargates by 14 seconds, Cursenh Road to Morrison's by 2 seconds and Southern Avenue to Dishley Street by 2 second. Journey times which improved were Morrison's to Dishley by 33 seconds compared to the base and Morrison's to Cursneh Road by 11 seconds. The network statistics show that the average speed increased from 18mph to 23mph throughout the model and average journey time decreased to 2 minutes 38 seconds compared to the base 2009 which was 2 minutes 42 seconds. The mean delays decreased from 161 seconds to 157 seconds per vehicle.

3.5 **PM Peak – Development Scenario**, 6 out of 8 journey times increased compared to Base 2009 the worst affected were Dishley Street to Morrison's by 38, Cursneh Road to Morrison's by 38 and Morrison's to Dishley Street by 38. Journey times which improved were Southern Avenue to A44 Bargates by 60 seconds compared to the base and Cursneh Road to Broad Street 14 seconds. The network statistics show that the average speed increased from 17mph to 19mph throughout the model and average journey increased to 3 minutes 10 seconds compared to the

base 2009 which was 2 minutes 53 seconds. The mean delays increased from 172 seconds to 189 seconds per vehicle.

3.6 **Implications of Development and Link Road –** The comparison results show that whilst the Development Scenario in some cases shows an increase in delays from the Base scenario, the results are a significant improvement on the Future Year Scenario. This is emphasised by the mean delay results which show a reduction of 2% in mean delays when compared with the Base 2009 results in the AM Peak, and only a slight increase of 10% in mean delays when compared with the Base 2009 results in the PM Peak.

Appendices

APPENDIX 1

Journey Times Comparisons

Leominster
Journey Times Comparsion

30/03/2010

Broad Street To Morrisons

	Modelled		Comparsion Against Base 2009	
	Split at Bargates Signals (s)	Split at Morrisons (s)	Split at Bargates Signals (s)	Split at Morrisons (s)
AM Base 2009	130	95	0	0
AM Future Year Scenario	135	111	5	16
AM Development Scenario	128	96	-2	2
PM Base 2009	162	110	0	0
PM Future Year Scenario	418	293	256	182
PM Development Scenario	180	148	18	38

Morrisons To Broad Street

	Modelled		Comparsion Against Base 2009	
	Split at Bargates Signals (s)	Split at Broad Street (s)	Split at Bargates Signals (s)	Split at Broad Street (s)
AM Base 2009	136	60	0	0
AM Future Year Scenario	402	62	266	2
AM Development Scenario	125	58	-11	-2
PM Base 2009	133	83	0	0
PM Future Year Scenario	315	110	183	26
PM Development Scenario	147	69	14	-14

Southern Avenue To Morrisons

	Modelled		Comparsion Against Base 2009	
	Split at Bargates Signals (s)	Split at Morrisons (s)	Split at Bargates Signals (s)	Split at Morrisons (s)
AM Base 2009	248	95	0	0
AM Future Year Scenario	257	111	9	16
AM Development Scenario	262	96	14	2
PM Base 2009	337	110	0	0
PM Future Year Scenario	1461	293	1123	182
PM Development Scenario	277	148	-60	38

Morrisons To Southern Avenue

	Modelled		Comparsion Against Base 2009	
	Split at Bargates Signals (s)	Split at Southern Avenue (s)	Split at Bargates Signals (s)	Split at Southern Avenue (s)
AM Base 2009	206	189	0	0
AM Future Year Scenario	564	196	358	7
AM Development Scenario	173	184	-33	-5
PM Base 2009	193	189	0	0
PM Future Year Scenario	498	197	305	8
PM Development Scenario	231	189	38	1

APPENDIX 2

Network Statistics Comparison

Network Statistics for Leominster Network

AM

Model	Mean Delay (s)	Total		Mean Speed (mph)	Average Journey Time (mm:ss)
		Distance (m)	No. Vehicles		
Base 2009	161.28	13558863	10337	18.23	02:42
Future Year Scenario	338.92	15315876	11385	8.92	05:07
Development Scenario	156.89	24235161	15260	22.65	02:38

PM

Model	Mean Delay (s)	Total		Mean Speed (mph)	Average Journey Time (mm:ss)
		Distance (m)	No. Vehicles		
Base 2009	171.96	16343766	12273	17.43	02:53
Future Year Scenario	914.92	16901491	12651	3.37	12:35
Development Scenario	188.54	29553454	18150	19.35	03:10