SURREY
COUNTY COUNCIL

REIGATE AND BANSTEAD BOROUGH COUNCIL LOCAL PLAN

Transport Assessment

Project Title: Reigate and Banstead Borough Council Local Plan

Document Title: Transport Assessment

Client Reference:

Date: 17 May 2016

Prepared By: Gemma Joyner

Authorised By: William Bryans

Amendment List

Iss. / Rev.	Iss. / Rev Date	Alterations	
		Page	Iss. / Rev.

0201SF1007/08/02
Filename: S:\Project-current\3613\53613T40_Reigate & Banstead Local Plan 2016\Report\Doc01_RBBC_Local Plan_Transport Assessment_v4.docx

CONTENTS

1 INTRODUCTION

1.1.1 Reigate and Banstead Borough Council is in the process of developing its Local Plan. To assist with this review, Surrey County Council has been commissioned to assess the traffic impact for multiple scenarios using the county's strategic highway model. The overall aim is to help inform the decision making surrounding the suitability of potential development sites which have been identified, and to highlight junctions and sections of road to focus mitigation solutions.

1.1.2 This document sets out the development and validation of the model, the forecasting methodology, and the results and appraisal of the traffic impact of the potential development sites.

2 BASE MODEL DEVELOPMENT AND VALIDATION

2.1 Model and Scope

2.1.1 Surrey County Council's strategic model, SINTRAM version 6 (29/03/16) was used for the appraisal, with OmniTRANS modelling program, version 6.0.22.

2.1.2 SINTRAM is a strategic highway model for the county of Surrey. The model encapsulates the road network of Surrey and surrounding local authorities. **Figure 2.1** presents the entire model area.

2.1.3 All motorways, A and B roads, together with most local roads are represented within SINTRAM. Where traffic junctions and traffic signals have a significant effect in terms of delay or route choice, details of their layout and/or timing of the signals have been included in the model.

2.1.4 Strategic models, such as SINTRAM, use aggregate descriptions of traffic such as flow, density, speed and the relationships between them. The model is unable to answer detailed questions regarding traffic interactions, such as queuing and individual driver behaviour. It can however, provide approximate answers to transport problems across a vast geographical area, including the level of vehicle demand, junctions and stretches of road which will be operating above their theoretical capacity, and highlighting areas where some form of mitigation is likely to be required to reduce the impact of potential development sites. This makes SINTRAM a suitable tool for assessing the potential traffic impacts of the development sites at this initial review stage.

2.1.5 Once the development sites are established with confirmed detail of their composition and access to the highway, more detailed transport modelling will be required. This is often a core element of the development's Transport Assessment which forms a key part of the planning application.

2.2 Base Year

2.2.1 The model base year is 2009.

2.2.2 To bring the model more up to date, it has been reviewed and enhanced in Reigate and Banstead, and a reference year of 2014 has been created. These revisions are described in **Sections 2.5** and **2.9** respectively.

2.3 Modes of Transport

2.3.1 Vehicle classes that are represented in the model are: car; light goods vehicles (LGV); and heavy goods vehicles (HGV).

2.4 Time periods

2.4.1 The model represents a twelve-hour weekday (0700 – 1900), broken down into the following time periods:

- Weekday average AM peak hour (0700 – 1000);
- Weekday average inter peak hour (1000 – 1600) and
- Weekday average PM peak hour (1600 – 1900).

2.4.2 Since the majority of the future large scale developments are focused on residential land uses, the majority of trips will take place during the weekday peak hours. As a result only the weekday average AM and PM peak hours have been assessed.

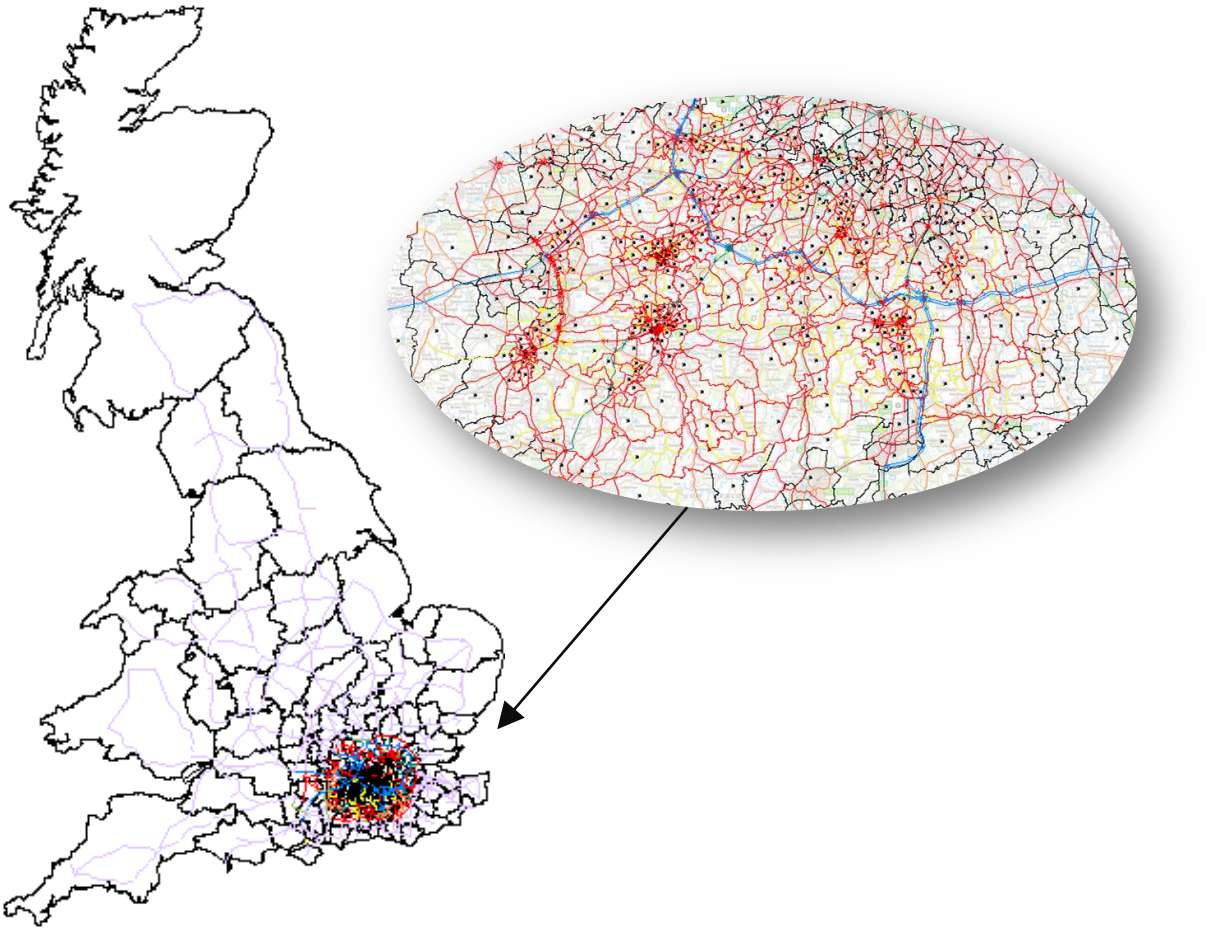

Figure 2.1: Model extent

2.5 Study Area and Base Model Development

2.5.1 The base model was reviewed and enhanced in the study area of Reigate and Banstead borough, to ensure that it was suitable for the evaluation of the highway impact arising from the potential development sites.

2.5.2 This included an area wide audit of the model network to:

- Ensure that the network is up to date;
- Ensure that the network coverage is sufficient for this appraisal;
- Check link type classification;
- Check junction configuration; and

- Ensure that the access points of large potential development sites are reflected by the appropriate location of the zone centroid connectors.

2.5.3 The audit was assisted by site visits, aerial photography and Surrey County Council's speed limit dataset. Where necessary additional highway network and junctions were inserted into the model, and centroid connectors adjusted accordingly. In particular, special attention was given to the areas of Merstham, east of Redhill, South Park and Horley, where the largest of the potential development sites have been proposed.

2.6 Zones

2.6.1 A zone represents a geographical area where vehicle trips are generated by the land uses contained within.

2.6.2 The borough of Reigate and Banstead is split into 41 zones, listed below and shown in **Figure 2.2**.

105: Redhill - Marketfield Way
106: Reigate - Reigate Hill
110: Reigate - Reigate Road / Linkfield Corner
113: Redhill - Earlswood
114: Redhill - Earlswood Common
116: Horley - East
163: Redhill - Holmethorpe East
164: Redhill - Town Centre
166: Horley Town Centre
264: Horley - Meath Green
271: Horley - North East
272: Reigate - Gatton Park and Wray Park
273: Reigate - Nutley Lane area and Reigate Business Park
276: Reigate - Woodhatch
287: Redhill - Redstone Hill and Kingswood Business Centre
288: Redhill - Brighton Rd
289: Redhill - Station
290: Reigate Town Centre
293: Horley - Haroldslea
302: Reigate - Reigate Heath
308: South Earlswood
312: Redhill - Marketfield Way
313: Redhill - St Johns
376: Redhill - Town Centre
392: Salfords
393: Kingswood
394: Chipstead and Hooley
395: Tadworth and Walton on the Hill
396: Nork
397: Banstead
398: Merstham
399: Tattenham Corner
400: Burgh Heath and Preston

504: East Surrey Hospital and Whitebushes
518: Reigate - Doversgreen and South Park
569: Component B2 - ERM 1 to 3 East of Redhill
570: Component B3 - ERM 4 to 6 Merstham
571: Component B4 - SSW 2 South Park
572: Component B4 - SSW 7 and 9 Doversgreen
573: Component B5 - Commercial Horley
574: Component A1 - Residential North West Sector Horley

2.6.3 The zones were reviewed to ensure that they were suitable for the assessment of the development sites. Six new zones, shown in blue, were created to contain the largest development sites and to ensure that the vehicle trips generated would access the highway network at a relevant point. This ensured that their impacts on the highway network could be captured more accurately.

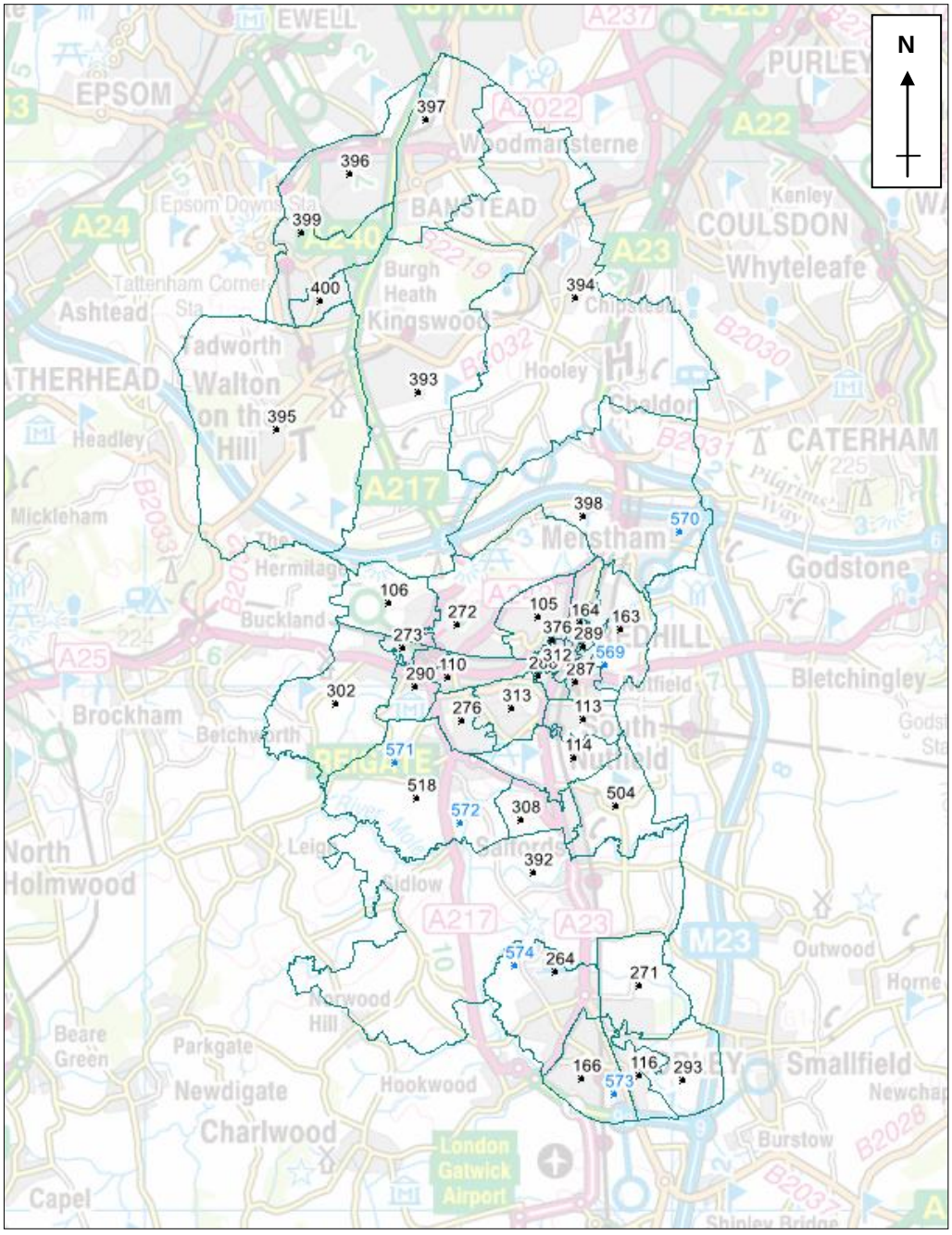

Figure 2.2: Zone plan

2.7 Assignment

2.7.1 The base matrices were assigned to the network using a fixed trip equilibrium assignment. This was performed using the method of successive averages (MSA) for 100 assignment iterations.

2.8 Model Validation

2.8.1 Validation simply compares modelled with observed data. In this case observed and modelled link flows at 113 locations in the borough have been compared for each model time period, in accordance with the Department for Transport's validation acceptability guidelines[1], presented in **Table 2.1**. The observed data reflects traffic flows collated between the years 2007 and 2012.

Criteria	Acceptability Guidelines
Link Flows	
Individual flows within 100 vph of counts for flows less than 700 vph	> 85% of cases
Individual flows within 15% of counts for flows from 700 to 2,700 vph	
Individual flows within 400 vph of counts for flows more than 2,700 vph	
GEH < 5 for individual flows	

Table 2.1: Validation acceptability guidelines

2.8.1 Link flow validation compares the absolute differences between modelled flows and observed counts, together with the presentation of the GEH (Geoffrey E. Havers) statistic. The GEH statistic is a form of the Chi-squared statistic that incorporates both relative and absolute errors, defined as:

$$GEH = \sqrt{\frac{(M-C)^2}{(M+C)/2}}$$

GEH is the GEH statistic
M is the modelled flow
C is the observed flow

2.8.2 **Table 2.2** presents the summary of the validation of both the weekday average AM and PM peak hours in terms of the Department for Transport's acceptability guidelines. The flow and GEH criteria have been met for both analysed peak hours.

Surrey	Average AM Peak Hour (0700 – 1000)			Average PM Peak Hour (1600 – 1900)		
	Values	% Met Criteria	Counts Met Criteria	Values	% Met Criteria	Counts Met Criteria
No. of counts	113	-	-	113	-	-
Average GEH	2.50	-	-	2.99	-	-
GEH > 10	3	-	-	3	-	-
GEH < 5	101	89%	Yes	97	86%	Yes
Flow criteria	106	94%	Yes	101	89%	Yes

Table 2.2: Link flow validation results for Reigate and Banstead

2.8.3 **Figures 2.3** and **2.4** show the modelled flows plotted against the observed with best-fit regression line and correlation coefficient (R^2), for each model time period.

[1] Department for Transport (2014) Transport Appraisal Guidance *Unit M3.1, Highway Assignment Modelling*.

This helps visualise the goodness of fit. An R^2 value greater than 0.95 is considered to indicate that the model reflects observed traffic flows well.

2.8.4 A full comparison of observed and modelled flows is provided in **Appendix A**.

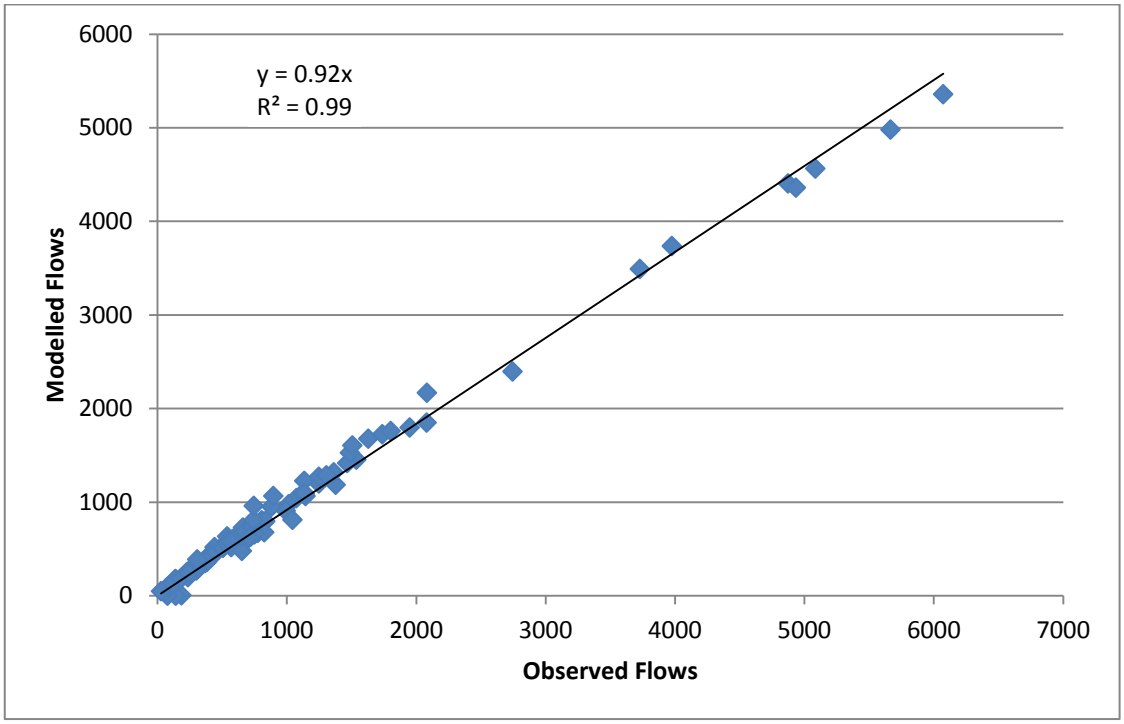

Figure 2.3: Comparison plot of modelled against observed link flows with best-fit regression line and correlation coefficient (R^2) for the weekday average AM peak hour (0700 – 1000)

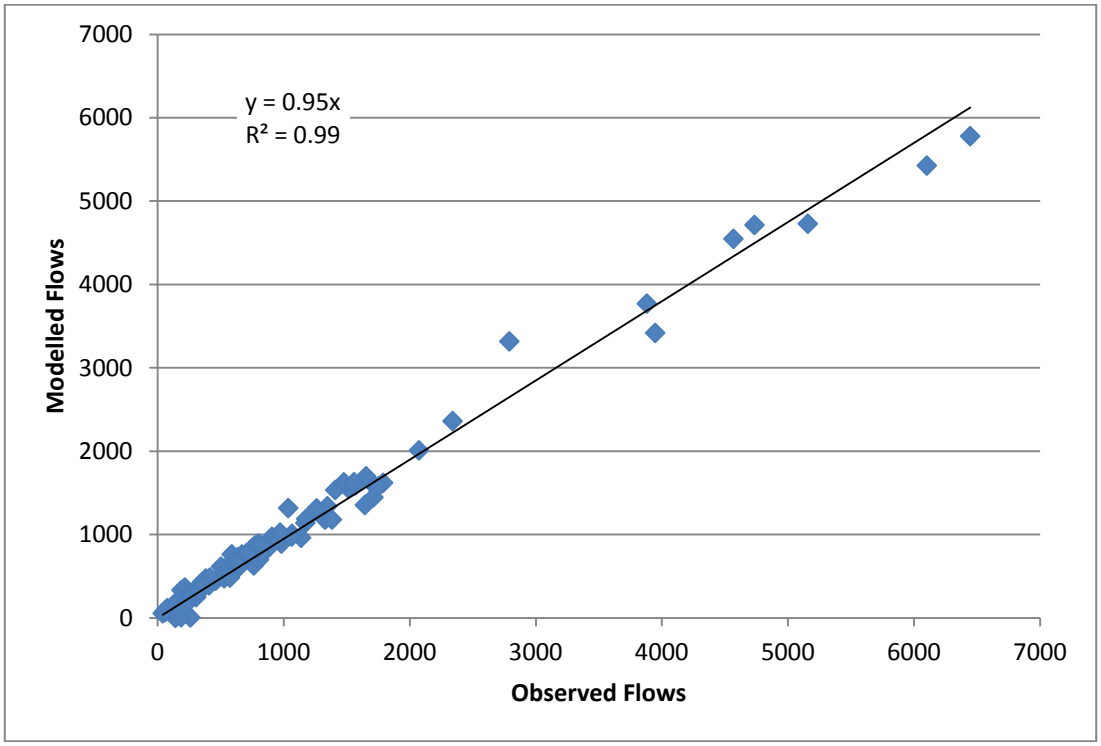

Figure 2.4: Comparison plot of modelled against observed link flows with best-fit regression line and correlation coefficient (R^2) for the weekday average PM peak hour (1600 – 1900)

2.8.5 **Figures 2.5** and **2.6** display observed versus model flow bandwidth plots for the weekday average AM and PM peak hours respectively.

2.8.6 The bandwidths are proportional to the level of flow. A bandwidth coloured green indicates that an observed count is present on the link. Where the green bands have a yellow edge, the model flow is less than the observed flow. Where the green bands show a blue edge, the model flow is greater than the observed flow.

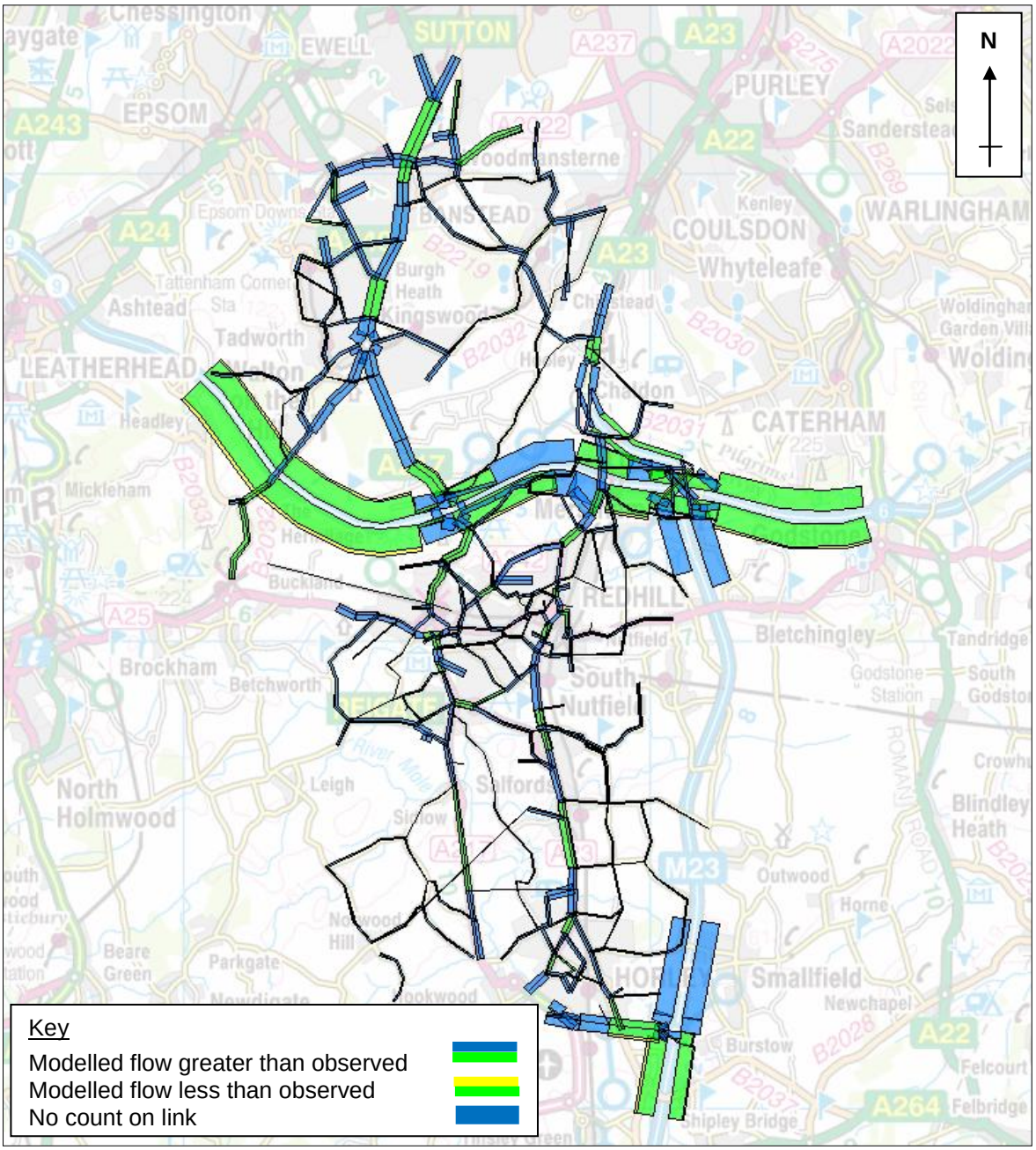

Figure 2.5: Link flow validation for the average AM peak hour (0700 – 1000)

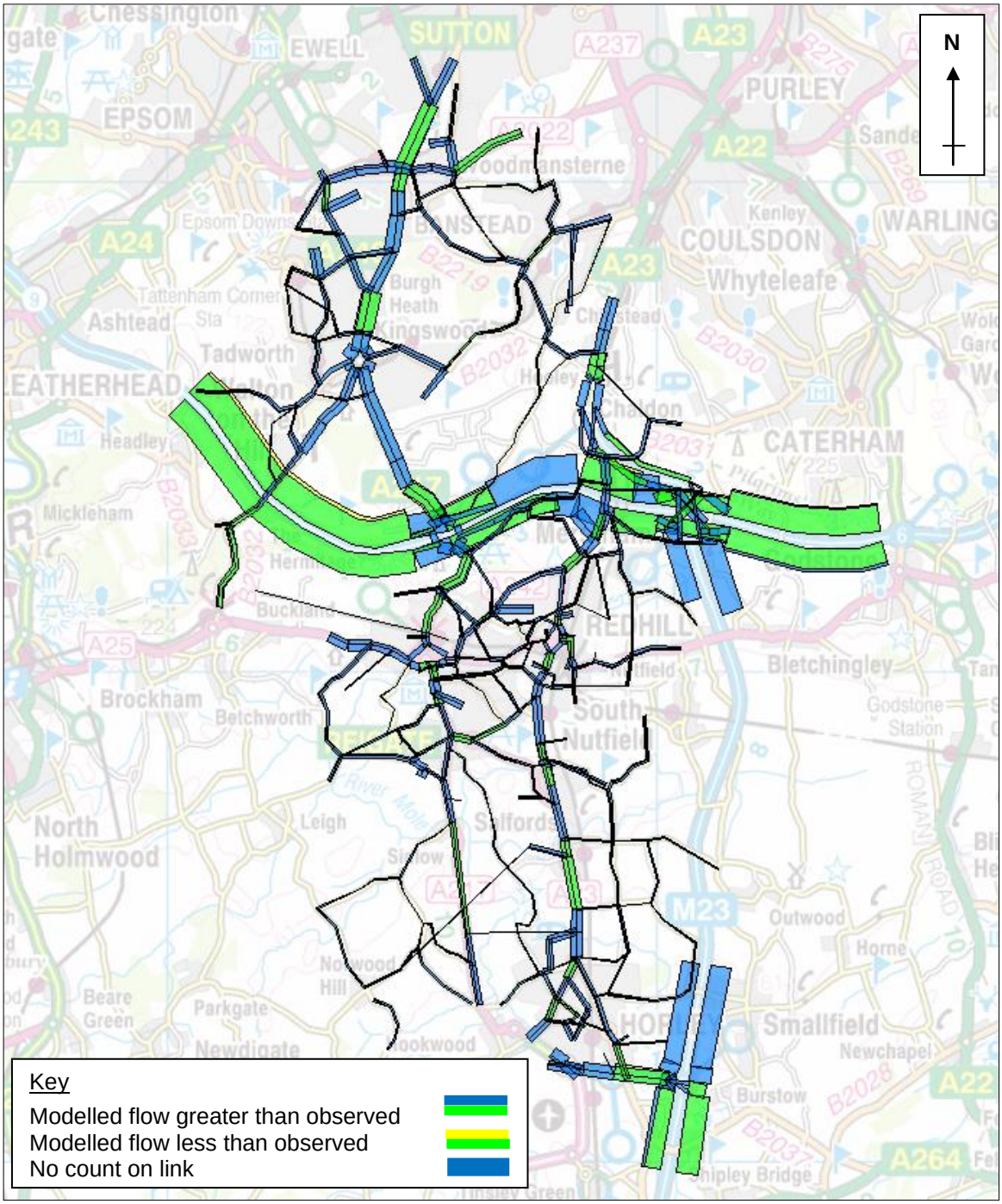

Figure 2.6: Link flow validation for the average PM peak hour (1600 – 1900)

2.9 2014 Reference Year

2.9.1 Given the model base year is more than 5 years past from the present day, a 2014 reference year has been created. This is to bring the model base up to date and to reflect 2014 trends.

2.9.2 64 observed counts within Surrey were extracted from the Department for Transport's manual classified count annual survey program for the years 2009 and 2014. From these, growth factors have been derived, as shown in **Table 2.3**, and applied to the 2009 validated trip matrices for each vehicle type.

2.9.3 It can be seen that the number of cars has reduced during the weekday average AM peak hour between 2009 and 2014, but there has been a growth in the number of light and heavy goods vehicles.

	Car	LGV	HGV	All
Average AM peak hour (0700 – 1000)				
2009 Total Flow	154,686	26,131	12,383	193,201
2014 Total Flow	148,765	28,453	12,814	190,031
Growth Factor	**0.962**	**1.089**	**1.035**	**0.984**
Average PM peak hour (1600 – 1900)				
2009 Total Flow	159,878	21,736	7609	189,223
2014 Total Flow	162,471	24,292	7747	194,510
Growth Factor	**1.016**	**1.118**	**1.018**	**1.028**

Table 2.3: 2009 to 2014 growth factors

3 MODEL FORECASTING, TRIP GENERATION AND TRIP DISTRIBUTION

3.1 Forecast Year

3.1.1 The model forecast year is 2031.

3.2 Forecast Scenarios

3.2.1 To identify the traffic impacts of potential development sites, seven scenarios have been assessed as set out in **Table 3.1**. The scenarios form a compilation of the six components as described below:

- Component A (baseline urban growth) includes all commercial and residential development sites that have received planning permission within Reigate and Banstead since 2014, together with Horley north east sector development site, specific future urban development sites that are likely to progress, and windfalls;

- Component B1 (Horley) includes urban extension residential site options in the Horley area;

- Component B2 (east Redhill) includes urban extension residential site options in the east Redhill area;

- Component B3 (east Merstham) includes urban extension residential site options in the east Merstham area;

- Component B4 (south west Reigate) includes urban extension residential site options in the south west Reigate area; and

- Component B5 (south of Horley) includes a potential strategic employment site to the south of Horley.

3.2.2 It must be noted that the residential site options which form part of the urban extension components (B1-B4) and the strategic employment option (B5) have been provided by Reigate and Banstead for the purposes of testing and appraisal only. Their inclusion within the Transport Assessment is without prejudice to the content of the Development Management Plan Regulation 18 consultation document or the final Development Management Plan.

3.2.3 Scenario 1, the do-minimum baseline urban growth, therefore includes committed developments identified from the base year of 2014 to the forecast year 2031, together with specific future urban development sites and windfalls. Committed developments comprise of sites which have already been built or are in the process of construction.

3.2.4 Model scenarios 2 to 5 each assess component A (baseline urban growth) together with potential residential development sites situated in varying locations of the borough.

3.2.5 Scenario 6 combines component A (baseline urban growth) with all of the residential development sites forming components B1 to B4.

3.2.6 Scenario 7 combines all of the components. This is the baseline urban growth (component A), all of the potential residential development sites in scenario 6 (components B1 to B4), together with the commercial employment site south of Horley (component B5).

Model Scenario	Component					
	A	B1	B2	B3	B4	B5
	Baseline Urban Growth	Horley	East Redhill	East Merstham	South West Reigate	South of Horley
1	✓					
2	✓	✓				
3	✓		✓			
4	✓			✓		
5	✓				✓	
6	✓	✓	✓	✓	✓	
7	✓	✓	✓	✓	✓	✓

Table 3.1: Model scenario definition

3.2.7 Since the developments contained within scenario 1 can be found in all scenarios, this transport assessment has focused on a comparison between this and the other scenarios.

3.3 Development Sites and Pro-Forma

3.3.1 Information regarding the composition of both commercial and residential development sites to be considered in this appraisal was provided by Reigate and Banstead Borough Council in the form of the county council's pro-forma. The pro-forma was finalised on 18/03/16.

3.3.2 Each development site listed in the pro-forma was matched to the model zone system using the grid references provided and Geographic Information System (GIS).

3.3.3 **Figure 3.1** geographically presents all of the commercial development sites that have been set out in the pro-forma. **Figure 3.2** shows the same but for residential sites.[2]

[2] These maps are produced at A0 size and therefore the quality is inhibited in this report. As a result these maps have also been issued separately to this document.

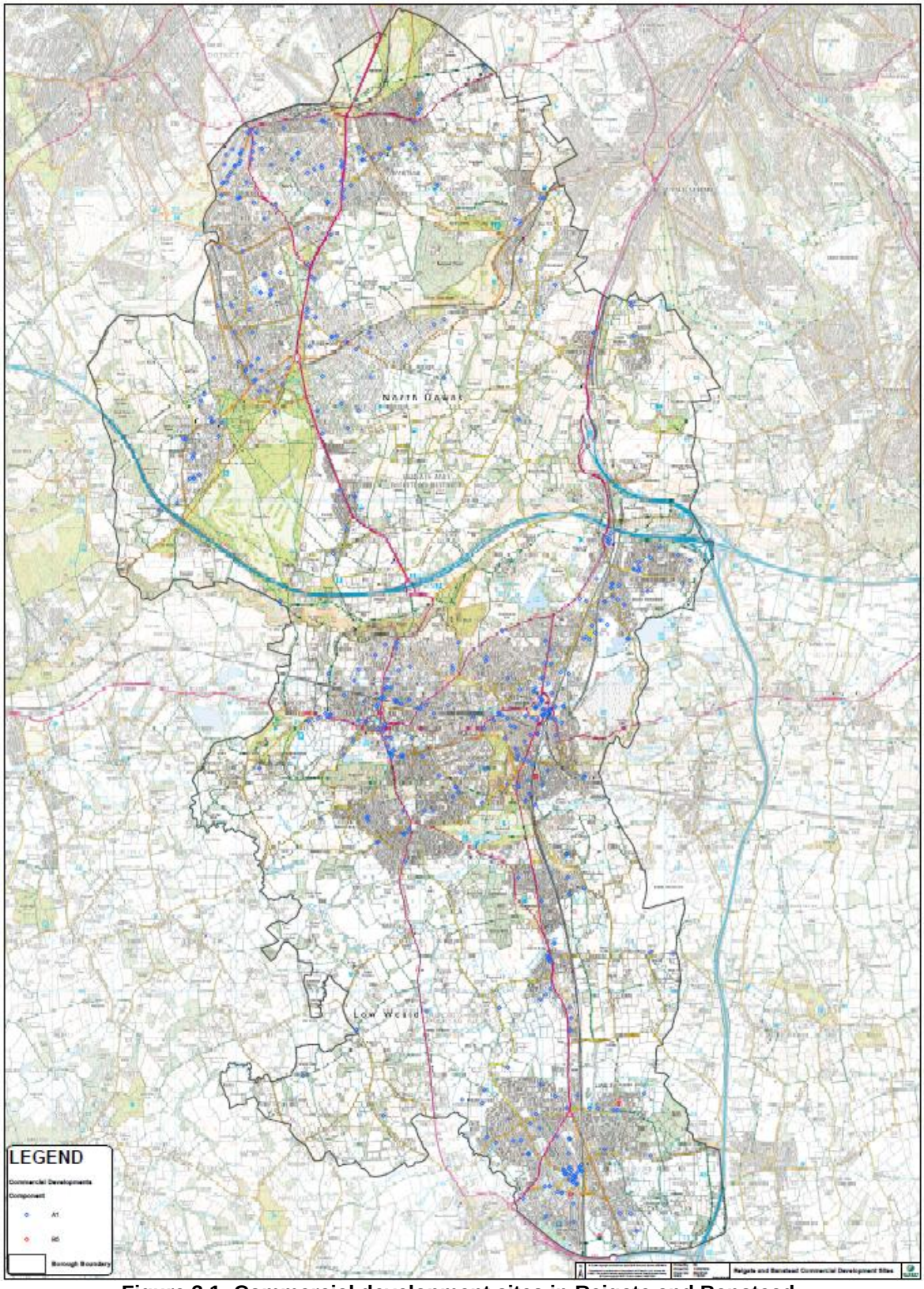

Figure 3.1: Commercial development sites in Reigate and Banstead

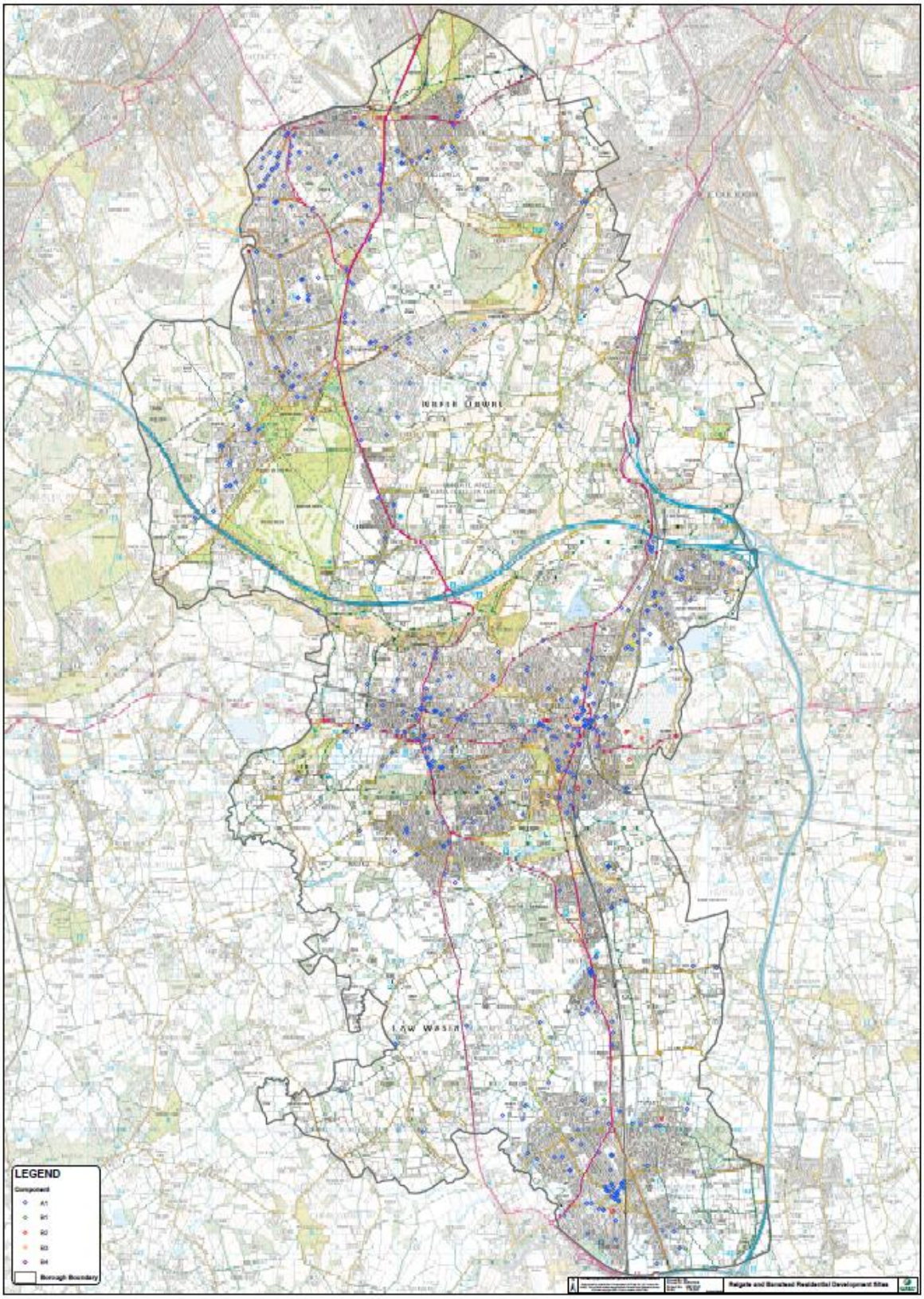

Figure 3.2: Residential development sites in Reigate and Banstead

3.4 Vehicle Trip Generation

3.4.1 Vehicle trips generated by each development site were calculated using the information contained within the pro-forma and the Trip Rate Information Computer Database (TRICS) version 2015 7.2.4. External and background growth has also considered, as detailed in the following **Section 3.5**.

3.4.2 TRICS is the national standard database system of trip generation and analysis used in the planning application process. The database holds thousands of trip rate surveys generated by different land uses and location type.

3.4.3 For developments within Reigate and Banstead, the database was interrogated for sites of a similar geographical location and land use in line with guidance from the 2013 Good Practice Guide. The database produces trip rates per 100m^2 gross floor area (GFA) or by residential unit. The resulting trip rates were applied to the size and composition of each development to calculate the trip generation for each site. Consideration was also made to the previous or existing land use of the development site and the trips it would have created. These trips were deducted from those generated by the new development to prevent double counting.

3.4.4 The trip generation was calculated separately for vehicles arriving and departing each development site. This was also split into the vehicle types: car, LGV and HGV, similarly informed by the information contained within the TRICS database.

3.4.5 Information regarding the numbers of windfalls was supplied by ward. Since their exact locations were unknown, the relating trip generation was apportioned by the area of model zone contained within each ward.

3.4.6 At this concept stage, all development related trips have been assumed to be new trips, and as such can be considered to represent a worst case scenario. No allowance has been made for linked, pass-by, diverted or transferred trips.

3.4.7 The resulting trip generation by Reigate and Banstead zone for scenarios 1 to 7 and the sensitivity test is shown in **Tables 3.2** to **3.15** for the weekday average AM and PM peak hours.

3.4.8 A summary of all the scenarios and time periods for the whole of Reigate and Banstead borough has also been provided in **Table 3.16**.

3.4.9 Negative values are due to a greater number of vehicle trips being generated from the previous development(s) than the new site(s) being proposed.

3.4.10 Scenario 1 represents the baseline urban growth across the borough. Its component A is the foundation of all the other model scenarios and generates an estimated 4,849 vehicle trips during the weekday average AM peak hour (0700 – 1000), and 3,942 vehicle trips during the weekday average PM peak hour (1600 – 1900). The largest number of additional trips in scenario 1 are in zones: 271 “Horley – North East”; 289 “Redhill - Station”; 397 “Banstead”; 400 “Burgh Heath; and Preston” and 574 “Residential North West Sector”. For zones 271 and 574 this is due to the Horley north east and north west residential development sites. The large increase in zone 289 is due to the Sainsbury’s and railway station commercial redevelopment in Redhill town centre. The large increase in trips in zone 397 is a result of a number of retail and community developments, whilst the trips in zone 400 are mostly due to the new leisure and community centre at Merland Rise recreation ground, and to a lesser extent the planned new residential housing situated in Merland Rise and the former De Burgh School site.

3.4.11 Scenario 2 includes all the development sites in scenario 1 together with potential residential developments in Horley comprising 215 units (component B1). This gives a net increase above that of scenario 1 of 79 vehicle trips in the average AM peak hour, and 96 vehicle trips in the average PM peak hour. These additional trips relate to zones 116 “Horley - East”, 264 “Horley - Meath Green”, and 574 “Component A1 – Residential north west sector”.

3.4.12 Scenario 3 includes all the development sites in scenario 1 plus urban extension residential site options in the east Redhill area of 370 units (component B2). It has been estimated that this will give a net increase in vehicle trips of 142 and 170 in the weekday average AM and PM peak hours respectively compared with scenario 1, which have been assigned to zone 569 "Component B2 - ERM 1 to 3 East of Redhill".

3.4.13 Scenario 4 contains the urban extension residential site options in the east Merstham area comprising 270 units (component B3), together with the urban baseline growth of scenario 1. The resultant net increase in vehicle trips beyond that of scenario 1 is 104 during the weekday average AM peak hour and 124 in the weekday average PM peak hour, which have been included in zone 570 "Component B3 - ERM 4 to 6 Merstham".

3.4.14 Scenario 5 includes all the developments sites in scenario 1 plus urban extension residential site options in the south west Reigate area of 450 units (component B4). It has been estimated that this will give a net increase in vehicle trips of 172 and 203 in the weekday average AM and PM peak hours respectively compared with scenario 1, which have been assigned to zones 571 "Component B4 - SSW 2 South Park" and 572 "Component B4 - SSW7 and 9 Doversgreen".

3.4.15 Scenario 6 comprises all of the development sites above (components A1 and B1 to B4) totalling 1,305 residential units more than scenario 1. It has been estimated that this will give a net increase of 497 vehicle trips in the weekday average AM peak hour and 594 in the weekday average PM peak hour, compared with scenario 1.

3.4.16 Scenario 7 is a replication of scenario 6 but with the inclusion of a strategic employment site south of Horley (component B5). This commercial site has been assigned to zone 573 "Component B5 - Commercial Horley", and compared with scenario 6 generates an additional 845 and 616 vehicle trips during the weekday average AM and PM peak hours respectively.

3.4.17 Trip generation is larger during the weekday AM peak than the PM peak. This is because there are more residential than commercial development sites. Residential development sites have a higher trip rate during the weekday average AM peak hour than compared with the weekday average PM peak. This is also coupled with a net reduction in commercial gross floor area (GFA) as further explained below.

3.4.18 Scenario 1 has the smallest net trip generation of an additional 4,849 vehicle trips in the weekday average AM peak hour and 3,942 vehicle trips in the average PM peak hour. This has been generated from an additional 7,545 residential units but a reduction of 23,361m^2 commercial GFA.

3.4.19 In contrast, scenario 7 has the largest net trip generation of an additional 6,191 vehicle trips in the weekday average AM peak hour and 5,296 vehicle trips in the average PM peak hour. This scenario contains all of the components (A1, B1 to B5) which offer an additional 8,850 residential units and 124,969m^2 commercial GFA. This is the only scenario with a net increase in commercial GFA because of the potential business park situated in Horley which has an estimated GFA of 150,000m^2.

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	7.0	15.4	6.3	0.7	0.1	13.7	1.5	0.2
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	157.3	189.2	142.0	14.8	0.4	170.6	17.9	0.8
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	184.9	399.5	164.2	18.9	1.7	355.6	40.2	3.7
Totals		**2180**	**2668**	**1938**	**231**	**11**	**2386**	**254**	**28**

Table 3.2: Scenario 1 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	16.5	10.5	14.7	1.6	0.2	9.4	1.0	0.1
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	61.4	35.6	54.7	5.8	0.8	35.1	1.9	-1.4
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	433.2	267.6	385.4	43.7	4.1	238.1	27.0	2.5
Totals		**3421**	**521**	**3080**	**309**	**32**	**2419**	**-797**	**-1102**

Table 3.3: Scenario 1 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	16.7	40.8	15.2	1.6	-0.1	36.5	4.1	0.3
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	162.2	199.7	146.4	15.3	0.5	179.9	18.9	0.9
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	194.1	419.2	172.4	19.9	1.8	373.1	42.2	3.9
Totals		**2204**	**2724**	**1959**	**233**	**11**	**2436**	**259**	**29**

Table 3.4: Scenario 2 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	44.4	25.9	39.6	4.4	0.4	23.4	2.5	0.0
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	72.8	42.6	64.8	7.0	1.0	41.3	2.6	-1.3
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	454.6	280.9	404.5	45.9	4.3	249.9	28.4	2.6
Totals		**3482**	**557**	**3134**	**316**	**33**	**2451**	**-793**	**-1102**

Table 3.5: Scenario 2 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	7.0	15.4	6.3	0.7	0.1	13.7	1.5	0.2
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	157.3	189.2	142.0	14.8	0.4	170.6	17.9	0.8
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	45.2	97.0	40.1	4.7	0.4	86.3	9.8	0.9
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	184.9	399.5	164.2	18.9	1.7	355.6	40.2	3.7
Totals		**2225**	**2765**	**1978**	**236**	**12**	**2473**	**264**	**29**

Table 3.6: Scenario 3 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	16.5	10.5	14.7	1.6	0.2	9.4	1.0	0.1
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	61.4	35.6	54.7	5.8	0.8	35.1	1.9	-1.4
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	105.3	65.1	93.7	10.7	1.0	57.9	6.6	0.6
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	433.2	267.6	385.4	43.7	4.1	238.1	27.0	2.5
Totals		**3527**	**586**	**3173**	**320**	**33**	**2477**	**-790**	**-1101**

Table 3.7: Scenario 3 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	7.0	15.4	6.3	0.7	0.1	13.7	1.5	0.2
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	157.3	189.2	142.0	14.8	0.4	170.6	17.9	0.8
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	33.0	70.8	29.3	3.4	0.3	63.0	7.2	0.7
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	184.9	399.5	164.2	18.9	1.7	355.6	40.2	3.7
Totals		**2213**	**2739**	**1967**	**235**	**11**	**2449**	**261**	**29**

Table 3.8: Scenario 4 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	16.5	10.5	14.7	1.6	0.2	9.4	1.0	0.1
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	61.4	35.6	54.7	5.8	0.8	35.1	1.9	-1.4
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	76.9	47.5	68.3	7.8	0.7	42.2	4.8	0.4
571	Component B4 - SSW 2 South Park	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
572	Component B4 - SSW 7 and 9 Doversgreen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	433.2	267.6	385.4	43.7	4.1	238.1	27.0	2.5
Totals		**3498**	**569**	**3148**	**317**	**33**	**2462**	**-792**	**-1101**

Table 3.9: Scenario 4 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	7.0	15.4	6.3	0.7	0.1	13.7	1.5	0.2
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	157.3	189.2	142.0	14.8	0.4	170.6	17.9	0.8
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	36.6	80.6	32.5	3.8	0.3	70.0	8.0	2.6
572	Component B4 - SSW 7 and 9 Doversgreen	17.1	37.6	15.2	1.8	0.2	32.7	3.7	1.2
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	184.9	399.5	164.2	18.9	1.7	355.6	40.2	3.7
Totals		**2234**	**2787**	**1986**	**237**	**12**	**2489**	**265**	**32**

Table 3.10: Scenario 5 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	16.5	10.5	14.7	1.6	0.2	9.4	1.0	0.1
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	61.4	35.6	54.7	5.8	0.8	35.1	1.9	-1.4
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
570	Component B3 - ERM 4 to 6 Merstham	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
571	Component B4 - SSW 2 South Park	85.4	52.8	75.9	8.7	0.8	46.9	5.4	0.5
572	Component B4 - SSW 7 and 9 Doversgreen	39.9	24.6	35.4	4.0	0.4	21.9	2.5	0.2
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	433.2	267.6	385.4	43.7	4.1	238.1	27.0	2.5
Totals		**3547**	**598**	**3191**	**322**	**34**	**2488**	**-789**	**-1101**

Table 3.11: Scenario 5 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	16.7	40.8	15.2	1.6	-0.1	36.5	4.1	0.3
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	162.2	199.7	146.4	15.3	0.5	179.9	18.9	0.9
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	45.2	97.0	40.1	4.7	0.4	86.3	9.8	0.9
570	Component B3 - ERM 4 to 6 Merstham	33.0	70.8	29.3	3.4	0.3	63.0	7.2	0.7
571	Component B4 - SSW 2 South Park	36.6	80.6	32.5	3.8	0.3	70.0	8.0	2.6
572	Component B4 - SSW 7 and 9 Doversgreen	17.1	37.6	15.2	1.8	0.2	32.7	3.7	1.2
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	194.1	419.2	172.4	19.9	1.8	373.1	42.2	3.9
Totals		**2336**	**3010**	**2076**	**247**	**12**	**2688**	**288**	**34**

Table 3.12: Scenario 6 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	44.4	25.9	39.6	4.4	0.4	23.4	2.5	0.0
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	72.8	42.6	64.8	7.0	1.0	41.3	2.6	-1.3
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	105.3	65.1	93.7	10.7	1.0	57.9	6.6	0.6
570	Component B3 - ERM 4 to 6 Merstham	76.9	47.5	68.3	7.8	0.7	42.2	4.8	0.4
571	Component B4 - SSW 2 South Park	85.4	52.8	75.9	8.7	0.8	46.9	5.4	0.5
572	Component B4 - SSW 7 and 9 Doversgreen	39.9	24.6	35.4	4.0	0.4	21.9	2.5	0.2
573	Component B5 - Commercial Horley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
574	Component A1 - Residential NW Sector Horley	454.6	280.9	404.5	45.9	4.3	249.9	28.4	2.6
Totals		**3790**	**747**	**3407**	**347**	**36**	**2620**	**-774**	**-1100**

Table 3.13: Scenario 6 proposed minus existing trip generation for the average PM peak hour (1600 – 1900)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.8	34.2	32.3	2.2	0.4	31.0	2.7	0.5
106	Reigate - Reigate Hill	-0.2	16.6	-0.8	0.5	0.1	14.2	2.0	0.4
110	Reigate - Reigate Road / Linkfield Corner	44.4	36.8	37.3	7.0	0.1	31.4	5.2	0.2
113	Redhill - Earlswood	10.4	38.9	9.3	1.1	0.1	34.4	3.9	0.6
114	Redhill - Earlswood Common	20.6	35.0	19.0	1.4	0.1	32.3	2.5	0.3
116	Horley - East	16.7	40.8	15.2	1.6	-0.1	36.5	4.1	0.3
163	Redhill - Holmethorpe East	101.5	187.0	87.1	11.5	2.9	162.4	19.8	4.8
164	Redhill - Town Centre	66.8	53.6	60.2	6.2	0.4	48.5	4.7	0.4
166	Horley Town Centre	-62.2	-24.7	-59.0	-3.1	-0.1	-25.0	-0.1	0.4
264	Horley - Meath Green	162.2	199.7	146.4	15.3	0.5	179.9	18.9	0.9
271	Horley - North East	164.5	370.8	146.5	16.1	1.9	330.4	36.1	4.3
272	Reigate - Gatton Park and Wray Park	7.7	23.6	6.5	1.0	0.2	20.8	2.3	0.5
273	Reigate - Nutley Lane area and Reigate Business Pk	-5.5	1.1	-5.3	-0.2	0.0	0.8	0.3	0.1
276	Reigate - Woodhatch	-2.5	7.1	-2.4	0.0	0.0	6.2	0.7	0.1
287	Redhill - Redstone Hill and K'wood Business Centre	-140.5	-39.9	-138.2	-2.4	0.1	-40.3	0.1	0.2
288	Redhill - Brighton Rd	1.1	4.0	1.5	-0.4	0.0	3.9	0.0	0.1
289	Redhill - Station	456.8	340.7	453.1	2.9	0.9	341.7	-1.5	0.6
290	Reigate Town Centre	-45.9	20.4	-46.2	-0.3	0.6	16.5	2.9	1.0
293	Horley - Haroldslea	1.6	3.4	1.4	0.2	0.0	3.1	0.3	0.0
302	Reigate - Reigate Heath	-5.7	9.6	-3.0	-1.2	-1.5	9.9	0.5	-0.7
308	South Earlswood	4.3	10.4	3.9	0.5	-0.1	9.0	1.1	0.2
312	Redhill - Marketfield Way	19.6	49.8	23.5	-3.3	-0.6	48.5	1.1	0.3
313	Redhill - St Johns	169.0	67.8	138.6	30.3	0.1	56.0	11.5	0.2
376	Redhill - Town Centre	-2.2	1.9	-2.2	0.0	0.0	1.4	0.4	0.1
392	Salfords	20.0	19.2	20.6	0.3	-0.9	17.5	1.7	0.1
393	Kingswood	44.9	73.0	39.8	4.5	0.6	64.1	7.6	1.3
394	Chipstead and Hooley	9.0	22.6	8.1	1.2	-0.2	20.2	2.5	0.0
395	Tadworth and Walton on the Hill	-9.5	31.3	-9.3	0.0	-0.1	27.4	3.3	0.5
396	Nork	69.5	113.1	59.3	9.3	0.9	99.0	12.5	1.6
397	Banstead	408.3	328.3	380.8	24.4	3.1	302.2	22.9	3.1
398	Merstham	-2.1	-172.1	-14.9	13.8	-0.9	-161.0	-11.6	0.5
399	Tattenham Corner	9.2	19.6	8.4	0.7	0.1	17.5	1.8	0.3
400	Burgh Heath and Preston	433.4	352.7	361.2	71.7	0.6	297.5	53.9	1.3
504	East Surrey Hospital and Whitebushes	7.1	12.3	6.3	0.7	0.1	10.9	1.3	0.1
518	Reigate - Doversgreen and South Park	2.5	16.0	2.1	0.4	0.1	14.1	1.6	0.3
569	Component B2 - ERM 1 to 3 East of Redhill	45.2	97.0	40.1	4.7	0.4	86.3	9.8	0.9
570	Component B3 - ERM 4 to 6 Merstham	33.0	70.8	29.3	3.4	0.3	63.0	7.2	0.7
571	Component B4 - SSW 2 South Park	36.6	80.6	32.5	3.8	0.3	70.0	8.0	2.6
572	Component B4 - SSW 7 and 9 Doversgreen	17.1	37.6	15.2	1.8	0.2	32.7	3.7	1.2
573	Component B5 - Commercial Horley	691.8	153.0	640.5	46.6	4.7	141.6	10.3	1.0
574	Component A1 - Residential NW Sector Horley	194.1	419.2	172.4	19.9	1.8	373.1	42.2	3.9
Totals		**3028**	**3163**	**2717**	**294**	**17**	**2830**	**298**	**35**

Table 3.14: Scenario 7 proposed minus existing trip generation for the average AM peak hour (0700 – 1000)

Reigate and Banstead Zone		All Vehicles		Arrivals			Departures		
No.	**Name**	**Arrivals**	**Departures**	**Car**	**LGV**	**HGV**	**Car**	**LGV**	**HGV**
105	Redhill - Marketfield Way	34.6	23.2	31.3	2.8	0.5	37.5	-5.8	-8.6
106	Reigate - Reigate Hill	18.7	-21.6	16.1	2.2	0.4	1.6	-10.9	-12.3
110	Reigate - Reigate Road / Linkfield Corner	47.0	40.4	40.1	6.7	0.2	34.5	6.0	-0.1
113	Redhill - Earlswood	43.5	6.8	38.5	4.4	0.7	17.8	-4.3	-6.7
114	Redhill - Earlswood Common	64.4	59.4	60.0	4.1	0.4	55.5	3.5	0.4
116	Horley - East	44.4	25.9	39.6	4.4	0.4	23.4	2.5	0.0
163	Redhill - Holmethorpe East	209.2	107.4	180.8	22.9	5.5	102.6	8.1	-3.3
164	Redhill - Town Centre	39.1	41.6	34.1	4.9	0.2	37.2	4.5	-0.1
166	Horley Town Centre	-22.4	-252.4	-23.2	0.3	0.4	-45.7	-101.3	-105.4
264	Horley - Meath Green	72.8	42.6	64.8	7.0	1.0	41.3	2.6	-1.3
271	Horley - North East	399.2	251.3	355.7	38.9	4.6	223.9	24.5	2.9
272	Reigate - Gatton Park and Wray Park	24.6	6.6	21.7	2.4	0.5	12.5	-2.2	-3.6
273	Reigate - Nutley Lane area and Reigate Business Pk	-3.7	-27.9	-4.0	0.3	0.1	-7.4	-10.1	-10.4
276	Reigate - Woodhatch	3.0	-23.5	2.4	0.5	0.0	-3.7	-9.6	-10.2
287	Redhill - Redstone Hill and K'wood Business Centre	-120.0	-698.1	-118.7	-1.5	0.2	-122.1	-285.9	-290.0
288	Redhill - Brighton Rd	4.8	0.8	4.3	0.3	0.1	1.6	-0.3	-0.5
289	Redhill - Station	773.8	757.8	765.3	6.8	1.7	766.9	2.4	-11.6
290	Reigate Town Centre	4.6	-168.4	0.7	2.9	0.9	-28.2	-68.9	-71.3
293	Horley - Haroldslea	3.7	2.3	3.3	0.4	0.0	2.0	0.2	0.0
302	Reigate - Reigate Heath	9.1	-12.3	9.5	0.4	-0.8	4.0	-7.6	-8.7
308	South Earlswood	11.4	3.2	10.0	1.2	0.2	4.7	-0.5	-1.0
312	Redhill - Marketfield Way	104.7	-25.0	101.5	2.6	0.6	55.1	-38.4	-41.7
313	Redhill - St Johns	126.2	156.2	105.0	20.9	0.2	140.8	22.6	-7.2
376	Redhill - Town Centre	-1.7	-23.6	-2.1	0.3	0.1	-5.8	-8.7	-9.1
392	Salfords	14.9	-15.5	13.5	1.5	-0.1	16.9	-15.0	-17.5
393	Kingswood	81.6	36.0	71.3	8.9	1.4	47.0	-2.6	-8.5
394	Chipstead and Hooley	30.8	18.9	27.4	3.3	0.1	18.2	1.6	-0.9
395	Tadworth and Walton on the Hill	42.9	-55.0	38.6	3.9	0.5	8.1	-30.1	-33.0
396	Nork	126.4	78.6	110.6	14.2	1.6	77.0	5.8	-4.2
397	Banstead	485.3	384.1	449.9	31.0	4.4	451.0	-19.6	-47.3
398	Merstham	-142.6	-861.5	-138.9	-4.0	0.3	-126.2	-346.1	-389.1
399	Tattenham Corner	20.3	12.0	18.0	2.0	0.3	11.2	0.9	-0.1
400	Burgh Heath and Preston	447.3	401.3	376.2	69.6	1.4	336.0	64.3	0.9
504	East Surrey Hospital and Whitebushes	12.9	8.1	11.4	1.4	0.1	7.2	0.8	0.1
518	Reigate - Doversgreen and South Park	16.6	-4.0	14.5	1.8	0.3	5.1	-4.0	-5.0
569	Component B2 - ERM 1 to 3 East of Redhill	105.3	65.1	93.7	10.7	1.0	57.9	6.6	0.6
570	Component B3 - ERM 4 to 6 Merstham	76.9	47.5	68.3	7.8	0.7	42.2	4.8	0.4
571	Component B4 - SSW 2 South Park	85.4	52.8	75.9	8.7	0.8	46.9	5.4	0.5
572	Component B4 - SSW 7 and 9 Doversgreen	39.9	24.6	35.4	4.0	0.4	21.9	2.5	0.2
573	Component B5 - Commercial Horley	144.5	615.5	133.8	9.7	1.0	569.9	41.5	4.1
574	Component A1 - Residential NW Sector Horley	454.6	280.9	404.5	45.9	4.3	249.9	28.4	2.6
Totals		**3934**	**1362**	**3541**	**356**	**37**	**3190**	**-732**	**-1096**

Table 3.15: Scenario 7 trip generation for the average PM peak hour (1600 – 1900)

Scenario	Arrivals	Departures	Total	*Difference from Scenario 1*
Weekday Average AM Peak Hour (0700 – 1000)				
1	2180	2668	4849	-
2	2204	2724	4928	*79*
3	2225	2765	4991	*142*
4	2213	2739	4952	*104*
5	2234	2787	5020	*172*
6	2336	3010	5346	*497*
7	3028	3163	6191	*1342*
Weekday Average PM Peak Hour (1600 – 1900)				
1	3421	521	3942	-
2	3482	557	4039	*96*
3	3527	586	4113	*170*
4	3498	569	4067	*124*
5	3547	598	4145	*203*
6	3790	747	4536	*594*
7	3934	1362	5296	*1354*

Table 3.16: Net trip generation summary for all the Reigate and Banstead development sites captured in the pro-forma

3.5 External and Background Traffic Growth

3.5.1 Traffic growth forecasts have been based on the development trip generation calculated from TRICS set out above, and TEMPRO (Trip End Model Program).

3.5.2 TEMPRO, supplied by the Department for Transport, is based on the National Trip End Model (NTEM) used to derive forecast trip ends.

3.5.3 Outside the study area of Reigate and Banstead borough, standard TEMPRO factors have been used to growth vehicle trips.

3.5.4 In Reigate and Banstead, only background growth from TEMPRO has been applied, using alternative planning assumptions whereby jobs and population were changed to remain the same as the reference year 2014. This provided growth factors which only represent changes in demographics and car ownership.

3.5.5 Since the pro-forma supplies up to date estimates of housing and commercial developments and at a finer geographical scale than TEMPRO, the trip rates calculated from TRICS have been added to the background growth for the borough. Together these have provided the optimum estimates of demand in all of the model scenarios.

3.6 Vehicle Trip Distribution

3.6.1 The origins and destinations of trips travelling to and from the development sites, known as trip distribution, were derived from the Office of National Statistics (ONS) Census 2011 journey to work dataset.

3.6.2 The borough of Reigate and Banstead was split into the following four areas:

- North (Banstead, Tadworth, Kingswood and Hooley);
- Central west (Reigate and Woodhatch);
- Central east (Merstham, Redhill and Earlswood); and
- South (Salfords and Horley).

3.6.3 Separate distributions were comprised for each of these areas using the journey to work dataset. Since the majority of travel from home to work occurs in the AM

peak, it was assumed that the home end of the trip is the origin, and work is the destination. This assumption was reversed in the PM peak.

3.7 Forecast Network

3.7.1 The forecast network is an exact copy of the base but with the following changes listed below. These are committed or completed highway schemes of strategic importance.

- M25 junction 16 to 23 widening of the carriageway from dual 3 lanes to dual 4 lanes;
- M25 junction 27 to 30 widening of the carriageway from dual 3 lanes to dual 4 lanes;
- M25 new Cobham services that can be accessed from both sides of the carriageway and permits u-turns between junctions 9 and 10;
- M3 hard shoulder running between junctions 2 and 4a;
- A3 Hindhead tunnel and associated local junction alterations;
- Sheerwater link Road, Woking;
- Redhill balanced network;
- New signalled junction at A25 South Street with Junction Road and Junction Road converted to two-way between this junction and the Waitrose entrance, Dorking;
- Epsom Plan E highway improvements to the A24 town centre gyratory;
- Increase to two lanes of travel between Toshiba and Hospital roundabouts in an eastbound direction, Frimley;
- Improvements to the signalled junction of the A243 Leatherhead Road with B280 Fair Oak Lane and Rushett Lane, Malden Rushett; and
- Signalled junction of Egerton Road with Gill Avenue, Guildford, formerly known as Hospital roundabout.

3.7.2 Given that only vehicle trips accessing the Horley north west sector residential development site can use the new link road situated here, this has been reflected using centroid connectors, as described in **Section 2.5**.

3.8 Assignment

3.8.1 It has been assumed that there will be no issue with access to and egress from the development sites.

3.8.2 The trips within the forecast matrices have been fixed when assigned to the network. In comparison to a variable demand approach, where demand for each origin and destination pair can vary according to demand elsewhere to reflect behavioural change, this represents a worst case situation and makes the impact of the development sites more transparent to aid the decision making process.

3.8.3 The forecast matrices were assigned to the network using a fixed trip equilibrium assignment. This was performed using the method of successive averages (MSA) for 700 assignment iterations.

4 MODEL RESULTS AND ANALYSES

4.1 Network Statistics

4.1.1 **Tables 4.1** and **4.2** present the network summary statistics for the study area of Reigate and Banstead borough, for the weekday average AM (0700 – 1000) and PM (1600 – 1900) peak hours respectively. This is broken down by road type and for each model scenario.

4.1.2 In Scenario 1, the baseline urban growth, the total vehicle kilometres is 372,682 in the weekday average AM peak hour and 388,526 in the weekday average PM peak hour. During both time periods this increases by a maximum of 2% in scenario 7, which comprises all of the components (A, B1 to B5).

4.1.3 The total vehicle hours, during the weekday average AM peak hour (0700 – 1000), in scenario 1 is 6,710, and 7,005 in the weekday average PM peak hour (1600 – 1900). In scenario 7 this increases by 2 and 3% respectively for each time period.

4.1.4 The average vehicle speed is 55.5 kph during both time periods in scenario 1, and reduces by 1% in scenario 7.

4.1.5 Network statistics worsen by a maximum of 1% in scenarios 2, 3, 4 and 5 when compared with scenario 1. This indicates that these isolated clusters of development, captured in components B1 to B4 have little overall impact when analysing the highway network of Reigate and Banstead borough as a whole.

4.1.6 In scenario 6, which groups together components B1 to B4 and A1, there is a maximum increase of 3% in vehicle kilometres and vehicle hours on minor roads, during the weekday average AM peak hour (0700 – 1000). During the weekday average peak hour there is a maximum increase of 2%.

4.1.7 Minor roads suffer the greatest increase in vehicle kilometres and consequent reduction in network performance of all the road types. Many of the potential development sites under review are situated adjacent to these minor roads, such as sites located off Bletchingley Road in Merstham and Sandcross Lane in South Park.

Statistic	Road Type	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Values								
Vehicle kilometres (veh km)	Motorway	166,095	166,201	166,306	166,251	166,339	166,738	168,385
	A Trunk	5,915	5,915	5,927	5,921	5,923	5,943	5,955
	A Principal	107,257	107,419	107,407	107,312	107,501	107,911	109,125
	B Road	43,416	43,450	43,488	43,462	43,542	43,704	43,839
	Minor	49,999	50,161	50,415	50,421	50,505	51,407	51,715
Total		**372,682**	**373,146**	**373,543**	**373,368**	**373,809**	**375,704**	**379,019**
Vehicle hours (veh hr)	Motorway	1,731	1,733	1,734	1,733	1,735	1,741	1,763
	A Trunk	108	108	109	109	109	109	110
	A Principal	2,673	2,679	2,682	2,677	2,686	2,705	2,740
	B Road	1,122	1,124	1,125	1,124	1,127	1,132	1,137
	Minor	1,075	1,079	1,085	1,085	1,086	1,108	1,119
Total		**6,710**	**6,722**	**6,735**	**6,728**	**6,742**	**6,795**	**6,870**
Average speed (kph)	Motorway	96.0	95.9	95.9	95.9	95.9	95.8	95.5
	A Trunk	54.6	54.6	54.5	54.6	54.6	54.4	54.2
	A Principal	40.1	40.1	40.1	40.1	40.0	39.9	39.8
	B Road	38.7	38.7	38.7	38.7	38.6	38.6	38.5
	Minor	46.5	46.5	46.5	46.5	46.5	46.4	46.2
Weighted Average		**55.5**	**55.5**	**55.5**	**55.5**	**55.4**	**55.3**	**55.2**
Absolute Difference from Scenario 1								
Vehicle kilometres (veh km)	Motorway	-	106	211	156	244	643	2,290
	A Trunk	-	0	12	6	8	28	40
	A Principal	-	162	150	55	244	654	1,868
	B Road	-	34	72	46	126	288	423
	Minor	-	162	416	422	506	1,408	1,716
Total		**-**	**464**	**861**	**686**	**1,127**	**3,022**	**6,337**
Vehicle hours (veh hr)	Motorway	-	2	3	2	4	10	32
	A Trunk	-	0	1	1	1	1	2
	A Principal	-	6	9	4	13	32	67
	B Road	-	2	3	2	5	10	15
	Minor	-	4	10	10	11	33	44
Total		**-**	**12**	**25**	**18**	**32**	**85**	**159**
Average speed (kph)	Motorway	-	-0.1	-0.1	-0.1	-0.1	-0.2	-0.5
	A Trunk	-	0.0	-0.1	0.0	0.0	-0.2	-0.4
	A Principal	-	0.0	0.0	0.0	-0.1	-0.2	-0.3
	B Road	-	0.0	0.0	0.0	-0.1	-0.1	-0.2
	Minor	-	0.0	0.0	0.0	0.0	-0.1	-0.3
Weighted Average		**-**	**0.0**	**0.0**	**0.0**	**-0.1**	**-0.2**	**-0.3**
Percentage Change from Scenario 1								
Vehicle kilometres (veh km)	Motorway	-	0%	0%	0%	0%	0%	1%
	A Trunk	-	0%	0%	0%	0%	0%	1%
	A Principal	-	0%	0%	0%	0%	1%	2%
	B Road	-	0%	0%	0%	0%	1%	1%
	Minor	-	0%	1%	1%	1%	3%	3%
Total		**-**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**
Vehicle hours (veh hr)	Motorway	-	0%	0%	0%	0%	1%	2%
	A Trunk	-	0%	1%	1%	1%	1%	2%
	A Principal	-	0%	0%	0%	0%	1%	3%
	B Road	-	0%	0%	0%	0%	1%	1%
	Minor	-	0%	1%	1%	1%	3%	4%
Total		**-**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**
Average speed (kph)	Motorway	-	0%	0%	0%	0%	0%	-1%
	A Trunk	-	0%	0%	0%	0%	0%	-1%
	A Principal	-	0%	0%	0%	0%	0%	-1%
	B Road	-	0%	0%	0%	0%	0%	-1%
	Minor	-	0%	0%	0%	0%	0%	-1%
Weighted Average		**-**	**0%**	**0%**	**0%**	**0%**	**0%**	**-1%**

Table 4.1: Weekday average AM peak hour (0700 – 1000) network summary statistics for Reigate and Banstead

Statistic	Road Type	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Values								
Vehicle kilometres (veh km)	Motorway	176,052	176,232	176,244	176,220	176,250	176,953	178,640
	A Trunk	6,936	6,935	6,936	6,938	6,954	6,923	6,890
	A Principal	111,739	111,884	112,040	111,926	112,231	113,197	114,107
	B Road	44,335	44,420	44,469	44,429	44,460	44,764	45,127
	Minor	49,464	49,614	49,912	49,858	49,718	50,213	50,632
Total		**388,526**	**389,086**	**389,601**	**389,371**	**389,614**	**392,050**	**395,396**
Vehicle hours (veh hr)	Motorway	1,881	1,884	1,884	1,884	1,885	1,898	1,920
	A Trunk	135	135	135	135	135	134	134
	A Principal	2,793	2,798	2,805	2,801	2,811	2,847	2,881
	B Road	1,141	1,143	1,145	1,143	1,144	1,155	1,165
	Minor	1,056	1,060	1,067	1,065	1,062	1,077	1,089
Total		**7,005**	**7,020**	**7,037**	**7,029**	**7,038**	**7,112**	**7,189**
Average speed (kph)	Motorway	93.6	93.6	93.5	93.5	93.5	93.3	93.0
	A Trunk	51.6	51.5	51.5	51.5	51.5	51.5	51.5
	A Principal	40.0	40.0	39.9	40.0	39.9	39.8	39.6
	B Road	38.9	38.9	38.8	38.9	38.9	38.8	38.7
	Minor	46.8	46.8	46.8	46.8	46.8	46.6	46.5
Weighted Average		**55.5**	**55.4**	**55.4**	**55.4**	**55.4**	**55.1**	**55.0**
Absolute Difference from Scenario 1								
Vehicle kilometres (veh km)	Motorway	-	180	192	168	198	901	2,588
	A Trunk	-	-1	0	2	18	-13	-46
	A Principal	-	145	301	187	492	1,458	2,368
	B Road	-	85	134	94	125	429	792
	Minor	-	150	448	394	254	749	1,168
Total		**-**	**560**	**1,075**	**845**	**1,088**	**3,524**	**6,870**
Vehicle hours (veh hr)	Motorway	-	3	3	3	4	17	39
	A Trunk	-	0	0	0	0	-1	-1
	A Principal	-	5	12	8	18	54	88
	B Road	-	2	4	2	3	14	24
	Minor	-	4	11	9	6	21	33
Total		**-**	**15**	**32**	**24**	**33**	**107**	**184**
Average speed (kph)	Motorway	-	0.0	-0.1	-0.1	-0.1	-0.3	-0.6
	A Trunk	-	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	A Principal	-	0.0	-0.1	0.0	-0.1	-0.2	-0.4
	B Road	-	0.0	-0.1	0.0	0.0	-0.1	-0.2
	Minor	-	0.0	0.0	0.0	0.0	-0.2	-0.3
Weighted Average		**-**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.4**	**-0.5**
Percentage Change from Scenario 1								
Vehicle kilometres (veh km)	Motorway	-	0%	0%	0%	0%	1%	1%
	A Trunk	-	0%	0%	0%	0%	0%	-1%
	A Principal	-	0%	0%	0%	0%	1%	2%
	B Road	-	0%	0%	0%	0%	1%	2%
	Minor	-	0%	1%	1%	1%	2%	2%
Total		**-**	**0%**	**0%**	**0%**	**0%**	**1%**	**2%**
Vehicle hours (veh hr)	Motorway	-	0%	0%	0%	0%	1%	2%
	A Trunk	-	0%	0%	0%	0%	-1%	-1%
	A Principal	-	0%	0%	0%	1%	2%	3%
	B Road	-	0%	0%	0%	0%	1%	2%
	Minor	-	0%	1%	1%	1%	2%	3%
Total		**-**	**0%**	**0%**	**0%**	**0%**	**2%**	**3%**
Average speed (kph)	Motorway	-	0%	0%	0%	0%	0%	-1%
	A Trunk	-	0%	0%	0%	0%	0%	0%
	A Principal	-	0%	0%	0%	0%	-1%	-1%
	B Road	-	0%	0%	0%	0%	0%	-1%
	Minor	-	0%	0%	0%	0%	0%	-1%
Weighted Average		**-**	**0%**	**0%**	**0%**	**0%**	**-1%**	**-1%**

Table 4.2: Weekday average PM peak hour (1600 – 1900) network summary statistics for Reigate and Banstead

4.2 Level of Service (LOS)

4.2.1 Level of service (LOS) is a term used to qualitatively describe the operating conditions of a section of road or turning movement at a junction based on factors such as speed, travel time and delay. The level of service is designated with a letter, A to F, with A representing the best operating conditions and F the worst. **Table 4.3** describes the performance rating of each letter A to F.

A	Free flow	Traffic flows at or above the posted speed limit and motorists have complete mobility between lanes.
B	Reasonable free flow	LOS A speeds are maintained, manoeuvrability within the traffic stream is slightly restricted. Motorists still have a high level of physical and psychological comfort.
C	Stable flow	Ability to manoeuvre through lanes is noticeably restricted and lane changes require more driver awareness. Most experienced drivers are comfortable, roads remain safely below but efficiently close to capacity, and posted speed is maintained. This is the target LOS for some urban and most rural roads.
D	Approaching unstable flow	Speeds slightly decrease as traffic volume slightly increases. Freedom to manoeuvre within the traffic stream is much more limited and driver comfort levels decrease.
E	Unstable flow, operating at capacity	Flow becomes irregular and speed varies rapidly because there are virtually no usable gaps to manoeuvre in the traffic stream and speeds rarely reach the posted limit. Any disruption to traffic flow, such as merging or lane changes, will create a shock wave affecting traffic upstream. Drivers' level of comfort becomes poor.
F	Forced or breakdown of flow	Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Travel time cannot be predicted, with generally more demand than capacity.

Table 4.3: A to F Level of Service (LOS) categories

4.2.2 The methodology for calculating the LOS is set out in *The Highway Capacity Manual* (1994) and has been applied to the analysis of both link flow and junction delay to aid the interpretation of the model results. The calculated LOS has been colour coded using the traffic light colours: green; amber; and red.

4.3 Ratio of Flow to Capacity (RFC)

4.3.1 Another tool for assessing the performance of a stretch of road or a turning movement at a junction is the ratio of flow to capacity (RFC) measure.

4.3.2 An RFC value greater than 1 means that the stretch of road or turning movement has a higher level of traffic flow than its theoretical capacity. As a result flow breakdown and extensive queues can be expected.

4.3.3 With the exception of signalised junctions, an RFC value below 0.85 is considered acceptable as there is still scope to accommodate future growth. For signalled junctions the threshold is higher at 0.90. A value of between 0.85 and 1, or 0.90 and 1 for signalled junctions, suggests the stretch of road or junction is beginning to struggle with the weight of traffic causing delay, queues and driver stress.

4.3.4 As with LOS, RFC has been applied to the analysis of both link flow and junction delay to aid the interpretation of the model results. All presented RFC between 0.85 and 1, or 0.90 and 1 for signalled junctions, have been marked in orange text, and in red text for RFC values greater than 1.

4.4 Increase in Link Flow

4.4.1 **Tables 4.4** and **4.5** present the top 5 links which have the greatest increase in flow in scenarios 2 to 7 when compared with scenario 1 for the weekday average AM (0700 – 1000) and PM (1600 – 1900) peak hours respectively.

4.4.2 Scenario 2 contains the urban extension sites options in Horley, totalling 215 residential units, together with the baseline urban growth of scenario 1. This totals 215 residential units. The maximum difference in vehicle flow between this and scenario 1 is just 17 vehicles per hour (vph) in the weekday average AM peak and 19 vph during the weekday average PM peak. All the roads listed are in close proximity to the proposed development sites. With an RFC value of approximately 1, which indicates the road is at capacity, suggests that the B2036 Balcombe and C64 Massetts Roads will struggle with any increase in flow, however small.

4.4.3 There is also little difference in vehicle flow between scenario 3 and scenario 1 during both time periods. Scenario 3 contains the urban extension sites options in East Redhill along the A25 corridor totalling 370 residential units, together with the baseline urban growth of scenario 1. The maximum difference in flow is 37 vph during the weekday average AM peak hour, and 32 vph in the average PM peak hour. The largest increases are all clustered around the proposed development sites. In 2031 the model shows high RFC values for Cormongers Lane and the A25 Redstone Hill, which will suffer further from these modest increases in vehicle flow.

4.4.4 Scenario 4 contains the urban extension site options in East Merstham, comprising 270 residential units, together with the baseline urban growth of scenario 1. Similarly, when compared with scenario 1 the difference in vehicle flow is minimal with a maximum of 43 and 53 vph on C69 Bletchingley Road, Merstham, during the weekday average AM and PM peak hours respectively. The only road listed which has an RFC value greater than 1 and a level of service of F is the A23 London Road South in Merstham. This means that the level of flow on the current carriageway alignment will cause severe delay and stress for drivers.

4.4.5 In scenario 5 the maximum difference in flow compared with scenario 1 is 50 vph on Sandcross Lane, South Park, during the weekday average AM peak. Scenario 5 contains the urban extension site options in south west Reigate, totalling 450 residential units, together with the baseline urban growth of scenario 1. The A217 Cockshot Hill is listed with an RFC value greater than 1 and a corresponding F for LOS indicating that any increase in flow here will attribute to the large delay here.

4.4.6 Scenario 6 combines all the components of scenarios 2 to 5, as well as the baseline urban growth of scenario 1. In the weekday average AM peak hour, there is very little increase in vehicle flow between scenarios 6 and 1. The maximum difference is 61 vph on A217 Reigate Hill. During the weekday average PM peak hour, however, there are much larger differences of up to 337 vph. This is a result of vehicles re-routeing, particularly east of Redhill and the roads between Redhill and Reigate. This phenomenon is also reflected in scenario 7.

4.4.7 Scenario 7 contains all the components of scenario 6, together with the potential strategic employment site of 150,000 m^2 GFA to the south of Horley. It has been estimated to generate more than 750 vehicle trips in both time periods. As a result, the largest increases in vehicle flow are shown to be on the M23 and A23 in Horley adjacent to the development site. For example, during the weekday average AM peak hour the model suggests an increase of 329 vph on the M23 Airport Way between junctions 9 and 9a in a westbound direction of travel. In the

weekday average PM peak hour, an increase of 280 vph has been forecasted for this same section of the M23 but in the opposite direction of travel.

Rank	Name	Link Ref.	Increase in Flow from Scenario 1 (vph)	RFC	LOS
Scenario 2 (baseline urban growth and Horley)					
1	B2036 Balcombe Road northbound, Horley	8874, 2	17	1.02	F
2	A23 Bonehurst Road northbound, Horley	10097, 1	10	0.71	E
3	Victoria Road westbound, Horley	15675, 1	9	0.23	B
4	Massetts Road westbound, Horley	15668, 2	9	0.23	B
5	Russells Crescent westbound, Horley	15676, 1	9	0.23	A
Scenario 3 (baseline urban growth and east Redhill)					
1	A25 Nutfield Road westbound, Redhill	19929, 2	37	0.47	D
2	C222 Redstone Hollow southbound, Redhill	8925, 1	30	0.39	C
3	Gloucester Road westbound, Redhill	17545, 1	29	0.52	D
4	A25 Redstone Hill westbound, Redhill	8924, 1	27	0.90	E
5	Whitepost Hill westbound, Redhill	17536, 1	26	0.38	B
Scenario 4 (baseline urban growth and east Merstham)					
1	C69 Bletchingley Road westbound, Merstham	15874, 2	43	0.45	D
2	Frenches Road southbound, Holmethorpe	15861, 2	22	0.16	B
3	New Battlebridge Lane westbound, Holmethorpe	17041, 1	21	0.53	D
4	Gattom Bottom westbound, Reigate Hill	17561, 1	20	0.27	B
5	Nutfield Road southbound, Merstham	15865, 2	20	0.68	C
Scenario 5 (baseline urban growth and south west Reigate)					
1	Sandcross Lane northbound, South Park	19920, 2	50	0.22	B
2	A217 Cockshot Hill northbound, South Park	19588, 2	41	1.19	F
3	Park Lane East eastbound, South Park	19919, 2	40	0.30	C
4	B2034 Lesbourne Road eastbound, Reigate	8899, 1	29	0.61	D
5	Circulatory carriageway of M25 junction 8 roundabout junction with A217	11059, 1	26	0.57	C
Scenario 6 (baseline urban growth, Horley, east Redhill, east Merstham and south west Reigate)					
1	A217 Reigate Hill northbound, Reigate Hill	17562, 1	61	0.44	D
2	Circulatory carriageway of M25 junction 8 roundabout junction with A217	11059, 1	59	0.58	D
3	M25 junction 8 to 9 clockwise	11939, 2	50	0.74	E
4	M25 junction 8 clockwise on-slip	17840, 2	50	0.48	D

Rank	Name	Link Ref.	Increase in Flow from Scenario 1 (vph)	RFC	LOS
5	A217 Cockshot Hill northbound, South Park	19588, 2	50	1.20	F
Scenario 7 (baseline urban growth, Horley, east Redhill, east Merstham, south west Reigate and south of Horley)					
1	M23 Airport Way junction 9 to 9a westbound, Horley	4253, 2	329	0.62	C
2	A23 Airport Way eastbound, Horley	2522, 1	190	0.46	D
3	M23 junctions 8 to 9 southbound, Horley	9930, 1	143	0.78	D
4	Lee Street eastbound, Horley	17518, 1	113	0.70	E
5	M25 anticlockwise junction 8 to 7	8859, 1	106	0.62	C

Table 4.4: Weekday average AM peak hour (0700 – 100) top 5 links with the highest increase in flow compared with scenario 1

Rank	Name	Link Ref.	Increase in Flow from Scenario 1 (vph)	RFC	LOS
Scenario 2 (baseline urban growth and Horley)					
1	B2036 Balcombe Road southbound, Horley	8874, 1	19	0.97	E
2	C64 Massetts Road eastbound, Horley	15668, 1	17	0.97	E
3	Russells Crescent westbound, Horley	15676, 2	15	0.46	D
4	C64 Victoria Road eastbound, Horley	15675, 2	15	0.46	D
5	A217 Reigate Road northbound, Earlswood	8866, 1	14	0.59	C
Scenario 3 (baseline urban growth and east Redhill)					
1	Fullers Wood Road southbound, Nutfield	17690, 1	32	0.36	C
2	A25 Nutfield Road westbound, Redhill	17589, 1	31	0.53	D
3	Brook Road southbound, Redhill	17527, 2	31	0.62	D
4	Hooley Lane eastbound, Redhill	16134, 2	31	0.62	D
5	Cormongers Lane southbound, Redhill	15871, 2	27	0.96	E
Scenario 4 (baseline urban growth and east Merstham)					
1	C69 Bletchingley Road eastbound, Merstham	15874, 1	53	0.26	B
2	C69 School Hill eastbound, Merstham	15863, 1	23	0.39	C
3	C69 Bletchingley Road westbound, Merstham	15874, 2	22	0.60	D
4	Nutfield Road northbound, Merstham	15865, 1	22	0.30	C

Rank	Name	Link Ref.	Increase in Flow from Scenario 1 (vph)	RFC	LOS
5	A23 London Road South northbound, Merstham	17040, 2	17	1.58	F
Scenario 5 (baseline urban growth and south west Reigate)					
1	Sandcross Lane southbound, South Park	19920, 1	49	0.30	C
2	A242 Gatton Park Road southbound, Wray Common	8812, 2	43	0.82	E
3	A217 Dovers Green Road southbound, Salfords	19916, 1	41	0.60	D
4	Park Lane East westbound, South Park	19919, 1	39	0.42	C
5	Frenches Road westbound, Redhill	15862, 2	37	0.50	D
Scenario 6 (baseline urban growth, Horley, east Redhill, east Merstham and south west Reigate)					
1	Cormongers Lane southbound, Nutfield	15857, 2	337	0.58	D
2	A25 Nutfield Road eastbound, Redhill	8927, 2	248	0.57	D
3	A242 Gatton Park Road southbound, Wray Common	8812, 2	149	0.91	E
4	Fullers Wood Road southbound, Nutfield	17690, 1	126	0.44	D
5	A242 Croydon Road southbound, Reigate	17556, 1	100	0.58	D
Scenario 7 (baseline urban growth, Horley, east Redhill, east Merstham, south west Reigate and south of Horley)					
1	Cormongers Lane southbound, Nutfield	15857, 2	333	0.57	D
2	M23 Airport Way junction 9a to 9 eastbound, Horley	4253, 1	280	0.49	B
3	A25 Nutfield Road eastbound, Redhill	8927, 2	250	0.57	D
4	A242 Gatton Park Road southbound, Wray Common	8812, 2	147	0.91	E
5	M23 junction 8 northbound off-slip to M25 junction 7	11957, 1	129	0.84	D
6	Fullers Wood Road southbound, Nutfield	17690, 1	122	0.43	B
7	M23 mainline junction 9 to 8 northbound	11982, 2	121	0.73	E
8	M25 mainline anticlockwise junction 8 to 7	8859, 1	100	0.91	E

Table 4.5: Weekday average PM peak hour (1600 – 1900) top 5 links with the highest increase in flow compared with scenario 1 (in scenario 7 the top 8 links are listed to show all those with an increase of 100 or more)

4.4.1 Flow difference plots for the entire study area of Reigate and Banstead have been presented for scenarios 6 and 7 in **Figures 4.1** and **4.2** respectively. Bandwidths coloured red show an increase in flow, whereas those coloured blue represent a decrease in flow, with their size being proportional to the increase or decrease. Plots have not been provided for the other scenarios as the differences are too small to be viewed at this scale.

4.4.2 **Figure 4.1**, which presents the change in flow between scenarios 1 and 6, shows that there is very little difference in flow during the weekday average AM peak hour. However, during the weekday average PM peak hour, as described above, there are large differences in flow particularly east of Redhill, and to a much less extent in the area between Reigate and Redhill. With the increase in vehicle trips from the potential development sites, there is increased pressure on the network. As a result, vehicles find the optimum routes between their origin and destination which can lead to route switching, particularly as a change in distribution at a junction upsets its original balance. Although these roads experience a large increase in flow they continue to operate well within capacity. The only exception is A242 Gatton Park Road southbound at Wray Common, which is forecasted to have an RFC of 0.91 and a LOS of E.

4.4.3 **Figure 4.2** presents the difference in flow between scenarios 1 and 7. This scenario contains all potential urban extension site options and the strategic employment site, and hence is the worst impacted of all the scenarios. It can be seen that the largest increases in flow are centred on the main routes which feed Horley, east Redhill, Merstham and South Park, where potential development sites have been identified for review. It also shows similar re-routeing of traffic during the weekday average PM peak hour as in scenario 6.

4.4.4 The model also suggests there will be an increase in vehicle flow on the M25, especially between junctions 8 and 9 in both directions of travel. Further analysis of the traffic impact on the motorways contained within the borough of Reigate and Banstead is provided in **Section 4.7**.

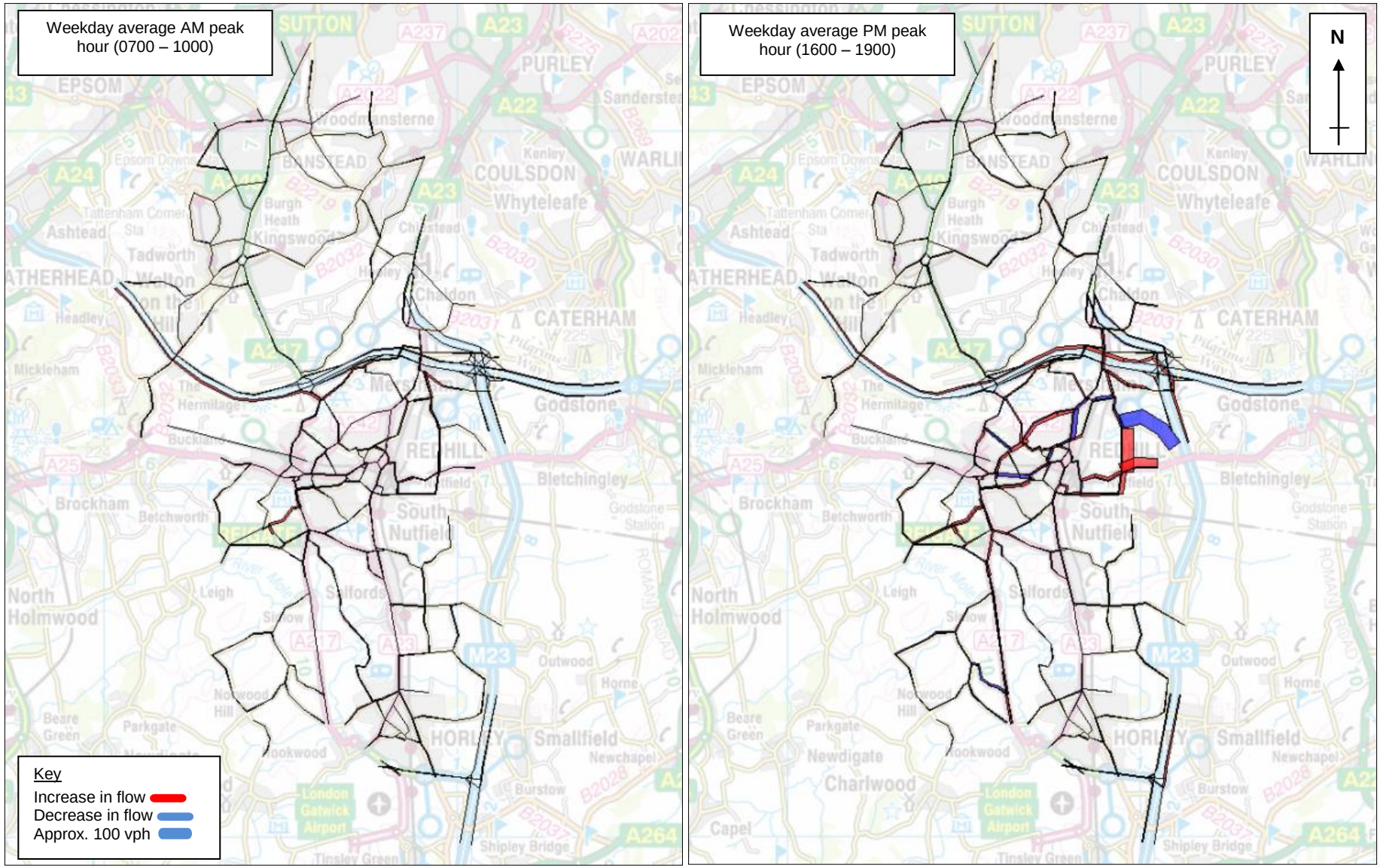

Figure 4.1: Flow difference plots between scenarios 6 and 1

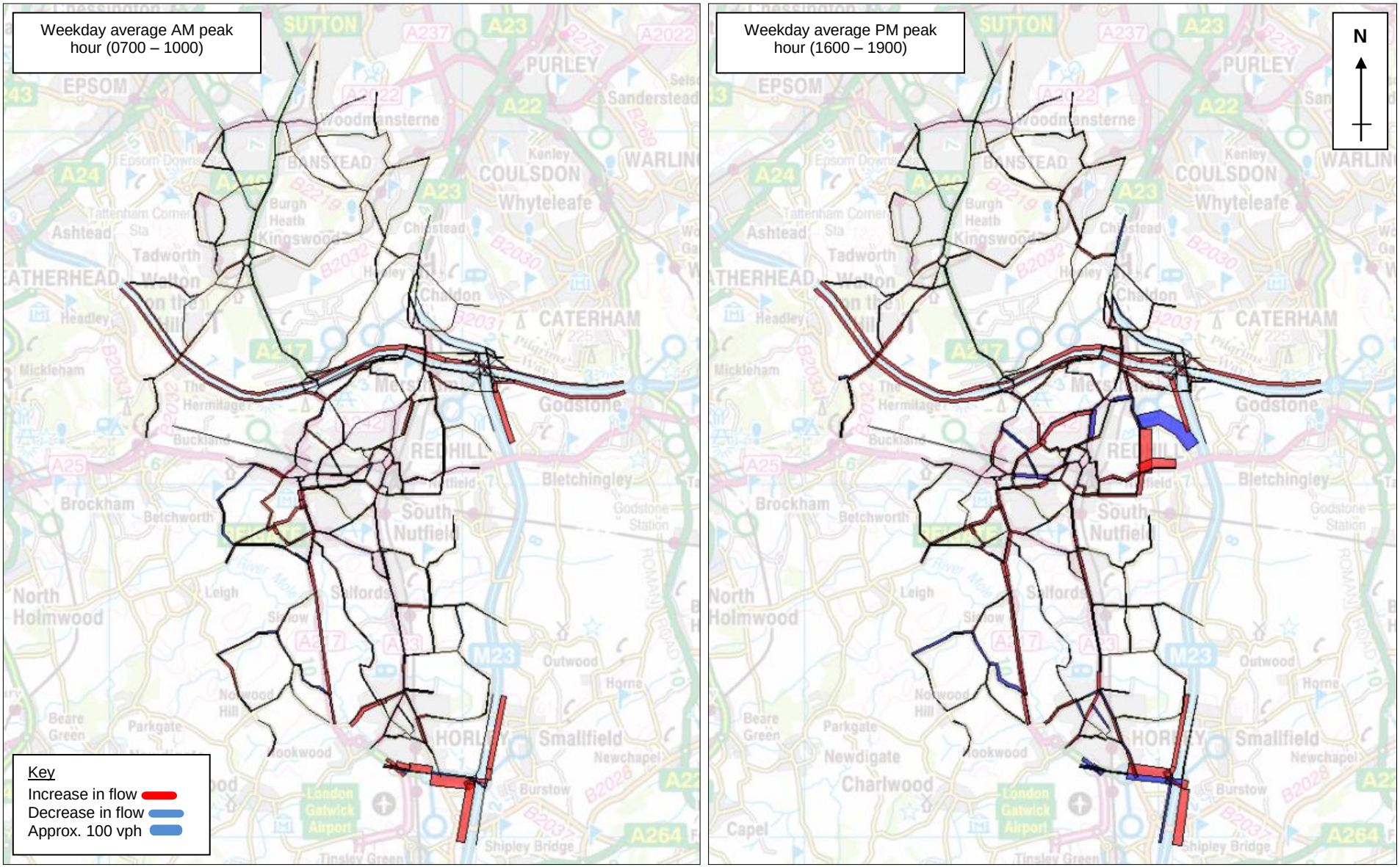

Figure 4.2: Flow difference plots between scenarios 7 and 1

4.5 Link Capacity

4.5.1 **Figures 4.3** and **4.9** show which links are nearly operating at, or above capacity, for each of the scenarios. Links shaded orange have an RFC value of between 0.85 and 1, whereas those shaded red have an RFC above 1.

4.5.2 All of the weekday average AM peak hour (0700 – 1000) plots are similar. Likewise there is very little difference between the weekday average PM peak hour (1600 – 1900) diagrams.

4.5.3 North of the M25, the A217 Belmont Rise and B2230 Brighton Road at the county boundary with the London borough of Sutton, together with sections of A23 Brighton Road, A240 Reigate Road, A2022 Fir Tree Road, B2218 Sutton Lane, B2220 Tadworth Street, B2221 Great Tattenhams and Tattenham Way, B2232 Outwood Lane, and Shelvers Way are shown as having limited, or operating above capacity during peak times.

4.5.4 In Reigate, the A217 north and south of the town, A25 Reigate Road, West Street and Bancroft Road, A2044 Woodhatch Road, and A242 Croydon Road are also shown as having limited available capacity to accommodate the traffic flow, or are operating above capacity, resulting in vehicle delay and driver stress.

4.5.5 In Redhill, the A23 through Merstham, on the approaches to Redhill and Horley Road in South Earlswood, together with A25 Redstone Hill and Nutfield Road, and a small section of Linkfield Lane, are also highlighted as operating near to or above their theoretical capacities.

4.5.6 Spare road capacity is also limited or non-existent on the A23 Brighton Road, B2036 Balcombe Road, and a small section of Lee Street in Horley.

4.5.7 In addition, the M25 mainline between junctions 8 and 7 in an anticlockwise direction, the M23 mainline between junctions 9 and 10 in a southbound direction, the M25 clockwise off-slip at junction 7 for the M23, and the M23 northbound off-slip at junction 8 for the M25, are shown to be under high stress from vehicle demand.

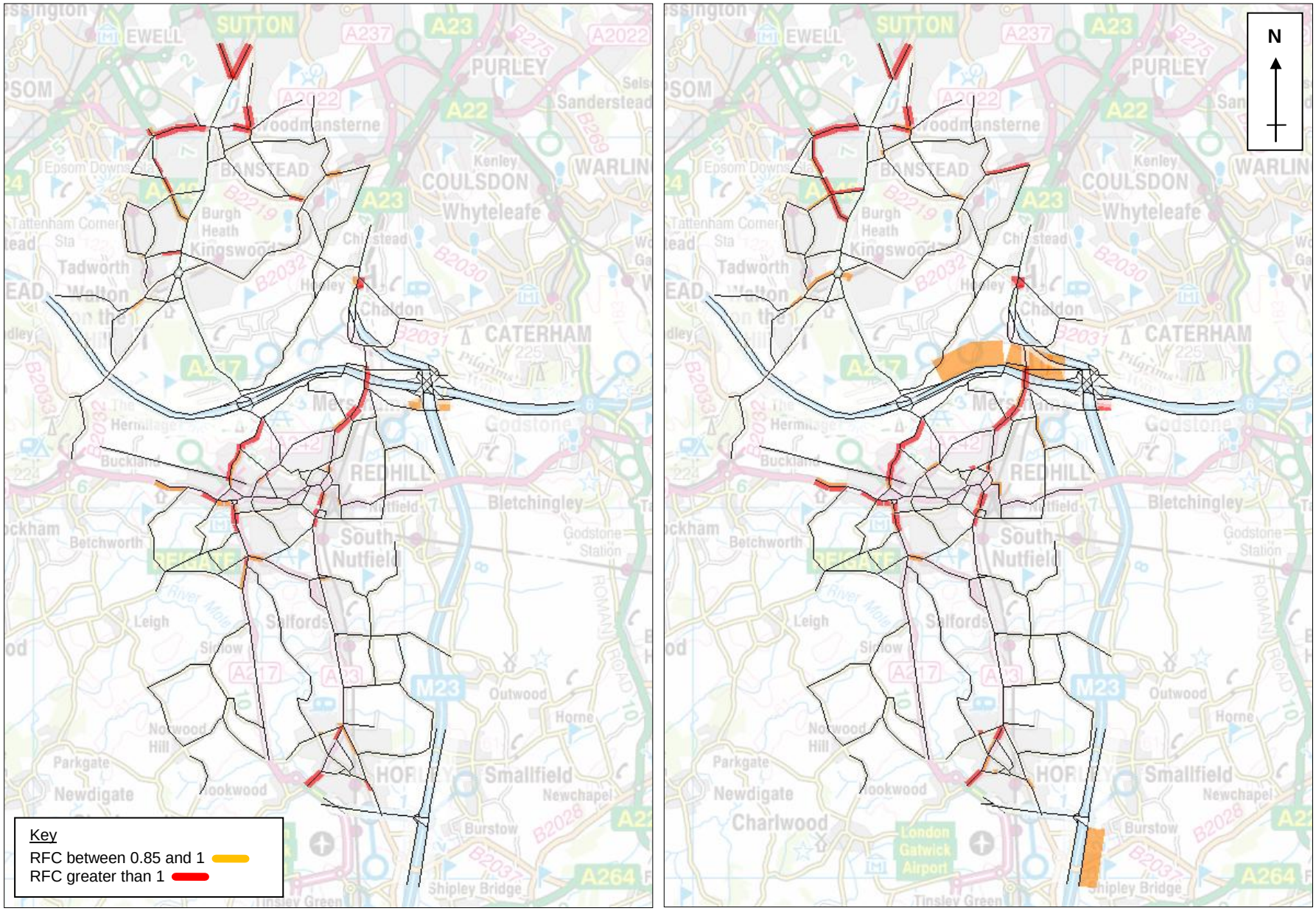

Figure 4.3: Scenario 1 link values RFC greater than 0.85

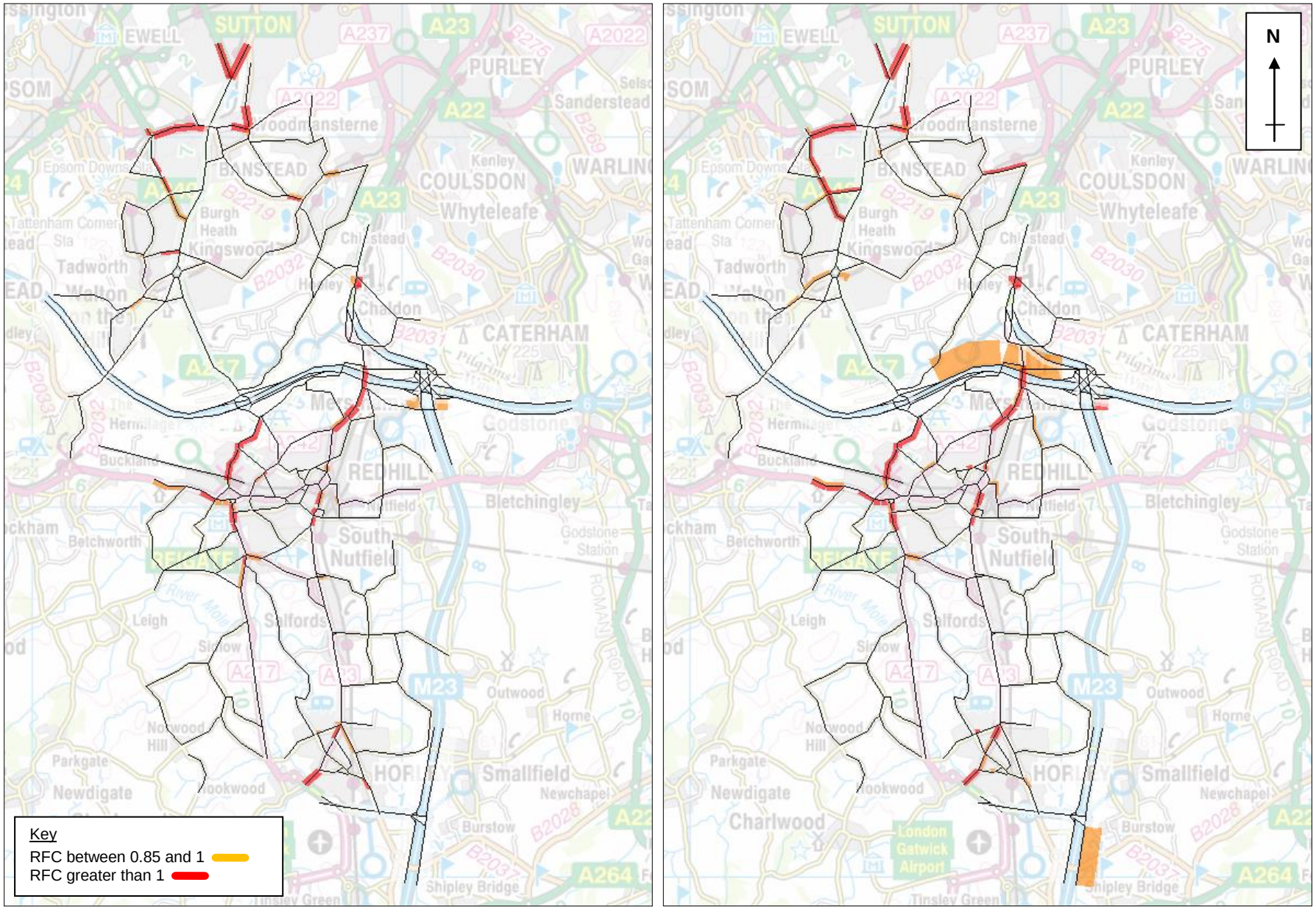

Figure 4.4: Scenario 2 link values RFC greater than 0.85

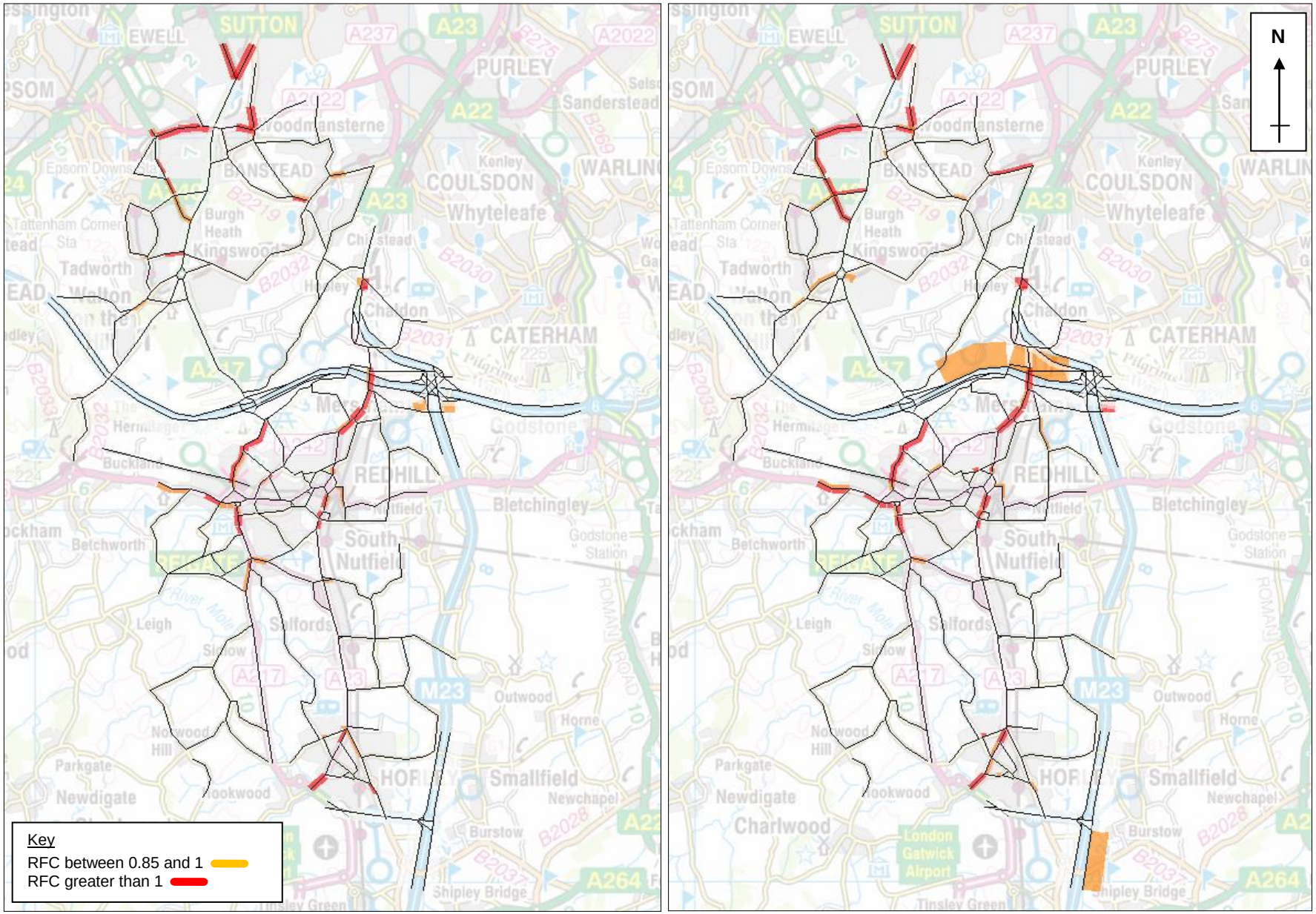

Figure 4.5: Scenario 3 link values RFC greater than 0.85

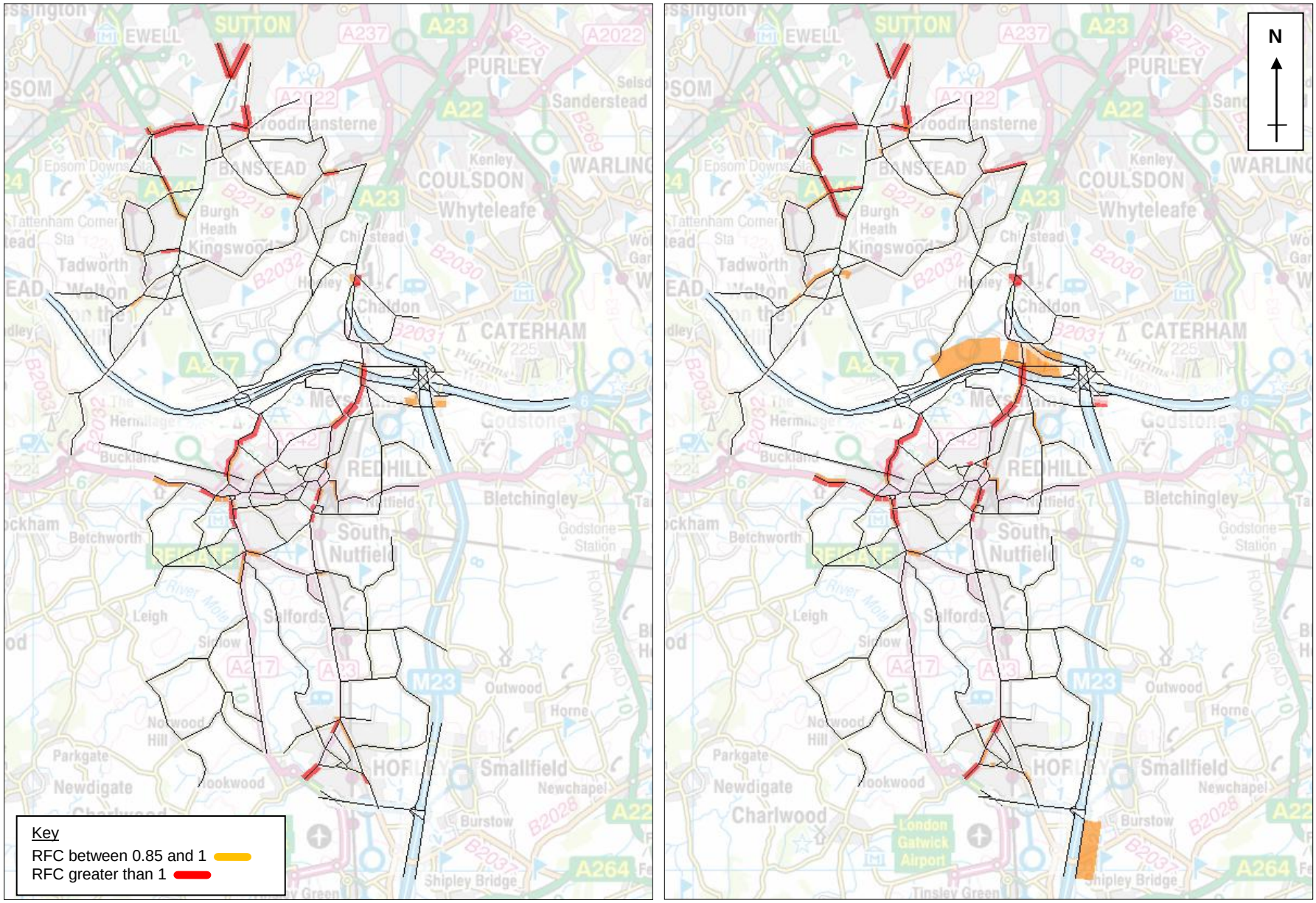

Figure 4.6: Scenario 4 link values RFC greater than 0.85

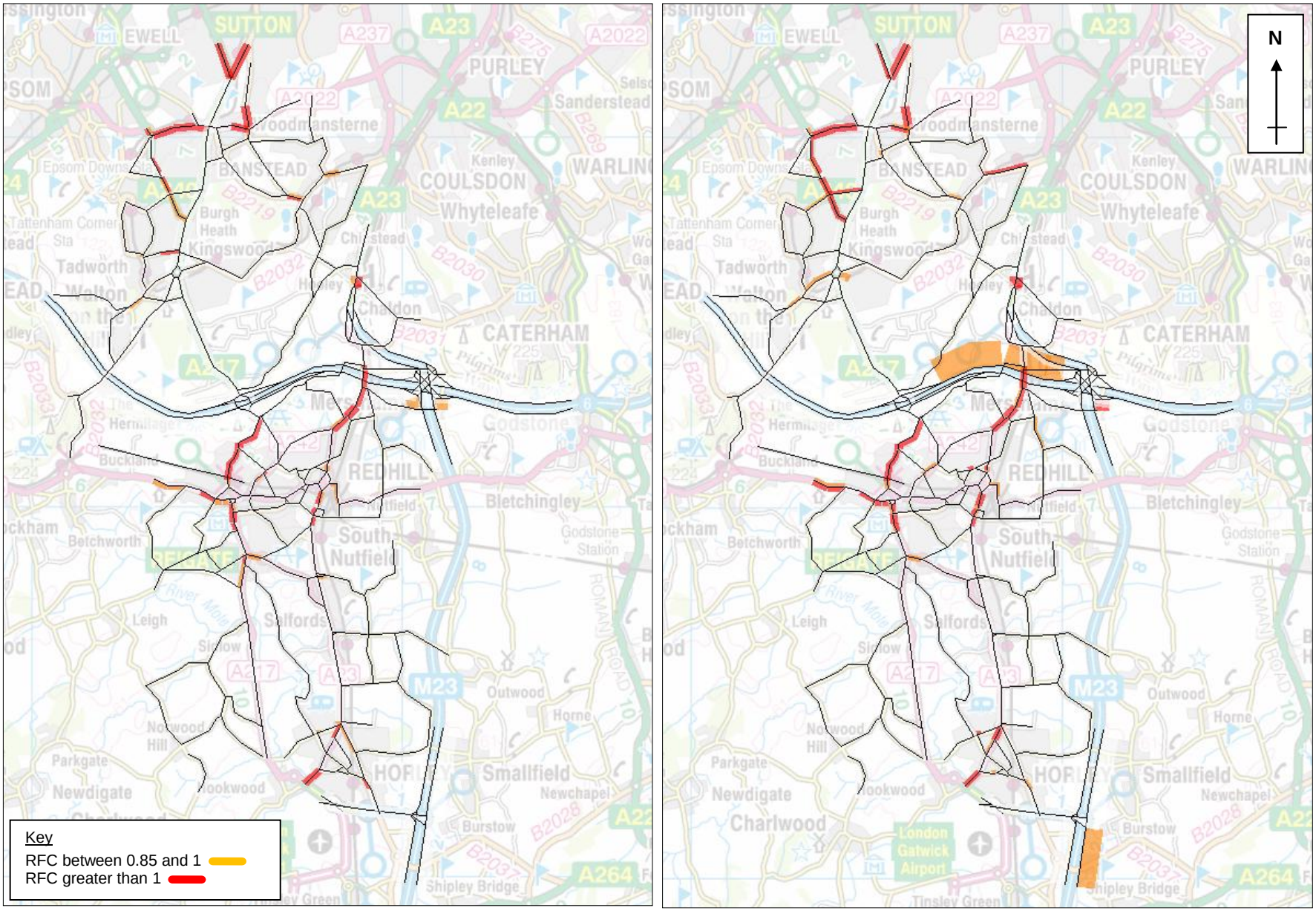

Figure 4.7: Scenario 5 link values RFC greater than 0.85

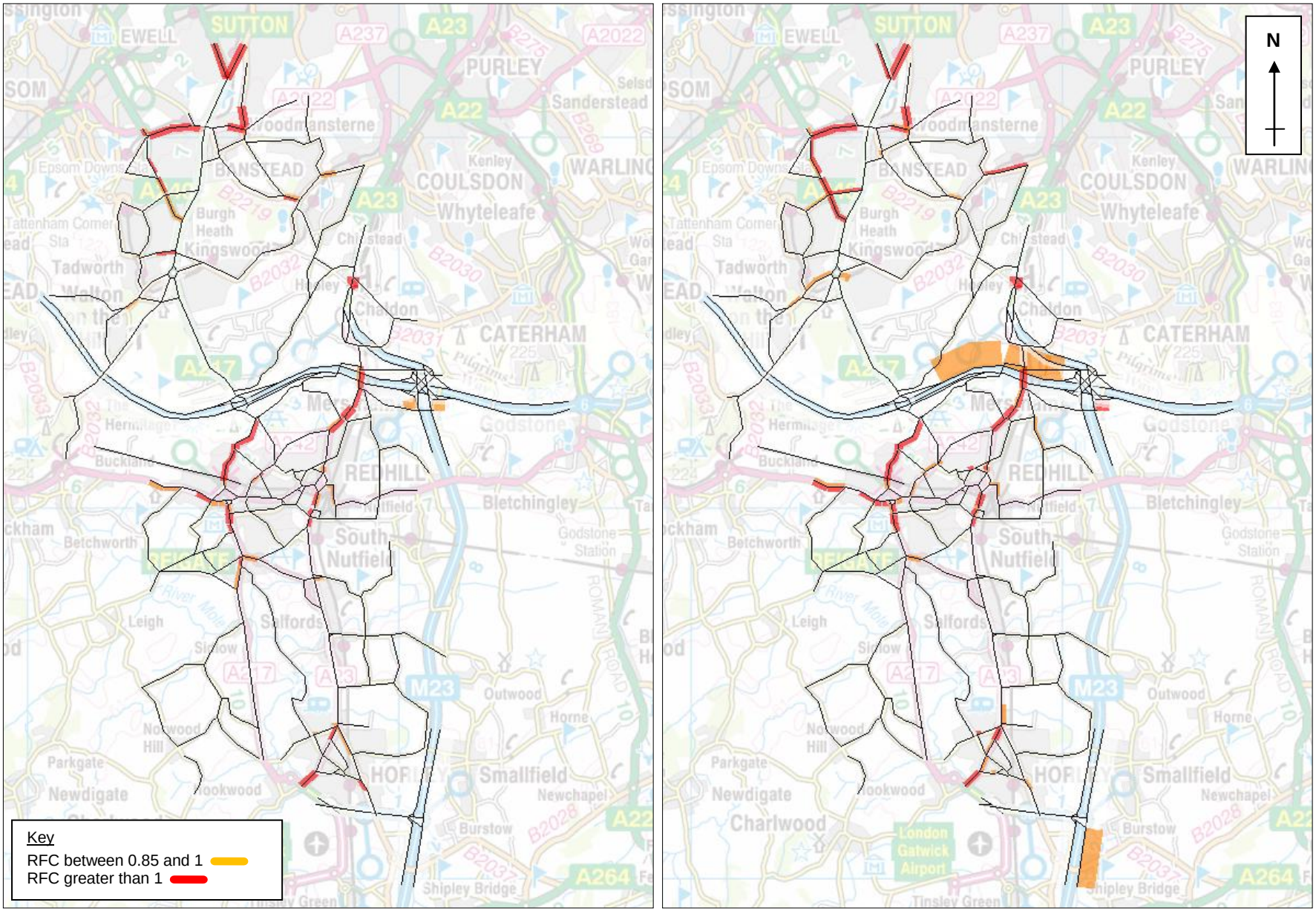

Figure 4.8: Scenario 6 link values RFC greater than 0.85

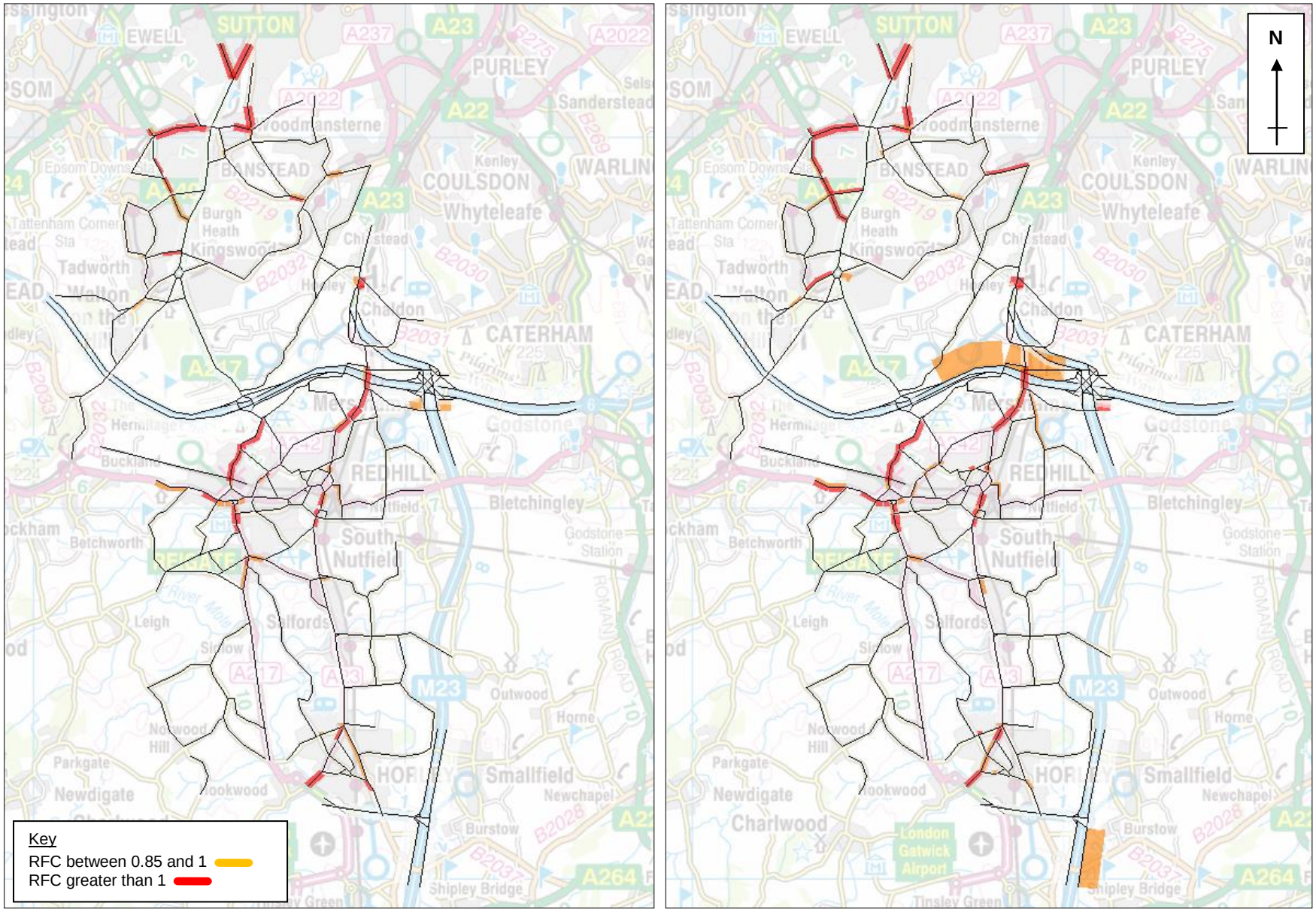

Figure 4.9: Scenario 7 link values RFC greater than 0.85

4.6 Increase in Junction Delay

4.6.1 **Tables 4.6** and **4.7** present the top 5 junctions which have the greatest increase in average delay in scenarios 2 and 7 when compared with scenario 1 for the weekday average AM (0700 – 1000) and PM (1600 – 1900) peak hours respectively.

4.6.2 During the weekday average AM peak hour, the maximum increase in delay is less than 5 seconds for scenarios 2 to 5 when compared with scenario 1. Even in scenario 6, which combines all the components of scenarios 1 to 5, the maximum increase in average vehicle delay at any junction within Reigate and Banstead borough is just 8 seconds. This is at the priority junction of A217 Dovers Green Road with Sandcross Lane in South Park, which also receives the highest increase in average vehicle delay of 16 seconds in scenario 7 which adds the proposed commercial development south of Horley to those evaluated in scenario 6.

4.6.3 In the weekday average PM peak, the increase in average vehicle delay is similarly small. In scenarios 2 to 5 they are all less than 5 seconds different, with the majority showing less than a 1 second increase. In scenario 6, which combines all the components of scenarios1 to 5, the maximum increase is 7 seconds at the junction of Slipshatch Road with Sandcross Lane, South Park. This also receives the highest increase in scenario 7 of 16 seconds. Both this junction and A217 Dovers Green Road with Sandcross Lane mentioned above are in close proximity to the potential development sites of the urban extension residential options in the south Reigate area set out in component B4.

4.6.4 Moreover the RFC of these junctions is just 0.3 in both scenarios, so an increase of up to 16 seconds per vehicle is not going to cause any deterioration of the junction's operation.

4.6.5 Overall the modest increases in average vehicle delay indicate that the addition of all the potential development sites will not have an adverse impact on junction operation.

4.6.6 The only exception is junctions where the ratio of flow to capacity (RFC) and level of service (LOS) are already high. At these junctions, any minor increase in delay will exacerbate existing queues and driver stress.

4.6.7 The junctions which are shown to have an RFC value greater than 0.85, showing limited or no available highway capacity, and/or have a LOS of F are:

- A217 Brighton Road signalled approach arm to the M25 junction 8 grade separated junction on Reigate Hill;
- A217 Brighton Road roundabout junction with A217 Belmont Rise and B2230 Brighton Road in Banstead;
- A217 Brighton Road signalled northbound approach arm to Bonsor Drive Roundabout in Tadworth;
- A23 Brighton Road signalled junction with Star Lane in Hooley;
- A217 Reigate Hill priority junction with Wray Lane on Reigate Hill;
- B290 Station Approach signalled junction with B2220 Tadworth Street in Tadworth; and
- A23 Brighton Road priority junction with Dean Lane in Hooley.

4.6.8 It is likely that some form of mitigation will be required to ensure that the development sites do not further impede the performance of these junctions which have limited or no highway capacity.

Rank	Name	Type	Node Ref.	Increase in Average Delay from Scenario 1 (seconds)	RFC*	LOS*
Scenario 2 (baseline urban growth and Horley)						
1	A217 Brighton Road approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	13298	1.7	1.08	F
2	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	1.2	0.30	D
3	A23 London Road South junction with Rocky Lane, Redhill	Roundabout	15761	1.0	0.50	C
4	A23 Bonehurst Road junction with Cross Oak Lane, Horley	Signal	13739	0.5	0.85	C
5	A217 Brighton Road junction with A217 Belmont Rise and B2230 Brighton Road, Banstead	Roundabout	13078	0.5	1.07	F
Scenario 3 (baseline urban growth and east Redhill)						
1	A217 Brighton Road northbound approach arm to Bonsor Drive roundabout, Tadworth	Signal	14542	2.4	0.83	F
2	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	2.3	0.83	F
3	A217 Reigate Hill junction with Wray Lane, Reigate Hill	Roundabout	13141	1.1	1.10	E
4	A23 Brighton Road junction with Hooley Lane and Mill Street, Redhill	Signal	13313	1.0	0.66	D
5	A23 London Road South junction with New Battlebridge Lane, Redhill	Signal	15571	0.7	0.59	C
Scenario 4 (baseline urban growth and east Merstham)						
1	A23 London Road South junction with Rocky Lane, Redhill	Priority	15761	1.3	0.50	C
2	A217 Reigate Hill junction with Wray Lane, Reigate Hill	Priority	13141	1.0	1.10	E
3	A217 Brighton Road northbound approach arm to Bonsor Drive roundabout, Tadworth	Signal	14542	1.0	0.83	F
4	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	1.0	0.83	F
5	A23 London Road South junction with New Battlebridge Lane, Redhill	Signal	15571	1.0	0.59	C
Scenario 5 (baseline urban growth and south west Reigate)						
1	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	4.6	0.30	D (C)
2	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	2.6	0.33	D
3	A23 Brighton Road junction with Star Lane, Hooley	Roundabout	13095	2.1	0.83	F
4	A217 Dovers Green Rd junction with A2044 Woodhatch Rd and Prices Lane, Woodhatch	Signal	13303	1.7	0.72 (0.71)	D
5	A217 Brighton Road approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	13298	1.2	1.08	F
Scenario 6 (baseline urban growth, Horley, east Redhill, east Merstham and south west Reigate)						
1	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	7.9	0.30	D (C)
2	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	5.7	0.33	D

Rank	Name	Type	Node Ref.	Increase in Average Delay from Scenario 1 (seconds)	RFC*	LOS*
3	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	4.8	0.83	F
4	A217 Brighton Road northbound approach arm to Bonsor Drive roundabout, Tadworth	Signal	14542	2.3	0.83	F
5	A217 Dovers Green Rd junction with A2044 Woodhatch Rd and Prices Lane, Woodhatch	Signal	13303	2.2	0.72 (0.71)	D
Scenario 7 (baseline urban growth, Horley, east Redhill, east Merstham, south west Reigate and south of Horley)						
1	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	16.4	0.30	E (C)
2	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	11.3	0.33	E (D)
3	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	5.2	0.83	F
4	A217 Dovers Green Rd junction with A2044 Woodhatch Rd and Prices Lane, Woodhatch	Signal	13303	5.0	0.72 (0.71)	D
5	A217 Brighton Road approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	13298	3.6	1.08	F

Table 4.6: Weekday average AM peak hour (0700 – 1000) top 5 junctions with the highest increase in average vehicle delay compared with scenario 1
**Values in brackets show the RFC and LOS for scenario 1 where it differs from those reported*

Rank	Name	Type	Node Ref.	Increase in Average Delay from Scenario 1 (seconds)	RFC*	LOS*
Scenario 2 (baseline urban growth and Horley)						
1	Victoria Road junction with Massetts Road, Horley	Signal	14514	1.4	0.60	E
2	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	0.7	0.33	B
3	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	0.7	0.30	B (A)
4	A217 Reigate Road junction with Crutchfield Lane, Hookwood	Priority	13662	0.6	0.41	A
5	B290 Station Approach junction with B2220 Tadworth Street, Tadworth	Signal	13433	0.5	0.90	F
Scenario 3 (baseline urban growth and east Redhill)						
1	Victoria Road junction with Massetts Road, Horley	Signal	14514	0.9	0.60	E
2	Hooley Lane junction with Brook Road, Redhill	Signal	15261	0.6	0.58	C
3	A23 Brighton Road junction with Dean Lane, Hooley	Priority	14659	0.6	0.89	C
4	A23 London Road South junction with Rocky Lane, Redhill	Priority	15761	0.6	0.50	C
5	A217 Reigate Hill junction approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	14132	0.5	0.87	B

Rank	Name	Type	Node Ref.	Increase in Average Delay from Scenario 1 (seconds)	RFC*	LOS*
Scenario 4 (baseline urban growth and east Merstham)						
1	A23 Brighton Road junction with Dean Lane, Hooley	Priority	14659	0.7	0.89	C
2	A23 London Road South junction with Rocky Lane, Redhill	Priority	15761	0.5	0.50	C
3	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	0.5	0.83	F
4	A217 Reigate Hill junction with Wray Lane, Reigate Hill	Priority	13141	0.5	1.10	E
5	A217 Reigate Hill junction approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	14132	0.5	0.87	B
Scenario 5 (baseline urban growth and south west Reigate)						
1	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	4.8	0.33	C (B)
2	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	3.9	0.30	B (A)
3	A23 Brighton Road junction with Lumley Road, Horley	Priority	14510	1.3	0.46	C
4	A217 Reigate Hill junction with Wray Lane, Reigate Hill	Priority	13141	1.3	1.10	E
5	A23 Horley Road junction with Three Arch Road and Maple Road, Earlswood	Signal	14405	1.1	0.67	C
Scenario 6 (baseline urban growth, Horley, east Redhill, east Merstham and south west Reigate)						
1	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	7.0	0.33	C (B)
2	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	6.3	0.30	C (A)
3	A217 Reigate Hill junction with Wray Lane, Reigate Hill	Priority	13141	3.3	1.10	E
4	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	2.4	0.83	F
5	A23 Brighton Road junction with Hooley Lane and Mill Street, Redhill	Signal	13313	1.7	0.66	C
Scenario 7 (baseline urban growth, Horley, east Redhill, east Merstham, south west Reigate and south of Horley)						
1	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	16.4	0.33	D (B)
2	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	14.7	0.30	C (A)
3	B2032 Dorking Road junction with B2220 Chequers Lane, Walton on the Hill	Priority	14257	4.9	0.38	B (A)
4	A23 Brighton Road junction with Star Lane, Hooley	Priority	13095	4.2	0.83	F
5	A217 Brighton Road approach arm to M25 J8 grade separated junction, Reigate Hill	Signal	13298	4.0	1.08	F

Table 4.7: Weekday average PM peak hour (1600 – 1900) top 5 junctions with the highest increase in average vehicle delay compared with scenario 1

**Values in brackets show the RFC and LOS for scenario 1 where it differs from those reported*

4.6.9 **Figures 4.10** and **4.11** present the average junction delay in Reigate and Banstead borough for scenarios 6 and 7. Diagrams have not been provided for the other scenarios as they are virtually the same as those of **Figures 4.1** and **4.11**.

4.6.10 Junctions with an average delay value of 50 seconds or more are individually reported and have been listed below in a descending order of magnitude:

- A217 Brighton Road signalled approach arm to the M25 junction 8 grade separated junction, Reigate Hill;
- A2022 Winkworth Road, B2218 Sutton Lane and B2217, Banstead;
- A23 Brighton Road signalled junction with Star Lane, Hooley;
- A217 Belmont Rise roundabout junction with B2230 Brighton Road, Banstead;
- B290 Station Approach signalled junction with B2220 Tadworth Street, Tadworth;
- A217 Brighton Road signalled junction with A2022 Winkworth Road, Banstead crossroads;
- A217 Brighton Road signalled northbound approach arm to Bonsor Drive Roundabout, Tadworth;
- Victoria Road junction with Massetts Road, Horley;
- A217 Dovers Green Road signalled junction with Woodhatch Road and Prices Lane, Woodhatch;
- A217 Reigate Hill priority junction with Wray Lane, Reigate Hill; and
- A240 Reigate Road signalled junction with A2022 Fir Tree Road, Drift Bridge.

4.6.11 Average vehicle delay at Reigate level crossing is 42 seconds in both time periods during both the weekday average AM and PM peak hours. It increases by a maximum of 2 seconds in scenario 7 during the weekday average PM peak hour.

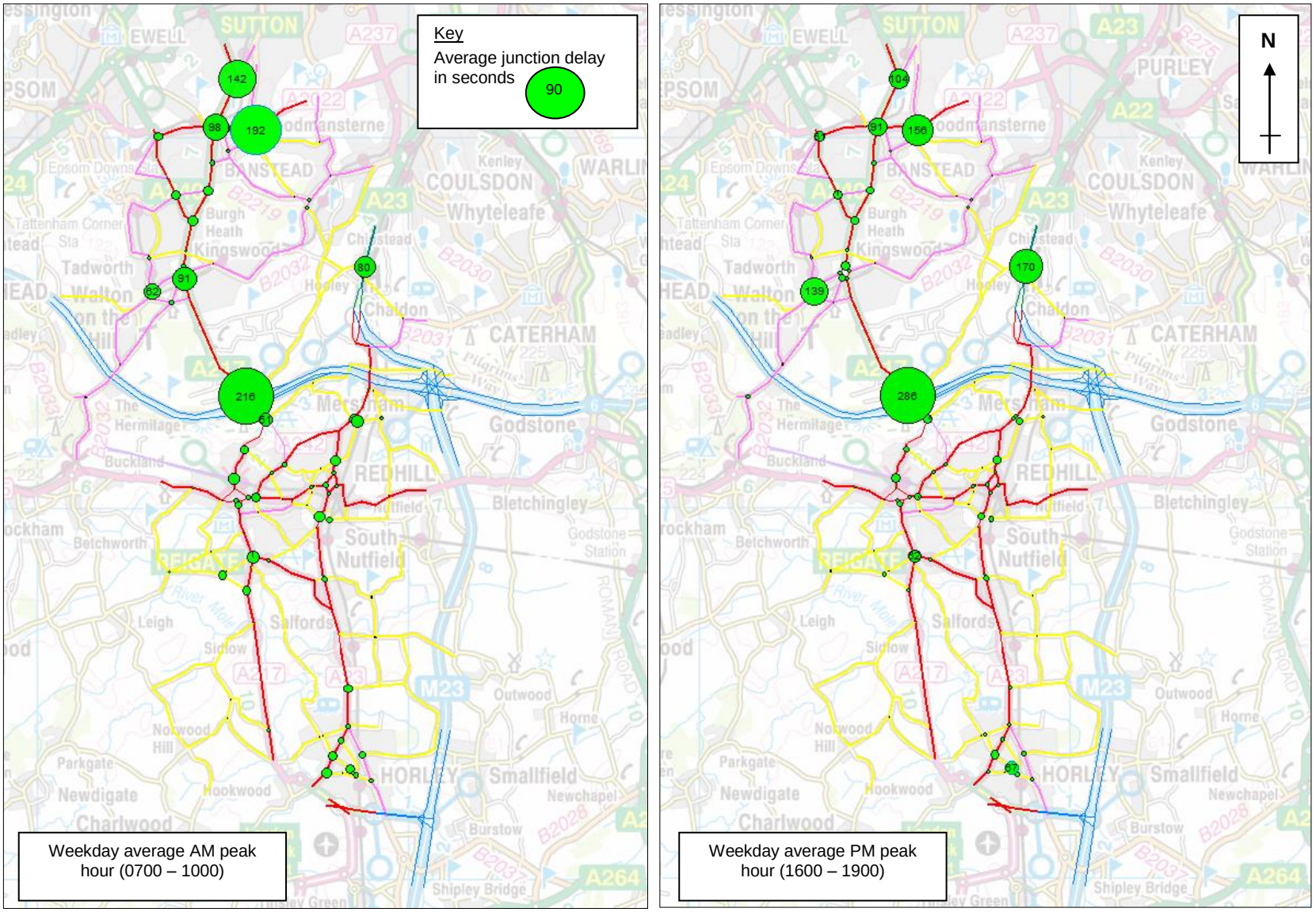

Figure 4.10: Average junction delay for scenario 6

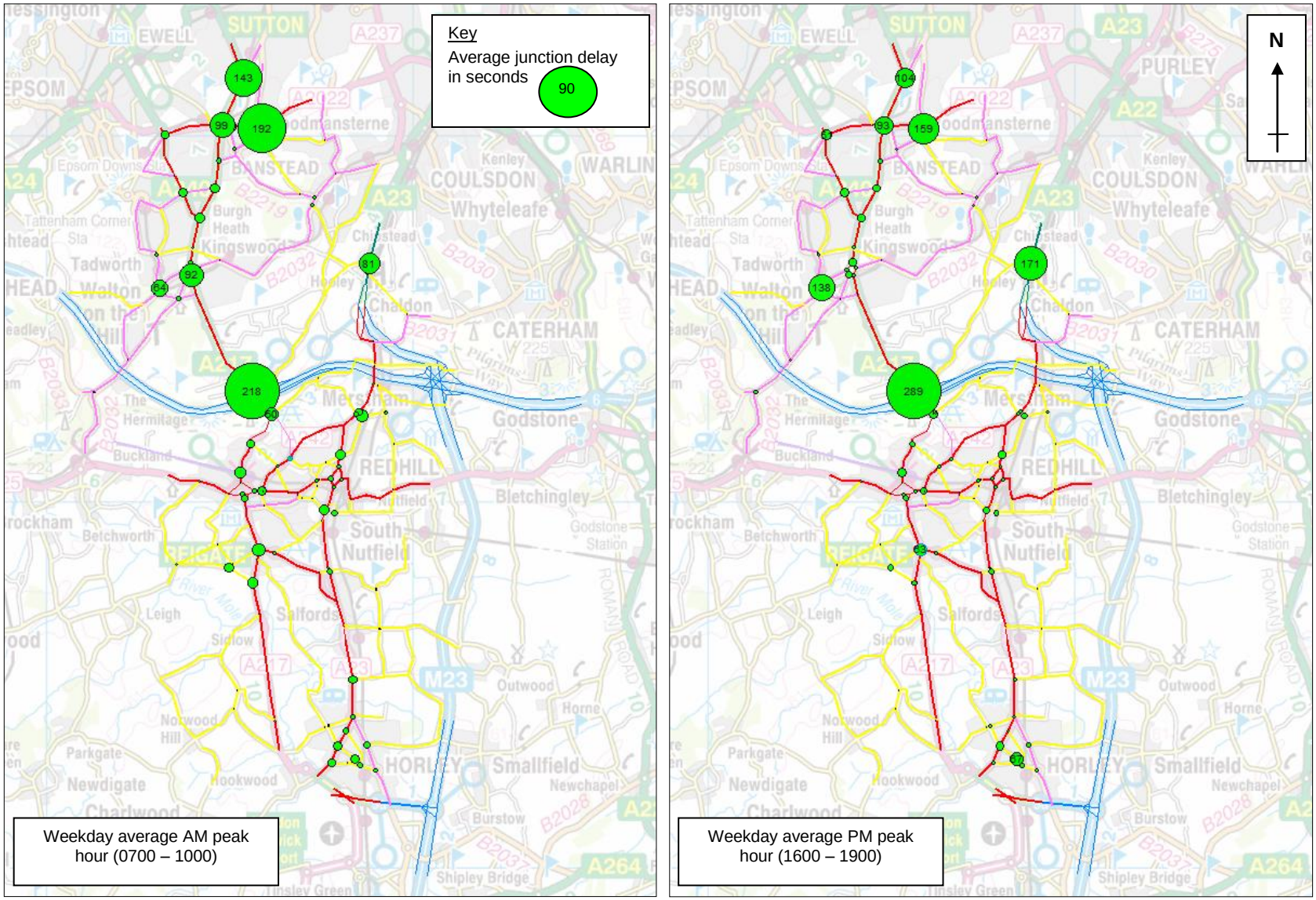

Figure 4.11: Average junction delay for scenario 7

4.7 The Motorway and Trunk Road Network

4.7.1 Reigate and Banstead borough contains sections of the M25, M23 and A23 trunk. These roads are the responsibility of Highways England. The impact of all the model scenarios on the Highways England road network within Reigate and Banstead is set out in **Table 4.8** for the weekday average AM peak hour (0700 – 1000) and **Table 4.9** for the average PM peak hour (1600 – 1900).

4.7.1 It can be seen that flow on the M25 is tidal. In the AM peak the predominant flow is in the clockwise or westbound direction, whilst in the PM peak it is in the anticlockwise or eastbound direction of travel.

4.7.2 In scenarios 2 to 5 the differences in flows on the motorway and trunk road network is minimal. During the weekday average AM peak hour it is just 23 vph on the M25 mainline between junctions 8 and 9 in a clockwise direction. In the weekday average PM peak hour the maximum increase is 30 vph on the M25 mainline between junctions 7 and 8 in both a clockwise and anticlockwise direction of travel.

4.7.3 In scenario 6 the increases are still relatively small with a maximum of 50 vph on the M25 on-slip at junction 8 and on its mainline between junctions 8 and 9 both in a clockwise direction during the weekday average AM peak hour. The increase is higher at 81 vph during the weekday average PM peak hour on the M25 mainline between junctions 8 and 7 in an anticlockwise direction.

4.7.4 Much larger increases of up to 329 vph in the weekday average AM peak hour and 280 vph in the weekday average PM peak hour have been estimated in scenario 7. This scenario includes the large strategic employment site situated south of Horley and will directly access the M23 at junction 9a. Consequently, these large increases are located on the M23 mainline between junctions 9 to 9a in a westbound direction in the weekday average AM peak hour, and in the opposite eastbound direction during the average PM peak hour. These differences, and on other sections of the M23 and M25 can also be viewed in **Figure 4.2**. Moreover, where these large differences occur, the maximum RFC value is 0.4 during both time periods. Therefore the model suggests that there is existing capacity to accommodate the resulting increase in vehicle trips from this development.

4.7.5 During both time periods there are also decreases in flow on sections of the Highways England network. Although the M25 is designed for long distance trips it is also used for travel to nearby towns. Changes in flow patterns at congested junctions on route to the motorway will impact the route choice of some of these trips.

Section of Motorway or Trunk Road	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)							
M25 mainline junction 9 to 8 anticlockwise	4604	4606	4606	4605	4608	4614	4664
M25 mainline junction 8 to 9 clockwise	5574	5580	5593	5592	5597	5624	5633
M25 junction 8 anticlockwise off-slip	758	759	757	758	757	758	749
M25 junction 8 anticlockwise on-slip	754	753	758	753	754	762	790
M25 junction 8 clockwise off-slip	1151	1153	1161	1150	1155	1166	1183
M25 junction 8 clockwise on-slip	870	874	890	886	892	920	924
M25 mainline junction 8 to 7 anticlockwise	4600	4600	4607	4601	4606	4618	4705
M25 mainline junction 7 to 8 clockwise	5856	5859	5864	5855	5860	5871	5891
M25 junction 7 anticlockwise exit to M23 junction 8	2302	2302	2303	2301	2304	2306	2342
M25 junction 7 clockwise exit to M23 junction 8	1477	1477	1475	1477	1476	1477	1542
M25 mainline junction 7 to 6 anticlockwise	4193	4193	4199	4195	4198	4206	4229
M25 mainline junction 6 to 7 clockwise	5252	5250	5263	5257	5254	5269	5338
M23 junction 8 northbound exit to M25 junction 7	3592	3597	3590	3590	3596	3596	3605
M23 junction 8 southbound exit to M25 junction 7	1895	1895	1895	1895	1896	1894	1867
A23 between Church Lane and Star Lane northbound	1387	1387	1392	1390	1392	1400	1399
A23 between Church Lane and Star Lane southbound	1737	1736	1738	1737	1736	1739	1747
M23 mainline junction 8 to 7 northbound	852	853	848	851	849	850	840
M23 mainline junction 7 to 8 southbound	1155	1155	1155	1158	1154	1155	1164
M23 mainline junction 9 to 8 northbound	4172	4179	4169	4171	4175	4177	4174
M23 mainline junction 8 to 9 southbound	4279	4280	4282	4286	4282	4293	4421
M23 junction 9 northbound off-slip	606	609	605	604	599	603	841
M23 junction 9 northbound on-slip	1086	1094	1082	1085	1090	1092	1096
M23 junction 9 southbound off-slip	1410	1408	1410	1412	1415	1411	1504
M23 junction 9 southbound on-slip	325	322	324	324	320	314	274
M23 mainline junction 9 to 9a westbound	2016	2017	2015	2016	2013	2013	2345
M23 mainline junction 9a to 9 eastbound	1411	1416	1406	1409	1410	1406	1370
M23 mainline junction 10 to 9 northbound	3692	3694	3691	3690	3684	3688	3918
M23 mainline junction 9 to 10 southbound	3193	3195	3196	3197	3188	3196	3191
Absolute Difference from Scenario 1							
M25 mainline junction 9 to 8 anticlockwise	-	2	2	1	4	10	60
M25 mainline junction 8 to 9 clockwise	-	6	19	18	23	50	59
M25 junction 8 anticlockwise off-slip	-	1	-2	-1	-2	0	-10
M25 junction 8 anticlockwise on-slip	-	-1	4	0	0	8	36
M25 junction 8 clockwise off-slip	-	2	10	-2	4	15	32
M25 junction 8 clockwise on-slip	-	5	21	17	22	50	55
M25 mainline junction 8 to 7 anticlockwise	-	1	8	1	6	19	106
M25 mainline junction 7 to 8 clockwise	-	3	8	0	4	15	36
M25 junction 7 anticlockwise exit to M23 junction 8	-	0	2	0	2	5	41
M25 junction 7 clockwise exit to M23 junction 8	-	0	-2	1	-1	1	65
M25 mainline junction 7 to 6 anticlockwise	-	0	6	2	5	14	37
M25 mainline junction 6 to 7 clockwise	-	-2	11	5	2	17	86
M23 junction 8 northbound exit to M25 junction 7	-	5	-2	-2	3	4	13
M23 junction 8 southbound exit to M25 junction 7	-	0	1	1	1	0	-28
A23 between Church Lane and Star Lane northbound	-	0	5	3	5	13	12
A23 between Church Lane and Star Lane southbound	-	0	1	1	-1	2	10
M23 mainline junction 8 to 7 northbound	-	1	-3	-1	-2	-2	-12
M23 mainline junction 7 to 8 southbound	-	0	-1	2	-1	0	9
M23 mainline junction 9 to 8 northbound	-	7	-3	-1	3	5	2
M23 mainline junction 8 to 9 southbound	-	1	3	7	3	14	143
M23 junction 9 northbound off-slip	-	3	-1	-2	-7	-3	235
M23 junction 9 northbound on-slip	-	7	-4	-1	4	6	10
M23 junction 9 southbound off-slip	-	-3	-1	2	4	0	94
M23 junction 9 southbound on-slip	-	-3	-1	-1	-5	-11	-51
M23 mainline junction 9 to 9a westbound	-	1	-1	0	-3	-3	329
M23 mainline junction 9a to 9 eastbound	-	5	-5	-2	-1	-5	-41
M23 mainline junction 10 to 9 northbound	-	3	0	-2	-8	-4	226
M23 mainline junction 9 to 10 southbound	-	1	3	4	-5	3	-2
Percentage Change from Scenario 1							
M25 mainline junction 9 to 8 anticlockwise	-	0%	0%	0%	0%	0%	1%
M25 mainline junction 8 to 9 clockwise	-	0%	0%	0%	0%	1%	1%
M25 junction 8 anticlockwise off-slip	-	0%	0%	0%	0%	0%	-1%
M25 junction 8 anticlockwise on-slip	-	0%	1%	0%	0%	1%	5%
M25 junction 8 clockwise off-slip	-	0%	1%	0%	0%	1%	3%
M25 junction 8 clockwise on-slip	-	1%	2%	2%	3%	6%	6%
M25 mainline junction 8 to 7 anticlockwise	-	0%	0%	0%	0%	0%	2%
M25 mainline junction 7 to 8 clockwise	-	0%	0%	0%	0%	0%	1%
M25 junction 7 anticlockwise exit to M23 junction 8	-	0%	0%	0%	0%	0%	2%
M25 junction 7 clockwise exit to M23 junction 8	-	0%	0%	0%	0%	0%	4%
M25 mainline junction 7 to 6 anticlockwise	-	0%	0%	0%	0%	0%	1%
M25 mainline junction 6 to 7 clockwise	-	0%	0%	0%	0%	0%	2%
M23 junction 8 northbound exit to M25 junction 7	-	0%	0%	0%	0%	0%	0%
M23 junction 8 southbound exit to M25 junction 7	-	0%	0%	0%	0%	0%	-1%
A23 between Church Lane and Star Lane northbound	-	0%	0%	0%	0%	1%	1%
A23 between Church Lane and Star Lane southbound	-	0%	0%	0%	0%	0%	1%
M23 mainline junction 8 to 7 northbound	-	0%	0%	0%	0%	0%	-1%
M23 mainline junction 7 to 8 southbound	-	0%	0%	0%	0%	0%	1%
M23 mainline junction 9 to 8 northbound	-	0%	0%	0%	0%	0%	0%
M23 mainline junction 8 to 9 southbound	-	0%	0%	0%	0%	0%	3%
M23 junction 9 northbound off-slip	-	1%	0%	0%	-1%	-1%	39%
M23 junction 9 northbound on-slip	-	1%	0%	0%	0%	1%	1%
M23 junction 9 southbound off-slip	-	0%	0%	0%	0%	0%	7%
M23 junction 9 southbound on-slip	-	-1%	0%	0%	-1%	-3%	-16%
M23 mainline junction 9 to 9a westbound	-	0%	0%	0%	0%	0%	16%
M23 mainline junction 9a to 9 eastbound	-	0%	0%	0%	0%	0%	-3%
M23 mainline junction 10 to 9 northbound	-	0%	0%	0%	0%	0%	6%
M23 mainline junction 9 to 10 southbound	-	0%	0%	0%	0%	0%	0%

Table 4.8: Weekday average AM Peak Hour (0700 – 1000) traffic flow summary for the motorway and trunk road network

Section of Motorway or Trunk Road	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)							
M25 mainline junction 9 to 8 anticlockwise	6326	6335	6340	6338	6348	6379	6407
M25 mainline junction 8 to 9 clockwise	4404	4411	4408	4408	4401	4410	4492
M25 junction 8 anticlockwise off-slip	711	712	712	712	709	705	714
M25 junction 8 anticlockwise on-slip	1175	1175	1177	1175	1181	1197	1198
M25 junction 8 clockwise off-slip	992	992	998	997	998	1009	997
M25 junction 8 clockwise on-slip	784	784	789	789	786	795	798
M25 mainline junction 8 to 7 anticlockwise	6790	6798	6805	6800	6820	6871	6890
M25 mainline junction 7 to 8 clockwise	4612	4618	4617	4617	4613	4624	4691
M25 junction 7 anticlockwise exit to M23 junction 8	2823	2834	2837	2832	2854	2896	2907
M25 junction 7 clockwise exit to M23 junction 8	1407	1405	1402	1405	1404	1401	1370
M25 mainline junction 7 to 6 anticlockwise	5881	5877	5884	5882	5907	5903	5963
M25 mainline junction 6 to 7 clockwise	4374	4374	4372	4374	4369	4373	4351
M23 junction 8 northbound exit to M25 junction 7	3068	3069	3071	3069	3061	3088	3197
M23 junction 8 southbound exit to M25 junction 7	1915	1913	1916	1914	1940	1927	1979
A23 between Church Lane and Star Lane northbound	1746	1747	1747	1747	1748	1750	1754
A23 between Church Lane and Star Lane southbound	1851	1852	1854	1853	1868	1851	1852
M23 mainline junction 8 to 7 northbound	1309	1309	1301	1305	1306	1293	1297
M23 mainline junction 7 to 8 southbound	1116	1116	1110	1112	1119	1086	1074
M23 mainline junction 9 to 8 northbound	4021	4020	4021	4020	4013	4034	4142
M23 mainline junction 8 to 9 southbound	4498	4505	4505	4504	4495	4543	4506
M23 junction 9 northbound off-slip	567	561	563	563	557	547	578
M23 junction 9 northbound on-slip	576	578	581	578	570	601	766
M23 junction 9 southbound off-slip	627	624	629	629	633	630	466
M23 junction 9 southbound on-slip	1014	1012	1009	1011	1014	983	1105
M23 mainline junction 9 to 9a westbound	1195	1186	1192	1192	1190	1177	1044
M23 mainline junction 9a to 9 eastbound	1590	1590	1590	1589	1584	1584	1871
M23 mainline junction 10 to 9 northbound	4012	4004	4002	4005	4000	3979	3955
M23 mainline junction 9 to 10 southbound	4885	4892	4884	4886	4877	4896	5146
Absolute Difference from Scenario 1							
M25 mainline junction 9 to 8 anticlockwise	-	9	14	11	22	53	80
M25 mainline junction 8 to 9 clockwise	-	7	4	4	-3	6	88
M25 junction 8 anticlockwise off-slip	-	1	1	1	-2	-6	3
M25 junction 8 anticlockwise on-slip	-	0	2	0	6	22	23
M25 junction 8 clockwise off-slip	-	0	6	5	6	16	5
M25 junction 8 clockwise on-slip	-	0	5	5	2	11	13
M25 mainline junction 8 to 7 anticlockwise	-	8	15	10	30	81	100
M25 mainline junction 7 to 8 clockwise	-	6	5	5	1	12	79
M25 junction 7 anticlockwise exit to M23 junction 8	-	11	13	9	30	72	83
M25 junction 7 clockwise exit to M23 junction 8	-	-3	-5	-2	-3	-6	-37
M25 mainline junction 7 to 6 anticlockwise	-	-5	2	0	25	21	82
M25 mainline junction 6 to 7 clockwise	-	1	-2	1	-5	-1	-22
M23 junction 8 northbound exit to M25 junction 7	-	1	3	1	-7	20	129
M23 junction 8 southbound exit to M25 junction 7	-	-2	1	-1	25	13	65
A23 between Church Lane and Star Lane northbound	-	0	0	1	1	4	8
A23 between Church Lane and Star Lane southbound	-	1	3	2	17	0	1
M23 mainline junction 8 to 7 northbound	-	-1	-8	-5	-4	-17	-12
M23 mainline junction 7 to 8 southbound	-	0	-6	-4	3	-30	-42
M23 mainline junction 9 to 8 northbound	-	0	0	0	-8	13	121
M23 mainline junction 8 to 9 southbound	-	8	7	6	-2	46	9
M23 junction 9 northbound off-slip	-	-6	-4	-4	-10	-20	11
M23 junction 9 northbound on-slip	-	2	5	2	-6	26	190
M23 junction 9 southbound off-slip	-	-3	2	2	5	3	-162
M23 junction 9 southbound on-slip	-	-3	-6	-3	0	-32	91
M23 mainline junction 9 to 9a westbound	-	-9	-3	-3	-5	-18	-151
M23 mainline junction 9a to 9 eastbound	-	-1	0	-1	-6	-6	280
M23 mainline junction 10 to 9 northbound	-	-8	-10	-7	-12	-33	-57
M23 mainline junction 9 to 10 southbound	-	8	0	1	-8	12	261
Percentage Change from Scenario 1							
M25 mainline junction 9 to 8 anticlockwise	-	0%	0%	0%	0%	1%	1%
M25 mainline junction 8 to 9 clockwise	-	0%	0%	0%	0%	0%	2%
M25 junction 8 anticlockwise off-slip	-	0%	0%	0%	0%	-1%	0%
M25 junction 8 anticlockwise on-slip	-	0%	0%	0%	1%	2%	2%
M25 junction 8 clockwise off-slip	-	0%	1%	0%	1%	2%	0%
M25 junction 8 clockwise on-slip	-	0%	1%	1%	0%	1%	2%
M25 mainline junction 8 to 7 anticlockwise	-	0%	0%	0%	0%	1%	1%
M25 mainline junction 7 to 8 clockwise	-	0%	0%	0%	0%	0%	2%
M25 junction 7 anticlockwise exit to M23 junction 8	-	0%	0%	0%	1%	3%	3%
M25 junction 7 clockwise exit to M23 junction 8	-	0%	0%	0%	0%	0%	-3%
M25 mainline junction 7 to 6 anticlockwise	-	0%	0%	0%	0%	0%	1%
M25 mainline junction 6 to 7 clockwise	-	0%	0%	0%	0%	0%	-1%
M23 junction 8 northbound exit to M25 junction 7	-	0%	0%	0%	0%	1%	4%
M23 junction 8 southbound exit to M25 junction 7	-	0%	0%	0%	1%	1%	3%
A23 between Church Lane and Star Lane northbound	-	0%	0%	0%	0%	0%	0%
A23 between Church Lane and Star Lane southbound	-	0%	0%	0%	1%	0%	0%
M23 mainline junction 8 to 7 northbound	-	0%	-1%	0%	0%	-1%	-1%
M23 mainline junction 7 to 8 southbound	-	0%	-1%	0%	0%	-3%	-4%
M23 mainline junction 9 to 8 northbound	-	0%	0%	0%	0%	0%	3%
M23 mainline junction 8 to 9 southbound	-	0%	0%	0%	0%	1%	0%
M23 junction 9 northbound off-slip	-	-1%	-1%	-1%	-2%	-4%	2%
M23 junction 9 northbound on-slip	-	0%	1%	0%	-1%	4%	33%
M23 junction 9 southbound off-slip	-	0%	0%	0%	1%	0%	-26%
M23 junction 9 southbound on-slip	-	0%	-1%	0%	0%	-3%	9%
M23 mainline junction 9 to 9a westbound	-	-1%	0%	0%	0%	-1%	-13%
M23 mainline junction 9a to 9 eastbound	-	0%	0%	0%	0%	0%	18%
M23 mainline junction 10 to 9 northbound	-	0%	0%	0%	0%	-1%	-1%
M23 mainline junction 9 to 10 southbound	-	0%	0%	0%	0%	0%	5%

Table 4.9: Weekday average PM Peak Hour (1600 – 1900) traffic flow summary for the motorway and trunk road

4.8 Cross Boundary Impacts

4.8.1 Traffic flows on A principal and B roads which cross into neighbouring authorities have been analysed for all scenarios in **Tables 4.10** to **4.13**. The roads have been listed in a clockwise direction, starting with the London borough of Sutton.

4.8.2 **Table 4.10** shows the traffic flows for each scenario on A principal and B roads which enter into Reigate and Banstead borough from neighbouring authorities for the weekday average AM peak hour (0700 – 1000). It can be seen that there is very little difference in flow in all scenarios compared with scenario 1 which represents to baseline urban growth. The maximum difference is just 20 vph in scenario 6 on the B2036 Balcombe Road from West Sussex.

4.8.3 Similarly **Table 4.11**, which presents the flow of vehicles leaving the borough in the weekday average AM peak, also shows very little difference in flow in scenarios 2 to 7 when compared with the baseline urban growth of scenario 1. The maximum difference for vehicles exiting Reigate and Banstead borough is 33 vph in scenario 7 on the A217 Reigate Road which travels into Mole Valley at its border with West Sussex.

4.8.4 In the weekday average PM peak hour (1600 – 1900), the difference in flows is still relatively small for those entering neighbouring authorities. As shown in **Table 4.12**, the maximum difference is between scenarios 7 and 1 of 75 vph on the A217 Reigate Road.

4.8.5 However, as shown in **Table 4.13**, an increase of 250 vph on A25 Nutfield Road crossing into the district Tandridge has been forecasted in both scenarios 6 and 7 when compared with the baseline urban growth of scenario 1. This phenomenon has also been reported previously in **Section 4.4**, and is due to localised re-routing of vehicles. The model suggests that vehicles may switch routes from Nutfield Marsh and Cooper's Hill Roads to Cormongers and Kings Cross Lanes via the A25. Where the A25 Nutfield Road crosses over the M23, approximately 2km east of Reigate and Banstead's border with Tandridge, however, traffic flow actually reduces by 36vph in scenario 6, and 35vph in scenario 7, compared with scenario 1. With all other flow differences being modest in size, the cross boundary impacts of all scenarios can therefore be considered to be minimal.

Road	Borough / District	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)								
A217 Belmont Rise	Sutton	910	911	911	912	912	914	919
B2230 Brighton Road	Sutton	1128	1128	1128	1127	1127	1125	1124
B2218 Sutton Lane	Sutton	386	386	387	387	385	388	390
A2022 Croydon Lane	Croydon	821	822	821	821	821	821	820
B278 Carshalton Road	Croydon	516	519	516	516	519	522	527
B2032 Outwood Lane	Croydon	651	651	651	652	651	650	648
B2031 Dean Lane	Tandridge	525	524	524	528	524	527	526
A25 Nutfield Road	Tandridge	402	402	389	396	405	387	383
B2036 Balcombe Road	West Sussex	858	858	863	863	865	878	854
A23 Brighton Road	Mole Valley	1061	1061	1061	1061	1060	1062	1070
A217 Reigate Road	Mole Valley	768	771	768	769	766	770	767
A25 Buckland Road	Mole Valley	754	761	758	760	752	766	766
B2032 Pebble Hill Road	Mole Valley	881	879	886	883	886	894	896
B2033 Headley Common Rd	Mole Valley	263	263	263	263	263	267	270
B290 Tattenham Corner Rd	Epsom & Ewell	414	415	415	414	416	416	416
B2221 Tattenham Crescent	Epsom & Ewell	401	402	402	402	403	404	409
B284 Yew Tree Bottom Rd	Epsom & Ewell	255	255	255	255	254	253	249
B291 Fir Tree Road	Epsom & Ewell	334	334	333	333	333	335	334
A240 Reigate Road	Epsom & Ewell	751	749	751	751	751	747	751
Absolute Difference from Scenario 1								
A217 Belmont Rise	Sutton	-	1	1	1	1	4	8
B2230 Brighton Road	Sutton	-	0	0	0	0	-2	-4
B2218 Sutton Lane	Sutton	-	-1	0	0	-1	2	3
A2022 Croydon Lane	Croydon	-	0	0	0	0	0	-1
B278 Carshalton Road	Croydon	-	3	0	0	3	6	11
B2032 Outwood Lane	Croydon	-	0	0	1	1	0	-2
B2031 Dean Lane	Tandridge	-	-1	-1	3	-1	2	1
A25 Nutfield Road	Tandridge	-	0	-13	-6	3	-14	-18
B2036 Balcombe Road	West Sussex	-	0	5	5	8	20	-4
A23 Brighton Road	Mole Valley	-	1	0	0	0	2	10
A217 Reigate Road	Mole Valley	-	3	0	1	-2	2	-1
A25 Buckland Road	Mole Valley	-	7	4	6	-1	12	12
B2032 Pebble Hill Road	Mole Valley	-	-1	5	2	5	13	15
B2033 Headley Common Rd	Mole Valley	-	0	0	0	0	4	7
B290 Tattenham Corner Rd	Epsom & Ewell	-	1	1	0	1	2	2
B2221 Tattenham Crescent	Epsom & Ewell	-	1	0	1	1	3	8
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	-1	0	0	-2	-3	-7
B291 Fir Tree Road	Epsom & Ewell	-	1	-1	0	-1	2	0
A240 Reigate Road	Epsom & Ewell	-	-2	0	0	0	-3	0
Percentage Change from Scenario 1								
A217 Belmont Rise	Sutton	-	0%	0%	0%	0%	0%	1%
B2230 Brighton Road	Sutton	-	0%	0%	0%	0%	0%	0%
B2218 Sutton Lane	Sutton	-	0%	0%	0%	0%	1%	1%
A2022 Croydon Lane	Croydon	-	0%	0%	0%	0%	0%	0%
B278 Carshalton Road	Croydon	-	1%	0%	0%	1%	1%	2%
B2032 Outwood Lane	Croydon	-	0%	0%	0%	0%	0%	0%
B2031 Dean Lane	Tandridge	-	0%	0%	1%	0%	0%	0%
A25 Nutfield Road	Tandridge	-	0%	-3%	-1%	1%	-4%	-5%
B2036 Balcombe Road	West Sussex	-	0%	1%	1%	1%	2%	0%
A23 Brighton Road	Mole Valley	-	0%	0%	0%	0%	0%	1%
A217 Reigate Road	Mole Valley	-	0%	0%	0%	0%	0%	0%
A25 Buckland Road	Mole Valley	-	1%	0%	1%	0%	2%	2%
B2032 Pebble Hill Road	Mole Valley	-	0%	1%	0%	1%	1%	2%
B2033 Headley Common Rd	Mole Valley	-	0%	0%	0%	0%	2%	3%
B290 Tattenham Corner Rd	Epsom & Ewell	-	0%	0%	0%	0%	0%	0%
B2221 Tattenham Crescent	Epsom & Ewell	-	0%	0%	0%	0%	1%	2%
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0%	0%	0%	-1%	-1%	-3%
B291 Fir Tree Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	0%
A240 Reigate Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	0%

Table 4.10: Weekday average AM Peak Hour (0700 – 1000) traffic flow summary <u>entering</u> Reigate and Banstead borough for A principal and B roads which cross into neighbouring authorities

Road	Borough / District	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)								
A217 Belmont Rise	Sutton	1079	1080	1079	1078	1080	1080	1082
B2230 Brighton Road	Sutton	1212	1211	1211	1211	1211	1210	1210
B2218 Sutton Lane	Sutton	455	455	456	456	456	458	458
A2022 Croydon Lane	Croydon	728	727	726	726	726	726	726
B278 Carshalton Road	Croydon	297	300	297	296	299	300	302
B2032 Outwood Lane	Croydon	585	585	586	586	586	587	593
B2031 Dean Lane	Tandridge	313	313	313	313	312	313	312
A25 Nutfield Road	Tandridge	433	433	429	434	435	437	438
B2036 Balcombe Road	West Sussex	556	561	556	557	557	562	571
A23 Brighton Road	Mole Valley	918	921	919	919	919	926	945
A217 Reigate Road	Mole Valley	775	774	775	775	773	773	808
A25 Buckland Road	Mole Valley	1189	1187	1191	1191	1193	1198	1186
B2032 Pebble Hill Road	Mole Valley	610	610	610	612	615	620	621
B2033 Headley Common Rd	Mole Valley	565	564	562	560	561	556	549
B290 Tattenham Corner Rd	Epsom & Ewell	612	610	614	615	607	610	603
B2221 Tattenham Crescent	Epsom & Ewell	430	431	429	427	432	431	435
B284 Yew Tree Bottom Rd	Epsom & Ewell	474	474	470	472	472	470	469
B291 Fir Tree Road	Epsom & Ewell	406	407	406	406	407	407	407
A240 Reigate Road	Epsom & Ewell	928	928	929	928	930	932	936
Absolute Difference from Scenario 1								
A217 Belmont Rise	Sutton	-	1	0	-1	1	1	3
B2230 Brighton Road	Sutton	-	-1	-1	-1	0	-1	-2
B2218 Sutton Lane	Sutton	-	0	1	1	1	3	3
A2022 Croydon Lane	Croydon	-	-1	-2	-2	-2	-2	-2
B278 Carshalton Road	Croydon	-	3	0	-1	3	4	5
B2032 Outwood Lane	Croydon	-	0	1	1	1	2	8
B2031 Dean Lane	Tandridge	-	0	0	0	-1	0	-1
A25 Nutfield Road	Tandridge	-	1	-4	2	2	5	5
B2036 Balcombe Road	West Sussex	-	5	0	1	1	6	15
A23 Brighton Road	Mole Valley	-	3	1	1	1	8	26
A217 Reigate Road	Mole Valley	-	0	0	0	-2	-2	33
A25 Buckland Road	Mole Valley	-	-1	3	2	5	10	-2
B2032 Pebble Hill Road	Mole Valley	-	0	0	2	5	10	12
B2033 Headley Common Rd	Mole Valley	-	-1	-3	-5	-4	-9	-16
B290 Tattenham Corner Rd	Epsom & Ewell	-	-3	2	2	-5	-2	-10
B2221 Tattenham Crescent	Epsom & Ewell	-	2	-1	-2	3	2	6
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0	-4	-2	-1	-4	-5
B291 Fir Tree Road	Epsom & Ewell	-	1	0	0	1	1	1
A240 Reigate Road	Epsom & Ewell	-	0	1	0	1	4	8
Percentage Change from Scenario 1								
A217 Belmont Rise	Sutton	-	0%	0%	0%	0%	0%	0%
B2230 Brighton Road	Sutton	-	0%	0%	0%	0%	0%	0%
B2218 Sutton Lane	Sutton	-	0%	0%	0%	0%	1%	1%
A2022 Croydon Lane	Croydon	-	0%	0%	0%	0%	0%	0%
B278 Carshalton Road	Croydon	-	1%	0%	0%	1%	1%	2%
B2032 Outwood Lane	Croydon	-	0%	0%	0%	0%	0%	1%
B2031 Dean Lane	Tandridge	-	0%	0%	0%	0%	0%	0%
A25 Nutfield Road	Tandridge	-	0%	-1%	0%	1%	1%	1%
B2036 Balcombe Road	West Sussex	-	1%	0%	0%	0%	1%	3%
A23 Brighton Road	Mole Valley	-	0%	0%	0%	0%	1%	3%
A217 Reigate Road	Mole Valley	-	0%	0%	0%	0%	0%	4%
A25 Buckland Road	Mole Valley	-	0%	0%	0%	0%	1%	0%
B2032 Pebble Hill Road	Mole Valley	-	0%	0%	0%	1%	2%	2%
B2033 Headley Common Rd	Mole Valley	-	0%	-1%	-1%	-1%	-2%	-3%
B290 Tattenham Corner Rd	Epsom & Ewell	-	0%	0%	0%	-1%	0%	-2%
B2221 Tattenham Crescent	Epsom & Ewell	-	0%	0%	-1%	1%	0%	1%
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0%	-1%	0%	0%	-1%	-1%
B291 Fir Tree Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	0%
A240 Reigate Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	1%

Table 4.11: Weekday average AM Peak Hour (0700 – 1000) traffic flow summary exiting Reigate and Banstead borough for A principal and B roads which cross into neighbouring authorities

Road	Borough / District	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)								
A217 Belmont Rise	Sutton	592	592	592	592	592	591	590
B2230 Brighton Road	Sutton	1067	1067	1067	1067	1067	1068	1068
B2218 Sutton Lane	Sutton	569	568	569	568	569	568	575
A2022 Croydon Lane	Croydon	856	856	855	856	855	874	858
B278 Carshalton Road	Croydon	372	373	372	373	367	359	373
B2032 Outwood Lane	Croydon	503	503	505	505	507	508	511
B2031 Dean Lane	Tandridge	316	315	313	315	311	311	308
A25 Nutfield Road	Tandridge	439	442	444	440	451	461	463
B2036 Balcombe Road	West Sussex	609	614	613	612	615	629	673
A23 Brighton Road	Mole Valley	973	980	976	976	971	981	1018
A217 Reigate Road	Mole Valley	695	709	698	694	714	734	770
A25 Buckland Road	Mole Valley	1033	1035	1039	1037	1040	1052	1054
B2032 Pebble Hill Road	Mole Valley	670	673	673	670	676	683	706
B2033 Headley Common Rd	Mole Valley	295	290	291	292	284	275	245
B290 Tattenham Corner Rd	Epsom & Ewell	625	626	624	626	624	618	619
B2221 Tattenham Crescent	Epsom & Ewell	393	393	395	394	395	403	403
B284 Yew Tree Bottom Rd	Epsom & Ewell	289	290	289	290	288	287	295
B291 Fir Tree Road	Epsom & Ewell	470	470	470	469	470	469	469
A240 Reigate Road	Epsom & Ewell	785	784	787	785	790	794	801
Absolute Difference from Scenario 1								
A217 Belmont Rise	Sutton	-	0	0	0	0	-1	-2
B2230 Brighton Road	Sutton	-	0	0	0	0	1	1
B2218 Sutton Lane	Sutton	-	0	1	-1	0	-1	6
A2022 Croydon Lane	Croydon	-	0	-1	0	-1	18	2
B278 Carshalton Road	Croydon	-	1	1	2	-4	-13	1
B2032 Outwood Lane	Croydon	-	0	2	2	4	5	8
B2031 Dean Lane	Tandridge	-	-1	-2	0	-5	-5	-8
A25 Nutfield Road	Tandridge	-	3	5	1	12	22	24
B2036 Balcombe Road	West Sussex	-	5	4	3	6	20	64
A23 Brighton Road	Mole Valley	-	7	3	3	-2	9	45
A217 Reigate Road	Mole Valley	-	14	3	-1	19	40	75
A25 Buckland Road	Mole Valley	-	2	6	4	7	19	20
B2032 Pebble Hill Road	Mole Valley	-	3	3	1	7	13	36
B2033 Headley Common Rd	Mole Valley	-	-5	-5	-3	-12	-20	-50
B290 Tattenham Corner Rd	Epsom & Ewell	-	1	-1	1	-1	-7	-7
B2221 Tattenham Crescent	Epsom & Ewell	-	0	2	1	2	10	10
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	1	0	1	-1	-3	6
B291 Fir Tree Road	Epsom & Ewell	-	0	0	0	0	0	-1
A240 Reigate Road	Epsom & Ewell	-	0	2	1	6	10	16
Percentage Change from Scenario 1								
A217 Belmont Rise	Sutton	-	0%	0%	0%	0%	0%	0%
B2230 Brighton Road	Sutton	-	0%	0%	0%	0%	0%	0%
B2218 Sutton Lane	Sutton	-	0%	0%	0%	0%	0%	1%
A2022 Croydon Lane	Croydon	-	0%	0%	0%	0%	2%	0%
B278 Carshalton Road	Croydon	-	0%	0%	0%	-1%	-3%	0%
B2032 Outwood Lane	Croydon	-	0%	0%	0%	1%	1%	2%
B2031 Dean Lane	Tandridge	-	0%	-1%	0%	-2%	-2%	-3%
A25 Nutfield Road	Tandridge	-	1%	1%	0%	3%	5%	6%
B2036 Balcombe Road	West Sussex	-	1%	1%	1%	1%	3%	10%
A23 Brighton Road	Mole Valley	-	1%	0%	0%	0%	1%	5%
A217 Reigate Road	Mole Valley	-	2%	0%	0%	3%	6%	11%
A25 Buckland Road	Mole Valley	-	0%	1%	0%	1%	2%	2%
B2032 Pebble Hill Road	Mole Valley	-	0%	1%	0%	1%	2%	5%
B2033 Headley Common Rd	Mole Valley	-	-2%	-2%	-1%	-4%	-7%	-17%
B290 Tattenham Corner Rd	Epsom & Ewell	-	0%	0%	0%	0%	-1%	-1%
B2221 Tattenham Crescent	Epsom & Ewell	-	0%	1%	0%	0%	2%	3%
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0%	0%	0%	0%	-1%	2%
B291 Fir Tree Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	0%
A240 Reigate Road	Epsom & Ewell	-	0%	0%	0%	1%	1%	2%

Table 4.12: Weekday average PM Peak Hour (1600 – 1900) traffic flow summary <u>entering</u> Reigate and Banstead borough for A principal and B roads which cross into neighbouring authorities

Road	Borough / District	Sc 1	Sc 2	Sc 3	Sc 4	Sc 5	Sc 6	Sc 7
Absolute Flow (vph)								
A217 Belmont Rise	Sutton	831	832	833	833	831	835	846
B2230 Brighton Road	Sutton	1189	1189	1189	1189	1189	1190	1189
B2218 Sutton Lane	Sutton	415	415	416	416	416	417	424
A2022 Croydon Lane	Croydon	921	919	919	919	918	922	915
B278 Carshalton Road	Croydon	334	335	333	333	331	334	342
B2032 Outwood Lane	Croydon	858	859	859	859	858	864	876
B2031 Dean Lane	Tandridge	508	506	506	508	505	533	534
A25 Nutfield Road	Tandridge	432	433	433	431	441	679	682
B2036 Balcombe Road	West Sussex	732	732	737	735	714	715	706
A23 Brighton Road	Mole Valley	823	829	824	823	819	831	838
A217 Reigate Road	Mole Valley	842	842	844	844	847	847	849
A25 Buckland Road	Mole Valley	1298	1295	1298	1299	1296	1297	1292
B2032 Pebble Hill Road	Mole Valley	818	819	820	820	819	823	826
B2033 Headley Common Rd	Mole Valley	298	298	297	296	299	296	287
B290 Tattenham Corner Rd	Epsom & Ewell	442	443	446	444	446	452	449
B2221 Tattenham Crescent	Epsom & Ewell	478	479	479	479	478	481	478
B284 Yew Tree Bottom Rd	Epsom & Ewell	359	359	360	361	358	361	361
B291 Fir Tree Road	Epsom & Ewell	418	418	417	417	419	420	420
A240 Reigate Road	Epsom & Ewell	642	642	643	643	644	643	649
Absolute Difference from Scenario 1								
A217 Belmont Rise	Sutton	-	1	2	2	0	4	15
B2230 Brighton Road	Sutton	-	0	0	0	0	1	0
B2218 Sutton Lane	Sutton	-	0	1	1	0	2	9
A2022 Croydon Lane	Croydon	-	-1	-2	-2	-2	1	-5
B278 Carshalton Road	Croydon	-	0	-1	-1	-3	0	8
B2032 Outwood Lane	Croydon	-	1	1	1	0	6	17
B2031 Dean Lane	Tandridge	-	-2	-2	0	-2	25	26
A25 Nutfield Road	Tandridge	-	1	1	-1	10	248	250
B2036 Balcombe Road	West Sussex	-	1	5	3	-18	-16	-26
A23 Brighton Road	Mole Valley	-	7	1	1	-4	9	15
A217 Reigate Road	Mole Valley	-	0	2	2	6	5	7
A25 Buckland Road	Mole Valley	-	-3	0	0	-3	-2	-7
B2032 Pebble Hill Road	Mole Valley	-	1	2	2	2	5	8
B2033 Headley Common Rd	Mole Valley	-	0	-1	-3	1	-2	-12
B290 Tattenham Corner Rd	Epsom & Ewell	-	2	4	2	4	10	7
B2221 Tattenham Crescent	Epsom & Ewell	-	1	1	1	0	2	0
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0	1	2	0	2	3
B291 Fir Tree Road	Epsom & Ewell	-	0	-1	-1	1	2	3
A240 Reigate Road	Epsom & Ewell	-	0	1	1	3	2	7
Percentage Change from Scenario 1								
A217 Belmont Rise	Sutton	-	0%	0%	0%	0%	0%	2%
B2230 Brighton Road	Sutton	-	0%	0%	0%	0%	0%	0%
B2218 Sutton Lane	Sutton	-	0%	0%	0%	0%	1%	2%
A2022 Croydon Lane	Croydon	-	0%	0%	0%	0%	0%	-1%
B278 Carshalton Road	Croydon	-	0%	0%	0%	-1%	0%	2%
B2032 Outwood Lane	Croydon	-	0%	0%	0%	0%	1%	2%
B2031 Dean Lane	Tandridge	-	0%	0%	0%	0%	5%	5%
A25 Nutfield Road	Tandridge	-	0%	0%	0%	2%	57%	58%
B2036 Balcombe Road	West Sussex	-	0%	1%	0%	-2%	-2%	-4%
A23 Brighton Road	Mole Valley	-	1%	0%	0%	0%	1%	2%
A217 Reigate Road	Mole Valley	-	0%	0%	0%	1%	1%	1%
A25 Buckland Road	Mole Valley	-	0%	0%	0%	0%	0%	-1%
B2032 Pebble Hill Road	Mole Valley	-	0%	0%	0%	0%	1%	1%
B2033 Headley Common Rd	Mole Valley	-	0%	0%	-1%	0%	-1%	-4%
B290 Tattenham Corner Rd	Epsom & Ewell	-	0%	1%	0%	1%	2%	2%
B2221 Tattenham Crescent	Epsom & Ewell	-	0%	0%	0%	0%	1%	0%
B284 Yew Tree Bottom Rd	Epsom & Ewell	-	0%	0%	1%	0%	1%	1%
B291 Fir Tree Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	1%
A240 Reigate Road	Epsom & Ewell	-	0%	0%	0%	0%	0%	1%

Table 4.13: Weekday average PM Peak Hour (1600 – 1900) traffic flow summary exiting Reigate and Banstead borough for A principal and B roads which cross into neighbouring authorities

4.9 Network Hotspots and Mitigation

4.9.1 To summarise the traffic impacts identified in this study, **Table 4.14** lists the junction and sections of road which experience large vehicle delay, termed 'hotspots'. The hotspots are shown geographically in **Figure 4.12**, and apply to all scenarios.

4.9.2 Hotspots are areas of stress where drivers are subject to considerable delay and are likely to require mitigation to facilitate any development in the local area. This could be 'hard' or 'soft' measures, or most likely a combination of both. Hard engineering measures could involve increasing the number of lanes of the carriageway or introducing a cycle lane for example, whilst soft measures could be the implementation of a travel plan to encourage travel by sustainable modes.

4.9.3 The hotspots provide a preparatory list of where potential mitigation should be focused, to inform the borough's Infrastructure Delivery Plan (IDP) and subsequent Community Infrastructure Levy (CIL).

Links	
Banstead	A217 Belmont Rise
	A240 Reigate Road
	B2218 Sutton Lane
	A2022 Fir Tree Road
	B2221 Great Tattenhams and Tattenham Way
	B2230 Brighton Road
Chipstead	B2232 Outwood Lane
Tadworth	B2220 Tadworth Street
	Shelvers Way
Merstham	A23 London Road South
Redhill	A23 Brighton Road
	A23 London Road
	A25 Nutfield Road
	A25 Redstone Hill
	Cormongers Lane
	Linkfield Lane
Reigate	A25 Bancroft Road
	A25 Reigate Road
	A25 West Street
	A217 north and south of the town
	A242 Croydon Road
	A242 Gatton Park Road
	A2044 Woodhatch Road
South Park	A217 Cockshot Hill
Earlswood	A23 Horley Road
Horley	B2036 Balcombe Road
	A23 Brighton Road
	C64 Massetts Road
	Lee Street
Highways England	M25 mainline anticlockwise junction 8 to 7
	M25 clockwise off-slip at junction 7 for the M23
	M23 northbound off-slip at junction 8 for the M25
	M23 mainline southbound between junctions 9 and 10
	A23 Brighton Road
Junctions	
Banstead	A217 Belmont Rise roundabout junction with B2230 Brighton Road
	A217 Brighton Rd signalled junction with A2022 Winkworth Rd, Banstead Crossroads
	A240 Reigate Road signalled junction with A2022 Fir Tree Road, Drift Bridge
	A2022 Winkworth Road, B2218 Sutton Lane and B2217
Tadworth	A217 Brighton Rd signalled northbound approach arm to Bonsor Drive Roundabout

	B290 Station Approach signalled junction with B2220 Tadworth Street
Hooley	A23 Brighton Road signalled junction with Star Lane
	A23 Brighton Road priority junction with Dean Lane
Reigate Hill	A217 Brighton Road signalled approach arm to the M25 J8 grade separated junction
	A217 Reigate Hill priority junction with Wray Lane
Woodhatch	A217 Dovers Green Rd signalled junction with Woodhatch Road and Prices Lane
Horley	Victoria Road junction with Massetts Road

Table 4.14: Network hotspots

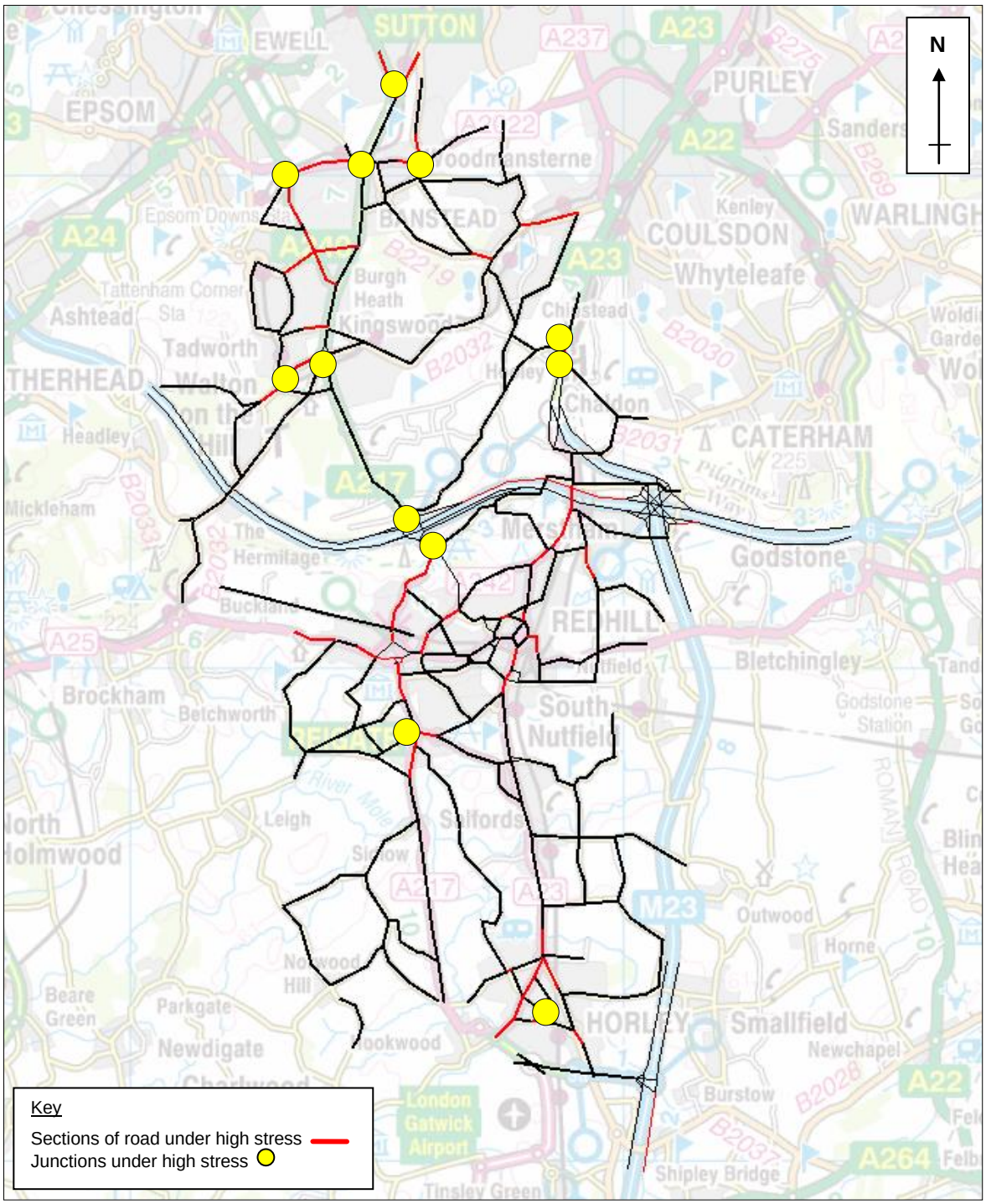

Figure 4.12: Network hotspots

5 SENSITIVITY TEST

5.1 Definition

5.1.1 A sensitivity test has been performed which includes a proposed 900 pupil secondary school in Merstham in addition to the developments comprising scenario 6 (components A1 and B1 to B4).

5.2 Trip Generation

5.2.1 The trip generation calculated for the sensitivity test is presented in **Table 5.1**. In total it has been estimated that all the components, together with the proposed school, generate 5,362 vehicle trips during the weekday average AM peak hour (0700 – 1000) and 4,538 vehicle trips during the weekday average PM peak hour (1600 – 1900). When compared with scenario 6, it shows that the estimated net vehicle trips generated by the proposed school is just 16 during the weekday average AM peak hour, and 1 in the weekday average PM peak hour.

Time Period	Arrivals	Departures	Total	*Difference from Scenario 6*
Weekday average AM peak hour (0700 – 1000)	2348	3014	5362	*16*
Weekday average PM peak hour (1600 – 1900)	3790	748	4538	*1*

Table 5.1: Net trip generation summary for sensitivity test and comparison with scenario 6

5.3 Results and Analysis

5.3.1 Given that the only difference between the sensitivity test and scenario 6 is the addition of the proposed secondary school, all of the results have been compared to scenario 6.

5.3.2 **Table 5.2** presents the network summary statistics for both scenario 6 and the sensitivity test. It can be seen that the percentage change is approximately 0% for all of the presented parameters, as would be expected from such a small net increase in vehicle trips generated from the proposed school development.

5.3.3 **Table 5.3** presents the top 5 links with the highest increase in vehicle flow compared with scenario 6. The maximum increase during the weekday average AM peak hour (0700 – 1000) is 9 vph and 13 vph in the weekday average PM peak hour (1600 – 1900). These increases are minor.

5.3.4 The top 5 junctions with the highest increase in vehicle delay compared with scenario 6 have also been presented, in **Table 5.4**. This shows that the maximum increase in delay is just approximately 1 second during the weekday average AM peak hour, and 9 seconds in the weekday average PM peak hour.

5.3.5 All of these increases are negligible and therefore suggests that the addition of this secondary school will have very little impact at this strategic level. It must be noted, however, that any impact will be more apparent at a local level and also during peak school times which do not directly coincide with those of this transport assessment.

Statistic	Road Type	Scenario 6	Sensitivity Test	Difference	% Difference
Average Weekday AM Peak Hour (0700 – 1000)					
Vehicle kilometres (veh km)	Motorway	166,738	166,756	18	0%
	A Trunk	5,943	5,941	-2	0%
	A Principal	107,911	107,958	47	0%
	B Road	43,704	43,694	-10	0%
	Minor	51,407	51,451	44	0%
Total		**375,704**	**375,801**	**97**	**0%**
Vehicle hours (veh hr)	Motorway	1,741	1,741	0	0%
	A Trunk	109	109	0	0%
	A Principal	2,705	2,706	1	0%
	B Road	1,132	1,132	0	0%
	Minor	1,108	1,108	0	0%
Total		**6,795**	**6,797**	**2**	**0%**
Average speed (kph)	Motorway	95.8	95.8	0	0%
	A Trunk	54.4	54.4	0	0%
	A Principal	39.9	39.9	0	0%
	B Road	38.6	38.6	0	0%
	Minor	46.4	46.4	0	0%
Weighted Average		**55.3**	**55.3**	**0**	**0%**
Average Weekday PM Peak Hour (1600 – 1900)					
Vehicle kilometres (veh km)	Motorway	176,953	176,953	0	0%
	A Trunk	6,923	6,915	-8	0%
	A Principal	113,197	113,239	42	0%
	B Road	44,764	44,830	66	0%
	Minor	50,213	50,217	4	0%
Total		**392,050**	**392,154**	**105**	**0%**
Vehicle hours (veh hr)	Motorway	1,898	1,898	0	0%
	A Trunk	134	134	0	0%
	A Principal	2,847	2,849	2	0%
	B Road	1,155	1,156	1	0%
	Minor	1,077	1,077	0	0%
Total		**7,112**	**7,115**	**3**	**0%**
Average speed (kph)	Motorway	93.3	93.2	0	0%
	A Trunk	51.5	51.5	0	0%
	A Principal	39.8	39.7	0	0%
	B Road	38.8	38.8	0	0%
	Minor	46.6	46.6	0	0%
Weighted Average		**55.1**	**55.1**	0	0%

Table 5.2: Network summary statistics comparison between scenario 6 and the sensitivity test

Rank	Name	Link Ref.	Increase in Flow (vph)	Sensitivity Test	
				RFC	LOS
Weekday Average AM Peak Hour (0700 – 1000)					
1	B290 Mill Road westbound, Tadworth	8233, 2	9	0.22	B
2	A23 London Road South northbound, Merstham	17040, 2	6	1.45	F
3	Circulatory carriageway of M25 junction 8 roundabout with A217, Reigate Hill	12305, 2	4	0.81	E
4	A217 Brighton Rd northbound, Lower Kingswood	8239, 2	4	0.56	D
5	M23 junction 8 northbound off-slip to M25 junction 7	11957, 1	4	0.95	E
Weekday Average PM Peak Hour (1600 – 1900)					
1	Lee Street westbound, Horley	17636, 1	13	0.38	C
2	B2032 Dorking Road northbound, Tadworth	8235, 2	11	0.64	E
3	M25 junction 9 to 8 clockwise	10658, 1	10	0.84	E
4	M25 junction 7 anticlockwise off-slip to M23 junction 8	11942, 2	8	0.09	A
5	A23 Bonehurst Road southbound, Horley	15748, 1	8	0.45	D

Table 5.3: Top 5 links with the highest increase in flow compared with scenario 6

Rank	Name	Type	Node Ref.	Increase in Average Delay (seconds)	Sensitivity Test	
					RFC	LOS
Weekday Average AM Peak Hour (0700 – 1000)						
1	A23 London Road South junction with Rocky Lane, Redhill	Priority	15761	1.4	0.50	C
2	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	0.8	0.30	D
3	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	0.7	0.33	D
4	B290 Mill Road junction with B2032 Dorking Road, Tadworth	Priority	13068	0.4	0.58	C
5	Frenches Road junction with Battlebridge Lane	Signal	15130	0.3	0.62	D
Weekday Average PM Peak Hour (1600 – 1900)						
1	A2022 Croydon Lane junction with B2218, B2217 and A2022 Winkworth Rd, Banstead	Roundabout	13079	8.8	1.13	F
2	Slipshatch Road junction with Sandcross Lane, South Park	Priority	13305	1.2	0.33	C
3	A217 Dovers Green Road junction with Sandcross Lane, South Park	Priority	15259	1.0	0.30	C
4	Banstead Crossroads, Banstead	Signal	13077	0.7	0.78	F
5	B2032 Dorking Road junction with B2220 Chequers Lane, Walton on the Hill	Priority	14257	0.6	0.38	A

Table 5.4: Top 5 junctions with the highest increase in average vehicle delay compared with scenario 6

6 CONCLUSIONS

6.1.1 The traffic impacts of potential development sites, identified as part of Reigate and Banstead Borough Council's emerging Local Plan, have been assessed using Surrey County Council's strategic highway model for the forecast year 2031.

6.1.2 Seven model scenarios have been created. Scenario 1, the do-minimum baseline urban growth, has been estimated to generate 4,849 net vehicle trips during the weekday average AM peak hour (0700 – 1000) and 3,942 net vehicle trips during the weekday average PM peak hour (1600 – 1900). Its component A is the foundation of all the other model scenarios and as a result all other scenarios have been compared to it.

6.1.3 Scenarios 2 to 5 each contain the baseline urban growth of scenario 1 together with potential residential development sites situated in varying locations of the borough. It has been found that these isolated clusters of developments, captured in components B1 to B4, have little overall impact when analysing the highway network of Reigate and Banstead borough as a whole.

6.1.4 Scenario 6 contains all the components of scenarios 1 to 5, and the model suggests that the collective impact is relatively small. During the weekday average AM peak hour, the maximum increase in junction delay is just 8 seconds, and there is a maximum increase of 61 vph on links across the entire borough compared with scenario 1. Junction delay is also impacted by a very small amount during the weekday average PM peak hour. There are, however, larger increases in flow during the PM peak. These increases, however, are due to vehicles switching their routes. For example, the largest increase on the A25 Nutfield Road, east of Redhill, is due to vehicles diverting from Nutfield Marsh and Cooper's hill Roads to Cormongers and Kings Cross Lanes via the A25. This phenomenon is also apparent in scenario 7.

6.1.5 Scenario 7 is the same as scenario 6 but with the addition of component B5, a strategic employment site situated south of Horley. This scenario contains the largest net trip generation of 6,191 vehicle trips in the weekday average AM peak hour and 5,296 vehicle trips in the average PM peak hour. Given the development is to be accessed off junction 9a of the M23, the model has forecasted a large increase in flow on adjacent roads in Horley, particularly the M23 mainline between junctions 9 and 9a.

6.1.6 Although for the majority of the potential development sites, there is very little impact on the increase in vehicle flow or junction delay, where a road or junction has been shown to have limited or no available capacity, or a poor level of service, any additional vehicles, albeit small, will result in vehicle delay and driver stress.

6.1.7 Links and junctions within the borough which have been forecasted to be under stress, where drivers will be subject to considerable delay, have been defined as 'hotspots'. These hotspots are likely to require mitigation to reduce the impact of any development in the local area, and provide a preparatory list to inform the borough's Infrastructure Delivery Plan (IDP) and subsequent Community Infrastructure Levy (CIL).

6.1.8 A sensitivity test has also been conducted to assess the impact of a 900 pupil school in Merstham in addition to the developments comprising scenario 6. It has been shown that the impact at a strategic level is negligible.

7 APPENDIX A: LINK FLOW VALIDATION

7.1 Average AM Peak Hour (0700 – 1000)

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
7	Lonesome Lane	70	87	17	24%	1.87	✓	✓	×
8	Lonesome Lane	64	58	-6	-9%	0.76	✓	✓	×
22	A2044 Woodhatch Road	660	728	68	10%	2.59	✓	✓	×
23	A2044 Woodhatch Road	671	635	-36	-5%	1.41	✓	✓	×
72	A23 Brighton Road	744	675	-69	-9%	2.57	✓	✓	×
73	A23 Brighton Road	721	633	-88	-12%	3.38	✓	✓	×
144	A23 Brighton Road	569	519	-50	-9%	2.14	✓	✓	×
145	A23 Brighton Road	619	590	-29	-5%	1.18	✓	✓	×
154	A217 Brighton Road	1737	1725	-12	-1%	0.28	✓	✓	×
155	A217 Brighton Road	1537	1453	-84	-5%	2.16	✓	✓	×
238	A217 Reigate Road	582	569	-13	-2%	0.52	✓	✓	×
239	A217 Reigate Road	441	519	78	18%	3.56	✓	✓	×
277	A217 Brighton Road	1802	1760	-42	-2%	1.01	✓	✓	×
278	A217 Brighton Road	1377	1185	-192	-14%	5.36	✓	✓	×
375	B2034 Lesbourne Road	355	346	-9	-3%	0.49	✓	✓	×
376	B2034 Lesbourne Road	206	219	13	6%	0.90	✓	✓	×
383	A217 Cockshot Hill	820	778	-42	-5%	1.47	✓	✓	×
384	A217 Cockshot Hill	547	562	15	3%	0.65	✓	✓	×
387	A23 Brighton Road	803	803	0	0%	0.00	✓	✓	×
388	A23 Brighton Road	637	612	-25	-4%	1.00	✓	✓	×
509	A23 Horley Road	749	655	-94	-13%	3.55	✓	✓	×
510	A23 Horley Road	1073	1042	-31	-3%	0.94	✓	✓	×
533	A0023 London Road	718	681	-37	-5%	1.41	✓	✓	×
534	A0023 London Road	1121	1094	-27	-2%	0.81	✓	✓	×
553	B2032 Dorking Road	748	720	-28	-4%	1.04	✓	✓	×
554	B2032 Dorking Road	538	634	96	18%	3.96	✓	✓	×
555	B2032 Pebble Hill Road	730	720	-10	-1%	0.39	✓	✓	×
556	B2032 Pebble Hill Road	652	478	-174	-27%	7.30	×	×	×
557	B2033 Headley Common Road	408	446	38	9%	1.83	✓	✓	×
558	B2033 Headley Common Road	273	291	18	7%	1.06	✓	✓	×
561	A23 Brighton Road	753	781	28	4%	1.00	✓	✓	×
562	A23 Brighton Road	663	650	-13	-2%	0.50	✓	✓	×
563	A23 Brighton Road	1014	977	-37	-4%	1.17	✓	✓	×

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
564	A23 Brighton Road	703	651	-52	-7%	2.00	✓	✓	×
603	A242 Croydon Road	409	440	31	8%	1.51	✓	✓	×
604	A242 Croydon Road	503	513	10	2%	0.46	✓	✓	×
657	Gatton Bottom	315	292	-23	-7%	1.31	✓	✓	×
658	Gatton Bottom	241	242	1	0%	0.05	✓	✓	×
659	Wray Lane	307	387	80	26%	4.31	✓	✓	×
663	A217 Reigate Hill	1247	1199	-48	-4%	1.38	✓	✓	×
664	A217 Reigate Hill	991	908	-83	-8%	2.69	✓	✓	×
667	M25 Anticlockwise J8 - 7	5084	4563	-521	-10%	7.50	✓	×	×
668	M25 Anticlockwise J9 - 8	4873	4405	-468	-10%	6.87	✓	×	×
735	M25 J8-9 westbound	5665	4980	-685	-12%	9.39	✓	×	×
801	M23 northbound J8 - 7	1043	811	-232	-22%	7.63	×	×	×
802	M23 southbound J7 - 8	1144	1064	-80	-7%	2.39	✓	✓	×
1212	A2022 Croydon Lane	749	757	8	1%	0.28	✓	✓	×
1213	A2022 Croydon Lane	809	802	-7	-1%	0.24	✓	✓	×
1227	B2032 Outwood Lane	241	247	6	3%	0.41	✓	✓	×
1228	B2032 Outwood Lane	368	350	-18	-5%	0.94	✓	✓	×
1233	B2218 Sutton Lane	300	269	-31	-10%	1.84	✓	✓	×
1234	B2218 Sutton Lane	421	418	-3	-1%	0.13	✓	✓	×
1331	B2221 Great Tattenhams	320	335	15	5%	0.84	✓	✓	×
1332	B2221 Great Tattenhams	317	322	5	2%	0.30	✓	✓	×
1333	B2036 Balcombe Road	646	634	-12	-2%	0.49	✓	✓	×
1334	B2036 Balcombe Road	507	513	6	1%	0.26	✓	✓	×
1337	A23 London Road	775	671	-104	-13%	3.87	✓	✓	×
1338	A23 London Road	881	951	70	8%	2.31	✓	✓	×
1339	B2034 Blackborough Road	263	270	7	3%	0.40	✓	✓	×
1340	B2034 Blackborough Road	139	178	39	28%	3.13	✓	✓	×
1341	C0064 Victoria Road	222	235	13	6%	0.89	✓	✓	×
1342	C0064 Victoria Road	185	4	-181	-98%	18.58	×	×	✓
1343	D0343 Russells Crescent	235	198	-37	-16%	2.54	✓	✓	×
1344	D0343 Russells Crescent	130	156	26	20%	2.18	✓	✓	×
1345	D1048 Consort Way East	141	0	-141	-100%	16.79	×	×	✓
1346	D1048 Consort Way East	77	0	-77	-100%	12.33	✓	×	✓
1347	B2032 Outwood Lane	125	124	-1	0%	0.05	✓	✓	×
1348	B2032 Outwood Lane	265	297	32	12%	1.90	✓	✓	×
1349	B2220 Chequers Lane	73	68	-5	-7%	0.60	✓	✓	×
1350	B2220 Chequers Lane	62	62	0	0%	0.03	✓	✓	×

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
1351	B284 Yew Tree Bottom Road	241	245	4	2%	0.28	✓	✓	×
1352	B284 Yew Tree Bottom Road	306	319	13	4%	0.73	✓	✓	×
1353	C226 Pendleton Road	533	562	29	5%	1.23	✓	✓	×
1354	C226 Pendleton Road	226	249	23	10%	1.49	✓	✓	×
1355	A23 London Road	547	595	48	9%	2.01	✓	✓	×
1356	A23 London Road	582	601	19	3%	0.77	✓	✓	×
1357	A25 Redstone Hill	382	361	-21	-6%	1.10	✓	✓	×
1358	A25 Redstone Hill	587	608	21	4%	0.86	✓	✓	×
1359	A25 High Street	1466	1417	-49	-3%	1.29	✓	✓	×
1362	A217 Brighton Road	1362	1318	-44	-3%	1.21	✓	✓	×
1363	A217 Brighton Road	1134	1227	93	8%	2.70	✓	✓	×
1364	A240 Reigate Road	582	605	23	4%	0.94	✓	✓	×
1365	A240 Reigate Road	569	575	6	1%	0.24	✓	✓	×
1367	A23 Brighton Road	1247	1271	24	2%	0.66	✓	✓	×
1368	A23 Brighton Road	1487	1527	40	3%	1.02	✓	✓	×
1369	Dean Lane	52	40	-12	-24%	1.80	✓	✓	×
1370	Dean Lane	137	175	38	28%	3.05	✓	✓	×
1371	A23 Brighton Road	1305	1286	-19	-1%	0.53	✓	✓	×
1372	A23 Brighton Road	1629	1677	48	3%	1.19	✓	✓	×
1375	A217 Brighton Road	1949	1797	-152	-8%	3.51	✓	✓	×
1376	A217 Brighton Road	1506	1605	99	7%	2.52	✓	✓	×
1377	A217 Bell Street	833	796	-37	-4%	1.30	✓	✓	×
1378	A217 Bell Street	675	688	13	2%	0.49	✓	✓	×
1379	A25 Church Street	747	718	-29	-4%	1.08	✓	✓	×
1380	A23 Bonehurst Road	1138	1092	-46	-4%	1.39	✓	✓	×
1381	A23 Bonehurst Road	825	678	-147	-18%	5.37	×	✓	×
1386	M25 J7 within the junction North	3728	3491	-237	-6%	3.95	✓	✓	×
1387	M25 J7 within the junction South	2744	2395	-349	-13%	6.88	✓	×	×
1388	M25 J7 Slip Off South	2082	2168	86	4%	1.87	✓	✓	×
1389	M25 J7 Slip Off North to M23 J8 North	179	181	2	1%	0.17	✓	✓	×
1390	M23 Link Road from J8 South to M25 J7 North	289	298	9	3%	0.53	✓	✓	×
1391	M23 Link Road from J8 North to M25 J7 South	2080	1849	-231	-11%	5.20	✓	✓	×
1392	M25 J7 - 8	6072	5358	-714	-12%	9.45	✓	×	×
1394	M25 J8 Slip Off South	753	669	-84	-11%	3.16	✓	✓	×
1395	M25 J8 within the junction North	4934	4360	-574	-12%	8.43	✓	×	×
1396	M25 J8 within the junction South	3975	3736	-239	-6%	3.85	✓	✓	×
1522	D1273 Philanthropic Road	96	103	7	8%	0.74	✓	✓	×

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
1523	D1273 Philanthropic Road	27	48	21	78%	3.43	✓	✓	×
1612	M25 J8 Slip On North	709	620	-89	-13%	3.44	✓	✓	×
1650	A217 Reigate Hill	744	960	216	29%	7.40	×	×	×
1651	A217 Reigate Hill	895	1066	171	19%	5.45	×	✓	×
1654	A217 Reigate Hill	734	736	2	0%	0.07	✓	✓	×
1655	A217 Reigate Hill	742	808	66	9%	2.36	✓	✓	×

7.2 Average PM Peak Hour (1600 – 1900)

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
7	Lonesome Lane	93	92	-1	-2%	0.15	✓	✓	×
8	Lonesome Lane	120	110	-10	-9%	0.97	✓	✓	×
22	A2044 Woodhatch Road	634	627	-7	-1%	0.27	✓	✓	×
23	A2044 Woodhatch Road	755	697	-58	-8%	2.16	✓	✓	×
72	A23 Brighton Road	761	717	-44	-6%	1.61	✓	✓	×
73	A23 Brighton Road	983	891	-92	-9%	3.01	✓	✓	×
144	A23 Brighton Road	764	629	-135	-18%	5.11	×	✓	×
145	A23 Brighton Road	631	588	-43	-7%	1.74	✓	✓	×
154	A217 Brighton Road	1655	1699	44	3%	1.07	✓	✓	×
155	A217 Brighton Road	1720	1585	-135	-8%	3.31	✓	✓	×
238	A217 Reigate Road	461	446	-15	-3%	0.72	✓	✓	×
239	A217 Reigate Road	586	634	48	8%	1.94	✓	✓	×
277	A217 Brighton Road	1645	1354	-291	-18%	7.52	×	×	×
278	A217 Brighton Road	1713	1446	-267	-16%	6.72	×	×	×
375	B2034 Lesbourne Road	375	402	27	7%	1.39	✓	✓	×
376	B2034 Lesbourne Road	217	364	147	68%	8.62	×	×	×
383	A217 Cockshot Hill	559	628	69	12%	2.82	✓	✓	×
384	A217 Cockshot Hill	802	892	90	11%	3.09	✓	✓	×
387	A23 Brighton Road	721	736	15	2%	0.56	✓	✓	×
388	A23 Brighton Road	833	781	-52	-6%	1.85	✓	✓	×
509	A23 Horley Road	637	728	91	14%	3.48	✓	✓	×
510	A23 Horley Road	589	763	174	29%	6.68	×	×	×
533	A0023 London Road	1067	1008	-59	-6%	1.83	✓	✓	×
534	A0023 London Road	775	870	95	12%	3.30	✓	✓	×
553	B2032 Dorking Road	473	467	-6	-1%	0.26	✓	✓	×

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
554	B2032 Dorking Road	634	632	-2	0%	0.07	✓	✓	×
555	B2032 Pebble Hill Road	567	511	-56	-10%	2.40	✓	✓	×
556	B2032 Pebble Hill Road	669	761	92	14%	3.44	✓	✓	×
557	B2033 Headley Common Road	281	282	1	0%	0.05	✓	✓	×
558	B2033 Headley Common Road	350	367	17	5%	0.87	✓	✓	×
561	A23 Brighton Road	886	858	-28	-3%	0.95	✓	✓	×
562	A23 Brighton Road	748	833	85	11%	3.04	✓	✓	×
563	A23 Brighton Road	966	946	-20	-2%	0.65	✓	✓	×
564	A23 Brighton Road	908	972	64	7%	2.09	✓	✓	×
603	A242 Croydon Road	504	614	110	22%	4.67	×	✓	×
604	A242 Croydon Road	352	428	76	21%	3.83	✓	✓	×
657	Gatton Bottom	335	321	-14	-4%	0.79	✓	✓	×
658	Gatton Bottom	213	144	-69	-32%	5.14	✓	✓	×
659	Wray Lane	366	390	24	7%	1.25	✓	✓	×
663	A217 Reigate Hill	1347	1339	-8	-1%	0.22	✓	✓	×
664	A217 Reigate Hill	1330	1178	-152	-11%	4.29	✓	✓	×
667	M25 Anticlockwise J8 - 7	6447	5778	-669	-10%	8.56	✓	×	×
668	M25 Anticlockwise J9 - 8	6103	5425	-678	-11%	8.93	✓	×	×
735	M25 J8-9 westbound	4569	4546	-23	0%	0.33	✓	✓	×
801	M23 northbound J8 - 7	1173	1138	-35	-3%	1.02	✓	✓	×
802	M23 southbound J7 - 8	1139	961	-178	-16%	5.50	×	×	×
1212	A2022 Croydon Lane	961	939	-22	-2%	0.71	✓	✓	×
1213	A2022 Croydon Lane	780	765	-15	-2%	0.53	✓	✓	×
1227	B2032 Outwood Lane	383	472	89	23%	4.31	✓	✓	×
1228	B2032 Outwood Lane	259	269	10	4%	0.59	✓	✓	×
1233	B2218 Sutton Lane	385	420	35	9%	1.75	✓	✓	×
1234	B2218 Sutton Lane	252	269	17	7%	1.08	✓	✓	×
1331	B2221 Great Tattenhams	409	391	-18	-4%	0.91	✓	✓	×
1332	B2221 Great Tattenhams	317	328	11	4%	0.63	✓	✓	×
1333	B2036 Balcombe Road	584	573	-11	-2%	0.46	✓	✓	×
1334	B2036 Balcombe Road	670	663	-7	-1%	0.28	✓	✓	×
1337	A23 London Road	1064	975	-89	-8%	2.79	✓	✓	×
1338	A23 London Road	607	674	67	11%	2.65	✓	✓	×
1339	B2034 Blackborough Road	297	329	32	11%	1.79	✓	✓	×
1340	B2034 Blackborough Road	190	333	143	76%	8.87	×	×	×
1341	C0064 Victoria Road	376	391	15	4%	0.79	✓	✓	×
1342	C0064 Victoria Road	261	5	-256	-98%	22.20	×	×	✓

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
1343	D0343 Russells Crescent	210	221	11	5%	0.78	✓	✓	×
1344	D0343 Russells Crescent	229	184	-45	-20%	3.11	✓	✓	×
1345	D1048 Consort Way East	142	0	-142	-100%	16.85	×	×	✓
1346	D1048 Consort Way East	187	7	-180	-96%	18.29	×	×	✓
1347	B2032 Outwood Lane	294	327	33	11%	1.85	✓	✓	×
1348	B2032 Outwood Lane	135	170	35	26%	2.84	✓	✓	×
1349	B2220 Chequers Lane	70	79	9	14%	1.09	✓	✓	×
1350	B2220 Chequers Lane	78	117	39	50%	3.96	✓	✓	×
1351	B284 Yew Tree Bottom Road	307	249	-58	-19%	3.46	✓	✓	×
1352	B284 Yew Tree Bottom Road	243	232	-11	-4%	0.69	✓	✓	×
1353	C226 Pendleton Road	354	367	13	4%	0.70	✓	✓	×
1354	C226 Pendleton Road	529	474	-55	-10%	2.44	✓	✓	×
1355	A23 London Road	703	722	19	3%	0.70	✓	✓	×
1356	A23 London Road	498	509	11	2%	0.47	✓	✓	×
1357	A25 Redstone Hill	611	674	63	10%	2.49	✓	✓	×
1358	A25 Redstone Hill	416	484	68	16%	3.21	✓	✓	×
1359	A25 High Street	1514	1552	38	3%	0.97	✓	✓	×
1362	A217 Brighton Road	1384	1179	-205	-15%	5.73	✓	×	×
1363	A217 Brighton Road	1262	1313	51	4%	1.43	✓	✓	×
1364	A240 Reigate Road	575	484	-91	-16%	3.97	✓	✓	×
1365	A240 Reigate Road	700	744	44	6%	1.63	✓	✓	×
1367	A23 Brighton Road	1410	1534	124	9%	3.23	✓	✓	×
1368	A23 Brighton Road	1478	1625	147	10%	3.74	✓	✓	×
1369	Dean Lane	131	119	-12	-9%	1.10	✓	✓	×
1370	Dean Lane	51	64	13	26%	1.75	✓	✓	×
1371	A23 Brighton Road	1570	1590	20	1%	0.51	✓	✓	×
1372	A23 Brighton Road	1559	1627	68	4%	1.71	✓	✓	×
1375	A217 Brighton Road	2074	2009	-65	-3%	1.43	✓	✓	×
1376	A217 Brighton Road	1790	1620	-170	-9%	4.11	✓	✓	×
1377	A217 Bell Street	641	635	-6	-1%	0.26	✓	✓	×
1378	A217 Bell Street	877	835	-42	-5%	1.44	✓	✓	×
1379	A25 Church Street	781	841	60	8%	2.11	✓	✓	×
1380	A23 Bonehurst Road	973	1023	50	5%	1.58	✓	✓	×
1381	A23 Bonehurst Road	1179	1188	9	1%	0.26	✓	✓	×
1386	M25 J7 within the junction North	2791	3316	525	19%	9.51	✓	×	×
1387	M25 J7 within the junction South	3948	3417	-531	-13%	8.74	✓	×	×
1388	M25 J7 Slip Off South	2341	2360	19	1%	0.40	✓	✓	×

Count No.	Count Name	Observed Flow	Modelled Flow	Diff	% Diff	GEH	Met Flow Criteria	GEH <5.5	GEH > 10
1389	M25 J7 Slip Off North to M23 J8 North	171	202	31	18%	2.28	✓	✓	×
1390	M23 Link Road from J8 South to M25 J7 North	227	192	-35	-16%	2.43	✓	✓	×
1391	M23 Link Road from J8 North to M25 J7 South	1752	1577	-175	-10%	4.29	✓	✓	×
1392	M25 J7 - 8	4736	4712	-24	-1%	0.34	✓	✓	×
1394	M25 J8 Slip Off South	806	698	-108	-13%	3.96	✓	✓	×
1395	M25 J8 within the junction North	3882	3770	-112	-3%	1.82	✓	✓	×
1396	M25 J8 within the junction South	5159	4728	-431	-8%	6.13	✓	×	×
1522	D1273 Philanthropic Road	41	55	14	34%	2.03	✓	✓	×
1523	D1273 Philanthropic Road	60	84	24	41%	2.87	✓	✓	×
1612	M25 J8 Slip On North	708	777	69	10%	2.52	✓	✓	×
1650	A217 Reigate Hill	823	866	43	5%	1.49	✓	✓	×
1651	A217 Reigate Hill	1037	1317	280	27%	8.16	×	×	×
1654	A217 Reigate Hill	791	775	-16	-2%	0.57	✓	✓	×
1655	A217 Reigate Hill	820	773	-47	-6%	1.68	✓	✓	×