

## Warwickshire County Council

### South Warwickshire Local Plan STA Testing

SLR Project No.: 431.000286.00100.07

12 May 2026

Revision: 01

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## SOUTHAM STA REVISED DEVELOPMENT STRATEGY ASSESSMENT

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### 1.0 Introduction

- 1.1 SLR Consulting have been commissioned by Warwickshire County Council to undertake the traffic modelling analysis used as part of the Strategic Transport Assessment (STA), with the aim of identifying the potential impacts resulting from the delivery of the developments included within the new South Warwickshire Local Plan (SWLP).
- 1.1 A previous assessment of an initial set of options was undertaken by SLR to consider the emerging development strategy and its potential effect on the operation of the Highway Network. SDC/WDC subsequently identified a revision to the number of dwellings at various sites within the plan. These sites have then been reassessed within the microsimulation models, adopting an approach consistent with the original reporting. This reassessment is detailed further within this Report.

### Background

- 1.2 An original STA Testing summary report<sup>1</sup> documented the approach to assessing the different development options within the proposed plan, and the resulting conclusions and recommendations for the Southam highway network. This note should be read in conjunction with the original report.
- 1.3 Following the submission of the outputs from this testing, SDC/WDC produced a revised development list, as part of the refinements to the Local Plan.
- 1.4 It should be noted that, since the original STA reporting provides relative comparisons, pertaining to the performance of different options for growth, against a consistent Reference Case, it was not considered necessary to revisit the original modelling, and the conclusions

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<sup>1</sup> 000286.00100.07.R001. Southam Initial STA Testing Summary

derived from that stage of testing. On this basis, the original conclusions drawn from the first stage of testing reported remain valid.

## Objectives

- 1.5 The objective of this assessment is to understand the implications of the proposed revision to the Local Plan development allocation strategy. The findings from this assessment have been set out within this report, which reports upon:
- The potential impact, on the highway network, of traffic growth arising from the revised allocation strategies.
  - The mitigation measures required to support the growth and minimise the effect on the operation of the transport network.

## 2.0 Initial Report Findings

- 2.1 Based upon the analysis presented within the original reporting, the modelling demonstrates that, without intervention, delivery of the South Warwickshire Local Plan would result in severe congestion and network instability by 2050, with the highway network quickly becoming gridlocked.
- 2.2 A comprehensive package of highway mitigation, alongside “Normal” mode shift, has been identified as essential. The schemes are detailed within the original modelling report<sup>2</sup>, with the location of the identified schemes provided within the following figure. When this mitigation is applied, the network becomes stable and capable of accommodating Local Plan growth, with AM peak conditions close to the Reference Case, and manageable, albeit higher delays in the PM.

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<sup>2</sup> 000286.00100.07.R001. Southam Initial STA Testing Summary



**Figure 1: Identified Mitigation Schemes in Southam Network**



2.3 At a more detailed level, the modelling indicates that the schemes at the northern sections of the A423 Southam Bypass and Fosse Way can manage to growth associated with the SGL sites in this area, whilst the mode shift has the potential to reduce impacts along the High Street within Southam town centre.

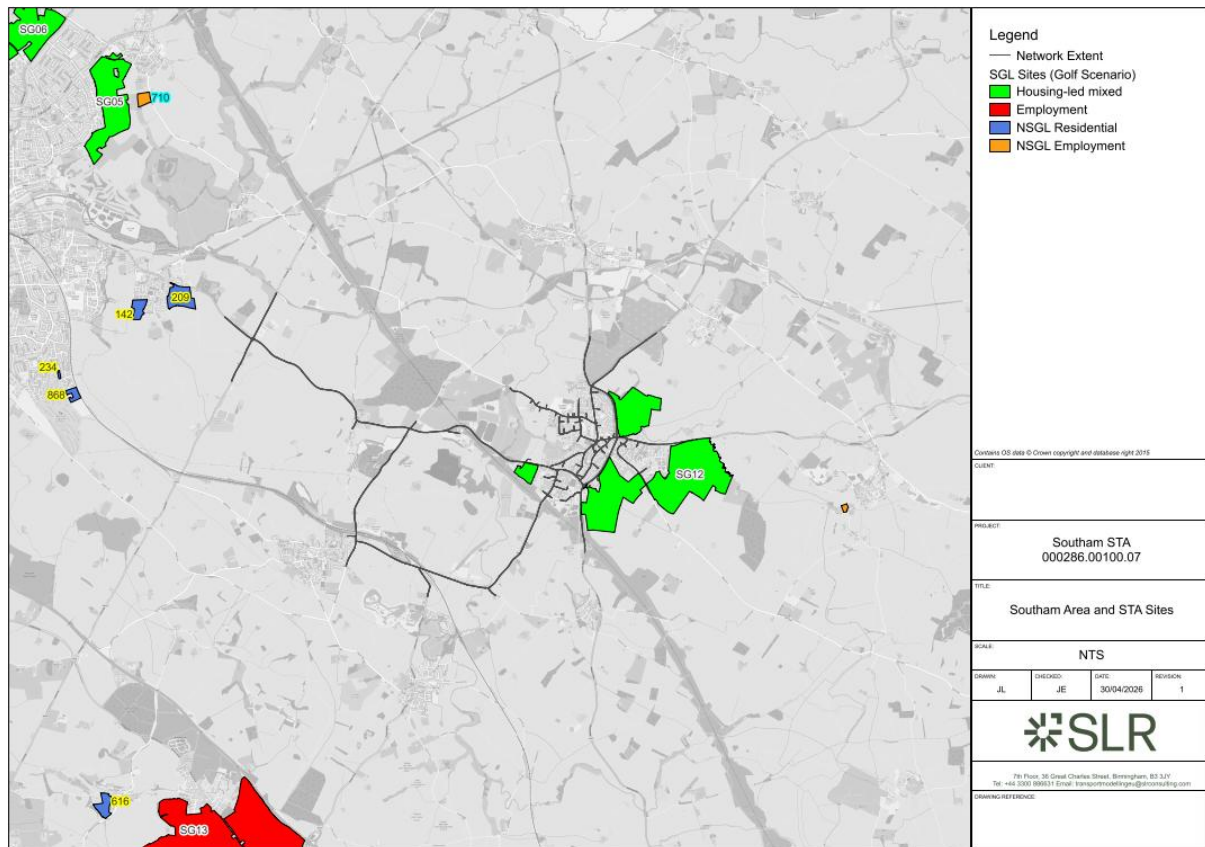
2.4 The modelling is however indicating that residual impacts will remain, predominantly around the southern sections of the A423 Southam Bypass and areas around the A425 Leamington Road/Kineton Road junction in both periods, which in turn has knock on impacts at the A423 corridor

### 3.0 Revised Development Strategy Inclusions

3.1 Following the submission of the original STA report SDC/WDC advised SLR of a revision to the dwelling totals at each of the SGL development sites for consideration. The NSGL development details have not changed since the original modelling was completed. The changes advised by SDC/WDC has resulted in the following dwelling totals at each SGL sites being considered within an updated modelling assessment:



**Figure 2: STA Sites (Southam Area)**



**Table 1: Revised SGL Sites Details**

STA Sites	Build Out	
	Dwellings	Employment (ha)
SG01	4,500	2
SG02	0	94
SG04	751	0
SG05	916	0
SG06	1,784	0
SG08	493	0
SG09	558	121
SG10	1,550	0
B1	4,000	0
<b>SG12</b>	<b>3,086</b>	<b>5</b>
SG13	0	134
SG15	1,550	27
SG16	0	63
SG18-N	768	0
SG18-S	687	0
SG19	2,585	0



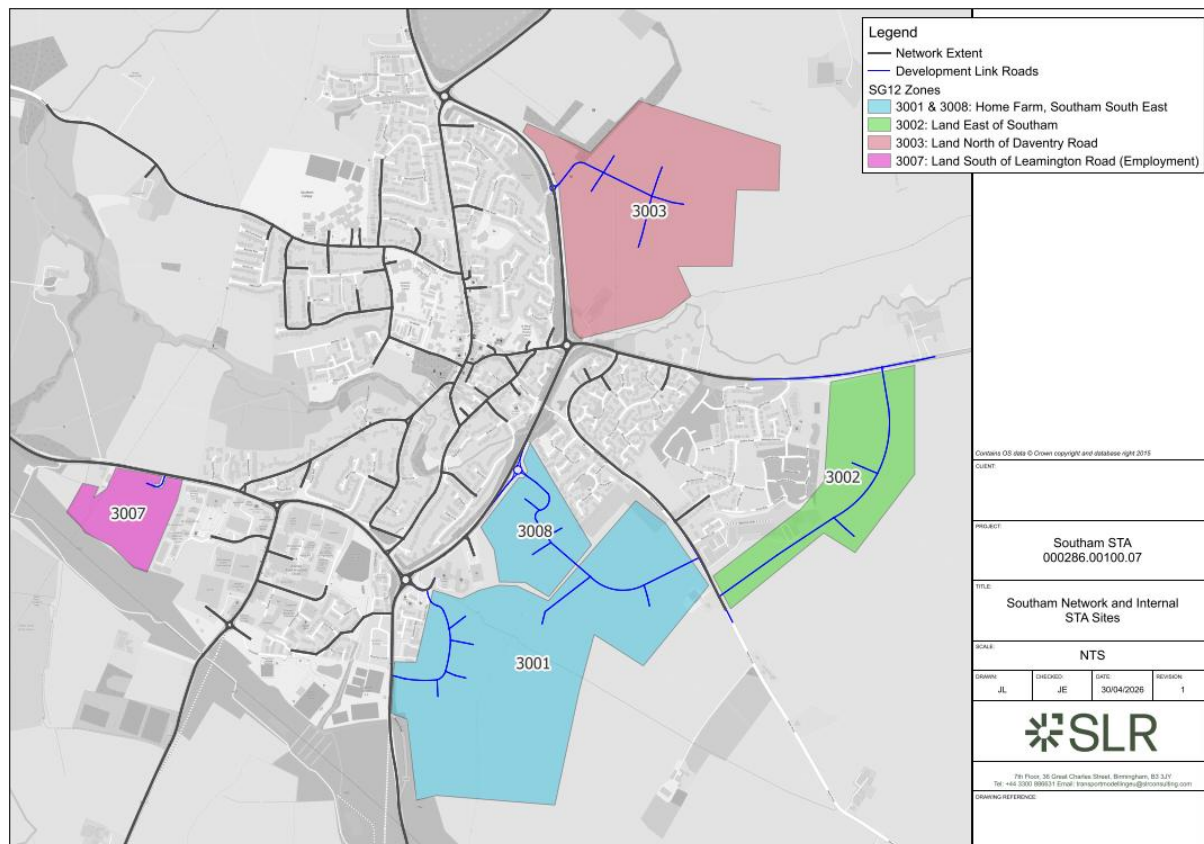
STA Sites	Build Out	
	Dwellings	Employment (ha)
SG20	3,120	11
SG23	1,969	3
E1	4,500	15

\*sites highlighted are those which lie within the Southam model extent

### Revised Internal Strategic Sites

- 3.2 The revision to the Local Plan development allocation strategy for the internal strategic site SG12, the residential dwelling totals have been reduced from 3,940 to 3,086 dwellings, with the employment land use remain unchanged at 5Ha.
- 3.3 The number of parcels has been reduced to five as a result from the reduced levels of housing development as presented below:

**Figure 3: Revised Internal STA Sites**



- 3001 & 3008: Home Farm (up to 1,250 homes) accessed via a new link road connecting between A423 Bypass and Welsh Road East and separate access via existing A423/A425/Petrol Station roundabout and A423 Banbury Road.
- 3002: Land East of Southam (up to 2,000 homes) accessed via a new link road built between Welsh Road East and A425.
- 3003: Land North of Daventry Road (750 to 800 units) accessed via a new roundabout at A423 Bypass.



- 3007: Land South of Leamington Road (5Ha Employment, B2:B8 split of 25:75) accessed via a new priority junction.

3.4 The number of trips generated across each parcel have been refined further to accurately reflect the change in the housing development.

## 4.0 Revised Development Sites Assessment

4.1 Following confirmation of the sites to be included within the assessment, the approach detailed within the previous section of this report has been undertaken, to form a 2050 Revised Do Something scenario.

4.2 At this stage it has been determined that the updated assessment would be undertaken within the previously considered 2050 Local Plan Do Something network, i.e. inclusive of the previously adopted approach to the application of a “Normal” level of mode shift, and highway mitigation schemes, given that the intention of this stage of testing is to confirm whether the originally identified interventions remain appropriate when considered alongside the updated development site details, or if the revision triggers a change in the mitigation assumptions.

4.3 As part of this stage of testing, the highway infrastructure assumptions, in terms of mitigation, have remained consistent with those detailed within the original report, on the basis that the schemes included are triggered predominantly on strategic parts of the network, which will continue to experience similar level of traffic flow increases with the revised development schedule included, when compared with the original assessment.

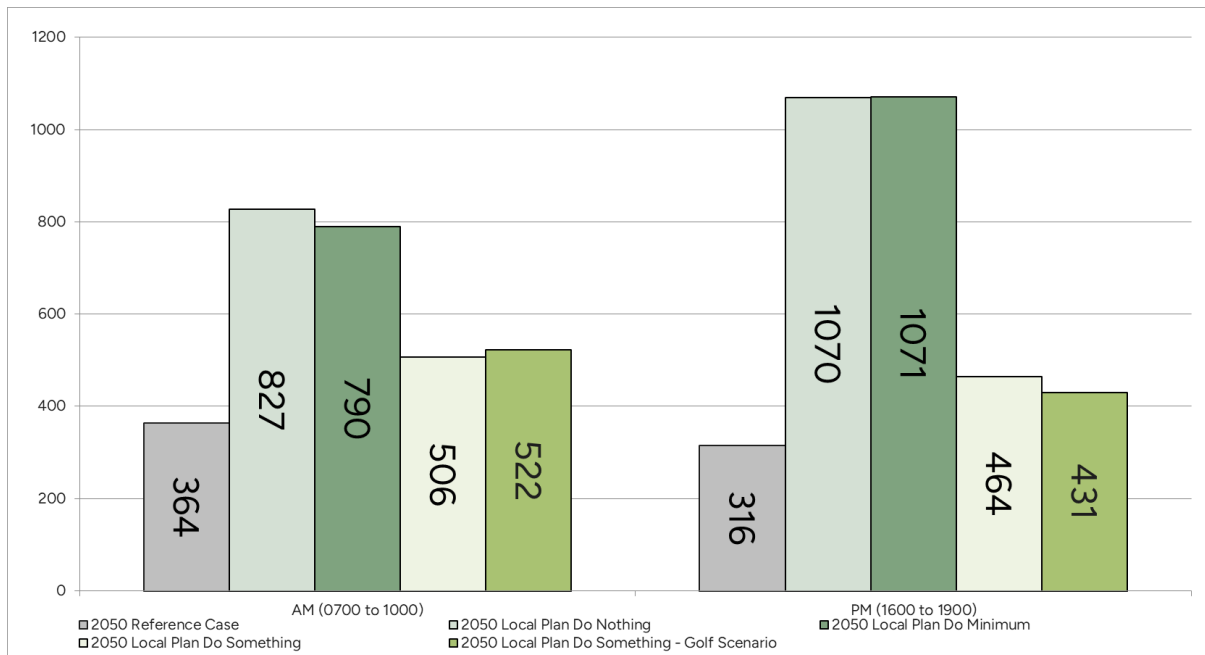
4.4 The resultant 2050 Local Plan Revised Do Something scenario was run and the model performance summarised, relative to a currently adopted (benchmark) scenario, the 2050 Reference Case. As per the original report, the core reporting has focused initially on the strategic level impacts, in terms of average journey times, before then reporting on localised impacts in the form of predicted changes in queuing at junctions within the network and the average journey time impacts on the A423 corridor. This is presented within the following section:

### Strategic Level/Network Wide Impacts

4.5 The impact assessment initially focuses on the average journey time impacts, before providing a more localised assessment through queue length analysis. The following figure summarises the strategic level delay impacts within the 2050 Local Plan Revised Do Something scenario, relative to the 2050 Reference Case, 2050 Local Plan Do Nothing, 2050 Local Plan Do Minimum (Mode Shift) and the original 2050 Local Plan Do Something scenario.



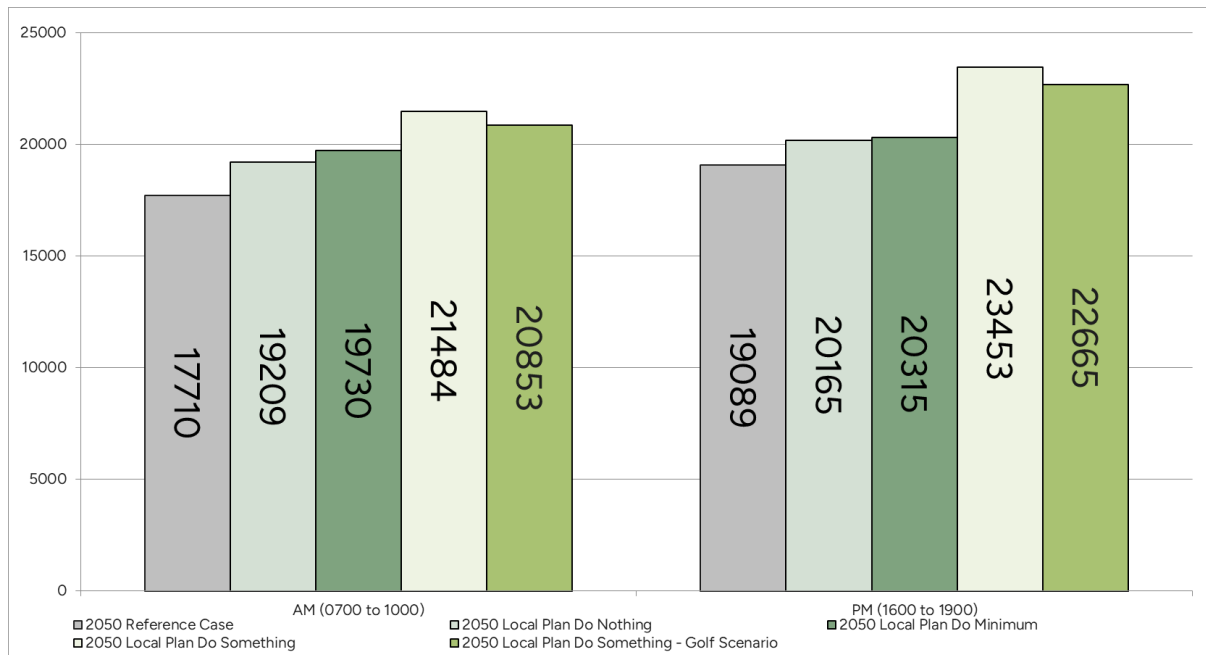
**Figure 4: Average Journey Time Impacts – Southam Local Plan Revised Do Something Assessment**



- 4.6 The results presented within the previous figure indicates that the revised Local Plan development strategy shows very marginable change at a strategic level in AM and PM period. The Revised Do Something does continue to show highway mitigation schemes reduces the average journey times for all vehicles on the network significantly compared with the previous Local Plan (Do Nothing and Do Minimum) scenarios.
- 4.7 Further to this, the total completed trips in the Revised Do Something scenario have been compared to the Reference Case, Local Plan Do Nothing, Do Minimum and the original Do Something scenarios within the following figure.



**Figure 5: Total Completed Trips – Southam Local Plan Revised Do Something Assessment**



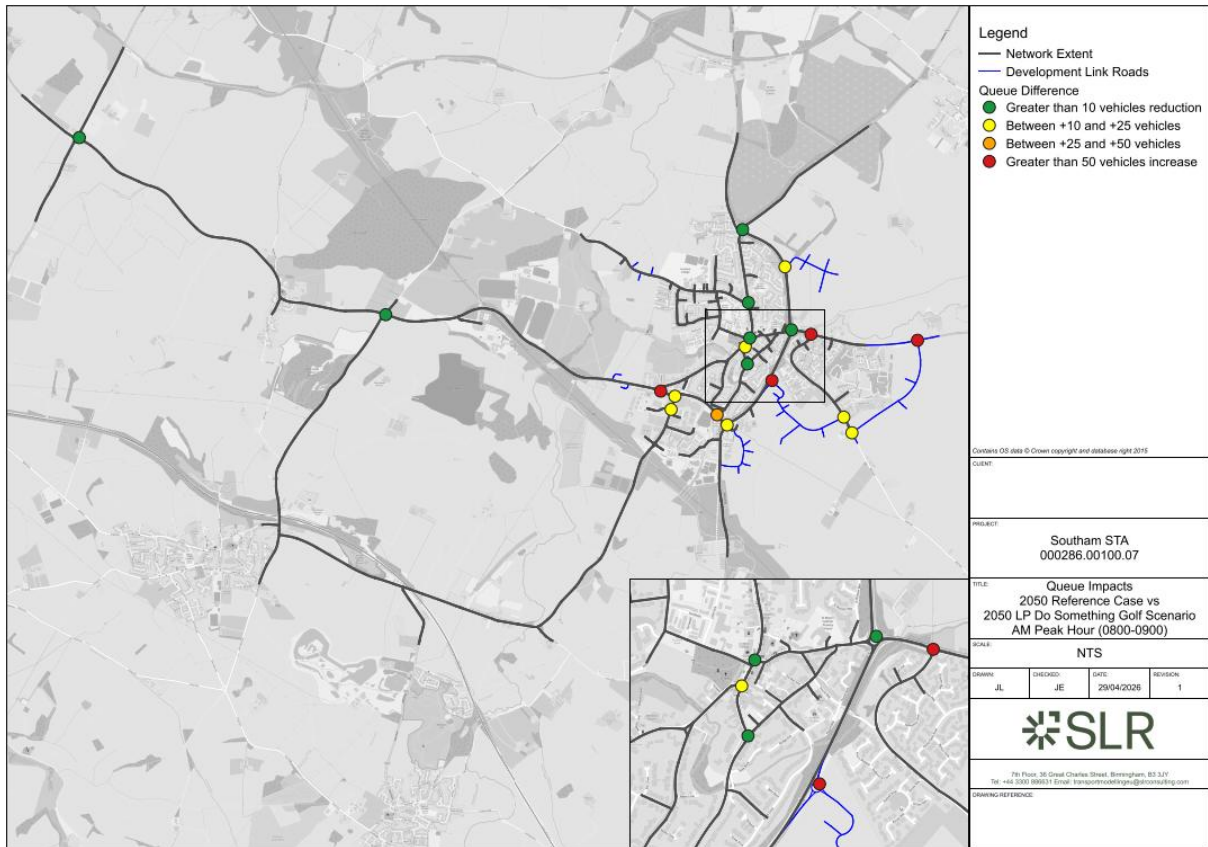
- 4.8 The total completed trips results indicate that the demands assigned to the 2050 Local Plan Revised Do Something model to be completed, indicated by lower trips when compared to the original Do Something, though higher trips when compared to the Reference Case, Local Plan Do Nothing and Do Minimum scenarios.
- 4.9 Clearly the revision of the Local Plan development strategy reflects the lower housing proposals, thereby fewer completed trips within the Southam network.

**Localised Queue Impacts**

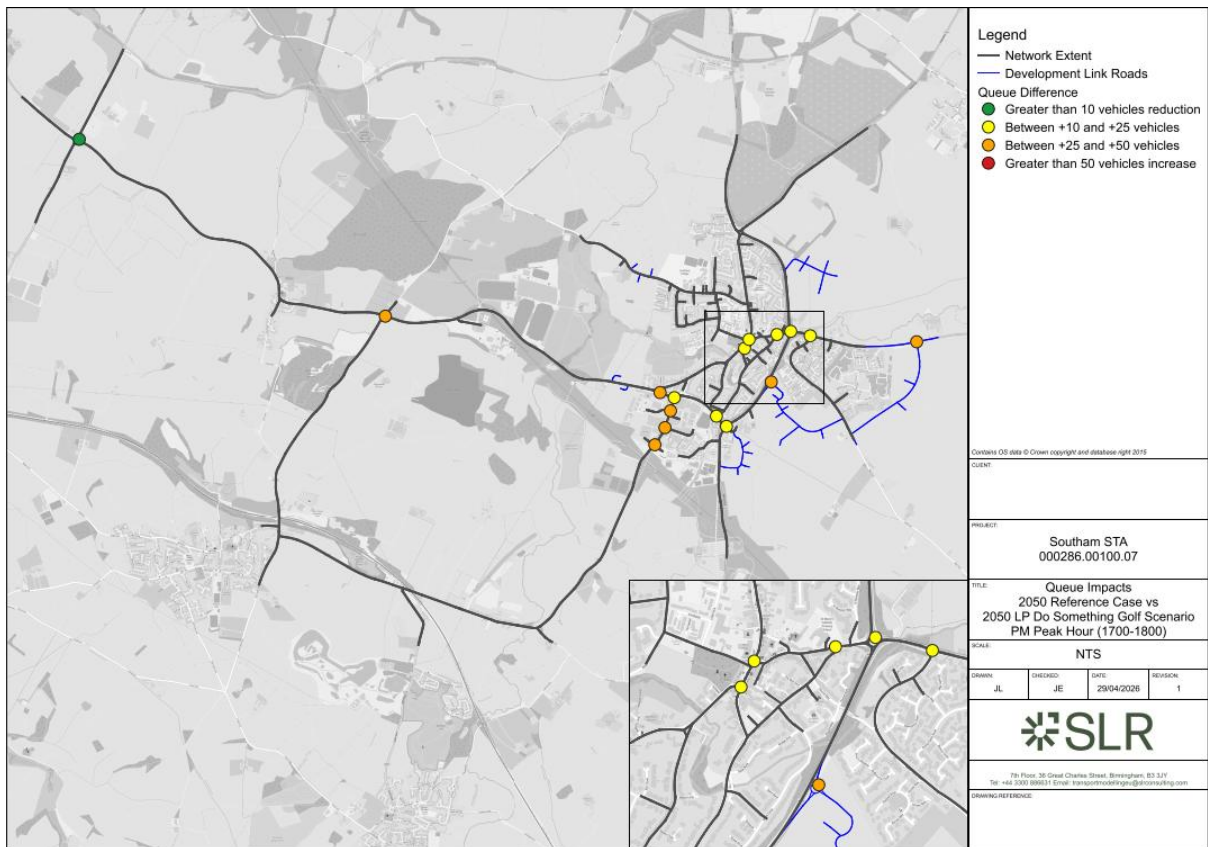
- 4.10 The following analysis presents a more localised impact assessment, based upon changes in queues lengths across the model network. This analysis is presented within the following two figures for the AM and PM peak hours respectively, focussing on the 2050 Local Plan Revised Do Something relative to the 2050 Reference Case.



**Figure 6: Southam Revised Do Something Scenario Queue Impacts – AM Peak Hour**

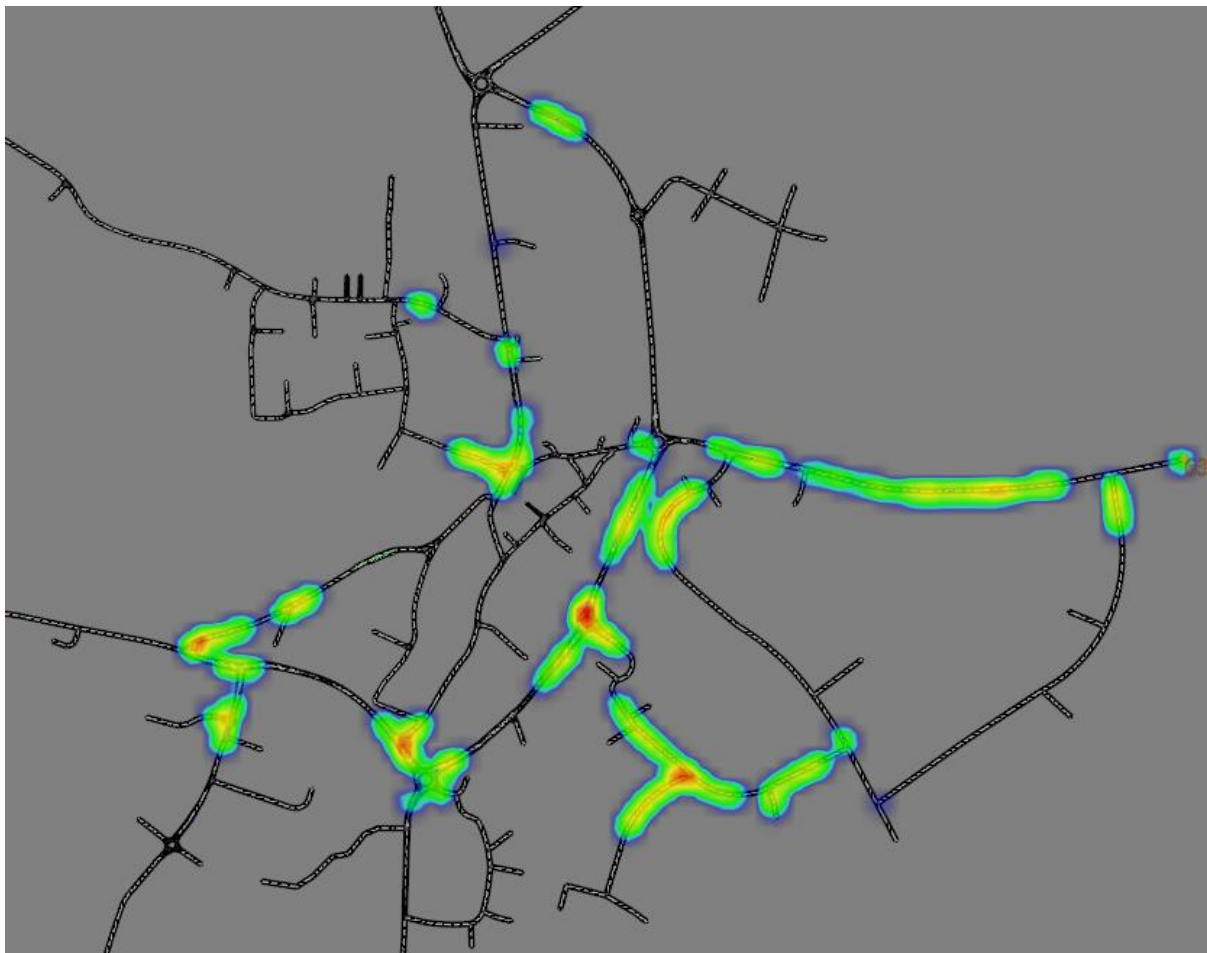


**Figure 7: Southam Revised Do Something Scenario Queue Impacts – PM Peak Hour**



- 4.11 The queue results presented within the previous two figures indicate the location and extent of changes in queue lengths in the Local Plan Revised Do Something scenario, relative to the Reference Case.
- 4.12 The AM queue plots indicate that queues remain predicted to reduce along the High Street within Southam town centre, and on parts of the strategic routes inclusive of the A423 Southam Bypass (between A426/A423 Coventry Road and A423/Daventry Road roundabouts) and Fosse Way, with the revised Local Plan development allocation strategy.
- 4.13 It is however the residual housing development impacts in the AM period on routes into Southam from A425 Daventry Road, Welsh Road East and Home Farm access road remain congested, given that the unchanged SGL sites in this area of the network clearly continuing to show significant pressure on these routes for vehicles to travel towards Southam and other neighbouring towns via the bypass.
- 4.14 These impacts are also shown within the following model snapshots taken from within the AM peak hour.

**Figure 8: Residual Impacts – Southam Area – AM Peak Hour**



- 4.15 Whereas in the PM peak hour, as per the AM, queue reductions continue to show at Fosse Way with minor impacts shown within the town centre. With the reduction of residential development in Southam, the network no longer shows very severe impacts (increase of 50



vehicles in queues) particularly at the A423/A425 Banbury Road/Galanos House roundabout which now showing a minor impact.

- 4.16 Residual impacts remain in the PM where significant impacts continue to show at Kineton Road junctions with the A425 Leamington Road and Northfield Road.
- 4.17 These impacts are also shown within the following model snapshots taken from within the PM peak hour.

**Figure 9: Residual Impacts – Southam Area – PM Peak Hour**



**Journey Time Impacts on A423 Corridor**

- 4.18 Supplementary to the queue impacts, it is prudent to re-examine the impacts of the journey times on the A423 corridor in relation to the speed reduction scheme from 60 to 40mph on the A423 Southam Bypass to determine if the revised Local Plan development strategy has any material impact to the travel time.
- 4.19 The following plots show the average journey time across the A423 corridor in both directions through the AM and PM peak period.



**Figure 10: Journey Time Impacts – A423 Corridor – AM Peak Period**



**Figure 11: Journey Time Impacts – A423 Corridor – PM Peak Period**



- 4.20 The journey time results presented within the previous two figures indicate the journey time routes along the A423 corridor and extent of changes in average journey times in the Local Plan Revised Do Something scenario, relative to the Reference Case.
- 4.21 The AM period shows, with the reduction of speed limit from 60 to 40mph on the A423, Southam Bypass has a minimal impact to average journey time, with the net increase across the A423 corridor of 56 seconds/17% travelling northbound and 10 seconds/3% travelling southbound.
- 4.22 The PM period continue showing varied impacts to average journey times, with the northbound showing significant net increase of 126 seconds/50% whereas the southbound showing a more moderate increase of 39 seconds/13%. These increases are lower than in the original Do Something scenario which clearly reflects to the reduction of development traffic and queues from the reduced housing development in Southam.
- 4.23 The increase in average journey time remains prevalent on the A423 Bypass between A425 Daventry Road and A425 Banbury Road/Galanos House which is largely contributed from the development traffic at Home Farm and Land East of Southam.
- 4.24 Thus, this strengthens the assumption that the speed reduction in the Revised Do Something scenario does not have material impacts on the average journey time.

### **Revised Do Something Impact Summary**

- 4.25 Based upon the analysis presented within this section, the Revised Do Something retained the inclusion of the identified highway schemes, alongside the "Normal" mode shift applied as per the original Do Something, with the reduced demands included in the model to reflect the latest SWLP development allocation strategic.
- 4.26 The Revised Do Something maintains very similar levels of impacts as in the previous testing, with significant impacts in the AM period persist at the locations of A425 Daventry Road/Welsh Road East and Home Farm junctions where the SGL sites in this area are unchanged from the reduction in housing development numbers.
- 4.27 All schemes have been retained inclusive of Fosse Way and A423 Southam Bypass junctions to manage growth associated with the SGL sites particularly at Home Farm and Land East of Southam, whilst the mode shift has the potential to reduce impacts along the High Street within Southam town centre.
- 4.28 The reduction of the speed limit along the A423 Southam Bypass in the revised test strengthens the assumptions of that it does not materially impact the journey time as in the original Do Something scenario. This is clearly observed on the A423 approaches at the A425 Banbury Road/Galanos House roundabout where the Revised Do Something scenario shows a smaller queue and average journey time impacts when compared with the original testing, indicating queues have more of an impact to the average journey time than the speed limit reduction scheme.



- 4.29 The revised modelling is continuing to indicate that residual impacts will remain, predominantly around the southern sections of the A423 Southam Bypass, A425 Daventry Road and Welsh Road East in the AM period and areas around the A425 Leamington Road/Kineton Road junction in both periods which in turn has knock on impacts, with proximity of SGL sites, development traffic affecting the A423 corridor.
- 4.30 In summary the schemes with mode shift applied in the Local Plan Revised Do Something have continued to provide mitigation on key corridors and town centre of the network. However, some residual impacts remain, with the AM showing significant queues at A425 Daventry Road, Welsh Road East and Home Farm access road due to the proximity of the SGL sites and with the PM showing congestion at Kineton Road junctions.

## 5.0 Summary and Conclusions

- 5.1 The purpose of this report is to provide an overview of the work that has been undertaken following from a previous assessment of an initial set of options which subsequently SDC/WDC have identified a revision to the number of dwellings at various sites within the plan. These sites have then been reassessed within the microsimulation models, adopting an approach consistent with the original reporting.
- 5.2 The expectation is that the outcomes of the revised modelling assessment which are presented within this report will provide WDC/SDC and WCC with an understanding of how the refinements to the Local Plan which may affect the operation of the transport network from changes in the allocation of the proposed developments, as well as examining the residual impacts where previous interventions may remain essential in managing the traffic impacts and enabling the developments to come forward as the Plan is delivered.

### Objectives

- 5.3 The objective of this assessment is to understand the implications of the proposed revision to the Local Plan development allocation strategy. The findings from this assessment have been set out within this report, which reports upon:
- The potential impact, on the highway network, of traffic growth arising from the revised allocation strategies.
  - The mitigation measures required to support the growth and minimise the effect on the operation of the transport network.

### Local Plan Sites Assessment

- 5.4 Following the submission of the original STA report, and consideration of the findings therein, SDC/WDC have advised SLR of a revision to the dwelling totals at each of the SGL development sites for consideration. The NSGL development details have not changed since the original modelling was completed.



- 5.5 The revision to the Local Plan development allocation strategy for the internal strategic site SG12, the residential dwelling totals have been reduced from 3,940 to 3,086 dwellings, with the employment land use remain unchanged at 5Ha.
- 5.6 Based upon the analysis presented within this report, the Revised Do Something retained the inclusion of the identified highway schemes, alongside the “Normal” mode shift applied as per the original Do Something, with the reduced demands included in the model to reflect the latest SWLP development allocation strategic.
- 5.7 The Revised Do Something maintains very similar levels of impacts as in the previous testing, with significant impacts in the AM period persist at the locations of A425 Daventry Road/Welsh Road East and Home Farm junctions where the SGL sites in this area are unchanged from the reduction in housing development numbers.
- 5.8 The reduction of the speed limit along the A423 Southam Bypass in the revised test strengthens the assumptions of that it does not materially impact the journey time, as already shown in the original Do Something scenario, the analysis shows queues have more of an impact to the average journey time than the speed limit reduction scheme.
- 5.9 The modelling is however indicating that residual impacts will remain, predominantly around the southern sections of the A423 Southam Bypass and areas around the A425 Leamington Road/Kineton Road junction in both periods, which in turn has knock on impacts at the A423 corridor.
- 5.10 The residual SGL sites around Southam continues to show constraint on the network particularly around the A425 Daventry Road, Welsh Road East and Home Farm where proximity of development traffic increases pressures on the routes towards Southam and around the bypass as clearly shown in the AM period.
- 5.11 In summary the Local Plan Revised Do Something with same highway schemes and mode shift assumptions have continued to provide mitigation on key corridors and town centre of the network, with the reduced housing development in Southam showing a decrease of development trips, henceforth a reduced impact clearly identified at the A423/A425 Banbury Road/Galanos House roundabout in the PM period.
- 5.12 However, some residual impacts remain, with the AM continuing showing significant queues at A425 Daventry Road, Welsh Road East and Home Farm access road due to the proximity of the SGL sites, and the PM showing large queues and delay at the south of Southam area around and Kineton Road junctions.

## Conclusions

- 5.13 The revised Do Something modelling demonstrates that the changes in South Warwickshire Local Plan development allocation strategic in the SDC/WDC revised development list, pertaining to the changes to the housing development numbers, continues to maintain the levels of impacts observed across the Southam network in the original assessment, in



addition to the reduction of the queue impacts at the A423 Southam Bypass shown at the Galanos House roundabout in the PM.

- 5.14 On the contrary, the revised modelled indicates few residual impacts remain on the network, particularly on the southern sections of the A423 Southam Bypass proximity to the SGL sites which show queues blocking back at the development sites during the AM period. Moreover, the PM period shows significant impacts along Kineton Road with the A425 Leamington Road and Northfield Road junctions remain impacted from the revised Local Plan development strategy.
- 5.15 A comprehensive package of highway mitigation, alongside mode shift, has therefore remained valid in the model revision. When this mitigation is applied, the network becomes stable and capable of accommodating Local Plan growth.

## Recommendations for Further Stages of Analysis

- 5.16 SLR would recommend that, once the core testing has been completed, and an understanding of 2050 network operation, inclusive of the SWLP development proposals, is obtained, it would be beneficial to consider the following:
- Further refinements to the schemes proposed along the A425 to determine if they can be further optimised to better manage the congestion observed to the South of Southam.
  - Consideration of how effective the “optimistic” mode shift targets are at managing the residual impacts identified through the modelling completed to date.
  - Updates to the modelling to address any design changes which are identified, associated with the interventions, as part of WCCs review of the identified proposals.
- 5.17 These are stages which would be beneficial in providing a better understanding of the network operation and potential influence of mode shift on the conclusions but are unlikely to materially alter the findings presented to date and so are not essential in determining if the impacts of the SWLP proposals can be effectively managed through delivery of interventions which is set out within the assessment work presented to date.



