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# LAND NORTH OF WEST ROAD, SAWBRIDGEWORTH

Scoping Report

17/07/2014

# Quality Management

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# Land North of West Road, Sawbridgeworth

## Scoping Report

17/07/2014

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## Table of Contents

1	Introduction.....	5
2	Existing Site and Surrounding Transport Infrastructure .....	5
3	Road Safety.....	6
4	Development Proposals & Access.....	6
5	Trip Generation and Distribution.....	7
6	Committed Development .....	8
7	Traffic Impact.....	8
8	Transport Planning Policy.....	9
9	Conclusion.....	9
10	Appendices.....	10

# 1 Introduction

- 1.1.1 This Scoping Report has been prepared by WSP to provide Hertfordshire County Council with the scope of the Transport Assessment that is to be submitted in support of a planning application for a residential development of approximately 100 dwellings on land north of West Road, Sawbridgeworth. The Transport Assessment work will also take into account the application for the site south of West Road and will be worked in conjunction with the TA work for that site to provide a combined approach.
- 1.1.2 This report sets out the main chapter headings and the parameters that are proposed to be used as part of the assessment work being carried out.
- 1.1.3 The TA is to be produced in accordance with the Department of Transport 'Guidance on Transport Assessments' (March 2007).
- 1.1.4 The Introduction will provide details of the proposal, the historic discussions/ applications that have occurred at the site and the report format.

# 2 Existing Site and Surrounding Transport Infrastructure

## 2.1 Site Location & Accessibility

- 2.1.1 This section will provide a review of the local and surrounding highway network. A site location plan is identified in **Appendix A**.
- 2.1.2 The site is identified in the East Herts Draft District Plan as SAWB2 Land North of West Road for 100 dwellings. The policy measures identified in the Draft District Plan that are pertinent in highways terms include;
  - (a) *Sustainable transport measures including the encouragement of walking and cycling, and enhanced passenger transport services;*
  - (b) *An enhanced public footpath and cycleway for West Road to enable direct pedestrian and cycle access to Mandeville School and Leventhorpe School;*
  - (c) *The setting aside of 1.2ha of land (to the west of the existing school buildings) to facilitate the expansion of Mandeville School to 2 forms of entry, including the provision of a new access route;*
- 2.1.3 This site is situated opposite land to the south of West Road also identified in the Local Plan as SAWB3 Land South of West Road which is to allocate in the region of 300 dwellings. The TA will be prepared by WSP who will liaise with Odyssey Markides, transport consultants working on behalf of Barratt Homes for this site.
- 2.1.4 The site is an agricultural field located adjacent to a brook that runs in a north-south alignment on the western boundary and it surrounds part of Mandeville Primary School which is to the eastern side of the site. To the north is a public right of way and grounds associated with Leventhorpe Secondary school, to the north east the site is bounded by Sawbridgeworth Town football club.
- 2.1.5 Information will be provided regarding the existing pedestrian facilities available to access the site and also accessibility by cycle. The site benefits from being within walking/ cycling distances of a range of local facilities in the local area and also has links to existing public rights of way which will

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be enhanced as part of this application and also ensure links are provided between SAWB2 & SAWB3.

- 2.1.6 Accessibility by public transport is also covered in this section. West Road is currently served by 'Sawbo Bus' route C and stops adjacent to Mandeville Primary School. This service provides links to the town centre and High Wych village on an hourly basis Monday to Saturday. In addition other bus routes are accessible from London Road approximately 450m from the proposed site boundary. Further details of these services will be included in the TA.
- 2.1.7 Sawbridgeworth rail station is located to the eastern side of Sawbridgeworth approximately 1.2km from the site boundary. Details of how this station can be accessed by foot/cycle and bus will be identified in the TA.
- 2.1.8 Details of the bus, train services and routes will be provided including walking and cycling catchment plans.
- 2.1.9 Details of the local road network will also be included and the following traffic surveys:
  - ATC on West Road close to the proposed site access recording daily flows and traffic speeds.
  - Cambridge Road A1184/ Station Road/ West Road – double mini roundabout
  - London Road A1184/ Brook Road.
  - Bonks Hill A1184/ High Wych Road.
- 2.1.10 In addition to the above a parking beat survey is also to be carried out along West Road replicating the survey undertaken by Odyssey Markides in 2012.
- 2.1.11 The above junction counts and the parking survey are due to be carried out week commencing 8<sup>th</sup> September 2014.
- 2.1.12 In addition to the above, it is intended to obtain details from the local authority in terms of existing movements made by pupils attending the Mandeville Primary School. This information would provide the catchment area of the school and also how pupils travel to the school. This information will then be used to calculate the likely increase in numbers associated with the 2-stage school. If this information is not available then the TRICS database will be used for similar sized schools.

### 3 Road Safety

- 3.1.1 This section provides a review of Personnel Injury Accident data over a five year period. The assessment will also consider whether there are any highway design related incidents that would need to be addressed as part of the development proposals.

### 4 Development Proposals & Access

- 4.1.1 The proposal is to develop in the region of 100 dwellings on land north of West Road.
- 4.1.2 The proposed level of parking will be advised in the TA together with a review against the parking standards provided by Hertfordshire County Council.
- 4.1.3 Access to the site is to be taken from West Road in the form of a priority junction arrangement. The visibility from the access has been based on the 85<sup>th</sup> percentile speed measurements taken from the ATC that was positioned on West Road. A copy of the proposed site access is provided in **Appendix B** and a copy of the ATC data is included in **Appendix C**.

- 4.1.4 The visibility splays have been calculated using Table 7.1 in Manual for Streets which is applicable for residential streets and where the 85<sup>th</sup> percentile speeds are below 40mph. The recorded 85<sup>th</sup> percentile speed was 26mph eastbound and 26mph westbound.
- 4.1.5 Access for pedestrians will be made via the provision of 2m wide footways accessing the site. Links to the existing public rights of way that abut the site boundary will be enhanced to allow connections to local schools and facilities. Further details of these measures will be provided in the TA.
- 4.1.6 As part of the proposed development, land will be made available to extend the existing Mandeville Primary School and also provide a drop off/ pick up area which will reduce the number of vehicles parking along West Road.
- 4.1.7 Pedestrian and cycle links will be made to the existing provision and also to the proposed links identified as part of the site to the south of West Road.

## 5 Trip Generation and Distribution

- 5.1.1 This section will identify the predicted traffic generation associated with the development proposal and the distribution of development traffic on the local highway network.
- 5.1.2 The trip generation of the residential development has been based on TRICS database for other similar developments or similar size and location. The parameters used are as follows;
- Residential – Mixed Private / Non-Private Housing
  - Sites located in the South East, North and Leinster
  - Range 65 – 250 dwellings
  - Car ownership 1.1-2.0
- 5.1.3 The above sites identify a car ownership of 1.1 to 2.0. In order to ensure that this is representative of the local area, the 2011 Census database has been used. The development falls within the Sawbridgeworth Ward. The table below identifies the number of cars owned per household and the number of households within this ward.

**Table 5.1 – Sawbridgeworth Ward – Car ownership**

<b>Number of Cars owned</b>	5371
<b>Number of Households</b>	3587
<b>Car ownership per household</b>	1.5

- 5.1.4 Restricting the parameters in the TRICS database limits the number of available sites to 5. The resultant trip rates from these sites are provided in the table below. A copy of the TRICS data is included in **Appendix D**.

**Table 5.2 –TRICS Residential Trip Rates and predicted Trip Generation for 100 dwellings**

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
<b>Trip Rate</b>	0.126	0.376	0.502	0.412	0.243	0.655
<b>No. Trips</b>	12	38	50	41	24	65

- 5.1.5 The above table predicts that with a development of 100 dwellings there is likely to be in the region of 50 two-way trips in the AM Peak and 65 two-way trips in the PM Peak.
- 5.1.6 The above trip rates are comparable to those submitted by Odyssey Markides for the proposed 350 dwelling to the south of West Road. For continuity the trip rates proposed for the site to the south of West Road could also be applied to this site.

## 5.2 Traffic Distribution

- 5.2.1 The distribution of traffic will be based upon the Census journey to work for the residents of Sawbridgeworth. The results show that 86% of residents work in the East of England with 40% working in Hertfordshire and 46% in Essex.
- 5.2.2 Based on this information it is assumed that 100% of the traffic will travel east of the site towards London Road and then 58% will travel south and 42% will travel north. Of those that travel south 7% will travel along High Wych Road and 22% are considered to continue south to junction 7 of the M11, the remainder travel through Harlow/ A414 west.

# 6 Committed Development

- 6.1.1 The Transport assessment will include the impact of the potential development south of West Road and also any committed developments that are identified in the local area that are likely to have an impact on A1184.

# 7 Traffic Impact

## 7.1 Traffic Growth

- 7.1.1 The TA will consider the full housing allocation (400 dwellings) for the local area which is identified in the District plan which covers the period to 2031. In addition the TA will consider any committed developments within the local area. Whilst it is not considered appropriate to include any further growth beyond the site allocations and committed developments onto the local road network, it would be appropriate to include growth on the strategic road network i.e. A1184.

- 7.1.2 The growth rates will be based on 2015 to 2025 – 10 years post submission of a planning application, using the TEMPRO growth factors adjusted to remove the housing element identified for Sawbridgeworth, the growth rates are as follows;
- |      |                    |           |
|------|--------------------|-----------|
| (i)  | AM Peak 2015-2025  | - 1.03728 |
| (ii) | PM Peak 2015 –2025 | - 1.03905 |
- 7.1.3 The growth will only apply to traffic that is on A1184 passing through Sawbridgeworth and not to local traffic joining it. A copy of the TEMPRO output is included in **Appendix E**.

## 7.2 Capacity Assessments

- 7.2.1 As part of the TA it is proposed that the following junctions will be assessed;
- Site Access
  - West Road/ A1184 London Road/ Station Road
  - London Road A1184/ Brook Road.
  - Bonks Hill A1184/ High Wych Road
- 7.2.2 These junctions will be assessed using the relevant computer programme which includes the PICADY 5 and ARCADY 6 computer programmes. The assessments include Weekday AM and Peak periods for a base year of 2014 and future assessment year of 2024 (ten years from submission of the planning application).
- 7.2.3 The existing double mini roundabout junction will be reviewed to see if a signalised junction arrangement can be effectively accommodated at this location and improve capacity. This will be modelled using the LINSIG computer software.

## 8 Transport Planning Policy

- 8.1.1 The TA will include reference to the following central and local planning policies that are applicable to the development proposal.
- National Planning Policy Framework (NPPF)
  - East Herts Draft District Plan
  - Hertfordshire County Council Local Transport Plan

## 9 Conclusion

- 9.1.1 A summary of the report's findings will be provided in this section together with a conclusion of those findings.

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## 10 Appendices

Appendix A – Site Location Plan

Appendix B – Proposed Access Arrangements

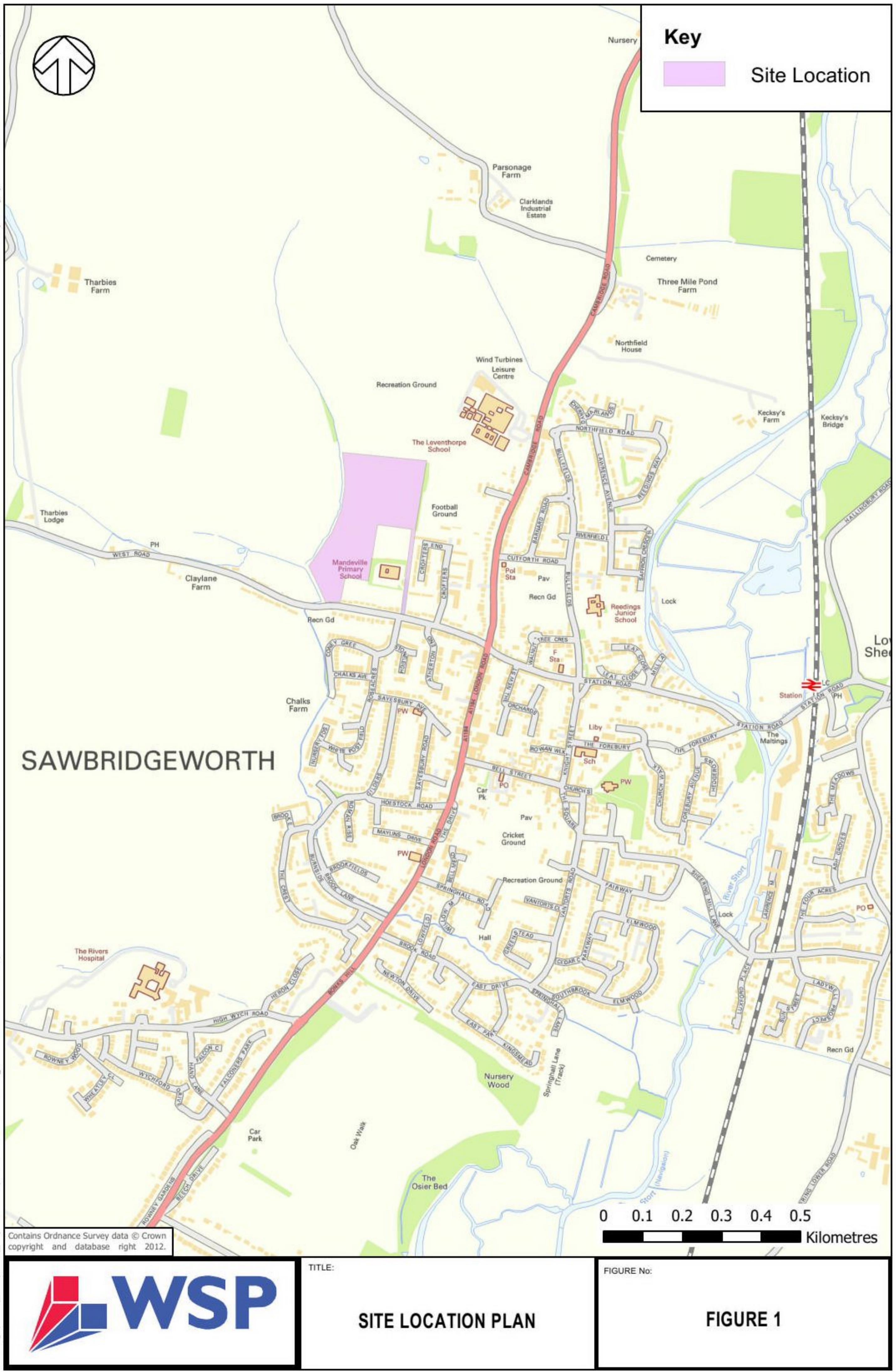
Appendix C – ATC Data

Appendix D – TRICS Output data

Appendix E – TEMPRO output

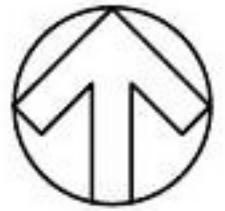
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## Appendix A – Site Location Plan

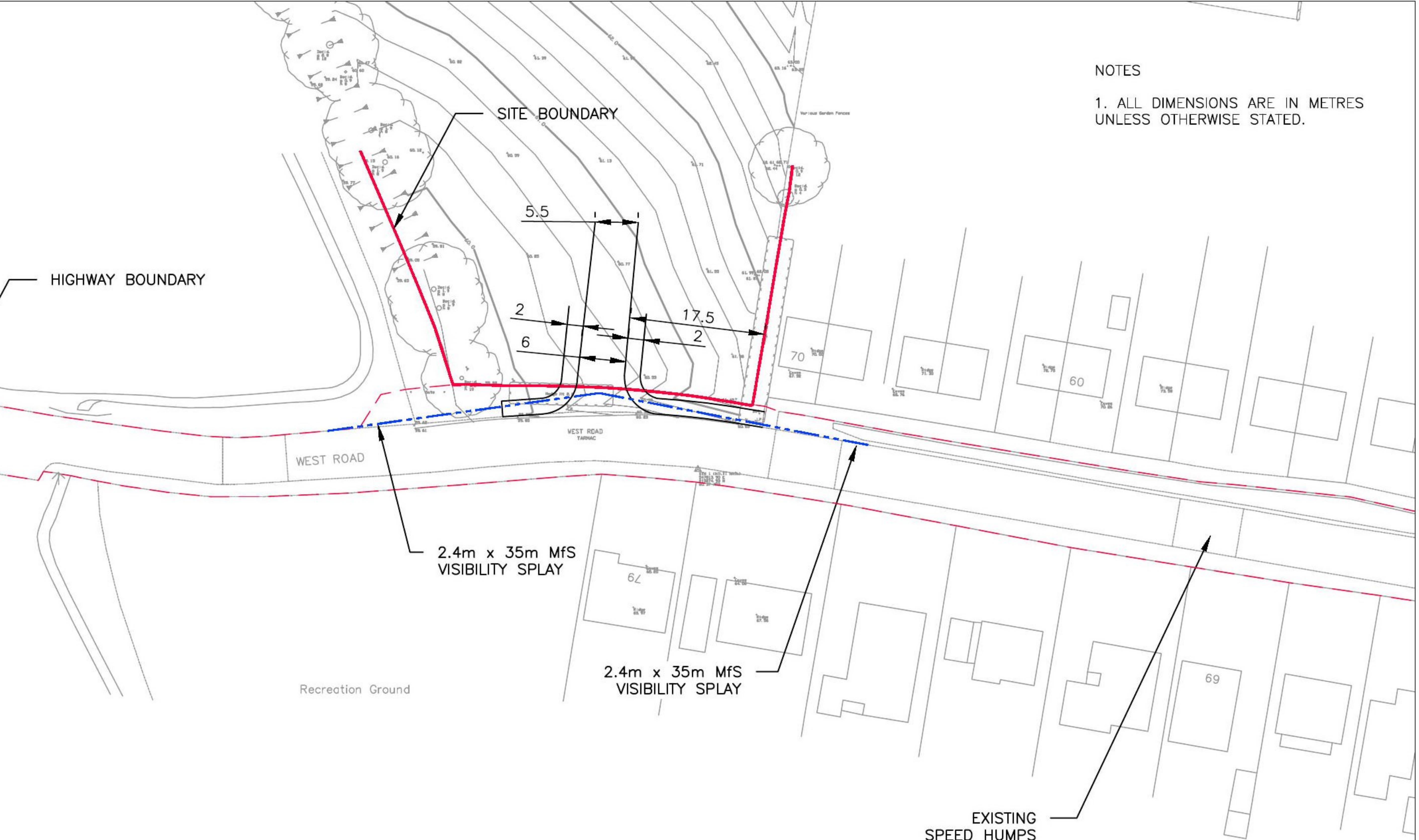


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## Appendix B – Proposed Access Arrangements



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A	FIRST ISSUE	PP	ISSUED FOR	MRA	BRP
REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS:					
FOR INFORMATION ONLY					

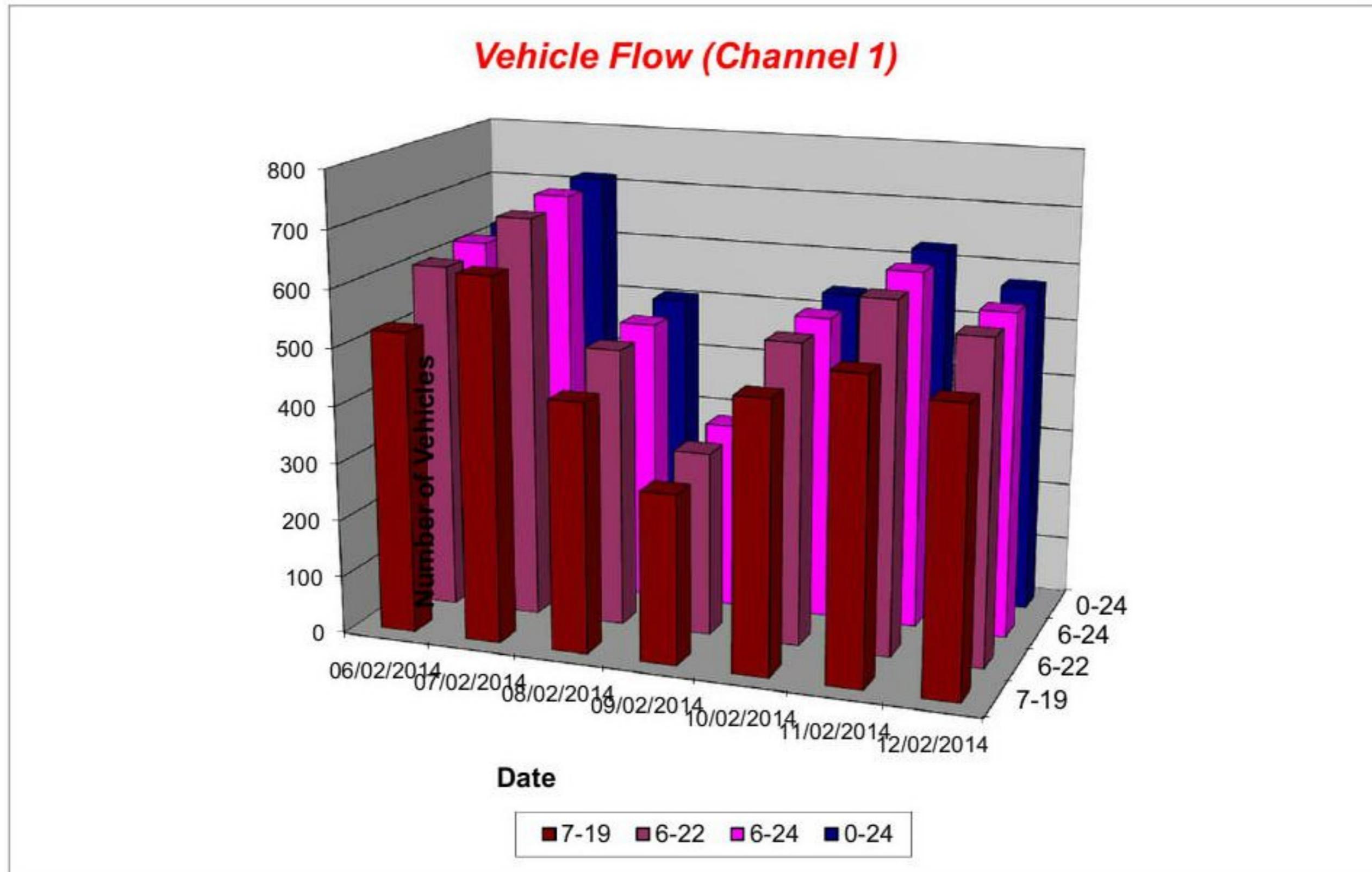
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## Appendix C – ATC Data

## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Channel 1 - Westbound								Vehicle Flow		Week 1	
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday	5 Day Ave	7 Day Ave		
1	0	1	2	3	2	0	1	1	1	1	
2	0	0	5	1	1	2	1	1	1	1	
3	0	0	2	0	0	0	0	0	0	0	
4	1	0	1	2	1	1	2	1	1	1	
5	1	1	0	0	1	1	1	1	1	1	
6	3	3	1	0	3	3	4	3	3	2	
7	14	9	2	1	12	14	12	12	12	9	
8	53	43	13	6	33	59	40	46	46	35	
9	50	81	30	7	50	54	59	59	59	47	
10	50	47	25	20	46	47	49	48	48	41	
11	36	66	30	26	27	39	30	40	40	36	
12	52	64	65	29	44	41	31	46	46	47	
13	50	71	54	36	36	48	48	51	51	49	
14	36	51	52	31	31	38	35	38	38	39	
15	34	37	41	32	39	32	39	36	36	36	
16	54	45	43	30	41	59	51	50	50	46	
17	40	51	28	36	51	39	36	43	43	40	
18	35	34	20	14	37	35	36	35	35	30	
19	35	42	33	27	34	32	36	36	36	34	
20	33	32	28	7	21	39	38	33	33	28	
21	21	18	12	11	16	20	14	18	18	16	
22	13	8	9	7	6	12	5	9	9	9	
23	7	10	7	3	6	6	4	7	7	6	
24	6	3	3	3	1	8	2	4	4	4	
7-19	525	632	434	294	469	523	490	528	481		
6-22	606	699	485	320	524	608	559	599	543		
6-24	619	712	495	326	531	622	565	610	553		
0-24	624	717	506	332	539	629	574	617	560		



## Sawbridgeworth ATC, West Road

### Data Presentation by 360 TSL

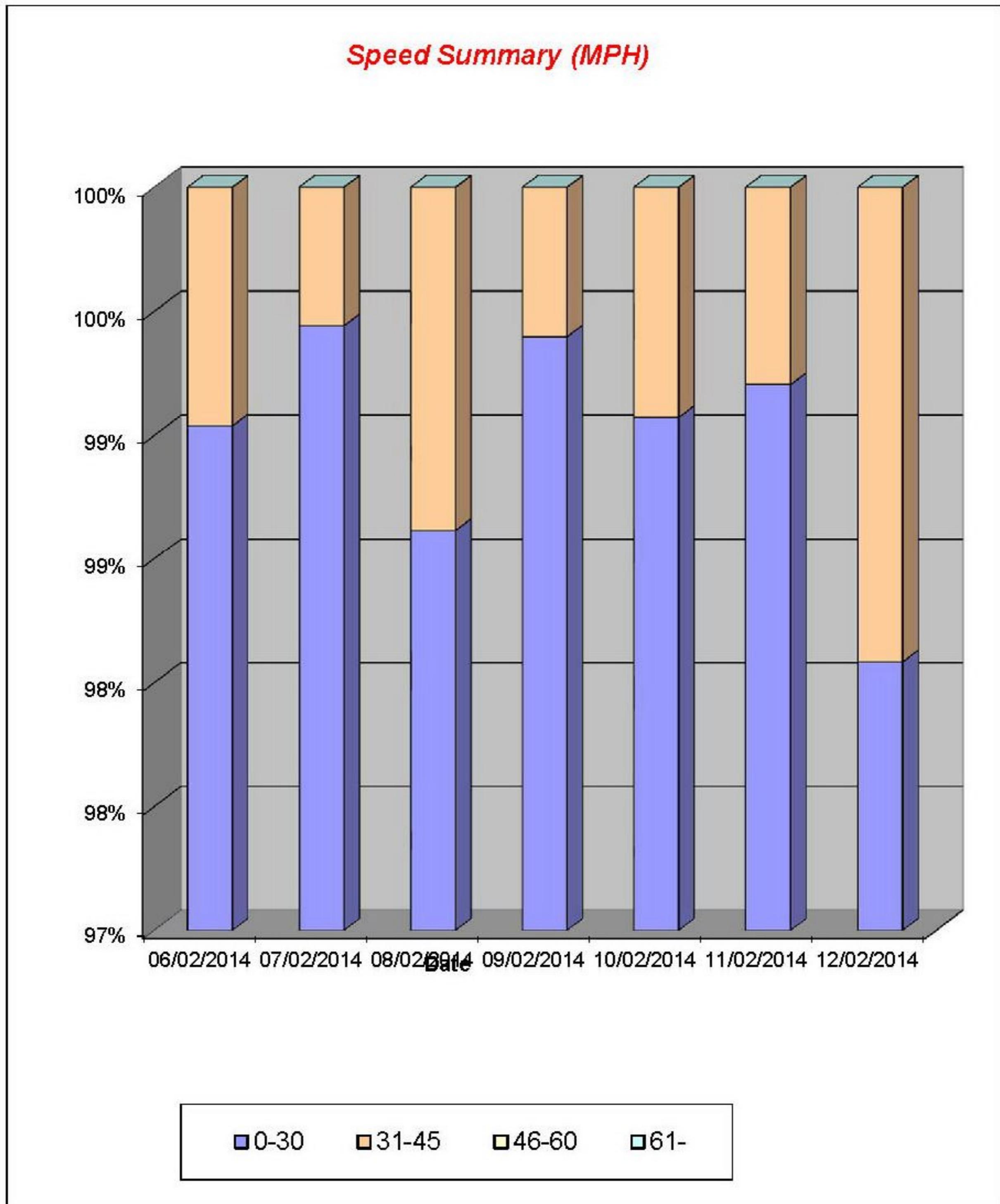
	Channel 1 - Westbound				Average Speed		Week 1
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday
1	-	25.5	25.5	15.5	25.5	-	25.5
2	-	-	15.4	25.5	15.5	33.0	25.5
3	-	-	15.5	-	-	-	-
4	25.5	-	15.5	20.5	15.5	25.5	20.5
5	25.5	15.5	-	-	25.5	25.5	15.5
6	15.5	15.5	15.5	-	15.5	15.5	20.5
7	23.4	22.2	29.2	25.5	23.0	22.6	22.2
8	21.2	20.4	24.5	22.1	22.2	20.8	20.8
9	19.7	18.2	20.8	21.2	21.3	20.1	21.2
10	20.9	17.9	21.1	20.5	20.4	20.6	18.9
11	20.8	16.6	20.8	22.0	20.3	21.4	22.4
12	19.5	18.4	18.4	20.3	19.7	19.6	22.7
13	18.5	18.7	21.8	21.9	19.7	19.4	18.0
14	20.2	19.4	21.2	20.0	21.0	21.5	20.3
15	20.2	19.5	20.9	19.9	21.7	19.2	19.6
16	20.4	20.6	20.4	19.9	21.8	20.2	20.1
17	20.0	21.1	21.2	19.9	22.3	19.8	19.9
18	19.7	19.9	21.9	21.8	20.1	20.3	19.3
19	19.9	21.0	20.0	20.3	21.7	20.1	20.6
20	19.4	18.5	19.4	22.6	22.4	19.9	18.9
21	21.2	18.8	18.8	19.1	21.1	21.0	17.6
22	21.7	17.9	17.6	24.1	22.2	20.5	23.5
23	22.6	22.5	19.8	18.8	23.8	23.8	20.5
24	23.8	18.8	18.8	25.5	15.5	24.2	20.5
10-12	20.0	17.5	19.2	21.1	20.0	20.5	22.5
14-16	20.4	20.1	20.6	19.9	21.8	19.9	19.9
0-24	20.2	19.1	20.5	20.7	21.2	20.4	20.2
						7 Day Ave	20.3

	Channel 1 - Westbound				85th Percentile		
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday
1	-	-	25.8	15.8	25.6	-	-
2	-	-	25.5	-	-	33.0	-
3	-	-	15.8	-	-	-	-
4	-	-	-	26.1	-	-	25.8
5	-	-	-	-	-	-	-
6	16.1	16.1	-	-	15.7	16.0	26.3
7	25.8	26.1	33.9	-	26.0	26.3	25.8
8	25.8	25.8	26.5	25.9	25.8	25.6	26.2
9	26.3	25.8	25.9	25.6	26.1	25.7	25.8
10	25.5	26.3	25.8	26.1	26.0	26.2	25.6
11	26.3	26.3	25.7	26.2	25.7	26.0	25.5
12	26.3	26.1	25.7	26.4	26.4	25.9	25.8
13	26.2	26.5	26.1	26.3	26.2	25.6	26.3
14	25.5	26.4	25.9	25.5	26.0	26.2	25.8
15	25.9	25.7	25.9	26.0	25.9	26.4	25.7
16	26.4	26.2	26.2	26.4	25.6	26.0	26.0
17	26.3	26.5	25.8	25.9	26.3	25.6	25.8
18	25.9	25.7	26.1	26.2	26.0	26.3	25.8
19	26.5	26.0	25.7	26.0	26.3	25.9	25.5
20	26.4	25.6	25.7	26.0	26.1	26.0	26.0
21	25.6	26.5	26.1	26.0	26.3	26.0	25.7
22	26.4	26.2	25.6	25.9	25.5	25.7	26.4
23	25.9	25.5	26.0	25.9	25.7	25.8	26.1
24	26.0	26.1	26.4	25.8	-	25.6	26.3
10-12	26.3	25.6	25.8	25.6	25.6	26.1	26.4
14-16	25.6	25.6	26.3	25.7	25.8	25.7	25.8
0-24	26.1	26.3	25.9	26.5	25.6	26.4	26.0
						7 Day Ave	26.1

## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Speed (MPH)	Channel 1 - Westbound							Speed Summary	Week 1
	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday		
0-30	618	713	499	330	534	624	563		
31-45	6	4	7	2	5	5	11		
46-60	0	0	0	0	0	0	0		
61+	0	0	0	0	0	0	0		
<b>TOTAL</b>	<b>624</b>	<b>717</b>	<b>506</b>	<b>332</b>	<b>539</b>	<b>629</b>	<b>574</b>		

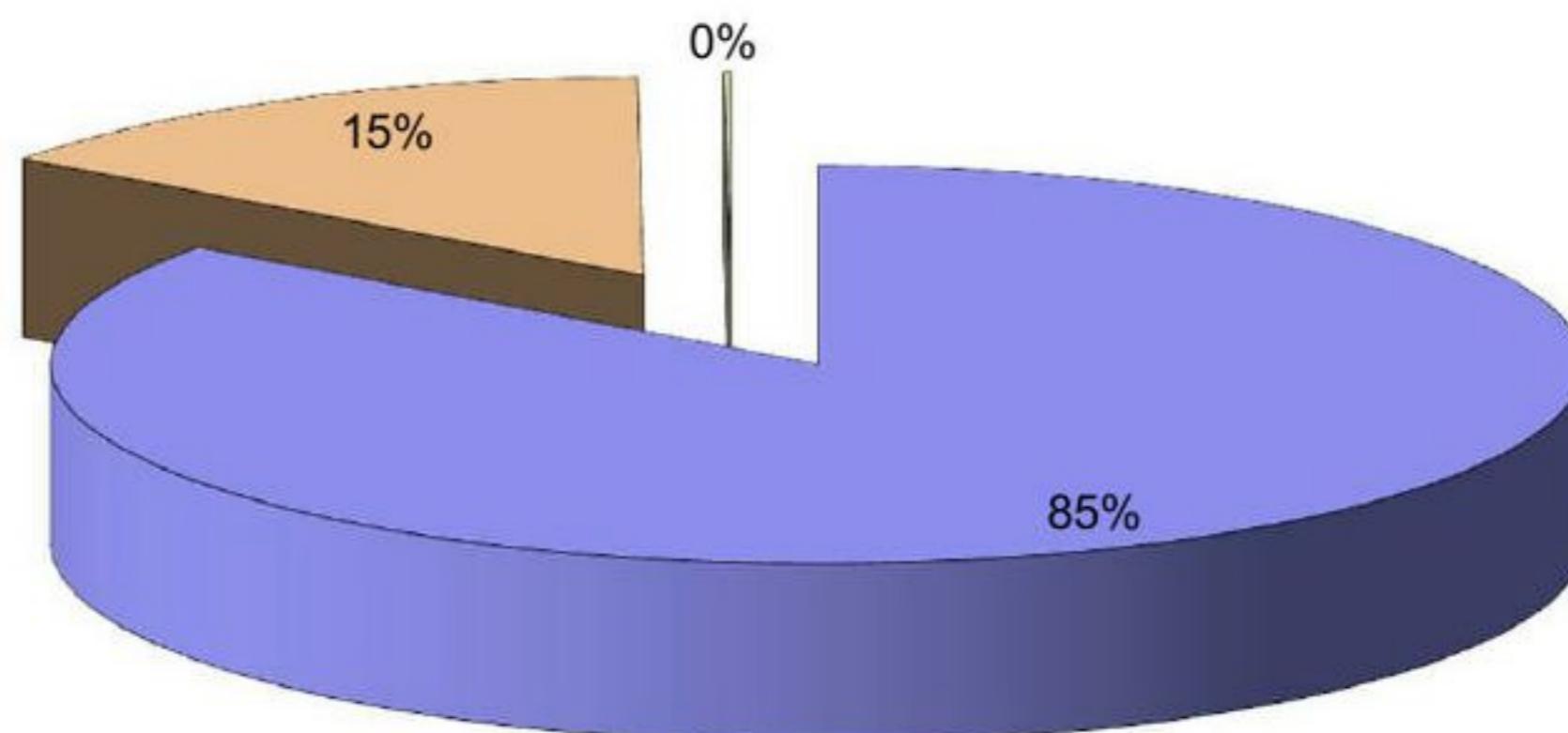


## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Channel 1 - Westbound		Vehicle Class		Week 1
Day / Time \ Classes	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13
06/02/2014				
7-19	430	95	0	525
6-22	504	102	0	606
6-24	517	102	0	619
0-24	521	103	0	624
07/02/2014				
7-19	530	101	1	632
6-22	588	110	1	699
6-24	600	111	1	712
0-24	604	112	1	717
08/02/2014				
7-19	390	44	0	434
6-22	433	52	0	485
6-24	443	52	0	495
0-24	449	57	0	506
09/02/2014				
7-19	268	26	0	294
6-22	292	28	0	320
6-24	297	29	0	326
0-24	302	30	0	332
10/02/2014				
7-19	385	82	2	469
6-22	434	88	2	524
6-24	441	88	2	531
0-24	448	89	2	539
11/02/2014				
7-19	440	83	0	523
6-22	518	90	0	608
6-24	532	90	0	622
0-24	536	91	2	629
12/02/2014				
7-19	397	93	0	490
6-22	461	98	0	559
6-24	467	98	0	565
0-24	473	101	0	574
Average				
7-19	406	75	0	481
6-22	461	81	0	543
6-24	471	81	0	553
0-24	476	83	1	560

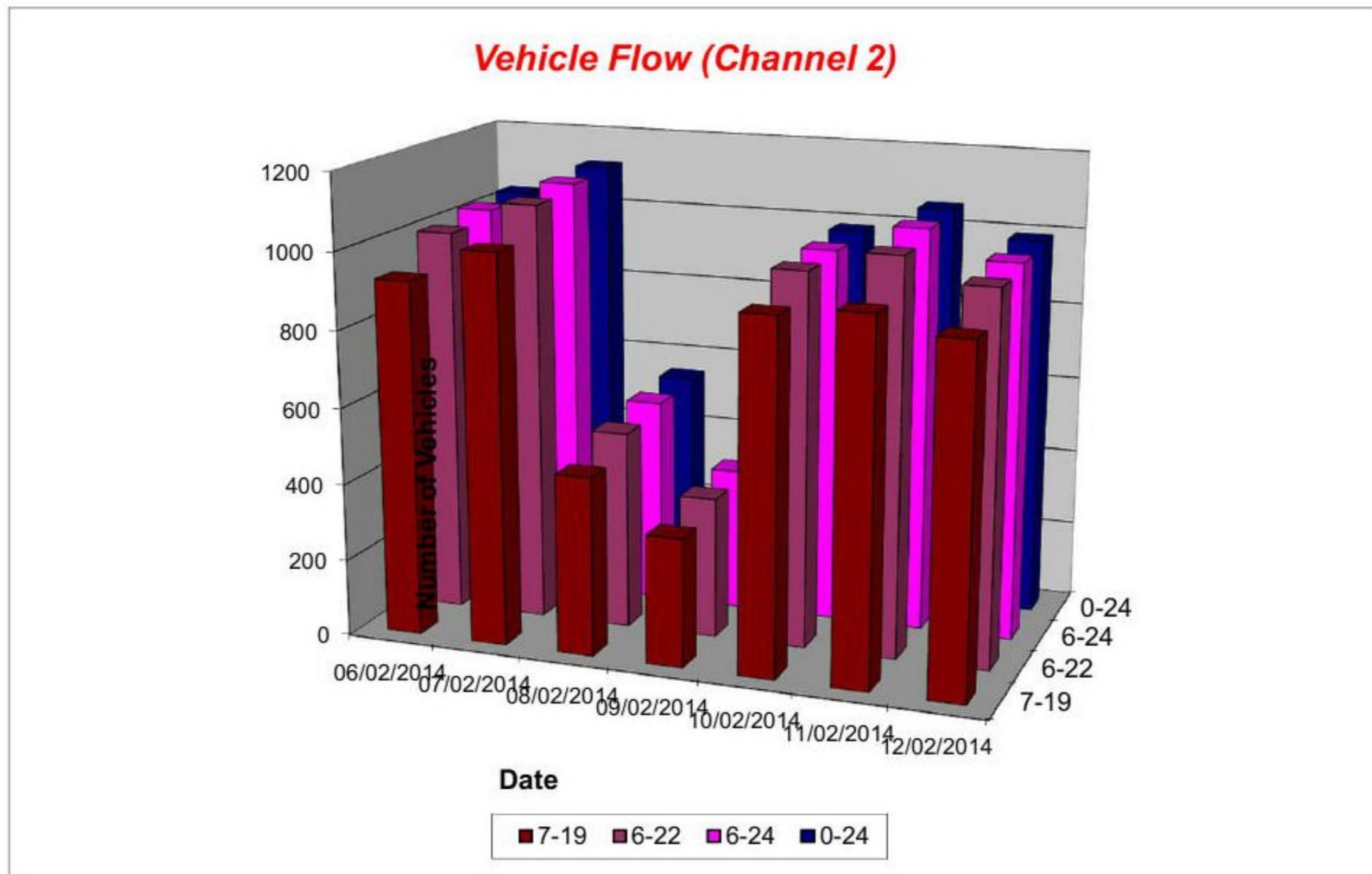
Total Vehicle Class Distribution



## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Channel 2 - Eastbound								Vehicle Flow		Week 1	
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday	5 Day Ave	7 Day Ave		
1	0	2	2	8	2	0	1	1	2		
2	0	1	3	1	1	0	2	1	1		
3	0	1	1	1	0	0	0	0	0		
4	1	0	1	0	0	2	1	1	1		
5	1	0	0	0	1	1	3	1	1		
6	6	4	3	1	3	5	4	4	4		
7	10	4	5	0	5	13	9	8	7		
8	43	36	7	2	25	42	33	36	27		
9	117	131	30	11	119	115	107	118	90		
10	35	108	36	16	40	40	40	53	45		
11	33	71	48	27	25	38	35	40	40		
12	49	60	55	34	42	45	50	49	48		
13	36	54	57	37	47	39	39	43	44		
14	52	60	42	41	38	53	54	51	49		
15	53	52	48	49	50	49	57	52	51		
16	104	112	36	35	91	117	91	103	84		
17	130	128	36	40	122	134	127	128	102		
18	177	128	40	18	217	179	167	174	132		
19	94	72	30	24	94	81	90	86	69		
20	45	44	18	15	31	49	39	42	34		
21	16	17	19	14	14	19	8	15	15		
22	8	12	8	3	10	11	18	12	10		
23	16	10	10	3	5	17	11	12	10		
24	5	7	12	3	2	7	3	5	6		
7-19	923	1012	465	334	910	932	890	933	781		
6-22	1002	1089	515	366	970	1024	964	1010	847		
6-24	1023	1106	537	372	977	1048	978	1026	863		
0-24	1031	1114	547	383	984	1056	989	1035	872		



## Sawbridgeworth ATC, West Road

### Data Presentation by 360 TSL

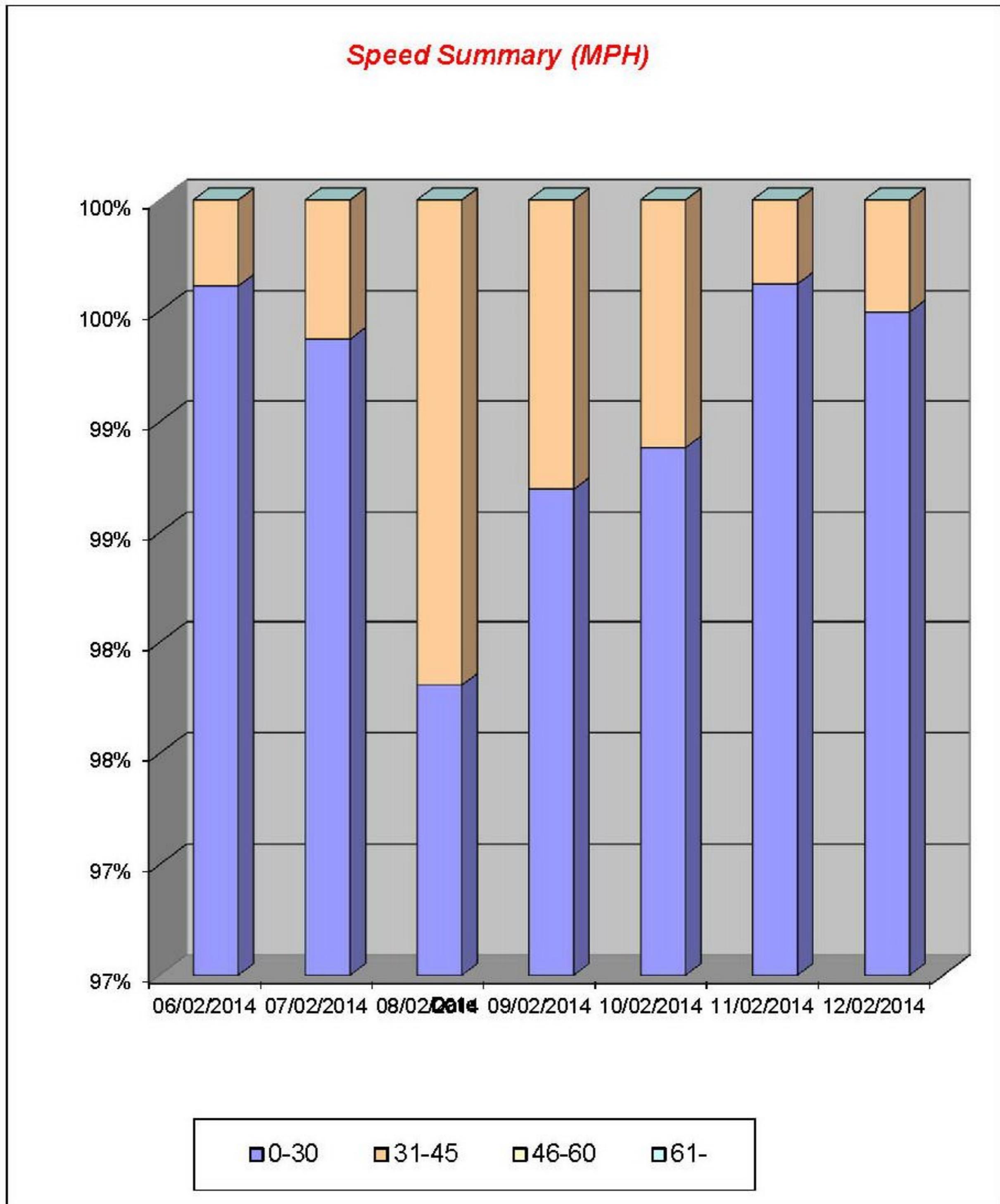
	Channel 2 - Eastbound				Average Speed		Week 1
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday
1	-	20.5	20.5	18.0	20.5	-	15.5
2	-	15.5	18.8	25.5	15.5	-	15.5
3	-	15.5	15.5	15.5	-	-	-
4	15.5	-	15.5	-	-	15.5	25.5
5	25.5	-	-	-	15.5	25.5	22.2
6	17.2	18.0	15.5	15.5	15.5	17.5	15.5
7	23.5	20.5	23.0	-	23.5	22.4	23.3
8	20.8	18.6	21.2	25.5	22.3	20.7	20.3
9	21.1	18.1	20.8	24.4	20.7	20.8	20.9
10	20.1	18.3	21.5	18.6	21.6	20.0	20.0
11	21.0	17.8	20.1	21.3	22.7	19.7	20.4
12	20.8	19.6	20.6	21.1	21.4	20.8	20.6
13	22.1	18.5	22.5	19.0	21.2	20.8	21.8
14	21.3	19.7	22.5	20.1	20.8	21.3	21.1
15	19.8	19.5	20.0	21.8	22.2	19.8	19.9
16	21.7	18.7	19.2	21.8	20.6	21.6	21.6
17	19.9	20.3	22.4	19.5	20.5	20.2	19.8
18	19.3	19.9	20.5	17.7	19.2	19.3	19.1
19	20.7	20.8	21.3	22.2	20.9	20.4	20.4
20	19.9	20.9	18.8	22.2	22.4	19.6	19.1
21	21.4	20.1	18.1	21.8	21.8	20.5	25.2
22	18.0	19.7	20.5	22.2	20.5	19.1	17.7
23	19.2	19.5	16.5	21.3	17.5	19.0	21.0
24	17.5	16.9	19.7	24.7	20.5	16.9	28.0
10-12	20.9	18.6	20.4	21.2	21.9	20.3	20.5
14-16	21.1	19.0	19.7	21.8	21.2	21.1	21.0
0-24	20.5	19.2	20.7	20.7	20.6	20.3	20.3
						7 Day Ave	20.3

	Channel 2 - Eastbound				85th Percentile		
Hr Ending	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday
1	-	25.8	26.0	25.9	25.6	-	-
2	-	-	25.7	-	-	-	16.1
3	-	-	-	-	-	-	-
4	-	-	-	-	-	15.8	-
5	-	-	-	-	-	-	26.0
6	25.9	26.2	16.1	-	16.0	25.6	15.7
7	26.5	25.7	33.8	-	26.0	26.0	26.4
8	25.6	25.9	25.7	26.1	26.5	26.3	25.9
9	26.4	26.0	26.3	26.2	25.7	26.3	25.8
10	26.1	26.3	25.7	25.5	25.9	25.8	26.3
11	25.8	26.0	26.5	25.9	25.9	26.5	25.7
12	25.6	25.9	25.6	25.9	25.8	26.3	25.9
13	26.0	26.0	25.6	25.8	26.0	26.2	25.7
14	25.7	25.7	26.3	26.5	25.6	26.4	26.4
15	26.5	26.1	25.9	26.3	26.0	26.4	26.1
16	25.6	26.0	26.0	26.2	26.5	25.9	25.9
17	25.5	26.2	25.6	25.9	26.1	25.6	25.9
18	25.8	26.4	25.8	26.2	26.4	26.5	26.4
19	26.0	25.9	25.7	25.8	26.2	26.3	26.1
20	26.4	25.8	25.5	25.9	25.9	26.2	26.4
21	26.0	25.8	26.2	25.9	26.2	25.9	26.0
22	25.9	25.7	26.0	26.4	25.6	25.5	25.8
23	26.3	26.0	16.6	33.1	26.3	25.7	26.4
24	26.3	17.0	25.7	33.6	26.2	17.0	33.3
10-12	26.2	26.1	26.0	25.8	26.0	26.0	25.8
14-16	26.2	25.9	26.2	25.6	25.7	25.9	25.7
0-24	26.5	26.4	26.3	25.7	25.7	25.6	25.8
						7 Day Ave	26.0

## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Speed (MPH)	Channel 2 - Eastbound							Speed Summary	Week 1
	06/02/2014 Thursday	07/02/2014 Friday	08/02/2014 Saturday	09/02/2014 Sunday	10/02/2014 Monday	11/02/2014 Tuesday	12/02/2014 Wednesday		
0-30	1027	1107	535	378	973	1052	984		
31-45	4	7	12	5	11	4	5		
46-60	0	0	0	0	0	0	0		
61+	0	0	0	0	0	0	0		
<b>TOTAL</b>	<b>1031</b>	<b>1114</b>	<b>547</b>	<b>383</b>	<b>984</b>	<b>1056</b>	<b>989</b>		

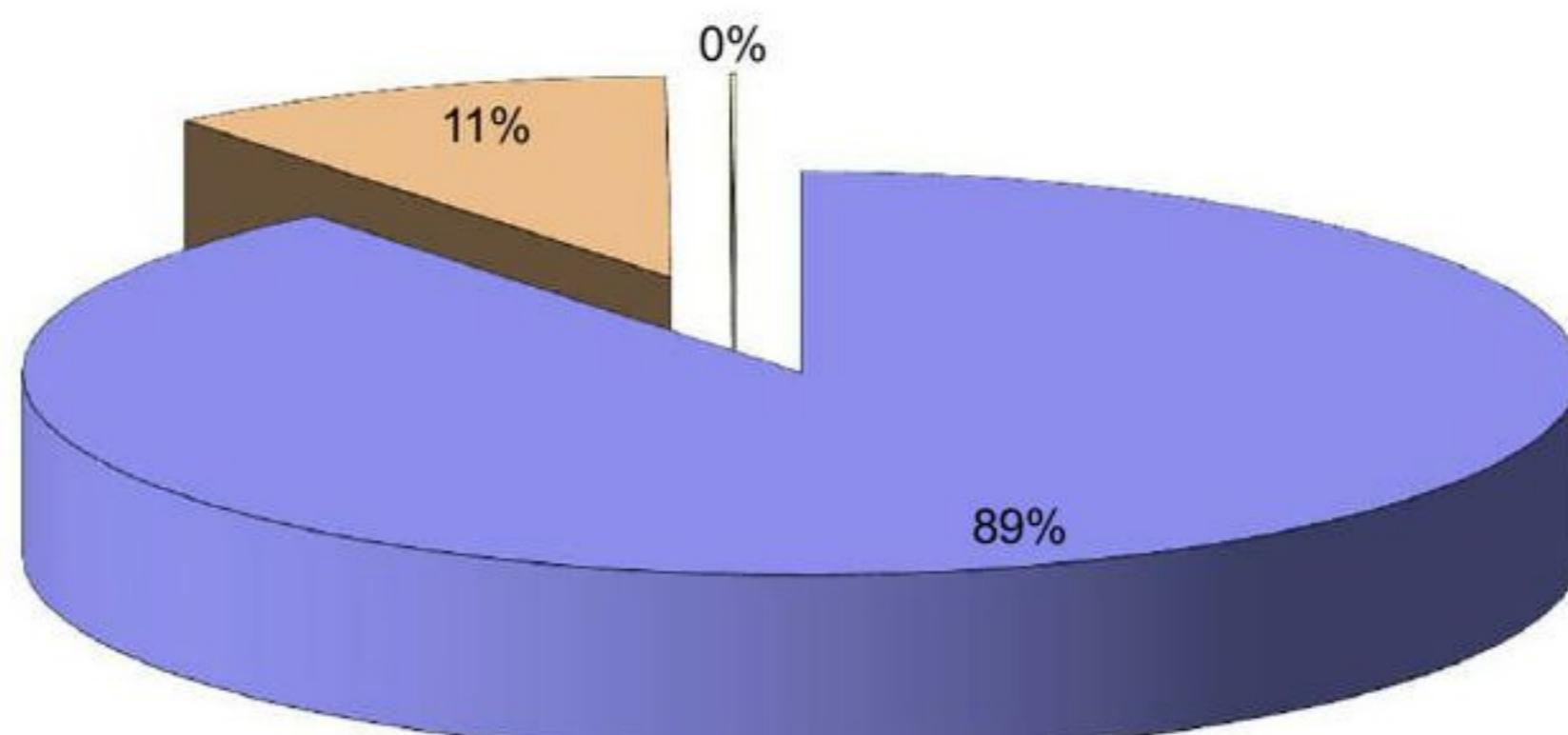


## Sawbridgeworth ATC, West Road

Data Presentation by 360 TSL

Channel 2 - Eastbound		Vehicle Class			Week 1
Day / Time \ Classes	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13	
06/02/2014					
7-19	814	108	1	923	
6-22	891	110	1	1002	
6-24	911	111	1	1023	
0-24	916	114	1	1031	
07/02/2014					
7-19	882	130	0	1012	
6-22	951	138	0	1089	
6-24	968	138	0	1106	
0-24	976	138	0	1114	
08/02/2014					
7-19	426	39	0	465	
6-22	473	42	0	515	
6-24	493	44	0	537	
0-24	500	47	0	547	
09/02/2014					
7-19	317	17	0	334	
6-22	349	17	0	366	
6-24	355	17	0	372	
0-24	365	18	0	383	
10/02/2014					
7-19	817	90	3	910	
6-22	872	95	3	970	
6-24	879	95	3	977	
0-24	885	96	3	984	
11/02/2014					
7-19	813	118	1	932	
6-22	902	121	1	1024	
6-24	924	122	2	1048	
0-24	929	125	2	1056	
12/02/2014					
7-19	788	101	1	890	
6-22	857	106	1	964	
6-24	870	107	1	978	
0-24	877	111	1	989	
Average					
7-19	694	86	1	781	
6-22	756	90	1	847	
6-24	771	91	1	863	
0-24	778	93	1	872	

Total Vehicle Class Distribution



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## Appendix D – TRICS Output data

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
Category : M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL VEHICLES

#### Selected regions and areas:

<b>02</b>	<b>SOUTH EAST</b>	
ES	EAST SUSSEX	1 days
HF	HERTFORDSHIRE	1 days
SC	SURREY	1 days
<b>09</b>	<b>NORTH</b>	
CB	CUMBRIA	1 days
<b>14</b>	<b>LEINSTER</b>	
KD	KILDARE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

#### Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings  
Actual Range: 68 to 158 (units: )  
Range Selected by User: 65 to 250 (units: )

#### Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 02/10/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

#### Selected survey days:

Monday 3 days  
Wednesday 1 days  
Thursday 1 days

This data displays the number of selected surveys by day of the week.

#### Selected survey types:

Manual count 5 days  
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

#### Selected Locations:

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

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

#### Selected Location Sub Categories:

Residential Zone 4  
No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

**Filtering Stage 3 selection:**

Use Class:

C3	5 days
----	--------

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	2 days
20,001 to 25,000	1 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	1 days
125,001 to 250,000	2 days

*This data displays the number of selected surveys within stated 5-mile radii of population.*

Car ownership within 5 miles:

1.1 to 1.5	4 days
1.6 to 2.0	1 days

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

Travel Plan:

Yes	1 days
No	4 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

**LIST OF SITES relevant to selection parameters**

1	CB-03-M-03	SEMI-DETACHED	CUMBRIA
	MOORCLOSE ROAD		
	SALTERBECK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: MONDAY	20/06/05	Survey Type: MANUAL
2	ES-03-M-03	MIXED HOUSES	EAST SUSSEX
	FIELD END		
	MARESFIELD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	68	
	Survey date: WEDNESDAY	02/10/13	Survey Type: MANUAL
3	HF-03-M-02	TERRACED & FLATS	HERTFORDSHIRE
	SYLVAN WAY		
	PANSHANGER		
	WELWYN GARDEN CITY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	158	
	Survey date: MONDAY	06/10/03	Survey Type: MANUAL
4	KD-03-M-01	SEMI-DETACHED	KILDARE
	STANDHOUSE ROAD		
	NEWBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	118	
	Survey date: MONDAY	11/05/09	Survey Type: MANUAL
5	SC-03-M-04	HOUSES/FLATS	SURREY
	EPSOM ROAD		
	GUILDFORD		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	130	
	Survey date: THURSDAY	13/10/11	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

**MANUALLY DISELECTED SITES**

Site Ref	Reason for Deselection
RE-03-M-01	blocks of flats not applicable

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL VEHICLES

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.083	5	111	0.261	5	111	0.344
08:00 - 09:00	5	111	0.126	5	111	<b>0.376</b>	5	111	0.502
09:00 - 10:00	5	111	0.121	5	111	0.198	5	111	0.319
10:00 - 11:00	5	111	0.142	5	111	0.187	5	111	0.329
11:00 - 12:00	5	111	0.192	5	111	0.160	5	111	0.352
12:00 - 13:00	5	111	0.187	5	111	0.156	5	111	0.343
13:00 - 14:00	5	111	0.201	5	111	0.214	5	111	0.415
14:00 - 15:00	5	111	0.225	5	111	0.219	5	111	0.444
15:00 - 16:00	5	111	0.248	5	111	0.203	5	111	0.451
16:00 - 17:00	5	111	0.356	5	111	0.237	5	111	0.593
17:00 - 18:00	5	<b>111</b>	<b>0.412</b>	5	111	0.243	5	<b>111</b>	<b>0.655</b>
18:00 - 19:00	5	111	0.378	5	111	0.245	5	111	0.623
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		2.671			2.699				5.370

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL OGVS

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.007	5	111	0.002	5	111	0.009
08:00 - 09:00	5	111	0.000	5	111	0.004	5	111	0.004
09:00 - 10:00	5	111	0.000	5	111	0.000	5	111	0.000
10:00 - 11:00	5	111	0.002	5	111	0.002	5	111	0.004
11:00 - 12:00	5	<b>111</b>	<b>0.013</b>	5	111	0.009	5	<b>111</b>	<b>0.022</b>
12:00 - 13:00	5	111	0.007	5	111	0.002	5	111	0.009
13:00 - 14:00	5	111	0.007	5	111	0.009	5	111	0.016
14:00 - 15:00	5	111	0.007	5	111	<b>0.013</b>	5	111	0.020
15:00 - 16:00	5	111	0.000	5	111	0.004	5	111	0.004
16:00 - 17:00	5	111	0.004	5	111	0.002	5	111	0.006
17:00 - 18:00	5	111	0.004	5	111	0.005	5	111	0.009
18:00 - 19:00	5	111	0.002	5	111	0.002	5	111	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.053			0.054				0.107

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL PSVS

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.000	5	111	0.000	5	111	0.000
08:00 - 09:00	5	<b>111</b>	0.005	5	111	<b>0.005</b>	5	<b>111</b>	0.010
09:00 - 10:00	5	111	0.000	5	111	0.000	5	111	0.000
10:00 - 11:00	5	111	0.000	5	111	0.000	5	111	0.000
11:00 - 12:00	5	111	0.000	5	111	0.000	5	111	0.000
12:00 - 13:00	5	111	0.000	5	111	0.000	5	111	0.000
13:00 - 14:00	5	111	0.000	5	111	0.000	5	111	0.000
14:00 - 15:00	5	111	0.000	5	111	0.000	5	111	0.000
15:00 - 16:00	5	111	0.004	5	111	0.004	5	111	0.008
16:00 - 17:00	5	111	0.002	5	111	0.002	5	111	0.004
17:00 - 18:00	5	111	0.000	5	111	0.000	5	111	0.000
18:00 - 19:00	5	111	0.000	5	111	0.000	5	111	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.011			0.011				0.022

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL CYCLISTS

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.005	5	111	0.011	5	111	0.016
08:00 - 09:00	5	111	0.002	5	111	<b>0.029</b>	5	111	0.031
09:00 - 10:00	5	111	0.004	5	111	0.011	5	111	0.015
10:00 - 11:00	5	111	0.002	5	111	0.004	5	111	0.006
11:00 - 12:00	5	111	0.005	5	111	0.007	5	111	0.012
12:00 - 13:00	5	111	0.005	5	111	0.004	5	111	0.009
13:00 - 14:00	5	111	0.007	5	111	0.002	5	111	0.009
14:00 - 15:00	5	111	0.007	5	111	0.004	5	111	0.011
15:00 - 16:00	5	111	0.016	5	111	0.014	5	111	0.030
16:00 - 17:00	5	111	0.009	5	111	0.011	5	111	0.020
17:00 - 18:00	5	<b>111</b>	<b>0.025</b>	5	111	0.016	5	<b>111</b>	<b>0.041</b>
18:00 - 19:00	5	111	0.022	5	111	0.002	5	111	0.024
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.109			0.115			0.224	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

## MULTI-MODAL VEHICLE OCCUPANTS

### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.094	5	111	0.320	5	111	0.414
08:00 - 09:00	5	111	0.153	5	111	<b>0.543</b>	5	111	0.696
09:00 - 10:00	5	111	0.142	5	111	0.245	5	111	0.387
10:00 - 11:00	5	111	0.167	5	111	0.230	5	111	0.397
11:00 - 12:00	5	111	0.216	5	111	0.201	5	111	0.417
12:00 - 13:00	5	111	0.219	5	111	0.201	5	111	0.420
13:00 - 14:00	5	111	0.227	5	111	0.264	5	111	0.491
14:00 - 15:00	5	111	0.297	5	111	0.281	5	111	0.578
15:00 - 16:00	5	111	0.322	5	111	0.248	5	111	0.570
16:00 - 17:00	5	111	0.468	5	111	0.324	5	111	0.792
17:00 - 18:00	5	<b>111</b>	<b>0.516</b>	5	111	0.299	5	111	0.815
18:00 - 19:00	5	111	0.493	5	111	0.326	5	<b>111</b>	<b>0.819</b>
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.314			3.482			6.796

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL PEDESTRIANS

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.023	5	111	0.054	5	111	0.077
08:00 - 09:00	5	111	0.081	5	111	<b>0.246</b>	5	111	0.327
09:00 - 10:00	5	111	0.054	5	111	0.052	5	111	0.106
10:00 - 11:00	5	111	0.045	5	111	0.054	5	111	0.099
11:00 - 12:00	5	111	0.040	5	111	0.041	5	111	0.081
12:00 - 13:00	5	111	0.067	5	111	0.043	5	111	0.110
13:00 - 14:00	5	111	0.070	5	111	0.079	5	111	0.149
14:00 - 15:00	5	111	0.088	5	111	0.088	5	111	0.176
15:00 - 16:00	5	111	<b>0.147</b>	5	111	0.104	5	111	0.251
16:00 - 17:00	5	111	0.121	5	111	0.081	5	111	0.202
17:00 - 18:00	5	111	0.095	5	111	0.088	5	111	0.183
18:00 - 19:00	5	111	0.110	5	111	0.095	5	111	0.205
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.941			1.025				1.966

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING  
**MULTI-MODAL PUBLIC TRANSPORT USERS**

**Calculation factor: 1 DWELLS**

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.000	5	111	0.020	5	111	0.020
08:00 - 09:00	5	111	0.000	5	111	<b>0.049</b>	5	111	0.049
09:00 - 10:00	5	111	0.000	5	111	0.005	5	111	0.005
10:00 - 11:00	5	111	0.000	5	111	0.005	5	111	0.005
11:00 - 12:00	5	111	0.002	5	111	0.002	5	111	0.004
12:00 - 13:00	5	111	0.005	5	111	0.005	5	111	0.010
13:00 - 14:00	5	111	0.004	5	111	0.005	5	111	0.009
14:00 - 15:00	5	111	0.000	5	111	0.002	5	111	0.002
15:00 - 16:00	5	111	<b>0.029</b>	5	111	0.009	5	111	0.038
16:00 - 17:00	5	111	0.027	5	111	0.004	5	111	0.031
17:00 - 18:00	5	111	0.013	5	111	0.002	5	111	0.015
18:00 - 19:00	5	111	0.000	5	111	0.000	5	111	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		0.080			0.108			0.188	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING

### MULTI-MODAL TOTAL PEOPLE

#### Calculation factor: 1 DWELLS

**BOLD** print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	111	0.122	5	111	0.405	5	111	0.527
08:00 - 09:00	5	111	0.236	5	111	<b>0.867</b>	5	111	1.103
09:00 - 10:00	5	111	0.200	5	111	0.313	5	111	0.513
10:00 - 11:00	5	111	0.214	5	111	0.293	5	111	0.507
11:00 - 12:00	5	111	0.263	5	111	0.252	5	111	0.515
12:00 - 13:00	5	111	0.297	5	111	0.254	5	111	0.551
13:00 - 14:00	5	111	0.308	5	111	0.351	5	111	0.659
14:00 - 15:00	5	111	0.392	5	111	0.374	5	111	0.766
15:00 - 16:00	5	111	0.514	5	111	0.376	5	111	0.890
16:00 - 17:00	5	111	0.624	5	111	0.419	5	111	1.043
17:00 - 18:00	5	111	<b>0.649</b>	5	111	0.405	5	111	1.054
18:00 - 19:00	5	111	0.624	5	111	0.423	5	111	1.047
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		4.443			4.732			9.175	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP\*FACT. Trip rates are then rounded to 3 decimal places.

#### Parameter summary

Trip rate parameter range selected:	68 - 158 (units: )
Survey date date range:	01/01/00 - 02/10/13
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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## Appendix E – TEMPRO Output

**Dataset Version:** 62  
**Result Type:** Trip ends by time period  
**Base Year:** 2015  
**Future Year:** 2025  
**Trip Purpose Group:** All purposes  
**Time Period:** Weekday AM peak period (0700 - 0959)  
**Trip End Type:** Origin/Destination  
**Alternative Assumptions applied:** Yes

Alternative Assumptions	Base HH	Base Jobs	Future HH	future Jobs
Sawbridgeworth	3628	2360	3628	2355

Level	Area	Local Growth Figure
County	Hertfordsh	1.11048
Authority	East Hertfc	1.068205
26UD2	Sawbridge	1.037289

<b>Dataset Version:</b>	62				
<b>Result Type:</b>	Trip ends by time period				
<b>Base Year:</b>	2015				
<b>Future Year:</b>	2025				
<b>Trip Purpose Group:</b>	All purposes				
<b>Time Period:</b>	Weekday PM peak period (1600 - 1859)				
<b>Trip End Type:</b>	Origin/Destination				
<b>Alternative Assumptions applied:</b>	Yes				
<b>Alternative Assumptions</b>	<b>Base HH</b>	<b>Base Jobs</b>	<b>Future HH</b>	<b>future Jobs</b>	
Sawbridgeworth		3628	2360	3628	2355
<b>Level</b>	<b>Area</b>	<b>Local Growth Figure</b>			
County	Hertfordshire	1.112296			
Authority	East Hertfordshire	1.073859			
26UD2	Sawbridgeworth(main)	1.039052			



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