

Figure 5 - 2013 PM Peak Hour Base Year Traffic Flows (Vehicles)

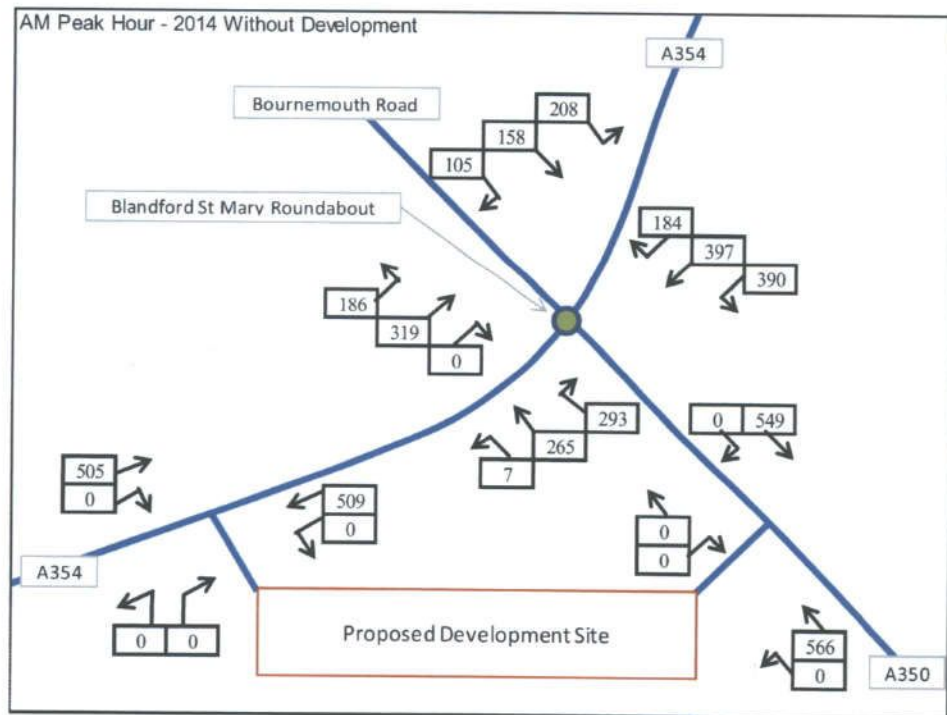


Figure 6 - 2014 AM Peak Hour Without Development Traffic Flows (Vehicles)

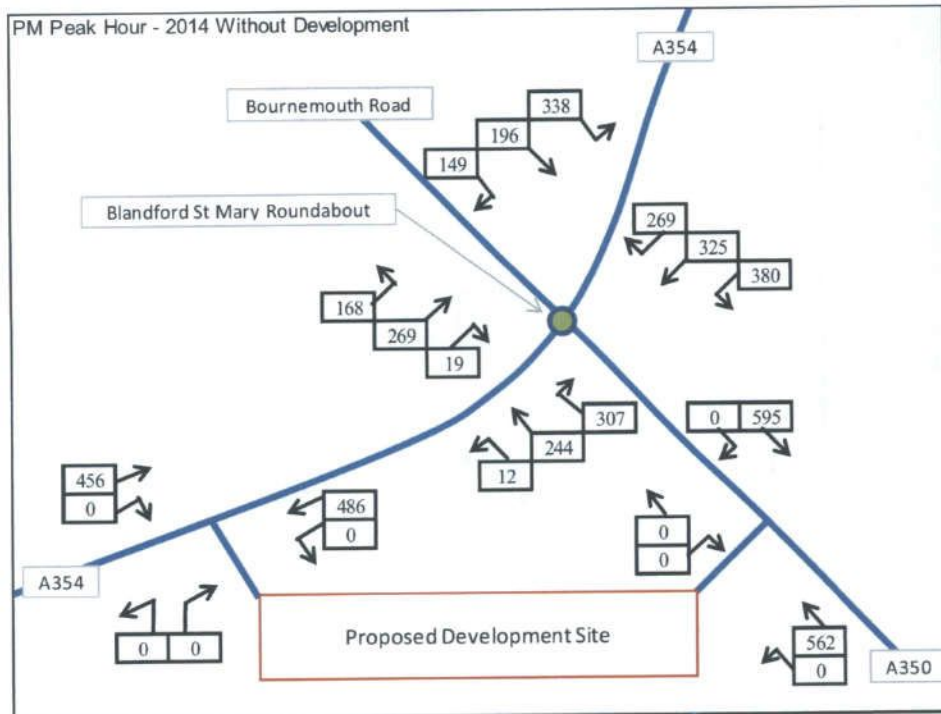


Figure 7 - 2014 PM Peak Hour Without Development Traffic Flows (Vehicles)

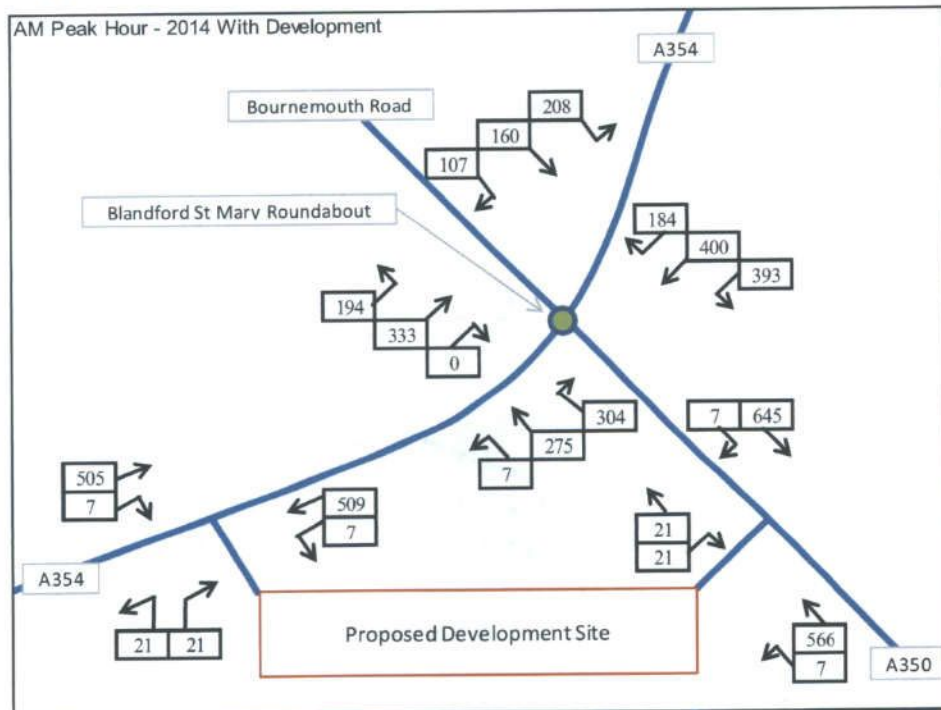


Figure 8 - 2014 AM Peak Hour With Development Traffic Flows (Vehicles)

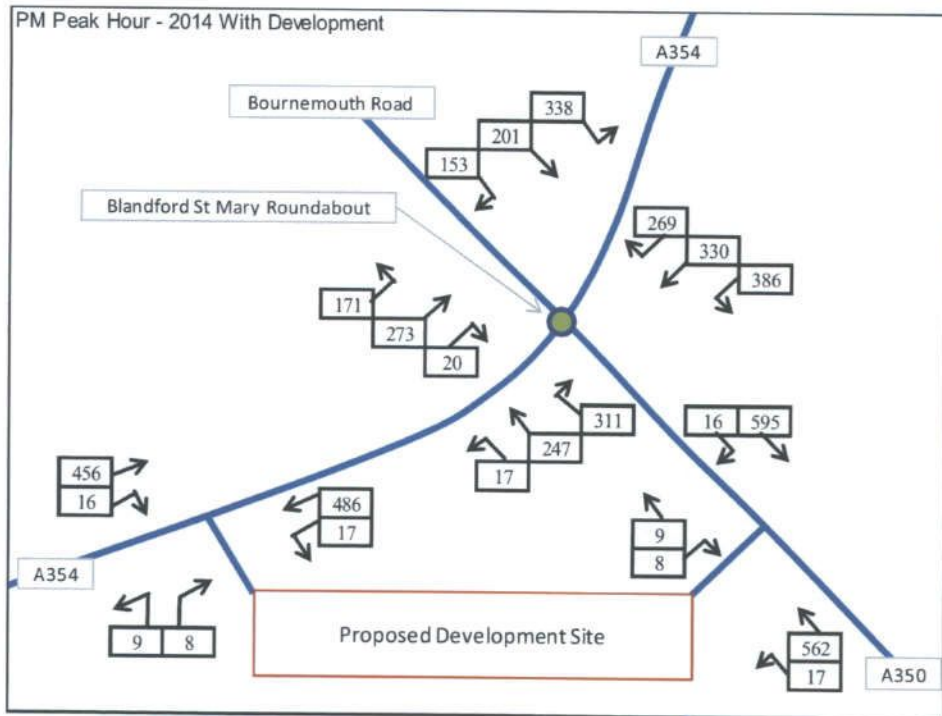


Figure 9 - 2014 PM Peak Hour With Development Traffic Flows (Vehicles)

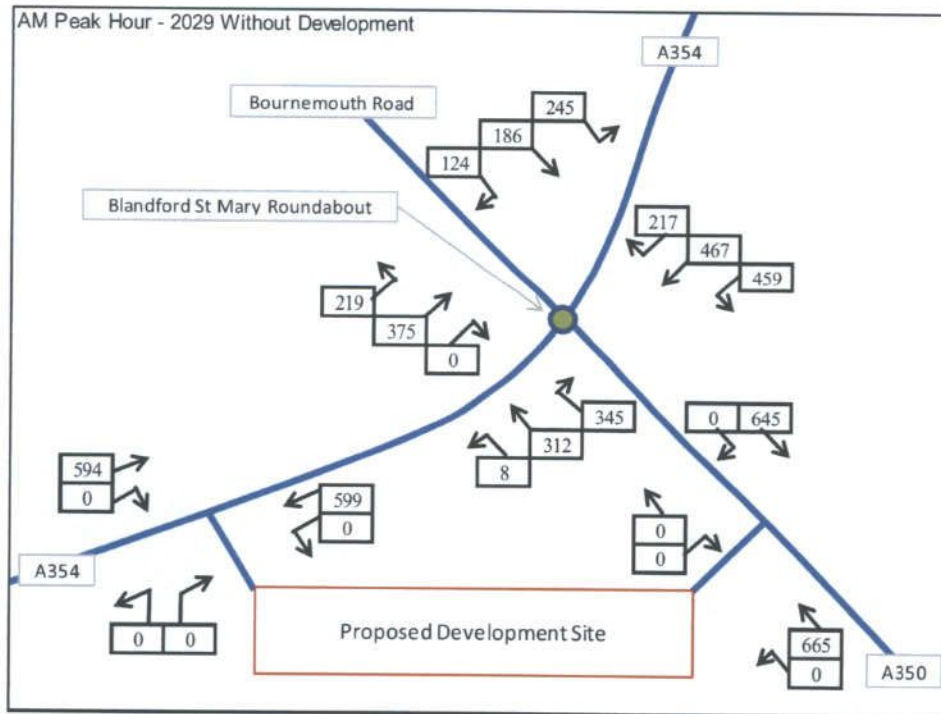


Figure 10 - 2029 AM Peak Hour Without Development Traffic Flows (Vehicles)

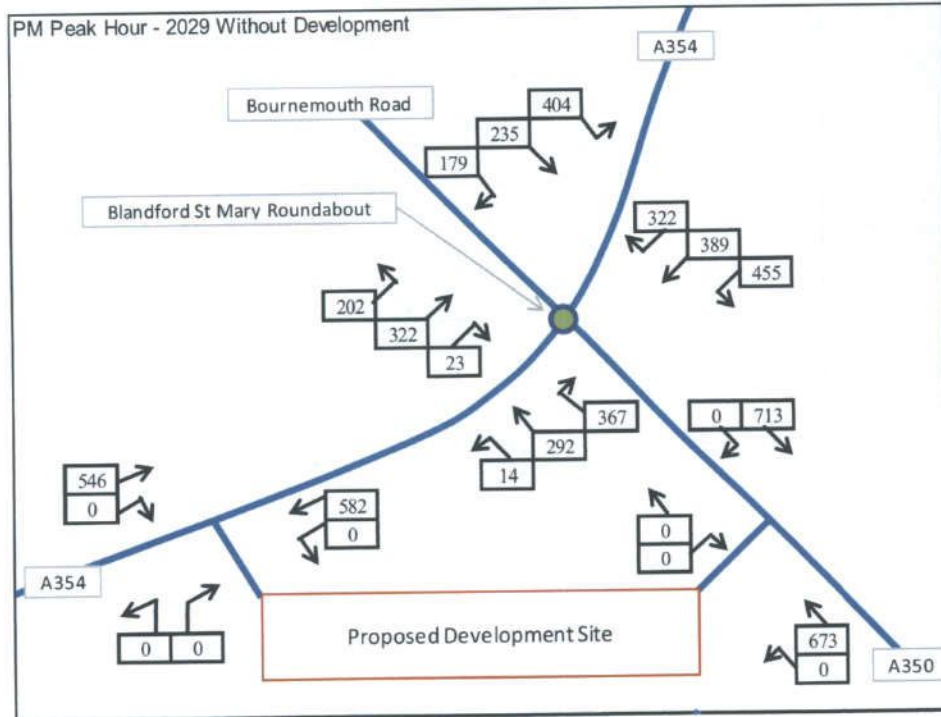


Figure 11 - 2029 PM Peak Hour Without Development Traffic Flows (Vehicles)

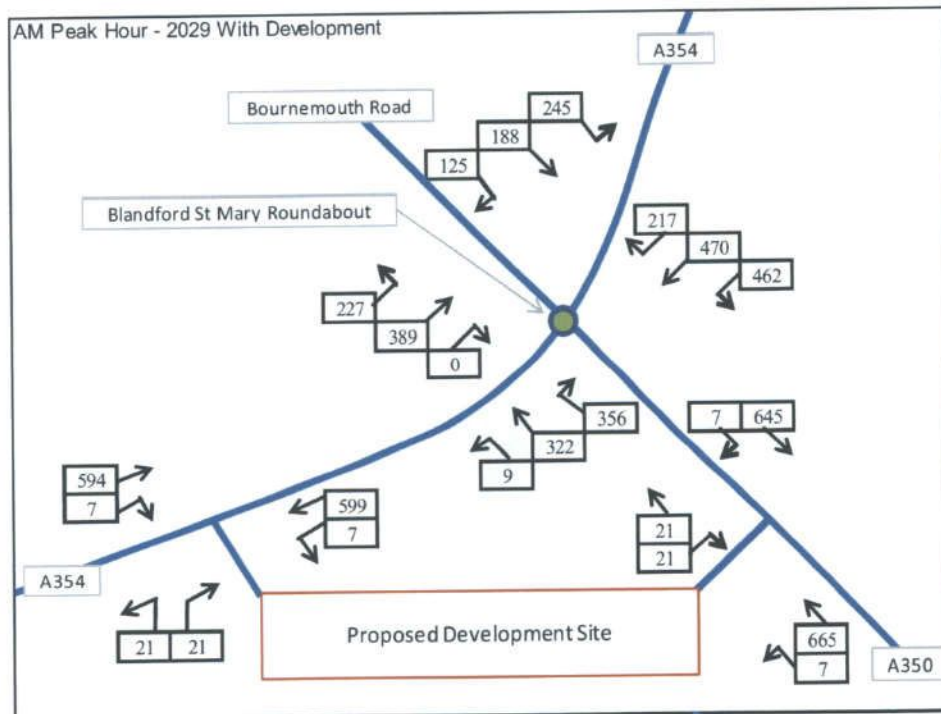


Figure 12 - 2029 AM Peak Hour With Development Traffic Flows (Vehicles)

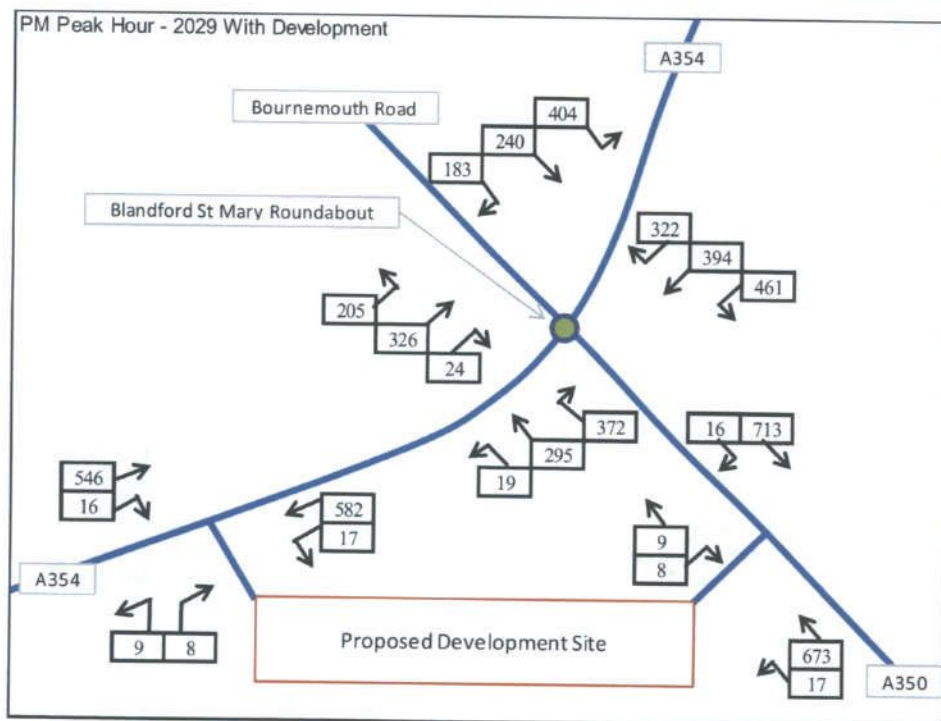


Figure 13 - 2029 PM Peak Hour With Development Traffic Flows (Vehicles)

4 IMPACT ON JUNCTIONS

4.1 General

4.1.1 The following junctions have been assessed to identify any potential capacity issues.

- Blandford St Mary Junction,
- Site access onto the A350,
- Site Access onto the A354.

4.1.2 The site accesses have not been constructed, however they have been assessed in accordance with the method outlined in this report. It is anticipated that they will be constructed by 2014 so an opening year of 2014 has been modelled and a future year of 2029 has been assessed in accordance with *Guidance on Transport Assessment*. This level of growth is above the requirements of Dorset County Council who requested a future year 10 years beyond the opening year therefore the assessment is considered to be robust.

4.1.3 The roundabout has been modelled using JUNCTIONS 8 software. The priority junctions have been modelled using PICADY 5. All of these are "industry standard" software for assessing the performance of these junction types.

4.1.4 In the case of a roundabout or priority junction, the Ratio of Flow to Capacity (RFC) statistic will be used to determine how close a junction is to capacity. An RFC value below 0.85 indicates a junction is operating within capacity and a RFC value above 0.85 indicates a potential capacity issue at the junction.

4.1.5 The assessment of the above junctions has been conducted for up to 10 modelling scenarios. A summary of all the possible modelling scenarios is included in Table 4-1. Traffic flows for each scenario are given in Section 3 of this report.

Year	Development Scenario	Time Period
2013	Base Year	AM
		PM
2014	Without Development	AM
		PM
	With Development	AM
		PM
2029	Without Development	AM
		PM
	With Development	AM
		PM

Table 4-1 – Possible Junction Modelling Scenarios

4.2 Blandford St Mary Junction

4.2.1 The junction of the A350 and the A354 to the south of Blandford Forum is a standard roundabout. The single carriageway approaches flare to two entry lanes on each of the approaches. There are informal pedestrian refuges on the each of the arms, with

the south western (A354) and north eastern (Bournemouth Road) arms served by pedestrian footways encouraging their use as a crossing location. There are no controlled crossings or formal pedestrian crossings within a reasonable distance of the junction and therefore unlikely to affect its operation.

- 4.2.2 An aerial photograph showing the layout of the Blandford St Mary roundabout is displayed in Figure 14.



Figure 14 –Blandford St Mary aerial photograph

- 4.2.3 Detailed modelling has been undertaken using the Transport Research Laboratory's JUNCTIONS software. This is specifically designed for assessing the performance of roundabouts and expresses performance as ratio of flows to capacity (RFC). When an RFC reaches a value of 1, the roundabout arm is operating at its maximum theoretical capacity.
- 4.2.4 HGV values were input into the junction model and converted to PCUs in line with the proportion of HGVs using the roundabout in the base year. These can be found in Table 2-3 and Table 2-4.
- 4.2.5 Default lane usage values were used and the 'ONE HOUR' traffic flow profile parameter used for the junction model.

4.2.6 The assessment of the Blandford St Mary junction has been conducted for all 10 modelling scenarios, as set out in Table 4-2.

Year	Development Scenario	Time Period
2013	Base Year	AM
		PM
2014	Without Development	AM
		PM
	With Development	AM
		PM
2029	Without Development	AM
		PM
	With Development	AM
		PM

Table 4-2 – Blandford St Mary Roundabout modelling scenarios

4.2.7 The full JUNCTIONS results are included in Appendix 5 and are summarised below in Table 4-3. The results are split by each arm of the junction. Queue, in Passenger Car Units (PCU) and delay (in seconds per PCU) statistics are also presented for each of the modelling scenarios.

4.2.8 One PCU is a unit of distance used in traffic modelling and is equivalent to the space occupied by one average sized car including the headway space to the next vehicle in a traffic queue. It is a method of normalising all of the different vehicle types using a junction and is equivalent to 5.75m.

	AM			PM		
	Queue (PCU)	Delay (s/pcu)	RFC	Queue (PCU)	Delay (s/pcu)	RFC
2013 Base						
A354 North	0.94	3.18	0.47	0.99	3.33	0.49
A350 South	1.17	6.8	0.53	1.21	7.09	0.55
A354 South	0.59	3.86	0.36	0.56	4.04	0.34
Bournemouth Road	0.73	5.07	0.42	1.47	7.12	0.6
2014 Without Development						
A354 North	0.94	3.19	0.47	0.99	3.34	0.49
A350 South	1.17	6.81	0.53	1.21	7.12	0.55
A354 South	0.6	3.86	0.36	0.56	4.05	0.34
Bournemouth Road	0.73	5.07	0.42	1.48	7.15	0.6
2014 With Development						
A354 North	0.96	3.21	0.48	1.02	3.4	0.5
A350 South	1.28	7.16	0.55	1.3	7.43	0.56
A354 South	0.65	4.03	0.38	0.58	4.12	0.35
Bournemouth Road	0.76	5.23	0.43	1.55	7.39	0.61
2029 Without Development						
A354 North	1.37	3.95	0.57	1.58	4.46	0.61
A350 South	2.09	10.44	0.67	2.51	12.48	0.72
A354 South	0.88	4.89	0.46	0.88	5.32	0.45
Bournemouth Road	1.11	6.57	0.52	3.19	13.06	0.77
2029 With Development						
A354 North	1.39	3.99	0.57	1.64	4.58	0.62
A350 South	2.32	11.28	0.7	2.75	13.44	0.74
A354 South	0.97	5.16	0.48	0.92	5.44	0.46
Bournemouth Road	1.16	6.83	0.53	3.41	13.87	0.78

Table 4-3 – Blandford St Mary Roundabout Modelling Results

- 4.2.9 The results of the JUNCTIONS analysis indicate that the junction is likely to operate within capacity for the AM and PM peak hour in 2014 and 2029 scenarios. It is predicted that there will be no significant queuing issues as the greatest queue predicted is 3.4 PCUs in the PM peak in the 2029 future year. This represents an increase of 0.3 PCUs in the scenario without the proposed development.
- 4.2.10 Queuing, in the context above is defined to be the accumulation of vehicles over the modelled time period. Whilst there is predicted to be no queuing issues at the junction, small random queues may occur within the peak hour at the junction depending on the arrival of platoons of vehicles at the junction, however these queues would quickly dissipate and are a result in the natural variation in traffic flow. These random queues would not be of overall detriment to the users of the roundabout.
- 4.2.11 It is predicted that there will be no delay issues at the junction for any of the modelled time periods. The longest predicted delay is 13.87 seconds for vehicles entering the roundabout from Bournemouth Road in the PM peak hours in 2029. This represents an increase of approximately 0.5 seconds on the predicted delay in the scenario without the proposed development.

4.3 Site Access onto A350

4.3.1 An initial design for the proposed A350 site access is shown in Figure 15. It has been anticipated that a ghost island junction would be provided with forward visibilities and carriageway widths of a standard suitable for a principal rural A-road.



Figure 15 – Proposed A350 Site Access

4.3.2 This junction would only be constructed if the proposed development were granted planning permission, therefore it has not been modelled in the Base Year or Do-Minimum scenarios. The assessment of the A350 Site Access has been conducted for 4 modelling scenarios, as set out in Table 4-4.

Year	Development Scenario	Time Period
2014	With Development	AM
		PM
2029	With Development	AM
		PM

Table 4-4 – A350 Site Access Priority Junction Modelling Scenarios

4.3.3 The PICADY output files are provided in Appendix 6 and are summarised below in Table 4-5.

	AM Peak Hour			PM Peak Hour		
	Queue	Av. Delay / Veh	RFC	Queue	Av. Delay / Veh	RFC
2014 - With Development						
Site Access Out	0.17	0.22	0.147	0.06	0.21	0.059
Right turn into Site from A350	0.01	0.12	0.014	0.03	0.12	0.034
2029 - With Development						
Site Access Out	0.2	0.26	0.169	0.08	0.25	0.071
Right turn into Site from A350	0.02	0.13	0.015	0.04	0.13	0.036

Table 4-5 – A350 Site Access Modelling Results

4.3.4 The results of the PICADY analysis indicate that the junction is likely to operate within capacity for both the AM and PM peak hour in the 2014 and 2029 scenarios.

4.3.5 It is predicted that there will be no queue or delay issues at the junction for any of the modelled time periods.

4.4 Site Access onto A354

4.4.1 An initial design for the proposed A354 site access is shown in Figure 16. It has been anticipated that a ghost island junction would be provided with forward visibilities and carriageway widths of a standard suitable for a principal rural A-road.



Figure 16 – Proposed A354 Site Access

- 4.4.2 As this junction would only be constructed if the proposed development were granted planning permission therefore it has not been modelled in the Do-Minimum scenarios. The assessment of the A354 Site Access has been conducted for 4 modelling scenarios, as set out in Table 4-6.

Year	Development Scenario	Time Period
2014	With Development	AM
		PM
2029	With Development	AM
		PM

Table 4-6 – A354 Site Access Priority Junction Modelling Scenarios

- 4.4.3 The PICADY output files are provided in Appendix 6 and are summarised below in Table 4-7.

	AM			PM		
	Queue	Av. Delay / Veh	RFC	Queue	Av. Delay / Veh	RFC
2014 - With Development						
Site Access Out	0.016	0.21	0.138	0.06	0.18	0.053
Right turn into Site from A354	0.02	0.12	0.015	0.04	0.13	0.035
2029 - With Development						
Site Access Out	0.18	0.24	0.155	0.06	0.21	0.059
Right turn into Site from A354	0.02	0.13	0.016	0.04	0.13	0.037

Table 4-7 – A354 Site Access Modelling Results

- 4.4.4 The results of the PICADY analysis indicate that the junction is likely to operate within capacity for both the AM and PM peak hour periods in both the 2014 and 2029 scenarios.
- 4.4.5 It is predicted that there will be no queue or delay issues at the junction for any of the modelled time periods.

5 SUMMARY AND CONCLUSIONS

5.1 Summary

5.1.1 This report assesses the vehicular impact of building 200 residential dwellings at Blandford St Mary on the adjacent highway network. The main aspects of the report are listed below:

- Junction models were developed using 'industry standard' software to assess two proposed access for the development and the Blandford St Mary Roundabout.
- As part of the traffic assessments background traffic growth, local mode split factors from the 2011 census and local traffic distributions were taken into account.
- The report details the predicted opening year and future year traffic flows in a series of diagrams.
- The results of the individual models for junctions agreed as part of the scoping process identified no significant congestion issues.

5.2 Conclusions

5.2.1 The report demonstrates that:

- The proposed development will not cause any queuing or delay issues to traffic on the existing adjacent highway network.
- The proposed access arrangements have sufficient capacity to accommodate the proposed development.
- There is sufficient vehicular capacity within the existing Blandford St Mary Roundabout design to accommodate the proposed development without the need for mitigation.
- It is likely, in the future, that the site could accommodate additional dwellings above the 200 proposed in this report. There is a demonstrable spare capacity in the site accesses and the Blandford St Mary roundabout to facilitate this.



Appendix 1 – Raw Traffic Data from Survey

St Mary's Hill Transport Assessment - APPENDIX 1



CLASSIFIED VEHICLE TURNING COUNT

Dorset Engineering
Consultancy
Pulman Court, Station Approach
Weymouth Avenue
Dorchester, Dorset
DT1 1GA

CLIENT **R Ackerman**

PROJECT No. 5117	JOB No. J162	T. SURVEY No. 13029	SITE CODE
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LOCATION :	Blandford St Mary roundabout	AREA :	Blandford
GRID EASTING :	388870	NORTH' :	105515
SPEED :			60
EXP. 12-16 hr :	1.14	16-24 hr :	1.05
		U-TURN :	NOT COUNTED

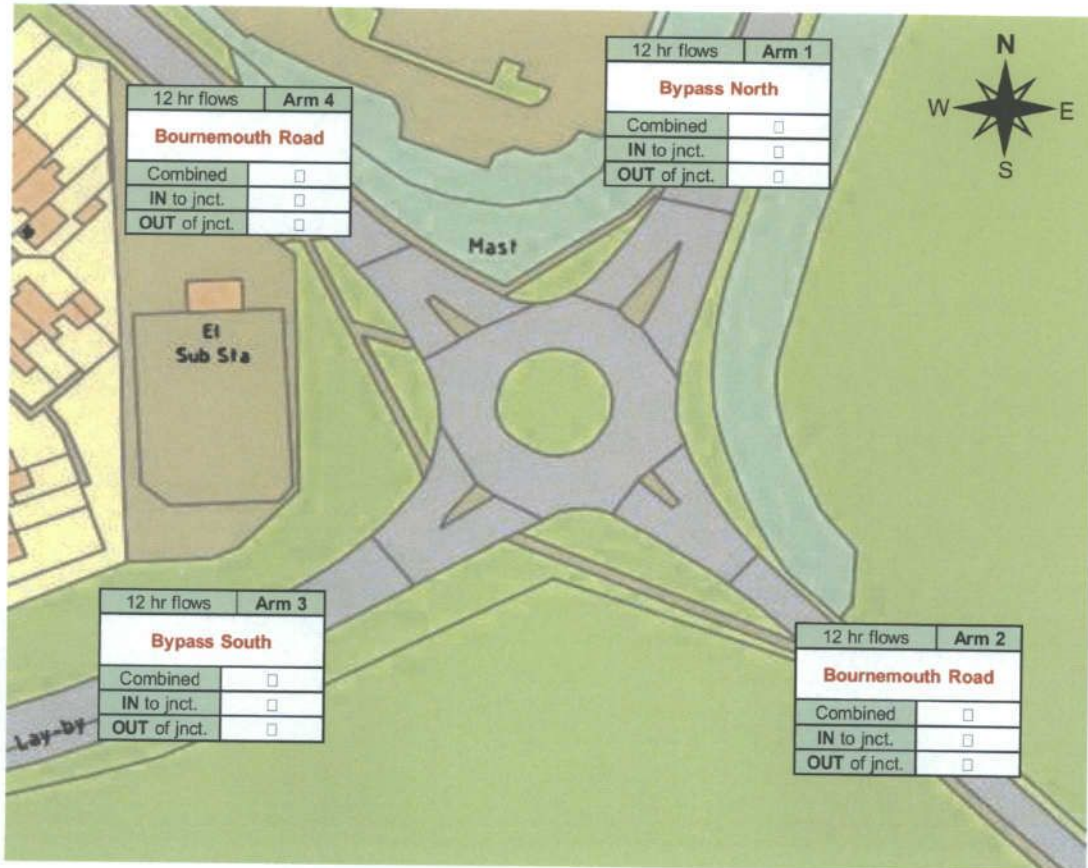
<u>ARM</u>	<u>G ref.</u>	:	<u>ROUTE</u>	:	<u>DESCRIPTION</u>
1	NE	:	A354	:	Bypass North
2	SE	:	A350	:	Bournemouth Road
3	SW	:	A354	:	Bypass South
4	NW	:	C31	:	Bournemouth Road

SURVEY DAY :	Tues	DATE/MON/YR :	30 / April / 2013
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PERIOD (1) :	0700 - 1900	INTERVAL (1) :	30	WEATHER (1) :	
PERIOD (2) :	- - -	INTERVAL (2) :	-	WEATHER (2) :	-
PERIOD (3) :	- - -	INTERVAL (3) :	-	WEATHER (3) :	-

NOTES :

PLAN :



SURVEYS CONDUCTED FOR EXTERNAL CLIENTS ARE NOT FOR GENERAL USE OR DISPERSAL

St Mary's Hill Transport Assessment - APPENDIX 1

COBA7 OUTPUT

Location: Blandford St Mary roundabout Day: Tues Date: 30 April 2013 Count No.: 13029

Results: Classified vehicle TURNING MOVEMENTS in 1/2 hours

Times: 0700-1900

Turn: SE>NE 2 x 1 Bournemouth Road into Bypass North

Turn: SE>SW 2 x 3 Bournemouth Road into Bypass South

1/2 Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	77	26	4	6	1	0	114	10	0
07:30	136	56	7	8	0	1	208	15	0
08:00	112	29	0	5	0	1	147	5	0
08:30	106	26	5	8	0	1	146	13	0
09:00	90	16	1	2	0	5	114	3	0
09:30	75	20	1	8	0	1	105	9	0
10:00	47	23	3	10	0	0	83	13	0
10:30	109	26	5	5	1	0	146	10	1
11:00	59	21	3	8	3	0	94	11	0
11:30	59	18	6	4	1	0	88	10	0
12:00	66	17	5	2	0	0	90	7	0
12:30	53	16	1	7	0	0	77	8	0
13:00	60	18	3	2	2	0	85	5	0
13:30	75	14	8	3	4	0	104	11	0
14:00	82	31	2	0	3	0	118	2	0
14:30	79	10	3	5	0	1	98	8	0
15:00	82	13	3	3	1	0	102	6	0
15:30	78	30	2	2	1	2	115	4	0
16:00	88	22	2	4	1	1	118	6	0
16:30	129	28	4	4	1	2	168	8	0
17:00	132	25	3	3	2	2	167	6	1
17:30	126	10	0	1	2	0	139	1	0
18:00	118	6	0	0	2	0	126	0	0
18:30	86	12	0	1	3	0	102	1	0
12 hr :	2124	513	71	101	28	17	2854	172	2

1/2 Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	2	0	0	0	0	0	2	0	0
07:30	5	0	1	0	0	0	6	1	0
08:00	2	0	0	0	0	0	2	0	0
08:30	3	2	0	0	0	0	5	0	0
09:00	8	2	0	0	0	0	10	0	0
09:30	4	1	1	0	0	0	6	1	0
10:00	3	0	0	0	0	0	3	0	0
10:30	8	2	2	0	0	0	12	2	0
11:00	5	2	0	0	0	0	7	0	0
11:30	4	1	2	0	0	0	7	2	0
12:00	3	2	1	0	0	1	7	1	0
12:30	8	4	2	1	0	0	15	3	0
13:00	9	5	0	0	0	0	14	0	0
13:30	7	2	0	1	0	0	10	1	0
14:00	6	1	2	1	0	0	10	3	0
14:30	7	0	0	0	0	0	7	0	0
15:00	5	2	0	0	0	0	7	0	0
15:30	3	2	0	0	0	0	5	0	0
16:00	1	2	0	0	1	0	4	0	0
16:30	2	0	0	0	1	0	3	0	0
17:00	8	0	0	0	0	0	8	0	0
17:30	3	0	0	0	1	0	4	0	0
18:00	3	2	0	0	0	0	5	0	0
18:30	0	0	0	0	0	0	0	0	0
12 hr :	109	32	11	3	3	1	159	14	0

Turn: SE>E 2 x 2 Bournemouth Road into Bournemouth Road

Turn: SE>NW 2 x 4 Bournemouth Road into Bournemouth Road

1/2 Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0
12 hr :	0	0	0	0	0	0	0	0	0

1/2 Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	35	13	0	0	1	0	49	0	1
07:30	87	13	2	1	2	1	106	3	0
08:00	120	14	0	1	1	1	137	1	2
08:30	118	8	0	0	1	1	128	0	0
09:00	74	17	1	0	1	2	95	1	0
09:30	62	15	1	2	1	1	82	3	0
10:00	53	8	2	2	1	2	68	4	1
10:30	112	6	0	0	1	0	119	0	0
11:00	57	8	1	0	0	1	67	1	3
11:30	51	6	1	2	0	1	61	3	0
12:00	70	8	2	1	0	1	82	3	0
12:30	76	13	2	0	1	0	92	2	0
13:00	61	7	2	1	0	1	72	3	0
13:30	77	9	2	1	0	1	90	3	0
14:00	64	8	1	0	0	1	74	1	0
14:30	69	10	0	0	3	0	82	0	0
15:00	87	9	2	0	0	1	99	2	0
15:30	92	10	0	0	0	2	104	0	0
16:00	78	9	0	0	0	1	88	0	1
16:30	114	13	0	0	1	1	129	0	0
17:00	100	13	0	1	4	1	119	1	0
17:30	110	10	0	0	3	1	124	0	0
18:00	100	7	0	0	1	1	109	0	0
18:30	91	4	0	0	2	0	97	0	1
12 hr :	1958	238	19	12	24	22	2273	31	9

COBA7 OUTPUT

Location : Blandford St Mary roundabout Day : Tues Date : 30 April 2013 Count No. : 13029

Results : Classified vehicle TURNING MOVEMENTS in ½ hours

Times : 0700-1900

Turn : **NW>NE 4 x 1** Bournemouth Road into Bypass North

½ Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	39	9	2	2	0	0	52	4	0
07:30	83	15	3	1	3	0	105	4	0
08:00	67	17	3	1	1	1	90	4	0
08:30	104	11	2	0	0	1	118	2	0
09:00	87	15	1	0	0	3	106	1	0
09:30	64	9	2	2	0	0	77	4	1
10:00	67	12	1	0	1	0	81	1	0
10:30	100	15	1	0	0	0	116	1	0
11:00	80	8	3	4	0	0	95	7	0
11:30	95	11	1	2	1	0	110	3	0
12:00	81	11	1	3	0	0	96	4	0
12:30	116	16	2	2	0	1	137	4	0
13:00	118	14	0	1	2	0	135	1	0
13:30	106	15	1	1	1	3	127	2	0
14:00	90	14	2	0	1	2	109	2	1
14:30	99	9	0	1	3	2	114	1	1
15:00	101	15	2	0	1	1	120	2	0
15:30	119	21	0	0	1	1	142	0	0
16:00	119	16	1	1	0	0	137	2	0
16:30	131	25	1	0	0	1	158	1	0
17:00	164	14	2	0	1	2	183	2	0
17:30	135	16	0	1	2	0	154	1	0
18:00	119	10	1	0	0	3	133	1	0
18:30	93	8	0	0	2	1	104	0	0
12 hr :	2377	326	32	22	20	22	2799	54	3

Turn : **NW>SW 4 x 3** Bournemouth Road into Bypass South

½ Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	19	12	0	1	0	0	32	1	0
07:30	32	12	2	0	1	1	48	2	0
08:00	41	7	0	1	0	1	50	1	0
08:30	35	16	2	0	0	2	55	2	0
09:00	24	9	1	0	0	0	34	1	0
09:30	36	9	0	0	0	0	45	0	0
10:00	32	4	0	0	1	0	37	0	0
10:30	33	8	0	0	0	1	42	0	0
11:00	40	9	1	0	0	1	51	1	0
11:30	43	3	0	0	0	1	47	0	0
12:00	54	8	0	0	0	0	62	0	0
12:30	35	9	1	0	1	0	46	1	0
13:00	50	9	2	0	1	1	63	2	0
13:30	38	4	1	1	0	0	44	2	0
14:00	38	7	2	0	0	2	49	2	0
14:30	50	7	0	0	0	0	57	0	0
15:00	39	9	0	1	0	1	50	1	0
15:30	47	6	0	1	1	1	56	1	0
16:00	47	8	1	0	0	0	56	1	0
16:30	59	15	0	1	1	1	77	1	0
17:00	66	11	0	0	2	0	79	0	0
17:30	57	11	0	0	1	1	70	0	0
18:00	56	5	0	0	2	1	64	0	0
18:30	35	3	0	0	0	0	38	0	0
12 hr :	1006	201	13	6	11	15	1252	19	0

Turn : **NW>SE 4 x 2** Bournemouth Road into Bournemouth Road

½ Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	52	8	0	0	0	1	61	0	0
07:30	62	8	0	1	2	2	75	1	1
08:00	63	12	0	0	1	3	79	0	0
08:30	64	11	2	0	0	2	79	2	0
09:00	54	10	0	1	1	0	66	1	0
09:30	55	7	4	2	0	3	71	6	0
10:00	44	7	0	2	0	1	54	2	1
10:30	52	2	2	0	0	1	57	2	3
11:00	52	5	0	2	1	0	60	2	0
11:30	48	5	1	0	2	2	58	1	1
12:00	60	8	0	0	0	0	66	0	0
12:30	62	8	0	1	1	1	73	1	0
13:00	55	4	0	0	0	1	60	0	1
13:30	46	10	0	1	0	4	61	1	1
14:00	51	8	0	0	0	0	59	0	0
14:30	54	8	1	0	0	2	65	1	0
15:00	54	7	1	0	1	0	63	1	0
15:30	53	10	0	0	2	3	66	0	2
16:00	78	14	0	0	3	1	96	0	0
16:30	78	12	1	1	2	2	96	2	0
17:00	90	8	0	0	6	0	104	0	1
17:30	78	12	0	0	1	1	92	0	0
18:00	72	3	0	0	2	1	78	0	3
18:30	68	2	0	0	0	1	71	0	1
12 hr :	1445	187	12	11	25	32	1712	23	15

Turn : **NW>NW 4 x 4** Bournemouth Road into Bournemouth Road

½ Hr begin	Car	Light Good	OGV1	OGV2	Motor cycle	Bus & coach	Total V'cles	Total OGVs	Cycle
07:00	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0
12 hr :	0	0	0	0	0	0	0	0	0

Appendix 2 – TRICS Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

MULTI-MODAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
	KC KENT	1 days
	RE READING	1 days
	SC SURREY	3 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
	DV DEVON	1 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	CM CARMARTHENSHIRE	1 days
11	SCOTLAND	
	FA FALKIRK	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: 14 to 500 (units:)
Range Selected by User: 14 to 1412 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 11/12/12

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	4 days
Tuesday	2 days
Wednesday	3 days
Thursday	6 days
Friday	1 days

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

Selected survey types:

Manual count	16 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)	10
Edge of Town	6

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:

Industrial Zone	1
Residential Zone	13
Built-Up Zone	1
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 16 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®.

Filtering Stage 3 selection (Cont.):Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
20,001 to 25,000	5 days
25,001 to 50,000	4 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	1 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	2 days
125,001 to 250,000	6 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	4 days
1.1 to 1.5	11 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	5 days
No	11 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	BR-03-M-02	BLOCKS OF FLATS		BRISTOL CITY
	CLARENCE ROAD			
	BRISTOL			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	42		
	Survey date: MONDAY	12/10/09		Survey Type: MANUAL
2	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
3	CM-03-M-01	HOUSES & FLATS		CARMARTHENSHIRE
	COLLEGE ROAD			
	CARMARTHEN			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	48		
	Survey date: THURSDAY	18/09/08		Survey Type: MANUAL
4	DV-03-M-01	HOUSES & FLATS		DEVON
	TOPSHAM ROAD			
	EXETER			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	61		
	Survey date: THURSDAY	06/10/11		Survey Type: MANUAL
5	FA-03-M-01	SEMI D./TERRACED		FALKIRK
	FAIRLIE STREET			
	FALKIRK			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	138		
	Survey date: WEDNESDAY	29/06/05		Survey Type: MANUAL
6	HC-03-M-04	HOUSES & FLATS		HAMPSHIRE
	HUNTS POND ROAD			
	TITCHFIELD			
	NEAR FAREHAM			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	282		
	Survey date: TUESDAY	11/12/12		Survey Type: MANUAL
7	HE-03-M-01	SEMI D./TERRACED		HEREFORDSHIRE
	WHITECROSS ROAD			
	WIDEMARSH			
	HEREFORD			
	Suburban Area (PPS6 Out of Centre)			
	Industrial Zone			
	Total Number of dwellings:	57		
	Survey date: WEDNESDAY	01/03/06		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	KC-03-M-01 HIGH STREET	BLOCKS OF FLATS		KENT
	RAMSGATE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 103 <i>Survey date: TUESDAY</i> 08/12/09			<i>Survey Type: MANUAL</i>
9	LE-03-M-01 RYDER ROAD BRAUNSTONE FRITH LEICESTER	SEMI DETACHED		LEICESTERSHIRE
	Edge of Town Residential Zone Total Number of dwellings: 16 <i>Survey date: THURSDAY</i> 27/09/12			<i>Survey Type: MANUAL</i>
10	MS-03-M-01 OFF KINGSWAY PRECOT LIVERPOOL	HOUSING		MERSEYSIDE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 40 <i>Survey date: MONDAY</i> 25/06/07			<i>Survey Type: MANUAL</i>
11	NY-03-M-03 CAWTHORN AVENUE	SEMI D./TERRACED		NORTH YORKSHIRE
	HARROGATE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 14 <i>Survey date: THURSDAY</i> 11/09/08			<i>Survey Type: MANUAL</i>
12	RE-03-M-01 OXFORD ROAD	BLOCKS OF FLATS		READING
	READING Edge of Town Built-Up Zone Total Number of dwellings: 79 <i>Survey date: FRIDAY</i> 03/11/06			<i>Survey Type: MANUAL</i>
13	SC-03-M-03 ST ANNE'S DRIVE	HOUSES & FLATS		SURREY
	REDHILL Edge of Town Residential Zone Total Number of dwellings: 500 <i>Survey date: THURSDAY</i> 08/09/11			<i>Survey Type: MANUAL</i>
14	SC-03-M-04 EPSOM ROAD	HOUSES/FLATS		SURREY
	GUILDFORD Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 130 <i>Survey date: THURSDAY</i> 13/10/11			<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

15	SC-03-M-05	HOUSES & FLATS		SURREY
	HOLYWELL WAY			
	STANWELL			
	STAINES			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	52		
	Survey date: MONDAY	19/11/12		Survey Type: MANUAL
16	WS-03-M-03	TERRACED & FLATS		WEST SUSSEX
	UPPER SHOREHAM ROAD			
	SHOREHAM BY SEA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	48		
	Survey date: WEDNESDAY	18/04/12		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.

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	16	106	0.084	16	106	0.233	16	106	0.317
08:00 - 09:00	16	106	0.115	16	106	0.282	16	106	0.397
09:00 - 10:00	16	106	0.126	16	106	0.153	16	106	0.279
10:00 - 11:00	16	106	0.134	16	106	0.135	16	106	0.269
11:00 - 12:00	16	106	0.141	16	106	0.132	16	106	0.273
12:00 - 13:00	16	106	0.134	16	106	0.144	16	106	0.278
13:00 - 14:00	16	106	0.143	16	106	0.147	16	106	0.290
14:00 - 15:00	16	106	0.150	16	106	0.151	16	106	0.301
15:00 - 16:00	16	106	0.185	16	106	0.142	16	106	0.327
16:00 - 17:00	16	106	0.241	16	106	0.179	16	106	0.420
17:00 - 18:00	16	106	0.290	16	106	0.150	16	106	0.440
18:00 - 19:00	16	106	0.230	16	106	0.165	16	106	0.395
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.973			2.013			3.986

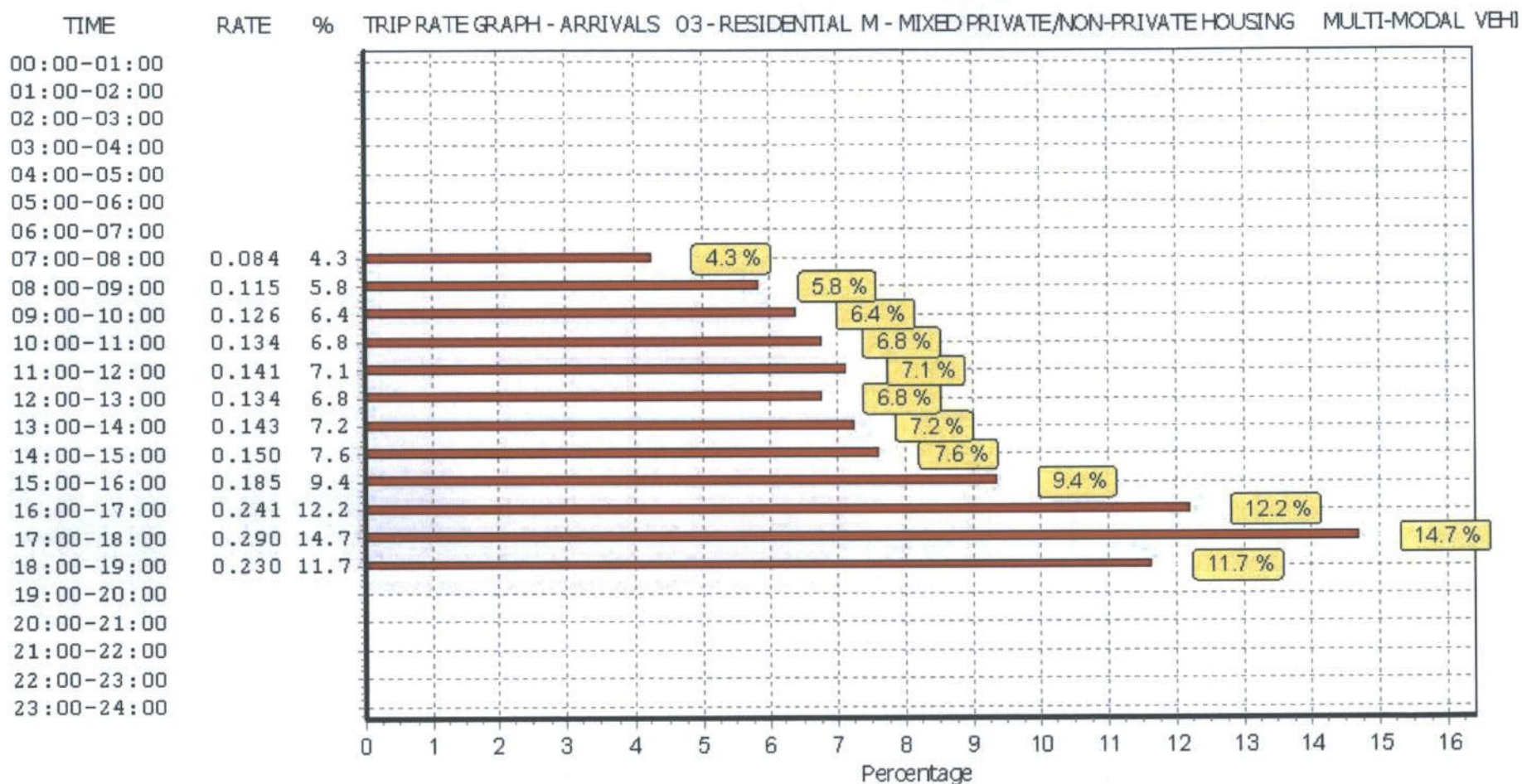
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

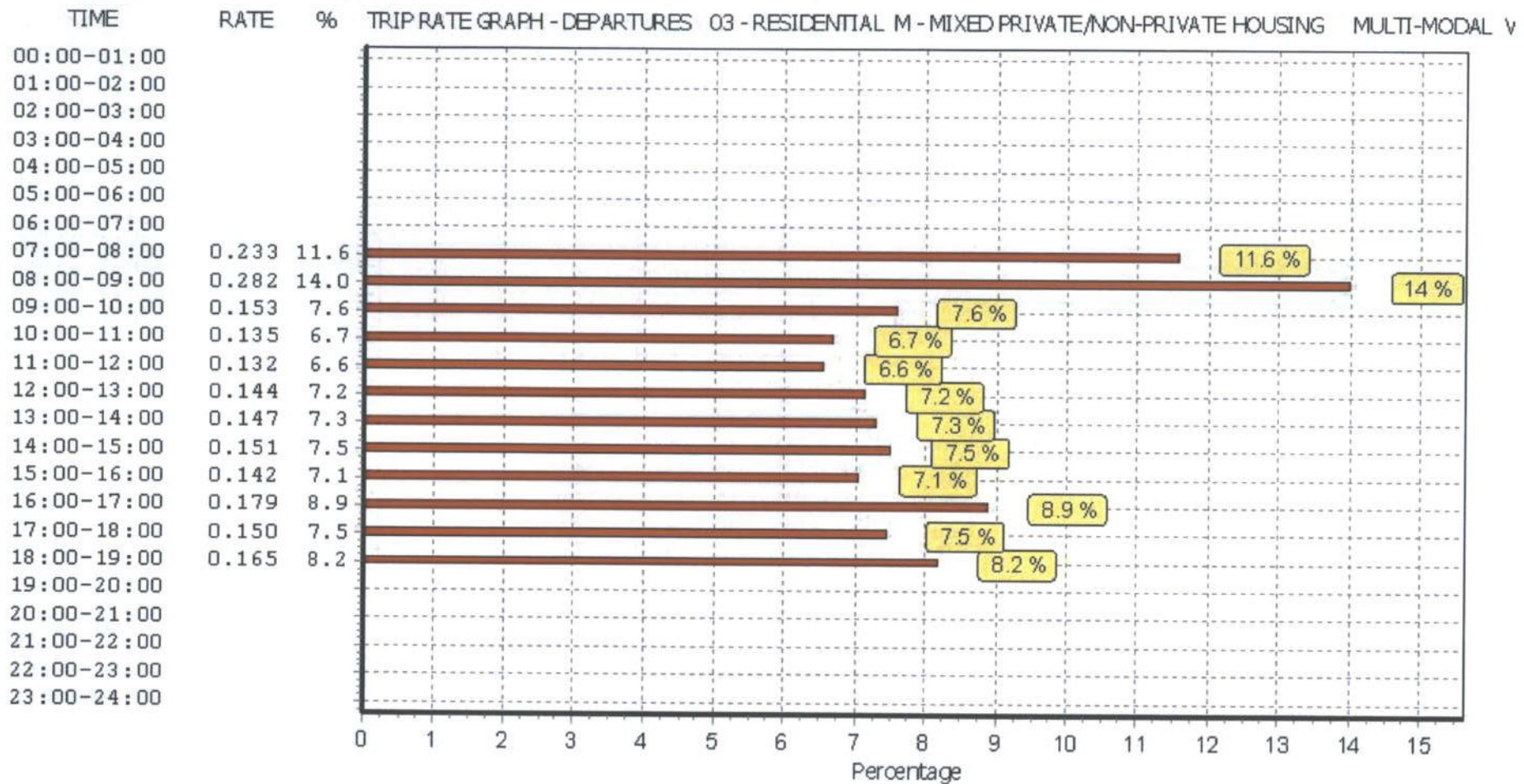
Parameter summary

Trip rate parameter range selected: 14 - 500 (units:)
 Survey date range: 01/01/05 - 11/12/12
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 3

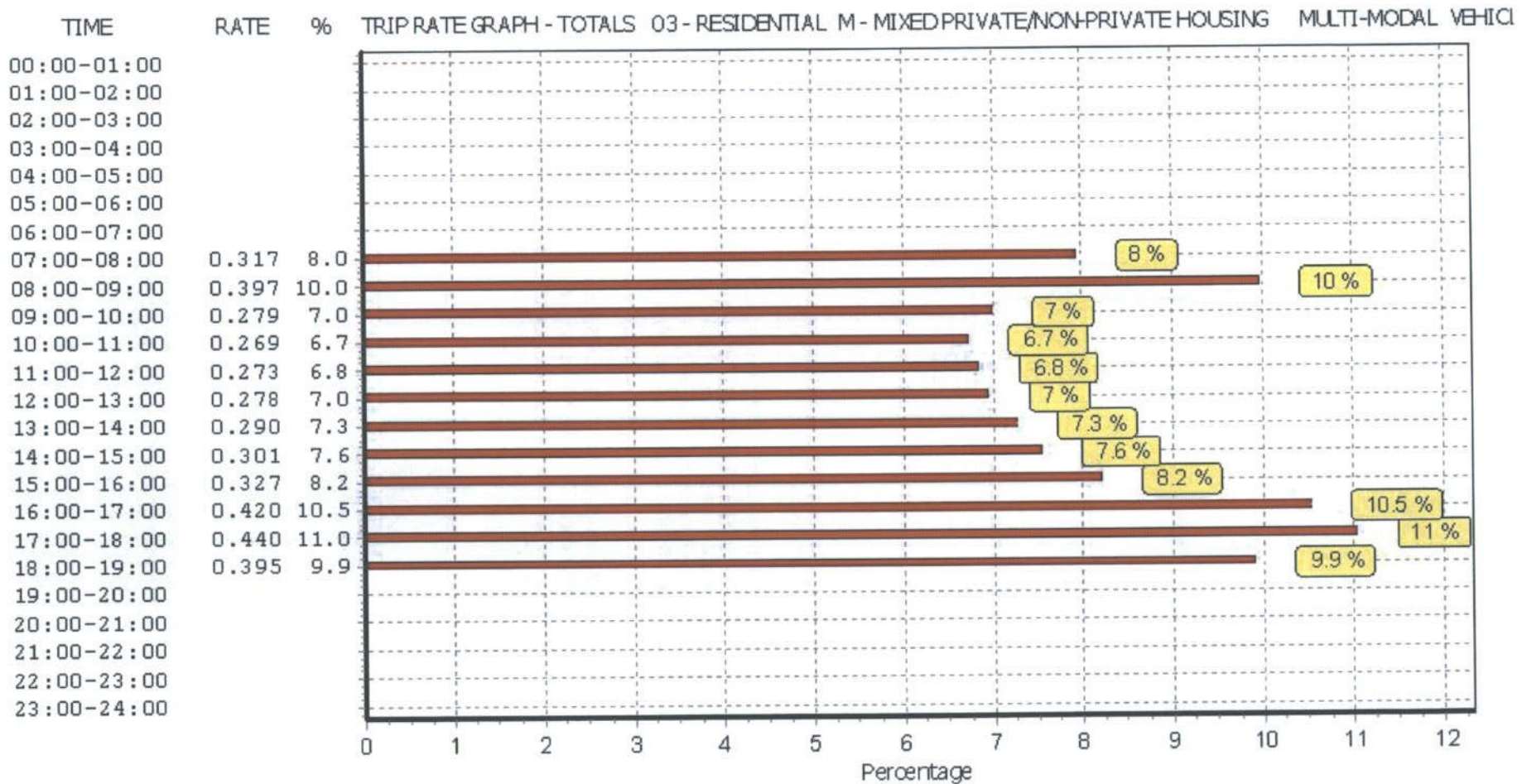
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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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	16	106	0.001	16	106	0.000	16	106	0.001
08:00 - 09:00	16	106	0.002	16	106	0.001	16	106	0.003
09:00 - 10:00	16	106	0.001	16	106	0.003	16	106	0.004
10:00 - 11:00	16	106	0.002	16	106	0.001	16	106	0.003
11:00 - 12:00	16	106	0.005	16	106	0.004	16	106	0.009
12:00 - 13:00	16	106	0.003	16	106	0.001	16	106	0.004
13:00 - 14:00	16	106	0.003	16	106	0.001	16	106	0.004
14:00 - 15:00	16	106	0.002	16	106	0.003	16	106	0.005
15:00 - 16:00	16	106	0.001	16	106	0.004	16	106	0.005
16:00 - 17:00	16	106	0.001	16	106	0.002	16	106	0.003
17:00 - 18:00	16	106	0.000	16	106	0.001	16	106	0.001
18:00 - 19:00	16	106	0.000	16	106	0.001	16	106	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.022			0.043

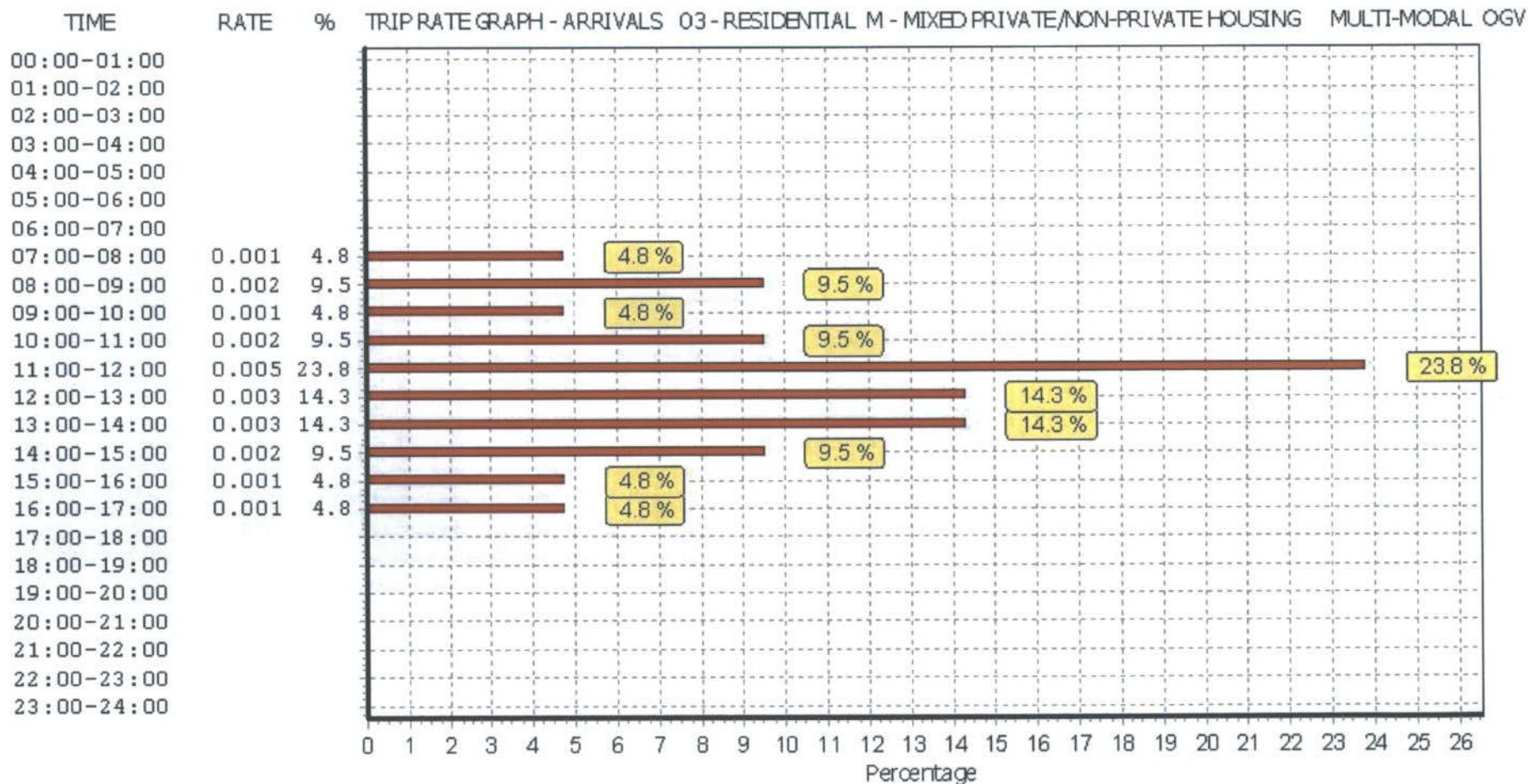
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

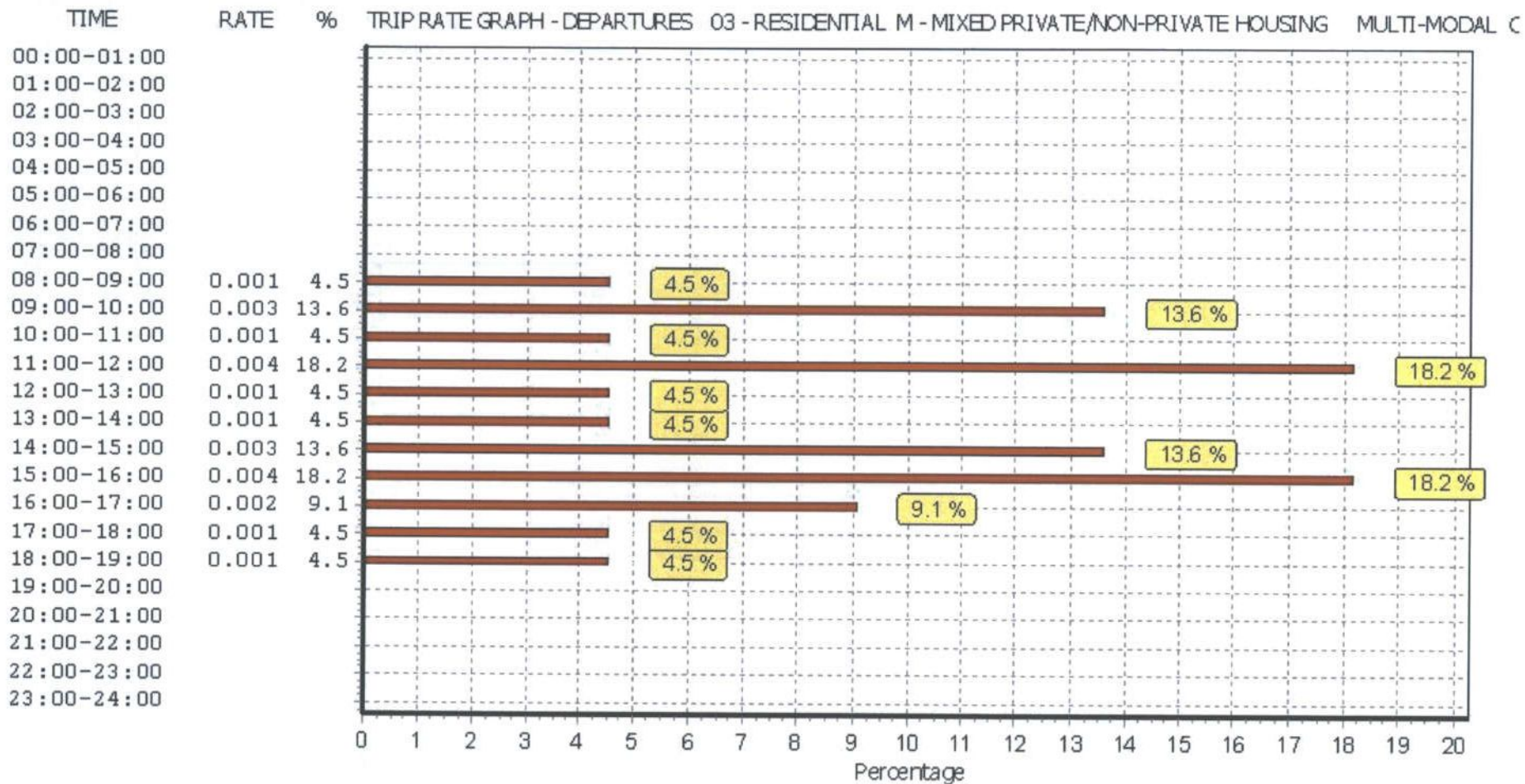
Parameter summary

Trip rate parameter range selected: 14 - 500 (units:)
 Survey date range: 01/01/05 - 11/12/12
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 3

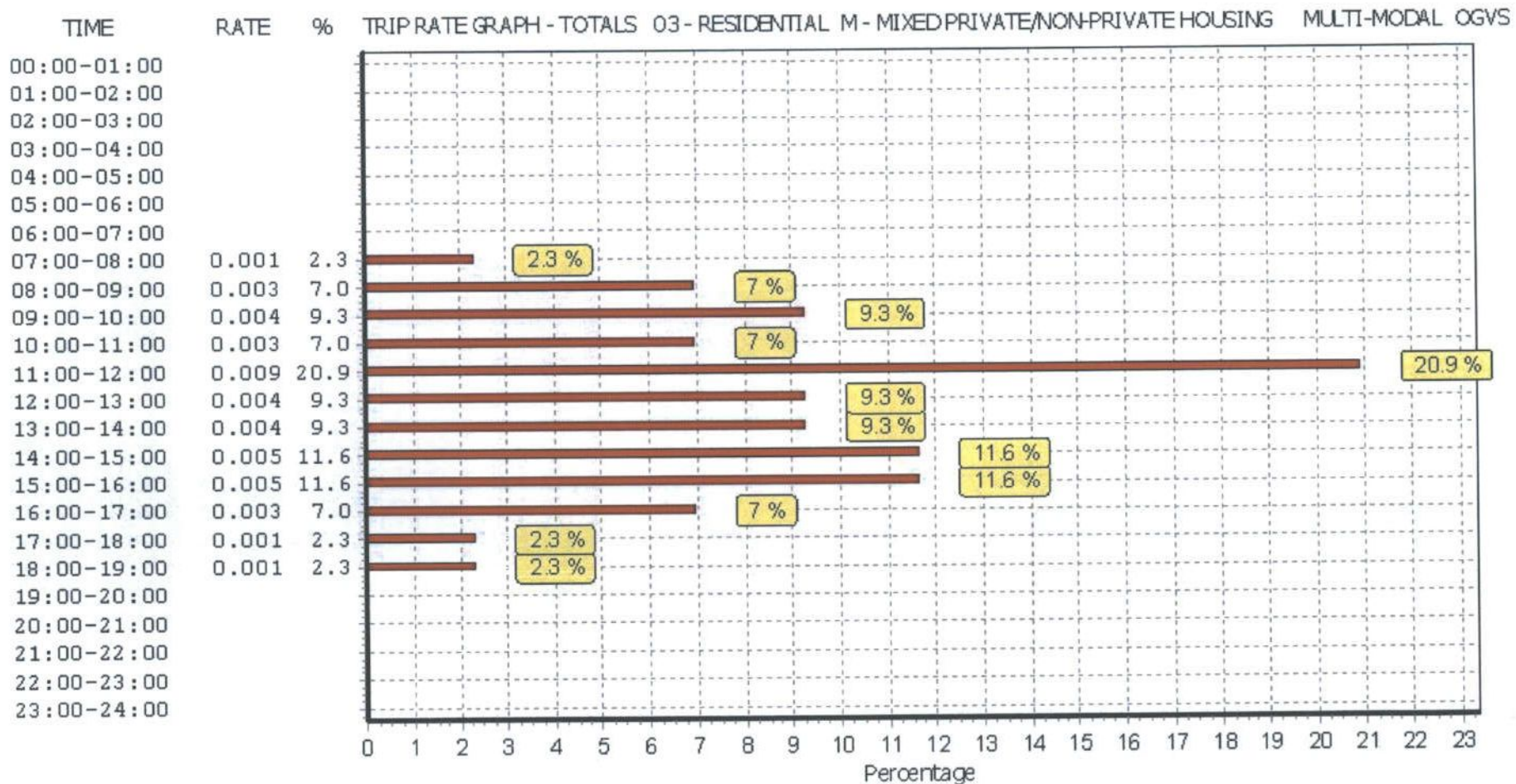
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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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	16	106	0.126	16	106	0.399	16	106	0.525
08:00 - 09:00	16	106	0.210	16	106	0.642	16	106	0.852
09:00 - 10:00	16	106	0.199	16	106	0.271	16	106	0.470
10:00 - 11:00	16	106	0.219	16	106	0.228	16	106	0.447
11:00 - 12:00	16	106	0.214	16	106	0.242	16	106	0.456
12:00 - 13:00	16	106	0.233	16	106	0.244	16	106	0.477
13:00 - 14:00	16	106	0.250	16	106	0.246	16	106	0.496
14:00 - 15:00	16	106	0.274	16	106	0.261	16	106	0.535
15:00 - 16:00	16	106	0.458	16	106	0.278	16	106	0.736
16:00 - 17:00	16	106	0.421	16	106	0.303	16	106	0.724
17:00 - 18:00	16	106	0.498	16	106	0.254	16	106	0.752
18:00 - 19:00	16	106	0.407	16	106	0.272	16	106	0.679
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.509			3.640			7.149

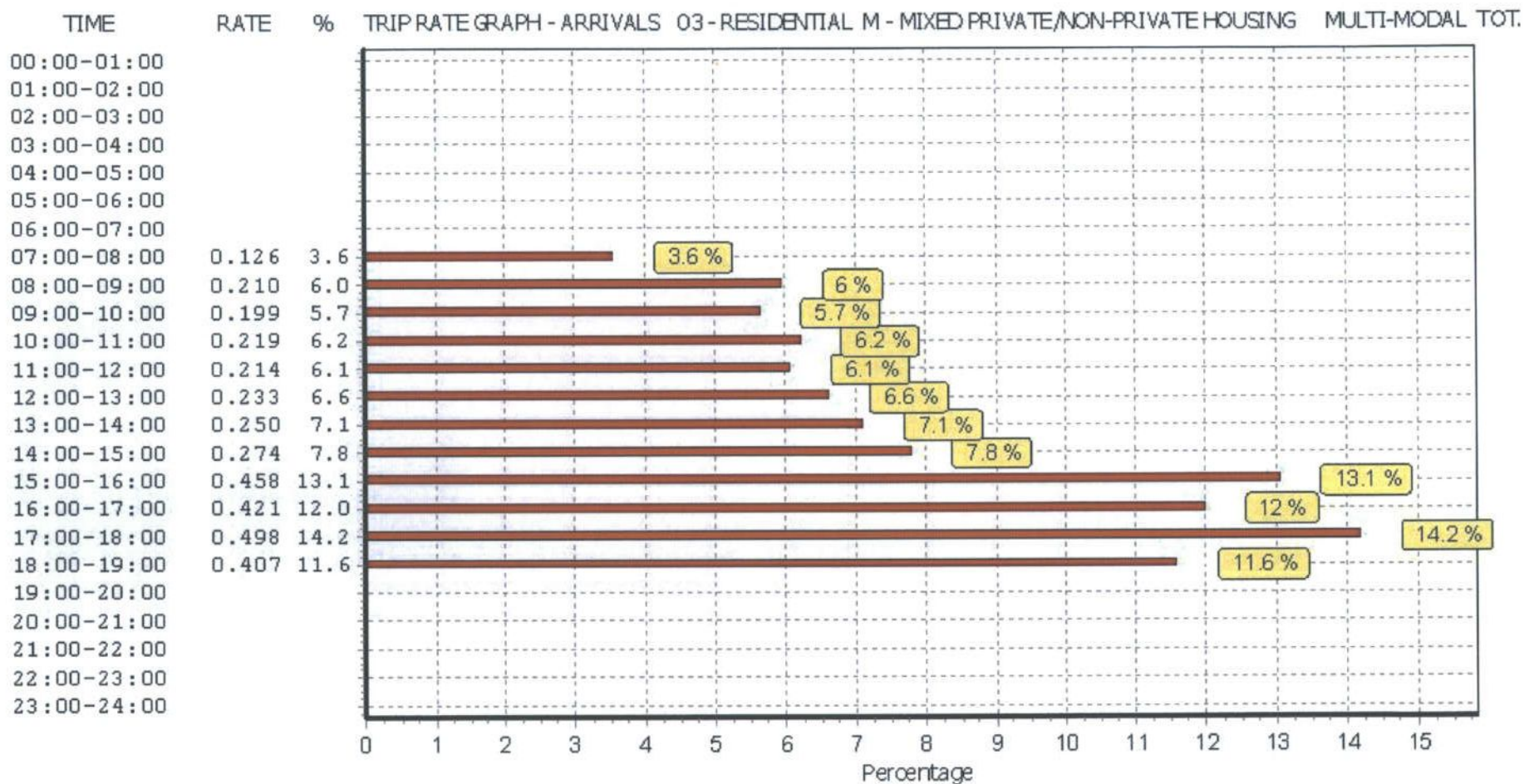
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

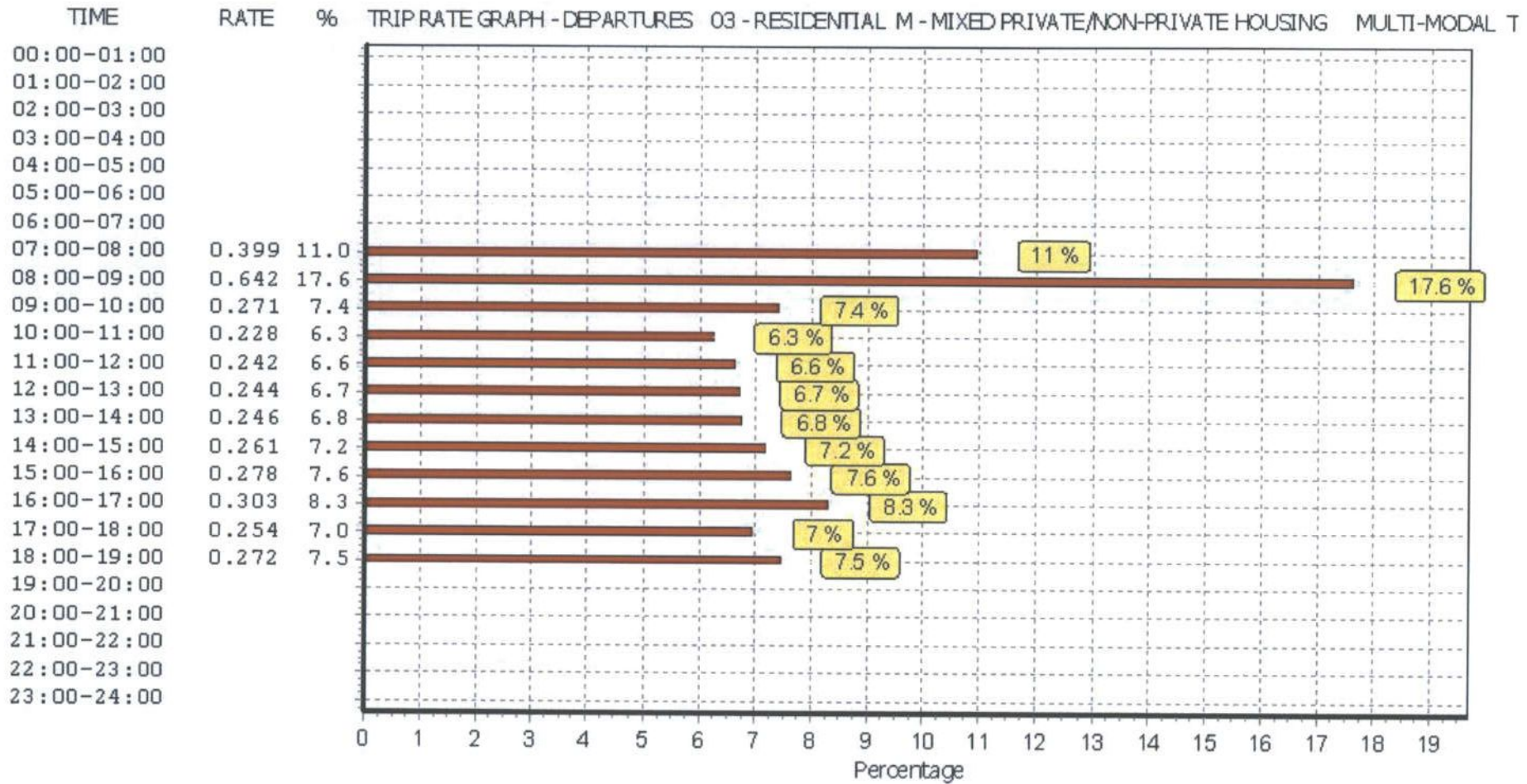
Parameter summary

Trip rate parameter range selected: 14 - 500 (units:)
 Survey date range: 01/01/05 - 11/12/12
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 3

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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.