

Report of Surveys and Existing Data Review

Prepared for
West of England Authorities

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Document History

GBATS4 Model Update

Report of Surveys and Existing Data Review

West of England Authorities

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Acronyms and Abbreviations

WoE	West of England
OD	Origin Destination
RSI	Road Side Interview
ATC	Automatic Traffic Count
MCC	Manual Classified Count
PTAM	Public Transport Assignment Model
HAM	Highway Assignment Model
ORR	Office of Rail Regulation
NRTS	National Rail Travel Survey
DfT	Department for Transport

Introduction

1.1 Study overview

CH2M Hill was commissioned by Bristol City Council (BCC), on behalf of the West of England authorities, in the spring of 2013 to specify and organise a comprehensive programme of surveys to support the update of the GBATS multi-modal transport model to appraise major schemes including MetroWest and other proposals in Bristol city centre. This report provides details of the various surveys carried out.

1.2 Highway surveys

A critical element of the highway model update is associated with the production of revised private vehicle matrices. In order to develop these matrices and provide data for model validation, a detailed survey programme was derived. Surveys were carried out in June and October 2013 and March 2014, which incorporated the following:

- Road Side Interviews (RSI);
- Automated Traffic Counts (ATC);
- Manual Classified Counts (MCC);
- Car Park surveys.

The RSI surveys and their associated ATC counts were conducted by Intelligent Data Collection Ltd, whilst the MCC, ATC and car park surveys were conducted by Sky High/Count on Us.

In addition to the data collected by CH2M Hill, a large amount of historic ATC and MCC data has been made available from the Local Authorities that cover the Greater Bristol area. Motorway traffic flow data has been extracted from the Highways Agency website, TRADS Hatris.

Journey Time data has been extracted from Trafficmaster™ data.

1.3 Bus public transport surveys

An extensive programme of bus surveys was undertaken to facilitate the production of revised bus public transport matrices and to inform the validation of the updated model. Surveys were carried out in November 2013 and comprised of the following:

- At-stop bus boarding and alighting counts and origin-destination surveys;
- Bus cordon counts;
- On-bus origin-destination surveys for the Brislington and Portway Park and Ride services.

All the public transport surveys were conducted by Nationwide Data Collection (NDC). In addition to the data collected by CH2M Hill, BCC made available boarding/alighting data for the three park and ride bus services. North Somerset Council (NSC) data collection team also conducted a survey of passengers using the X2/ X3 services.

1.4 Rail public transport surveys

Data from the Annual West of England Rail Survey has been made available by the Authorities and data from the rail industry has been used to build demand matrices, such as National Rail Travel Survey (NRTS) and Office of Rail Regulation (ORR) data.

1.5 Report structure

The following chapters describe in more detail the surveys carried out. Chapters 2 to 7 describe the highway surveys, chapters 8 and 9 describe the PT bus and rail surveys, while chapter 10 provides an overall conclusion.

Roadside Interview Surveys

2.1 Location and dates of RSI surveys

The key objectives for the update of the GBATS model is to improve the models accuracy in Bristol city centre and for forecasting the impacts of MetroWest Phase 1 and 2. To achieve this a central cordon was defined, with 13 Road Side Interview (RSI) sites identified. The roadside interview questionnaire is included in Appendix A. Locations are detailed in Table 2-1 below and shown on Figure 2.1.

It had been intended that surveys would be carried out during June, but due to a relatively short lead-in time for the sub-contractor to prepare and the risk that surveys would spill over into a non-neutral month (July), it was decided that the RSI surveys should be undertaken in October 2013.

Table 2-1

ROADSIDE INTERVIEWS: LOCATION AND DATES

RSI ID	Date	Weather Conditions	Additional Comment
RSI01 – Queens Road	17/10/2013	Generally Fine	Delayed start and reduced interview bay capacity
RSI02 - Horfield Road			None
RSI03 – Stokes Croft			Relocated interview bay
RSI04 – Newfoundland Street	16/10/2013	Heavy Rain AM (07:00 – 11:00) PM Fine	Self-completion surveys handed out during heavy rain
RSI05 - West Street			
RSI06 - Avon Street			
RSI07 – Feeder Road	15/10/2013	Fine	Not able to interview heavy goods vehicles
RSI08 – Bath Road			Not able to interview heavy goods vehicles
RSI09 – St Lukes Road			None
RSI10 – Bedminster Parade	22/10/2013	Intermittent showers throughout the day	None
RSI11 – Coronation Road			High levels of congestion in AM peak lead to the adoption of self-completion surveys and then a temporary postponement of surveys.
RSI12 – Cumberland Road			None
RSI13 – Hotwells Road			Reduced interview bay capacity until 08:00

All the sites were conducted in the inbound direction, towards Bristol city centre.

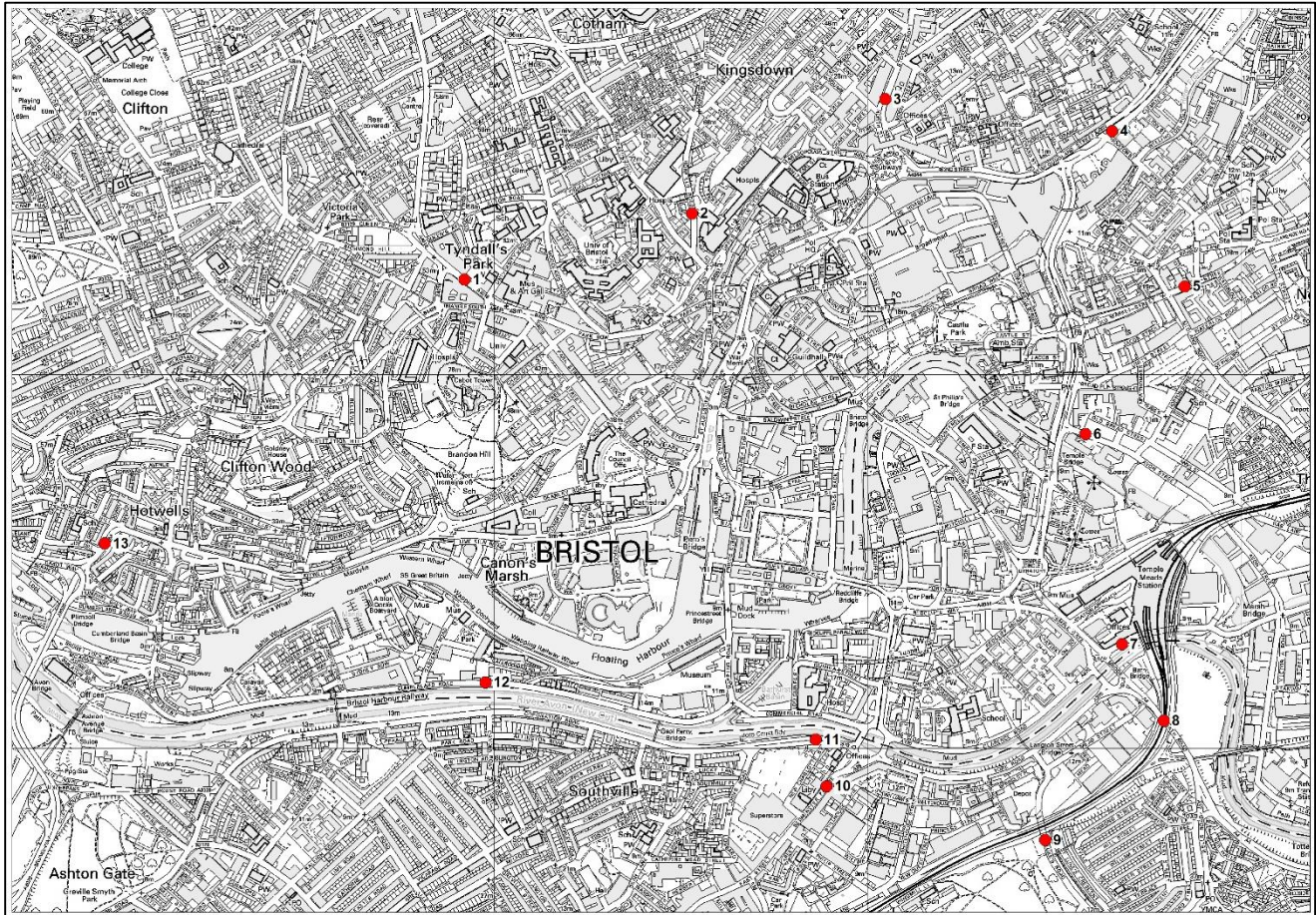


Figure 2-1 Roadside Interview locations

2.2 Weather and traffic conditions during surveys

The weather conditions during the surveys were generally good. The most serious disruption was caused by heavy rainfall during the morning of 16th October, during which time direct face to face surveys were suspended and self-completion surveys handed out.

Traffic flows during the surveys were constantly monitored by site supervisors and action taken accordingly to avoid unnecessary delays. At Site 11 (Coronation Road), despite the survey company taking remedial action, the survey was temporarily suspended at the request of the BCC traffic control room.

Traffic volumes on 17th October were affected due the occurrence of a nationwide teachers strike. As the policing resource had already been booked, it was not possible to re-arrange the surveys without incurring a significant additional cost.

2.3 Sample rates

2.3.1 Target Sample Rates

The Highways Agency: "Design Manual for Roads and Bridges". Volume 5, Section 1, Part 4, 'Traffic surveys by Roadside Interview' Annex 8 contains advice on the sample size required to give results to the level of accuracy needed. The equation used to calculate the sample size required is as follows:

$$q = \frac{P (1-P) Q^3}{(E/1.96)^2 (Q-1) + P (1-P) Q^2}$$

Where: q = Sample size
 P = Proportion of vehicles with a particular attribute
 Q = Total traffic flow
 E = Level of accuracy (expressed as a no. of vehicles)

The above equation requires an estimate to be made for the number of trips being made to a particular zone (P). The same Annex 8 states that “When data is being collected for a large multi-zoned modal, it is impossible to calculate this for every O-D pair for each RSI site as the origins and destinations are not yet known. Once a survey site has been established it is best practice to collect as much data as reasonably practical.”

2.3.2 12 Hour summary data and sample rates

A total of 10007 surveys were conducted/received. Of these 9027 (90%) were flagged by the survey company as being “valid” while 980 were flagged as “invalid”. Reasons for survey records being flagged as invalid include round trips, partial completion, complete refusal or illogical movements (where a stated trip origin or destination does not appear to match with the interview point). More detailed checks were then carried out during matrix development to assess whether any of the “invalid” survey records could be utilized and double checking the surveys deemed “valid”. After this process 8324 (83%) were seen as “valid” trips to be used for updating the matrix.

Table 2.2 shows the sample rates by site and as a whole, for lights and heavies, based on data with all invalid OD records removed. Trips into the city centre area have been used as the ‘proportion of vehicles with a particular attribute’ to determine the value of P in the target sample size calculation. The sample size checks are based on volumes for the modelled hours but take into account survey sample size for the whole related period since all the OD data will be used. E.g. for AM peak the volume (Q) is 8-9am whereas the Sample size relates to all OD records obtained in the 7-10am peak period. The level of accuracy (E) is based on a band of 10%, i.e. +/-5% and a band of 4%, i.e. +/- 2%.

Table 2-2

Roadside Interviews: Sample Rates

Site	Time	Site	Time	Veh	Flow	P	Target (10%)	Target (4%)	Sample	Diff (v 10%)	Diff (v 4%)	Sample %
ALL	12 hr	ALL	12 hr	Lights	100313	0.41	370	2270	8245	7875	5975	8%
		ALL	12 hr	HGVs	2784	0.25	263	1099	79	-184	-1020	3%
	07:00-10:00	ALL	AM	Lights	10463	0.48	370	1950	2609	2239	659	25%
		ALL	AM	HGVs	252	0.19	122	216	21	-101	-195	8%
	10:00-16:00	ALL	IP	Lights	7585	0.39	348	1753	3699	3351	1946	49%
		ALL	IP	HGVs	248	0.27	137	220	48	-89	-172	19%
	16:00-19:00	ALL	PM	Lights	8517	0.36	340	1755	1937	1597	182	23%
		ALL	PM	HGVs	162	0.30	108	150	10	-98	-140	6%
RSI1	12 hr	1	12 hr	Lights	11601	0.41	361	1940	723	362	-1217	6%
INBOUND		1	12 hr	HGVs	247	0.25	133	217	4	-129	-213	2%
RSI2	12 hr	2	12 hr	Lights	2803	0.46	336	1290	446	110	-844	16%
INBOUND		2	12 hr	HGVs	32	0.00	0	0	2	2	2	6%
RSI3	12 hr	3	12 hr	Lights	5924	0.50	361	1709	724	363	-985	12%
INBOUND		3	12 hr	HGVs	109	0.42	84	104	12	-72	-92	11%
RSI4	12 hr	4	12 hr	Lights	17747	0.47	375	2109	770	395	-1339	4%
INBOUND		4	12 hr	HGVs	586	0.17	157	407	6	-151	-401	1%
RSI5	12 hr	5	12 hr	Lights	8805	0.58	358	1845	625	267	-1220	7%
INBOUND		5	12 hr	HGVs	142	0.00	0	0	2	2	2	1%
RSI6	12 hr	6	12 hr	Lights	1498	0.66	281	885	278	-3	-607	19%
INBOUND		6	12 hr	HGVs	47	1.00	0	0	4	4	4	8%
RSI7	12 hr	7	12 hr	Lights	3341	0.16	193	926	555	362	-371	17%
INBOUND		7	12 hr	HGVs	100	0.00	0	0	6	6	6	6%
RSI8	12 hr	8	12 hr	Lights	12698	0.33	332	1826	706	374	-1120	6%
INBOUND		8	12 hr	HGVs	594	0.25	194	447	8	-186	-439	1%
RSI9	12 hr	9	12 hr	Lights	3522	0.36	323	1363	854	531	-509	24%
INBOUND		9	12 hr	HGVs	18	0.25	17	18	4	-13	-14	22%
RSI10	12 hr	10	12 hr	Lights	6136	0.42	352	1691	714	362	-977	12%
INBOUND		10	12 hr	HGVs	173	0.14	90	151	14	-76	-137	8%
RSI11	12 hr	11	12 hr	Lights	6160	0.26	281	1416	713	432	-703	12%
INBOUND		11	12 hr	HGVs	279	0.33	154	247	6	-148	-241	2%
RSI12	12 hr	12	12 hr	Lights	5806	0.37	336	1612	520	184	-1092	9%
INBOUND		12	12 hr	HGVs	118	0.33	88	112	3	-85	-109	3%
RSI13	12 hr	13	12 hr	Lights	14272	0.48	373	2052	617	244	-1435	4%
INBOUND		13	12 hr	HGVs	338	0.13	112	256	8	-104	-248	2%

For heavy vehicles the sample size is low so a review of the existing HGV matrices against Trafficmaster™ data has been undertaken to verify the existing modelled HGV patterns are deemed suitable for use. This showed a reasonable fit in terms of trip lengths and spatial patterns.

For light vehicles, the conclusions are:

- All sites combined achieve higher confidence level (+/-2%) for 12 hr and individual time periods
- Individual sites all have sufficient sample for 12hr at lower confidence level (+/-5%) except site 6

Site 6 is very close to target sample size and has good overall rate of 19% but has the lowest flow so the target rate is harder to achieve.

Hence the data for light vehicles is sufficient for matrix building. This data will just be used to replace trips in the source model prior matrices for the locations covered by the surveys.

For heavy vehicles, the source model matrices are deemed sufficient and hence the use of new RSI data is not required.

2.3.3 Geocoding of Survey records

Using the stated origin and destination postcodes, it has been possible to geocode the survey records. A high level assessment has been carried out by IDC to identify records that do not match with the interview location. More detailed analysis has also been conducted during the matrix development stage, where the model zones were sectorised and used to identify “illogical” trips.

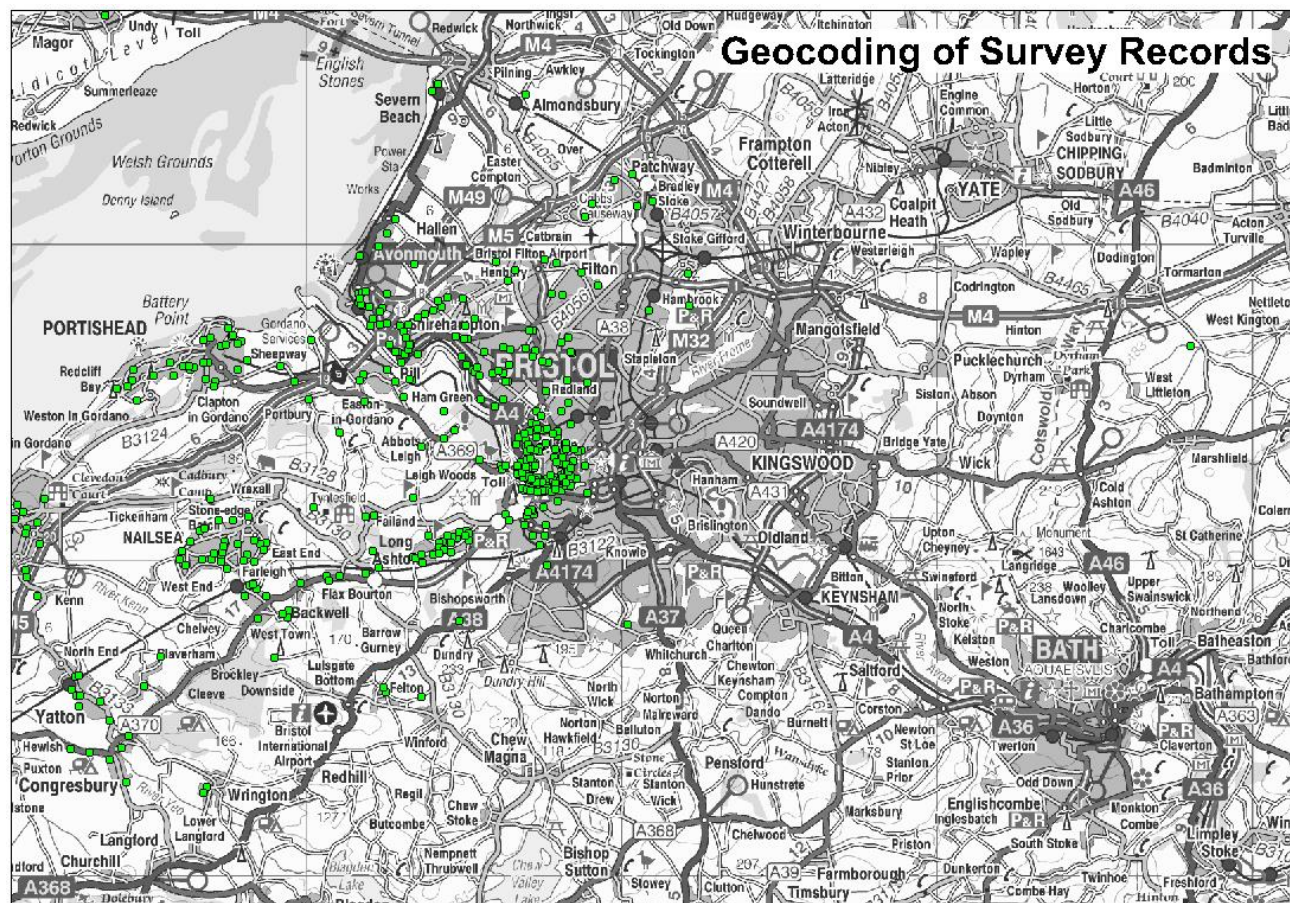


Figure 2-2 Geocoding of Survey Records: Site 12 Cumberland Road – trip origins

2.3.4 Trip Purpose

Table 2.3 presents an analysis of survey records by trip purpose. It can be seen that the vast majority of trips (74%) were “Home based” in nature. Unsurprisingly “Home based work” was the largest demand segment sampled in the surveys with 3487 survey records completed (42% of the overall records).

Table 2-3

Survey Records by Trip Purpose

Trip Purpose	Trip Purpose Code	Number of Surveys completed	% of Sample
Home based work	HBW	3487	42%
Home based other	HBO	2660	32%
Home – employers business	HBEB	19	0%
Non home based – other	NHBO	872	11%

Non home based – employers business	NHBEB	1196	15%
Total		8234	100%

2.4 RSI Trip Distribution

Appendix B provides details of the distribution of the RSI data at a sector level, by site and time period.

Automated Traffic Counts

3.1 Location and dates of counters

Automatic traffic counters (ATC's) were installed in June 2013 (29 locations), October 2013 (13 RSI locations) and March 2014 (32 locations). Data from these sites, when combined with existing count data held by the local authorities, allow various cordons and screenlines to be formed. Table 3.1 details the locations and dates when ATC's were installed. The counts were collected for both direction of movement and over a two week period. Figures 3.1 and 3.2 show the locations of the ATC's for 2013 and 2014 respectively. This new data will be used in conjunction existing ATC and other count data held by the Authorities (see section 5).

Table 3-1

Automatic Traffic Count Locations

Ref No.	Location	Cordon/Screenline	Date
1	A4018 Whiteladies Road, south of Queens Avenue	RSI Inner	9th - 27th October 2013
2	Horfield Road, south of St Michaels Hill	RSI Inner	9th - 27th October 2013
3	A38 North Street, north of St James Barton roundabout	RSI Inner	9th - 27th October 2013
4	A4032 Newfoundland Street, at gyratory signals	RSI Inner	9th - 27th October 2013
5	A420 Old Market Street, east of Old market roundabout	RSI Inner	9th - 27th October & 4th - 11 November 2013
6	Avon Street, east of Temple Way	RSI Inner	9th - 27th October 2013
7	Feeder Road, north of Bath Bridge roundabout	RSI Inner	9th - 27th October 2013
8	A4 Bath Road, south of Bath Bridge roundabout	RSI Inner	9th - 27th October 2013
9	St Lukes Road, south of railway	RSI Inner	9th - 27th October 2013
10	Bedminster Parade, south of Bedminster Bridge	RSI Inner	9th - 27th October 2013
11	A370 Coronation Road, west of Bedminster Bridge	RSI Inner	9th - 27th October 2013
12	Cumberland Road, west of Wapping Road	RSI Inner	9th - 27th October 2013
13	Hotwell Road, west of Jacobs Well roundabout	RSI Inner	15th-27th October 2013
M2	A41 Portway south of Bridge Valley Rd	Middle	18th June - 1st July 2013
M6	St Johns Road between All Saints Rd and Clifton Down station approach	Middle	19th June - 2nd July 2013
M11	A38 Cheltenham Road north of Cotham Brow	Middle	18th June - 1st July 2013
M16	QA420 Lawrence Hill east of Croydon St	Middle	19th June - 2nd July 2013
M18	Barrow Road south of Lincoln St	Middle	19th June - 2nd July 2013
M19	A4320 St Phillips Causeway south of Day's Rd	Middle	19th June - 2nd July 2013
M24	Wedmore Vale north of Glynn Vale	Middle	18th June - 1st July 2013
M26	A4174 Hartcliffe Way south of Parson St	Middle	18th June - 1st July 2013
M27	A38 Bedminster Down Road north of Bishopsworth Rd	Middle	18th June - 1st July 2013
M28	South Liberty Lane west of Nelson St	Middle	18th June - 1st July 2013
M29	Ashton Drive near rail bridge	Middle	18th June - 1st July 2013
M30	A370 Ashton Road east of B3128 merge	Middle	18th June - 1st July 2013
R12	Avon Street north of Feeder Rd	River	19th June - 2nd July 2013

Ref No.	Location	Cordon/Screenline	Date
RW5	A4176 Clifton Down between Pembroke Rd and The Ave	Rail	19th June - 2nd July 2013
RW6	Pembroke Road between Apsley Rd and Beaufort Rd	Rail	19th June - 2nd July 2013
RW8	Beaufort Road between Duchess Rd and Osborne Rd	Rail	19th June - 2nd July 2013
RW22	Kingsland Road between Day's Rd and Gas Ln	Rail	19th June - 2nd July 2013
RW26	B3021 St Johns Lane between Malago Rd and Clinton Rd	Rail	18th June - 1st July 2013
RW30	Whitby Road south of Feeder Rd by rail bridge	Rail	19th June - 2nd July 2013
RW35	A4175 Keynsham Road between The Ave and Chandos Rd	Rail	19th June - 2nd July 2013
RW36	Muller Road between Shaldon Rd and Petherbridge Way	Rail	18th June - 1st July 2013
RW38	Bonnington Walk east of Wordsworth Rd	Rail	19th June - 2nd July 2013
I-1	Whitehouse Street south of A370 York Rd	Inner	18th June - 1st July 2013
I-2	Spring Street south of A370 York Rd	Inner	18th June - 1st July 2013
I-3	Lower Clifton Hill (one way) west of Jacob's Wells Rd	Inner	19th June - 2nd July 2013
I-4	Constitution Hill west of Jacob's Wells Rd	Inner	19th June - 2nd July 2013
I-5	Woodland Rd north of Park Row	Inner	22nd June - 5th July 2013
I-6	York Street north of A4044 Newfoundland St	Inner	19th June - 2nd July 2013
I-8	Station Approach Rd in/out of Temple Meads	Inner	19th June - 2nd July 2013
O-1	A369 Clannage Road (North of Kennel Lodge Road)	Outer	1st - 14th March 2014
O-7	A4 Portway (West of Sylvan Way)	Outer	19th March - 1st April 2014
O-19	Hallen Road (North of Marissal Road)	Outer	19th March - 1st April 2014
O-21	Kings Weston Lane (North of Campbells Farm Drive)	Outer	1st - 14th March 2014
O-24	Queens Road (South of Bearbridge Road)	Outer	5th - 18th March 2014
S-4	Bridgewater Road (North of Winford Grove)	South	1st - 14th March 2014
S-6	Hengrove Way (East of Cater Road) (Eastbound)	South	6th - 19th March 2014
S-7	Hawkfield Road (South of Baiscoes Road)	South	6th - 19th March 2014
S-8	Whitchurch Lane (South of Hawkfield Way)	South	19th March - 1st April 2014
S-9	Wells Road	South	6th - 19th March 2014
S-10	Bath Road (South of A4174)	South	19th March - 1st April 2014
S-12	St Peters Rise (South of Headley Park)	South	27th March - 2nd April 2014
S-13	School Road (South of Allison Road)	South	6th - 19th March 2014
E-2	Downend Road (West of Stanbury Avenue)	East	6th - 19th March 2014
E-3	Staplehill Road (East of Lewington Road)	East	19th March - 1st April 2014
E-4	Lodge Hill (West of Cotteral Avenue)	East	1st - 14th March 2014
E-5	Two Mile Hill Road (West of Queens Way)	East	1st - 14th March 2014
E-6	Nags Head Hill (South of Nicholas Lane)	East	1st - 14th March 2014
NE-1	Frenchay Park Road (East of Ham Lane)	Northeast	1st - 14th March 2014
NE-5	Charlton Road (South of King Johns Road)	Northeast	1st - 14th March 2014

Ref No.	Location	Cordon/Screenline	Date
NE-6	Lodge Road (South of Britton Gardens)	Northeast	1st - 14th March 2014
NE-7	Downend Road (North of Cross Street)	Northeast	1st - 14th March 2014
NE-8	Syston Way (West of Northend Road)	Northeast	6th - 19th March 2014
NE-9	Lees Hill (South of High View Road)	Northeast	6th - 19th March 2014
NE-10	Pound Road (South of High View Road)	Northeast	6th - 19th March 2014
NE-11	Willis Road (South of Prospect Crescent)	Northeast	6th - 19th March 2014
NWI-3	Henbury Road (South of Hyland Grove)	Northwest Inner	1st - 14th March 2014
NWI-7	Southmead Road (South of Charis Avenue)	Northwest Inner	1st - 14th March 2014
NWI-10	Muller Road (North of Stottbury Road)	Northwest Inner	1st - 13th March 2014
NWI-11	Coldharbour Lane (North of M32)	Northwest Inner	1st - 14th March 2014
NWO-7	Bristol Road (North of A4174)	Northwest Outer	6th - 19th March 2014
M-12	North Road	Middle	14th - 20th March 2014

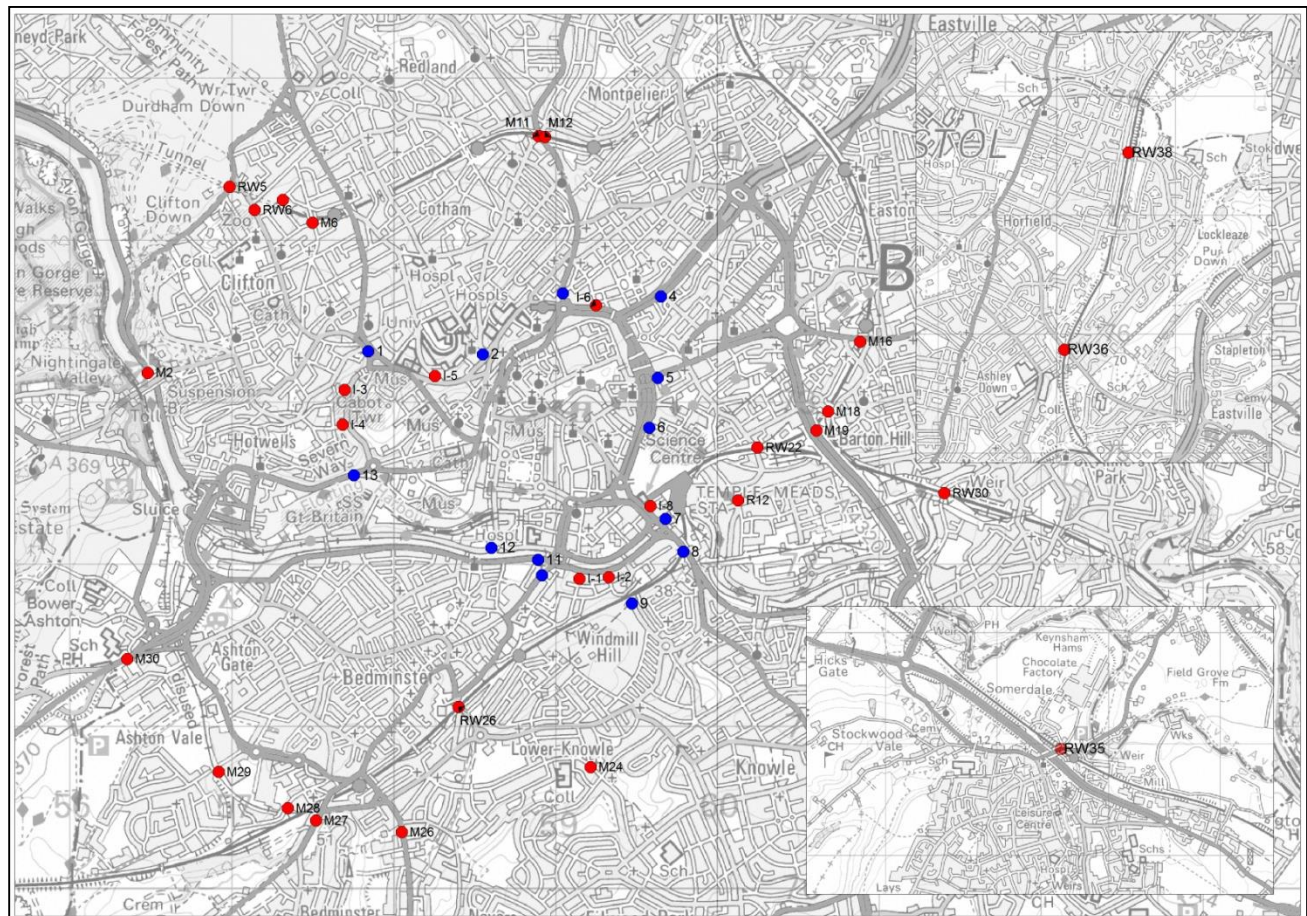


Figure 3-1: 2013 Automatic Traffic Count Locations

(Note: blue points represent RSI survey locations)

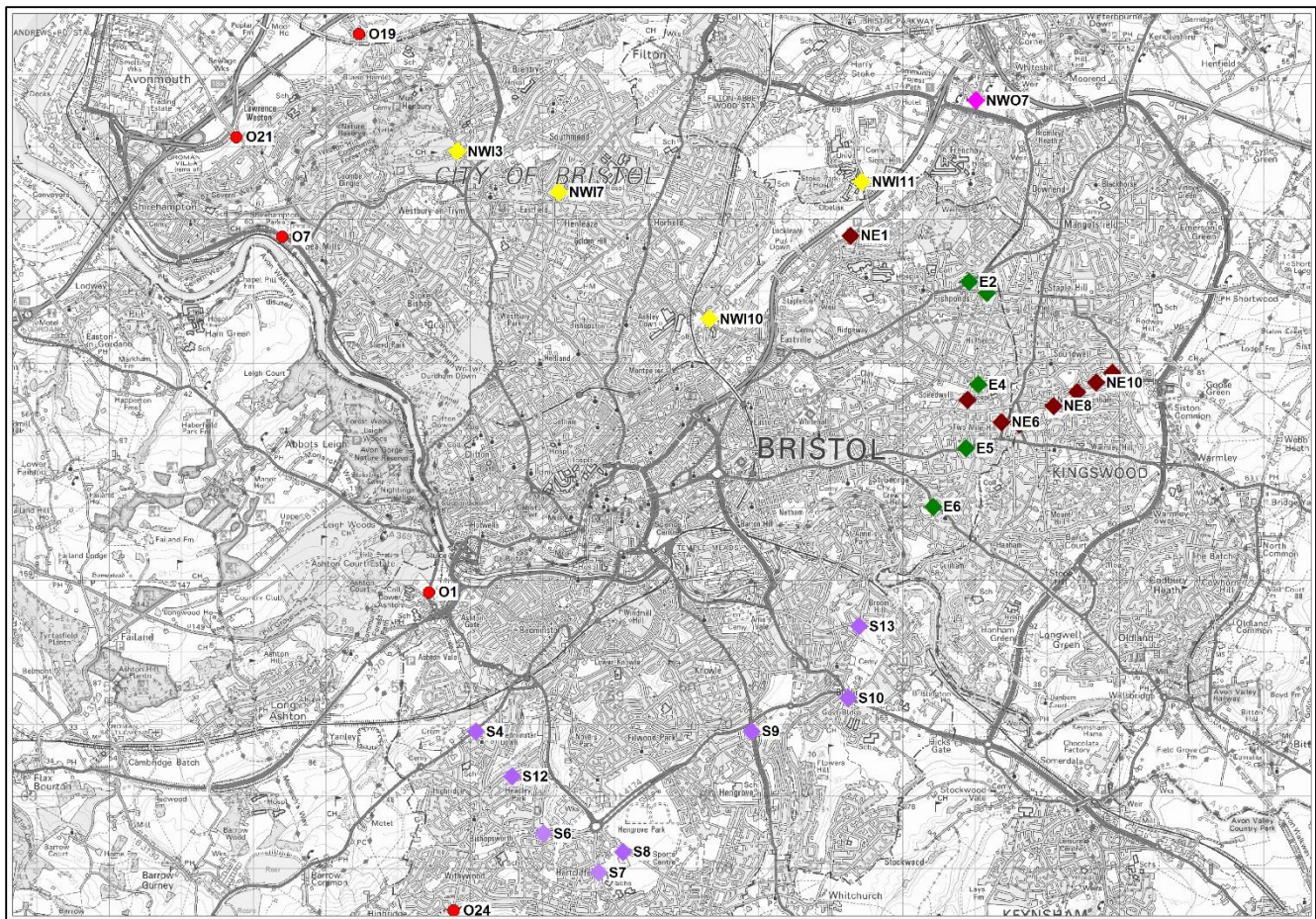


Figure 3-2: 2014 Automatic Traffic Count Locations

(Note: points colour-coded by screenline)

3.2 ATC Data

The data were checked for their location, number of days covered, vehicle classification, directional split, and consistency in hourly profile. These checks identified a number of data issues which will be taken into account when processing the data.

3.3 Data Analysis and Variability

The flows by direction and time period at the various ATC sites are given in Appendix C.

Manual Classified Counts

4.1 Location and dates of counts

Manual Classified Counts (MCC) were undertaken at the 13 RSI sites and 52 junctions in the study area. The locations of the junctions where MCC were undertaken are shown in Table 4.1 and illustrated in Figures 4.1 and 4.2. The surveys were undertaken using video. The surveys were undertaken on a weekday for a continuous 12-hr session, with vehicles summated for each 15-minute period between 07:00 and 19:00 hours. The vehicle movements were recorded under the following categories:

1. Cars/Taxis
2. Light goods vehicles
3. OGV1
4. OGV2
5. Buses and Coaches
6. Two-wheeled motor vehicles
7. Pedal Cycles

Table 4-1

Manual Classified Count Locations

Ref No.	Location	Location	Date
RSI1	A4018 Whiteladies Road, south of Queens Avenue	RSI Inner	Thursday 17th October
RSI 2	Horfield Road, south of St Michaels Hill	RSI Inner	Thursday 17th October
RSI 3	A38 North Street, north of St James Barton roundabout	RSI Inner	Thursday 17th October
RSI 4	A4032 Newfoundland Street, at gyratory signals	RSI Inner	Wednesday 16th October
RSI 5	A420 Old Market Street, east of Old market roundabout	RSI Inner	Wednesday 16th October
RSI 6	Avon Street, east of Temple Way	RSI Inner	Wednesday 16th October
RSI 7	Feeder Road, north of Bath Bridge roundabout	RSI Inner	Tuesday 15th October
RSI 8	A4 Bath Road, south of Bath Bridge roundabout	RSI Inner	Tuesday 15th October
RSI 9	St Lukes Road, south of railway	RSI Inner	Tuesday 15th October
RSI 10	Bedminster Parade, south of Bedminster Bridge	RSI Inner	Tuesday 22nd October
RSI 11	A370 Coronation Road, west of Bedminster Bridge	RSI Inner	Tuesday 22nd October
RSI 12	Cumberland Road, west of Wapping Road	RSI Inner	Tuesday 22nd October
RSI 13	Hotwell Road, west of Jacobs Well roundabout	RSI Inner	Tuesday 22nd October
1	A4 portway / Bridge Valley Road	Outer	Thursday 20th June
2	Regent Street/ Merchants Road	Outer	Thursday 20th June
3	A4 Hotwell Road / Bennet Way	Outer	Thursday 20th June
4	A4 Hotwell Road / Bristol Gate / Faraday Road	Outer	Thursday 20th June
5	Cabot Way / Humphry Davy Way	Outer	Thursday 20th June
6	Jessops Underpass / Clift House Road / A3029 on/off slips	Outer	Monday 24th June
7	A369 Clanange Road / A370 on/off slips	Outer	Monday 24th June
8a	Ashton Rd / A369 / Winterstoke Rd	Outer	Tuesday 25th June

Ref No.	Location	Location	Date
8b	A3029 Winterstoke Road / Ashton Gate Underpass	Outer	Tuesday 25th June
9	Ashton Road / North Street / Coronation Road	Outer	Monday 24th June
10	A3029 Winterstoke Road / Sainsburys	Outer	Monday 24th June
11	West St / East St / Sheene Lane	Outer	Monday 24th June
12	St John Lane / Bedminster Road	Outer	Monday 24th June
13	St Lukes Road / St Johns Lane	Outer	Monday 24th June
14	Redcatch Road / Axbridge Road	Outer	Thursday 27th June
15	A4174 Airport Road / A37 Wells Road / Callington Road	Outer	Tuesday 25th June
16	A4 Bath Road / A4320 St Phillips Causeway	Outer	Tuesday 25th June
17	A4320 St Phillips Causeway / Whitby Road	Outer	Tuesday 25th June
18	A4320 St Phillips Causeway / Albert Road	Outer	Tuesday 25th June
19	A4320 St Phillips Causeway / Days Road	Outer	Tuesday 25th June
20	Lawrence Hill roundabout	Outer	Monday 24th June
21	A4320 Easton Way / A432 Stapleton Road	Outer	Monday 24th June
22	M32 Junction 3	Outer	Monday 24th June
23	A38 Cheltenham Road / Ashley Road	Outer	Tuesday 25th June
24	Hampton Road / Cotham Road / St Michaels Hill	Outer	Thursday 20th June
25	A44018 Westbury Road / A48 Redland Hill	Outer	Thursday 20th June
26	A48 Whiteladies Road / Stoke Road / Westbury Rd	Outer	Thursday 20th June
27	Queens Road / Pembroke Road	Outer	Thursday 20th June
28	Newfoundland Circus gyratory	Inner	Wednesday 26th June
29	Old Market roundabout	Inner	Wednesday 26th June
30	Temple Way/ Narrow Plain	Inner	Wednesday 26th June
31	Temple Way/ Temple Back	Inner	Wednesday 26th June
32	Temple Circus roundabout	Inner	Wednesday 26th June
33	Redcliffe Way / Temple Gate	Inner	Wednesday 26th June
34	Bath Bridge roundabout	Inner	Thursday 27th June
35	Bedminster Bridge roundabout	Inner	Wednesday 26th June
36	Redcliffe Way roundabout	Inner	Tuesday 25th June
37	Victoria Street/ Counterslip	Inner	Wednesday 26th June
38	Jacob Wells Road roundabout	Inner	Wednesday 26th June
39	Queens Road/The Triangle gyratory	Inner	Thursday 27th June
40	Park Row/ Park Street	Inner	Thursday 27th June
41	Anchor Road/ Canons Way	Inner	Wednesday 26th June
42	Anchor Road/ Explore Lane	Inner	Wednesday 26th June
43	College Green/ Anchor Rd	Inner	Thursday 27th June
44	St Augustines Parade/ Anchor Rd	Inner	Wednesday 26th June

Ref No.	Location	Location	Date
45	St Augustines Parade/ Colston Ave (The Scissors)	Inner	Wednesday 26th June
46	St Augustines Parade/ Lewins Mead / Rupert St	Inner	Wednesday 26th June
47	Perry Road/ St Michaels Hill	Inner	Wednesday 26th June
48	Marlborough Street/ Dighton Street	Inner	Wednesday 26th June
49	Lewins Mead / Lower Maudlin St	Inner	Wednesday 26th June
50	Rupert St / St John's Bridge	Inner	Thursday 27th June
51	Bond Street (A4044) / Gloucester Street	Inner	Thursday 27th June



Figure 4-1: Manual Classified Count Locations – Outer

(Note: circles represent large junctions)

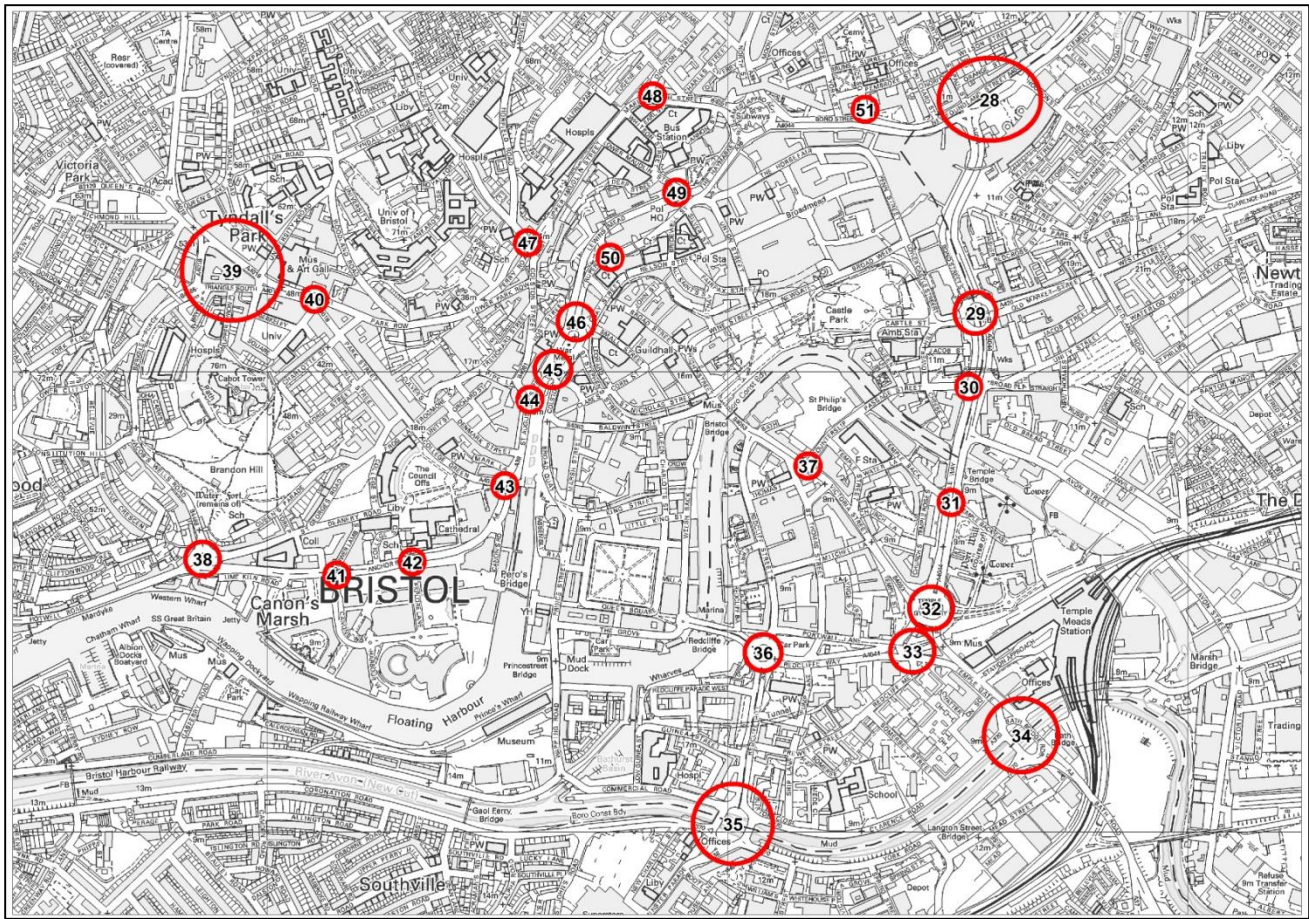


Figure 4-2: Manual Classified Count Locations – Inner

4.2 MCC Flow Data

The MCC flows by direction and time period at the RSI sites are given in Appendix D. A summary of the junction turning count MCC data is shown in Appendix E, showing flow to/from each arm.

4.3 Data Checking – Junction Turning Count

The data received from the survey were checked for adherence to the survey specification and compared with ATC data where applicable and adjacent MCC data. Where inconsistencies were found and accuracy of data was questionable, clarification was sought from Sky High. A decision will be made on how best to use the data during the model development stage.

A database was created using Microsoft Excel of all the Junction Turning Count (JTC) data received for further analysis. The database enabled extraction of junction turning movements by vehicle class for the various time periods at any surveyed junction.

The turning movement data was extracted by light vehicles and heavy vehicles. Data was extracted for the morning peak hour (between 08:00 and 09:00 hours), average inter peak hour (between 10:00 and 16:00 hours) and evening peak hour (between 17:00 and 18:00 hours). Data was also extracted for junctions where U-turns were possible and recorded in the surveys.

A line diagram of the network covering the MCC locations cordons was developed and the flows compared between adjacent junctions for the AM and PM peak hours, which showed that the flows between MCC locations that are closely spaced are comparable. Where the MCC locations are further apart, some flows

differ more significantly due to the presence of other junctions and access to various land uses between the junctions. The analysis shows that the data is robust and fit for purpose.

4.4 Data analysis – Link Flow

The MCC data collected at RSI locations were compared with the corresponding ATC data collected on the same date and time period. It was observed that the MCC values were generally higher than the corresponding ATC flows, due to slow moving or stationary vehicles reducing the accuracy of the ATC counts. Whilst data at most sites had a satisfactory level of accuracy, some ATC data was problematic (i.e. RSI1 and RSI4 both directions, RSI5 westbound); traffic count data provided by more accurate permanent count sites is used to compensate for any data inaccuracies.

Table 4-2

MCC verses ATC at RSI Locations

Ref No.	Location	Direction	MCC vs ATC Count (12 Hour totals)
RSI1	A4018 Whiteladies Road, south of Queens Avenue	Eastbound	15%
		Westbound	10%
RSI2	Horfield Road, south of St Michaels Hill	Northbound	1%
		Southbound	2%
RSI3	A38 North Street, north of St James Barton roundabout	Northbound	10%
		Southbound	10%
RSI4	A4032 Newfoundland Street, at gyratory signals	Eastbound	11%
		Westbound	27%
RSI5	A420 Old Market Street, east of Old market roundabout	Eastbound	5%
		Westbound	22%
RSI6	Avon Street, east of Temple Way	Eastbound	0%
		Westbound	0%
RSI7	Feeder Road, north of Bath Bridge roundabout	Eastbound	1%
		Westbound	3%
RSI8	A4 Bath Road, south of Bath Bridge roundabout	Northbound	2%
		Southbound	12%
RSI9	St Lukes Road, south of railway	Northbound	0%
		Southbound	5%
RSI10	Bedminster Parade, south of Bedminster Bridge	Northbound	11%
		Southbound	3%
RSI11	A370 Coronation Road, west of Bedminster Bridge	Eastbound	-2%
		Westbound	-8%
RSI12	Cumberland Road, west of Wapping Road	Eastbound	0%
		Westbound	5%
RSI13	Hotwell Road, west of Jacobs Well roundabout	Northbound	3%
		Southbound	6%

From the analysis above, the ATC data at the following locations was deemed inappropriate for using as an expansion factors for RSI matrix building, therefore either the MCC data was used or if available, UTC (urban traffic control) data from BCC:

- RSI01 – Outbound: MCC data (UTC is available but data distorted by double count on some loops);
- RSI04 – Inbound: MCC data;
- RSI04 – Outbound: MCC data;
- RSI05 – Inbound: UTC data;
- RSI08 – Outbound: MCC data;
- RSI11 – Inbound: UTC data;
- RSI11 – Outbound: MCC data.

Existing Count Data

5.1 Location and dates of counts

The Local Authorities within the Greater Bristol area hold existing data in the form of permanent and temporary ATC sites and MCC counts. This data has been utilised for the purposes of the GBATS4 model update to reduce survey costs. Data was requested from 2011 onwards, however in some instances older data has been requested where necessary on minor roads. This data will be “normalised” to October 2013, using permanent ATC data collected over the years.

In addition, traffic flows for the M32, M4 and M5 were extracted from the TRADS Hatris website.

Figure 5.1 shows the locations of all the existing data obtained from the Local Authorities.

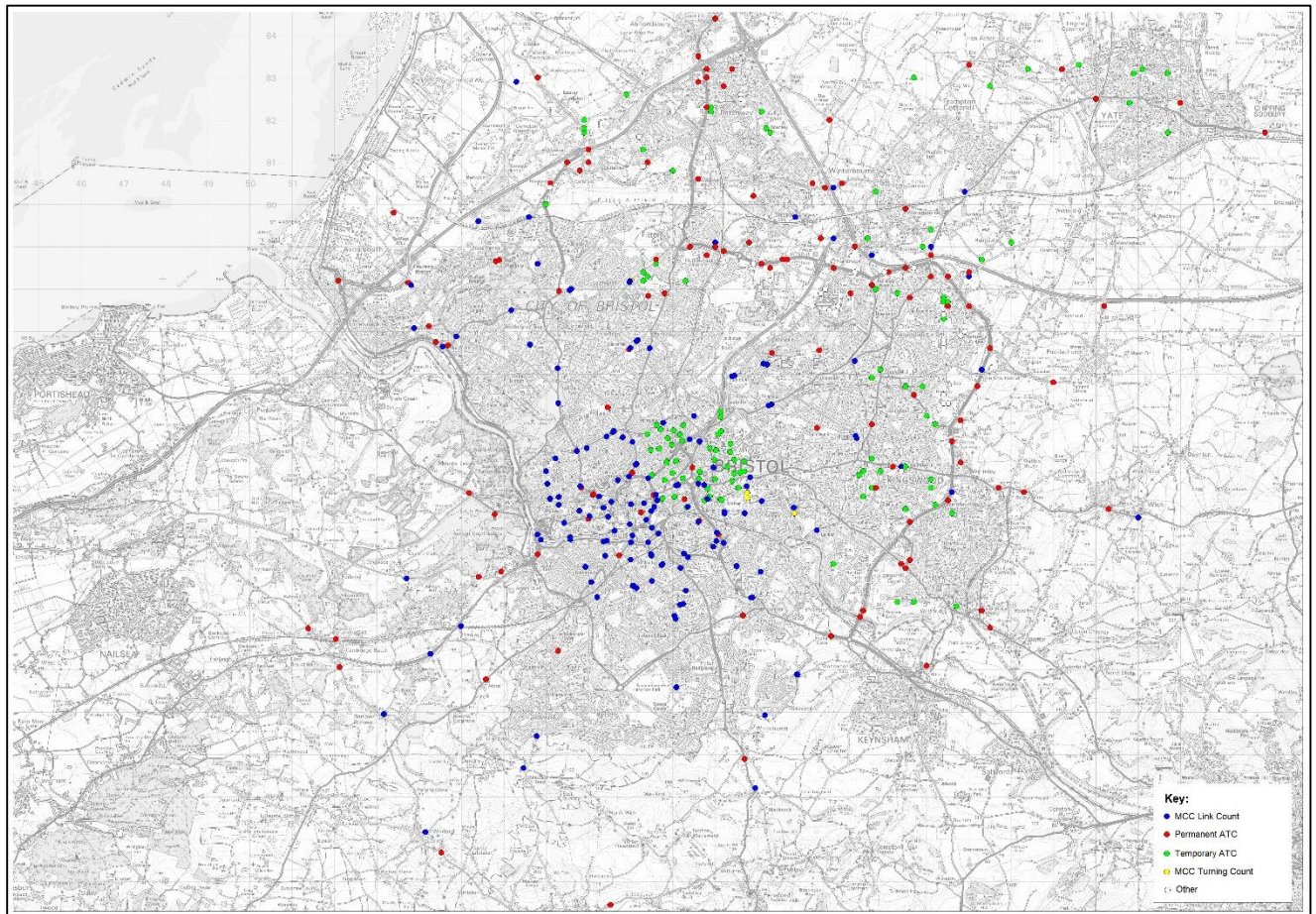


Figure 5-1: Existing Data Locations

5.2 Flow Data

The ATC data obtained in typically two to four weeks' worth of data, whereas the MCC data is just one day. A summary of the ATC and MCC data is shown in Appendix F, by local authority, count type, time period and direction.

Appendix F also includes the flows for the motorway links on cordons/screenlines used for calibration and validation.

Car Park Data

6.1 Location and dates of surveys

Nineteen major car parks within the Bristol city centre area were surveyed. Data was collected between Tuesday 18th – Thursday 20 and Tuesday 25th – Thursday 26th June 2013 and the information collated was as follows:

- Car park occupancy count at the beginning of the day i.e. before 7:00am;
- 12 hour (7:00am-7:00pm) entry and exit counts; and
- Full registration number plate data, from which the duration of stay was determined for 15 sites.

Table 5.1 and Figure 5.1 shows the locations of all the car parks surveyed. The table also shows the number of spaces; max accumulation and average duration of stay (in minutes).

Table 6-1

Car Park Surveys (7am-7pm)

Ref No.	Car Park	Spaces	Max Accumulation	Arrivals	Mean Duration (mins)	Mode Duration (mins)	Median Duration (mins)
1	West End	750	361	633	322	30	270
2	Trenchard Street	936	515	1118	286	120	240
4	Rupert Street	503	399	574	418	540	480
5	Nelson Street	295	198	288	403	570	480
6	St James Barton	340	226	436	326	90	300
7	The Galleries	1000	556	1879	162	180	150
8	Cabot Circus	2555	1285	3288	215	120	180
9	Broadmead	383	383	635	365	90	390
10	Queen Charlotte Street	421	295	491	358	540	360
11	Prince Street	303	268	426	405	540	480
12	Millenium Square	550	399	720	320	480	330
13	Habourside	384	324	548	361	510	390
14	Temple Gate	495	81	136	357	450	420
15	Temple Meads	374	263	445	407	750	390
16	Wapping Wharf	650	254	447	397	750	360
17	Gardiner Haskins	500	326	610	NA	NA	NA
18	The Grove	113	101	307	NA	NA	NA
19	College St	248	174	580	NA	NA	NA
20	Portwell Lane	170	135	214	NA	NA	NA

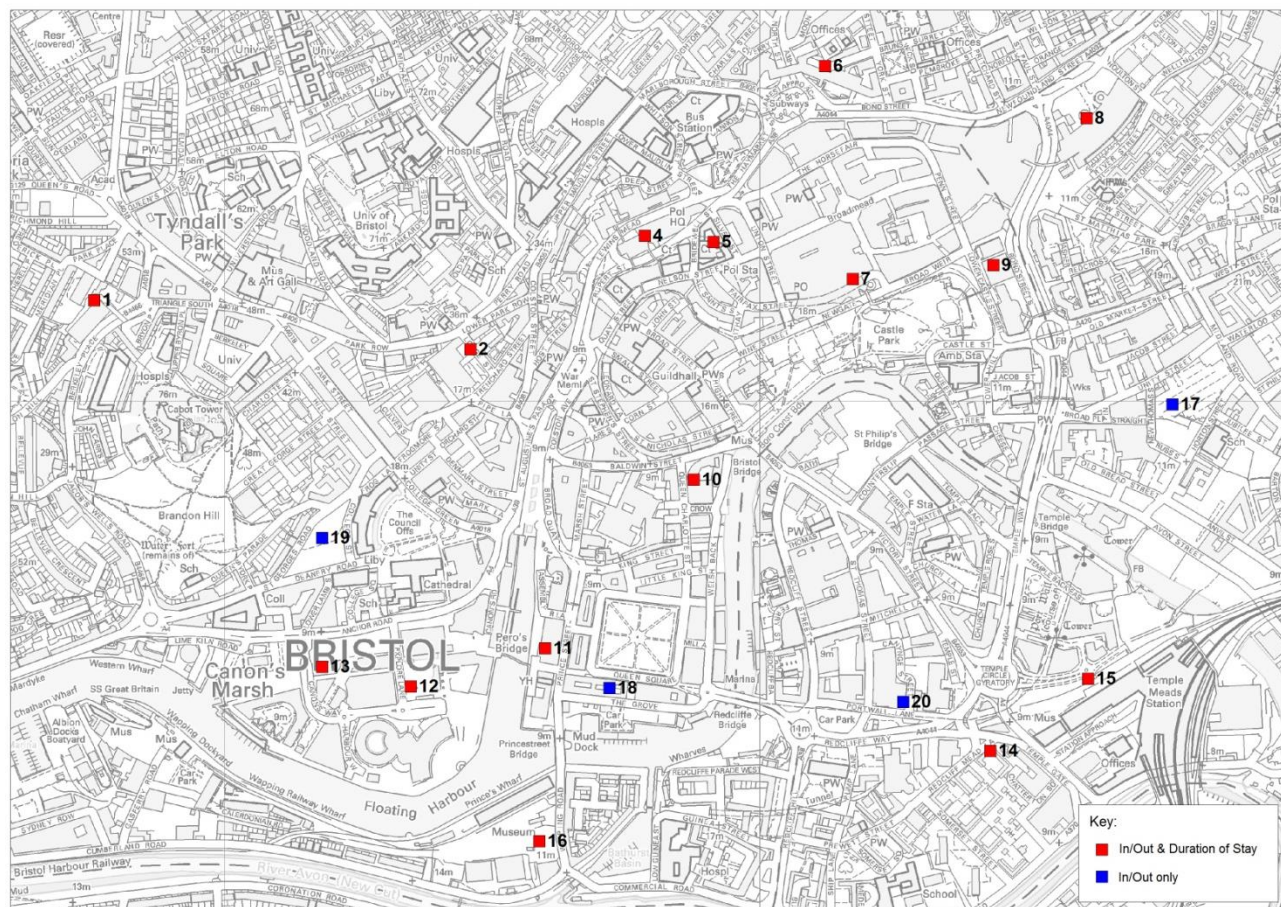


Figure 6-1: Car Park Surveys Locations

6.2 Data analysis

Cabots Circus (3288) and The Galleries (1879) had the most arrivals throughout the day. Broadmead (100% capacity), The Grove (89%) and Prince Street (88%) operated at (or close to) their capacity.

Journey Time Data

7.1 Introduction

Journey time surveys provide a means of validating speeds within the highway model. It is a requirement of the model validation process that model speeds fall within an acceptable range of observed speeds.

The journey-time routes were surveyed in both directions in each of the three modelled time periods – AM peak (08:00-09:00), average Inter-Peak (10:00-16:00) and PM peak (17:00-18:00).

It is a requirement of DMRB to calculate the accuracy of journey time routes and a 10% accuracy of journey time variation is desirable. Accuracy is expressed as:

$$a = t \cdot \frac{s}{m \cdot \sqrt{n}}$$

Where t = 95% confidence level;

s = standard deviation;

n = number of journey time runs; and

m = the true mean observed journey time.

7.2 Journey Time Data

Trafficmaster™ journey time data was extracted for May and October 2013, excluding half term and bank holidays.

The journey time routes are described in Table 7.1 and presented in Figure 7.1.

Table 7-1

Journey Time Routes

Route No.	Description	Direction	Distance (km)
1	A370 Inbound (Backwell to Ashton Gate)	IN	9.56
2	A38 Inbound (Barrow Gurney to Bedminster Bridge)	IN	7.60
3	A4 Inbound (Keynsham to Bath Bridge)	IN	8.30
4	A431 Inbound (Willsbridge to Castle Park Jct)	IN	9.24
5	A38 Eastbound (Ashton Gate to Brislington {via Hengrove})	EB	7.99
6	A432 Inbound (A4174 Badminton Rbt to Old Market St)	IN	9.56
7	M32 Inbound (M32 J1 to Cabot Circus)	IN	6.53
8	A38 Inbound (M5 J16 to St James Barton Rbt)	IN	10.30
9	A4018 Inbound (M5 J17 Cribbs to College Green)	IN	8.85
10	A4 Portway Inbound (Avonmouth to Hotwells)	IN	9.79
11	A369 Inbound (Portishead to A4 Bristol Gate)	IN	12.67
12&13	A4174 Eastbound (Filton Rbt to A4)	EB	17.12

Route No.	Description	Direction	Distance (km)
12&13	A4174 Westbound (A4 to Filton Rbt)	WB	17.12
14	City Centre Outer Loop (Clockwise)	CW	9.49
14	City Centre Outer Loop (Anti-Clockwise)	ACW	8.48
22	A37 Northbound (Whitchurch to Bath Rd)	NB	5.55
1	A370 Outbound (Ashton Gate to Backwell)	OUT	9.55
2	A38 Outbound (Bedminster Bridge to Barrow Gurney)	OUT	7.56
3	A4 Outbound (Bath Bridge to Keynesham)	OUT	8.35
4	A431 Outbound (Castle Park Jct to Willsbridge)	OUT	9.12
5	A38 Westbound (Brislington to Ashton Gate {via Hengrove})	WB	8.59
6	A432 Outbound (West St to A4174 Badminton Rbt)	OUT	9.40
7	M32 Outbound (Cabot Circus to M32 J1)	OUT	6.51
8	A38 Outbound (St James Barton Rbt to M5 J16)	OUT	10.31
9	A4018 Outbound (College Green to M5 J17 Cribbs)	OUT	8.36
10	A4 Portway Outbound (Hotwells to Avonmouth)	OUT	9.66
11	A369 Outbound (A4 Bristol Gate to Portishead)	OUT	12.75

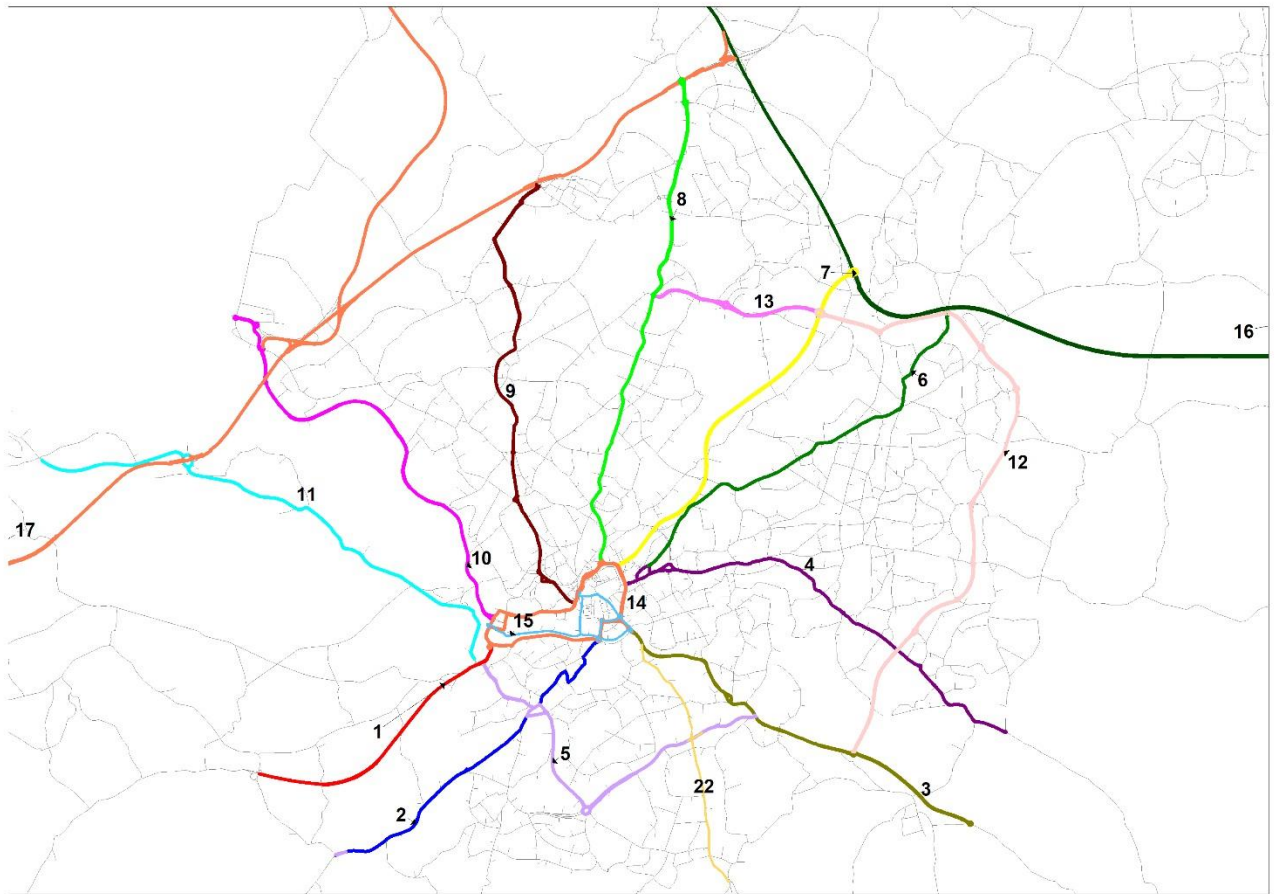


Figure 7-1: Journey Time Routes

The accuracy was calculated for each route by direction and presented in Table 7.2.

Table 7-2
Journey Time Accuracy and Number of Runs

Route Description		Mean No. Vehs in Sample (Weighted by Distance)			Standard Deviation			Accuracy (95% Confidence)			Cruise time (mins)	Observed Mean Net Journey Time (mins)		
		AM	IP	PM	AM	IP	PM	AM	IP	PM		AM	IP	PM
1	A370 Inbound (Backwell to Ashton Gate)	46	300	18	1.7	1.7	0.5	4.9%	1.8%	2.7%	8.1	10.1	10.8	9.8
1	A370 Outbound (Jessop Underpass to Backwell)	27	464	53	1.2	1.8	0.9	5.0%	1.6%	2.4%	8.6	9.7	10.3	10.2
2	A38 Inbound (Barrow Gurney to Bedminster Bridge)	44	382	48	1.9	2.2	2.2	3.3%	1.2%	3.4%	11.3	17.6	18.2	18.8
2	A38 Outbound (Bedminster Bridge to Barrow Gurney)	39	420	51	1.7	1.4	2.2	4.1%	1.0%	3.8%	9.7	13.6	12.7	16.6
3	A4 Inbound (Keynesham to Bath Bridge)	82	673	78	4.4	1.8	2.1	3.1%	0.9%	2.5%	11.4	30.9	15.1	19.2
3	A4 Outbound (Bath Bridge to Keynesham)	100	551	70	3.0	0.7	1.9	3.1%	0.4%	2.5%	10.4	19.2	14.4	18.6
4	A431 Inbound (Willsbridge to Old Market St)	54	284	44	2.6	0.6	1.6	2.3%	0.3%	2.2%	14.6	30.7	20.4	22.8
4	A431 Outbound (Old Market St Jct to Willsbridge)	45	289	48	1.4	0.8	2.0	2.1%	0.4%	2.2%	13.7	20.7	20.9	25.8
5	A38 Eastbound (Ashton Gate to Brislington)	92	447	64	4.3	2.2	3.1	3.1%	1.1%	3.0%	12.4	29.2	18.8	26.1
5	A38 Westbound (Brislington to Ashton Gate)	72	435	55	3.0	1.8	2.2	3.0%	0.9%	2.7%	13.2	23.3	17.9	21.8
6	A432 Inbound (A4174 Badminton Rbt to Old Market St)	48	220	30	3.3	1.7	1.7	2.7%	1.0%	2.7%	15.2	35.6	23.0	23.6
6	A432 Outbound (West St to A4174 Badminton Rbt)	28	212	35	2.5	1.6	1.9	3.7%	0.9%	2.5%	15.4	26.3	23.4	26.0
7	M32 Inbound (M32 J1 to Cabot Circus)	205	1560	203	2.2	0.7	1.4	2.3%	0.7%	3.0%	4.9	13.1	5.1	6.2
7	M32 Outbound (Cabot Circus to M32 J1)	266	1686	222	0.9	0.4	1.0	2.0%	0.5%	2.7%	3.8	5.6	4.1	4.8
8	A38 Inbound (M5 J16 to St James Barton Rbt)	70	398	49	3.3	1.8	2.3	2.4%	0.7%	2.2%	16.3	33.6	24.7	30.4
8	A38 Outbound (St James Barton Rbt to M5 J16)	57	389	45	2.9	2.5	2.9	2.4%	1.0%	2.5%	16.6	32.2	24.9	35.3
9	A4018 Inbound (M5 J17 Cribbs to Clifton Triangle)	75	412	64	3.4	1.5	2.1	2.6%	0.9%	2.3%	12.3	29.7	16.7	22.9
9	A4018 Outbound (College Green to M5 J17 Cribbs)	58	417	57	1.6	1.5	1.5	2.3%	0.9%	2.1%	12.5	18.1	16.3	18.9
10	A4 Portway Inbound (Avonmouth to Hotwells)	73	475	52	1.7	1.1	1.9	1.9%	0.7%	2.8%	10.8	20.8	13.7	18.3
10	A4 Portway Outbound (Hotwells to Avonmouth)	57	452	53	1.0	1.1	0.7	2.1%	0.9%	1.7%	9.8	12.0	10.9	11.9
11	A369 Inbound (Portishead to A4 Bristol Gate)	90	459	82	4.2	1.0	1.4	3.6%	0.7%	1.8%	11.6	24.2	13.2	16.6
11	A369 Outbound (A4 Bristol Gate to Portishead)	78	497	73	1.2	0.7	1.5	1.6%	0.4%	1.9%	13.2	16.7	15.3	19.0
12	A4174 Eastbound (Filton Rbt to A4)	132	990	140	3.7	1.0	3.6	2.3%	0.3%	1.9%	17.3	28.0	22.1	31.5
12	A4174 Westbound (A4 to Filton Rbt)	126	898	147	3.8	1.1	3.0	2.1%	0.3%	1.9%	17.6	31.7	21.1	26.1
14	City Centre Outer Loop (Clockwise)	63	518	57	3.5	1.6	3.9	2.5%	0.6%	2.5%	17.2	35.5	24.0	41.5
14	City Centre Outer Loop (Anti-Clockwise)	67	466	51	3.4	0.7	2.8	2.5%	0.3%	2.5%	14.5	32.2	20.3	32.4
15	City Centre Inner Loop (Clockwise)	31	227	33	2.7	1.7	2.6	3.3%	1.1%	3.1%	13.8	30.5	20.9	29.4
15	City Centre Inner Loop (Anti-Clockwise)	48	270	34	2.1	1.6	2.4	3.2%	1.4%	4.7%	8.0	19.4	13.6	17.9
16	M4 Mainline Eastbound (J22 to J18)	304	1816	300	3.0	0.6	1.6	1.2%	0.1%	0.9%	18.9	28.0	19.6	21.0
16	M4 Mainline Westbound (J18 to J22)	264	1901	314	1.9	0.8	1.6	1.1%	0.2%	0.9%	18.5	20.5	20.2	20.9
17	M5 Mainline Northbound (J20 to M4)	427	2256	381	0.8	0.7	2.4	0.6%	0.2%	1.4%	14.2	14.4	14.8	17.5
17	M5 Mainline Southbound (M4 to J20)	346	2443	352	0.9	0.7	1.5	0.7%	0.2%	1.0%	14.0	14.9	14.5	14.9

Bus user surveys

8.1 Introduction

The bus user surveys were undertaken using a combination of at-stop origin-destination surveys, boarding and alighting counts and on-bus cordon passenger counts. In addition on-board origin-destination survey was conducted on the Brislington and Portway Park and Ride services. Copies of the “At Stop” bus and “On-Board” P&R service questionnaires are included in Appendix G. All surveys were completed during the three week period 5th-21st November 2013.

8.2 Bus cordon counts

8.2.1 Location and dates of cordon count surveys

Twelve roads into Central Bristol were identified for passenger cordon counts, covering the majority of the bus routes to and from the central area. Surveys were conducted continuously between 07:00 and 18:59.

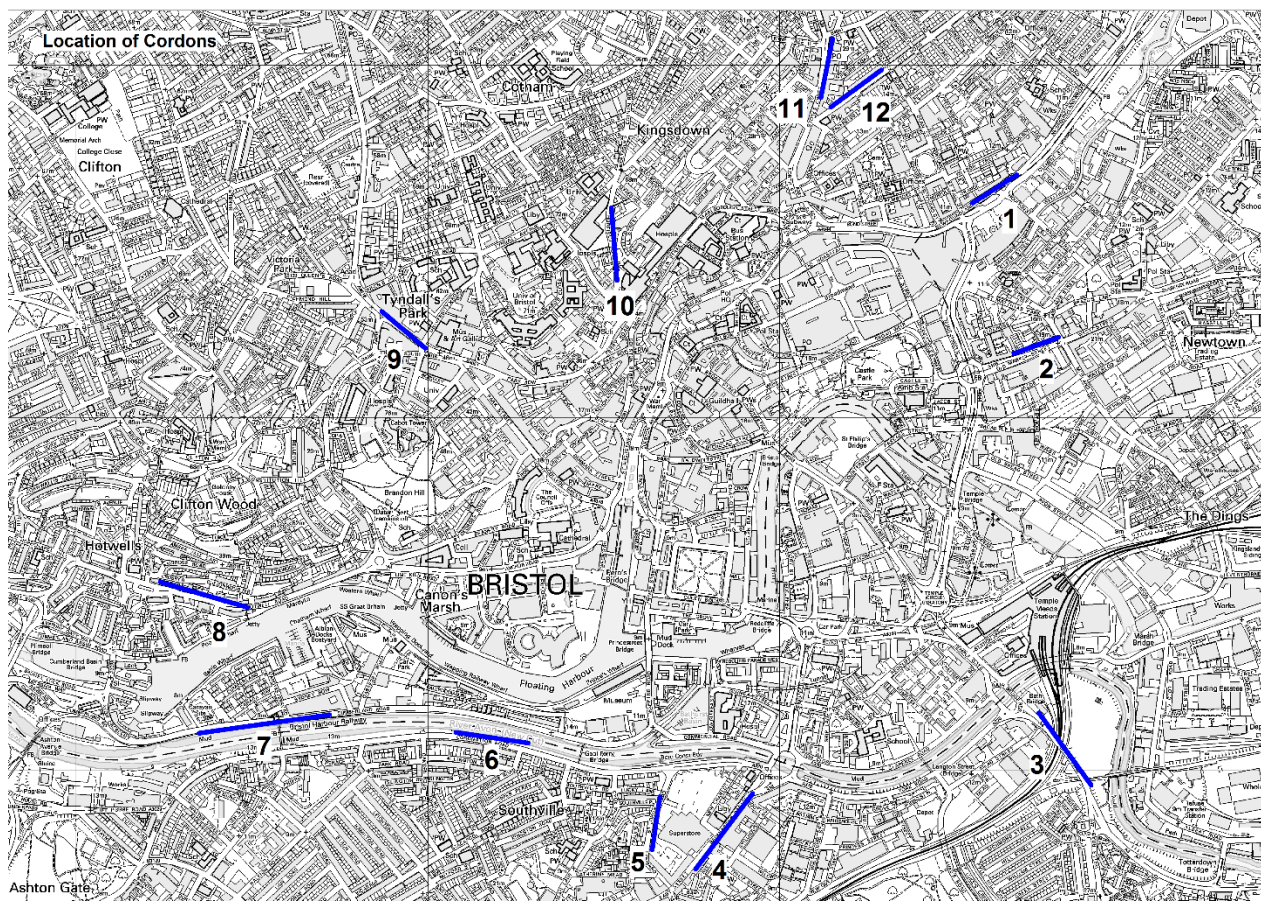


Figure 8-1: Location of bus cordons

Figure 8.1 shows the location of the screenlines while Table 8.1 details the total number of passengers observed travelling.

Table 8-1

Bus cordon location and 12 hour observed flows

Site No.	Location Site	Total Number of Services observed	Inbound Passenger Volume	Outbound Passenger Volume
1	Newfoundland Street	204	2041	1920
2	Old Market Street	585	7191	7198
3	Bath Road*	407	3976	4231
4	Bedminster Parade	302	3304	3216
5	St John's Road	115	839	917
6	Coronation Road	60	309	343
7	Cumberland Road	44	54	44
8	Hotwells Road*	216	1456	1431
9	Queens Road	441	3672	4296
10	Horfield Road	45	148	117
11	Cheltenham Road	618	5344	5821
12	City Road	97	768	518

* Excluding passenger volumes on Park and Ride Services

With the exception of Site 1 (Newfoundland Street) all counts were conducted using on-board observers. This approach was not possible at Site 1 due to the nature of the services operating over the cordon. As a result road side observers were used to estimate the occupancy of buses.

The data supplied by NDC was checked to verify that: (a) expected passenger flows were recorded (e.g. higher inbound flows in AM peak, higher outbound flows in PM peak); (b) bus services were recorded on correct corridors; (c) that satisfactory sample rates had been achieved.

Figure 8.2 shows the hourly profile of the observed cordon flows during the survey. The morning peak is significantly more pronounced than the PM peak, which is broadly similar between 16:00 – 17:00 and 17:00 – 18:00. Investigation of the PM flows suggests that the maximum flow actually fell between 16:45 – 17:45. However as the PT model is an integral part of a wider modelling suite it was preferable that the modelled hour for the PM peak was consistent with the highway model.

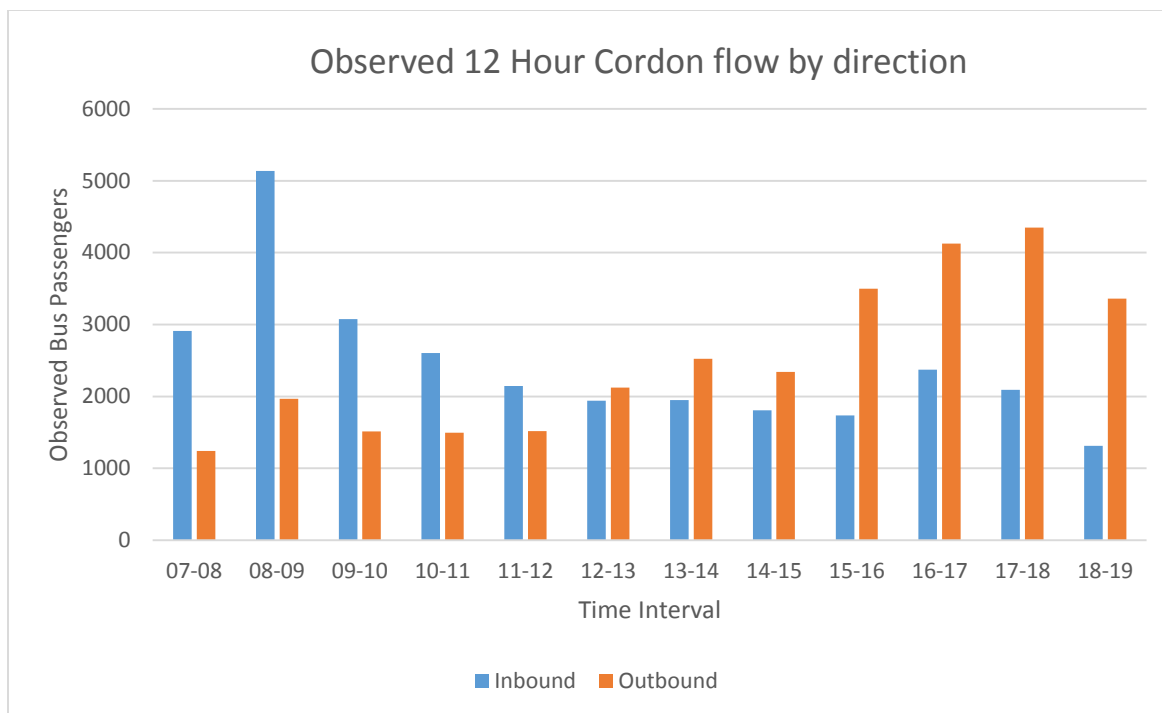


Figure 8-2: Total Observed Cordon Flows by time of day

The cordon sample rate was determined by comparing the total number of bus services surveyed to the total number of bus services expected during the time period. The sample rate varied from 50 – 108% in the AM peak, 46-100% in inter-peak, and 39-120% in PM peak. Values in excess of 100% were possible due to services not running to their timetables. Sample rates by cordon are detailed in Appendix H. The variation in sample rate by cordon was due to a combination of factors including the total number of services operating on corridor and the length of time for surveyors to make return trips.

Table 8-2

Cordon Sample Rate

Time Period	Inbound	Outbound
AM Peak (08:00 – 09:00)	73%	68%
Inter Peak (Average Hour 10:00 – 16:00)	64%	66%
PM Peak (17:00- 18:00)	70%	62%

Table 8.3 details the adjusted hourly passenger flows by screenline, direction and time period, taking into account the achieved sample rates, to give estimates of actual volumes.

Table 8-3

Total Passenger Flows by Screenline

Cordon Location	AM Inbound Flow	AM Outbound Flow	IP Inbound Flow	IP Outbound Flow	PM Inbound Flow	PM Outbound Flow
Newfoundland Street	326	172	139	167	145	387
Old Market Street	1773	438	823	891	695	2016

Cordon Location	AM Inbound Flow	AM Outbound Flow	IP Inbound Flow	IP Outbound Flow	PM Inbound Flow	PM Outbound Flow
Bath Road / Wells Road	1612	201	563	590	421	1543
Bedminster Parade	663	166	391	400	309	792
St John's Road	119	77	78	91	78	142
Coronation Road	6	38	35	37	58	8
Cumberland Road	10	6	4	3	8	11
Hotwells Road	825	164	247	298	220	644
Queens Road	1046	1006	453	605	612	1028
Horfield Road	14	4	12	11	8	24
Cheltenham Road	1121	723	481	490	523	896
City Road	145	32	79	52	53	93
Total	7659	3026	3307	3635	3129	7582

8.3 Bus stop surveys

8.3.1 Survey Locations

A total of 52 bus stops were surveyed in Central Bristol. Surveyors were tasked with recording the total number of passenger boarding and alighting services, and to conduct passenger OD surveys (boarding passengers only). Figure 8.3 shows locations of surveyed bus stops. These locations did not include all city centre stops, but included the busiest stops, based on timetables and stopping locations.

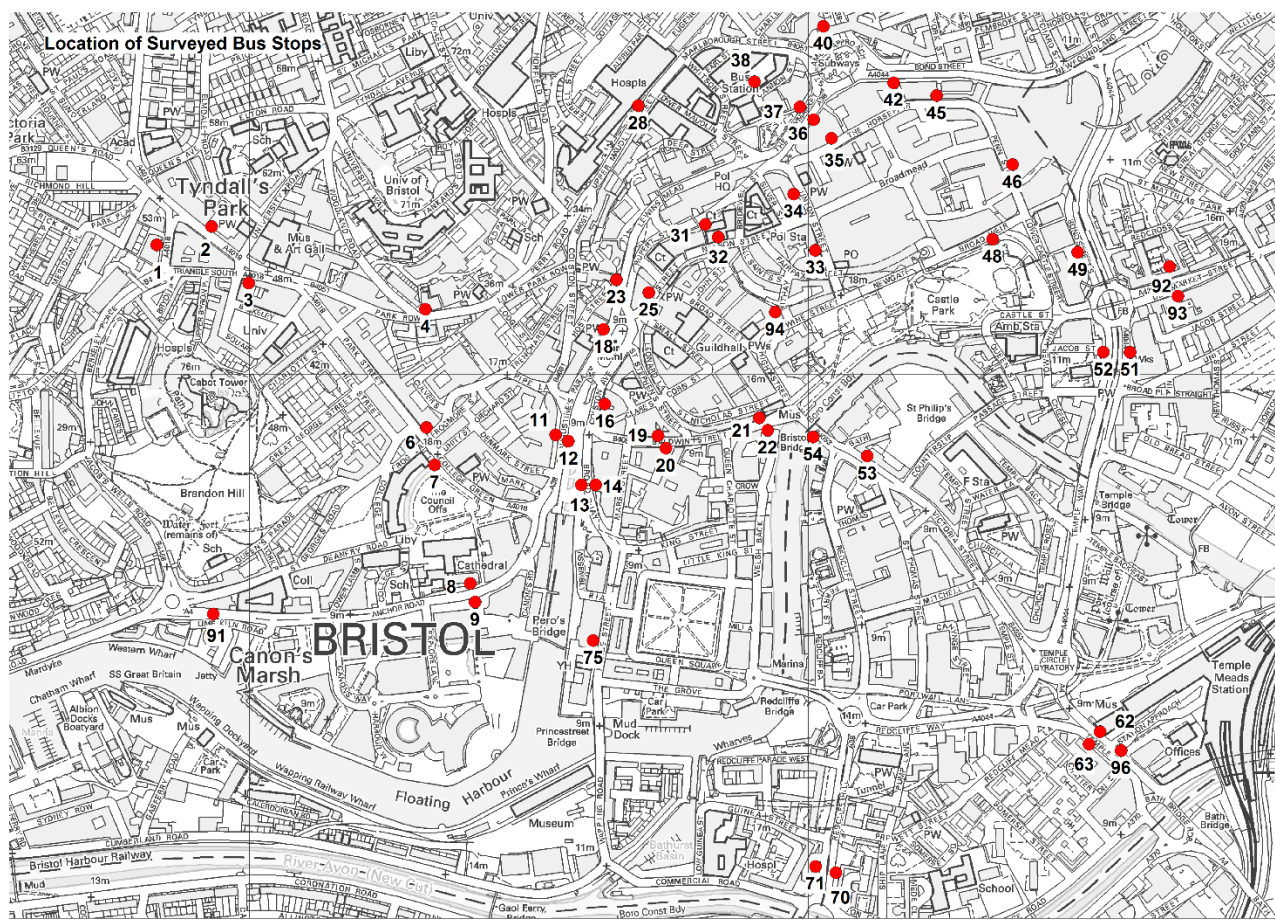


Figure 8-3: Location of Surveyed Bus Stop

8.3.2 Bus boarding and alighting data

Figure 8.4 details the profile of bus passenger movements during the 12 hour survey period. It can be seen that the morning peak falls clearly between 08:00 – 09:00, with over 6000 passengers observed alighting at central bus stops. The PM peak is less pronounced; boardings are of a similar magnitude in the 16:00 – 17:00 and 17:00 – 18:00 intervals.

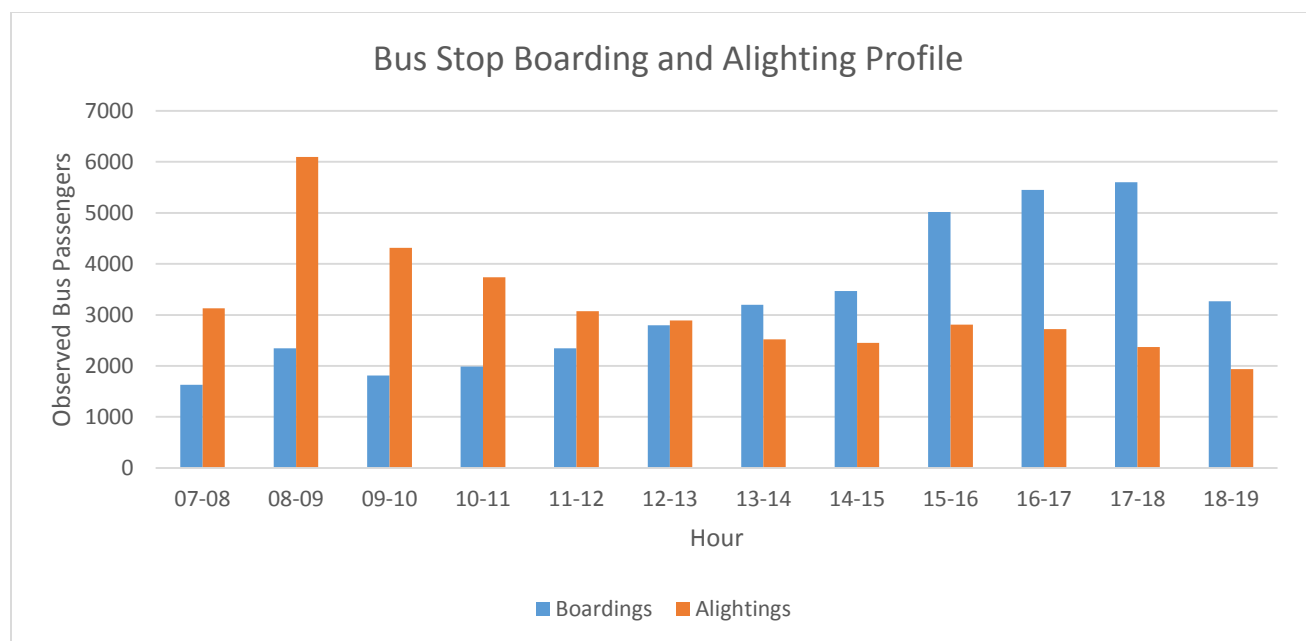


Figure 8-4: Boarding and Alighting Profile

The number of services from which Boarding and Alighting data was collected was compared to the expected number of bus services during each time period. The individual sample rates are detailed in Appendix I. Overall 79% of AM peak services were surveyed, 83% of Inter-peak services and 72% of PM peak services. In some cases the sample rate appears to be excessively high (number of services observed over twice the number of vehicles expected). Investigation of this suggests that B&A data from other stops in their close proximity (i.e. St Augustines Parade) had been attributed to the stop. The relocation of these records will be addressed in the matrix development.

8.3.3 Bus origin-destination surveys

Face to face passenger origin- destination surveys were completed at 48 of the bus stops; self-completion questionnaires were deployed at a number of stops where high passenger volume caused difficulties in obtaining a suitable sample rate via direct face to face surveys only.

Over 3300 completed and usable survey records were obtained from the survey company. The data covered a wide range of trip purposes and are summarised in Table 8-4.

Table 8-4

Bus OD Survey by trip purpose

Trip Purpose	Number of Surveys	% of Sample
Home based other	1005	30.4%
Home to work	517	15.6%
Home to education	367	11.1%
Work to Home	732	22.1%
Home to shopping	146	4.4%
Education to Home	151	4.6%
Non home based other	303	9.2%

Non Home based employers business	43	1.3%
Home based employers business	44	1.3%
Total	3308	100%

Figure 8.5 details the trip frequency of those interviewed. As would be expected a high percentage of interviewees (75%) were regular bus users (i.e. using the mode more than once a week).

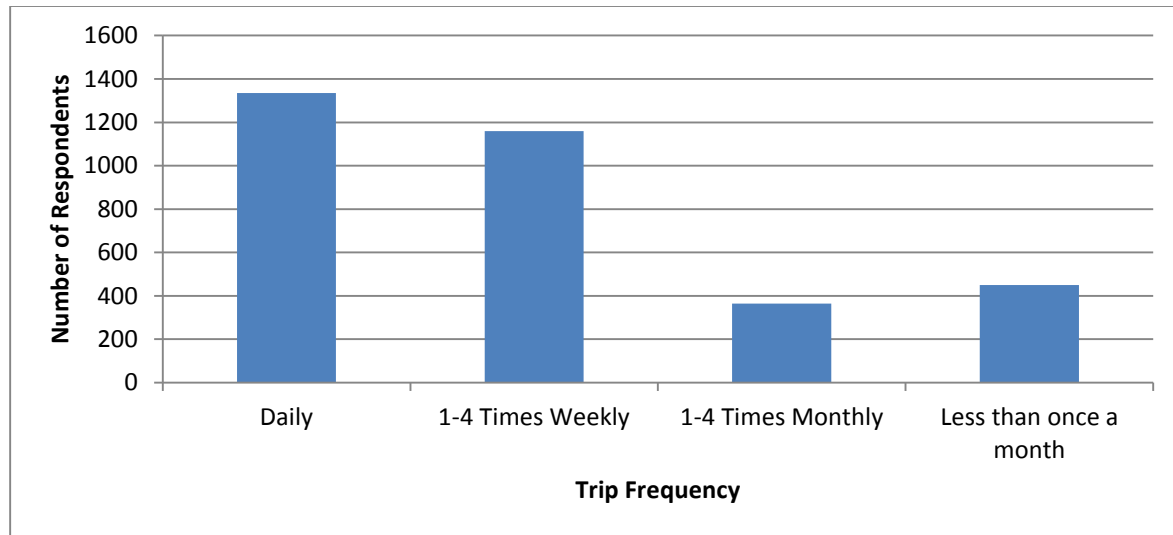


Figure 8-5: Bus OD Survey by Trip frequency

8.3.4 Data checks

All OD data was plotted and checked for reasonableness. Checks carried out involved:

- Checking of trip origin and destination with respect to interview site. Trips with suspect origin – destinations were further investigated, and data either reversed, allocated to another bus stop or removed from the data set.
- Access mode trip length. Where access mode to the bus stop was recorded as “walk”, the crow-fly distance from the origin zone to the interview bus stop was calculated. Walk access trips of over 2km were considered to be unlikely and likely due to those completing the questionnaire wrongly interpreting the question.

The checking process resulted in a total of 3074 being deemed suitable for building demand matrices. Figure 8.6 shows the geographic spread of the survey data.

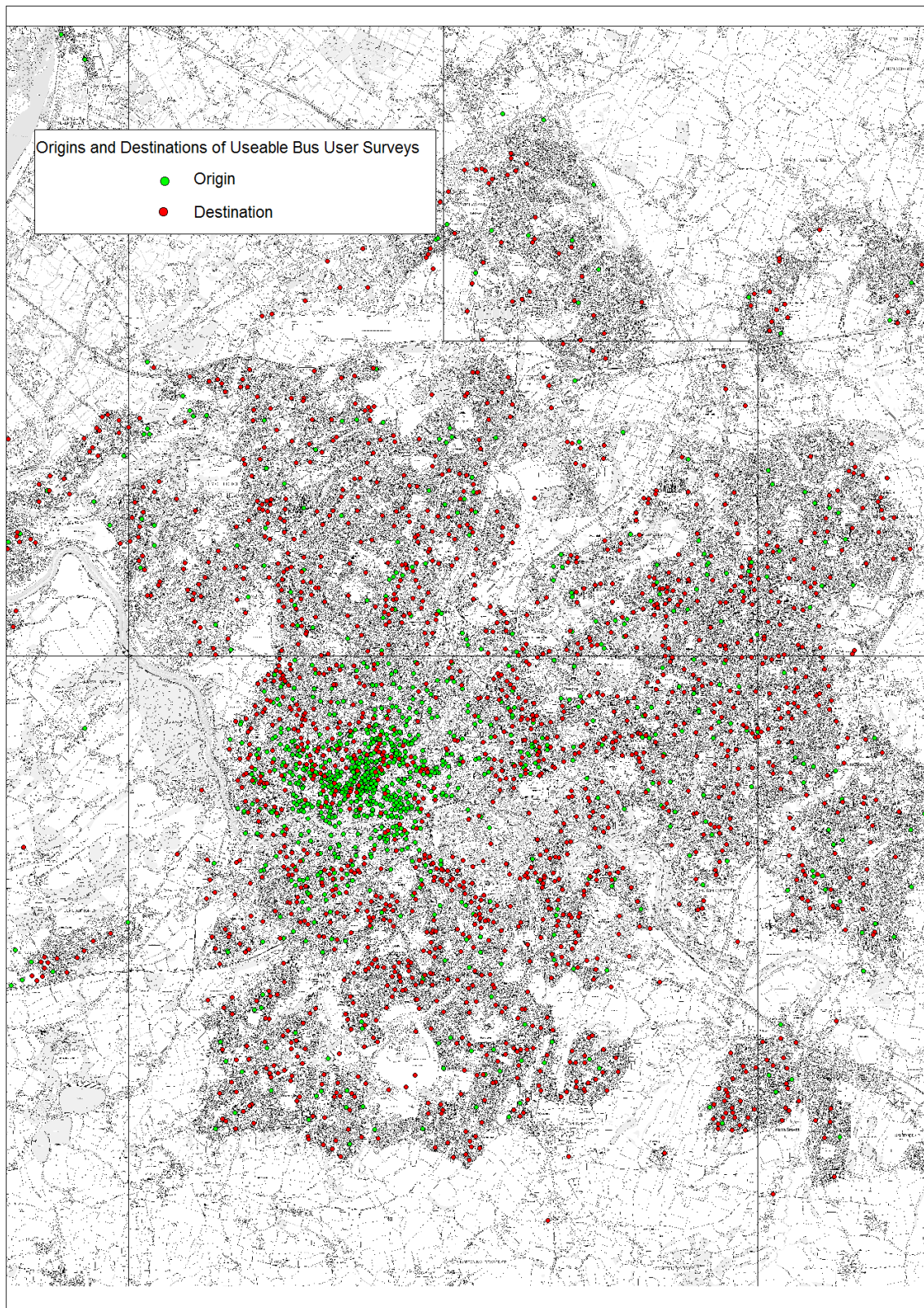


Figure 8-6: Bus OD Survey Origins and Destinations

8.3.5 Bus OD Sample Rate

Bus passenger OD surveys were carried out over a 12 hour period and interview teams were tasked with interviewing passengers waiting to board services. Alighting passengers were not interviewed. The average sample rate in the AM peak was high (15%) –reflecting the relatively low number of boardings during the time period, rather than an improved interview success rate. The lower average sample rate in the PM peak (5%) is a reflection of concentrated number of boardings in the time period rather than a deterioration in survey completion rate. Appendix J details the boarding bus passenger sample rate by bus stop. These are summarised in Table 8-5.

Table 8-5

OD Survey Sample Rate

Time Period	Number of OD Surveys	Number of Boardings	Sample Rate
AM Peak	832	5694	15%
Inter Peak	1452	18651	8%
PM Peak	790	14536	5%
12 Hour Total	3074	38881	8%

8.3.6 Park and Ride Data

Three dedicated Park and Ride services serve Bristol city centre; namely:

- 902 Portway P&R – Bristol City Centre
- 903 Long Ashton P&R – Bristol City Centre
- 904 Brislington P&R – Bristol City Centre

The Long Ashton P&R site had been surveyed earlier in the year by BCC, so only the Portway and Brislington sites were surveyed in November 2013 by NDC. This survey data was supplemented by data made available by BCC. Table 8-6 details the main statistics from the different sites. Figures 8.7 – 8.9 illustrate the geographical spread of Park and Ride trip origins.

Table 8-6

Park and Ride Data overview

	Portway	Long Ashton	Brislington
Number of Completed Interviews	288	595	359
Observed Boardings/Alightings at P&R Site	375/343		983/860
BCC Total Boardings (Average daily from one-week counts in October 2013).	1241*	1949	936**

* The Portway P&R service also collects passengers from Sea Mills and Shirehampton areas hence discrepancy with observed B&A.

** BCC data for Brislington P&R boardings for inbound direction only.

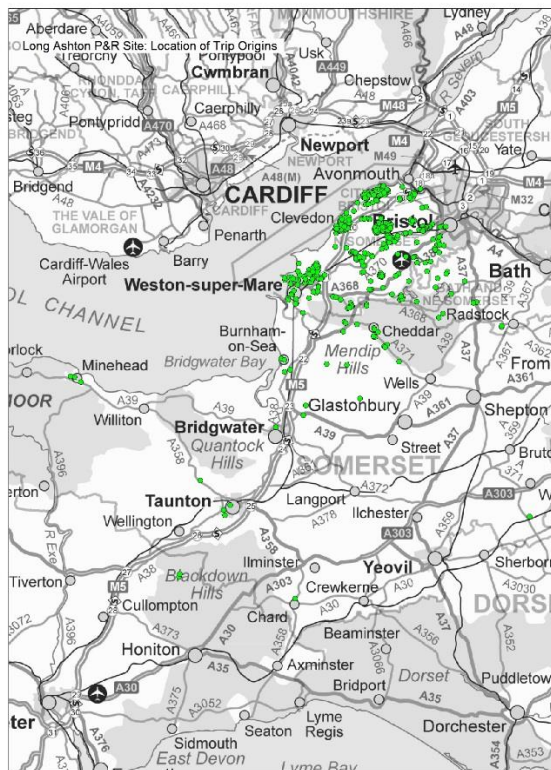


Figure 8-7: Long Ashton Park and Ride “Home” end origin

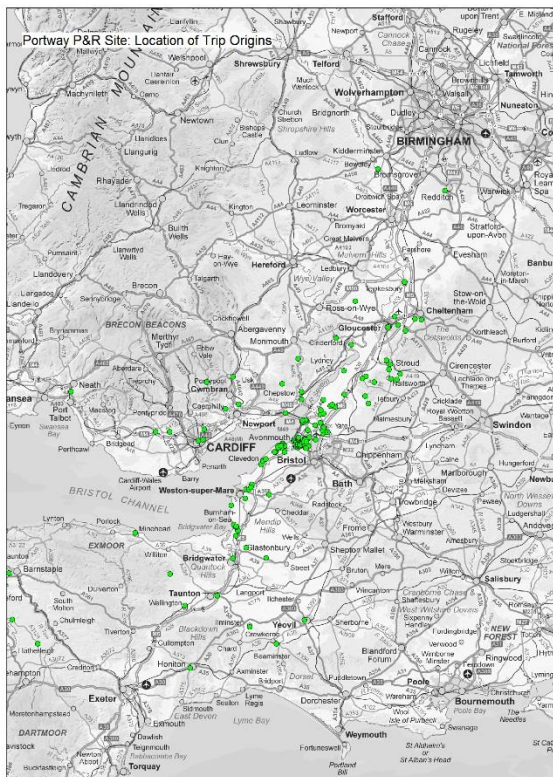


Figure 8-8: Portway Park and Ride “Home” end origin

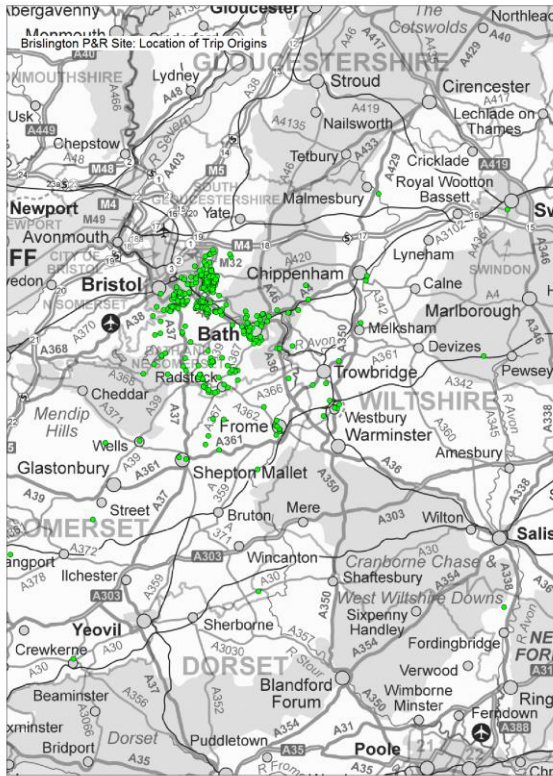


Figure 8-9: Brislington Park and Ride “Home” end origin

8.4 North Somerset X2/X3 Passenger Survey

North Somerset Council organised a dedicated survey for users of the X2 / X3 service in May 2014. The X2 /X3 are important services which when considered together provide a high frequency service between Portishead and Bristol (typically 4 services per hour per direction).

The surveys involved boarding and alighting counts together with on-board passenger OD surveys. Table 8-7 provides an overview of the surveys conducted.

Table 8-7

North Somerset Data overview

	X2	X3	All
Number of Completed Interviews	90	160	250
Observed Boardings/Alightings	433	289	722
Total Number of Services observed	24	24	48

Figure 8.10 details the geographic spread of trip origins as collected from the OD surveys. There are distinct clusters of trip origins in Portishead and Pill. Trips with origins located outside North Somerset (i.e. those with trip destination in Portishead/Pill) show a greater geographical spread.

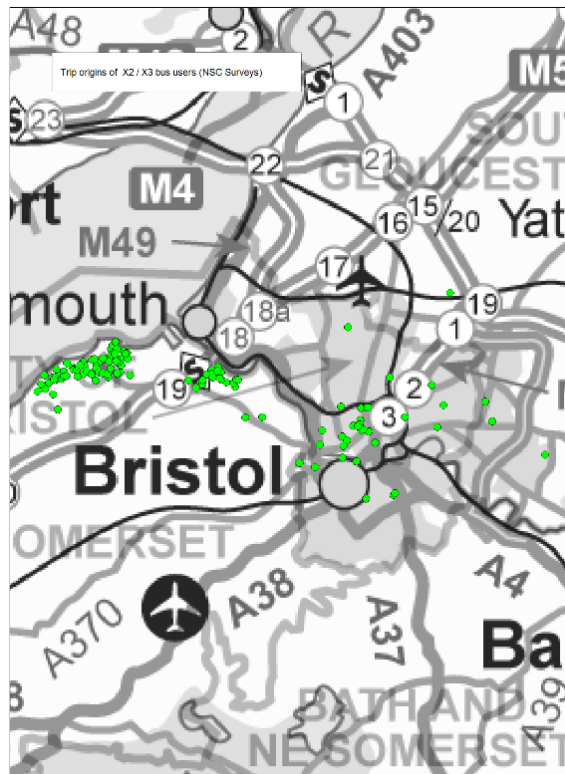


Figure 8-10: Origin of X2 & X3 bus users

Rail usage data

9.1 Introduction

The G-BATS4 PTAM rail passenger trip matrices will be built from scratch using a number of datasets that cover rail use in the West of England area and beyond. These include:

- Local rail surveys, West of England (WoE) Rail Surveys;
- Publicly available data from the Office of Rail Regulation (ORR), station usage estimates, and DfT, National Rail Travel Survey (NRTS); and
- Confidential data on rail movements extracted from MOIRA.

9.2 Local rail surveys

A key source of rail usage data in the G-BATS model area is the West of England Rail Survey, which is carried out annually by the local authorities in the West of England (WoE). Surveys have been undertaken over a number of years, being conducted on or around the same day in November each year. All rail stations in the region, as shown in Figure 9.1, are included in the survey.

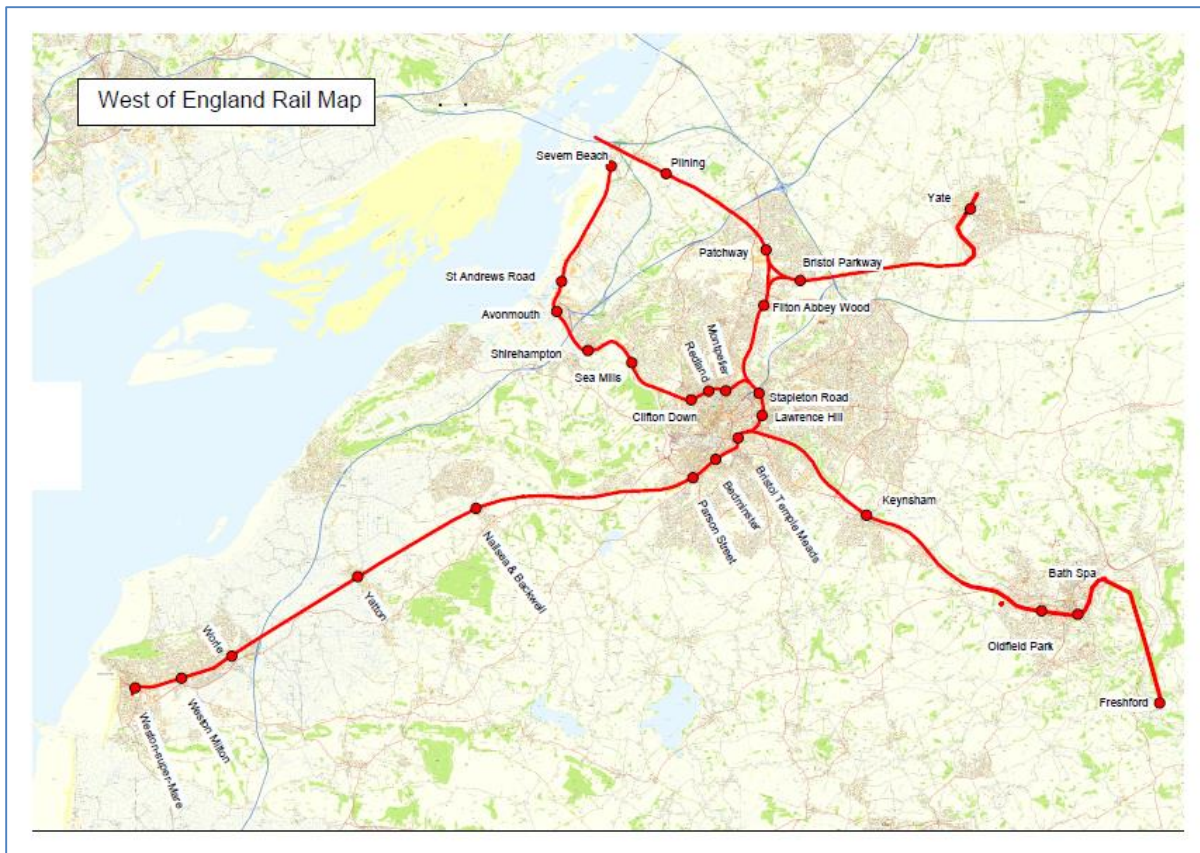


Figure 9-1: West of England Rail Network

The survey is made up of individual train passenger boarding and alighting counts at all stations (excepting Temple Meads), as well as collecting detailed journey information from questionnaires, including access mode, trip frequency and trip origin/destination. Counts are carried out annually, with questionnaires being issued bi-annually.

The development of rail matrices in the G-BATS PTAM makes use of WoE station boarding and alighting counts carried out in November 2013, with questionnaire details from November 2012. Further surveys in the series took place in November 2014, but these are too late for inclusion in the G-BATS base year model. Table 9.1 shows station boarding and alighting collected in the 2013 survey (daily figures, basic unadjusted count data).

Table 9-1

West of England Rail Survey

Station ¹	Boarding	Alighting
Avonmouth	266	255
Bath Spa	9270	9452
Bedminster	214	201
Bristol Parkway	5498	4890
Bristol Temple Meads ²	1071	1302
Clifton Down	895	1022
Filton Abbey Wood	2208	2159
Freshford	66	68
Keynsham	767	692
Lawrence Hill	567	613
Montpelier	621	462
Nailsea & Backwell	1035	1511
Oldfield Park	745	735
Parson Street	242	211
Patchway	179	171
Redland	433	381
Sea Mills	218	234
Severn Beach	132	120
Shirehampton	170	205
St.Andrews Road	29	50
Stapleton Road	755	686
Weston Milton	188	207
Weston-super-Mare	1094	531
Worle	713	742
Yate	542	424
Yatton	774	788
TOTAL	28692	28112

Other ad hoc surveys are also available for rail movements in the local area. In particular, counts of boarding and alighting at Severn Beach line stations are occasionally carried out for the Severnside Community Rail Partnership. These have not been used in the development of G-BATS trip matrices, but have been considered in other rail demand assessments in the area.

¹ Note that Pilning station is not included in the WoE survey. Viable journeys are not really possible using Pilning as it is only served by 2 trains per week (1 per direction) on a Saturday; these are essentially so called 'Parliamentary' trains, scheduled to stop there to keep the station officially open.

² Passengers were only counted boarding and alighting services to/from the Severn Beach line at Bristol Temple Meads. Total passengers' boarding and alighting at Bristol Temple Meads from other services is therefore much larger than these figures.

9.3 National rail data (publicly available)

Two key sets of national rail data are publicly available that have been used in the development of the G-BATS PTAM rail elements. These include:

- The Office of Rail Regulation (ORR) publishes a range of statistics about the rail industry, the most useful of which for the development of G-BATS being annual passenger usage of stations and peak passenger conditions at main stations. The most recent station statistics were published in February 2014 (covering the period April 2013 to March 2014).
- The National Rail Travel Survey (NRTS) produced by the DfT provides estimates about the number and characteristics of rail trips. The information covered is comprehensive, including rail journeys in terms of first, intermediate and last stations, and 'true' origin and destination of trips (such as home or work), as well as information such as ticket type used, journey purposes and journey frequency.

ORR station usage figures provide a valuable time-line in the overall demand for rail travel, with regular releases of similar data since 2004-05 providing year on year indications of growth. Table 9.2 shows total passenger entries and exits for stations in the WoE from 2004-05 to 2012-13. A key feature to note in this table is the significant increase in recorded usage at all WoE stations, especially at stations within the Bristol urban area.

However, this information is based on interpreting ticket sales rather than actual counts of passengers, and as such there can be (recognised) anomalies, particularly where groups of stations are within the same ticket 'zone' or it is considered (perhaps anecdotally) that fare evasion can be significant at peak times.

As such, comparison between the WoE boarding and alighting survey and ORR station usage estimates has tended to yield differences that can be significant. In itself, comparison is difficult because of the differing methodologies, where the WoE survey is a one day snapshot in November and ORR usage estimates are based on annual ticket receipts. However, the WoE survey has indicated over the years a consistently higher station patronage than the ORR figures.

Note for example that Table 9.2 shows Severn Beach itself has the second highest recorded throughput of Severn Beach line stations (behind Clifton Down), and almost double the throughput at Avonmouth. Contrast this with the WoE surveys in Table 9.1, where Avonmouth is recorded as having almost double the throughput of Severn Beach. This is function of the zonal ticketing system for Severn Beach, where Avonmouth and Severn Beach are in the same zone.

Hence, as has also been employed on other studies in the WoE area, the WoE survey results are used in conjunction with ORR station statistics, particularly for the larger stations such as Bristol Temple Meads, where it is acknowledged that the WoE survey is incomplete.

9.4 MOIRA

MOIRA is a demand and revenue forecasting tool that is owned and used by the industry to forecast the impact of changes to timetables, including the effect on passenger numbers and revenue of changes such as stopping patterns, infrastructure and rolling stock performance, using Passenger Demand Forecasting Handbook (PDFH) techniques and values to do so. The MOIRA system incorporates the national rail timetable and is used by all UK passenger train operating companies to assess changes. MOIRA is not publically available, but can be used by public authorities on a commercial 'in confidence' basis. For instance, the West of England Rail Studies used MOIRA (provided by DfT) to assess the MetroWest.

Some extracts from MOIRA have been used to assist in developing the rail matrices in the G-BATS PTAM, including annual-to-daily and daily-to-period usage profiles and station-to-station movement calibration.

Table 9-2

ORR Station Usage data for WoE stations (2004-2013)

Station Name	2012-13 in & out	2011-12 in & out	2010-11 in & out	2009-10 in & out	2008-09 in & out	2007-08 in & out	2006-07 in & out	2005-06 in & out	2004-05 in & out	2004-05 to 20012-13 change/yr	20012-13 change
All stations in WoE	20,402,476	19,667,718	18,084,354	16,304,728	15,859,184	14,392,544	13,608,357	12,473,874	11,656,232	7.2%	75.0%

BRISTOL MAIN STATIONS

Bristol Temple Meads	9,099,368	8,874,542	8,409,340	7,875,686	7,829,628	7,082,102	6,548,859	6,066,239	5,641,372	6.2%	61.3%
Bristol Parkway	2,255,298	2,254,430	2,114,876	2,041,548	2,084,200	1,897,941	1,789,848	1,633,280	1,456,350	5.6%	54.9%
TOTAL	11,354,666	11,128,972	10,524,216	9,917,234	9,913,828	8,980,043	8,338,707	7,699,519	7,097,722	6.0%	60.0%

SEVERN BEACH LINE STATIONS

Severn Beach	167,078	141,714	113,480	88,504	74,712	54,034	38,202	37,088	29,295	24.3%	470.3%
St.Andrew's Road	9,910	6,072	4,328	3,942	3,582	3,183	5,518	8,008	4,969	9.0%	99.4%
Avonmouth	97,880	88,642	83,674	68,448	61,948	44,468	47,834	43,365	33,815	14.2%	189.5%
Shirehampton	50,654	43,482	42,566	35,758	34,292	30,893	38,493	31,539	29,645	6.9%	70.9%
Sea Mills	58,310	51,998	49,082	41,680	36,358	33,222	40,786	36,411	34,113	6.9%	70.9%
Clifton Down	522,010	471,010	433,088	361,828	281,876	204,397	180,656	153,027	141,838	17.7%	268.0%
Redland	94,984	96,904	92,966	86,426	86,234	61,394	66,852	55,529	50,063	8.3%	89.7%
Montpelier	126,316	122,222	111,628	96,114	84,834	60,629	76,969	73,573	65,108	8.6%	94.0%
TOTAL	1,127,142	1,022,044	930,812	782,700	663,836	492,220	495,310	438,540	388,846	14.2%	189.9%

OTHER BRISTOL STATIONS

Stapleton Road	140,390	129,356	123,084	111,532	103,576	72,182	98,446	86,997	73,202	8.5%	91.8%
Lawrence Hill	124,878	102,960	93,600	74,876	67,338	55,730	68,371	55,865	46,508	13.1%	168.5%
Bedminster	80,262	76,420	70,006	69,898	58,690	43,145	43,379	40,917	32,489	12.0%	147.0%
Parson Street	87,932	77,722	68,840	57,374	46,670	32,511	19,172	14,293	7,231	36.7%	1,116.0%
TOTAL	433,462	386,458	355,530	313,680	276,274	203,568	229,368	198,072	159,430	13.3%	171.9%

BATH & N.E.SOMERSET STATIONS

Bath Spa	5,757,880	5,676,002	5,217,954	4,779,480	4,757,904	4,478,305	4,244,776	3,905,144	3,726,900	5.6%	54.5%
Freshford	39,160	37,286	33,456	30,796	31,604	25,552	23,448	20,779	20,711	8.3%	89.1%
Keynsham	329,274	306,292	278,850	249,842	257,110	231,326	209,593	187,693	169,101	8.7%	94.7%
Oldfield Park	281,622	252,936	239,576	216,750	217,400	191,647	177,275	156,753	150,225	8.2%	87.5%
TOTAL	6,407,936	6,272,516	5,769,836	5,276,868	5,264,018	4,926,830	4,655,092	4,270,369	4,066,937	5.8%	57.6%

SOUTH GLOUCESTERSHIRE STATIONS

Yate	307,148	294,952	274,970	247,536	240,482	216,658	198,587	167,820	128,384	11.5%	139.2%
Patchway	82,198	67,418	59,474	49,812	45,280	44,929	42,463	33,957	22,202	17.8%	270.2%
Filton Abbey Wood	852,250	771,364	679,270	598,032	536,958	457,611	410,630	401,325	377,552	10.7%	125.7%
TOTAL	1,241,596	1,133,734	1,013,714	895,380	822,720	719,198	651,680	603,102	528,138	11.3%	135.1%

NORTH SOMERSET STATIONS

Nailsea & Backwell	421,892	410,104	395,524	372,088	380,310	344,108	295,917	268,073	238,657	7.4%	76.8%
Yatton	398,530	383,622	373,066	339,370	338,782	316,691	283,274	257,145	247,353	6.1%	61.1%
Worle	253,590	241,478	215,524	180,888	171,622	138,565	118,399	107,233	93,989	13.2%	169.8%
Weston Milton	48,008	46,718	40,458	31,758	29,442	31,196	33,810	30,317	24,381	8.8%	96.9%
Weston-super-Mare	1,037,172	1,104,078	1,037,806	935,814	963,626	935,569	857,777	836,036	799,414	3.3%	29.7%
TOTAL	2,159,192	2,186,000	2,062,378	1,859,918	1,883,782	1,766,129	1,589,177	1,498,804	1,403,794	5.5%	53.8%

Conclusions

10.1 Conclusions

It is concluded that the data collected is of sufficient quality and coverage to be used for the subsequent development of the GBATS4 multi-modal model.

Appendix A
RSI Survey Form

0000000

ROADSIDE INTERVIEW FORM

BRISTOL CITY CENTRE STUDY



SITE.....

DATE.....

TIME STARTING.....

SERIAL

INTERVIEWER.....

CODED BY.....

1. VEHICLE TYPE	2. NUMBER OF VEHICLE OCCUPANTS (INCLUDING THE DRIVER)	3. PLEASE STATE THE FULL ADDRESS YOU HAVE JUST COME FROM.	4. REASON FOR BEING THERE?	5. PLEASE STATE THE FULL ADDRESS YOU ARE TRAVELLING TO.	6. REASON FOR GOING THERE?	7. HOW FREQUENTLY DO YOU MAKE THIS TRIP?	8. WHERE DO YOU INTEND TO PARK YOUR VEHICLE?	9. WHAT IS THE LOCATION/ NAME OF THE CAR PARK OR STREET WHERE YOU WILL PARK	10. HOW WOULD YOU DESCRIBE YOUR HOUSEHOLD INCOME LEVEL?
1 CAR/TAXI 2 LGV (2 AXLE, SINGLE TYRE) 3 HGV TYPE 1 (RIGID) 4 HGV TYPE 2 (ARTICULATED) HGV REG NUMBER	<div></div>	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	1 DAILY 2 1-4 TIMES PER WEEK 3 1-4 TIMES PER MONTH 4 LESS THAN ONCE A MONTH	1 ON STREET (FREE) 2 ON STREET (PAY) 3 PUBLIC CAR PARK 4 PRIVATE CAR PARK (FREE) 5 PRIVATE CAR PARK (PAY) 6 PARK AND RIDE 7 OTHER	..... ..... ..... ..... .....	1 LESS THAN £23,000 2 BETWEEN £23,000 AND £46,000 3 GREATER THAN £46,000
1. VEHICLE TYPE	2. NUMBER OF VEHICLE OCCUPANTS (INCLUDING THE DRIVER)	3. PLEASE STATE THE FULL ADDRESS YOU HAVE JUST COME FROM.	4. REASON FOR BEING THERE?	5. PLEASE STATE THE FULL ADDRESS YOU ARE TRAVELLING TO.	6. REASON FOR GOING THERE?	7. HOW FREQUENTLY DO YOU MAKE THIS TRIP?	8. WHERE DO YOU INTEND TO PARK YOUR VEHICLE?	9. WHAT IS THE LOCATION/ NAME OF THE CAR PARK OR STREET WHERE YOU WILL PARK	10. HOW WOULD YOU DESCRIBE YOUR HOUSEHOLD INCOME LEVEL?
1 CAR/TAXI 2 LGV (2 AXLE, SINGLE TYRE) 3 HGV TYPE 1 (RIGID) 4 HGV TYPE 2 (ARTICULATED) HGV REG NUMBER	<div></div>	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	1 DAILY 2 1-4 TIMES PER WEEK 3 1-4 TIMES PER MONTH 4 LESS THAN ONCE A MONTH	1 ON STREET (FREE) 2 ON STREET (PAY) 3 PUBLIC CAR PARK 4 PRIVATE CAR PARK (FREE) 5 PRIVATE CAR PARK (PAY) 6 PARK AND RIDE 7 OTHER	..... ..... ..... ..... .....	1 LESS THAN £23,000 2 BETWEEN £23,000 AND £46,000 3 GREATER THAN £46,000
1. VEHICLE TYPE	2. NUMBER OF VEHICLE OCCUPANTS (INCLUDING THE DRIVER)	3. PLEASE STATE THE FULL ADDRESS YOU HAVE JUST COME FROM.	4. REASON FOR BEING THERE?	5. PLEASE STATE THE FULL ADDRESS YOU ARE TRAVELLING TO.	6. REASON FOR GOING THERE?	7. HOW FREQUENTLY DO YOU MAKE THIS TRIP?	8. WHERE DO YOU INTEND TO PARK YOUR VEHICLE?	9. WHAT IS THE LOCATION/ NAME OF THE CAR PARK OR STREET WHERE YOU WILL PARK	10. HOW WOULD YOU DESCRIBE YOUR HOUSEHOLD INCOME LEVEL?
1 CAR/TAXI 2 LGV (2 AXLE, SINGLE TYRE) 3 HGV TYPE 1 (RIGID) 4 HGV TYPE 2 (ARTICULATED) HGV REG NUMBER	<div></div>	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	1 DAILY 2 1-4 TIMES PER WEEK 3 1-4 TIMES PER MONTH 4 LESS THAN ONCE A MONTH	1 ON STREET (FREE) 2 ON STREET (PAY) 3 PUBLIC CAR PARK 4 PRIVATE CAR PARK (FREE) 5 PRIVATE CAR PARK (PAY) 6 PARK AND RIDE 7 OTHER	..... ..... ..... ..... .....	1 LESS THAN £23,000 2 BETWEEN £23,000 AND £46,000 3 GREATER THAN £46,000
1. VEHICLE TYPE	2. NUMBER OF VEHICLE OCCUPANTS (INCLUDING THE DRIVER)	3. PLEASE STATE THE FULL ADDRESS YOU HAVE JUST COME FROM.	4. REASON FOR BEING THERE?	5. PLEASE STATE THE FULL ADDRESS YOU ARE TRAVELLING TO.	6. REASON FOR GOING THERE?	7. HOW FREQUENTLY DO YOU MAKE THIS TRIP?	8. WHERE DO YOU INTEND TO PARK YOUR VEHICLE?	9. WHAT IS THE LOCATION/ NAME OF THE CAR PARK OR STREET WHERE YOU WILL PARK	10. HOW WOULD YOU DESCRIBE YOUR HOUSEHOLD INCOME LEVEL?
1 CAR/TAXI 2 LGV (2 AXLE, SINGLE TYRE) 3 HGV TYPE 1 (RIGID) 4 HGV TYPE 2 (ARTICULATED) HGV REG NUMBER	<div></div>	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	POSTCODE HOUSE OR ORGANISATION NAME NUMBER & STREET TOWN	1 HOME 2 WORK 3 EMPLOYERS BUSINESS 4 SHOPPING 5 EDUCATION 6 OTHER	1 DAILY 2 1-4 TIMES PER WEEK 3 1-4 TIMES PER MONTH 4 LESS THAN ONCE A MONTH	1 ON STREET (FREE) 2 ON STREET (PAY) 3 PUBLIC CAR PARK 4 PRIVATE CAR PARK (FREE) 5 PRIVATE CAR PARK (PAY) 6 PARK AND RIDE 7 OTHER	..... ..... ..... ..... .....	1 LESS THAN £23,000 2 BETWEEN £23,000 AND £46,000 3 GREATER THAN £46,000

Appendix B

RSI Survey Distribution

TABLE B1

RSI Site 1: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	5	2	0	0	2	0	3	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	15
2	33	4	0	0	2	7	11	5	6	3	0	0	1	1	5	0	0	1	10	6	2	0	97
3	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4	14	1	0	0	0	0	0	1	2	0	1	0	0	0	0	0	1	0	2	0	0	0	22
5	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
12	23	7	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	38
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
19	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	101	36	0	0	6	7	16	8	8	4	1	0	2	1	5	0	1	1	13	9	2	0	221

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	5	2	0	0	0	1	0	1	4	0	0	1	2	1	0	0	0	0	0	1	0	0	18
2	54	4	0	0	8	13	15	20	10	2	3	0	6	2	12	1	1	2	7	14	2	1	177
3	6	1	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	10
4	18	4	0	0	0	0	1	5	3	0	1	0	0	0	0	0	0	0	0	1	0	0	33
5	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
6	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
12	17	8	0	0	4	2	7	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	40
13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
18	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
19	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
20	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	9	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Total	161	42	0	0	13	18	23	27	17	2	5	1	8	3	12	1	1	2	7	17	2	1	363

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	2	1	0	0	6	0	3	2	2	0	1	0	2	1	1	0	0	0	0	1	0	0	22
2	13	4	0	0	3	4	11	11	4	1	2	0	3	2	2	1	0	4	1	10	1	0	77
3	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	6
4	1	0	0	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	5
5	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12	4	3	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	37	11	1	0	11	4	15	13	8	2	4	0	5	4	6	1	0	4	1	11	1	0	139

TABLE B2

RSI Site 2: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	4
2	8	3	0	0	2	4	8	2	6	2	1	2	3	1	0	2	0	2	2	2	0	1	51
3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4	14	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	18
5	32	4	0	0	0	3	0	4	1	1	7	2	0	2	1	0	0	0	0	1	0	0	58
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	71	14	0	0	2	7	8	6	7	3	9	4	3	3	2	2	0	2	3	3	0	1	150

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	2	0	0	0	0	0	0	1	1	0	3	1	0	0	3	0	1	0	2	0	0	0	14
2	17	2	1	0	0	2	7	4	9	1	5	5	0	2	3	0	4	1	4	4	0	1	72
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17
5	19	5	0	0	1	2	2	1	1	0	5	3	2	0	1	0	0	0	0	1	0	0	43
6	2	1	0	0	0	0	0	0	0	0	3	1	0	0	0	0	1	0	0	0	0	0	8
7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
13	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	83	12	1	0	1	4	10	6	11	1	17	10	2	2	7	0	6	1	6	5	0	1	186

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	2	1	0	2	0	0	1	0	2	1	1	1	0	1	3	16
2	14	0	0	0	1	0	2	4	5	0	2	0	0	3	3	0	2	1	0	1	1	0	39
3	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4	7	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5	22	3	0	0	2	0	1	2	0	0	1	0	0	0	0	0	2	0	0	0	1	0	34
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	6	0	0	3	0	4	8	6	0	5	1	0	4	3	2	5	2	1	1	3	3	110

TABLE B3

RSI Site 3: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	3	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	2	0	10
3	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4	28	0	0	0	2	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	37
5	77	3	0	0	3	2	11	3	11	8	11	5	1	0	0	4	6	3	2	4	1	1	156
6	9	0	0	0	2	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	16
7	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	12
8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
19	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	142	7	0	0	8	3	13	12	21	8	13	6	1	0	0	4	7	3	2	4	3	1	258

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	7	0	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	1	0	0	15
3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	21	0	0	0	1	0	0	3	4	2	0	0	0	0	0	2	0	0	0	0	0	0	33
5	72	5	0	0	6	6	4	11	13	10	22	8	1	0	2	0	5	1	3	2	1	3	175
6	10	2	0	0	0	0	1	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	18
7	7	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10
8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	5	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	8
20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	131	9	0	0	8	6	6	19	20	14	26	10	1	0	2	2	5	1	3	3	1	4	271

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	5	0	0	0	0	0	0	3	4	0	1	0	0	0	0	0	0	1	0	1	0	0	15
3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	8	0	0	0	1	0	0	0	3	0	2	0	0	0	0	1	0	0	0	0	0	0	15
5	54	3	0	0	3	0	3	6	16	9	15	2	0	1	1	3	2	0	0	0	3	1	122
6	8	2	0	0	0	0	1	0	0	2	3	3	0	0	0	0	0	0	1	0	0	0	20
7	4	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	10
8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	88	5	0	0	4	0	4	10	24	13	25	7	0	1	1	4	2	1	1	1	3	1	195

TABLE B4
RSI Site 4: Survey Distribution

No. of RSI surveys: AM

Vol. of KSr surveys: All																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	3	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	6	
6	4	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7	
7	12	13	0	0	1	0	0	0	0	1	6	2	0	0	0	0	0	0	0	0	0	0	35	
8	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9		
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
13	19	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	25		
14	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11		
15	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8		
19	18	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	22		
20	14	10	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	28		
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	91	45	0	0	1	0	0	0	0	3	11	5	0	0	0	0	0	0	0	0	0	0	156	

No. of RSI surveys: IP

No. of Rs/survey	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	18	5	0	0	0	0	0	0	5	0	6	0	0	0	0	0	0	0	0	0	0	0	34
6	20	7	0	0	0	0	0	0	0	5	8	7	0	0	0	0	0	0	0	0	0	0	47
7	33	21	3	0	3	0	0	0	0	7	13	6	0	0	0	0	0	0	0	0	0	0	86
8	11	9	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	24
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	17	17	1	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	43
14	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
15	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	11	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
19	31	13	0	0	0	0	0	0	0	3	9	3	0	0	0	0	0	0	0	0	0	0	59
20	28	19	0	0	6	0	0	0	0	0	7	3	0	0	0	0	4	0	0	0	0	0	67
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	180	102	4	0	9	0	0	0	5	15	49	25	0	0	0	0	4	0	0	0	0	0	393

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	6	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	9
6	11	8	1	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	25
7	20	22	1	1	2	0	0	0	0	1	7	5	0	0	0	0	0	0	0	0	0	0	59
8	6	4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	12
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	10	10	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	25
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
19	19	12	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	37
20	8	18	0	0	3	0	0	0	0	1	3	6	0	0	0	0	1	0	0	0	0	0	40
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	92	77	2	1	5	0	0	0	0	6	23	14	0	0	0	0	1	0	0	0	0	0	221

TABLE B5
RSI Site 5: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
6	4	0	0	0	0	0	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0	0	12
7	26	1	0	0	0	0	0	0	1	0	12	1	0	0	0	0	2	0	0	0	0	0	43
8	43	5	1	1	0	0	1	2	0	0	4	4	0	1	0	0	0	0	0	0	0	0	62
9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8
14	3	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
15	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
19	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	126	8	1	1	0	0	1	4	1	3	22	6	0	1	0	0	2	0	0	0	0	0	176

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	6	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
6	9	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	13
7	34	1	0	1	2	1	1	5	7	6	21	8	0	0	0	1	3	2	0	1	0	0	94
8	58	13	4	2	8	0	1	3	1	0	14	9	0	0	0	0	1	0	1	0	0	0	115
9	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	4	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	8
14	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
15	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
19	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	144	22	4	3	10	1	2	17	8	6	43	17	0	0	0	1	4	2	1	1	0	0	286

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
6	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	8
7	25	0	0	0	1	0	1	3	7	3	10	4	0	0	1	0	0	0	2	0	0	0	57
8	39	0	1	2	3	0	1	1	2	0	4	2	0	0	0	0	0	0	0	0	0	1	56
9	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	2	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5
14	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
15	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	2	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	8
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	95	6	1	2	4	0	2	5	9	3	26	6	0	0	1	0	0	0	2	0	0	1	163

TABLE B6

RSI Site 6: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
8	21	3	2	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	30
9	39	7	1	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	54
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
15	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	83	12	3	0	2	0	3	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	111

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	6
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8	21	5	0	1	5	2	1	3	0	0	4	3	0	0	0	0	1	0	1	2	0	1	50
9	17	5	0	1	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	27
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	57	12	0	3	6	2	3	3	0	0	4	4	0	0	0	0	1	1	1	2	0	1	100

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8	20	2	1	3	5	2	1	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	38
9	12	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	43	3	2	3	6	2	3	0	0	0	2	1	0	0	0	0	2	0	0	0	0	0	67

TABLE B7
RSI Site 7: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7	1	0	0	0	0	0	0	0	0	1	4	2	0	0	0	0	1	0	0	0	0	0	9
8	23	6	5	0	1	1	0	0	2	11	26	13	0	0	0	1	2	0	0	0	1	1	93
9	7	2	2	2	0	0	0	0	0	1	11	6	0	0	0	0	0	0	0	0	0	1	32
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
14	1	0	1	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	8
15	2	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	6
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	35	9	8	2	1	1	0	0	3	19	47	24	0	0	0	1	3	0	0	0	1	3	157

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3
6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
7	4	0	0	0	0	0	0	0	4	3	7	2	0	0	0	0	0	0	0	0	0	1	21
8	19	9	15	3	1	1	0	0	13	24	58	37	0	0	1	3	9	0	0	0	2	7	202
9	6	2	7	0	0	0	0	0	0	3	9	2	0	0	0	0	3	0	0	0	0	2	34
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
14	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	4
15	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3
20	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	35	11	22	3	1	1	0	0	18	36	79	44	0	0	1	3	13	0	0	0	2	10	279

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
6	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	0	4	1	9	2	0	0	0	0	1	0	0	0	0	0	17
8	10	3	2	1	0	0	0	0	6	5	20	15	1	0	0	1	5	0	1	0	0	1	71
9	3	1	1	0	0	0	0	0	0	0	2	3	0	0	0	0	2	0	0	0	0	0	12
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
20	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	18	5	3	1	0	0	0	0	14	9	36	21	1	0	0	1	8	0	1	0	0	1	119

TABLE B8

RSI Site 8: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	2	3	2	0	1	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	13
9	35	8	7	5	10	5	4	1	0	0	6	6	1	0	0	0	2	2	0	0	0	2	94
10	9	3	0	0	3	1	4	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	24
11	0	0	0	0	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4
15	17	2	1	3	1	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0	28
16	7	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	13
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	9	1	0	0	1	1	4	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	80	18	10	8	20	8	15	4	0	3	14	11	1	0	0	0	2	2	5	0	0	2	203

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	10	3	2	1	0	0	0	0	0	1	10	8	0	0	0	0	4	0	0	0	0	1	40
9	50	9	6	6	11	4	5	7	0	1	19	11	1	0	0	0	3	2	1	0	0	1	137
10	11	1	1	1	10	5	4	2	0	0	2	1	0	0	0	0	0	1	1	0	0	40	
11	2	0	0	0	3	4	5	5	0	0	0	0	0	0	0	0	0	1	0	0	0	20	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
15	17	9	2	0	1	0	0	0	0	2	6	4	0	0	0	0	0	0	0	0	0	2	43
16	8	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	12	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	13	3	1	1	2	0	1	2	0	1	2	0	0	0	0	0	0	5	0	0	0	31	
22	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Total	111	26	12	9	28	13	15	16	0	8	40	25	1	0	0	0	7	2	9	1	0	4	327

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	2	3	3	0	0	1	0	0	2	0	7	6	0	0	0	0	2	0	0	0	0	1	27
9	17	4	3	4	10	1	3	3	1	1	9	12	1	0	0	0	2	1	2	1	0	1	76
10	3	2	0	0	2	2	1	2	0	0	2	0	0	0	0	0	0	0	1	0	0	15	
11	0	0	0	0	1	0	2	7	0	0	0	0	0	0	0	0	0	1	0	0	0	11	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	
15	11	2	2	2	2	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	25	
16	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	8	1	1	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	44	13	9	6	18	4	7	12	3	2	21	22	1	0	0	0	4	1	5	2	0	2	176

TABLE B9
RSI Site 9: Survey Distribution

No. of RSI surveys: AM

No. of KS surveys: All																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
9	55	18	1	7	16	2	5	2	0	10	11	13	2	0	0	0	1	3	1	0	0	0	147	
10	48	13	1	2	13	2	7	2	0	6	6	5	0	0	0	0	1	7	1	0	0	0	114	
11	16	2	1	0	8	3	9	6	0	1	0	0	1	0	0	0	0	0	4	0	0	0	51	
12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
16	8	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	13	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
21	4	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
22	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	140	36	4	10	39	9	21	10	0	20	17	18	3	0	0	0	1	4	14	1	0	0	347	

No. of RSI surveys: IP

No. of KS surveys		No. of KS surveys																						Total	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total		
1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9	37	21	2	2	9	4	12	4	2	16	22	6	1	0	0	1	0	1	1	2	0	0	143		
10	56	10	2	5	14	2	8	7	0	9	10	3	0	0	0	0	1	2	5	3	0	0	137		
11	15	0	1	4	5	4	7	12	0	5	0	0	0	0	0	0	0	1	0	0	0	0	54		
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
15	3	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	6		
16	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
17	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4		
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
21	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
22	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3		
Total	115	31	5	12	29	10	31	23	2	35	32	9	1	0	0	1	1	5	6	5	0	0	353		

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	17	2	4	2	4	1	3	0	1	3	11	3	0	0	0	0	0	3	0	0	0	0	54
10	29	7	1	0	7	4	3	6	0	1	7	1	1	0	1	0	0	1	0	0	0	0	69
11	8	1	0	1	2	4	2	4	0	2	0	0	2	0	0	0	0	0	0	0	0	0	26
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	56	12	5	3	13	10	8	10	1	6	18	4	3	0	1	0	0	4	0	0	0	0	154

TABLE B10

RSI Site 10: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	10	0	1	2	3	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	19
10	17	6	1	0	4	0	1	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	34
11	61	12	3	1	9	7	11	11	1	1	3	1	3	0	2	0	0	0	4	12	0	0	142
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5
16	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
17	7	0	0	0	2	1	1	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	16
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
22	7	0	1	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	14
Total	112	19	6	3	22	11	16	18	1	2	5	1	4	0	2	0	0	0	7	13	0	0	242

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	5	0	0	0	1	0	3	1	0	1	4	0	0	0	0	0	0	0	0	0	0	0	15
10	19	2	2	0	6	1	2	1	1	0	13	2	0	0	0	0	0	0	1	0	0	0	50
11	84	7	3	3	24	6	17	15	5	3	13	1	8	1	0	0	0	3	2	5	1	1	202
12	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17	6	1	0	0	4	1	1	3	0	1	2	0	1	0	0	0	0	1	1	3	0	0	25
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	5	1	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	12
Total	122	11	5	3	37	10	25	21	6	6	35	3	9	1	0	0	0	4	4	10	1	1	314

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	6	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
10	10	3	0	0	2	0	2	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	21
11	38	4	3	2	12	1	11	14	2	1	5	1	5	0	1	0	0	0	1	4	0	0	105
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	6	0	0	0	3	1	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	14
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	63	7	4	2	20	2	15	18	2	2	7	1	6	0	1	0	0	0	2	6	0	0	158

TABLE B11

RSI Site 11: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	5
4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11	26	4	0	0	8	9	10	14	3	2	5	0	6	3	3	1	0	1	8	11	0	0	114
12	16	0	0	0	2	3	1	19	9	2	0	0	1	1	2	0	0	0	1	1	0	0	58
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	6	0	0	0	3	0	2	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	19
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22	9	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	67	4	0	0	13	12	13	41	20	6	5	0	7	4	6	1	0	1	9	12	0	0	221

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0	5
3	0	0	0	0	0	0	0	0	4	1	0	0	0	0	1	0	0	0	0	1	1	0	12
4	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11	52	7	0	0	13	10	16	26	15	2	3	0	2	4	2	0	0	0	7	7	2	0	168
12	23	0	0	0	4	0	8	18	12	4	0	0	2	1	9	0	0	0	1	4	1	0	87
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	5	0	0	0	1	1	2	3	4	1	0	0	1	1	0	0	0	0	1	5	0	0	25
18	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22	8	0	0	0	0	0	0	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	14
Total	94	7	0	0	18	11	26	56	39	15	4	0	5	6	15	0	0	0	9	17	5	0	327

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	2	4	0	0	0	0	0	2	0	0	0	0	1	0	0	9
4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	15	5	0	0	5	9	13	13	6	0	1	0	8	0	4	1	0	0	3	8	2	0	93
12	6	0	0	0	1	0	2	12	10	5	0	0	0	0	4	0	0	0	0	0	1	0	41
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	0	0	0	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	4	0	0	14
18	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	23	5	0	0	6	9	19	33	23	7	2	0	8	0	10	1	0	0	3	13	3	0	165

TABLE B12

RSI Site 12: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	3	0	0	0	1	1	1	0	2	0	1	0	0	0	2	0	0	0	0	1	1	0	13
2	2	0	0	0	0	0	2	1	4	2	1	0	0	1	1	0	0	0	0	0	0	0	14
3	11	0	0	0	0	0	0	1	4	1	0	0	0	0	2	0	0	0	0	0	0	0	19
4	6	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	9
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	6	0	0	0	2	1	2	2	1	0	3	0	1	0	2	0	0	0	1	0	0	0	21
12	36	0	0	0	0	0	5	12	8	2	1	0	0	0	3	0	0	0	0	0	0	0	67
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	10	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
18	2	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	85	0	0	0	3	2	11	19	20	7	7	0	1	1	11	0	0	0	1	1	1	0	170

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	1	3	7	2	7	0	0	1	0	1	0	0	0	0	0	0	23
2	3	0	0	0	0	0	0	3	10	4	1	0	0	0	4	0	0	0	0	0	0	0	25
3	11	0	0	0	0	0	1	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	26
4	3	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	6
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	13	3	0	0	1	3	2	2	9	3	9	0	1	1	4	0	0	0	0	0	0	0	51
12	26	0	0	0	0	0	2	11	9	2	3	0	0	1	4	0	0	0	0	0	0	0	58
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	3	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7
18	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	71	3	0	0	1	3	6	32	43	12	22	0	1	3	12	1	0	0	0	0	0	0	210

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	0	0	0	0	1	0	1	2	11	0	4	0	0	1	2	1	0	0	0	0	0	0	23
2	3	0	0	0	0	0	0	1	6	7	3	0	0	0	2	0	0	0	0	0	0	0	22
3	1	0	0	0	0	0	1	3	5	1	0	0	0	0	1	0	0	0	0	0	0	0	12
4	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	5	0	0	0	1	1	2	2	5	5	1	1	0	0	2	0	1	0	1	1	1	0	29
12	15	0	0	0	0	0	2	5	6	1	0	0	0	3	1	0	0	0	0	0	0	0	33
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	34	0	0	0	2	1	7	18	37	14	8	1	0	4	8	1	1	0	1	1	1	0	139

TABLE B13
RSI Site 13: Survey Distribution

No. of RSI surveys: AM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	6	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	10
3	13	0	0	0	0	0	1	1	5	1	5	0	0	0	1	0	0	0	0	0	0	0	27
4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	9
5	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11	10	7	0	0	4	1	0	1	0	0	2	1	0	0	0	0	0	0	1	0	0	0	27
12	38	7	0	0	4	3	4	2	0	0	2	0	1	0	0	0	0	0	0	2	0	0	63
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
17	12	7	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
18	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
19	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	114	28	0	0	8	6	7	4	6	1	14	2	1	0	2	0	0	0	1	2	0	0	196

No. of RSI surveys: IP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2	8	0	0	0	0	0	1	0	1	0	3	0	0	1	2	0	0	0	0	0	1	0	17
3	11	0	0	0	0	0	1	10	9	1	8	0	0	1	0	0	0	0	0	0	0	0	41
4	4	0	0	0	0	0	0	0	5	1	5	0	0	0	0	0	0	0	0	0	0	0	15
5	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10	6	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	10
11	26	6	1	1	9	4	5	7	0	0	2	1	0	0	0	0	0	0	3	2	0	0	67
12	38	7	0	0	10	3	5	2	0	2	3	0	2	0	3	0	0	0	0	1	0	0	76
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	17	5	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
22	10	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15
Total	130	28	1	1	21	8	15	20	15	5	28	1	2	2	5	0	0	0	3	3	1	0	289

No. of RSI surveys: PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total
1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
2	2	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	6
3	5	0	0	0	0	0	0	7	7	3	1	0	0	0	2	0	0	0	0	0	0	0	25
4	2	0	0	0	0	0	0	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	7
5	4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
11	3	1	0	0	2	0	1	1	0	0	1	0	0	0	0	0	0	0	2	4	0	0	15
12	15	4	0	0	5	3	2	1	4	1	2	0	0	0	0	0	0	0	0	3	0	0	40
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17	8	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	12
18	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4
19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	50	10	0	0	8	3	4	10	14	6	11	0	0	2	3	0	0	1	2	7	0	0	131

Appendix C

ATC Flows

TABLE C1

Direction flows at ATC locations by time period

Ref No.	Location	Direction	08:00-09:00			Av 10:00-16:00			17:00-18:00		
			Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
RSI1	A4018 Whiteladies Road, south of Queens Avenue	Eastbound	1146	27	1205	901	24	960	1024	3	1053
		Westbound	1137	13	1193	912	23	968	1087	32	1166
RSI2	Horfield Road, south of St Michaels Hill	Northbound	101	5	109	117	2	124	127	2	133
		Southbound	411	5	420	210	2	214	198	2	204
RSI3	A38 North Street, north of St James Barton roundabout	Northbound	295	15	347	328	6	375	453	1	490
		Southbound	690	10	753	440	7	475	504	12	558
RSI4	A4032 Newfoundland Street, at gyratory signals	Eastbound	2012	48	2077	1611	68	1702	2387	21	2436
		Westbound	1537	61	1616	1445	36	1499	1338	59	1417
RSI5	A420 Old Market Street, east of Old market roundabout	Eastbound	482	23	543	570	16	626	992	4	1035
		Westbound	977	20	1041	653	8	687	784	16	840
RSI6	Avon Street, east of Temple Way	Eastbound	115	5	122	99	6	105	253	2	255
		Westbound	301	9	310	92	2	95	124	3	127
RSI7	Feeder Road, north of Bath Bridge roundabout	Eastbound	169	8	177	180	9	189	265	1	269
		Westbound	302	13	320	264	7	271	295	11	307
RSI8	A4 Bath Road, south of Bath Bridge roundabout	Northbound	1295	33	1380	970	62	1070	1033	19	1088
		Southbound	813	44	878	1111	58	1204	1356	80	1481
RSI9	St Lukes Road, south of railway	Northbound	361	1	362	252	2	254	259	0	259
		Southbound	165	1	167	329	2	331	516	4	519
RSI10	Bedminster Parade, south of Bedminster Bridge	Northbound	535	14	573	497	18	539	497	7	525
		Southbound	249	8	273	346	7	380	429	18	484
RSI11	A370 Coronation Road, west of Bedminster Bridge	Eastbound	353	13	370	518	33	561	568	11	588
		Westbound	583	17	606	931	27	971	1221	49	1285
RSI12	Cumberland Road, west of Wapping Road	Eastbound	743	8	752	362	13	379	656	4	661
		Westbound	510	6	519	309	5	317	747	20	774
RSI13	Hotwell Road, west of Jacobs Well roundabout	Northbound	1815	37	1883	981	33	1042	1238	16	1287
		Southbound	1395	55	1477	1081	22	1129	1902	59	2016
M2	A41 Portway south of Bridge Valley Rd	Northbound	1447	71	1521	1095	59	1162	1547	38	1587
		Southbound	1462	52	1517	1139	53	1198	1507	83	1591
M6	St Johns Road between All Saints Rd and Clifton Down station approach	Northbound	105	2	108	80	1	81	97	1	98
		Southbound	90	1	91	62	1	63	96	1	97
M11	A38 Cheltenham Road north of Cotham Brow	Northbound	443	144	591	423	80	505	485	59	547
		Southbound	473	110	586	420	83	505	496	64	561
M16	QA420 Lawrence Hill east of Croydon St	Eastbound	555	24	579	649	35	686	909	58	970
		Westbound	1144	54	1202	726	32	761	788	18	807
M18	Barrow Road south of Lincoln St	Eastbound	344	17	362	226	13	239	207	9	217
		Westbound	244	4	248	302	7	310	652	8	661
M19	A4320 St Phillips Causeway south of Day's Rd	Northbound	863	158	1024	946	75	1025	1094	85	1181
		Southbound	816	112	930	773	108	886	995	149	1146
M24	Wedmore Vale north of Glynn Vale	Northbound	409	3	413	181	1	182	232	3	235
		Southbound	152	10	162	163	8	171	308	13	321
M26	A4174 Hartcliffe Way south of Parson St	Northbound	770	41	822	789	34	829	811	28	842
		Southbound	623	52	677	768	63	835	955	72	1028
M27	A38 Bedminster Down Road north of Bishopsworth Rd	Northbound	843	38	889	891	36	935	1203	34	1245
		Southbound	868	64	942	840	40	891	841	44	898
M28	South Liberty Lane west of Nelson St	Eastbound	116	13	131	118	13	132	151	5	156
		Westbound	137	9	147	107	13	122	93	9	103
M29	Ashton Drive near rail bridge	Eastbound	269	18	287	178	10	189	228	11	239
		Westbound	189	2	191	188	4	193	233	5	238
M30	A370 Ashton Road east of B3128 merge	Eastbound	1657	112	1777	880	55	941	1048	44	1096
		Westbound	892	65	964	989	70	1068	1929	114	2050

Ref No.	Location	Direction	08:00-09:00			Av 10:00-16:00			17:00-18:00		
			Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
R12	Avon Street north of Feeder Rd	Northbound	530	17	548	255	9	265	249	8	258
		Southbound	268	10	278	319	10	329	566	12	578
RW5	A4176 Clifton Down between Pembroke Rd and The Ave	Northbound	772	14	786	686	11	697	813	13	826
		Southbound	664	14	680	547	12	562	697	9	707
RW6	Pembroke Road between Apsley Rd and Beaufort Rd	Northbound	174	5	180	145	6	152	247	5	252
		Southbound	236	7	244	137	7	145	181	6	187
RW8	Beaufort Road between Duchess Rd and Osborne Rd	Eastbound	47	0	47	29	0	29	48	0	49
		Westbound	57	0	57	26	0	26	52	0	52
RW22	Kingsland Road between Day's Rd and Gas Ln	Northbound	138	18	156	123	7	131	164	15	179
		Southbound	209	10	219	188	4	192	248	5	253
RW26	B3021 St Johns Lane between Malago Rd and Clinton Rd	Northbound	897	42	942	640	28	670	635	27	663
		Southbound	414	8	423	662	14	676	901	29	931
RW30	Whitby Road south of Feeder Rd by rail bridge	Northbound	186	4	189	308	3	311	310	2	313
		Southbound	513	3	515	326	2	329	267	2	269
RW35	A4175 Keynsham Road between The Ave and Chandos Rd	Eastbound	475	10	486	376	8	385	596	6	602
		Westbound	501	9	512	371	8	380	560	8	568
RW36	Muller Road between Shaldon Rd and Petherbridge Way	Northbound	559	14	574	607	18	626	570	22	593
		Southbound	692	14	708	622	9	632	734	7	742
RW38	Bonnington Walk east of Wordsworth Rd	Northbound	176	2	178	127	4	131	180	8	188
		Southbound	170	5	176	137	3	140	241	4	245
I-1	Whitehouse Street south of A370 York Rd	Northbound	152	2	156	140	1	142	147	3	152
		Southbound	91	1	92	120	2	122	141	2	143
I-2	Spring Street south of A370 York Rd	Northbound	52	2	53	41	1	42	55	2	57
		Southbound	96	2	98	57	1	58	63	1	64
I-3	Lower Clifton Hill (one way) west of Jacob's Wells Rd	Eastbound	58	2	61	21	1	22	26	2	28
		Westbound	3	0	3	1	0	1	1	0	1
I-4	Constitution Hill west of Jacob's Wells Rd	Eastbound	155	2	157	83	1	85	98	0	98
		Westbound	181	2	184	107	1	108	193	1	194
I-5	Woodland Rd north of Park Row	Northbound	113	20	133	85	14	99	138	19	156
		Southbound	239	40	281	99	18	118	125	23	148
I-6	York Street north of A4044 Newfoundland St	Northbound	87	2	89	58	1	59	64	1	65
		Southbound	37	1	38	46	1	47	74	0	75
I-8	Station Approach Rd in/out of Temple Meads	Eastbound	282	12	308	283	12	307	281	12	305
		Westbound	232	52	296	274	40	326	293	36	341
O1	A369 Clannage Road (North of Kennel Lodge Road)	Northbound	426	6	431	356	7	364	546	11	557
		Southbound	417	10	433	407	13	421	521	14	536
O7	A4 Portway (West of Sylvan Way)	Southbound	736	162	912	501	126	637	735	125	865
		Northbound	847	101	951	599	93	695	865	66	933
O19	Hallen Road (North of Marissal Road)	Northbound	132	4	136	101	3	105	110	2	111
		Southbound	143	3	146	129	2	132	299	1	301
O21	Kings Weston Lane (North of Campbells Farm Drive)	Northbound	331	2	333	177	4	181	102	1	103
		Southbound	105	1	106	190	5	195	423	2	425
O24	Queens Road (South of Bearbridge Road)	Northbound	339	7	347	141	2	144	176	3	179
		Southbound	196	3	200	136	3	140	298	2	299
S4	Bridgewater Road (North of Winford Grove)	Northbound	427	22	458	442	22	474	535	15	556
		Southbound	520	17	546	467	29	498	564	16	583
S6	Hengrove Way (East of Cater Road)	Eastbound	758	19	779	679	13	694	794	12	807
		Westbound	826	19	848	716	14	731	863	5	869
S7	Hawkfield Road (South of Baiscoes Road)	Northbound	404	4	409	416	6	423	541	6	547
		Southbound	493	6	499	404	4	408	422	4	426
S8	Whitchurch Lane (South of Hawkfield Way)	Westbound	605	38	650	495	33	535	617	34	656
		Eastbound	558	28	593	485	27	517	675	24	701

Ref No.	Location	Direction	08:00-09:00			Av 10:00-16:00			17:00-18:00		
			Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
S9	Wells Road (North of Hengrove Lane)	Northbound	643	57	705	534	51	589	546	41	591
		Southbound	382	42	428	509	51	563	623	51	676
S10	Bath Road (South of A4174)	Westbound	630	69	711	654	66	735	521	50	586
		Eastbound	558	28	593	485	27	517	675	24	701
S12	St Peters Rise (South of Headley Park)	Northbound	214	6	219	126	6	132	128	5	133
		Southbound	112	6	120	141	6	149	198	5	204
S13	School Road (South of Allison Road)	Northbound	482	20	507	348	11	361	530	18	550
		Southbound	329	8	338	251	9	260	380	8	388
E2	Downend Road (West of Stanbury Avenue)	Eastbound	308	13	321	323	11	335	395	10	405
		Westbound	472	14	488	325	10	335	349	6	356
E3	Staplehill Road (East of Lewington Road)	Eastbound	291	10	303	322	12	335	488	17	506
		Westbound	468	15	485	328	13	343	393	11	405
E4	Lodge Hill (West of Cotteral Avenue)	Eastbound	133	18	152	159	21	181	239	30	270
		Westbound	277	35	313	194	26	221	229	29	258
E5	Two Mile Hill Road (West of Queens Way)	Eastbound	400	17	420	338	14	354	506	21	527
		Westbound	299	11	312	272	10	283	353	8	362
E6	Nags Head Hill (South of Nicholas Lane)	Eastbound	466	15	481	437	16	453	660	26	686
		Westbound	618	17	635	387	12	399	460	8	468
NE1	Frenchay Park Road (East of Ham Lane)	Eastbound	825	17	844	486	9	497	479	9	490
		Westbound	778	21	802	566	11	580	832	21	863
NE5	Charlton Road (South of King Johns Road)	Northbound	584	8	592	321	5	326	391	6	397
		Southbound	353	6	360	291	4	295	413	5	418
NE6	Lodge Road (South of Britton Gardens)	Northbound	311	3	315	207	3	211	256	2	259
		Southbound	295	4	299	236	3	241	337	3	341
NE7	Downend Road (North of Cross Street)	Northbound	205	4	211	223	5	228	233	3	236
		Southbound	279	5	284	322	6	328	307	3	310
NE8	Syston Way (West of Northend Road)	Eastbound	294	10	308	271	9	283	410	6	419
		Westbound	391	7	398	252	6	259	354	5	359
NE9	Lees Hill (South of High View Road)	Northbound	215	3	218	169	4	174	224	3	227
		Southbound	197	3	200	128	3	131	188	4	193
NE10	Pound Road (South of High View Road)	Northbound	258	1	259	154	1	155	216	2	219
		Southbound	135	2	137	116	1	117	208	2	210
NE11	Willis Road (South of Prospect Crescent)	Northbound	51	0	51	27	0	27	40	0	40
		Southbound	54	0	54	32	0	32	43	0	43
NWI3	Henbury Road (South of Hyland Grove)	Northbound	131	1	131	71	0	71	131	1	132
		Southbound	139	1	140	67	0	67	106	0	106
NWI7	Southmead Road (South of Charis Avenue)	Northbound	362	16	384	508	20	529	550	18	569
		Southbound	473	14	488	519	13	533	661	19	681
NWI10	Muller Road (North of Stottbury Road)	Northbound	834	32	866	754	21	776	965	23	989
		Southbound	819	43	864	759	34	793	800	37	838
NWI11	Coldharbour Lane (North of M32)	Northbound	875	17	895	300	9	311	343	8	355
		Southbound	312	4	322	344	5	355	570	7	583
NWO7	Bristol Road (North of A4174)	Northbound	929	20	951	694	15	711	947	18	967
		Southbound	595	34	631	635	22	659	709	49	760
M12	North Road	Northbound	29	1	33	25	1	28	36	2	40
		Southbound	344	6	352	233	2	237	276	2	279

Appendix D

MCC Link Flows

TABLE D1

Direction flows at MCC locations by time period

Ref No.	Location	Direction	08:00-09:00			Av 10:00-16:00			17:00-18:00		
			Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
RSI1	A4018 Whiteladies Road, south of Queens Avenue	Eastbound	1231	29	1294	1074	28	1144	1172	3	1205
		Westbound	1281	28	1344	1067	29	1142	1271	5	1312
RSI2	Horfield Road, south of St Michaels Hill	Northbound	84	4	91	105	2	111	103	2	108
		Southbound	367	3	372	176	3	181	189	2	192
RSI3	A38 North Street, north of St James Barton roundabout	Northbound	314	15	365	355	7	402	441	1	475
		Southbound	689	7	730	466	11	519	519	1	553
RSI4	A4032 Newfoundland Street, at gyratory signals	Eastbound	2306	53	2379	1786	73	1883	2642	22	2694
		Westbound	1773	39	1829	1560	67	1649	1547	19	1583
RSI5	A420 Old Market Street, east of Old market roundabout	Eastbound	457	22	516	592	16	649	1076	4	1121
		Westbound	1373	18	1425	823	20	885	1076	2	1118
RSI6	Avon Street, east of Temple Way	Eastbound	130	5	137	108	6	114	249	2	251
		Westbound	299	5	304	100	5	105	119	0	119
RSI7	Feeder Road, north of Bath Bridge roundabout	Eastbound	150	7	157	183	9	192	272	1	276
		Westbound	333	9	342	273	10	283	323	0	323
RSI8	A4 Bath Road, south of Bath Bridge roundabout	Northbound	1024	27	1093	1003	67	1110	1062	20	1120
		Southbound	978	59	1065	1133	81	1252	1499	23	1554
RSI9	St Lukes Road, south of railway	Northbound	564	2	566	256	2	258	259	0	259
		Southbound	185	2	188	347	2	349	545	0	545
RSI10	Bedminster Parade, south of Bedminster Bridge	Northbound	504	14	541	579	21	629	597	8	631
		Southbound	244	5	273	354	13	396	456	4	483
RSI11	A370 Coronation Road, west of Bedminster Bridge	Eastbound	740	27	776	519	32	561	557	11	577
		Westbound	550	21	580	786	30	826	1125	11	1144
RSI12	Cumberland Road, west of Wapping Road	Eastbound	788	8	798	349	13	366	655	4	660
		Westbound	597	6	604	324	10	337	816	4	823
RSI13	Hotwell Road, west of Jacobs Well roundabout	Northbound	1865	38	1934	1022	34	1084	1235	16	1283
		Southbound	1472	21	1517	1117	41	1191	1986	11	2026

Appendix E

MCC Junction Flows

TABLE E1

Direction flows at MCC locations by time period

Location	08:00-09:00						Av 10:00-16:00						17:00-18:00					
	LGVs		HGVs		PSV		LGVs		HGVs		PSV		LGVs		HGVs		PSV	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
Site 1 - A4 portway / Bridge Valley Road																		
A4 Portway (N)	973	919	98	73	8	13	679	659	100	94	7	8	954	1064	30	41	8	13
Bridge Valley Road	513	454	11	22	2	0	436	422	15	16	2	3	592	499	5	6	2	0
A4 Portway (S)	1326	1439	95	109	13	10	1054	1088	110	114	11	9	1535	1518	47	35	13	10
Site 2 - Regent Street/ Merchants Road																		
Regent Street (N)	537	411	4	8	7	5	288	298	11	10	7	7	286	489	2	1	7	5
Merchants Road	317	365	9	2	5	7	271	194	7	9	7	7	429	207	1	0	5	7
Regent Street (S)	288	366	2	5	0	0	169	235	8	8	0	1	293	312	1	3	0	0
Site 3 - A4 Hotwell Road / Bennet Way																		
A4 Portway (eastbound)	1446	1423	108	97	12	12	1084	1056	113	118	9	11	1514	1554	38	44	12	12
Cabot Way (eastbound)	0	924	0	82	0	2	0	803	0	88	0	3	0	1216	0	34	0	2
A4 Portway (eastbound)/Granby	0	522	0	26	0	10	0	282	0	25	0	6	0	298	0	4	0	10
A4 Portway (westbound)	376	0	16	0	6	0	276	0	24	0	7	0	597	0	7	0	6	0
Bennet Way (westbound)	1047	0	81	0	6	0	780	0	94	0	4	0	957	0	37	0	6	0
Site 4 - A4 Hotwell Road / Bristol Gate / Faraday Road																		
A4 Hotwell Road (N)	0	2116	0	65	0	40	0	1112	0	61	0	33	0	1331	0	12	0	40
Faraday Road	169	0	5	0	0	0	127	0	4	0	2	0	153	0	1	0	0	0
Bristol Gate	1435	0	32	0	32	0	701	0	32	0	25	0	869	0	7	0	32	0
A4 Hotwell Road (W)	512	0	28	0	8	0	284	0	25	0	6	0	309	0	4	0	8	0
Site 5 - Cabot Way / Humphry Davy Way																		
Cabot Way	938	0	80	0	3	0	803	0	87	0	3	0	1225	0	37	0	3	0
Humphry Davy Way	685	0	22	0	1	0	633	0	30	0	2	0	1309	0	8	0	1	0
Brunel Way	2454	1623	113	102	34	4	1480	1436	126	117	30	5	1913	2534	36	45	34	4
Bennett Way	0	1044	0	81	0	7	0	773	0	94	0	4	0	1036	0	29	0	7
Bristol Gate	0	1410	0	32	0	27	0	707	0	32	0	26	0	877	0	7	0	27
Site 6 - Jessops Underpass / Clift House Road / A3029 on/off slips																		
A3029 off slip	240	0	13	0	0	0	234	0	18	0	1	0	322	0	5	0	0	0
Clift House Road	968	658	62	28	3	5	735	547	48	45	4	2	1018	783	21	16	3	5
A3029 on slip	0	440	0	38	0	2	0	445	0	27	0	3	0	714	0	13	0	2
Jessop Underpass	418	528	15	24	5	1	313	290	27	21	2	1	461	304	11	8	5	1
Site 7 - A369 Clanange Road / A370 on/off slips																		
A369 Clanange Road	655	491	9	12	7	9	432	383	11	9	10	9	567	616	10	5	7	9
A370 on slip	0	475	0	13	0	16	0	284	0	9	0	16	0	452	0	8	0	16
Underpass	628	593	21	19	13	1	422	413	13	22	11	2	663	372	4	11	13	1
Blackmoors Lane	83	119	0	1	3	4	36	31	1	1	1	1	30	27	0	0	3	4
A370 Off Slip	312	0	15	0	7	0	222	0	17	0	7	0	207	0	10	0	7	0
Site 8a - Ashton Rd / A369 / Winterstoke Rd																		
A3029 Off slip	1282	0	66	0	14	0	1128	0	90	0	16	0	1477	0	29	0	14	0
Winterstoke Road	415	766	24	58	4	1	349	845	20	80	1	1	470	996	3	25	4	1
Ashton Road	0	931	0	32	0	17	0	632	0	29	0	15	0	951	0	7	0	17
Site 8b - A3029 Winterstoke Road / Ashton Gate Underpass																		
A3029 Winterstoke Road (N)	1394	1141	86	91	2	8	1218	1042	102	91	3	2	1572	1180	36	29	2	8
A3029 Winterstoke Road (S)	1302	1404	89	87	8	3	1056	1156	99	101	2	3	1118	1334	28	33	8	3
Marsh Road	264	276	7	7	1	0	111	223	5	11	0	0	115	435	3	7	1	0
Ashton Vale Road	50	189	16	13	0	0	131	94	23	25	0	0	182	38	8	6	0	0
Site 9 - Ashton Road / North Street / Coronation Road																		
Coronation Road	0	447	0	19	0	0	0	226	0	10	0	0	0	304	0	5	0	0
North Street	386	255	19	17	6	6	256	181	12	7	6	7	315	220	4	5	6	6
Ashton Road	392	98	22	8	6	6	231	110	9	5	7	6	283	122	7	1	6	6
Frayne Road	22	0	3	0	0	0	30	0	1	0	0	0	48	0	0	0	0	0
Site 10 - A3029 Winterstoke Road / Sainsburys																		
A3029 Winterstoke Road (W)	1243	1086	67	89	9	11	1223	1109	85	87	11	11	1556	1228	38	30	9	11
A3029 Winterstoke Road (E)	841	925	84	60	11	9	882	1004	78	76	10	11	948	1303	27	36	11	9
Sainsburys	202	275	15	17	0	0	416	408	9	10	1	1	432	405	4	3	0	0
Site 11 - West St / East St / Sheene Lane																		
East Street	327	521	11	15	1	21	396	415	13	14	0	21	436	452	5	5	1	21
St Johns Street	59	58	1	2	0	0	81	77	1	2	0	0	81	82	0	0	0	0
Sheene Road	696	628	21	16	28	7	534	582	17	29	27	7	683	690	8	15	28	7
West Street	514	353	14	13	19	20	434	320	23	10	20	20	392	332	12	3	19	20
Diamond Street	0	36	0	1	0	0	1	50	0	0	0	0	0	36	0	2	0	0
Site 12 - St John Lane / Bedminster Road																		
St Johns Lane (N)	437	924	19	31	9	11	673	602	26	24	9	7	972	601	14	16	9	11
Bedminster Road	868	381	28	12	13	6	626	558	35	23	7	7	762	832	21	10	13	6
St Johns Lane (E)	503	503	23	27	2	7	542	681	28	42	2	2	538	839	15	24	2	7
Site 13 - St Lukes Road / St Johns Lane																		
St Lukes Road	203	432	4	6	0	1	330	220	9	4	0	0	493	215	2	1	0	1
St Johns Lane (E)	376	266	25	10	6	4	369	264	27	13	5	5	513	325	16	3	6	4
Ravenhill Road	31	25	0	1	1	0	19	24	0	1	0	0	18	21	0	0	1	0
St Johns Lane (W)	560	447	13	25	4	6	357	568	15	33	5	5	357	820	3	17	4	6
Site 14 - Redcatch Road / Axbridge Road																		
Redcatch Road (N)	334	553	7	7	3	5	350	240	9	6	5	5	604	345	6	4	3	5
Redcatch Road (E)	245	178	9	2	0	1	188	122	5	2	1	1	317	143	5	3	0	1
Axbridge Road	507	355	2	9	5	2	241	417	5	10	4	5	311	744	4	8	5	2
Site 15 - A4174 Airport Road / A37 Wells Road / Callington Road																		
A37 Wells Road (N)	613	682	42	33	12	13	573	568	45	45	15	14	696	704	24	22	12	13
A4174 Wootton Park	556	643	57	35	10	14	631	633	37	43	8	10	726	724	8	28	10	14
A37 Wells Road (S)	681	492	51	59	12	11	507	563	63	54	14	14	613	715	36	26	12	11
A4174 Airport Road	519	552	30	53	9	5	551	498	42	44	4	3	674	566	18	10	9	5

Location	08:00-09:00						Av 10:00-16:00						17:00-18:00					
	LGVs		HGVs		PSV		LGVs		HGVs		PSV		LGVs		HGVs		PSV	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
Site 16 - A4 Bath Road / A4320 St Phillips Causeway																		
A4320 St Phillips Causeway	783	1162	70	68	3	4	827	844	54	77	3	3	1291	860	28	28	3	4
A4 Bath Road (S)	1522	909	83	73	25	23	1099	1062	86	69	24	24	1111	1670	37	29	25	23
A4 Bath Road (N)	332	566	17	29	20	21	487	508	33	27	22	21	652	524	8	16	20	21
Site 17 - A4320 St Phillips Causeway / Whitby Road																		
A4320 St Phillips Causeway (N)	842	1391	59	80	3	4	925	1027	57	85	2	3	1308	1109	30	29	3	4
Whitby Road	526	367	26	9	1	0	411	403	19	19	0	0	429	307	9	7	1	0
Bloomfield Link Road	253	271	20	8	0	0	409	394	13	11	1	0	408	415	3	4	0	0
A4320 St Phillips Causeway (W)	1176	768	66	74	4	4	933	853	81	56	3	2	941	1255	29	31	4	4
Site 18 - A4320 St Phillips Causeway / Albert Road																		
A4320 St Phillips Causeway (N)	952	1202	89	100	2	5	900	874	86	78	3	3	1326	1082	40	27	2	5
Retail Park	136	170	7	12	0	0	379	395	6	9	1	0	323	284	4	1	0	0
A4320 St Phillips Causeway (S)	1398	836	70	54	4	2	990	938	75	55	2	2	1099	1356	30	28	4	2
Albert Road	180	458	65	65	1	0	289	352	58	83	1	2	411	437	9	27	1	0
Site 19 - A4320 St Phillips Causeway / Days Road																		
A4320 St Phillips Causeway (N)	1201	1178	81	121	11	16	1035	881	103	81	9	9	1304	1088	39	20	11	16
Days Road (E)	320	228	18	9	2	4	230	288	12	22	4	4	246	661	4	6	2	4
A4320 St Phillips Causeway (S)	1242	917	116	81	11	6	867	908	78	86	3	3	1059	1149	17	32	11	6
Days Road (W)	185	625	22	26	4	2	309	364	21	25	3	2	513	224	4	6	4	2
Site 20 - Lawrence Hill roundabout																		
A4320 Easton Way	2011	1362	105	111	9	10	1374	1206	115	90	6	2	1490	1174	28	21	9	10
Lawrence Hill (E)	981	585	35	32	22	28	654	699	31	27	21	26	645	805	6	4	22	28
A4320 St Phillips Causeway (S)	1141	1376	111	90	10	7	979	1181	85	110	8	5	920	1255	20	28	10	7
Lawrence Hill (W)	495	1305	18	36	25	21	693	616	21	25	23	24	749	570	3	4	25	21
Site 21 - A4320 Easton Way / A432 Stapleton Road																		
A4320 Easton Way (N)	1762	1318	91	125	4	13	1201	1031	111	94	5	3	1728	1463	37	28	4	13
A432 Stapleton Road (E)	315	152	7	5	21	18	190	218	13	12	19	20	209	319	3	5	21	18
A4320 Easton Way (S)	1512	1649	125	88	12	5	1142	1133	99	115	3	5	1661	1603	32	38	12	5
A432 Stapleton Road (W)	66	536	4	9	19	20	133	283	6	7	19	19	176	389	2	3	19	20
Site 22 - M32 Junction 3																		
M32 (North)	2314	1375	116	115	20	9	1067	1108	104	103	3	3	1735	1810	40	30	20	9
A4320	1505	1931	124	100	11	5	1231	1396	105	115	3	4	1994	1940	31	40	11	5
M32 (South)	335	631	13	9	2	15	382	206	18	12	1	1	467	167	2	1	2	15
B4051	795	1012	11	40	0	4	689	659	30	27	1	1	751	1030	7	9	0	4
Site 23 - A38 Cheltenham Road / Ashley Road																		
A38 Cheltenham Road (N)	901	487	27	31	27	29	701	538	33	24	30	29	797	740	14	12	27	29
Ashley Road	297	441	19	11	1	0	295	386	13	16	0	0	419	433	6	6	1	0
A38 Cheltenham Road (S)	326	596	19	23	28	27	397	469	17	23	29	29	472	515	8	10	28	27
Site 24 - Hampton Road / Cotham Road / St Michaels Hill																		
Hampton Road	594	421	5	7	0	1	207	283	4	4	0	0	288	561	1	1	0	1
Cotham Road	301	270	3	7	6	9	134	210	3	6	12	9	191	399	0	2	6	9
St Michaels Hill	464	968	8	9	8	6	313	356	8	10	9	12	694	488	1	1	8	6
Cotham Hill	300	0	7	0	2	0	194	0	6	0	1	0	275	0	2	0	2	0
Site 25 - A44018 Westbury Road / A48 Redland Hill																		
A4018 Westbury Road	552	638	22	27	23	17	604	529	26	27	24	20	666	758	4	3	23	17
Redland Hill	311	422	5	9	8	9	306	346	8	8	8	8	346	472	3	5	8	9
A4018 SB	0	1404	0	42	0	33	0	1133	0	45	0	34	0	1270	0	11	0	33
A4018 NB	1465	0	45	0	25	0	919	0	42	0	28	0	1262	0	7	0	25	0
Roman Road	136	0	6	0	3	0	178	0	5	0	3	0	226	0	5	0	3	0
Site 26 - A48 Whiteladies Road / Stoke Road / Westbury Rd																		
A4018	1399	0	46	0	33	0	1138	0	45	0	34	0	1268	0	10	0	33	0
Whiteladies Road	731	881	28	31	25	28	613	644	28	30	32	31	826	672	2	5	25	28
Stoke Road	0	1237	0	43	0	30	0	1096	0	43	0	36	0	1401	0	7	0	30
Garage	26	38	3	3	0	0	34	44	1	1	0	0	31	52	0	0	0	0
Site 27 - Queens Road / Pembroke Road																		
St Pauls Road	469	367	5	7	5	4	254	185	9	4	5	6	486	306	1	1	5	4
Queens Road (E)	426	499	16	5	10	10	281	300	11	15	9	10	475	419	2	2	10	10
Richmond Hill	0	140	0	0	0	0	0	38	0	2	0	0	1	73	0	1	0	0
Queens Road (S)	543	448	6	14	10	6	299	312	12	13	8	7	413	580	1	2	10	6
Pembroke Road	379	363	10	11	5	10	226	225	8	6	7	7	388	385	3	1	5	10
Site 28 - 1 Newfoundland Circus gyratory;																		
A4032 Newfoundland Way	1979	2151	56	93	24	24	1724	1940	93	107	27	24	1548	2957	20	50	24	24
Houlton Street	137	334	12	7	2	0	88	323	4	9	2	0	116	441	1	8	2	0
Car Park	12	134	0	0	0	0	70	270	0	0	0	1	81	223	0	0	0	0
A4044 Temple Way	1688	1088	70	35	102	21	1404	777	86	72	119	33	1838	564	32	20	102	21
A4044 Newfoundland Street	1912	1875	60	60	34	117	1590	1463	63	56	41	130	2321	1625	35	10	34	117
St Paul Street	0	146	0	3	0	0	0	105	0	1	0	0	0	94	0	0	0	0
Site 29 - 2 Old Market roundabout																		
A4044 Temple Way (N)	379	667	13	32	10	105	266	514	11	26	9	105	279	656	0	6	10	105
Old Market Street	1417	288	42	19	53	39	788	409	37	16	47	43	911	578	15	4	53	39
A4044 Temple Way (S)	530	423	26	15	33	26	446	360	29	21	32	25	633	435	8	9	33	26
Castle Street	139	1087	16	31	79	5	351	569	10	24	88	3	484	638	3	7	79	5
Site 30 - 3 Temple Way/ Narrow Plain;																		
A4044 Temple Way (S)	252	0	7	0	33	0	209	0	12	0	32	0	267	0	7	0	33	0
Narrow Plain	282	4	21	1	0	0	253	7	18	0	0	0	397	8	0	1	0	0
A4044 Temple Way (N)	0	530	0	27	0	33	0	455	0	30	0	33	0	656	0	6	0	33

Location	08:00-09:00						Av 10:00-16:00						17:00-18:00					
	LGVs		HGVs		PSV		LGVs		HGVs		PSV		LGVs		HGVs		PSV	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
Site 31 - 4 Temple Way/ Temple Back;																		
A4044 Temple Way (N)	1474	1252	51	47	28	40	1177	1043	77	71	41	49	1108	1345	31	34	28	40
Temple Back (E)	61	181	4	6	0	0	39	36	1	1	0	0	155	55	1	1	0	0
A4044 Temple Way (S)	1291	1350	49	49	40	28	1031	1168	72	77	49	41	1211	1125	34	30	40	28
Temple Back (W)	33	76	0	2	0	0	28	28	0	1	0	0	90	39	0	1	0	0
Site 32 - 5 Temple Circus roundabout																		
A4044 Temple Way	1313	1339	49	49	29	45	1149	1054	74	68	41	48	1134	1230	29	36	29	45
Friary	41	185	4	2	3	3	61	56	3	2	12	11	165	49	1	1	3	3
A4 Temple Gate	0	1464	0	63	0	74	0	1566	0	94	0	89	0	1839	0	32	0	74
Redcliffe Way	1763	0	56	0	89	0	1395	0	82	0	91	0	1567	0	36	0	89	0
Victoria Street	279	408	18	13	32	31	340	271	15	9	36	31	477	225	4	1	32	31
Site 33 - 6 Redcliffe Way / Temple Gate																		
Redcliffe Way (N)	0	1829	0	62	0	90	0	1409	0	88	0	93	0	1654	0	35	0	90
Portwall Lane	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A4 Temple Gate	1513	0	43	0	82	0	1126	0	64	0	87	0	1208	0	32	0	82	0
Redcliff Mead Lane	155	4	1	0	0	0	57	3	1	0	0	0	129	12	0	0	0	0
Redcliffe Way (W)	511	312	24	5	26	18	420	184	26	4	26	20	582	277	4	1	26	18
Car Park	0	3	0	0	0	0	4	3	0	0	0	0	4	1	0	0	0	0
Car Park	16	46	0	1	0	0	12	19	0	0	0	0	42	21	0	0	0	0
Site 34 - 7 Bath Bridge roundabout;																		
A4 Temple Gate	1146	1492	63	69	46	55	1361	960	91	67	44	47	1785	977	36	22	46	55
Cattle market Road	297	194	24	10	0	0	264	188	19	16	1	0	325	304	5	6	0	0
A4 Bath Road	1287	979	78	71	51	43	1000	1172	87	106	43	44	1046	1462	18	39	51	43
A370 York Road	348	496	4	34	0	2	296	768	13	50	0	1	413	1015	9	20	0	2
Clarence Road	567	484	36	21	6	3	459	293	55	27	7	2	565	376	20	1	6	3
Site 35 - 8 Bedminster Bridge roundabout;																		
Redcliff Hill	340	795	16	49	31	30	424	615	15	35	36	34	585	668	5	5	31	30
Clarence Road (E)	369	741	21	40	1	5	262	522	26	58	2	7	379	682	6	20	1	5
A370 York Road	634	149	31	1	2	0	575	187	47	7	5	0	780	432	14	3	2	0
Bedminster Parade	657	292	33	14	25	25	559	349	37	24	27	29	532	445	7	11	25	25
A370 Coronation Road	697	548	42	36	7	6	525	744	52	55	9	10	641	1041	14	14	7	6
Commerical Road	413	585	16	19	2	2	336	265	20	18	3	2	736	385	10	3	2	2
Site 36 - 9 Redcliffe Way roundabout;																		
Redcliff Street	245	334	14	8	0	0	317	279	11	10	1	0	280	299	4	7	0	0
Redcliffe Way (E)	334	605	5	23	17	26	184	433	5	31	18	23	263	551	0	6	17	26
Redcliff Hill	905	326	30	16	29	36	686	379	39	13	30	35	772	460	14	7	29	36
Redcliffe Way (W)	174	393	4	6	48	32	186	282	6	5	43	34	319	324	3	1	48	32
Site 37 - 10 Victoria Street/ Counterslip;																		
Counterslip	443	325	15	13	2	0	254	231	10	17	1	0	366	377	2	2	2	0
Victoria Street (E)	532	601	23	19	31	31	477	606	19	25	33	36	518	703	1	5	31	31
Victoria Street (W)	455	504	16	22	29	31	499	393	28	15	36	33	601	405	5	1	29	31
Site 38 - 11 Jacob Wells Road roundabout;																		
Jacobs Wells Road	467	531	11	24	5	5	373	342	19	12	5	9	488	395	5	2	5	5
St Georges Street	150	390	4	3	0	0	156	176	3	6	0	1	192	226	1	1	0	0
A4 Anchor Road	438	785	21	29	27	34	402	446	29	26	40	31	711	320	10	6	27	34
A4 Hotwells Road	1392	741	53	33	35	28	772	739	35	43	35	40	738	1188	9	16	35	28
Site 39 - 12 Queens Road/The Triangle gyratory;																		
A4018 Queens Road (N)	1184	992	35	48	41	40	791	815	40	39	56	45	606	1144	1	5	41	40
A4018 Queens Road (S)	0	1520	0	49	0	44	0	1111	0	52	0	60	0	904	0	10	0	44
Triangle W	1328	0	62	0	43	0	1134	0	51	0	49	0	1442	0	14	0	43	0
Site 39 - 12 Queens Road/The Triangle gyratory;																		
University Road	0	90	0	3	0	1	0	58	0	1	0	1	0	54	0	0	0	1
A4018 Queens Road (S)	979	1027	39	33	30	38	886	788	41	37	38	55	1140	595	5	7	30	38
A4018 Queens Road (N) / Triangle S	1499	1304	50	52	42	33	1088	1086	51	52	62	45	858	1315	8	6	42	33
Triangle S	0	57	0	1	0	0	0	43	0	1	0	0	0	34	0	0	0	0
Site 39 - 12 Queens Road/The Triangle gyratory;																		
Triangle W	0	1351	0	62	0	42	0	1128	0	52	0	49	0	1424	0	15	0	42
Triangle S	1324	0	56	0	34	0	1151	0	53	0	46	0	1441	0	7	0	34	0
Jacobs Wells Road	561	459	19	13	9	1	388	407	19	20	9	6	505	559	11	3	9	1
Byron Place	29	104	0	0	0	0	36	40	1	0	0	0	58	21	0	0	0	0
Site 40 - 13 Park Row/ Park Street;																		
A4018 Queens Road	1034	987	32	40	37	30	798	879	38	40	53	39	595	1129	8	5	37	30
Park Row	540	586	20	12	3	3	521	473	22	22	5	9	608	355	3	7	3	3
A4018 Park Street	447	448	20	20	27	34	359	325	18	16	34	44	522	241	2	1	27	34
Site 41 - 14 Anchor Road/ Canons Way;																		
Lower Lamb Street	4	6	0	1	0	0	5	4	1	1	0	0	7	5	0	0	0	0
A4 Anchor Road (E)	574	530	26	24	29	36	409	430	28	26	41	31	625	318	8	9	29	36
Canons Way	80	483	8	12	1	1	95	138	4	3	6	7	216	162	4	3	1	1
A4 Anchor Road (W)	800	439	28	25	35	28	464	400	26	30	31	40	367	730	10	10	35	28
Site 42 - 15 Anchor Road/ Explore Lane;																		
A4 Anchor Road (W)	526	598	25	26	37	29	434	417	26	29	31	40	242	597	8	12	37	29
A4 Anchor Road (E)	586	548	26	25	29	37	407	465	28	26	40	32	436	368	12	8	29	37
Explore Lane	34	0	0	0	0	0	42	1	1	0	1	0	287	0	0	0	0	0
Site 43 - 16 College Green/ Anchor Rd;																		
A4 Anchor Road (N)	1175	975	53	51	59	72	842	830	49	49	70	75	908	670	13	6	59	72
A4 Anchor Road (S)	577	591	32	27	35	29	495	419	34	31	31	38	441	469	3	9	35	29
A4018 College Green	406	592	19	26	37	30	360	448	17	20	45	34	246	456	3	4	37	30

Location	08:00-09:00						Av 10:00-16:00						17:00-18:00					
	LGVs		HGVs		PSV		LGVs		HGVs		PSV		LGVs		HGVs		PSV	
	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
Site 44 - 17 St Augustines Parade/ Anchor Rd																		
St Augustines Parade	1033	1157	27	30	71	59	883	845	34	29	72	71	1064	963	11	5	71	59
Colston Street	142	21	4	2	4	2	163	48	2	1	5	2	195	39	0	0	4	2
St Augustines Parade/Colston Av	1157	1154	30	29	59	73	845	998	29	35	71	75	963	1220	5	11	59	73
Site 45 - 18 St Augustines Parade/ Colston Ave (The Scissors);																		
A38 Colston Avenue (N)	1345	1285	46	52	140	132	1074	1192	60	55	161	141	1277	1415	14	16	140	132
B4053	621	631	34	23	59	79	540	567	24	28	63	83	519	632	5	4	59	79
A38 Colston Avenue (S)	1101	1151	41	46	71	59	981	837	46	47	73	72	1200	949	14	13	71	59
Site 46 - 19 St Augustines Parade/ Lewins Mead / Rupert St;																		
A38 Rupert Street	784	766	31	35	125	64	574	720	37	34	145	66	747	902	10	13	125	64
Quay Street	0	29	0	1	0	56	0	43	0	1	0	60	0	42	0	0	0	56
St Stephens Street	81	0	2	0	0	0	68	0	2	0	0	0	71	0	1	0	0	0
A38 Colston Avenue	1272	1342	50	47	138	143	1190	1069	56	60	144	163	1398	1272	16	14	138	143
Site 47 - 20 Perry Road// St Michaels Hill;																		
B4051 Upper Maudlin Street	1074	1072	41	28	25	7	954	848	26	27	30	19	1019	973	3	14	25	7
Colston Street	154	103	3	7	0	5	145	116	2	3	2	4	179	85	0	0	0	5
B4051 Perry Street	616	864	23	27	3	15	470	692	17	19	12	19	563	737	6	2	3	15
St Michaels Hill	537	342	11	16	5	6	430	344	14	10	7	9	379	345	8	1	5	6
Site 48 - 21 Marlborough Street/ Dighton Street;																		
Dighton Street	152	261	11	11	1	2	137	226	6	8	0	0	138	276	2	5	1	2
Marlborough Street (E)	986	913	31	21	19	6	786	696	22	22	21	19	879	777	4	13	19	6
Marlborough Street (W)	1041	1005	27	37	8	20	821	822	26	23	19	21	889	853	15	3	8	20
Site 49 - 22 Lewins Mead / Lower Maudlin St																		
Lower Maudlin Street	54	141	2	7	34	4	75	108	5	6	45	6	130	117	4	2	34	4
Haymarket	0	873	0	34	0	77	0	843	0	43	0	85	0	1095	0	12	0	77
Bus only road	0	6	0	1	0	24	0	7	0	2	0	29	0	9	0	2	0	24
Lewins Mead	966	0	40	0	71	0	884	0	46	0	74	0	1091	0	12	0	71	0
Site 50 - 23 Rupert St / St John's Bridge																		
Lewins Mead	0	934	0	38	0	74	0	864	0	39	0	75	0	992	0	12	0	74
Rupert Street	963	0	28	0	141	0	676	0	37	0	160	0	1053	0	13	0	141	0
A38	784	813	38	28	68	135	726	539	37	35	67	151	726	787	10	11	68	135
Site 51 - Bond Street (A4044) / Gloucester Street																		
Gloucester Street	0	9	0	1	0	0	0	4	0	0	0	0	0	2	0	0	0	0
A4044 Bond Street (W)	1836	1761	59	48	120	39	1332	1454	56	64	136	33	1512	1801	11	33	120	39
A4044 Bond Street (E)	1770	1836	49	59	39	120	1458	1332	64	56	33	136	1803	1512	33	11	39	120

Appendix F

Historic Count Data

TABLE F1

Historic ATC Data

Local Authority	Site	Location	Date	AM				Average IP		PM			
				07:00-08:00		08:00-09:00		10:00-16:00		16:00-17:00		17:00-18:00	
				EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB
SGC	1	A4174 Station Road w/o Shellard Road, Filton	Week Begin: 30-Sep-13	1032	1165	1035	1152	872	856	1059	1094	939	1067
SGC	2	B4055 n/o Spaniorum View, Easter Compton	Week Begin: 30-Sep-13	176	345	239	423	224	211	361	249	415	242
SGC	3	B4058 Bristol Rd s/o Elm Farm, Iron Acton	Week Begin: 04-Nov-13	494	591	516	479	432	420	598	532	539	542
SGC	4	Grovesend Rd w/o A38, Thornbury	Week Begin: 30-Sep-13	440	261	426	495	295	275	390	396	415	448
SGC	5	Highwood Road e/o Pegasus Road, Patchway.	Week Begin: 09-Sep-13	117	367	183	404	307	277	439	332	488	328
SGC	6	Highwood Lane w/o Lysander Road	Week Begin: 04-Nov-13	342	190	448	212	615	442	511	532	519	525
SGC	7	Merlin Road east of Highwood Lane	Week Begin: 26-Aug-13	960	339	1016	339	817	623	760	1181	882	1220
SGC	8	Lysander Road west of Makro Ent, Cribbs Causeway	Week Begin: 04-Nov-13	499	463	809	565	945	944	832	1266	872	1166
SGC	9	Tytherington Rd e/o M5 bridge, Tytherington	Week Begin: 30-Sep-13	125	158	150	270	117	113	188	152	207	179
SGC	10	B4060 Station Road e/o Broadway, Yate	Week Begin: 30-Sep-13	424	285	670	475	525	479	540	561	535	597
SGC	11	Hallen Road s/o Windsor Crescent, Hallen	Week Begin: 30-Jan-12	-	180	-	140	-	98	-	125	-	122
SGC	12	A4018 Cribbs Causeway s/o Hollywood Lane	Week Begin: 27-May-13	909	1101	1032	1066	679	606	1305	774	1305	892
SGC	13	B4427 Old Gloucester Road n/o Trench Lane	Week Begin: 26-Aug-13	117	403	214	403	140	187	501	162	676	147
SGC	14	A431 Bath Road e/o A4175 Cherry Garden Rd, Bitton	Week Begin: 30-Sep-13	767	257	827	382	264	296	309	628	318	802
SGC	15	Cleeve Rd e/o Beckspool Rd, Frenchay	Week Begin: 30-Sep-13	88	1371	162	1183	238	226	626	214	609	256
SGC	16	B4057 Winterbourne Rd e/o B4427 northbound, Winter	Week Begin: 25-Feb-13	703	1436	793	1449	912	962	1240	1219	1205	1338
SGC	17	Hambrook Lane w/o M32, Stoke Gifford	Week Begin: 30-Sep-13	20	344	39	493	80	83	192	85	142	98
SGC	18	A420 High Street w/o Hollow Rd, Kingswood	Week Begin: 29-Apr-13	463	319	541	395	582	387	677	410	707	409
SGC	19	B4046 Hanham Road s/o Douglas Rd, Kingswood	Week Begin: 30-Sep-13	169	165	236	226	199	230	232	289	200	322
SGC	20	A4175 Station Road s/o Jubilee Rd, Soundwell	Week Begin: 30-Sep-13	203	244	264	284	225	192	332	229	339	257
SGC	21	A4174 ARR s/o Siston Hill Rbt, Siston Common	Week Begin: 30-Sep-13	1874	1518	1761	1492	1293	1327	1626	2013	1685	2071
SGC	22	A4174 ARR n/o Siston Hill Rbt, Shortwood	Week Begin: 30-Sep-13	1394	2014	1427	1874	1321	1259	2122	1586	2206	1652
SGC	23	A420 High Street w/o Manor Road, Wick	Week Begin: 26-Aug-13	1001	472	923	472	389	420	524	824	619	862
SGC	24	A38 Gloucester Road s/o Shellmor Ave, Patchway	Week Begin: 17-Jan-11	1119	1936	1409	1572	1026	948	1397	1127	994	1228
SGC	28	B4060 Wickwar Rd n/o Birdsbush Lane, Wickwar	Week Begin: 30-Sep-13	40	-	113	-	438	-	575	-	468	-
SGC	29	B4058 Bagstone Road n/o Sidcote Lane, Bagstone	Week Begin: 30-Sep-13	277	220	242	290	134	134	224	227	274	233
SGC	30	A38 Gloucester Road n/o M5 J16, Almondsbury	Week Begin: 30-Sep-13	762	1381	948	1159	849	824	1173	984	1212	987
SGC	31	A4174 ARR w/o B4058 Bristol Rd, Hambrook	Week Begin: 30-Sep-13	1937	2246	2134	1783	1868	1598	3015	1768	2946	1721
SGC	32	A4174 Filton Rd w/o Coldharbour Ln, Stoke Gifford	Week Begin: 30-Sep-13	1665	2534	1315	2196	1508	1186	2378	1337	2128	1412
SGC	33	A4174 ARR e/o Emma-Chris Way, Filton	Week Begin: 30-Sep-13	1919	1397	1946	1424	1339	1232	1379	1634	1425	1635
SGC	34	A4174 ARR Northbound n/o B4465 Shortwood Hill	Week Begin: 30-Sep-13	1967	0	1864	0	1300	0	1611	0	1674	0
SGC	35	A4174 ARR Southbound n/o B4465 Shortwood Hill	Week Begin: 30-Sep-13	0	1440	0	1434	0	1383	0	2190	0	2253
SGC	36	Hatchet Road n/o Sandringham Road, Stoke Gifford	Week Begin: 30-Sep-13	539	772	711	755	709	669	983	775	963	859
SGC	37	Filton Avenue n/o Conygre Grove, Filton	Week Begin: 30-Sep-13	163	276	196	191	158	253	184	162	190	206
SGC	38	Filton Avenue s/o Mackie Road, Filton	Week Begin: 25-Feb-13	541	224	534	286	434	336	455	507	415	539
SGC	39	A4174 Bromley Heath Rd n/o Quakers Rd, Bromley Hth	Week Begin: 30-Sep-13	609	355	554	500	540	620	568	998	565	1056
SGC	40	B4057 Gipsy Patch Lane e/o A38 Glos Rd, Filton	Week Begin: 30-Sep-13	661	826	693	934	717	738	780	720	885	738
SGC	41	B4056 Southmead Road n/o Rannoch Road, Filton	Week Begin: 30-Sep-13	942	696	931	759	634	638	676	682	644	636
SGC	43	Westerleigh Road s/o Cousins Way, Blackhorse	Week Begin: 30-Sep-13	427	515	605	636	488	485	596	688	643	769
SGC	44	A432 Badminton Road n/o Westbourne Road, Downend	Week Begin: 30-Sep-13	491	652	606	708	372	362	516	479	566	508
SGC	45	A38 Gloucester Road North s/o Filton Ave, Filton	Week Begin: 30-Sep-13	1091	1656	1111	1607	1086	978	1609	1203	1474	1244
SGC	46	Harcombe Hill n/o Station Road, Winterbourne	Week Begin: 30-Sep-13	265	172	444	255	123	142	164	192	171	212
SGC	47	Great Stoke Way n/o A4174 Filton Road, Northbound	Week Begin: 30-Sep-13	695	0	820	0	692	0	678	0	712	0
SGC	48	Great Stoke Way n/o A4174 Filton Road, Southbound	Week Begin: 30-Sep-13	0	1116	0	923	0	798	5	805	6	808
SGC	49	A38 Gloucester Road n/b s/o Shellmor Ave, Patchway	Week Begin: 30-Sep-13	1144	0	1319	0	1033	0	1029	0	703	0
SGC	50	A38 Gloucester Road s/b s/o Shellmor Ave, Patchway	Week Begin: 30-Sep-13	0	1651	0	1343	0	975	0	1260	0	1441
SGC	91	A38 Gloucester Road northbound s/o M5 J16	Week Begin: 30-Sep-13	1564	0	1370	0	1309	0	2283	15	2117	12
SGC	92	A38 Gloucester Road southbound s/o M5 J16	Week Begin: 30-Sep-13	3	2762	8	3260	0	1115	1	1323	1	1540
SGC	126	Coldharbour Lane n/o UWE Entrance, Frenchay	Week Begin: 25-Feb-13	982	829	809	1216	601	559	1106	578	940	582
SGC	706	A420 High Street e/o Crates Close	Week Begin: 28-Feb-11	396	462	417	521	412	441	509	446	557	489
SGC	736	B4055 Over Lane e/o Badgers Lane	Week Begin: 09-Jan-12	60	173	231	299	98	106	189	149	235	168
SGC	806	Court Farm Road e/o Sally Barn Cl	Week Begin: 06-Jun-11	108	95	170	133	94	75	153	122	185	147
SGC	808	Cuckoo Lane w/o A432 Badminton Road	Week Begin: 14-May-12	124	43	240	67	35	23	64	66	68	72
SGC	1000	A4174 ARR HOV Lane e/o B4058 Bristol Rd, Hambrook	Week Begin: 23-Jan-12	-	749	-	538	-	730	-	747	-	660
SGC	1100	A4174 ARR HOV Lane w/o A432 Badminton Rd, Downend	Week Begin: 23-Jan-12	-	549	-	407	-	598	-	584	-	523
SGC	3010	A420 London Rd e/o Webbs Heath, Bridgevate	Week Begin: 30-Sep-13	964	515	817	654	427	478	593	797	651	797
SGC	3020	A4017 Soundwell Rd n/o Lansdown Rd, Soundwell	Week Begin: 27-May-13	341	408	464	476	403	351	491	403	541	428
SGC	3030	Carsons Rd n/o Siston Hill, Soundwell	Week Begin: 26-Aug-13	232	406	298	406	231	262	361	367	414	404
SGC	3040	A431 Bath Rd w/o Marsham Way, Longwell Green	Week Begin: 27-May-13	339	564	414	578	459	540	595	622	607	625
SGC	3050	Marsham Way n/o A431 Bath Rd, Longwell Green	Week Begin: 26-Aug-13	428	244	475	244	481	355	533	443	538	492
SGC	3063	A4174 ARR s/o A420 Deanery Rd, Warmley	Week Begin: 30-Sep-13	1937	1609	1802	1555	1376	1455	1739	2123	1817	2121
SGC	3075	A4174 ARR w/o Westerleigh Rd, Emersons Green	Week Begin: 30-Sep-13	1800	1126	1539	1066	1228	1210	1544	1716	1605	1732
SGC	3083	A4174 ARR s/o Wraxall Rd, Warmley	Week Begin: 30-Sep-13	1747	1686	1684	1542	1388	1398	1887	1974	2018	2029
SGC	3123	Stanley Road n/o Norman Rd, Warmley	Week Begin: 04-Jun-12	97	0	113	0	101	0	127	0	147	0
SGC	3140	A431 Bath Rd w/o Field Lane, Longwell Green	Week Begin: 30-Sep-13	601	575	663	641	599	530	727	629	764	673
SGC	3145	A4174 ARR w/o A432 Badminton Road, Downend	Week Begin: 30-Sep-13	1204	809	1142	689	1251	901	1843	1067	1765	982
SGC	3203	A4174 ARR n/o A4, Hicks Gate	Week Begin: 23-Jan-12	1387	-	1348	-	1120	-	1684	-	1718	-
SGC	3215	A4174 ARR e/o Westerleigh Rd, Emerson's Green	Week Begin: 30-Sep-13	2025	1394	1827	1353	1258	1360	1526	2169	1581	2195
SGC	3300	A420 London Rd e/o Church Avenue, Warmley	Week Begin: 30-Sep-13	600	429	513	531	367	407	472	574	503	591
SGC	3703	A4175 Cherry Garden Rd n/o Pines Rd, Willsbridge	Week Begin: 30-Sep-13	368	534	414	644	300	300	501	425	619	469
SGC	3713	A4175 Keynsham Road n/o Marina Access, Keynsham	Week Begin: 03-Jun-13	568	557	660	789	497	522	694	723	800	855
SGC	4012	B4465 Shortwood Rd e/o Siston Lane, Pucklechurch	Week Begin: 30-Sep-13	493	333	4							

Local Authority	Site	Location	Date	AM				Average IP		PM			
				07:00-08:00		08:00-09:00		10:00-16:00		16:00-17:00		17:00-18:00	
				EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB
SGC	4792	B4465 Westerleigh Rd s/o M4 bridge, Pucklechurch	Week Begin: 03-Jun-13	278	239	343	262	183	178	264	345	285	407
SGC	4800	B4427 Church Road e/o A38, Rudgeway	Week Begin: 30-Sep-13	351	511	434	588	252	238	464	406	521	516
SGC	4840	Aztec West Entrance w/o A38, Almondsbury	Week Begin: 21-Jan-13	130	1040	224	2127	456	450	1398	276	1742	245
SGC	20000007	Cock Road e/o Owls Head Rd, Kingswood	Week Begin: 06-Jun-11	263	215	313	335	230	265	287	398	330	451
SGC	20000040	Memorial Road s/o Heath Road, Hanham	Week Begin: 03-Oct-11	320	129	354	243	171	203	206	354	253	444
SGC	20000060	Forest Rd n/o Woodend, Kingswood	Week Begin: 06-Jun-11	146	67	201	160	114	155	124	187	126	209
SGC	20000067	Quaker's Rd e/o Quaker's Close, Bromley Heath	Week Begin: 14-May-12	63	251	86	552	94	136	165	173	196	183
SGC	20010002	Greenways Rd w/o Templar Rd, Yate	Week Begin: 20-Jun-11	50	160	139	189	113	121	163	123	194	161
SGC	20020043	Northville Road e/o Crophorne Rd, Filton	Week Begin: 26-Sep-11	84	72	195	102	123	73	172	94	195	98
SGC	20020070	Coalsack Lane n/o Westerleigh Road, Henfield	Week Begin: 31-Oct-11	34	37	52	52	24	36	35	118	41	114
SGC	20020072	Henfield Road n/o Westerleigh Road, Henfield	Week Begin: 14-May-12	171	119	253	326	110	96	172	173	191	162
SGC	20030021	Blackhorse Road s/o West Street, Kingswood	Week Begin: 12-Sep-11	666	-	731	-	639	-	656	-	665	-
SGC	20030045	Scott Way s/o Hudson Close, Yate	Week Begin: 06-Jun-11	380	94	559	199	272	209	308	308	359	384
SGC	20040009	Tunbridge Way w/o Cousins Way, Emersons Green	Week Begin: 21-Mar-11	21	4	23	6	13	15	14	19	13	24
SGC	20040035	Eggshill Lane n/o Chatterton Road, Yate	Week Begin: 12-Sep-11	0	6	0	4	0	5	0	8	0	7
SGC	20040073	Hacket Hill n/o Hacket Lane, Milbury Heath	Week Begin: 26-Sep-11	2	6	6	7	6	6	7	6	9	9
SGC	20040076	Worrel's Lane w/o Mooredon Road, Whiteshill	Week Begin: 14-May-12	32	244	69	373	63	55	145	67	163	83
SGC	20050049	A4017 Victoria St n/o A4175 Broad St, Staple Hill	Week Begin: 07-Mar-11	327	191	293	213	248	193	231	199	274	186
SGC	20050052	Down Road w/o A432 Badminton Road, Kendshire	Week Begin: 14-May-12	169	587	206	683	166	197	241	289	219	353
SGC	20060021	Wraxall Road s/o Cock Road, Warmley	Week Begin: 28-Feb-11	362	394	517	391	463	332	658	400	735	422
SGC	20060022	Dragon Road n/o Harcombe Road, Winterbourne	Week Begin: 14-May-12	291	166	496	209	137	157	181	314	194	306
SGC	20060038	B4059 Goose Green Way n/o B4060 Station Road, Yate	Week Begin: 18-Apr-11	317	238	336	354	480	460	538	515	564	534
SGC	20070030	Courtney Road e/o Petherton Close, Kingswood	Week Begin: 19-Sep-11	49	113	73	171	78	89	113	109	142	109
SGC	20080069	B4055 Blackhorse Hill n/o M5 J17, Easter Compton	Week Begin: 14-Mar-11	239	465	400	608	316	283	492	364	607	375
SGC	20100021	Cousins Way s/o Tunbridge Way, Emersons Green	Week Begin: 21-Mar-11	82	89	132	45	73	71	100	109	92	92
SGC	20100022	Westons Hill Drive e/o Blackhorse Lane, Blackhorse	Week Begin: 21-Mar-11	19	76	73	133	88	55	116	52	102	55
SGC	20100030	B4059 Iron Acton Way w/o Churchward Road, Yate	Week Begin: 03-Jan-11	309	815	512	703	510	400	817	418	873	401
SGC	20110001	Bradley Stoke Way s/o Savages Wd Rd, Bradley Stoke	Week Begin: 24-Jan-11	501	430	512	651	477	491	615	635	708	717
SGC	20110002	Bradley Stoke Way s/o Savages Wood Rd, Bradley Stk	Week Begin: 24-Jan-11	525	397	567	599	508	451	718	522	770	626
SGC	20110003	Frampton End Road s/o Brake Farm, Iron Acton	Week Begin: 14-Mar-11	2	4	5	31	3	4	4	9	4	10
SGC	20110004	Tower Lane e/o Lintern Crescent, Warmley	Week Begin: 28-Feb-11	379	383	479	514	372	358	483	455	503	555
SGC	20110005	B4465 High Street w/o Page Road, Staple Hill	Week Begin: 07-Mar-11	534	516	541	523	491	477	482	517	593	574
SGC	20110006	A4017 Downend Road s/o Kimberley Road, Kingswood	Week Begin: 14-Mar-11	171	114	276	216	252	232	224	240	278	248
SGC	20110007	Station Road n/o B4040 Sodbury Rd, Acton Turville	Week Begin: 06-Jun-11	31	34	45	41	23	25	35	32	41	40
SGC	20110008	Laurel Streer e/o Moravian Road, Kingswood	Week Begin: 06-Jun-11	45	0	71	0	79	0	110	0	100	1
SGC	20110009	Greenways Road e/o Chichester Way, Yate	Week Begin: 13-Jun-11	48	163	133	183	116	120	144	125	191	158
SGC	20110010	Orchard Vale e/o Fairview Road, Warmley	Week Begin: 12-Mar-12	109	74	133	201	96	104	95	129	108	204
SGC	20110011	Blackhorse Road n/o The Laurels, Mangotsfield	Week Begin: 13-Jun-11	172	151	297	274	210	196	262	233	249	271
SGC	20110012	Blackhorse Road s/o Elmtree Avenue, Blackhorse	Week Begin: 13-Jun-11	225	122	343	243	220	207	218	291	241	304
SGC	20110013	Nibley Lane w/o Robins Wood Farm, Iron Acton	Week Begin: 20-Jun-11	23	25	31	32	23	24	29	33	37	38
SGC	20110014	Signal Road w/o White Lodge, Mangotsfield	Week Begin: 27-Jun-11	34	88	77	140	62	75	97	101	107	107
SGC	20110015	Charnhill Dr w/o Charnhill Cresc (E), Mangotsfield	Week Begin: 27-Jun-11	30	69	72	104	48	59	75	82	76	88
SGC	20110016	Kenmore Grove e/o B4056 Southmead Road, Filton	Week Begin: 27-Jun-11	20	6	51	14	23	8	79	4	101	7
SGC	20110017	Kenmore Crescent s/o Kenmore Grove, Filton	Week Begin: 27-Jun-11	13	22	26	114	17	23	30	24	30	71
SGC	20110018	Court Farm Road w/o Ellacombe Rd, Longwell Green	Week Begin: 27-Jun-11	104	131	169	199	103	93	170	145	218	186
SGC	20110019	A4175 Station Road s/o Deerswood, Soundwell	Week Begin: 04-Jul-11	422	294	594	404	393	323	490	443	492	472
SGC	20110020	A4175 Station Road n/o Deerswood, Soundwell	Week Begin: 04-Jul-11	415	283	553	373	375	313	480	439	476	465
SGC	20110025	Passage Road s/o The Close, Cribbs Causeway	Week Begin: 12-Sep-11	3	5	6	7	7	5	8	6	8	6
SGC	20110027	Bradley Stoke Way n/o Savages Wood Road-Southbound	Week Begin: 26-Sep-11	0	492	1	690	0	599	1	705	2	834
SGC	20110028	Bradley Stoke Way n/o Savages Wood Road-Northbound	Week Begin: 26-Sep-11	629	7	490	8	624	2	688	6	703	10
SGC	20110029	Britannia Road n/o Blackhorse Road, Kingswood	Week Begin: 10-Oct-11	86	211	154	253	174	166	256	228	287	232
SGC	20120001	B4055 Over Ln e/o Blackhorse Hill, Easter Compton	Week Begin: 09-Jan-12	19	55	25	28	29	34	41	38	41	41
SGC	20120002	Minor Road e/o Blackhorse Hill, Easter Compton	Week Begin: 09-Jan-12	35	135	134	228	59	80	112	116	157	137
SGC	20120003	Coniston Road s/o Martin Close, Patchway	Week Begin: 09-Jan-12	62	172	108	201	145	153	211	160	241	180
SGC	20120004	Hambrook Lane e/o Curtis Lane, Stoke Gifford	Week Begin: 16-Jan-12	20	299	30	496	78	74	202	82	156	87
SGC	20120005	Hayes Way westbound w/o Concorde Rbt, Patchway	Week Begin: 23-Jan-12	-	339	-	416	-	642	-	1066	-	1070
SGC	20120006	Hayes Way eastbound w/o Concorde Rbt, Patchway	Week Begin: 23-Jan-12	707	-	802	-	482	-	539	-	586	-
BCC	80000330	A4 Anchor Road, west of Canon's Way CENTRE	From 10/10/2012 To 18/10/2012	787	531	960	539	506	500	509	799	444	857
BCC	90000002	Ashton Court- Clifton Lodge Entrance	From 23/10/2011 To 31/10/2011	10	3	20	9	32	33	18	37	13	24
BCC	90000012	Ashton Court Dovecot Pub	From 08/01/2012 To 16/01/2012	0	0	0	0	14	8	8	8	1	1
BCC	32033204	A4174 Avon Ring Road, n/o roundabout, HICKS GATE	From 17/05/2012 To 25/05/2012	1413	-	1382	-	1145	-	1784	-	1842	-
BCC	88888888	Avonmouth Civic Amenity site	From 18/09/2011 To 26/09/2011	0	-	19	-	40	-	24	-	17	-
BCC	51005102	A4 Bath Road east of Ironmould Lane TELEMETRY	Week Begin: 23-Jul-12	1185	1536	1148	1443	1208	1218	1592	1301	1670	1313
BCC	295200	Bishopsworth Road, s/o Wrington Cres BISHOPSWORTH	From 03/02/2012 To 11/02/2012	493	350	387	466	448	470	411	662	427	686
BCC	90000010	Blaise Castle Estate ENTRANCE	From 14/10/2012 To 22/10/2012	18	-	42	-	44	-	29	-	22	-
BCC	90000011	Blaise Castle Estate EXIT	From 21/10/2012 To 29/10/2012	7	-	23	-	46	-	51	-	27	-
BCC	80000310	A4018 Brentry Hill, s/o Eastover Close BRENTRY	From 10/07/2011 To 18/07/2011	704	770	857	952	719	769	856	964	889	1029
BCC	886	Brunel Way s/o Jessops Underpass, Northbound TELEM	From 08/01/2012 To 16/01/2012	949	-	1018	-	424	-	520	-	598	-
BCC	50000002	A4174 Callington Road, w/o Adams Hay BRISLINGTON	From 06/01/2012 To 14/01/2012	668	579	640	592	632	581	700	665	667	691
BCC	40000008	B4054 Cranbrook Road, s/o of Clare Avenue REDLAND	From 01/11/2011 To 08/11/2011	176	-	283	-	221	-	327	-	341	-
BCC	99999999	Days Road Civic Amenity Site	From 08/07/2012 To 16/07/2012	1	-	33	-	128	-	69	-	43	-
BCC	40000029	A38 East Street, north of Dalby Avenue BEDMINSTER	From 13/03/2011 To 21/03/2011	747	271	592	326	511	378	490	556	472	578
BCC	20702071	A4320 Easton Way, south of Stapleton Road EASTON	From 03/05/2012 To 11/05/2012	1414	1437	1204	1206	1312	1321	1510	1514	1214	1316
BCC	40000024	Feeder Road, east of Atlas Street ST PHILIPS	From 05/05/2012 To 13/05/2012	766	309	584	338	473	517	430	711	334	487
BCC	40000007	B4468 Kellaway Avenue, n/o Dryham Close HORFIELD	From 23/10/2011 To 31/10/2011	361	277	480	383	490	492	596	563	616	584
BCC	80003010	Kings Weston L n/o Campbells Fm DR LAWRENCE WESTON	From 17/07/2011 To 25/07/2011	336	94	273	99	178	163	183	252	207	373
BCC	20000099	Monk's Park Avenue West of Alderton Road SOUTHMEAD	From 10/07/2011 To 18/07/2011	337	489	363	558	438	424	518	409	466	422
BCC	80001001	A38 North Street, North of Wilder Street CENTRE	From 06/01/2011 To 14/01/2011	394	658	547	949	451	569	543	703	651	591
BCC	90000008	Oldbury Court Estate Car Park	From 09/06/2012 To 17/06/2012	49	-	58	-	46	-	49	-	36	-
BCC	80001189	B4051 Park Row, east of Park Street CLIFTON	From 10/02/2012 To 18/02/2012	555	311	623	370	503	417	505	478	571	482
BCC	80001179	A4018 Park Street, n/o Charlotte Street CLIFTON	From 12/07/2012 To 20/07/2012	309	351	468	449	383	413	437	440	428	545
BCC	80000300	A4 Portway, North of Sylvan Way SEA MILLS	From 05/08/2011 To 13/08/2011	937	871	1001	912	688	692	903	1018	1079	1060
BCC	40000044	A4018 Queen's Road, west of Queen's Avenue CLIFTON	From 15/07/2011 To 23/07/2011	-	390	-	1137	-	2026	-	2040	-	2054
BCC	80001020	B4054 Shirehampton Rd, e/o Penpole La SHIREHAMPTON	From 24/07/2011 To 01/08/2011	284	208	310	269	315	288	376	360	408	351
BCC	90000009	Snuff Mills Car Park	From 13/03/2011 To 21/03/2011	2	1	8	5	20	20	13	15	7	14
BCC	80000200	A4320 St Philips C'way, n/o Albert Rd ST PHILIPS	From 04/05/2012 To 12/05/2012	716	841	680	812	752	1024	724	1178	630	962
BCC	80000403	A4162 Sylvan Way, north of Portway SEA MILLS	From 11/04/2012 To 20/04/2012	509	518	382	347	385	442				

Local Authority	Site	Location	Date	AM				Average IP		PM			
				07:00-08:00		08:00-09:00		10:00-16:00		16:00-17:00		17:00-18:00	
				EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB	EB / NB	WB / SB
BCC	10000615	Barton Hill Road East of Queen Ann Road	From 15/02/2011 To 26/02/2011	48	194	63	184	84	141	111	160	96	159
BCC	10000616	Barton Hill Road West of Cookworthy Close	From 01/01/2011 To 11/01/2011	157	242	178	260	229	147	426	141	460	116
BCC	10000529	Bellevue Road North of Mivart Street	From 11/01/2011 To 20/01/2011	43	27	54	33	44	48	42	79	38	78
BCC	10000604	Chalks Road North of Lyndale Road	From 16/02/2011 To 26/02/2011	234	181	254	195	311	282	287	279	268	294
BCC	10000659	Chelsea Road North of Chelsea Park	From 11/01/2011 To 20/01/2011	22	37	43	68	48	59	74	71	84	73
BCC	10000611	Church Road East of Verrier Road	From 15/02/2011 To 26/02/2011	647	322	546	350	383	420	405	394	403	409
BCC	10000590	Clarence Road East of Trinity Street (Eastbound)	From 01/01/2011 To 05/01/2011	223	2	270	3	459	1	600	0	508	0
BCC	10000591	Clarence Road East of Trinity Street (Westbound)	From 01/01/2011 To 05/01/2011	404	482	460	531	528	612	302	359	298	359
BCC	10000527	Co-operation Road East of Hinton Road	From 11/01/2011 To 20/01/2011	9	9	17	24	16	18	23	22	22	22
BCC	10000598	Croydon Street South of Walker Close	From 03/02/2011 To 15/02/2011	75	161	113	202	159	112	242	130	248	121
BCC	10000589	Days Road West of Folly Lane	From 01/01/2011 To 11/01/2011	82	350	119	474	186	257	255	228	210	197
BCC	10000412	Devon Road South of Bruce Road	From 05/01/2011 To 14/01/2011	177	83	267	182	171	160	221	236	211	230
BCC	10000614	Ducie Road North of Morton Street	From 01/01/2011 To 11/01/2011	133	8	214	13	75	29	107	31	90	27
BCC	10000411	Easton Road South of Bouverie Street	From 03/02/2011 To 05/03/2011	126	312	164	368	180	257	281	332	310	325
BCC	10000626	Fairfield Road East of Fairlawn Road	From 13/01/2011 To 22/01/2011	16	5	30	17	27	22	32	30	48	33
BCC	10000661	Glen Park South of Stapleton Road	From 20/01/2011 To 03/02/2011	2	1	4	5	7	8	11	9	6	5
BCC	10000354	Hurlingham Road, W/O Wolferton Road	From 13/01/2011 To 22/01/2011	119	72	155	120	120	88	168	87	147	108
BCC	10000622	James Street West of St Werburgh's Park	From 07/02/2011 To 16/02/2011	268	299	363	347	332	289	459	317	436	306
BCC	10000276	Lena Street (half way down)	From 11/01/2011 To 20/01/2011	2	6	8	18	10	12	15	13	13	12
BCC	10000625	Lower Ashley Road West of Tudor Road	From 14/02/2011 To 26/02/2011	680	569	667	662	579	554	616	540	553	602
BCC	10000519	Lypplatt Road North of Church Road	From 16/02/2011 To 26/02/2011	33	3	35	1	63	1	80	1	73	1
BCC	10000624	Magdalene Place South of Southey Street	From 13/01/2011 To 22/01/2011	3	379	10	462	8	274	9	407	10	340
BCC	10000397	Marsh Lane North of Granville Street	From 01/01/2011 To 11/01/2011	208	119	197	156	160	153	210	173	176	165
BCC	10000364	Mina Road North of Tyne Street	From 07/02/2011 To 16/02/2011	148	145	240	156	225	66	290	123	314	91
BCC	10000539	Mina Road South of Horley Road	From 07/02/2011 To 16/02/2011	154	140	280	144	243	54	355	105	417	70
BCC	10000638	Newfoundland Road South of St Nicholas Road	From 03/02/2011 To 15/02/2011	16	7	61	20	91	19	115	27	141	27
BCC	10000639	Newfoundland Way Northbound 10000639	From 17/02/2011 To 26/02/2011	-	1488	-	1260	-	1160	-	1198	-	1110
BCC	10000656	Pennywell Road South of Robinson Drive	From 03/02/2011 To 15/02/2011	104	31	103	37	186	30	371	40	460	34
BCC	10000655	Pennywell Road South of Newton Street	From 03/02/2011 To 15/02/2011	77	103	119	218	113	134	248	221	292	233
BCC	10000601	Prospect Place West of Johnsons Road	From 20/01/2011 To 05/03/2011	13	33	30	46	28	28	56	34	62	28
BCC	10000528	Robertson Road East of Cromer Road	From 11/01/2011 To 20/01/2011	13	20	35	37	45	33	64	39	57	26
BCC	10000612	Russel Town Avenue North of Jane Street	From 20/01/2011 To 03/02/2011	130	201	149	201	204	199	114	150	102	110
BCC	10000457	St Andrews Road North of Bath Buildings	From 13/01/2011 To 22/01/2011	5	25	21	78	24	29	53	60	56	57
BCC	10000386	St Paul Street South of Orange Street	From 13/01/2011 To 03/02/2011	50	9	73	21	43	4	50	6	52	10
BCC	10000588	St Phillips Road East of Midland Road	From 24/01/2011 To 03/02/2011	261	53	402	55	100	37	133	38	120	49
BCC	10000660	Stapleton Road South of Freemantle Gardens	From 20/01/2011 To 03/02/2011	2	111	2	227	1	212	1	285	4	285
BCC	10000260	Stapleton Road E/O Warwick Ave	From 20/01/2011 To 03/02/2011	163	535	244	638	425	430	550	481	574	453
BCC	10000657	Thrissell Street South of Stapleton Road	From 05/01/2011 To 14/01/2011	34	4	51	4	84	3	104	7	105	5
BCC	10000520	Victoria Parade North of William Street	From 16/02/2011 To 26/02/2011	41	-	48	-	56	-	60	-	76	-
BCC	10000584	Unity Street East of New Thomas Street	From 24/01/2011 To 03/02/2011	155	116	189	216	142	76	169	100	194	116
BCC	10000599	Whitehall Road West of Gilbert Road	From 05/01/2011 To 14/01/2011	119	480	221	549	256	293	372	267	405	226
BCC	10000623	York Street East of Ashley Parade	From 17/02/2011 To 26/02/2011	183	390	242	417	282	456	412	511	386	558
NSC	78107811	Leigh Woods-Bristol (FLAX BOURTON)		323	523	495	585	314	320	524	478	626	474
NSC	70907091	B3130 Chew Road East of Kentshare Lane Winford		318	253	345	326	211	221	291	398	323	460
NSC	70137014	B3130 Barrow Street North of Barrow Ct Cambridge Batch		507	269	562	309	273	292	364	547	392	554
NSC	78507851	A369 West of B3129 Beggarbush Lane Leigh Woods		1049	693	970	855	614	546	854	847	1013	903
NSC	71907191	B3128 Ashton Road East of Long Ashton Road		300	890	351	854	441	391	802	435	950	440
NSC	72507251	A38 Bridgwater Road East of Yanley Lane Dundry		804	743	921	753	625	646	825	936	854	1018
NSC	71857186	A370 Long Ashton Bypass		1349	534	1190	562	553	638	624	1183	663	1330
NSC	1210	B3129 Clifton Suspension Bridge (Leigh Woods)	Sep-13	490	251	707	446	322	361	336	552	423	651
BANES	1060	A37 Bristol Road Whitchurch - S of Norton Lane	Week Begin: 30-Sep-13	504	762	443	657	401	482	567	638	642	716

TABLE F2

Historic MCC Data

Local Authority	Ref No.	Location	Site / Direction	Date	07:00-08:00			08:00-09:00			Av 10:00-16:00			16:00-17:00			17:00-18:00		
					Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
SGC	11066	B4055 Station Road north of Tormarton Crescent, Henbury	Northbound	15/06/2011	273	13	296	333	14	355	1670	57	1757	379	6	393	339	5	347
			Southbound	15/06/2011	28	2	38	141	9	161	455	23	506	88	4	98	125	3	133
			Northbound	06/12/13-12/12/13	570	46	618	680	54	736	3981	271	4267	693	43	738	491	24	516
SGC	CO420	A38 Gloucester Road (Northbound)	Southbound	06/12/13-12/12/13	1683	192	1889	1409	143	1562	5530	412	5969	1014	89	1109	1113	90	1209
			Westbound	01/11/2010	265	1	274	353	1	362	253	5	265	373	1	382	353	0	358
BCC	1020	B4054 SHIREHAMPTON ROAD EAST OF PENPOLE LANE	Eastbound	01/11/2010	129	4	141	390	8	404	266	5	279	363	0	372	396	1	404
			Northbound	23/11/2011	152	0	152	228	2	230	189	2	192	443	1	444	671	0	671
BCC	1330	Wapping Road, south of Prince Street Bridge	Southbound	23/11/2011	287	0	287	514	2	516	136	2	138	121	2	123	154	2	156
			Northbound	20/06/2011	93	0	93	140	0	140	59	1	60	87	0	87	78	0	78
BCC	1590	COLLEGE ROAD, SOUTH OF PERCIVAL ROAD	Southbound	20/06/2011	87	1	88	104	0	105	62	0	64	81	0	83	106	0	106
			Northbound	17/06/2011	292	10	320	628	26	676	653	26	708	692	7	724	747	2	772
BCC	1650	Whiteladies Rd	Southbound	17/06/2011	399	9	422	831	15	869	700	19	749	678	9	717	681	4	714
			Northbound	22/06/2012	93	0	93	277	4	281	268	2	271	434	0	434	545	0	546
BCC	1660	Hampton Rd	Southbound	22/06/2012	209	1	210	486	2	488	201	2	203	275	1	276	231	0	231
			Northbound	22/06/2012	99	0	102	316	0	323	186	2	194	346	0	353	457	0	460
BCC	1670	REDLAND GROVE, NORTH OF MERIDIAN ROAD	Southbound	22/06/2012	182	0	184	617	1	625	188	2	195	250	0	256	264	0	269
			Northbound	07/06/2012	35	0	35	82	0	82	89	1	90	133	0	133	135	0	136
BCC	1680	REDLAND ROAD SOUTH OF ZETLAND ROAD	Southbound	07/06/2012	162	1	163	258	0	258	128	1	129	189	2	191	177	1	178
			Northbound	27/06/2011	529	8	537	759	4	764	528	6	533	759	4	764	823	1	824
BCC	1710	B4052 ASHLEY HILL NORTH OF FAIRFIELD ROAD	Southbound	27/06/2011	708	6	715	804	5	810	490	6	497	670	1	673	563	0	563
			Northbound	05/07/2012	3394	144	3576	3142	148	3320	2415	158	2590	3888	59	3967	3821	52	3897
BCC	1730	M32 BETWEEN JUNCTIONS 2 AND 3	Southbound	05/07/2012	3583	136	3744	3343	115	3472	2254	128	2398	2786	92	2900	3000	32	3053
			Northbound	14/06/2011	145	8	168	263	7	283	417	13	444	550	0	567	539	1	557
BCC	1740	Stapleton Rd	Southbound	14/06/2011	491	15	520	563	19	600	407	8	429	425	4	447	450	0	459
			Eastbound	07/06/2012	59	1	62	98	0	100	186	1	190	338	0	340	397	1	400
BCC	1750	EASTON ROAD, WEST OF WHITEHALL ROAD	Westbound	07/06/2012	368	1	370	473	0	475	257	1	260	245	0	247	263	1	266
			Eastbound	24/06/2011	332	35	368	368	28	398	479	35	515	775	28	805	763	10	773
BCC	1790	FEEDER ROAD WEST OF ATLAS STREET	Westbound	24/06/2011	831	26	859	792	31	823	474	38	513	548	13	562	398	6	405
			Eastbound	07/06/2012	169	70	240	228	58	289	298	39	338	324	17	341	408	12	420
BCC	1800	ALBERT ROAD, WEST OF ST PHILIPS CAUSEWAY	Westbound	07/06/2012	442	47	489	424	54	478	383	56	439	382	31	414	382	23	406
			Eastbound	28/06/2012	425	18	462	395	20	433	518	20	561	582	9	614	644	7	672
BCC	1810	Bath Rd e.o Totterdown Bridge	Westbound	28/06/2012	545	14	575	467	9	500	511	16	549	553	4	574	566	7	596
			Southbound	14/06/2010	471	41	526	519	45	579	559	41	613	737	20	770	815	14	844
BCC	1820	WELLS ROAD, NORTH OF HAVERSTOCK ROAD	Northbound	14/06/2010	700	24	741	588	17	619	462	28	504	447	11	472	448	18	477
			Southbound	09/10/2012	1586	62	1670	1599	88	2068	1614	79	1719	2647	60	2736	2912	25	2961
BCC	1910	A3029 BRUNEL WAY, NORTH OF CLIFT HOUSE ROAD	Northbound	09/10/2012	2807	78	2906	2861	66	2963	1642	90	1757	1938	49	2015	2122	31	2175
			Southbound	26/11/2010	201	33	241	269	42	312	378	38	417	306	9	317	355	7	363
BCC	1940	TOTTERDOWN BRIDGE	Northbound	26/11/2010	338	14	353	333	12	346	289	31	320	262	11	277	282	6	289
			Southbound	Unknown	240	10	251	559	13	577	542	23	569	718	27	749	777	16	798
BCC	1950	NEW BRISLINGTON BRIDGE	Northbound	Unknown	265	33	299	755	17	776	582	23	610	689	16	711	748	9	762
			Southbound	15/11/2012	383	12	414	488	10	530	532	17	585	643	9	690	609	5	648
BCC	2060	B4053 BRISTOL BRIDGE, E/O WELSH BACK	Northbound	15/11/2012	545	27	598	576	13	612	528	15	579	576	8	614	714	1	752
			Eastbound	07/11/2011	161	2	165	443	5	450	280	10	292	298	3	301	374	7	381
BCC	3010	Counterslip	Westbound	07/11/2011	128	1	129	390	19	411	220	9	229	236	6	242	329	2	331
			Southbound	22/11/2012	1259	41	1324	1551	42	1614	968	41	1031	1166	23	1216	973	18	1005
BCC	3020	TEMPLE WAY, NORTH OF TEMPLE BACK	Northbound	22/11/2012	1496	38	1568	1400	25	1463	1141	44	1222	1281	32	1348	1166	28	1222
			Eastbound	15/02/2011	273	2	282	331	2	340	344	3	354	545	2	551	566	1	580
BCC	4030_1	GREYSTOKE AVENUE, SOUTH OF CONCORDE DRIVE	Westbound	15/02/2011	475	3	482	548	0	555	372	6	384	419	2	427	397	3	405
			Westbound	Unknown	811	4	818	658	17	684	492	6	507	536	0	540	558	0	565
BCC	4640	Blackberry Hill, East of Small Lane	Eastbound	Unknown	237	6	245	445	9	460	482	6	496	746	2	759	751	0	757
			Northbound	17/02/2011	214	6	221	206	4	213	176	9	185	250	3	253	250	1	251
BCC	4700	Marsh Lane	Southbound	17/02/2011	203	0	208	206	0	212	186	0	193	284	0	289	243	0	243
			Northbound	03/02/2011	245	1	246	297	1	298	150	2	154	188	0	190	229	0	230
BCC	4860_1	Bamfield, South of Oatlands Ave	Southbound	03/02/2011	58	1	61	143	2	146	155	1	156	282	1	283	279	0	279
			Southbound	21/03/2011	411	10	443	504	13	539	414	10	448	678	2	706	607	5	629
BCC	5070	GLOUCESTER ROAD, SOUTH OF WELLINGTON HILL	Northbound	21/03/2011	459	7	486	568	9	602	473	7	504	650	2	682	542	0	565
			Northbound	20/10/2010	1103	61	1174	1248	61	1325	1397	67	1486	1868	43	1936	1889	20	1925
BCC	8390	A38 Parson Street (one way)	Southbound	20/10/2010	2	0	9	3	0	9	0	0	4	0	0	2	0	0	0
			Northbound	19/01/2011	460	17	491	588	9	611	577	21	614	678	7	705	708	8	732
BCC	9440_1	Fishponds Rd, East of Knowsley Rd	Southbound	19/01/2011	689	13	718	340	21	377	575	20	608	637	7	664	658	6	678
			Northbound	13/07/2009	453	19	485	565	12	583	626	22	654	1103	17	1129	1190	8	1201
BCC	9470	NETHAM ROAD NORTH OF FEEDER ROAD	Southbound	13/07/2009	1011	18	1034	922	22	950	571	20	599	611	20	641	646	5	657
			Southbound	23/02/2010	100	4	104	167	3	170	289	4	295	283	0	285	349	0	349
BCC	9560_1	NOVERS HILL, SOUTH OF PARSON STREET	Northbound	24/02/2010	428	3	431	441	2	445	206	3	212	175	0	176	161	0	162
			Northbound	13/01/2010	237	0	242	306	1	313	154	2	161	252	1	259	246	0	251
BCC	9740_1	ALLISON ROAD, EAST OF HILL LAWN	Southbound	13/01/2010	138	0	144	206	0	211	151	0	157	229	0	236	251	0	256
			Northbound	17/06/2009	1944	69	2036	1719	96	1840	1364	87	1469	1907	60	1986	1893	28	1939
BCC	58068	A38 BEDMINSTER DOWN ROAD	Eastbound	29/03/2011	535	8	543	655	5	661	119	5	125	126	2	128	94	2	96
			Westbound	29/03/2011	120	2	122	90	3	93	206	7	213	509					

Local Authority	Ref No.	Location	Site / Direction	Date	07:00-08:00			08:00-09:00			Av 10:00-16:00			16:00-17:00			17:00-18:00		
					Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)	Lights	HGVs	Total (inc PV)
BCC	1700	A38 CHELTENHAM ROAD NORTH OF ARLEY HILL	Northbound	13/07/2012	467	31	518	537	14	583	562	16	605	601	5	632	674	1	698
			Southbound	13/07/2012	500	10	526	719	10	754	524	22	573	598	13	642	502	6	534
BCC	1720	GLENFROME ROAD NORTH OF ST WERBURGH'S PARK	Northbound	27/06/2011	324	0	331	482	5	491	346	3	355	421	1	428	386	1	392
			Southbound	27/06/2011	274	5	288	441	6	452	372	5	382	542	1	548	514	0	519
BCC	1770	BARTON HILL ROAD WEST OF QUEEN ANN ROAD	Eastbound	24/06/2011	132	3	137	159	5	167	236	8	248	416	6	425	391	2	395
			Westbound	24/06/2011	176	4	185	204	4	211	141	4	149	148	0	151	120	0	123
BCC	1830	ST PHILLIPS CAUSEWAY, NORTH OF ALBERT ROAD	Southbound	30/06/2011	870	61	936	932	55	992	928	74	1004	1246	32	1284	1200	18	1222
			Northbound	30/06/2011	1251	80	1345	1144	70	1226	885	63	954	1095	28	1126	1107	22	1135
BCC	1840	B3122 REDCATCH ROAD NORTH OF ST JOHNS CRESCENT	Northbound	07/07/2011	234	7	244	337	10	349	329	10	346	617	1	622	622	2	627
			Northbound	07/07/2011	614	1	617	651	5	659	253	5	263	322	1	326	353	0	356
BCC	1850	WEDMORE VALE NORTH OF WEYMOUTH ROAD	Southbound	14/06/2012	113	4	121	168	0	175	226	2	235	340	1	347	349	0	352
			Northbound	14/06/2012	382	3	391	417	1	425	202	2	211	221	0	226	227	0	234
BCC	1870	B3122 BEDMINSTER ROAD, EAST OF SHEPTON WALK	Westbound	10/06/2010	505	17	526	500	15	521	671	29	701	850	23	873	893	5	898
			Eastbound	10/06/2010	581	20	603	580	17	598	539	16	556	469	5	477	548	2	551
BCC	1880	A38 WEST STREET, SOUTH OF ARGUS ROAD	Southbound	24/05/2012	286	6	302	325	6	349	335	4	361	428	3	452	432	3	454
			Northbound	24/05/2012	468	16	504	476	11	542	405	12	439	384	7	416	400	6	428
BCC	1970	ST PHILLIPS CAUSEWAY SOUTH OF ALBERT ROAD	Southbound	07/06/2012	742	52	799	784	53	841	927	61	990	1217	45	1266	1254	26	1280
			Northbound	07/06/2012	1121	90	1214	1063	83	1149	916	62	980	1087	33	1124	1068	20	1091
BCC	2030	B4466 JACOBS WELLS ROAD	Southbound	13/11/2012	409	8	417	558	12	571	426	12	443	527	10	545	527	1	531
			Northbound	13/11/2012	507	10	522	632	13	654	391	10	410	403	3	415	470	0	478
BCC	2080	UPPER MAUDLIN STREET SOUTH OF LOWER MAUDLIN STREET	Southbound	04/10/2012	919	24	959	1153	20	1188	908	19	943	955	6	978	1100	7	1115
			Northbound	04/10/2012	1107	15	1130	1054	27	1095	855	21	886	1096	10	1110	1167	5	1180
BCC	2090	PARK ROW, WEST OF WOODLAND ROAD	Westbound	02/10/2012	561	13	579	588	13	612	576	15	598	740	6	758	733	1	745
			Eastbound	02/10/2012	673	21	695	598	15	620	508	12	521	448	6	457	438	1	440
BCC	4010	CANFORD LANE WEST OF SANDYLEAZE	Westbound	15/02/2011	588	11	610	642	3	653	403	8	419	668	4	683	664	2	677
			Eastbound	15/02/2011	437	4	450	576	9	597	405	9	422	522	2	531	613	2	624
BCC	4240_1	Bristol Hill, East of Warrington Rd	Westbound	03/02/2011	1025	39	1084	877	36	939	878	41	943	1124	16	1168	872	8	902
			Eastbound	03/02/2011	855	22	901	656	38	722	791	51	865	1023	23	1069	986	21	1031
BCC	4430_1	ZETLAND ROAD, EAST OF REDLAND ROAD	Eastbound	05/04/2011	160	2	162	217	5	225	184	4	188	219	0	222	342	0	342
			Westbound	05/04/2011	191	1	192	331	4	338	178	3	182	159	1	161	229	0	229
BCC	4460_1	Clifton Down Rd, North of Merchants Rd	Northbound	27/01/2011	215	7	227	204	6	218	191	5	203	378	1	388	286	2	294
			Southbound	27/01/2011	348	5	359	492	8	507	216	4	226	155	0	160	186	0	190
BCC	4550_1	Broadwalk, East of Queenshill Rd	Eastbound	26/02/2011	245	4	255	374	2	383	267	2	278	337	0	344	379	0	387
			Westbound	26/02/2011	390	9	405	390	6	404	329	5	343	428	2	447	437	1	447
BCC	4560	Salcombe Rd, South of Teignmouth Rd	Northbound	26/01/2011	133	4	143	236	0	242	241	3	254	459	5	471	529	3	541
			Southbound	26/01/2011	560	1	567	598	1	606	201	1	211	236	0	244	233	0	241
BCC	4570_1	Clarence Rd, East of Trinity St	Westbound	08/02/2011	337	17	372	458	9	487	488	8	522	816	9	850	808	1	838
			Eastbound	08/02/2011	1100	15	1143	1359	16	1406	576	15	617	585	16	631	520	5	553
BCC	4660	Bell Hill, West of Colston Hill	Westbound	15/03/2011	823	2	831	763	6	778	517	4	526	738	1	747	759	1	766
			Eastbound	15/03/2011	504	5	517	582	1	591	448	3	458	679	1	690	701	3	713
BCC	4680_1	Kellaway Ave, South of Wellington Hill	Southbound	06/02/2007	408	10	424	461	7	474	474	9	490	594	5	608	599	2	606
			Northbound	06/02/2007	409	6	426	483	8	495	420	8	433	588	4	600	692	0	699
BCC	4730_1	Southmead Rd, South of Monks Park Ave	Eastbound	19/01/2011	578	12	588	586	6	597	438	8	457	483	5	499	525	1	534
			Westbound	19/01/2011	399	10	411	505	5	520	434	9	455	477	0	491	543	0	552
BCC	4740_1	Kellaway Ave, North of Wellington Hill	Southbound	27/02/2007	333	2	335	330	7	338	305	4	312	387	2	395	459	1	461
			Northbound	27/02/2007	315	8	328	464	2	470	292	6	299	335	0	336	444	1	448
BCC	4790_1	WESTBURY RD, SOUTH OF HENLEAZE RD	Southbound	16/02/2011	699	11	714	1017	10	1031	685	11	705	1019	2	1040	1026	0	1032
			Northbound	16/02/2011	733	13	755	919	18	947	669	14	693	699	5	714	763	2	776
BCC	4810_1	Stoke Lane, South of Great Brookeridge	Southbound	16/02/2011	106	3	111	231	1	234	147	2	150	167	1	168	206	0	207
			Northbound	16/02/2011	103	1	104	212	2	216	137	1	138	197	2	200	216	0	218
BCC	4890	St Johns Lane, East of Paultraw Rd	Westbound	07/04/2011	840	17	868	817	26	854	615	20	641	703	18	727	792	8	806
			Eastbound	07/04/2011	389	9	402	444	13	463	565	10	581	739	7	755	745	1	753
BCC	5120_1	CITY ROAD, NORTH OF UPPER YORK STREET	Northbound	09/02/2011	29	2	36	61	0	63	57	2	63	63	0	66	66	0	71
			Southbound	09/02/2011	130	6	141	202	4	211	116	3	123	128	1	133	112	1	117
BCC	9060_1	Lodge Rd, South of Selkirk Rd	Southbound	20/01/2011	212	6	220	287	7	297	269	7	282	383	2	392	388	3	394
			Northbound	20/01/2011	242	3	261	391	5	400	229	4	237	220	0	224	258	0	263
BCC	9460_1	Sandy Park	Eastbound	07/04/2011	155	5	165	195	0	200	232	8	246	394	3	402	515	3	523
			Westbound	07/04/2011	421	3	429	367	5	378	224	5	234	238	1	245	242	0	246
BCC	9540_1	ST JOHNS LANE, EAST OF ST LUKES ROAD	Eastbound	12/01/2010	290	3	297	282	7	294	250	9	266	307	4	322	338	7	352
			Westbound	12/01/2010	361	16	385	361	18	386	342	25	373	521	12	538	545	6	555
BCC	9550_1	ST LUKES ROAD, SOUTH OF MEAD STREET	Northbound	12/01/2010	407	1	408	368	1	369	247	2	248	240	1	241	248	0	248
			Southbound	12/01/2010	150	0	152	191	0	194	345	0	347	550	0	555	491	0	492
BCC	9590_1	WHITEHOUSE LANE, SOUTH OF PHILIP STREET	Eastbound	24/05/2011	103	2	105	99	0	99	157	4	161	305	1	307	360	3	363
			Westbound	24/05/2011	350	2	352	537	2	539	157	4	161	213	2	216	149	1	150
BCC	9600_1	DEAN LANE, SOUTH OF CATHERINE MEAD STREET	Southbound	26/05/2011	166	7	180	206	8	222	344	4	356	488	9	506	509	1	517
			Northbound	26/05/2011	577	4	586	718	5	732	413	2	422	429	0	435	387	4	397
BCC	9630_1	STOCKWOOD LANE, NORTH OF STOCKWOOD LANE	Westbound	08/03/2011	310	1	311	321	1	322	164	1	165	287	0	287	411	0	411
			Eastbound	08/03/2011	204	1	205	364	2	366	162	1	163	247	0	247	322	0	322
BCC	9640_1	STOCKWOOD LANE, SOUTH OF HUNGERFORD ROAD	Southbound	08/03/2011	211	0	211	264	1	265	59	0	59	98	0	99	55	0	55
			Northbound	08/03/2011	16	1	17	62	1	63	61	0	62	113	0	114	151	0	151
BCC	201139	North Street	Northbound	17/04/2012	292	14	337	338	11	379	345	9	386	423	2	457	437	4	472
			Southbound	17/04/2012	606	11	641	790	15	833	482	12	527	595	9	637	548	9	590

TABLE F3

Historic TRADS Data

Site	Location	Direction	Date	08:00-09:00	Av 10:00-16:00	17:00-18:00
1730	M32 BETWEEN JUNCTIONS 2 AND 3	Northbound	05/07/2012	3320	2590	3897
1730	M32 BETWEEN JUNCTIONS 2 AND 3	Southbound	05/07/2012	3472	2398	3053
9/30028802	M32-NB: 1 Entry	Northbound	October 2013	1017	NA	1704
9/30028798	M32-NB: 1 Exit	Northbound	October 2013	1370	NA	1139
9/30028796	M32-NB: 1 Within	Northbound	October 2013	2001	NA	2155
9/30027526	M32-NB: 1-M4	Northbound	October 2013	3015	NA	3841
9/30028777	M32-NB: 2-1	Northbound	October 2013	3345	NA	3470
9/30028799	M32-SB: 1 Entry	Southbound	October 2013	899	NA	1092
9/30028803	M32-SB: 1 Exit	Southbound	October 2013	1863	NA	1337
9/30028797	M32-SB: 1 Within	Southbound	October 2013	2091	NA	2111
9/30028778	M32-SB: 1-2	Southbound	October 2013	3043	NA	3170
9/30027527	M32-SB: M4-1	Southbound	October 2013	3976	NA	3515
2/30034912	M4-EB: 20-19	Eastbound	2014	4626	3540	4843
2/30034914	M4-WB: 19-20	Westbound	2014	4315	3427	5005
2/5118	M5-NB: 16 Entry	Northbound	2013	846	668	1736
2/30034981	M5-NB: 16 Exit	Northbound	2014	1292	638	1096
2/30014777	M5-NB: 16 to M4 J20	Northbound	2013	1875	1604	2749
2/30012718	M5-NB: 16 within	Northbound	2013	2973	2965	3499
2/30014775	M5-NB: 16-15	Northbound	2013	1658	1741	2003
2/30034989	M5-NB: 17 -16	Northbound	2014	4051	3233	4760
2/30035001	M5-NB: 17 Entry	Northbound	2014	844	771	1516
2/30035009	M5-NB: 17 Exit	Northbound	2014	1302	802	935
2/30035002	M5-NB: 17 Within	Northbound	2014	3206	2433	3245
2/30034992	M5-NB: 17-16	Northbound	2014	4057	3224	4763
2/5112	M5-NB: 18 Entry from A4	Northbound	2013	1016	617	1348
2/30012709	M5-NB: 18 Exit to A4/A403	Northbound	2013	1176	573	691
2/30012711	M5-NB: 18 within (after M49)	Northbound	2013	3231	2501	2776
2/30012708	M5-NB: 18 within (before M49)	Northbound	2013	3659	2910	3342
2/5113	M5-NB: 18/18a Slip from A4-M49	Northbound	2013	217	162	436
2/5011	M5-NB: 18a-17	Northbound	2014	4317	3039	3956
2/30015243	M5-NB: 18-M49	Northbound	2013	400	359	518
2/5106	M5-NB: 19 Entry	Northbound	2011	1714	999	1212
2/30012705	M5-NB: 19 Exit	Northbound	2014	684	436	522
2/30012704	M5-NB: 19 Within	Northbound	2014	3386	2395	2652
2/5013	M5-NB: 19-18	Northbound	2013	4956	3538	4031
2/5110	M5-NB: 20 Entry	Northbound	2013	742	332	471
2/30012701	M5-NB: 20 Exit	Northbound	2013	716	404	627
2/30012700	M5-NB: 20 Within	Northbound	2013	2844	2544	2608
2/5015	M5-NB: 20-19	Northbound	2013	3673	2979	3152
2/4498	M5-NB: 21 Entry	Northbound	2010	1660	885	1122
2/30012697	M5-NB: 21 Exit	Northbound	2013	317	241	365
2/30012696	M5-NB: 21 Within	Northbound	2013	2007	2032	2164
2/5154	M5-NB: 21-20	Northbound	2013	3597	3027	3277
2/30034950	M5-SB: 15-16	Southbound	2014	2208	710	1059
2/30034956	M5-SB: 16 Entry	Southbound	2014	757	627	1071
2/30014773	M5-SB: 16 Within	Southbound	2013	3359	3118	3668
2/30034985	M5-SB: 16-17	Southbound	2014	3914	3264	4385
2/5172	M5-SB: 17 Entry	Southbound	2012	715	625	1469
2/30035010	M5-SB: 17 Exit	Southbound	2014	999	938	1128
2/30035011	M5-SB: 17 Within	Southbound	2014	2898	2269	3218
2/5012	M5-SB: 17-18a	Southbound	2012	3401	2773	4565
2/30014771	M5-SB: 18 Entry from A4/A403	Southbound	2013	650	508	1168
2/30012713	M5-SB: 18 Exit	Southbound	2013	957	542	674
2/30012712	M5-SB: 18 within (before A4)	Southbound	2012	2390	2010	3816
2/5315	M5-SB: 18-19	Southbound	2013	3391	3241	4662
2/4588	M5-SB: 18a Entry	Southbound	2013	506	381	455
2/5104	M5-SB: 19 Entry	Southbound	2013	451	383	600
2/30012707	M5-SB: 19 Exit	Southbound	2013	1291	972	1779
2/30012706	M5-SB: 19 Within	Southbound	2013	2211	2223	3542
2/5016	M5-SB: 19-20	Southbound	2013	2746	2671	4233

Site	Location	Direction	Date	08:00-09:00	Av 10:00-16:00	17:00-18:00
2/5108	M5-SB: 20 Entry	Southbound	2013	645	413	860
2/30012703	M5-SB: 20 Exit	Southbound	2013	445	304	811
2/30012702	M5-SB: 20 Within	Southbound	2014	2512	2111	3463
2/5150	M5-SB: 20-21	Southbound	2013	3020	2780	4316
2/5151	M5-SB: 21 Entry	Southbound	2013	274	266	355
2/30012699	M5-SB: 21 Exit	Southbound	2013	1169	864	1873
2/30012698	M5-SB: 21 Within	Southbound	2013	1783	1826	2387
2/30034945	M5-SB: M4 J20 to M5 J15	Southbound	2014	3137	1964	2620
2/5111	M5-WB: 18 Exit to A4	Westbound	2013	1380	726	1155
2/4589	M5-WB: 18a-A4	Westbound	2013	1420	785	930

Appendix G

Public Transport OD Survey Forms

BUS STOP No:

DATE

LOCATION / NAME:

INTERVIEWER:

1 INTERVIEW TIME:

Q1 - Please state the full address you have just come from?		Q2 - Why were you at that location?	Q3 - What was your main form of travel to get to this bus stop?
Firm, House Name or ZONE		1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Number & Street			
Town			
County			
Postcode			
Q4 - Please state the full address you are travelling to now?		Q5 - What bus service (service number) do you intend to use for this journey?	Q6 - After getting off the bus service, what will be your main form of travel to get to your destination?
Firm, House Name or ZONE .....		..... .....	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Number & Street			
Town			
County			
Postcode			
Q7 - Why are you going to your destination?	Q8 - How often do you usually make this journey?	Q9 - Do you have access to a car to make this journey?	Q10 - If this journey is part of a 2-way return trip, please give the start time of your trip in the other direction (to nearest half hour) & the service used?
1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Daily 2 1-4 times per week 3 1-4 time per month 4 Less than once a month	1 Yes 2 No 3 Non Driver	Time
			Service
Q11 - If you are travelling in a group how many other adults and children (over 4 years old) are travelling with you?			

2 INTERVIEW TIME:

Q1 - Please state the full address you have just come from?		Q2 - Why were you at that location?	Q3 - What was your main form of travel to get to this bus stop?
Firm, House Name or ZONE		1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Number & Street			
Town			
County			
Postcode			
Q4 - Please state the full address you are travelling to now?		Q5 - What bus service (service number) do you intend to use for this journey?	Q6 - After getting off the bus service, what will be your main form of travel to get to your destination?
Firm, House Name or ZONE .....		..... .....	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Number & Street			
Town			
County			
Postcode			
Q7 - Why are you going to your destination?	Q8 - How often do you usually make this journey?	Q9 - Do you have access to a car to make this journey?	Q10 - If this journey is part of a 2-way return trip, please give the start time of your trip in the other direction (to nearest half hour) & the service used?
1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Daily 2 1-4 times per week 3 1-4 time per month 4 Less than once a month	1 Yes 2 No 3 Non Driver	Time
			Service
Q11 - If you are travelling in a group how many other adults and children (over 4 years old) are travelling with you?			

ROUTE No. DATE

SITE: INTERVIEWER:

Ask all questions to passengers regardless of whether it is an inbound or outbound journey. Inbound journey questions relate to journeys starting at the P & R site. Outbound journey questions relate to the journey back to P & R site. (Note: verify that the passenger has not previously been interviewed).

1 INTERVIEW TIME:

Q1 - Where did you travel from to get to the P & R site?		Q2 - What time did you leave that location? (hh:mm) NOT THE TIME THEY BOARDED THE BUS	Q4 - How did you get to the P&R site?
Firm or House Name Number & Street Town County Postcode		Q3 - Why were you at that location? 1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Car (alone) 2 Car (sharing) 3 Car (Dropped off) 4 Cycle 5 Other (please state)
			Q5 - Which bus stop are you getting off at?
Q6 - What is your destination once you get off the inbound P&R service?		Q7 - Why are you going to your destination?	Q8 - When you get off the P&R bus, what is the main form of travel you will use to get to your destination?
Firm, House Name or ZONE Number & Street Town County Postcode		1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Q9 - How often do you usually make this journey?	Q10 - If you are travelling in a group how many other adults and children (over 4 years old) are travelling with you?	OUTBOUND QUESTIONS	
1 Daily 2 1-4 times per week 3 1-4 time per month 4 Less than once a month	Q11 - For your outbound journey, which stop will you get on at?	Q12 - What time will you start your outbound journey ? NOT THE TIME THEY BOARDED THE BUS

2 INTERVIEW TIME:

Q1 - Where did you travel from to get to the P & R site?		Q2 - What time did you leave that location? (hh:mm) NOT THE TIME THEY BOARDED THE BUS	Q4 - How did you get to the P&R site?
Firm or House Name Number & Street Town County Postcode		Q3 - Why were you at that location? 1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Car (alone) 2 Car (sharing) 3 Car (Dropped off) 4 Cycle 5 Other (please state)
			Q5 - Which bus stop are you getting off at?
Q6 - What is your destination once you get off the inbound P&R service?		Q7 - Why are you going to your destination?	Q8 - When you get off the P&R bus, what is the main form of travel you will use to get to your destination?
Firm, House Name or ZONE Number & Street Town County Postcode		1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)	1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)
Q9 - How often do you usually make this journey?	Q10 - If you are travelling in a group how many other adults and children (over 4 years old) are travelling with you?	OUTBOUND QUESTIONS	
1 Daily 2 1-4 times per week 3 1-4 time per month 4 Less than once a month	Q11 - For your outbound journey, which stop will you get on at?	Q12 - What time will you start your outbound journey ? NOT THE TIME THEY BOARDED THE BUS

(office use) BUS STOP No: LOCATION / NAME:

Please answer the following questions about the journey you were making when you received this form, and return in the Freepost envelope provided.

Time of Issue (Office use only)		Q1 - Please state the full address you had just come from?			Q2 - Why were you at that location?		Q3 - What was your main form of travel to the bus stop at which you received this survey form?	
07:00		Firm, House Name Number & Street Town County Postcode			1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)		1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)	
07:30								
08:00								
08:30								
09:00								
09:30								
10:00								
10:30		Q4 - Please state the full address you were travelling to? Firm, House Name Number & Street Town County Postcode			Q5 - What bus service (service number) did you use after you received this survey form?		Q6 - After getting off the bus service, what was your main form of travel to your destination? 1 Walk 2 Other Bus Service 3 Train 4 Car 5 Cycle 6 Other (please state)	
11:00								
11:30								
12:00								
12:30								
13:00								
13:30								
14:00		Q7 - Why were you travelling to your destination? 1 Home 2 Work 3 Employers Business 4 Shopping 5 Education 6 Other (please state)			Q8 - How often do you usually make the same journey? 1 Daily 2 1-4 times per week 3 1-4 time per month 4 Less than once a month		Q9 - Did you have access to a car to make the journey? 1 Yes 2 No 3 Non Driver	
14:30								
15:00								
15:30								
16:00								
16:30								
17:00								
17:30		Q10 - If the journey was part of a 2-way return trip, please give the start time of your trip in the other direction (to nearest half hour) & the service number used? Time Service			Q11 - If you were travelling in a group how many other adults and children (over 4 years old) were travelling with you?			
18:00								
18:30								

FAIR PROCESS NOTICE

Today's survey is being conducted by Nationwide Data Collection on behalf of Bristol City Council. This bus user census is part of a larger survey programme covering the wider city area and will last only one day at each location. This postcard survey has been adopted to reduce the disruption to your journey today.

Bristol City Council needs **your** input to help plan for the city's transport infrastructure. To allow us to do this we need to understand the number and type of journeys being made in Bristol. That's where you come in!

On the other side of this sheet there is a short survey that asks for you to describe the journey you were making when you received this document. Please take the time to complete the form – it shouldn't take more than 2 minutes and it will greatly improve the Council's ability to plan for the future.

To ensure total confidentiality the results of the survey will not contain your personal contact details. Any address information supplied will not be stored electronically and is used only to derive origin and destination postcodes. All information provided for the survey is collected on a strictly confidential basis and stored in accordance with the Data Protection Act.

Your reply is very important to us and those returning completed forms by 9th December 2013 will be entered into a prize draw.

To be entered into the **FREE PRIZE DRAW**, to win shopping vouchers, please enter your name, address and phone number in the section below. Four prizes will be awarded (£100, £50, £25, £25) and you will be informed by the 16th December 2013 if you are successful. This information is used solely for the purposes of the prize draw and will not be stored or passed on to any third party.

Name

Tel No.

Number & Street

Town

County

Postcode

Bristol City Council values your contribution to this study.

Should you require any further information about the survey please contact us at the email addresses or telephone numbers given below:



Nationwide Data Collection

Email – enquiries@nationwidedatacollection.co.uk

Telephone – 01926 485504



Bristol City Council

City Transport Group

Email – city.transport@bristol.gov.uk

Telephone – 0117 903 6524

Bristol Bus Surveys – Fair Process Notice

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Nationwide Data Collection

Email – Enquiries@nationwidedatacollection.co.uk

Telephone – 01926 485504



Bristol City Council

City Transport Group

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Bristol City Council

City Transport Group

Email – city.transport@bristol.gov.uk

Telephone – 0117 903 6524

Appendix H

Bus Cordon Sample Rates

Table H.1: Bus Cordon Sample Rate

Cordon	Inbound			Outbound		
	AM	IP	PM	AM	IP	PM
Newfoundland Street	92%	98%	100%	100%	93%	77%
Old Market Street	79%	60%	63%	82%	63%	58%
Bath Road/ Wells Road	55%	52%	67%	55%	50%	73%
Bedminster Parade	78%	66%	76%	72%	68%	79%
St John's Road	83%	92%	83%	83%	92%	83%
Coronation Road	67%	98%	133%	67%	103%	50%
Cumberland Road	50%	108%	50%	100%	100%	100%
Hotwells Road	65%	54%	39%	59%	57%	50%
Queens Road	67%	52%	52%	52%	46%	53%
Horfield Road	50%	100%	50%	100%	100%	50%
Cheltenham Road	86%	74%	104%	64%	87%	38%
City Road	80%	80%	60%	100%	80%	120%
Total	73%	64%	70%	68%	66%	62%

Appendix I

Bus Stop Boarding and Alighting Sample Rate

Table I.1: Boarding and Alighting Count Sample Rates

Site No	Super group	Description	AM	IP	PM
1	1	Triangle West	88%	93%	76%
2	1	Queens Road	104%	127%	117%
3	1	Queens Road (Westbound)	56%	57%	50%
4	1	Park Row (Eastbound)*	0%	100%	0%
6	1	Park Street (Southbound)	79%	67%	63%
7	1	Park Street (Northbound)	83%	80%	57%
8	2	Anchor Road (Eastbound)	88%	85%	38%
11	3	St Augustines Parade (Northbound)	74%	103%	56%
12	3	St Augustines Parade (Southbound)	70%	88%	87%
13	3	Broad Quay-The Centre-(Northbound)	120%	142%	114%
14	3	Broad Quay-The Centre-(Southbound)	117%	98%	83%
16	3	Colston Avenue (Southbound)	39%	48%	40%
18	3	St Augustines Parade - The Centre- (Northbound)**	1200%	3633%	533%
19	4	Baldwin Street (Eastbound)***	550%	-	-
20	4	Baldwin Street (Westbound)	85%	72%	90%
21	4	Baldwin Street (Eastbound)	33%	66%	67%
22	4	Baldwin Street (Eastbound)	30%	32%	30%
23	3	Lewins Mead - The Centre- (Northbound)	94%	89%	106%
25	3	Quay Street (Northbound)	350%	-	60%
28	3	Upper Maudlin Street -Kingsdown BRI- (Northbound)	13%	13%	7%
31	3	Rupert Street (Southbound)	82%	75%	70%
32	5	Nelson Street (Northbound)	46%	61%	55%
33	5	Union Street (Northbound)****	2000%	1767%	2000%
34	5	Union Street (Northbound)	61%	68%	75%
35	5	The Horsefair (Eastbound)	140%	164%	165%
36	6	The Haymarket (Westbound)	87%	91%	58%
37	6	The Haymarket (Eastbound)	94%	93%	85%
38	6	Bus Station	100%	105%	74%
40	6	Stokes Croft (Northbound)	130%	120%	128%
42	6	Bond Street (Westbound)	98%	86%	89%
45	5	The Horsefair (Eastbound)	24%	19%	18%
46	5	Penn Street (Southbound)	31%	54%	53%
48	5	Broad Weir (Westbound)	76%	64%	67%
49	6	Bond Street (Northbound)	107%	111%	134%
51	7	Temple Way (Southbound)	73%	36%	67%
52	7	Temple Way (Northbound)	75%	41%	24%
53	7	Victoria Street (Southbound)	65%	32%	60%
54	7	Victoria Street - (Northbound)	73%	35%	61%
62	7	Temple Meads (Southbound)	44%	73%	38%
63	7	Temple Gate (Northbound)	95%	77%	58%
70	8	Redcliffe Hill (Southbound)	78%	58%	43%
71	8	Redcliffe Hill (Northbound)	144%	97%	133%
75	8	Prince Street (Northbound)	95%	57%	67%
90	2	Gasferry Road (eastbound)	100%	41%	16%
91	2	Gasferry Road (Westbound)	42%	110%	65%
92	9	Old Market (Eastbound)	85%	96%	73%
93	9	Old Market (westbound)	114%	106%	120%
94	5	Wine Street (Eastbound)	67%	72%	75%
95	5	Wine Street (Westbound)	40%	69%	83%
96	7	Temple Meads (Southbound)	53%	86%	100%
			79%	83%	72%

* Stop only operates between 10:00 - 16:00

** B&A data includes services using stop 11.

*** Higher than expected use of stop by buses during AM peak. Overall sample rate on Baldwin Street acceptable

****B&A data includes data also for site 34

Appendix J
Bus OD Survey Sample Rate

Table J.1: Bus Passenger Sample Rate

Site	Interviews Completed	12 Hour Observed Boardings	Sample Rate			
			12 Hour	AM Peak	Inter Peak	PM Peak
1	84	417	20%	39%	23%	9%
2	48	787	6%	9%	8%	3%
3	66	314	21%	50%	23%	15%
6	48	351	14%	36%	10%	15%
7	136	962	14%	31%	15%	7%
8	8	60	13%	200%	25%	5%
9	25	350	7%	34%	7%	3%
11	24	303	8%	0%	8%	10%
12	152	2722	6%	11%	5%	4%
13	80	1846	4%	7%	7%	2%
14	112	1688	7%	13%	6%	4%
16	43	420	10%	10%	11%	9%
18	8	257	3%	6%	3%	3%
19	43	523	8%	21%	7%	6%
20	19	46	41%	71%	13%	36%
21	64	209	31%	31%	40%	16%
23	38	753	5%	5%	5%	5%
25	13	31	42%	200%	30%	50%
28	3	6	50%	100%	40%	-
31	97	1465	7%	8%	5%	8%
32	104	1106	9%	19%	9%	8%
33	26	846	3%	9%	4%	0%
34	88	718	12%	11%	14%	11%
35	219	2823	8%	19%	8%	5%
36	35	1829	2%	9%	1%	0%
37	99	2944	3%	7%	2%	4%
38	322	4267	8%	11%	7%	6%
40	101	868	12%	14%	18%	1%
42	37	466	8%	17%	5%	4%
45	80	249	32%	73%	34%	25%
46	28	2531	1%	24%	0%	0%
48	98	457	21%	18%	30%	15%
49	23	468	5%	6%	1%	17%
51	22	131	17%	13%	18%	26%
52	16	67	24%	47%	22%	0%
53	69	390	18%	44%	24%	13%
54	17	79	22%	44%	17%	15%
62	25	542	5%	6%	8%	1%
63	63	322	20%	32%	21%	10%
70	67	368	18%	33%	17%	14%
71	9	651	1%	8%	0%	1%
75	28	46	61%	50%	45%	93%
91	28	70	40%	83%	31%	45%
92	224	1332	17%	32%	19%	10%
93	8	85	9%	0%	12%	18%
94	35	688	5%	22%	4%	0%
95	64	542	12%	37%	12%	8%
96	28	486	6%	13%	4%	4%
Total	3074	38881	8%	15%	8%	5%
