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ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2

2012 UPDATE

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ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2
2012 UPDATE

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ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

1. INTRODUCTION

1.1. Background

1.1.1. A report *Romsey Movement and Access Study Review Phase II* (Ref: 14135/TR04A) was prepared by Gifford (now Ramboll) in 2007 to provide a relative comparison of the impacts of the various residential development options in Romsey and to identify, in transport terms, preferred development scenario(s). The purpose of the report was to consider these options for future residential development, identify the relative impacts and outline a strategy to inform future decisions on how transport issues should be dealt with. For brevity, the 2007 report will be referred to in this latest report as the 'original RMAS review (report)' or 'original report'.

1.1.2. The original RMAS review report was submitted as a background document to the Core Strategy, which was submitted by Test Valley Borough Council to the Secretary of State in March 2009. Following the Exploratory Meeting that was held in May 2009, the Council decided to withdraw the Core Strategy. Work has since been undertaken to revise the Core Strategy which included a focused 'key issues' consultation, updating the evidence base and also taking account of the various policy changes that came into effect since the first Core Strategy was initially produced.

1.1.3. This latest report has been prepared by Ramboll for Test Valley Borough Council in order to provide an update of the original RMAS review, taking into account the residential development proposals for Romsey, put forward within the latest Core Strategy document, and also any changes to standard traffic growth predictions issued by the Department of Transport (DfT) since the original report.

1.1.4. It should be noted that the original report and this report have only examined residential development scenarios and not other possible land use development options or scenarios.

1.1.5. The key purposes of this latest report are to:

- Examine the possible effects of any changes over the period since the original RMAS review on the assumptions used and conclusions made in that review; and hence
- establish whether the broad conclusions reached in the original report, in terms of the relative merits of the development options considered, remain valid.

2. ANALYSIS METHODOLOGY

2.1. Introduction

2.1.1. The 'Romsey Movement and Access Study Review Phase II' report (Ref: 14135/TR04A), in summary:

- Assessed the relative traffic impacts of various residential development scenarios, both by individual sites and as combinations of sites;
- Using appraisal frameworks, assessed the development scenarios in terms of accessibility by walking, cycling and public transport;
- Identified, in transport terms, a preferred development scenario;
- Examined the traffic impact of the preferred development scenario at key locations on the road network; and
- Considered possible measures to mitigate the impact of development.

2.1.2. This latest report follows a similar assessment methodology to that adopted in the original report. For convenience, the methodology is reproduced in outline below.

2.2. Traffic Model

2.2.1. A traffic model was developed to enable assessment of the impact of the development scenarios. It enabled trip generation and trip purpose estimates to be predicted based on the quantum of development. The development traffic was then assigned via the Romsey road network to a selection of key destinations. The model added the traffic generated by development sites to a series of baseline traffic flows collected in 2007, factored to a design year of 2012.

2.2.2. Traffic model forecasts were presented for an average weekday morning (AM) peak period, 08:00 – 09:00. This time period was used because, as agreed with TVBC, it was considered to be a more concentrated peak period than the afternoon peak. It is also the critical time period for residential sites due to the high component of journey to work (JTW) trips which are generated at this time of day.

2.2.3. Traffic impact was assessed for both individual sites and combinations of sites. The residential development scenarios tested are shown in Table 2.1. It should be noted that Abbotswood was included within all combination scenarios as it was assumed that the site would be brought forward for development prior to other possible development sites. Construction at Abbotswood is now underway and a small number of houses are already occupied.

Table 2.1 Development Scenarios

Scenario	Scenario Name	Sites Included	Design Year
Individual Sites			
1	Abbotswood		2012
2	Ganger Farm		
3	Sandy Lane		
4	Halterworth		

Scenario	Scenario Name	Sites Included	Design Year
5	Lower Whitenap		
6	Burma Road		
Combined Options			
7	North	Ganger Farm/Sandy Lane	
8	South 1	Lower Whitenap/Burma Road	
9	South 2	Lower Whitenap	
10	East and North 1	Halterworth/Sandy Lane	
11	East and North 2	Halterworth/Ganger Farm	
12	East and South	Halterworth/Lower Whitenap/Burma Road	
13	South and North	Lower Whitenap/Ganger Farm	

(note: all combinations include Abbotswood in 'base' flows)

2.2.4. The impact on a series of critical links that provide an indication of the performance of important routes within Romsey was examined in more detail. These links are summarised in Table 2.2 below.

Table 2.2 Critical Links

Link Refs	Link	Orientation
A-D	Winchester Road (various locations)	both directions
E-G	The Hundred (various locations)	both directions
H-I	Palmerston Street (various locations)	both directions
J	Alma Road	both directions
K	Greatbridge Road	both directions
L	Romsey Bypass	both directions
M	Southampton Road	northbound
N	Cupernham Lane	southbound
O	Fishlake Meadows	westbound
P	Highwood Lane	southbound
Q	Braishfield Road	southbound
R	Botley Road	westbound

2.2.5. The traffic impact was measured using four criteria:

- Increase in flow (vehicles)
- Total flow in design year (vehicles)
- Net percentage impact (on baseline design year flows)
- 'GEH' impact

2.2.6. The net percentage impact was derived by comparing the traffic flows including a development scenario, with a baseline (no southern Test Valley development) traffic flow. For scenarios incorporating individual sites (i.e. scenarios 1-6), the baseline traffic flow is

taken to be equivalent to traffic flow in 2012 without any additional development. However for scenarios incorporating combinations of sites (i.e. scenarios 7-13), the base traffic flow is equivalent to traffic flow in 2012 plus traffic generated by the Abbotswood development.

2.2.7. The 'GEH' statistic (named after G E Havers who invented the methodology) is a formula used in traffic modelling to compare traffic volumes. It is an empirical formula used to compare data which varies over a wide range. For example, dual carriageways might carry several thousands of vehicles per hour, whereas a residential street might carry only tens of vehicles per hour. The addition of 30 vehicles to each of these links will have a small impact on the high capacity dual carriageway but a large impact on the residential street. In this instance it is not possible to select a single percentage of variation that is acceptable for both volumes. Using a GEH statistic will smooth the perceived impact, providing a more consistent base for comparing impacts relative to existing flows.

2.2.8. In addition an assessment of the overall impact of the development scenarios was undertaken, using 'Relative Impact Scoring' or RIS. RIS seeks to quantify the impact of a development scenario across all links in the modelled network. The range of all link GEH values observed in the modelled network is divided into intervals, and a score is applied to each link according to which interval it falls within. Scoring is weighted so that higher GEHs attract higher scores. By adding up the total score of all links in the modelled network, an overall measure of the impact to the network is achieved. The application of the same scoring criteria to all development scenarios allows a direct comparison of the total scores to be made.

2.2.9. The results of the traffic modelling were presented in the form of a series of tables and diagrams based on the four impact criteria (paragraph 2.2.7 above).

2.2.10. For this report, the background (baseline) traffic flows for the assessment year 2012 have been derived based on the latest DfT estimates of traffic growth between 2007 and 2012. The RMAS model has been re-run for the various development scenarios taking into account the latest traffic growth factors. Also, the traffic generation for the current, Core Strategy development proposals for Romsey at (Lower) Whitenap have been incorporated. A lower number of units are now proposed for this site (1,750 units were assumed in the original RMAS review for Whitenap; 1,500 are now proposed in the latest Core Strategy).

2.2.11. The impacts of the development scenarios, allowing for the latest traffic growth factors and changes to the proposals for Whitenap are considered in Chapter 3. These impacts are compared with those identified for the development scenarios tested in the original report.

Accessibility by Walking, Cycling and Public Transport

2.2.12. The original report provided a comparison of the relative accessibility of the development site options in relation to key destinations (attractors), on the basis of walking, cycling and public transport modes. This assessment provided a broad basis for the comparison of the development options, rather than a detailed appraisal of accessibility.

2.2.13. The accessibility analysis for the development scenarios were presented in the form of a series of appraisal framework-style tables and matrices, which compared the scenarios in

terms of reasonable walking and cycling distances to key facilities and services and the number of facilities within those distances.

2.2.14. The conclusions about the relative accessibility of the development scenarios made in the original report are largely unchanged. They are considered in Chapter 4.

2.3. Traffic Assessment of Preferred Option

2.3.1. The original report identified the Lower Whitenap and Burma Road combination scenario as the preferred option in transport terms.

2.3.2. The preferred option was considered in more detail by undertaking capacity assessments at key junctions. These assessments identified where capacity issues were likely to emerge with and without the preferred scenario. Possible mitigation measures to address these issues were identified and tested.

2.3.3. The conclusions from the assessment of the key junctions in the original report are reviewed in Chapter 5, in the context of the current Core Strategy proposal for development at Whitenap and the latest RMAS model predictions.

3. TRAFFIC GROWTH

3.1. Introduction

3.1.1. In reviewing the original report and testing that its conclusions remain valid, a key factor is to consider whether assumptions about traffic growth (over the period from the original traffic surveys to the assessment year, 2012) have changed and if so, by how much. This will influence the impacts on key links and junctions of both general traffic growth and the development options tested.

3.1.2. The DfT produces traffic growth predictions. The predictions in the original report will be compared below with the current DfT estimates for traffic growth. In addition, local traffic survey data has been provided by TVBC. This locally observed traffic data is also compared with current DfT growth estimates in order to provide a further insight into how traffic flows may have changed over the period since the original report.

3.2. Observed Traffic Growth

3.2.1. The original report was based on 2007 traffic data. Traditionally, growth in general traffic flows would have been expected since then, in Romsey, as elsewhere. However in recent years the UK economic growth has slowed, petrol prices have risen and new development has been slow coming forward. Hence traffic growth locally, year by year, may not have occurred as might have been anticipated previously.

3.2.2. Annual Average Daily Traffic (AADT) information provided by Hampshire Council for a permanent count site on the A3090 Romsey Bypass (Site Ref:34200002) gives an indication of the changes in local traffic flows in this area, over the period 2003-2011. The AADT flows are shown in Figure 3.1. It can be seen from the analysis of this AADT data that, for this section of road, whilst the general trend was for traffic flows to rise between 2003 and 2008, since that time traffic flows have fallen (by about 4%, 2007-2011). Other permanent count sites on the A27 at Sherfield English and the A3057 at Mottisfont tell the same story.

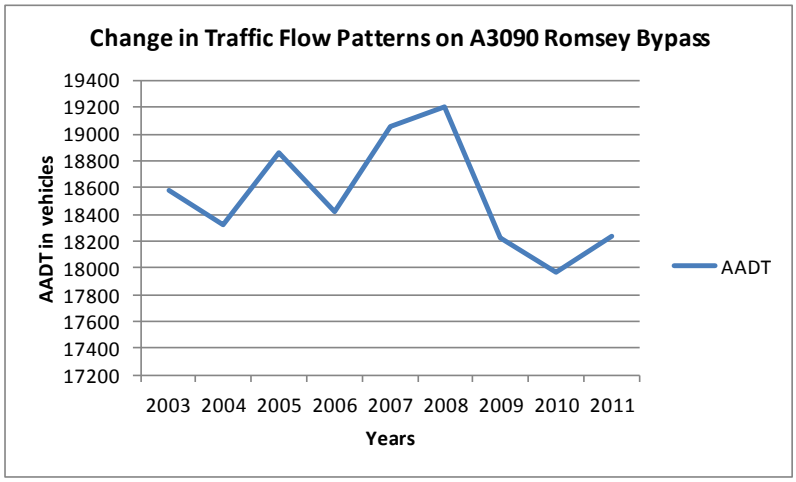

Figure 3.1 Change in Traffic Flow Patterns on the A3090 Romsey Bypass

3.2.3. Also, Test Valley Borough Council has provided recent traffic survey information for the Romsey area. These surveys, summarised in Table 3.1 also suggest no real growth and/or possible reductions in traffic flows.

Table 3.1 Change in Traffic Flow Patterns on Key Routes

Location	Two Way AM Peak Hour Traffic Flows		Change
	2007	(March) 2012	
A27 Luzborough Lane	1365	1368	0%
A27 Southampton Road	1982	1893	-4%
A27 By Pass Road	2157	1982	-8%
Alma Road	957	889	-7%
A3090 Winchester Road	1718	1618	-6%

3.2.4. It is therefore considered reasonable to assume that the traffic flows passing through Romsey have not materially increased and possibly may have reduced, since the original report.

3.3. Predicted Traffic Growth

3.3.1. The DfT provides standard traffic growth predictions based on a number of variables including projected future GDP growth, fuel prices, fuel efficiency, population, etc. This enables future year traffic flows to be predicted, based on observed traffic flows. The 2007 base flows used in the RMAS traffic model, were factored to represent the design year 2012 using the Trip End Model Presentation Program (TEMPRO) developed by DfT. TEMPRO requires a number of databases for its operation, most notably the National Trip End model (NTEM) and the National Traffic Model (NTM) datasets. Various changes have been made by the DfT to the previous versions of NTEM and NTM datasets, taking into account factors such as changes to the population and housing projections, effect of the recession, latest employment forecasts, car ownership forecasts and the decline in car purchasing costs. A new set of growth factors has been produced for the years from 2007 to 2012, based on NTEM 6.2 and NTM AF09 datasets, and these are presented in Table 3.2 below.

Table 3.2 Comparison of Growth Factors

Year	Original RMAS Review Traffic Growth Rate	Revised Traffic Growth Rates based on NTEM 6.2 and NTM AF09
2007	1.000	1.0000
2008	1.011	1.0006
2009	1.023	1.0012
2010	1.034	1.0018
2011	1.045	1.0025
2012	1.054	1.0094

3.3.2. Table 3.2 shows that, in comparison with the growth factors considered in the original RMAS model, the latest DfT estimates indicate that there has been lower growth in general traffic flows between 2007 and 2012. Hence these DfT predictions and the local evidence in relation to recent traffic growth in Romsey, as discussed in paragraph 3.1.3 – 3.1.6 above, indicate that traffic flows generally in the area are likely to have remained largely unchanged or possibly reduced since 2007, rather than having increased. It is considered therefore that the traffic growth assumptions used in the original report are robust in that they represent a 'worst case' scenario.

3.3.3. In this report, the latest DfT traffic growth estimates have been used to derive revised 2012 traffic predictions within the RMAS model. As already mentioned these latest DfT predictions are themselves likely to be an overestimate of local traffic changes, given the indications from locally observed traffic data. The impacts of the development scenarios will then be tested and reviewed using these latest baseline (or background) traffic flows.

3.3.4. The Romsey traffic model divides trips generated by the development sites into a series of home-based trip purposes such as journey to work, education, shopping, recreational and social, personal business and other. Following the latest revisions to the traffic growth datasets since the original report, the yearly growth factors associated with each of the individual trip purposes have also been updated. These factors have been incorporated into the model. An updated trip generation table showing trips by various trip purposes is given in Appendix A.

4. DEVELOPMENT IMPACT ASSESSMENT

4.1. Introduction

4.1.1. The original 'Romsey Movement and Access Study' report (Ref: 14135/TR04A), prepared in December 2007, assessed the traffic impacts of various development options on the local road network in Romsey. . The traffic model results demonstrated that the 'south' sites had a relatively lower level of impact on the local road network in comparison with the other combinations. In addition, the south sites also exhibited relatively good accessibility. Therefore, it was concluded that of the development scenarios considered, the preferred option in transport terms would be a combination of the 'Lower Whitenap' and 'Burma Road' sites, with Abbotswood assumed to be coming forward for implementation in advance of other developments.

4.1.2. The Core Strategy has been revised and amended since it was first submitted to the Secretary of State in March 2009. The Core Strategy (January 2012) proposes a new community within Romsey at Whitenap, on the southern side of the town. This site is in the same general location as the 'Lower Whitenap' site assessed in the original RMAS Review report. The number of residential units now proposed at Whitenap is 1,500, compared with 1,750 units assumed for the original report. The Abbotswood development is now under construction, with the first occupations underway.

4.1.3. The Burma Road development (250 units) is not included as part of the latest Core Strategy proposals. Hence the number of units included within the development option now proposed in the Core Strategy (1,500 units at Whitenap) is less than the 'preferred' option identified in the original RMAS review report (1,950 units, Lower Whitenap and Burma Road).

4.1.4. In this Chapter, firstly, the impacts of the Whitenap proposal, as included in the current Core Strategy are analysed using outputs from the RMAS model and the latest DfT traffic growth estimates. These impacts are compared with those for the preferred option examined in the original RMAS Review report.

4.1.5. Secondly, a more direct comparison between the current Whitenap proposal of 1,500 dwellings and the Lower Whitenap concept of 1,750 dwellings also tested in the original RMAS Review report is considered, with details provided in Appendix B.

4.1.6. Thirdly, the impacts of the other development scenarios assessed in the original RMAS Review report are considered, again using outputs from the RMAS model and the latest DfT traffic growth estimates. Details of the assessment are also provided in Appendix B.

4.2. Traffic Impacts

Comparison of Current Core Strategy Proposal and RMAS Review Preferred Option

4.2.1. The impacts of the Core Strategy proposal for 1,500 residential units at Whitenap have been tested using the RMAS model. The Abbotswood development traffic flows are included within the modelled traffic flows.

4.2.2. The impacts on the 'critical links' (section 2.2 above) identified in the original RMAS Review report are shown in Table 4.1. They are compared with the impacts predicted in

the original report for the Lower Whitenap/Burma Road preferred option. ('GEH' and 'Net percentage impacts' are defined in section 2.2)

Table 4.1 Impacts on Critical Links

Link	Link Ref:	RMAS Review Preferred Option (Lower Whitenap + Burma Road)		Core Strategy Proposal (Whitenap)	
		GEH	Net Impact %	GEH	Net Impact %
Southampton Road (Northbound)	M	11.2	36	**9.73**	**32**
Alma Road (Northbound)	J	5.04	21	**4.08**	**17**
Winchester Road (Westbound)	B	5.06	21	**4.16**	**17**
Winchester Road (Eastbound)	A	4.65	16	**3.65**	**13**
Romsey Bypass	L	4.65	14	**3.67**	**11**

4.2.3. Other important links were identified in the original RMAS Review report as significantly affected by the development options. The impacts of the current Whitenap proposal are shown in Table 4.2.

Table 4.2 Impacts on Other Links

Link	RMAS Review Preferred Option (Lower Whitenap + Burma Road)		Core Strategy Proposal (Whitenap)	
	GEH	Net Impact %	GEH	Net Impact %
Southampton Road (Romsey Bypass/Southampton Road)	8.02	26	**6.47**	**21**
Luzborough Ln (Luzborough Ln/Southampton Rd)	8.15	33	**6.60**	**27**

4.2.4. Table 4.1 and 4.2 show that, with the latest, lower traffic growth estimates up to 2012 and the lower number of units (1,500) proposed for the Whitenap site, the GEH values and the net impact on the links are lower than those predicted for the RMAS Review preferred option. Hence, not surprisingly, the current Core Strategy proposal has less impact on key traffic routes in Romsey than the preferred option identified in the RMAS Review report.

4.2.5. In the RMAS review report a number of junctions were identified as significantly affected by the development options. The following junctions were noted as significantly affected by the RMAS review preferred option:

- Romsey Bypass/Palmerston Street roundabout
- Romsey Bypass/Southampton Road/Knatchbull Close roundabout
- Southampton Road/Luzborough Lane roundabout
- Luzborough Lane/Botley Road roundabout
- Winchester Road/Southampton Road roundabout

4.2.6. With the latest, lower traffic growth estimates up to 2012 and the lower number of units proposed for the Whitenap site, the scale of impact at each of the five junctions has proportionately reduced.

4.2.7. In Appendix C, figure C1 shows the total forecast flows across the network in 2012 with Whitenap included. Figure C2 shows the net percentage impact over the baseline flows. The GEH values in figure C3 demonstrate that the impact of the Core Strategy Whitenap proposal on the local highway network is lower than the RMAS review preferred option.

4.2.8. In the RMAS Review report, the impact of the various development scenarios across the Romsey road network was compared by using the Relative Impact Scoring or RIS (defined in section 2.2) Table 4.3 presents the RIS values for the Core Strategy proposal in comparison with the RMAS review preferred option.

Table 4.3 Comparison of Relative Impact Scores

Threshold GEH	Weighting	RMAS Review Preferred Option (Lower Whitenap + Burma Road)			Core Strategy Proposal (Whitenap)		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	115	53	0	129	59	0
1 – 5	1	81	37	81	78	36	78
5 – 10	3	15	7	45	6	3	18
10 – 20	6	5	2	30	3	1	18
>20	10	2	1	20	2	1	20
Total RIS Score				**176**			**134**
RIS per Unit				**0.09**			**0.09**

4.2.9. Table 4.3 demonstrates that the Core Strategy proposal has a lower overall RIS score. However, the RIS per unit has remained unchanged (because the total RIS is divided by the lower number of units).

Comparison of Current Core Strategy Proposal with RMAS Review Lower Whitenap Option and Other Development Scenario Combinations

4.2.10. A comparison of the Core Strategy proposal for Whitenap (1,500 units) and the Lower Whitenap option (1,750 units) considered in the original RMAS Review report, not surprisingly shows that the current proposal has less impact than the previously tested option. This is demonstrated in Table 4.4 below.

4.2.11. The combination scenarios that include the Whitenap site now have lower total RIS values, because the number of units at Whitenap has reduced. However the RIS per dwelling unit is unchanged. This is again shown in Table 4.4.

4.2.12. For the purposes of this current report it has been assumed that the other development combination scenarios tested in the original RMAS review remain unchanged in terms of the number of dwellings. Hence the only change in assumptions from the original RMAS review is the lower DfT traffic growth estimates. A comparison has been made of the impact of other development scenario combinations, taking account of this change in growth factors, with the impacts presented in the original RMAS review. This comparison is also shown in Table 4.4.

4.2.13. It can be seen that the combination scenarios that exclude Whitenap have slightly higher total RIS values now compared with the results in the original report. This is a result of lower background traffic flows (due to the lower DfT growth estimates), which then leads to the development flows having marginally greater impacts. However when the RIS per dwelling unit is considered then there is no material change between the RMAS review impacts and the latest predictions in this report.

4.2.14. Hence Table 4.4 shows that the preferred 'south' combination development scenarios, including the Whitenap site, identified in the original RMAS report continue to represent the preferred options, taking into account the lower traffic growth estimates and reduced housing allocations. In other words, the relative traffic impacts of all the tested development scenarios, in traffic terms, remain unchanged from the original report.

Table 4.4 Summary of Relative Impact Scores for Combination Scenarios

Scenario	RMAS review			2012 Update		
	Number of Units	RIS (Total)	RIS (Per Unit)	Number of Units	RIS (Total)	RIS (Per Unit)
North	1600	212	0.13	1600	214	0.13
South 1	1950	176	0.09	**1700 (-250)**	153	0.09
South 2	1750	145	0.08	**1500 (-250)**	134	0.09
East and North 1	1600	197	0.12	1600	207	0.13
East and North 2	1600	188	0.12	1600	190	0.12
East and South	2750	265	0.10	**2500 (-250)**	255	0.10
South and North	2550	277	0.11	**2300 (-250)**	261	0.11

Note: The number in brackets indicates the reduction in the total number of units in comparison with the original RMAS Review assessment

4.3. Conclusions – Traffic Impact

4.3.1. As indicated in the preceding section, the relative impacts of the combination scenarios tested remain similar and hence the 'order of preference' in terms of traffic impacts is unchanged.

4.3.2. The conclusions made in the original RMAS review report therefore still apply. The conclusions were that:

- the north option tends to compound existing problems on the Winchester Road corridor including Cupernham Lane. It also generates increasing traffic flows along Highwood Lane which could create future problems in the Botley Road/Luzborough Lane area and at the Winchester Road/Halterworth Lane junction.
- the south options tend to reduce the overall impact on the town's road network by southbound traffic not entering the town. However, there are increasing flows on Alma Road.
- the east and north options have an impact on the Winchester Road corridor and also Botley Road. The increasing use of Highwood Lane raises issues again about possible future problems in the Botley Road/Luzborough Lane area and at the Winchester Road/Halterworth Lane junction.
- the east and south options provide the opportunity for southbound traffic to avoid the town's road network. However again there are impacts on Botley Road (and hence Winchester Road) and Alma Road.
- the south and north option would appear to have the advantage of some southbound traffic avoiding the town. However this combination tends to broaden the impact on the town's road network, affecting the Winchester Road corridor and Alma Road.
- Hence on balance, in traffic impact terms, the mid-sized South 1/South 2 development scenarios appear as the preferred options for the following reasons:
    - overall lowest impact across the network
    - lowest impact to identified critical links within the network
    - lowest RIS per unit

5. ACCESSIBILITY BY WALKING, CYCLING AND PUBLIC TRANSPORT

5.1.1. The RMAS review report compared the relative accessibility of the development site options to and from key destinations (attractors) in the town, on the basis of walking, cycling and public transport modes. The main aim of the assessment was to provide a broad basis for the comparison of the development options, rather than a detailed appraisal of accessibility. A summary of the key findings from the original RMAS Review report, in relation to accessibility, is set out below.

Individual Sites

- Burma Road has good walking accessibility to key destinations, as does Lower Whitenap. Halterworth and Abbotswood also have reasonable accessibility. Sandy Lane and Ganger Farm have lower levels of walking accessibility;

- Relative accessibility by cycling is similar to walking accessibility. All key destinations in Romsey are within reasonable distance of the various sites. Burma Road, Lower Whitenap and Abbotswood have higher levels of accessibility, Halterworth and Ganger Farm slightly lower. Sandy Lane has the lowest accessibility. Clearly however actual cycle use would be influenced by the standard and attractiveness of available routes;

- Burma Road and Halterworth have good overall access by bus. Abbotswood, Ganger Farm and Lower Whitenap have a reasonable level of accessibility. Sandy Lane appears to have the lowest level of access.

Site Combinations

- Generally the Burma Road, Lower Whitenap and Halterworth sites rank relatively highly in terms of accessibility. Hence those combinations (south and east) including these sites would appear to produce more accessible options. Ganger Farm and Sandy Lane sites tend to rank lower and hence combinations of these northern sites would appear less accessible.

5.1.2. The relative accessibility of the sites, by walking and cycling has not materially changed since the original report.

5.1.3. A review of the public transport services in the area has revealed that there have been a few minor changes to the operation and frequencies of some of the services. An updated summary table for public transport accessibility has been provided in Appendix D of this report. The overall conclusions, however, remain the same with the Burma Road, Lower Whitenap and Halterworth sites ranking relatively highly in terms of accessibility. Hence the combinations (south and east) including these sites would appear to produce more accessible options. Ganger Farm and Sandy Lane sites tend to rank lower and hence combinations of these northern sites would appear less accessible.

5.1.4. The overall conclusions in the original report about the relative accessibility of individual sites and the combination scenarios therefore remain valid.

5.1.5. It should be noted that Test Valley Borough Council is actively promoting, and seeking to enable, more sustainable travel behaviour over the Core Strategy period. Major

improvements in access to Romsey Railway Station have been implemented in 2010/11 with: improved car parking; a new ramped access for pedestrians and cyclists to platform 2 linking to other cycle routes; a bus turning area; drop off points; and more disabled parking all being provided. A Station Travel Plan was prepared in 2010 and is in the process of being reviewed and updated to further improve access to and facilities at the station. The aim is to increase rail usage particularly between Romsey, Chandlers Ford, Eastleigh and Southampton. There is a cycle route between Romsey and Chandlers Ford. Bus quality partnerships are in place or being developed with the aim of improving bus services. Over time, these and other similar measures will contribute towards reductions in demands to travel by car.

6. IMPACT OF THE PREFERRED OPTION ON KEY JUNCTIONS

6.1.1. The original RMAS Review report presented an analysis of the traffic impacts of the preferred option (Lower Whitenap and Burma Road), at key junctions in the town. The report identified and tested possible modifications or improvements that could be considered to help mitigate those impacts. The conclusions from the original report are briefly revisited below.

6.1.2. Capacity assessments were carried out at the following junctions:

- Malmesbury Road / A3057 Alma Road Traffic Signals
- Winchester Road / A3057 Alma Road Traffic Signals
- A31 Southampton Road / A31 Winchester Road Roundabout
- A27 Southampton Road / A31 Bypass Road Roundabout
- A3057 Southampton Road / A27 Luzborough Lane Roundabout
- A27 Luzborough Lane / Botley Road Roundabout

In addition, the Winchester Road/Botley Road mini roundabout was assessed as it is located on a critical link where opportunities for improvements are constrained.

6.1.3. The capacity assessments indicated that with traffic growth and development as considered in the original report, the Southampton Road/Winchester Road roundabout would be operating over capacity at peak times by 2012. A traffic signal control scheme could be considered for this junction.

6.1.4. The original report indicated that for the Southampton Road/By Pass Road roundabout widening on the northbound Southampton Road entry would address some capacity issues. Capacity could be improved by increasing the overall size of the roundabout. Widening of The By-Pass and Southampton Road to provide two eastbound and two northbound lanes respectively into the roundabout would also provide some benefit. More detailed examination of options at this junction, including possible traffic signal control, was recommended.

6.1.5. The capacity of the Luzborough Lane/Botley Road could be improved to address capacity issues identified in the original report, thorough increasing the length of the two lane entry on Botley Road (north). It was considered that examination of the interaction of this junction with the Botley Road/Highwood Lane junction would be appropriate at the detailed design stage.

6.1.6. Significant capacity issues were predicted in the original report, arising from future traffic growth and the proposed development, at the Winchester Road/Botley Road junction. There appeared to be no 'straightforward' options to improve the overall capacity at this junction, including traffic signal control. To increase capacity more extensive measures may be necessary.

6.1.7. The Core Strategy proposal for development at Whitenap for 1,500 units is lower than the 1,950 units for the preferred option (Lower Whitenap and Burma Road) as tested in the original RMAS review report, in terms of junction capacity impacts. In addition, the

traffic growth estimates are now lower than those used in the original RMAS review. Hence the impacts on the key junctions tested in the original report will be less.

6.1.8. The junction assessments in the original report therefore represent a 'worst case' scenario. It would appear likely that the possible capacity issues at these key junctions will in effect be 'deferred' in part due to the current slowing of traffic growth and the lower development levels now envisaged. Nevertheless, the original report identified the form of possible improvements that could be considered for implementation at the appropriate time, in the context of detailed assessments of specific development proposals, in order to reduce the traffic impacts of future development.

7. OVERALL CONCLUSIONS

7.1.1. This report has provided an update to the original RMAS review report prepared in 2007 which assessed the relative merits, in transport terms, of possible individual development sites and combination scenarios for those sites. In particular, this update has taken into account changes in traffic growth estimates and changes in the housing proposals for (Lower) Whitenap put forward in the latest version of the Core Strategy.

7.1.2. DfT traffic growth estimates for 2007-2012, the period considered in the RMAS review are now lower than those available at the time of the original report. A lower number of dwelling units (1,500) are now proposed for Whitenap in the Core Strategy than tested as part of the 'preferred option' (Lower Whitenap 1,750 units, Burma Road 200 units) in the original report.

7.1.3. The traffic assessment of the Core Strategy proposal for Whitenap in this report has demonstrated that the current proposals will reduce the impacts of this site on the local road network that were anticipated in the original RMAS review report. The assessment also showed that the 'south' development scenarios remain the 'preferred options' in terms of relative traffic impacts.

7.1.4. The original report provided an assessment of the relative accessibility of the development scenarios considered. This assessment has been revisited as part of this update. There has been no material change in the relative accessibility of the development scenarios. It is noted that the Borough Council is promoting a series of mitigation measures that will contribute towards less car use and more sustainable travel. Such measures will assist in reducing the traffic impacts of the new developments.

7.1.5. The original RMAS Review report presented an analysis of the traffic impacts of the preferred option (Lower Whitenap and Burma Road), at key junctions in the town. The report identified and tested possible modifications or improvements that could be considered to help mitigate those impacts. The Core Strategy proposal for development at Whitenap is lower than the preferred option as tested in the original RMAS review report. In addition, the traffic growth estimates are now lower than those used in the original RMAS review. Hence the impacts on the key junctions tested in the original report will now be less and the junction assessments in the original report represent a 'worst case' scenario. In effect possible junction capacity issues appear likely to be 'deferred'.

7.1.6. It is therefore considered that this update has demonstrated that the conclusions about the relative merits and order of preference of the development scenarios, as tested in the original RMAS review report, remain valid. The preferred scenario in transport terms continues to be development in the south of the town, which includes the Whitenap site. Furthermore, as a result of current, lower traffic growth estimates and the reduced allocation at Whitenap now envisaged, the traffic assessments in the original report represent a 'worst case' appraisal, with possible junction capacity issues likely to be deferred.

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2
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APPENDICES

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

APPENDIX A

TRIP GENERATION BY PURPOSE –BASED ON CURRENT GROWTH RATES

RAMBOLL

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2
2012 UPDATE

TRIP GENERATION BY PURPOSE –BASED ON CURRENT GROWTH RATES (2012 update)

Development Scenario	Journey to Work		Education		Shopping		Recreation /Social		Personal Business		Other		Total	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
Abbotswood	75	236	13	36	8	24	6	19	3	10	15	48	**120**	**372**
Ganger Farm														
Sandy Lane														
Halterworth														
Lower Whitenap	165	516	28	79	17	52	13	41	7	22	32	104	**263**	**814**
Burma Road	19	59	3	9	2	6	2	5	1	2	4	12	**30**	**93**
North	151	472	26	73	16	47	12	37	6	20	29	95	**240**	**744**
South 1	184	575	31	89	19	58	15	45	8	24	26	116	**293**	**907**
South 2	165	516	28	79	17	52	13	41	7	22	32	104	**263**	**814**
East and North 1	151	472	26	73	16	47	12	37	6	20	29	95	**240**	**744**
East and North 2	151	472	26	73	16	47	12	37	6	20	29	95	**240**	**744**
East and South	259	811	44	125	27	82	21	64	11	34	50	164	**413**	**1279**
South and North	241	752	41	116	25	76	20	59	10	31	47	152	**383**	**1186**
Note: This table is the equivalent of Table 6 in the original RMAS Review report														

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

APPENDIX B

ASSESSMENT OF TRAFFIC IMPACT OF COMBINATION SCENARIOS

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

Traffic Impact – Site Combinations

This appendix presents a detailed assessment of the traffic impacts of the development combination scenarios in the same way as they were assessed for the original RMAS review report. It includes a summary of links and junctions predicted to be significantly affected by the development scenarios and also quantifies the impact of each scenario by developing Relative Impact Scores (RIS). The traffic assessments are based on the current DfT traffic growth estimates for 2007-2012.

All North (Ganger Farm/Sandy Lane - 1,600 units)

This development scenario is comprised of Sandy Lane and Ganger Farm sites and is compared against base traffic flows which incorporate the Abbotswood site. This scenario provides an additional 1,600 units, on top of the 800 units already allocated by the inclusion of Abbotswood.

Trip distribution from this development scenario is as per the original assessment. Large scale development in the north of the network places high levels of generated traffic onto roads with low flows in the base year. As a result, net percentage impacts for many links in the north of the network are high. Given that the revised traffic growth in 2012 is lower than that estimated for the previous assessment in the original report, the net percentage impact is likely to be higher than the previous prediction. As mentioned in the original report, due to the high demand to travel south and southeast out of Romsey, a high generation of trips to the north of the town places a load on many of the critical links and junctions within the town network. Critical links significantly affected by this development scenario are as follows.

Table B1 Critical links significantly affected by All North scenario

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Winchester Road (Westbound)	A, C, D	8.21 – 9.12	27 - 33	8.42 – 9.34	28 - 34
Highwood Lane (Southbound)	P	8.29	46	8.48	48
Braishfield Road (Southbound)	Q	17.23	91	17.48	94

Other important links which are significantly affected by this development scenario are as follows:

Table B2 Other links significantly affected by All North scenario

Link	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
	GEH	Net Impact %	GEH	Net Impact %
Southampton Rd (Winchester Rd - Romsey Bypass)	5.83	18	5.96	19
Botley Rd (Highwood Ln – Botley Rd/Luzborough Ln)	6.29	24	6.48	25
School Rd	10.87	71	11.05	7
Sandy Ln (Braishfield Rd)	12.97	86	13.23	90

Junctions which are significantly affected by this development scenario are as follows:

- Cupernham Lane/Winchester Road
- Winchester Road/Southampton Road roundabout
- Winchester Road/Botley Road roundabout
- Halterworth Lane/Highwood Lane
- Botley Road/Highwood Lane
- Winchester Road/Halterworth Lane
- Winchester Road/School Road
- Braishfield Road/Winchester Road
- Braishfield Road/Ganger Farm/Woodley Lane
- Sandy Lane/Braishfield Road/Jermyns Lane

These junctions were listed as having significant impacts in the original report. A re-run of the model, with the revised low growth factor for 2012, shows that the percentage impact of the 'All North' scenario, on the junctions identified above, has increased only marginally. The scale of impact is essentially in the same order with the same links and junctions affected as in the previous assessment for the original report.

Table B3 below highlights the spread of impact for this development scenario.

Table B3 Relative impact score – All North

Threshold GEH	Weighting	Original RMAS Review			Latest Figures Based on Revised Growth Figures for 2012		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	98	44	0	99	45	0
1 – 5	1	93	43	93	92	42	92
5 – 10	3	17	8	51	16	7	48
10 – 20	6	8	4	48	9	4	54
>20	10	2	1	20	2	1	20
Total RIS Score				**212**			**214**
RIS per Unit				**0.13**			**0.13**

Table B3 demonstrates that the overall impact of 'All North' scenario, using the low 2012 growth factors, has increased only marginally in comparison with the previous assessment in the original report. It can be seen that the RIS per unit has remained unchanged in comparison with the previous assessment.

(Whitenap - 1,500 units) – Core Strategy Proposal (Original report South 2 option with 1,750 units)

In the Core Strategy, the number of units in (Lower) Whitenap has been reduced from 1,750 in the original RMAS review report to 1,500.

The trip distribution from South 2 is the same as had been considered in the original report. As shown in the original report, impacts are greatest in south and west Romsey, with some use of northbound and eastbound corridors for trips leaving Romsey. Critical links significantly affected by this development scenario are as follows.

Table B4 Critical Links Significantly Affected by the South 2 Scenario

Link	Link Ref:	Original RMAS Review (1,750 Units)		Core Strategy Preferred Option with Revised Growth Figures for 2012 (1,500 Units)	
		GEH	Net Impact %	GEH	Net Impact %
Southampton Road (Northbound)	M	11.00	35	9.73	32
Alma Road (Northbound)	J	4.68	19	4.08	17

Link	Link Ref:	Original RMAS Review (1,750 Units)		Core Strategy Preferred Option with Revised Growth Figures for 2012 (1,500 Units)	
Winchester Road (Westbound)	B	4.77	20	4.16	17
Winchester Road (Eastbound)	A	4.07	14	3.65	13
Romsey Bypass	L	4.21	13	3.67	11

Other important links which are significantly affected by this development scenario are as follows:

Table B5 Other Links Significantly Affected by the South 2 Scenario

Link	Original RMAS Review (1,750 Units)		Core Strategy Preferred Option with Revised Growth Figures for 2012 (1,500 Units)	
	GEH	Net Impact %	GEH	Net Impact %
Southampton Road (Romsey Bypass/Southampton Road)	7.29	23	6.47	21
Luzborough Ln (Luzborough Ln/Southampton Rd)	7.60	31	6.60	27

Tables B4 and B5 indicate that, with the reduction in the number of units to 1,500, there is a decrease in the overall impact of the Whitenap development on the surrounding highway network. This is reflected by the lower GEH values and net impact percentages.

Junctions which are significantly affected by this development scenario are as follows:

- Romsey Bypass/Southampton Road/Knatchbull Close roundabout
- Southampton Road/Luzborough Lane roundabout
- Winchester Road/Southampton Road roundabout
- Luzborough Lane/Whitenap Lane

The junctions listed above, as having significant impacts, are the same as in the previous assessment in the original report. A re-run of the model, with the revised low growth factor for 2012, shows that the impact of Whitenap, on the junctions identified above, has decreased marginally. This could be primarily attributed to the reduction in the number of units from 1,750 to 1,500.

The net impact plot (Appendix C) and the significance of this impact relative to the background flows is displayed in the GEH map for this scenario (Appendix C). Given the marginal decrease in impact on various links, there is no appreciable change in the net impact plot in comparison with the plot generated for the previous assessment in the

original RMAS Review. The same is true for the GEH plot. Nevertheless, the plots are included as part of this assessment for comparison purposes.

Table B6 below highlights the spread of impact for this development scenario.

Table B6 Relative impact score – South 2 Scenario

Threshold GEH	Weighting	Original RMAS Review (1,750 Units)			Core Strategy Preferred Option with Revised Growth Figures for 2012 (1,500 Units)		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	125	57	0	129	59	0
1 – 5	1	80	37	80	78	36	78
5 – 10	3	7	3	21	6	3	18
10 – 20	6	4	2	24	3	1	18
>20	10	2	1	20	2	1	20
Total RIS Score				**145**			**134**
RIS per Unit				**0.082**			**0.089**

Table B6 demonstrates that the overall impact of the 'South 2' scenario, using the low 2012 growth factors and lower number of units, has decreased in comparison with the previous assessment in the original report. However, it can be seen that the RIS per unit has broadly remained unchanged in comparison with the previous assessment.

East and North 1 (Halterworth/Sandy Lane – 1,600 units)

This development scenario is comprised of Halterworth and Sandy Lane sites, compared against base traffic flows which incorporate the Abbotswood site. This scenario provides 1,600 units to the north and east of Romsey.

Trip distribution from this development scenario is same as had been considered in the previous assessment. Critical links significantly affected by this development scenario are given in Table B7 below.

Table B7 Critical Links Significantly Affected by East and North 1 Scenario

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Winchester Rd (Westbound)	A,C	6.83	22	7.04	23
Braishfield Road	Q	8.69	42	8.84	43

Other important links which are significantly affected by this development scenario are as follows:

Table B8 Other Links Significantly Affected by East and North 1 Scenario

Link	Direction	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Botley Rd (Botley Rd/Highwood Ln – Botley Rd/Luzborough Ln)	Eastbound	8.29	32	8.49	33
Halterworth Ln (Halterworth Ln/Highwood Ln – Halterworth Ln/Winchester Rd)	Northbound	5.39	31	5.48	33
Highwood Ln (Halterworth Ln/Highwood Ln – northern entrance to Halterworth site)	Eastbound	5.10	27	5.22	29
School Rd (Braishfield Rd - Winchester Rd)	Southbound	6.24	38	6.35	40
Sandy Ln (from Braishfield Rd)	Eastbound	12.85	85	13.11	89

Tables B7 and B8 indicate that, there is a marginal increase in the impact of East and North 1 scenario on the critical links. This is reflected by the higher GEH values and net impact percentages.

Junctions significantly by this development scenario are as follows:

- Luzborough Lane/Botley Road/Premier Way roundabout
- Botley Road/Highwood Lane
- Botley Road/Halterworth Lane
- Halterworth Lane/Highwood Lane
- Winchester Lane/Halterworth Lane
- Winchester Road/Botley Road
- Winchester Road/Cupernham Lane
- Winchester Road/Southampton Road
- Braishfield Road/Ganger Farm/Woodley Lane
- Sandy Lane/Braishfield Road/Jermyns Lane
- Braishfield Road/School Road

In the previous assessment in the original report, these junctions were listed as having significant impacts. A re-run of the model, with the revised low growth factor for 2012, shows that the impact of the 'East and North 1' scenario, on the junctions identified above, has increased marginally.

Table B9 below highlights the spread of impact for this development scenario.

Table B9 Relative impact score – East and North 1 Scenario

Threshold GEH	Weighting	Original RMAS Review			Latest Figures Based on Revised Growth Figures for 2012		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	90	41	0	88	40	0
1 – 5	1	108	50	108	106	49	106
5 – 10	3	13	6	39	17	8	51
10 – 20	6	5	2	30	5	2	30
>20	10	2	1	20	2	1	20
Total RIS Score				**197**			**207**
RIS per Unit				**0.123**			**0.129**

As reflected by the total RIS score of 207, in Table B9, the overall impact of the 'East and North 1' scenario, using the low 2012 growth factors, has marginally increased in comparison with the previous assessment. However, it can be seen that the RIS per unit has broadly remained unchanged in comparison with the previous assessment.

East and North 2 (Halterworth/Ganger Farm – 1,600 units)

The East and North 2 scenario has an identical traffic generation and similar trip distribution to the East and North 1 scenario. Critical links significantly affected by this development are the same as for the East and North scenario, with the exception of a greater impact on Braishfield Road, as shown in Table B10 below.

Table B10 Critical Links Significantly Affected by East and North 2 Scenario

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Winchester Rd (Westbound)	A,C	6.83 – 6.87	22	6.97 – 7.01	23
Braishfield Road	Q	10.55	52	10.71	53

Other important links which are significantly affected by this development scenario are as follows:

Table B11 Other Links Significantly Affected by East and North 2 Scenario

Link	Direction	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Botley Rd (Botley Rd/Halterworth Ln)	Westbound	5.57	31	5.68	32
Halterworth Ln	Both	5.44 – 5.53	26 – 32	5.56 – 5.63	27 – 34
Highwood Ln (Halterworth Ln/Highwood Ln – Northern entrance to Halterworth site)	Eastbound	5.59	30	5.71	31
School Rd	Southbound	6.09	37	6.2	39

Tables B10 and B11 indicate that, there is a marginal increase in the impact of East and North 2 scenario on the critical links. This is reflected by the lower GEH values and net impact percentages.

Junctions significantly by this development scenario are as follows:

- Luzborough Lane/Botley Road/Premier Way roundabout
- Botley Road/Highwood Lane
- Botley Road/Halterworth Lane
- Halterworth Lane/Highwood Lane
- Winchester Road/Halterworth Lane
- A3090 Winchester Road/Botley Road
- A3057 Winchester Road/Southampton Road
- Braishfield Road/Ganger Farm/Woodley Lane
- Winchester Hill/Braishfield Road/Winchester Road

In the previous assessment for the original report, these junctions were listed as experiencing significant impacts. A re-run of the model, with the revised low growth factor for 2012, shows that the impact of the 'East and North 2' scenario, on the junctions identified above, has increased marginally.

Table B12 below highlights the spread of impact for this development scenario.

Table B12 Relative impact score – East and North 2 Scenario

Threshold GEH	Weighting	Original RMAS Review			Latest Figures Based on Revised Growth Figures for 2012		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	102	47	0	100	46	0
1 – 5	1	93	43	93	95	44	95
5 – 10	3	17	8	51	17	8	51
10 – 20	6	4	2	24	4	2	24
>20	10	2	1	20	2	1	20
Total RIS Score				**188**			**190**
RIS per Unit				**0.12**			**0.12**

As reflected by the total RIS score of 207, in Table B12, the overall impact of the 'East and North 2' scenario, using the low 2012 growth factors, has only marginally increased in comparison with the previous assessment. However, it can be seen that the RIS per unit has remained unchanged. The level of impacts predicted in the current assessment is therefore considered to be similar to those predicted in the previous assessment.

East and South (Halterworth/Lower Whitenap/Burma Road – 2,500 units)

This development scenario is comprised of Halterworth, Lower Whitenap and Burma Road with a total of 2,500 units. Since the number of units in Lower Whitenap has been reduced from 1,750 to 1,500 there has been an associated decrease in the total number of units for this scenario from 2,750 to 2,500. Nonetheless, this is the largest development scenario and has the greatest trip generation.

Critical links significantly affected by this scenario are set out in Table B13 below.

Table B13 Critical Links Significantly Affected by East and South Scenario

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Winchester Rd	A,B,C	5.45 – 7.07	18 – 30	5.10 – 6.57	18 - 28
Alma Road	J	6.47	27	5.95	25
Romsey Bypass	L	5.85	18	5.35	17
Southampton Road	M	11.60	37	10.35	34

Other important links which are significantly affected by this development scenario are as follows:

Table B14 Other Links Significantly Affected by East and South Scenario

Link	Direction	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Luzborough Ln (Luzborough Ln/Southampton Rd)	Eastbound	9.34	40	8.44	36
Botley Rd (Botley Rd/Halterworth Ln)	Westbound	6.1	34	6.13	35
Halterworth Ln (Halterworth Ln/Highwood Ln)	Northbound	6.55	39	6.19	37

Tables B13 and B14 indicate that, with the reduction in the total number of units to 2,500, there is a marginal decrease in the overall impact of the development scenario on the surrounding highway network. This is reflected by the lower GEH values and net impact percentages.

Junctions which are significantly affected by this development scenario are as follows:

- Romsey Bypass/Palmerston Street roundabout
- Romsey Bypass/Southampton Road roundabout
- Southampton Road/Luzborough Lane roundabout
- Luzborough Lane/Botley Road/Premier Way roundabout
- Botley Road/Highwood Lane
- Luzborough Lane/Whitenap Lane
- Botley Road/Halterworth Lane
- Halterworth Lane/Highwood Lane
- Winchester Road/Halterworth Lane
- Winchester Road/Botley Road
- Winchester Road/Southampton Road
- The Hundred/Alma Road/Winchester Road
- Alma Road/Station Road Signalized Junction
- Botley Road/Whitenap Lane

The junctions listed above, as having significant impacts, are the same as in the previous assessment in the original report. A re-run of the model, with the revised low growth factor for 2012, shows that the impact of the 'East and South' scenario, on the junctions identified above, has decreased marginally. This could be primarily attributed to the reduction in the number of units from 2,750 to 2,500.

Table B15 below highlights the spread of impact for this development scenario.

Table B15 Relative impact score – East and South Scenario

Threshold GEH	Weighting	Original RMAS Review			Latest Figures Based on Revised Growth Figures for 2012		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	84	39	0	88	40	0
1 – 5	1	88	40	88	87	40	87
5 – 10	3	37	17	111	34	16	102
10 – 20	6	6	3	36	6	3	36
>20	10	3	1	30	3	1	30
Total RIS Score				**265**			**255**
RIS per Unit				**0.1**			**0.1**

As reflected by the total RIS score of 255, in Table B15, the overall impact of the 'East and South' scenario, using the low 2012 growth factors, has marginally decreased in comparison with the previous assessment. This could be attributed to the decrease in the total number of units for this scenario. However, it can be seen that the RIS per unit has remained unchanged in comparison with the previous assessment.

South and North (Lower Whitenap/Ganger Farm – 2,300 units)

This development scenario is comprised of Lower Whitenap and Ganger Farm. Since the number of units in Lower Whitenap has been reduced from 1,750 to 1,500 there has been an associated decrease in the total number of units for this scenario from 2,550 to 2,300. Nonetheless, this is the second largest development scenario to be considered. This scenario places a load on both the northern and southern parts of the network.

Critical links significantly affected by this scenario are set out in Table B16 below.

Table B16 Critical Links Significantly Affected by South and North Scenario

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Winchester Rd	A,B,C,D	5.32 – 6.32	17 – 26	5.32 – 5.79	17 - 24
Alma Road	J	5.7	23	5.17	22
Romsey Bypass	L	5.47 – 11.33	17 – 36	4.97 – 10.10	15 – 33

Link	Link Ref:	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
Highwood Lane	P	5.27	28	5.21	28
Braishfield Road	Q	10.55	52	10.64	53

Other important links which are significantly affected by this development scenario are as follows:

Table B17 Other Links Significantly Affected by East and South Scenario

Link	Direction	Original RMAS Review		Latest Figures Based on Revised Growth Figures for 2012	
		GEH	Net Impact %	GEH	Net Impact %
Luzborough Ln (Luzborough Ln/Southampton Rd)	Eastbound	8.02	34	7.04	30

Tables B16 and B17 indicate that, with the reduction in the total number of units to 2,300, there is a marginal decrease in the overall impact of the 'East and South' development scenario on the surrounding highway network. This is reflected by the lower GEH values and net impact percentages.

Junctions which are significantly affected by this development scenario are as follows:

- Romsey Bypass/Palmerston Street roundabout
- Romsey Bypass/Southampton Road roundabout
- Southampton Road/Luzborough Lane roundabout
- Luzborough Lane/Botley Road/Premier Way roundabout
- Botley Road/Highwood Lane
- Halterworth Lane/Highwood Lane
- Winchester Road/Halterworth Lane
- Winchester Road/Botley Road
- Winchester Road/Southampton Road
- The Hundred/Alma Road/Winchester Road
- Braishfield Road/Ganger Farm/Woodley Lane
- Winchester Hill/Braishfield Road/Winchester Road
- Cupernham Lane/Winchester Hill

The junctions listed above, as having significant impacts, are the same as in the previous assessment for the original report. A re-run of the model, with the revised low growth factor for 2012, shows that the impact of the 'South and North' scenario, on the junctions identified above, has decreased marginally. This could be primarily attributed to the reduction in the number of units from 2,550 to 2,300.

Table B18 below highlights the spread of impact for this development scenario.

Table B18 Relative impact score – East and South Scenario

Threshold GEH	Weighting	Original RMAS Review			Latest Figures Based on Revised Growth Figures for 2012		
		Number of Links	%	RIS	Number of Links	%	RIS
<1	0	84	39	0	88	40	0
1 – 5	1	88	40	88	87	40	87
5 – 10	3	37	17	111	34	16	102
10 – 20	6	6	3	36	6	3	36
>20	10	3	1	30	3	1	30
Total RIS Score				**265**			**255**
RIS per Unit				**0.1**			**0.1**

As reflected by the total RIS score of 255, in Table B18, the overall impact of the 'East and South' scenario, using the low 2012 growth factors, has marginally decreased in comparison with the previous assessment. This could be attributed to the decrease in the total number of units for this scenario. However, it can be seen that the RIS per unit has remained unchanged in comparison with the previous assessment.

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

APPENDIX C

IMPACT ASSESSMENT FIGURES

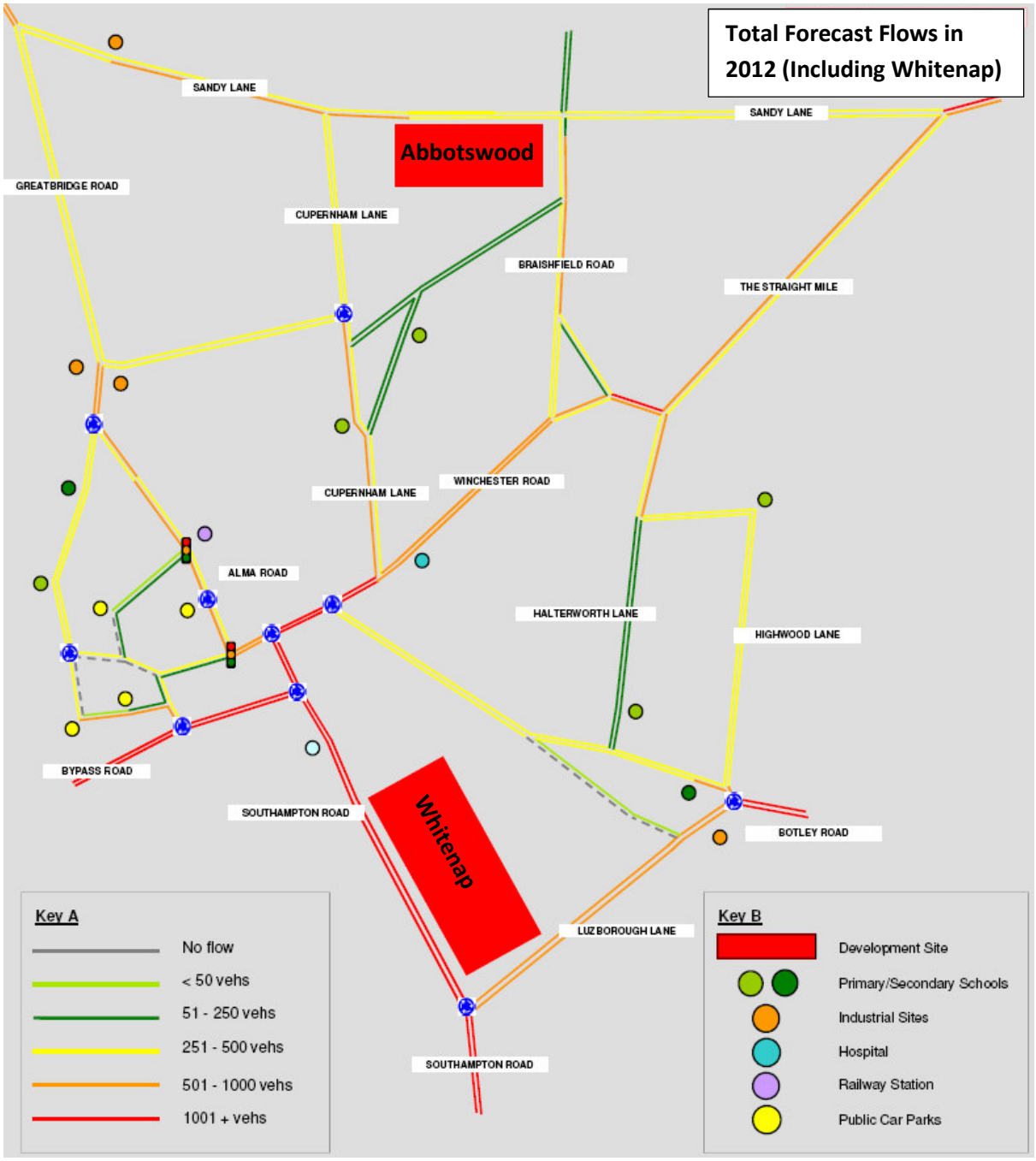
Total Forecast Flows in 2012 (Including Whitenap)
SANDY LANE
SANDY LANE
Abbotswood
GREATBRIDGE ROAD
CUPERNHAM LANE
BRAISHFIELD ROAD
THE STRAIGHT MILE
CUPERNHAM LANE
WINCHESTER ROAD
ALMA ROAD
HALTERWORTH LANE
HIGHWOOD LANE
BYPASS ROAD
SOUTHAMPTON ROAD
Whitenap
BOTLEY ROAD
LUZBOROUGH LANE
SOUTHAMPTON ROAD
Key A
No flow
< 50 vehs
51 - 250 vehs
251 - 500 vehs
501 - 1000 vehs
1001 + vehs
Key B
Development Site
Primary/Secondary Schools
Industrial Sites
Hospital
Railway Station
Public Car Parks

Figure C1

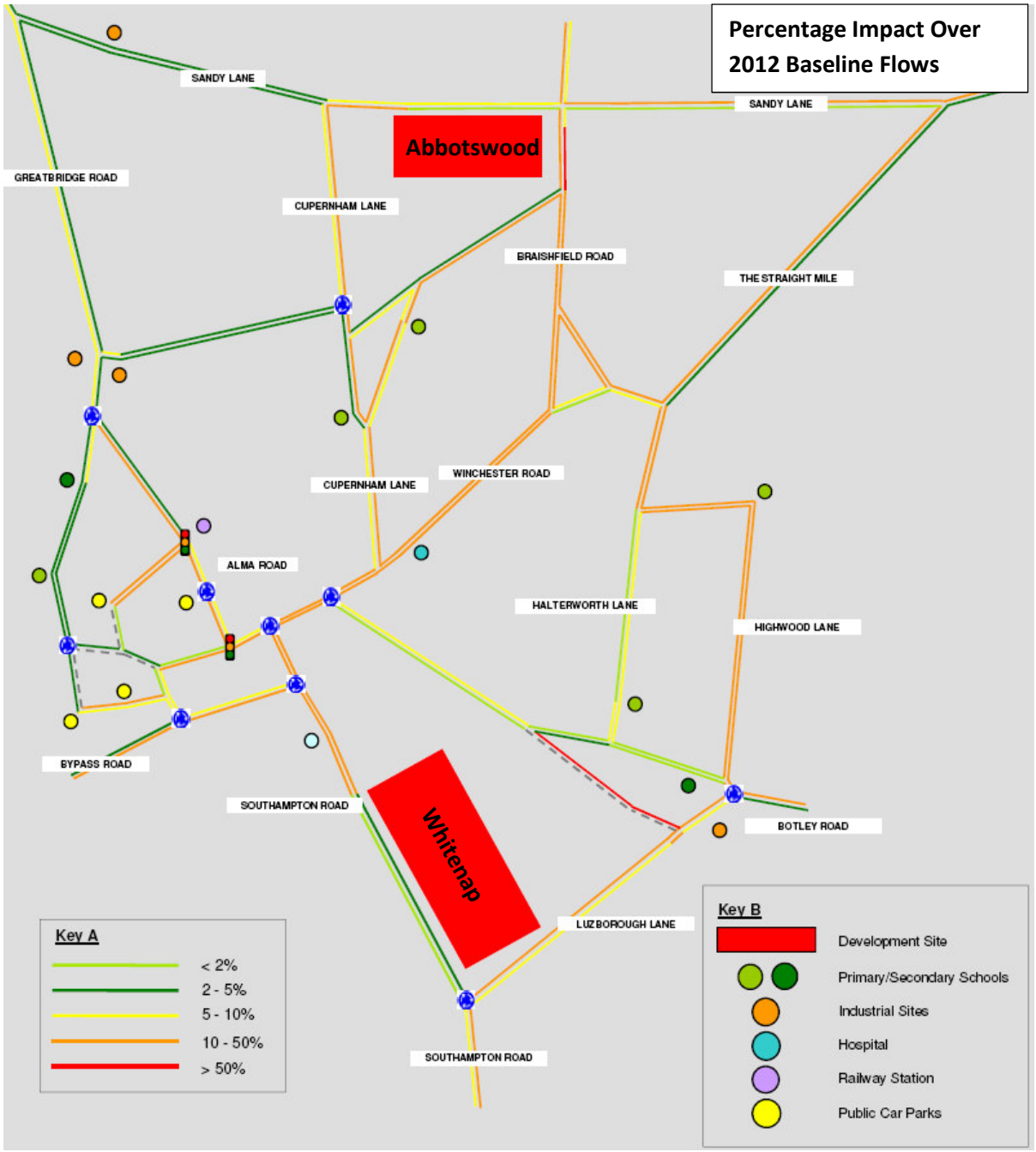
Percentage Impact Over 2012 Baseline Flows
SANDY LANE
SANDY LANE
Abbotswood
GREATBRIDGE ROAD
CUPERNHAM LANE
BRAISHFIELD ROAD
THE STRAIGHT MILE
CUPERNHAM LANE
WINCHESTER ROAD
ALMA ROAD
HALTERWORTH LANE
HIGHWOOD LANE
BYPASS ROAD
SOUTHAMPTON ROAD
Whitenap
BOTLEY ROAD
LUZBOROUGH LANE
SOUTHAMPTON ROAD
Key A
< 2%
2 - 5%
5 - 10%
10 - 50%
> 50%
Key B
Development Site
Primary/Secondary Schools
Industrial Sites
Hospital
Railway Station
Public Car Parks

Figure C2

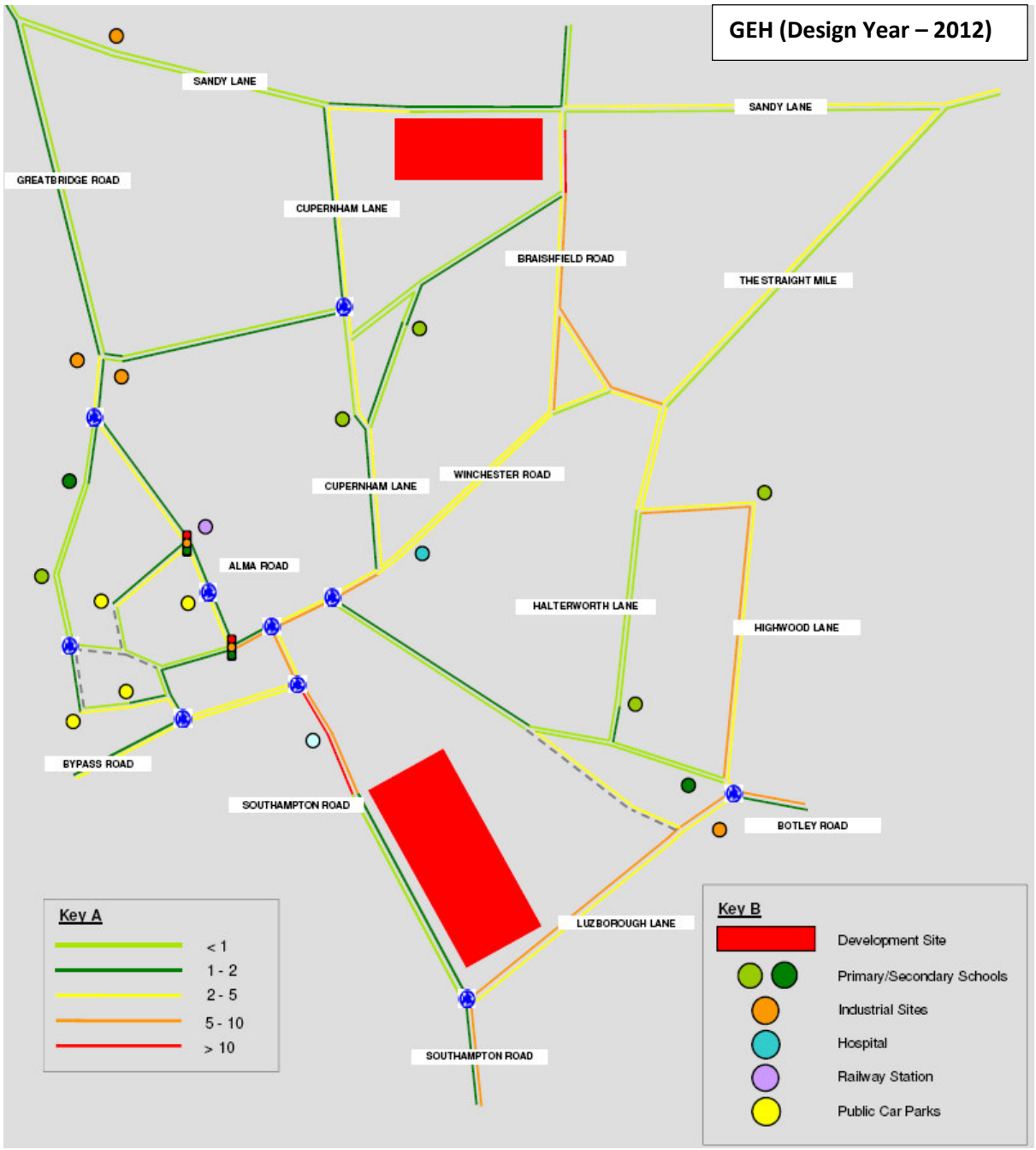
GEH (Design Year – 2012)
SANDY LANE
SANDY LANE
GREATBRIDGE ROAD
CUPERNHAM LANE
BRAISHFIELD ROAD
THE STRAIGHT MILE
CUPERNHAM LANE
WINCHESTER ROAD
ALMA ROAD
HALTERWORTH LANE
HIGHWOOD LANE
BYPASS ROAD
SOUTHAMPTON ROAD
BOTLEY ROAD
LUZBOROUGH LANE
SOUTHAMPTON ROAD
Key A
< 1
1 - 2
2 - 5
5 - 10
> 10
Key B
Development Site
Primary/Secondary Schools
Industrial Sites
Hospital
Railway Station
Public Car Parks

Figure C3

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2 2012 UPDATE

APPENDIX D

SUMMARY TABLE FOR PUBLIC TRANSPORT (BUS) ACCESSIBILITY

RAMBOLL

ROMSEY MOVEMENT AND ACCESS STUDY REVIEW PHASE 2
2012 UPDATE

SUMMARY TABLE FOR PUBLIC TRANSPORT (BUS) ACCESSIBILITY (2012 update)

Development Site	Distance to Site Boundary (m)	Long Distance Services				Local Services			Long Distance Overall Assessment	Local Overall Assessment	Overall Accessibility Assessment
		Number of Services	Number of Frequent Services	Distance (m)	Available Destinations	Number of Services	Number of Frequent Services	Distance (m)			
Abbottswood	400	1	1 Frequent	720	Winchester	2	1	Adjacent			
Ganger Farm	320-770	1	1 Frequent	50	Winchester	2	1	Adjacent			
Sandy Lane	370	-	-	-	-	2	1	Adjacent – 600			
Halterworth	280-550	3	2 Frequent	Adjacent-200m	Winchester, Eastleigh, Southampton	1	1	Adjacent – 740			
Lower Whitenap	230-640	3	1 Frequent	Adjacent-200m	Eastleigh, Southampton	1	-	180			
Burma Road	240	5	2 Frequent	Adjacent-220m	Eastleigh, Southampton, Salisbury, Winchester	1	-	200			

Low Accessibility — High Accessibility

Notes:

This table is the equivalent of Table 37 in the previous report
Regular services are defined as having a day time frequency of at least one per hour
For Ganger Farm it is assumed there would be direct pedestrian access to Winchester Road
For Halterworth it is assumed that there would be direct pedestrian access to Botley Road