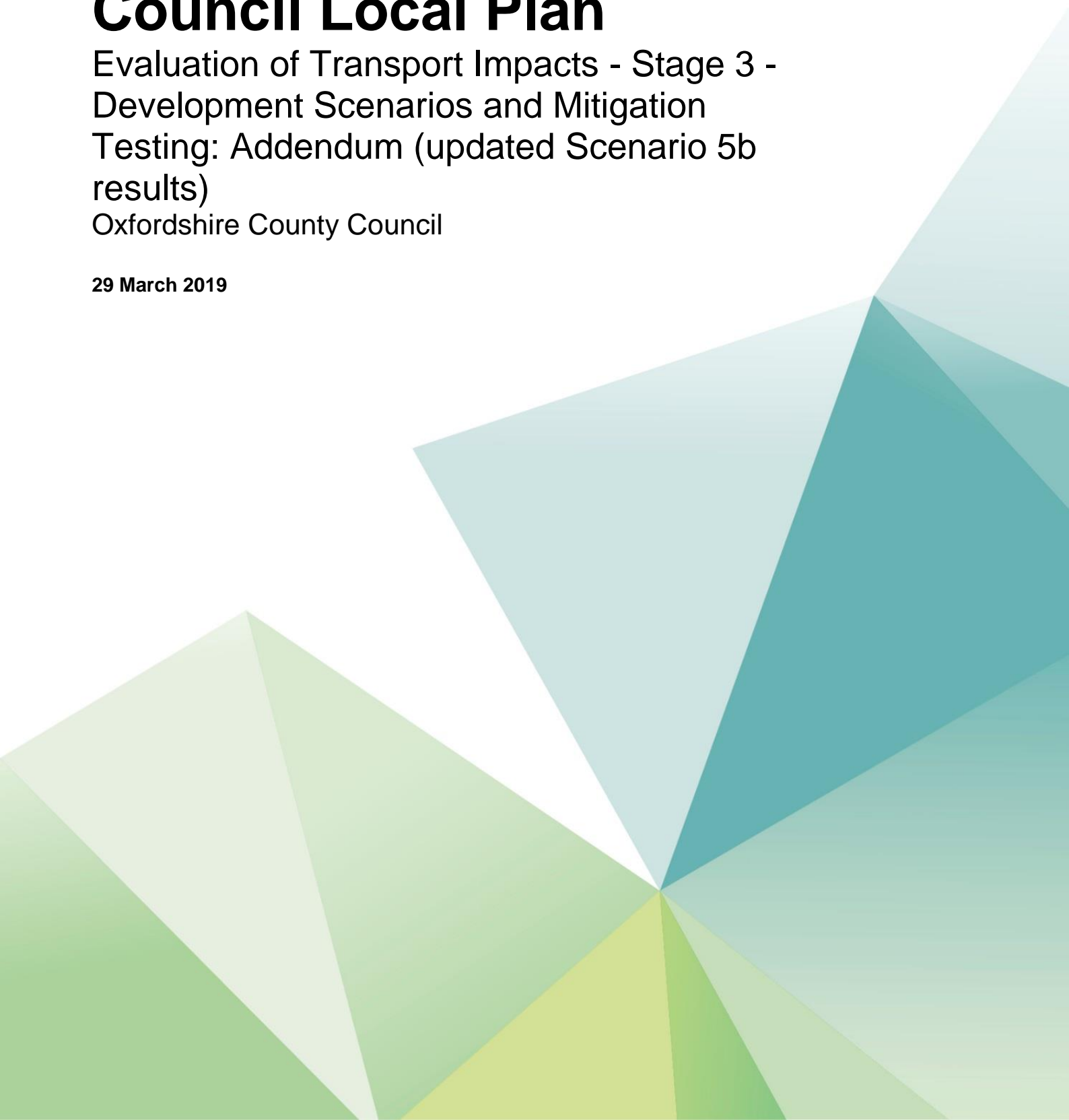


South Oxfordshire District Council Local Plan

Evaluation of Transport Impacts - Stage 3 -
Development Scenarios and Mitigation
Testing: Addendum (updated Scenario 5b
results)

Oxfordshire County Council

29 March 2019



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1. Introduction

This document is an addendum to the 'Evaluation of Transport Impacts: Stage 3 - Development Scenarios and Mitigation Testing' report, to correct the presentation of the Volume over Capacity (V/C) plots for Scenario 5b (Figure 42 and Figure 43) in the Highway Network Performance section (5.10).

The process to generate the V/C figures for Scenario 5b had resulted in the mis-classification of a number of model links, most notably for the proposed Culham River crossing scheme where the commentary has now been updated to the below.

The refined design and consideration of the Culham Didcot Thames River Crossing western alignment is forecast to operate marginally above capacity southbound in the morning peak and in both directions during the evening peak, suggesting that the current planned design is likely to require further enhancement and localised operational junction modelling to test the accommodation of increased forecast demand.

Section 5.10 (pages 66 to 70) of the Stage 3 report is reproduced with the corrected figures and revised commentary here in full following this introduction

5. Scenarios Highway Network Performance

5.10. Scenario 5B

Scenario	Proposed development Site Allocations (above those in the Do Minimum)	Mitigation Included (above that in the Do Minimum)
5B	Northfield (2000), Grenoble Road (3000), Chalgrove (3000), Culham (3500), Wick Farm/Lower Elsfield (2036), Berinsfield (1700), Wheatley (300), Neighbourhood Plan commitments and targets	Benson Bypass, Chiselhampton Bypass, Stadhampton Bypass, Watlington Bypass, Culham Didcot Thames River Crossing, western alignment, Culham Site Access Links, A40 Link Road, Culham Didcot Thames River Crossing alternative (Western alignment), A40 Link Road, 40mph single carriageway, Berinsfield northern access, Speed reductions to Dorchester/Stadhampton Road to 20mph, Golden Balls roundabout enlargement, capacity increase for north- and southbound movements and additional filter lane from Clifton Hampden bypass to A4074 northbound, Accesses to Culham site improved

5.10.1. Network Performance

The modelled highway network performance within the District for the Do Minimum and Scenario 5B are shown in Table and Table .

These statistics give a high-level summary of how the model has responded to the changes in land use assumptions and network changes.

Table 35 South Oxfordshire District modelled network performance - morning peak 2031

	South Oxfordshire		
	Do Minimum	Scenario 5B	Difference (S5B-DM)
Delay (pcu-hr)	522	698	176.2
Total Time (pcu-hr)	6060.4	6776.4	716.0
Total Distance (pcu-km)	378301.7	400806.2	22504.5
Average Speed (km/hr)	62.4	59.1	-3.3

Table 36 South Oxfordshire District modelled network performance - evening peak 2031

	South Oxfordshire		
	Do Minimum	Scenario 5B	Difference (S5B-DM)
Delay (pcu-hr)	611.2	692.7	81.5
Total Time (pcu-hr)	6719.4	7546.5	827.1
Total Distance (pcu-km)	408409.9	441992.5	33582.6
Average Speed (km/hr)	60.8	58.6	-2.2

5.10.2. Flow and Capacity Impacts

The forecast flow difference between Scenario 5B and Do Minimum modelled across the District is shown in Figure 40 and Figure 41. The forecast volume to capacity plots for Scenario 5B are shown Figure 42 and Figure 43.

- Junctions along the A40 at Headington are forecast to experience some relief from congestion, as the A40 link road is forecast to attract general traffic away from Headington roundabout. This is likely to result in an increase in average speeds along this corridor during both morning and evening peaks compared to the Do Minimum scenario.
- Scenario 5B includes a western alignment of the Thames River Crossing. This alignment allows for a more even distribution of demand along the proposed link. The layout of Culham access junctions has also been refined in this assessment to accommodate improved operational performance. **The refined design and consideration of the Culham Didcot Thames River Crossing western alignment is forecast to operate marginally above capacity southbound in the morning peak and in both directions during the evening peak, suggesting that the current planned design is likely to require further enhancement and localised operational junction modelling to test the accommodation of increased forecast demand.** Dual access points to the development at Culham are also forecast to relieve congestion along the A415.
- Changes in mitigation compared to 5a (increased capacity at Golden Balls and a western alignment of the Thames River crossing) are likely to result in a reduction in stress on the A34 between Marcham Interchange and Lodge Hill. There is a forecast decrease in flows in this section during the PM peak, and it is predicted to be below capacity during both peaks.
- The B4015/Oxford Road is generally less congested in Scenario 5B compared to 5A, with the exception of the evening peak, as higher traffic volumes approach Golden Balls Roundabout from the north, and whilst the proposed filter lane is likely to ease left-turning movements from Oxford Road onto the A4074, the reverse flows reach a pinch point on the right-turn at Golden Balls due to bottlenecking at Oxford Road Westbound.
- There is a reduction in traffic flow at Drayton-St Leonard related to speed reductions on this link. Lower flows are likely to relieve pressure on the A329 northbound at Stadhampton compared to the Do Minimum.
- Additional demand at Grenoble Road is likely to increase network stress along the A4074. Overall, development traffic is likely to be attracted to less congested corridors such as the B4015 and A329/Milton Road, and the B480 northbound link. These can be potentially used by traffic originating from the Culham, Berinsfield, and Chalgrove developments.

Figure 40 South Oxfordshire flow difference (Scenario 5B – Do Minimum) (PCU/hr) – 2031 morning peak

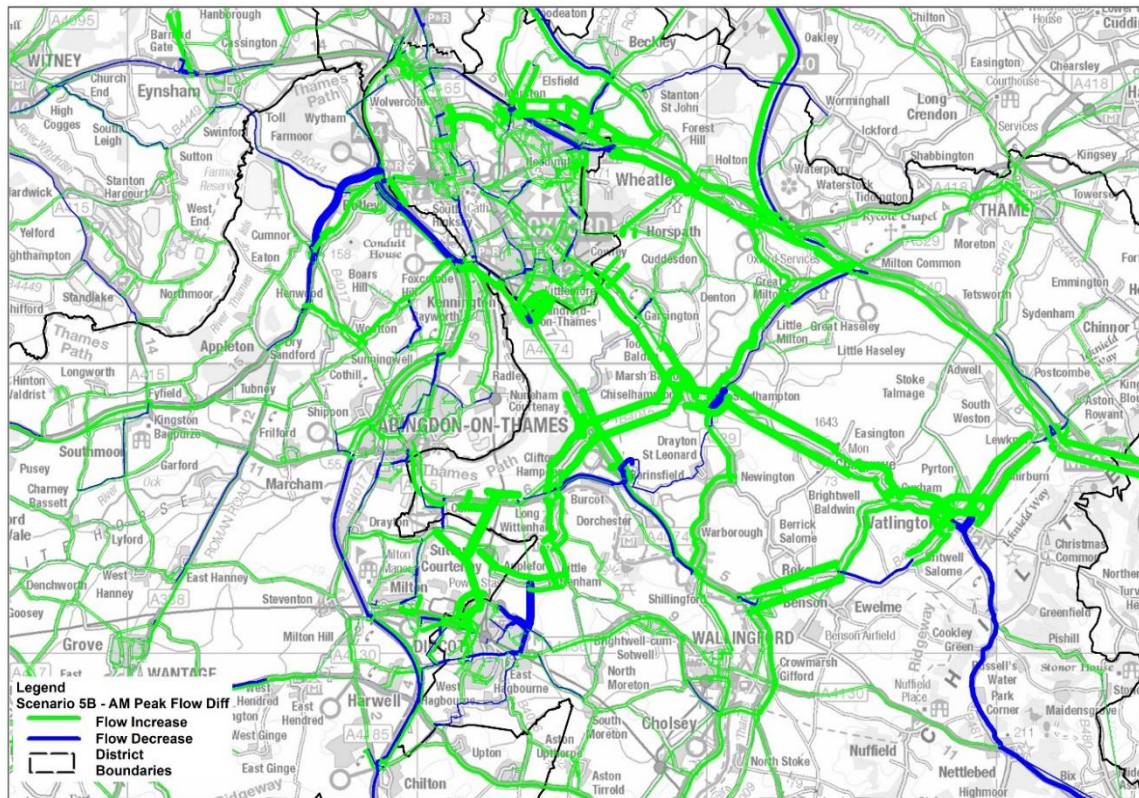


Figure 41 South Oxfordshire flow difference (Scenario 5B – Do Minimum) (PCU/hr) – 2031 evening peak

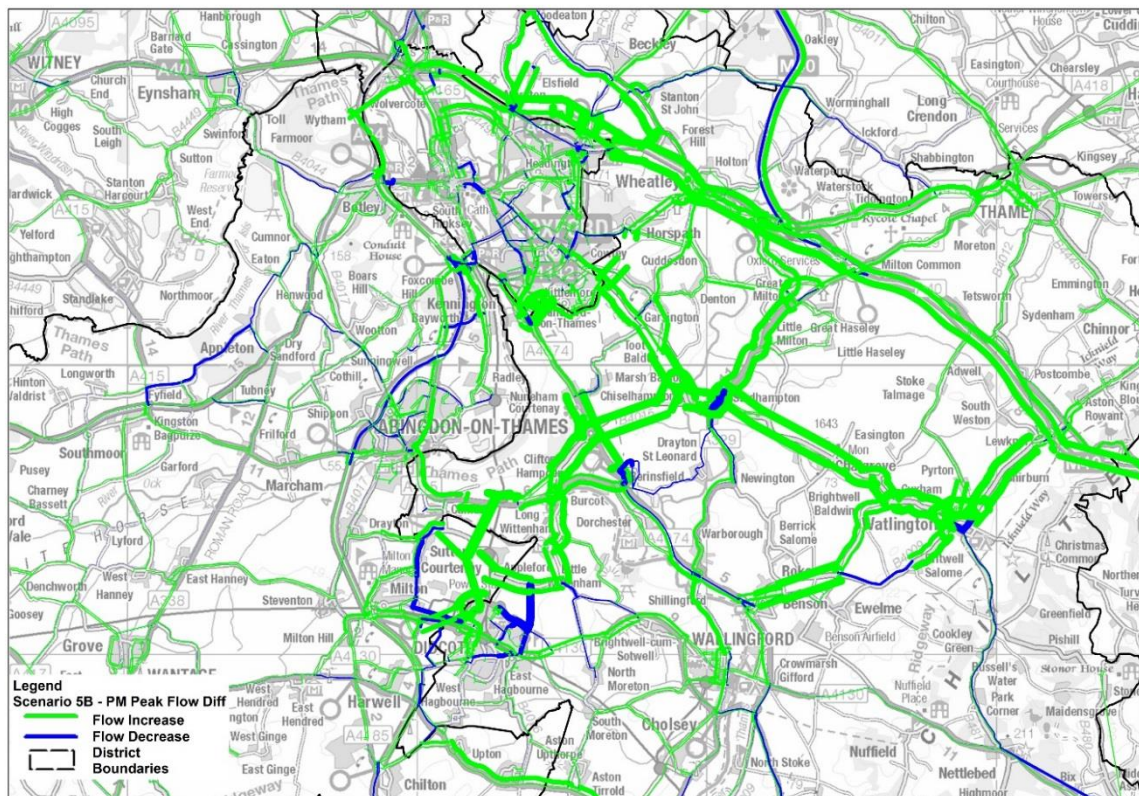


Figure 42 South Oxfordshire V/C for links and junctions – 2031 Scenario 5B morning peak hour

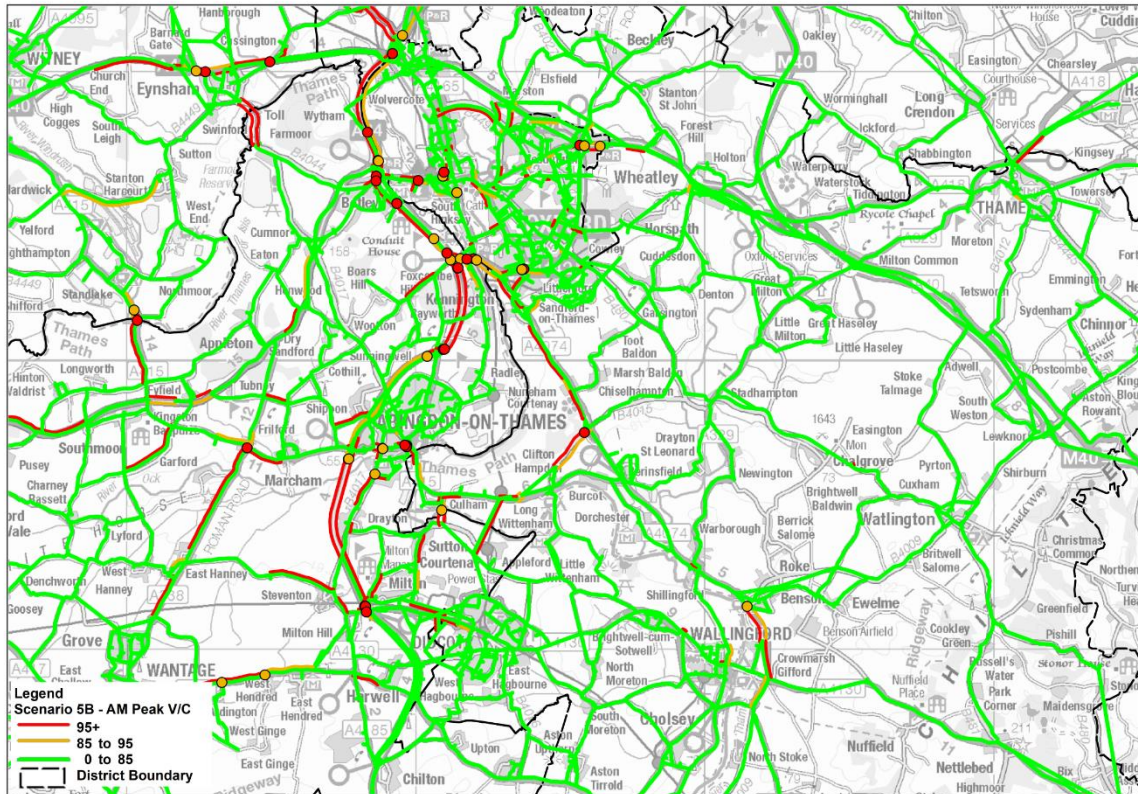
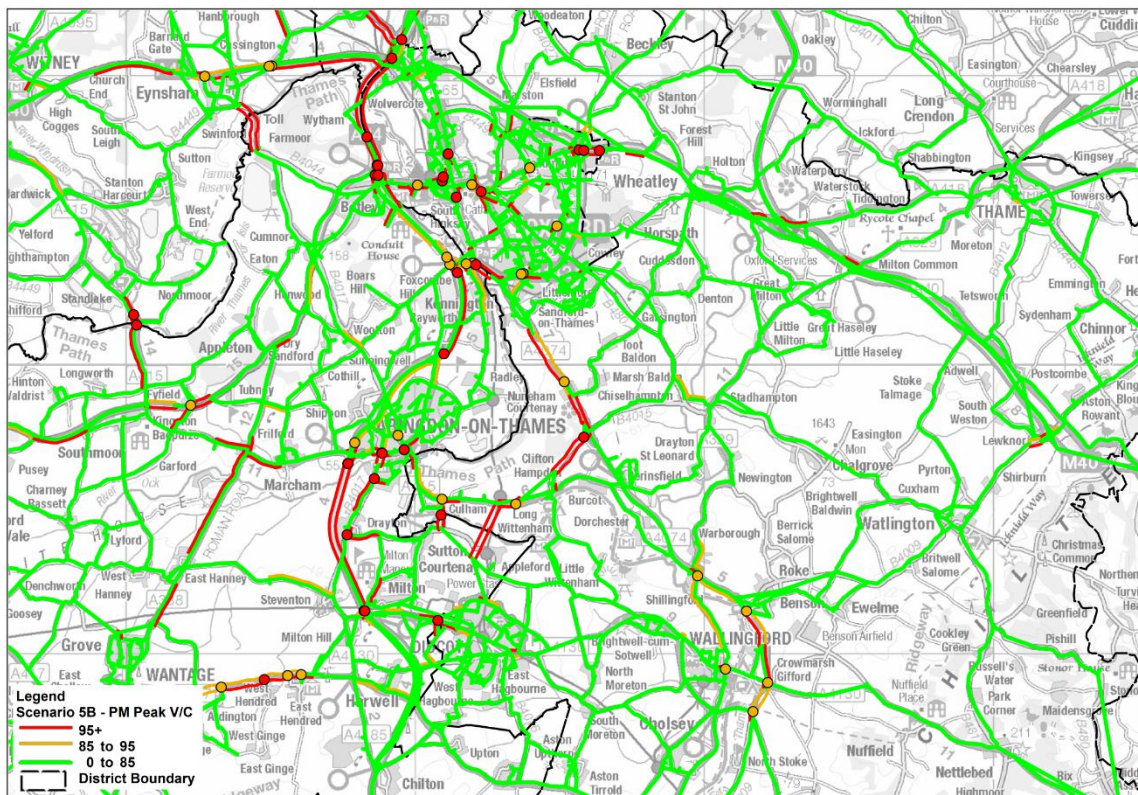


Figure 43 South Oxfordshire V/C for links and junctions – 2031 Scenario 5B evening peak hour



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