Dorset Engineering Consultancy
Pullman Court, Station Approach
Weymouth Avenue, Dorchester DT1 1GA

WIMBORNE TRANSPORT MODEL

SATURN MODEL

OPTION TESTING SUMMARY REPORT

Michael Winter
Consultancy Manager
Pullman Court
Station Approach
Weymouth Avenue
Dorchester
DT1 1GA

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DORSET ENGINEERING CONSULTANCY

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Author	**DEC - Nick Rabbets**		
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RECIPIENTS **

Date	Name/Organisation
Nov-'10	**Steve Williams – Local Transport Plan Manager**
Nov-'10	**Kate Tunks – Principal Transport Planner**
Nov-'10	**Wayne Sayers – Development Control Engineer**
Nov-'10	**Tim Parker – Mouchel (Consultants for Highways Agency)**
Jan-'13	**Wayne Sayers – Development Control Engineer**

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Current status of the Wimborne SATURN model

The Dorset County Council Transportation Modelling Team is currently re-basing the Wimborne SATURN model to 2012. This will update the original model, produced in 2010, to which this report refers. The re-base will include up to date development information taken from the Christchurch and East Dorset Core Strategy Pre-Submission, April 2012. It will also take account of the recent changes to traffic flow due to network alterations at Canford Bottom Roundabout and to the Wimborne Town Square.

The re-based model will inform future discussions between the Highway Authority and any developers as identified sites come forward for detailed assessment through the planning process.

February 2013.

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2. WebTAG Unit 3.15.2 – Use of TEMPRO Data http://www.dft.gov.uk/webtag/documents/expert/unit3.15.2.php
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1.0 INTRODUCTION

1.1 BACKGROUND

1.1.1 Dorset Engineering Consultancy (DEC), have recently produced a fully calibrated and validated traffic model of the Wimborne area for a base year of 2008. This work has been fully reported in the Local Model Validation Report (Reference 1).

1.1.2 Dorset Engineering Consultancy (DEC) received a brief from Kate Tunks of Dorset County Council (DCC) on the 03 September 2010 to undertake a number of development tests using the existing Wimborne Transport Model. This Option Testing Summary Report will summarise the methods and procedures adopted to produce future year networks, matrices and the assignment traffic flows for a number of development scenarios for the forecast future years of 2016 and 2026 using the Wimborne Transport Model 2008. The study area is shown in **Figure 1**.

1.1.3 Ten Option scenarios have been considered within this report and are outlined below and shown in **Figure 2**:

Option A - considers general growth based upon TEMPRO growth factors and information provided by East Dorset District Council upon committed developments and expected in-fill developments in the future years.

Option B - Option A plus 250 dwellings at Cuthbury; mixed private and non-private housing.

Option C - Option B plus 700 dwellings split between Wimborne North sites A and B; mixed private and non-private housing.

Option D - Option C with Highways Agency alterations to Canford Bottom Roundabout.

Option E - Option C plus 250 dwellings south of Leigh Road; mixed private and non-private housing.

Option F - Option E with Highways Agency alterations to Canford Bottom Roundabout.

Option G - Option E plus 150 dwellings south of Colehill; mixed private and non-private housing.

Option H - Option G with Highways Agency alterations to Canford Bottom Roundabout.

Option I - Option G plus 60 dwellings at Stone Lane Industrial Estate & 20 dwellings at St.Margarets Close; mixed private and non-private housing.

Option J - Option I with Highways Agency alterations to Canford Bottom Roundabout.

1.2 STRUCTURE OF THE REPORT

1.2.1 This report is structured in a further six chapters:

- Chapter 2 describes the development of the forecast year networks;
- Chapter 3 describing the production of the forecast year matrices;
- Chapter 4 describes the assignment of the forecast year matrices to the forecast year networks;
- Chapter 5 outlines the results from the Option testing;
- Chapter 6 gives an overall summary of the forecasting procedure.

2.0 FORECAST YEAR NETWORKS

2.1 NETWORK CHANGES

2.1.1 The 2008 base year highway networks for the AM and PM Peaks have been amended to incorporate changes to the highway network associated with future development proposal of the Waitrose development at the old cricket ground. This comprises of a new mini-roundabout on Rowlands Hill just north of Park Lane and the re-location of the pedestrian crossing that formerly occupied that position. **Figure 3** shows the access arrangements into the store and a pedestrian crossing north of the mini-roundabout; however, the pedestrian crossing was re-located prior to construction to just north of Parkwood Road.

2.1.2 The anticipated access arrangements for all the development sites being tested were added into the Option A scenario for consistency in the various options. Therefore, the Option A 2016 and 2026 highway networks for the AM and PM Peaks have been taken in their entirety and renamed as Options B, C, E, G & I.

2.1.3 As Options D, F, H & J assess the impacts of the proposed Highways Agency Hamburger Junction of Canford Bottom, these networks included changes to represent the alterations, as shown in **Figure 4**.

3.0 FORECAST YEAR MATRICES

3.1 MODELLING APPROACH

3.1.1 The forecast year matrices have been produced using the current guidance contained in the Web based Transport Analysis Guidance (WebTAG) Unit 3.15.2 (Reference 2), using data from the following sources:

- Forecasts of trip end growth produced by the National Trip End Model (NTEM) using the TEMPRO V6.2 program;
- Fuel Price and income forecast adjustment factors
- National Transport Model (NTM) 2008 (Reference 3);
- Changes in land use in the Wimborne study area up to 2026.

3.2 PLANNING DATA AND LOCAL GROWTH

3.2.1 Option A development information has been obtained from East Dorset District Council (EDDC) Planning Department. Developments that have been included in the production of future year matrices have been listed in **Tables 1.1 and 1.2**, for 2008-2016 and 2016-2026 respectively.

3.2.2 Using trips rates that have been extracted from the TRICS 2009(b) v6.4.1 database, arrivals and departures for each zone has been calculated. This information is contained in **Table 2** for the AM Peak and PM Peak. It should be noted that the PM trip rates associated with the Waitrose Development have been taken from the Transport Assessment submitted with their planning permission and have been agreed by DCC and EDDC. The AM Peak flows have been calculated from TRICS using information within the Waitrose planning application. The matrices were then further adjusted to take into account TEMPRO growth, ensuring that double counting was minimised.

3.2.3 The calculated "new development" in Wimborne has been included within the future year matrices but the overall total matrix has been constrained to the matrix total without the development. This is in line with WebTAG guidance and prevents "abnormal" growth over and above the NTEM district levels. From detailed interrogation of TEMPRO it was revealed that only a portion of the East Dorset suggested developments were included within the recommended growth factors. Therefore, the developments not considered part of the TEMPRO calculations were added directly onto the constrained matrices, as these are considered additional developments.

3.2.4 For the remaining Options, development trips have been calculated based upon the anticipated number of dwellings proposed, as provided by the Client. It has been assumed that no growth will occur within the developments between 2016 and 2026, as completion dates of the developments are unknown. The calculated "Future Development" in Wimborne has been added directly onto the Option A matrices, as the proposed developments are considered to be over and above those contained within TEMPRO.

An outline of the developments, with calculated trips, included within each Option is listed in **Tables 3.1 to 3.5** below.

Table 3.1 – Option B Future Development Information

Zone	Development	Use	H/H	AM Peak		PM Peak	
				Arrivals	Departures	Arrivals	Departures
681	Cuthbury	Mixed Residential	250	26.01	73.06	60.13	41.33

Table 3.2 – Option C Future Development Information

Zone	Development	Use	H/H	AM Peak		PM Peak	
				Arrivals	Departures	Arrivals	Departures
681	Cuthbury	Mixed Residential	250	26.01	73.06	60.13	41.33
690	North Wimb - A	Mixed Residential	147	15.30	42.96	35.35	24.30
965	North Wimb - A	Mixed Residential	63	6.56	18.41	15.15	10.41
970	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
975	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50

Table 3.3 – Option E Future Development Information

Zone	Development	Use	H/H	AM Peak		PM Peak	
				Arrivals	Departures	Arrivals	Departures
681	Cuthbury	Mixed Residential	250	26.01	73.06	60.13	41.33
690	North Wimb - A	Mixed Residential	147	15.30	42.96	35.35	24.30
965	North Wimb - A	Mixed Residential	63	6.56	18.41	15.15	10.41
970	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
975	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
980	South Leigh Rd	Mixed Residential	250	26.01	73.06	60.13	41.33

Table 3.4 – Option G Future Development Information

Zone	Development	Use	H/H	AM Peak		PM Peak	
				Arrivals	Departures	Arrivals	Departures
681	Cuthbury	Mixed Residential	250	26.01	73.06	60.13	41.33
690	North Wimb - A	Mixed Residential	147	15.30	42.96	35.35	24.30
965	North Wimb - A	Mixed Residential	63	6.56	18.41	15.15	10.41
970	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
975	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
980	South Leigh Rd	Mixed Residential	250	26.01	73.06	60.13	41.33
985	South Colehill	Mixed Residential	150	15.58	40.21	38.06	22.53

Table 3.5 – Option I Future Development Information

Zone	Development	Use	H/H	AM Peak		PM Peak	
				Arrivals	Departures	Arrivals	Departures
681	Cuthbury	Mixed Residential	250	26.01	73.06	60.13	41.33
690	North Wimb - A	Mixed Residential	147	15.30	42.96	35.35	24.30
965	North Wimb - A	Mixed Residential	63	6.56	18.41	15.15	10.41
970	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
975	North Wimb - B	Mixed Residential	245	25.49	71.60	58.92	40.50
980	South Leigh Rd	Mixed Residential	250	26.01	73.06	60.13	41.33
985	South Colehill	Mixed Residential	150	15.58	40.21	38.06	22.53
682	Stone Lane I.E	Change in Traffic	60	-16.60	8.76	10.48	-10.22
628	St.Margarets	Mixed Residential	20	4.16	8.12	5.94	5.14

3.3 MATRIX TOTALS

3.3.1 The 2008, 2016 and 2026 matrix totals for Option A are shown within **Table 4.1**. **Table 4.2** shows the 2016 and 2026 matrix totals for Options B, C, E, G & I and compares them to the Option A totals.

Table 4.1 – Option A - Central Growth Reference Case Matrix Totals

		Base 2008	Future Year	Comparison to Base 2008	
				Difference	% Difference
Option A	AM Peak - 2016	9804	11948	2144	21.86%
	PM Peak - 2016	9108	11214	2106	23.12%
	AM Peak - 2026	9804	13418	3614	36.86%
	PM Peak - 2026	9108	12555	3446	37.84%

Table 4.2 – Test Option - Central Growth Reference Case Matrix Totals

		Option A	Test Option	Comparison to Option A	
				Difference	% Difference
Option B	AM Peak - 2016	11948	12047	99	0.83%
	PM Peak - 2016	11214	11316	101	0.90%
	AM Peak - 2026	13418	13517	99	0.74%
	PM Peak - 2026	12555	12656	101	0.81%
Option C	AM Peak - 2016	11948	12332	384	3.22%
	PM Peak - 2016	11214	11608	394	3.51%
	AM Peak - 2026	13418	13802	384	2.87%
	PM Peak - 2026	12555	12948	393	3.13%
Option E	AM Peak - 2016	11948	12435	488	4.08%
	PM Peak - 2016	11214	11713	499	4.45%
	AM Peak - 2026	13418	13905	488	3.63%
	PM Peak - 2026	12555	13054	499	3.97%
Option G	AM Peak - 2016	11948	12491	543	4.55%
	PM Peak - 2016	11214	11774	560	4.99%
	AM Peak - 2026	13418	13961	543	4.05%
	PM Peak - 2026	12555	13114	559	4.46%
Option I	AM Peak - 2016	11948	12495	548	4.58%
	PM Peak - 2016	11214	11785	571	5.09%
	AM Peak - 2026	13418	13965	548	4.08%

	PM Peak - 2026	12555	13126	571	4.55%

4.0 FORECAST YEAR ASSIGNMENTS

4.1 FORECAST YEAR TRIP ASSIGNMENTS

4.1.1 The 2016 and 2026 future year AM and PM peak hour central growth trip matrices were assigned to their respective future year networks. The DMRB Volume 12 (Reference 4) states that the proximity and stability criteria for convergence should be assessed. It also states that a duality gap δ (DELTA) of <1% (proximity) and a %FLOW (changing less than 5%) > 95% of the time (stability) lead to stable and robust assignment results. The tables contained within **Appendix A** show the 2008 Base Year and Forecast Year convergence statistics for the last 6 iterations of each model run.

4.1.2 Due to extended queuing and delays at a number of junctions within the 2026 scenarios the model did not satisfactorily converge. Therefore, small adjustments to the 2026 network were made to reflect minor junction improvements that could be undertaken in the future year. Both peaks were amended to reflect changes to the Pye Corner Mini-Roundabout and Willet Arms Signalised junctions, detailed records of these changes are shown within **Appendix B**. Problems were also encountered in the 2026 models for the options that included the proposed Hamburger Junction at Canford Bottom, to rectify this signal optimisation was undertaken for this junction. The ISTOP value within SATURN was also amended for a number model runs, the ISTOP value stops the running of SATURN automatically when the stated percentage of the link flows change less than 1% from one assignment to the next.

4.2 NETWORK WIDE STATISTICS

4.2.1 Overall indications of network wide performance can be obtained from the SATURN summary statistics.

4.2.2 The values for the network statistics for the various model runs are shown in **Appendix C**. The Option A results are compared with those of the 2008 Base, whilst the remaining Options B through J are compared with those of Option A.

4.2.3 The SATURN Summary Statistics show that total travel time and travel distance increases between the 2008 Base Year and the 2016 and 2026 forecast years outlined within Option A, while the average speed on the network decreases. This is to be expected with an increase in the total number of trips loaded onto the network between the 2008 Base Year and the 2016 and 2026 forecast years.

4.2.4 This trend of total travel time and travel distance increasing between the development options and the future year outlined in Option A continues, as would be expected. With the introduction of the Hamburger junction at Canford Bottom it would appear that total travel time and travel distance is better than the corresponding development proposal in the 2016 AM Peak, however, for all other cases the figures are worse.

5.0 OPTION TESTING RESULTS

5.1 OPTION ANALYSIS

For the purposes of this Summary Report it has been decided to concentrate on the most pivotal option tests, as it was observed that all 5 development proposal scenarios had very similar impacts upon the surrounding highway networks. The scenarios examined within this section are:

- 2008 Base year
- Option A (General Growth Assumptions) 2016 & 2026
- Option I (All 5 Wimborne Development Proposals together) 2016 & 2026
- Option J (Option I with Canford Bottom Hamburger Junction) 2016 & 2026

It should be noted that the results for all scenarios have been undertaken and further explanation of each individual scenario can be made at a later date if required.

5.2 ACTUAL FLOW COMPARISONS

5.2.1 Comparisons between the 2008 Base Year and 2016 Option A scenario modelled link flows for the AM and PM Peaks are illustrated in **Figures 5.1 and 5.2** respectively.

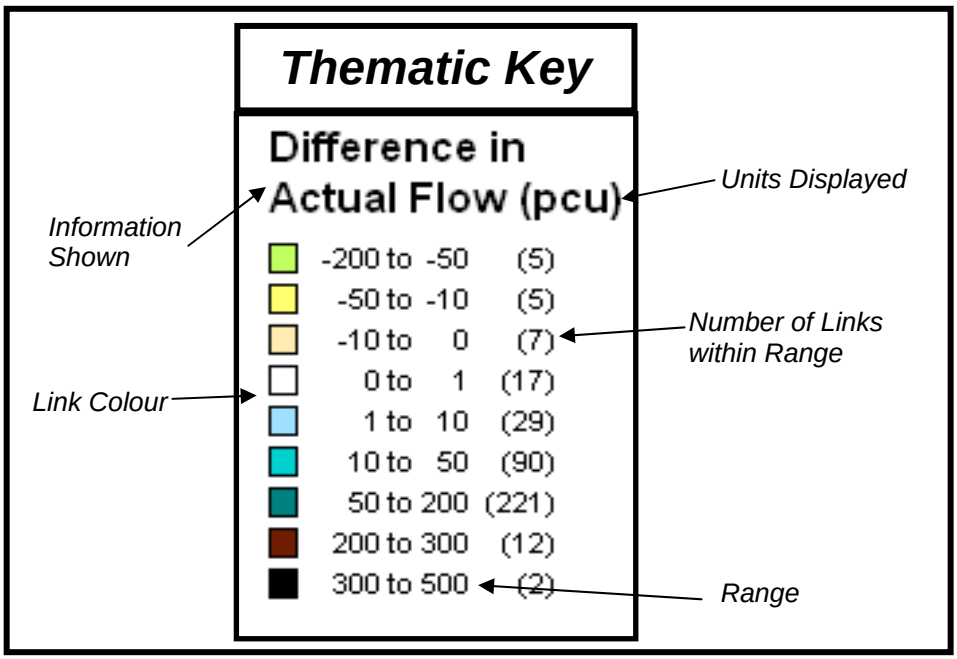
5.2.2 Comparisons between the 2016 Option A and the remaining Test Option scenario modelled link flows for the AM and PM Peaks are illustrated in **Figures 5.3 to 5.6**.

5.2.3 Comparisons between the 2008 Base Year and 2026 Option A scenario modelled link flows for the AM and PM Peaks are illustrated in **Figures 6.1 and 6.2** respectively.

5.2.4 Comparisons between the 2026 Option A and the remaining Test Option scenario modelled link flows for the AM and PM Peaks are illustrated in **Figures 6.3 to 6.6**.

5.2.5 Thematic maps showing differences in model flows are illustrated in **Figures 7.1 to 7.6** for 2016 flows and **Figures 8.1 to 8.6** for 2026 flows. Option A flows are compared to those of the 2008 Base model, whilst the remaining Test Options are compared to those of Option A. An explanation of a Thematic Key is shown below within **Table 5**.

Table 5 – Explanation of Thematic Key



5.2.4 It should be noted that due to the differences in the base year and option networks there are areas that can not be compared on a like for like basis; these areas have been removed from the figures and are shown as blue ellipses. This is also the case with the Canford Bottom Hamburger Junction Options.

5.3 TRAFFIC SPEED COMPARISONS

5.3.1 Congested modelled traffic speeds for the various model runs have been investigated. The differences between the 2008 Base and Option A model traffic speeds for the AM and PM Peaks is shown thematically within **Figures 9.1 to 9.2** for 2016 and **Figures 10.1 to 10.2** for 2026. These are average speeds for the complete length of the link, in kph, for the peak hour. It should be noted that due to the differences in the base year and option networks there are areas that can not be compared on a like for like basis; these areas have been removed from the figures and are shown as blue ellipses.

5.3.2 The differences in speeds between Option A and the remaining development options have been shown thematically within **Figures 9.3 to 9.6** for 2016 and **Figures 10.3 to 10.6**. Due to the differences between Option A and Option J the area of Canford Bottom can not be compared on a like for like basis; this area has been removed from the figures and is shown as a blue ellipse.

5.4 RATIO FLOW/CAPACITY (RFC) COMPARISONS

5.4.1 The performance of a number of junctions within the model has been investigated with regard to their modelled Ratio Flow/Capacity (RFC) values. Each of the separate links into each junction has been assessed, the worst arm is taken as the junctions score. The transportation industry recognises that a RFC or Volume/Capacity (V/C) value of below 85% suggests there is spare capacity and minimal congestion problems; whereas one between 85% and 100% would cause concern as the junction or link is approaching capacity; anything over 100% reflects a junction or link that is operating over capacity. However, other aspects such as general safety, especially with non-vehicular modes of transport, should also be considered when looking at congestion of the highway network and certain vulnerable users might be considered over and above improvement of vehicular traffic congestion.

The RFC values for the 2008 Base model for the AM and PM peaks are shown thematically in **Figures 11.1 and 11.2**.

5.4.2 The RFC values for the various Options for 2016 are shown thematically in **Figures 12.1 to 12.6** and for 2026 in **Figures 13.1 to 13.6**.

5.4.3 It should be noted that these modelled RFC flows are based upon the SATURN model and are a result for the full hour, whereas specific junction assessment tools such as ARCADY and PICADY break the assessment period down into smaller time periods, thus giving RFC's for the peak of the peak. Tests have been undertaken to compare the SATURN figures of the Canford Bottom Roundabout to those of ARCADY, the conclusion of which is that SATURN figures closely represent the average figures taken for the 90 minute figures output by ARCADY. Therefore, the SATURN figures shown do not represent the worst case scenario (peak of the peak) considered by the transportation industry, for this reason it is suggested that further tests should be undertaken upon the sensitive junctions using specialist junction assessment tools such as ARCADY and PICADY or Paramics for the Town Centre Corridor and Canford Bottom Roundabout/Hamburger.

5.5 BASE MODEL CONCLUSIONS

5.5.1 From examination of the SATURN model it can be seen that the Base model closely represents the situation, as of 2008, and is fully reported in the Local Model Validation Report (Reference 1).

5.5.2 From assessment of the RFC figures it can be seen that a number of key junctions within the Town Centre are approaching a level that requires further detailed assessment. As outlined in Paragraph 5.3.3 above, the data shown within figures 11.1 to 13.20 are on the low side, as they are an average of the period rather than the peak of the peak. However, their comparison throughout the different options does show how their capacity changes.

Assessment of the Canford Bottom Roundabout in the 2008 base year, both with SATURN and ARCADY indicates that there is still an element of spare capacity within the roundabout. However, local knowledge suggests otherwise; it is considered that due to the large number of junction arms that the roundabout contains and the high speeds experience within the roundabout the results give a false impression of spare capacity. It is suggested that further modelling using Paramics should be undertaken of this roundabout, this system models the behaviour of each individual vehicle using the junction, their interaction with other vehicles and how this changes within the junction itself. Utilisation of this further modelling is likely to give a better appreciation of this junction's capacity, queues and delays in the future development options.

Data for the Merley Roundabout suggests that it is already averaging a capacity of greater that 100% within the PM Peak.

5.6 OPTION A MODEL CONCLUSIONS (General Growth Assumptions)

5.6.1 As stated in Paragraph 4.1.2 alterations to the junctions at Pie Corner and the Willet Arms were required for the 2026 models. These improvements were deemed necessary to reflect future conditions and to enable the model to converge adequately in the future years and all the improvements were deemed to be achievable within existing highway limits. However, these improvements were for modelling purposes only and represented theoretical improvements that would need to be undertaken in the future and are not actual achievable detailed designs.

5.6.2 From examination of the SATURN model it can be seen that the growth suggested by TEMPRO and East Dorset District Council adds a considerable amount of traffic to the model and thus results in the re-assignment of traffic throughout the study area. It would appear that there is a large percentage increase in traffic travelling on Uddens Drive using the 'rat-run' of Lonnen Road and Uddens Drive between Colehill and the Ferndown By-Pass. However, when looking at the actual flows it amounts to a maximum increase of 210 vehicles; the large percentage increase is due to a low number of vehicles observed using this route in the observed 2008 traffic counts.

5.6.3 Within the Wimborne Town Centre area it can be seen that some of the links reduce in flow between the Base and Option A scenarios. These small reductions can be attributed to the abundance of different route choices within the area, resulting in SATURN's re-routing of the traffic due to increased flows, delays and queues at junctions.

5.6.4 Traffic speeds appear to be reduced along the busy routes of the A31 Trunk Road, Leigh Road and Middlehill Road. This is likely caused by the increase in traffic, as suggested by TEMPRO, between the zones associated with Poole, Ferndown, Purbeck, West Dorset and the New Forest which travels along the A31 Trunk Road. The increase in traffic travelling through Canford Bottom Roundabout on the Trunk Road, a two-way increase of 645 in 2026 AM Peak and 708 in 2026 PM peak between Canford Bottom and Merley, increases delays on the minor arms that join the roundabout. This increase in delay encourages the re-routing of traffic to other routes within the study area.

5.6.5 The SATURN Modelled RFC figures suggest that the General Growth Assumptions put increased pressure on the Wimborne By-Pass junctions, Leigh Road and the Town Centre Corridor in 2016. The Merley Road junction appears to improve, this could be down to the junction having a more even flow through its arms in the future. In the 2026 scenario these same junctions are made worse by General Growth. Even with alteration to Pie Corner its RFC is approaching capacity in 2026 and without any improvement it is likely to have completely failed by this time.

5.7 DEVELOPMENT OPTIONS CONCLUSIONS (Existing Canford Bottom Junction)

5.7.1 It can be seen from the traffic flows associated with all the 5 Development Scenarios that there is little impact upon the highway network, other than in the immediate vicinity of the development sites. Taking the worst case scenario of all 5 sites being developed (Option I) traffic on the network distributes quite evenly. The biggest increase in traffic on the network is on Julians Road where an additional 100 vehicles travel in a south bound direction in the AM Peak and 200 in the same direction in the PM Peak compared to that of the Option A model (General Growth Assumptions). As with the Option A proposals there is an increase in traffic using Uddens Drive as a 'rat-run', probably due to the increase in traffic using Canford Bottom Roundabout.

5.7.3 Within the Wimborne Town Centre area it can be seen that some of the links reduce in flow between the Option A and Option J scenarios. Again these small reductions can be attributed to the abundance of different route choices within the area, resulting in SATURN's re-routing of the traffic due to increased flows, delays and queues at junctions.

5.7.4 Traffic speeds of Option I remain very consistent to that of Option A, with the majority of the roads having a speed of ± 1 kph. The only real noticeable difference is a slight reduction along Long Lane and Smugglers Lane, probably due to the increase in 'rat-running' and the close proximity to the development site in North Wimborne. There is also a slight increase in speed on the Ferndown by-pass just north of Canford Bottom Roundabout, probably due to a slight decrease in traffic, again due to 'rat-running' on Uddens Drive.

5.7.5 The SATURN Modelled RFC figures for Option I indicate that additional pressure is placed upon 2 junctions within the Town Centre Corridor, those being Rowlands Hill Roundabout and West Borough/Priors Walk Traffic Signals in the AM Peak 2016 (Comparison between Figure 12.2 and 12.4). Canford Bottom Roundabout and Pie Corner also show change in the PM Peak 2016 (Comparison between Figure 12.3 and 12.5).

In 2026 further pressure is seen at Canford Bottom Roundabout, Uddens Drive/Ferndown By-Pass, Merley Roundabout, Lake Gates Roundabout, Rowlands Hill/St.Johns Hill, West Borough/Priors Walk Traffic Signals, Crown Mead and Leigh Lane/Northleigh Lane. With Merley Roundabout exceeding capacity in the AM Peak and Canford Bottom in the PM Peak (see Figures 13.3 & 13.4).

5.8 DEVELOPMENT OPTIONS CONCLUSIONS (Hamburger Junction at Canford Bottom)

5.8.1 It can be seen from the traffic flows associated with the proposed Hamburger Junction at Canford Bottom that there are major impacts upon the highway network. Taking the worst case scenario of all 5 development sites being developed with the Hamburger Junction (Option J) the data indicates that extensive re-routing occurs throughout the model. Generally the amount of traffic on the Wimborne By-Pass reduces between Canford Bottom and Lake Gates, whilst traffic increases through Wimborne. This is largely due to the fact that people wishing to use Canford Bottom to gain access to the local roads are delayed by the traffic signals within the proposed Hamburger Junction. This can be easily seen when comparing the Thematic Maps of the Differences in Actual Modelled Flow between Options I and J (Figures 7.3-7.6 and 8.3-8.6). These plans show a large increase in traffic on the northern section of the Ferndown By-Pass which carries onto Uddens Drive, through into Wimborne and onto Julians Road; with large reductions in traffic on the Wimborne By-pass and local road approaches to Canford Bottom.

5.8.3 Within the Wimborne Town Centre area it can be seen that some of the links reduce in flow between the Option A and Option J scenarios. Again these small reductions can be attributed to the abundance of different route choices within the area, resulting in SATURN's re-routing of the traffic due to increased flows, delays and queues at junctions.

5.8.4 Traffic speeds of Option J remain very consistent to that of Option A, with the majority of the roads having a speed of ± 1 kph. The only real noticeable difference is a slight reduction along Uddens Drive, Long Lane and Smugglers Lane, due to the increase in 'rat-running' and the close proximity to the development site in North Wimborne. There is also a slight increase in speed on the Wimborne By-Pass and Middlehill Road, probably due to the ease in using the proposed Hamburger arrangement for Trunk Road traffic and the reduction of traffic on Middlehill Road.

5.8.5 The SATURN Modelled RFC figures for Option J indicate that additional pressure is placed Canford Bottom in the AM Peak and Uddens Drive in the PM Peak for 2016. However, there is also a reduction in the RFC on West Borough/Priors Walk Traffic Signals in the AM Peak (Comparison between Figure 12.3 and 12.5).

In 2026 the main impact appears to be more pressure upon the Town Centre Corridor junctions of West Borough/Priors Walk Traffic Signals, Crown Mead and Rowlands Hill Roundabout in the PM Peak (Comparison between Figure 13.4 and 13.6).

6.0 CONCLUSIONS

6.1 TRAFFIC RESULTS

6.1.1 The production of forecast year traffic flows within the Wimborne area has been carried out using the most up to date information and adherence to current DfT/Highways Agency advice and guidance.

6.1.2 The results set out in this report are robust and form a good estimate of the likely traffic flows given the wide area of the model.

6.1.3 Throughout all the testing scenarios undertaken Pie-Corner mini-roundabout, the Uddens Drive right turn lane with the Ferndown By-Pass and the Leigh Road/Brook Road signals have been either approaching or are over capacity. It is suggested that further investigation/design work is undertaken upon these junctions to rectify the problems associated with the additional traffic anticipated in the future.

6.1.4 Due to the sensitivity of the Town Centre Corridor and Canford Bottom it is suggested that detailed modelling work is undertaken using a Microsimulation Model. An existing Paramics model of the Town Centre Corridor already exists, whereas a junction specific Canford Bottom Model would have to be specially constructed to analyse the existing roundabout and proposed Hamburger Junction alterations. The proposed Canford Bottom alterations are being proposed by the Highways Agency and detailed assessment of its impacts may have already been undertaken by them.

6.1.5 Other sensitive junctions such as Middlehill Road/Hayes Lane, the mini-roundabout at Rowlands Hill/St.Johns Hill and the Lake Gates, Merley and Oakley Roundabouts should also be tested in greater detail with specific junction analysis tools or Microsimulation models.

6.1.6 The Leigh Road/Parmiter Drive junction would only need to be assessed further if it were used as an access into the proposed development site tested under Option E. The model used this junction to gain access to the development for ease of assessment. However, I understand that a new junction may be proposed direct of Leigh Road, therefore, the impact modelled would be unlikely to occur.

6.1.7 I suggest that more detailed examination of the surrounding highway network be undertaken when development proposals come forward outlining detailed access proposals and design.

TABLES

Table 1.1 - Future Development Information for Wimborne 2008 to 2016

ZONE NO	P/P	SHLAA	ADDRESS	PARISH	TENURE/USE	2008-2016 H/H or GFA
950			Waitrose - Old Cricket Pitch, Wimborne		Food Superstore	2861
601	2	0		More Crichel & Witchampton	Private Residential <20	2
601	0	30		Sixpenny Handley & Gassage All	Private Residential <20	30
603	1	0		Woodlands	Private Residential <20	1
603	0	0		Wimborne St Giles	Private Residential <20	0
603	1	0		Boveridge&Lower Holwelt	Private Residential <20	1
603	1	0		Cranborne	Private Residential <20	1
603	0	0		Edmondsham	Private Residential <20	0
608	99	0		Alderholt	Private Residential <20	99
609	0	11		Verwood	Private Residential <20	11
609	46	30		Verwood	Private Residential <20	76
609	11	12		Verwood	Private Residential <20	23
609	0	2		Verwood	Private Residential <20	2
609	2	2		Verwood	Private Residential <20	4
609	-4	17		Verwood Center	Private Residential <20	13
615	2	10		Three Cross and Potterne	Private Residential <20	12
616	3	0		Holt	Private Residential <20	3
617	0	0		Hillbutts	Private Residential <20	0
660	2	0		Hillbutts	Private Residential <20	2
618	0	0		Shapwick	Private Residential <20	0
619	0	0		Almer	Private Residential <20	0
619	4	20		Sturminster Marshall	Private Residential <20	24
621	1	0		Furzehill and Dogdean	Private Residential <20	1
622	4	18		Colehill,Pilford	Private Residential <20	22
623	4	45		Colehill south	Private Residential <20	49
624	7	10		Colehill	Private Residential <20	17
625	2	8		Colehill West	Private Residential <20	10
661	0	0		Colehill West	Private Residential <20	0
662	4	3		Colehill West	Private Residential <20	7
663	0	0		Colehill West	Private Residential <20	0
664	0	0		Colehill West	Private Residential <20	0
665	1	14.74	**Figures have been manually adjusted to reflect the TEMPRO figures. TEMPRO suggests that 473 housholds will be constructed in the Wimborne Area between 2008 and 2016, EDDC suggest this figure is going to be 621. Therefore the SHLAA figures have been reduced by 0.736. The 150 households extra suggested by EDDC have then be added to the matrix at a later stage**	Wimborne Minster, East	Private Residential <20	16
666	0	12.529		Wimborne Minster, East	Private Residential <20	13
667	13	5.896		Wimborne Minster, East	Private Residential <20	19
668	3	194.568		Wimborne Minster, East	Private Residential <20	198
669	0	0		Wimborne Minster, East	Private Residential <20	0
670	0	0		Wimborne Minster, East	Private Residential <20	0
671	0	5.159		Wimborne Minster, East	Private Residential <20	5
672	0	0		Wimborne Minster, East	Private Residential <20	0
626	0	5.159		Wimborne Minster, East	Private Residential <20	5
673	0	0		Wimborne Minster, town centre	Private Residential <20	0
674	0	8.844		Wimborne Minster, town centre	Private Residential <20	9
675	1	7.37		Wimborne Minster, town centre	Private Residential <20	8
676	0	19.162		Wimborne Minster, town centre	Private Residential <20	19
677	3	33.902		Wimborne Minster, town centre	Private Residential <20	37
678	0	0		Wimborne Minster, town centre	Private Residential <20	0
680	0	22.847		Wimborne Minster, town centre	Private Residential <20	23
627	10	29.48		Wimborne Minster, town centre	Private Residential <20	39
679	1	0		Wimborne Minster, North	Private Residential <20	1
681	0	7.37		Wimborne Minster, North	Private Residential <20	7
682	2	6.633		Wimborne Minster, North	Private Residential <20	9
683	10	3.685		Wimborne Minster, North	Private Residential <20	14
684	0	0		Wimborne Minster, North	Private Residential <20	0
685	3	28.743		Wimborne Minster, North	Private Residential <20	32
686	0	5.896		Wimborne Minster, North	Private Residential <20	6
687	0	0		Wimborne Minster, North	Private Residential <20	0
688	0	0		Wimborne Minster, North	Private Residential <20	0
628	4	8.107		Wimborne Minster, North	Private Residential <20	12
629	3	6		Corfe Mullen North	Private Residential <20	9
630	25	47		Corfe Mullen Central	Private Residential <20	72
630	0	45		Corfe Mullen South	Private Residential <20	45
632	0	0		Ferdown South	Private Residential <20	0
632	16	7		West Parley	Private Residential <20	23
634	7	0		Ferdown West	Private Residential <20	7
634	17	50		Ferdown West	Private Residential <20	67
636	1	0		West Moors North (depot)	Private Residential <20	1
636	44	9		West Moors South	Private Residential <20	53
636	16	0		West Moors	Private Residential <20	16
639	4	0		Stapehill	Private Residential <20	4
639	0	0		Ferdown	Private Residential <20	0
639	1	0		Ameysford	Private Residential <20	1
639	0	0		Ferndown Central	Private Residential <20	0
639	5	100		Ferndown Central	Private Residential <20	105
639	90	80		Ferndown Central	Private Residential <20	170
645	0	0		Avon Castle and Matchams	Private Residential <20	0
645	16	30		St Leonards and St Ives West	Private Residential <20	46
645	128	0		St Leonards South, Grange Esta	Private Residential <20	128
645	2	0		St Ives West & Ashley	Private Residential <20	2
645	5	17		St Ives North	Private Residential <20	22
645	17	13		St Ives	Private Residential <20	30
651	6	0		Longham	Private Residential <20	6
652	0	6		Colehill West	Private Residential <20	6
689	3	5		Colehill West	Private Residential <20	8
690	0	0		Colehill West	Private Residential <20	0

Table 1.2 - Future Development Information for Wimborne 2016 to 2026

ZONE NO	P/P	SHLAA	ADDRESS	PARISH	TENURE/USE	2016-2026 H/H or GFA
601	2	0		More Crichel & Witchampton	Private Residential <20	2
601	0	30		Sixpenny Handley & Gassage All	Private Residential <20	30
603	1	0		Woodlands	Private Residential <20	1
603	0	0		Wimborne St Giles	Private Residential <20	0
603	1	0		Boveridge&Lower Holwelt	Private Residential <20	1
603	1	0		Cranborne	Private Residential <20	1
603	0	0		Edmondsham	Private Residential <20	0
608	99	0		Alderholt	Private Residential <20	99
609	0	11		Verwood	Private Residential <20	11
609	46	30		Verwood	Private Residential <20	76
609	11	12		Verwood	Private Residential <20	23
609	0	2		Verwood	Private Residential <20	2
609	2	2		Verwood	Private Residential <20	4
609	-4	17		Verwood Center	Private Residential <20	13
615	2	10		Three Cross and Potterne	Private Residential <20	12
616	3	0		Holt	Private Residential <20	3
617	0	0		Hillbutts	Private Residential <20	0
660	2	0		Hillbutts	Private Residential <20	2
618	0	0		Shapwick	Private Residential <20	0
619	0	0		Almer	Private Residential <20	0
619	4	20		Sturminster Marshall	Private Residential <20	24
621	1	0		Furzehill and Dogdean	Private Residential <20	1
622	4	18		Colehill,Pilford	Private Residential <20	22
623	4	45		Colehill south	Private Residential <20	49
624	7	10		Colehill	Private Residential <20	17
625	2	8		Colehill West	Private Residential <20	10
661	0	0		Colehill West	Private Residential <20	0
662	4	3		Colehill West	Private Residential <20	7
663	0	0		Colehill West	Private Residential <20	0
664	0	0		Colehill West	Private Residential <20	0
665	1	0	**Figures have been manually adjusted to reflect the TEMPRO figures. TEMPRO suggests that 662 housholds will be constructed in the Wimborne Area between 2016 and 2026, EDDC suggest this figure is going to be 778. Therefore the SHLAA figures have been reduced by 0.851. The 120 households extra suggested by EDDC have then be added to the matrix at a later stage**	Wimborne Minster, East	Private Residential <20	1
666	0	28.083		Wimborne Minster, East	Private Residential <20	28
667	13	153.18		Wimborne Minster, East	Private Residential <20	166
668	3	20.424		Wimborne Minster, East	Private Residential <20	23
669	0	165.945		Wimborne Minster, East	Private Residential <20	166
670	0	0		Wimborne Minster, East	Private Residential <20	0
671	0	11.914		Wimborne Minster, East	Private Residential <20	12
672	0	0.851		Wimborne Minster, East	Private Residential <20	1
626	0	4.255		Wimborne Minster, East	Private Residential <20	4
673	0	2.553		Wimborne Minster, town centre	Private Residential <20	3
674	0	0		Wimborne Minster, town centre	Private Residential <20	0
675	1	22.126		Wimborne Minster, town centre	Private Residential <20	23
676	0	0		Wimborne Minster, town centre	Private Residential <20	0
677	3	27.232		Wimborne Minster, town centre	Private Residential <20	30
678	0	11.914		Wimborne Minster, town centre	Private Residential <20	12
680	0	0		Wimborne Minster, town centre	Private Residential <20	0
627	10	15.318		Wimborne Minster, town centre	Private Residential <20	25
679	1	0		Wimborne Minster, North	Private Residential <20	1
681	0	30.636		Wimborne Minster, North	Private Residential <20	31
682	2	51.06		Wimborne Minster, North	Private Residential <20	53
683	10	13.616		Wimborne Minster, North	Private Residential <20	24
684	0	20.424		Wimborne Minster, North	Private Residential <20	20
685	3	11.063		Wimborne Minster, North	Private Residential <20	14
686	0	6.808		Wimborne Minster, North	Private Residential <20	7
687	0	0		Wimborne Minster, North	Private Residential <20	0
688	0	0		Wimborne Minster, North	Private Residential <20	0
628	4	64.676		Wimborne Minster, North	Private Residential <20	69
629	3	6		Corfe Mullen North	Private Residential <20	9
630	25	47		Corfe Mullen Central	Private Residential <20	72
630	0	45		Corfe Mullen South	Private Residential <20	45
632	0	0		Ferdown South	Private Residential <20	0
632	16	7		West Parley	Private Residential <20	23
634	7	0		Ferdown West	Private Residential <20	7
634	17	50		Ferdown West	Private Residential <20	67
636	1	0		West Moors North (depot)	Private Residential <20	1
636	44	9		West Moors South	Private Residential <20	53
636	16	0		West Moors	Private Residential <20	16
639	4	0		Stapehill	Private Residential <20	4
639	0	0		Ferdown	Private Residential <20	0
639	1	0		Ameysford	Private Residential <20	1
639	0	0		Ferndown Central	Private Residential <20	0
639	5	100		Ferndown Central	Private Residential <20	105
639	90	80		Ferndown Central	Private Residential <20	170
645	0	0		Avon Castle and Matchams	Private Residential <20	0
645	16	30		St Leonards and St Ives West	Private Residential <20	46
645	128	0		St Leonards South, Grange Esta	Private Residential <20	128
645	2	0		St Ives West & Ashley	Private Residential <20	2
645	5	17		St Ives North	Private Residential <20	22
645	17	13		St Ives	Private Residential <20	30
651	6	0		Longham	Private Residential <20	6
652	0	6		Colehill West	Private Residential <20	6
689	3	5		Colehill West	Private Residential <20	8
690	0	0		Colehill West	Private Residential <20	0

Table 2 - Arrivals and Departures from East Dorset Developments

2008-2016						
	AM				PM	
Zone	2008-16 AM Arr	2008-16 AM Dep		Zone	2008-16 PM Arr	2008-16 PM Dep
601	7	13		601	10	8
603	1	1		603	1	1
608	21	40		608	29	25
609	27	52		609	38	33
615	2	5		615	4	3
616	1	1		616	1	1
619	5	10		619	7	6
622	5	9		622	7	6
623	10	20		623	15	13
624	4	7		624	5	4
625	2	4		625	3	3
626	1	2		626	2	1
627	8	16		627	12	10
628	3	5		628	4	3
629	2	4		629	3	2
630	24	48		630	35	30
632	5	9		632	7	6
634	15	30		634	22	19
636	15	28		636	21	18
639	58	114		639	83	72
645	47	93		645	68	59
651	1	2		651	2	2
652	1	2		652	2	2
660	0	1		660	1	1
662	1	3		662	2	2
665	3	6		665	5	4
666	3	5		666	4	3
667	4	8		667	6	5
668	41	80		668	59	51
669	0	0		669	0	0
671	1	2		671	2	1
673	0	0		673	0	0
674	2	4		674	3	2
675	2	3		675	2	2
676	4	8		676	6	5
677	8	15		677	11	9
678	0	0		678	0	0
680	5	9		680	7	6
681	2	3		681	2	2
682	2	4		682	3	2
683	3	6		683	4	4
684	0	0		684	0	0
685	7	13		685	9	8
686	1	2		686	2	2
689	2	3		689	2	2
950	91	59		950	240	268

2016-2026						
	AM				PM	
Zone	2016-26 AM Arr	2016-26 AM Dep		Zone	2016-26 PM Arr	2016-26 PM Dep
601	7	13		601	10	8
603	1	1		603	1	1
608	21	40		608	29	25
609	27	52		609	38	33
615	2	5		615	4	3
616	1	1		616	1	1
619	5	10		619	7	6
622	5	9		622	7	6
623	10	20		623	15	13
624	4	7		624	5	4
625	2	4		625	3	3
626	1	2		626	1	1
627	5	10		627	8	7
628	14	28		628	20	18
629	2	4		629	3	2
630	24	48		630	35	30
632	5	9		632	7	6
634	15	30		634	22	19
636	15	28		636	21	18
639	58	114		639	83	72
645	47	93		645	68	59
651	1	2		651	2	2
652	1	2		652	2	2
660	0	1		660	1	1
662	1	3		662	2	2
665	0	0		665	0	0
666	6	11		666	8	7
667	35	67		667	49	43
668	5	10		668	7	6
669	35	67		669	49	43
671	2	5		671	4	3
673	1	1		673	1	1
674	0	0		674	0	0
675	5	9		675	7	6
676	0	0		676	0	0
677	6	12		677	9	8
678	2	5		678	4	3
680	0	0		680	0	0
681	6	12		681	9	8
682	11	22		682	16	14
683	5	10		683	7	6
684	4	8		684	6	5
685	3	6		685	4	4
686	1	3		686	2	2
689	2	3		689	2	2
950	0	0		950	0	0

FIGURES

FIGURE 1 - Wimborne Study Area

Ref:
Date: 06/11/2009
Scale 1:36136
Drawn By: NSR
Cent X: 401585
Cent Y: 100607

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

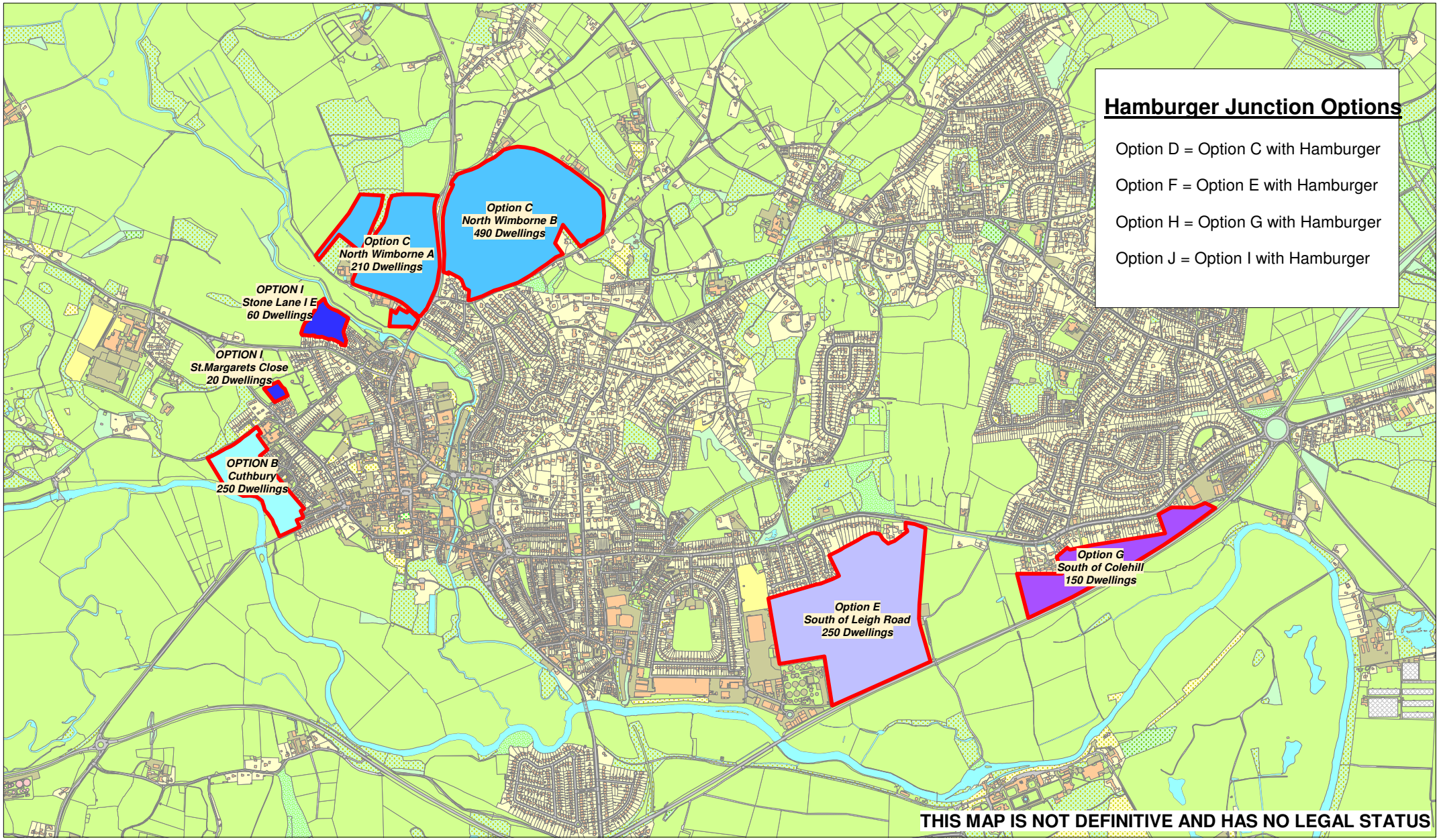


Figure 2 - Option Testing Scenarios

Ref:
Date: Fri 22/10/2010
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Drawn By:
Cent X: 402178
Cent Y: 100346

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

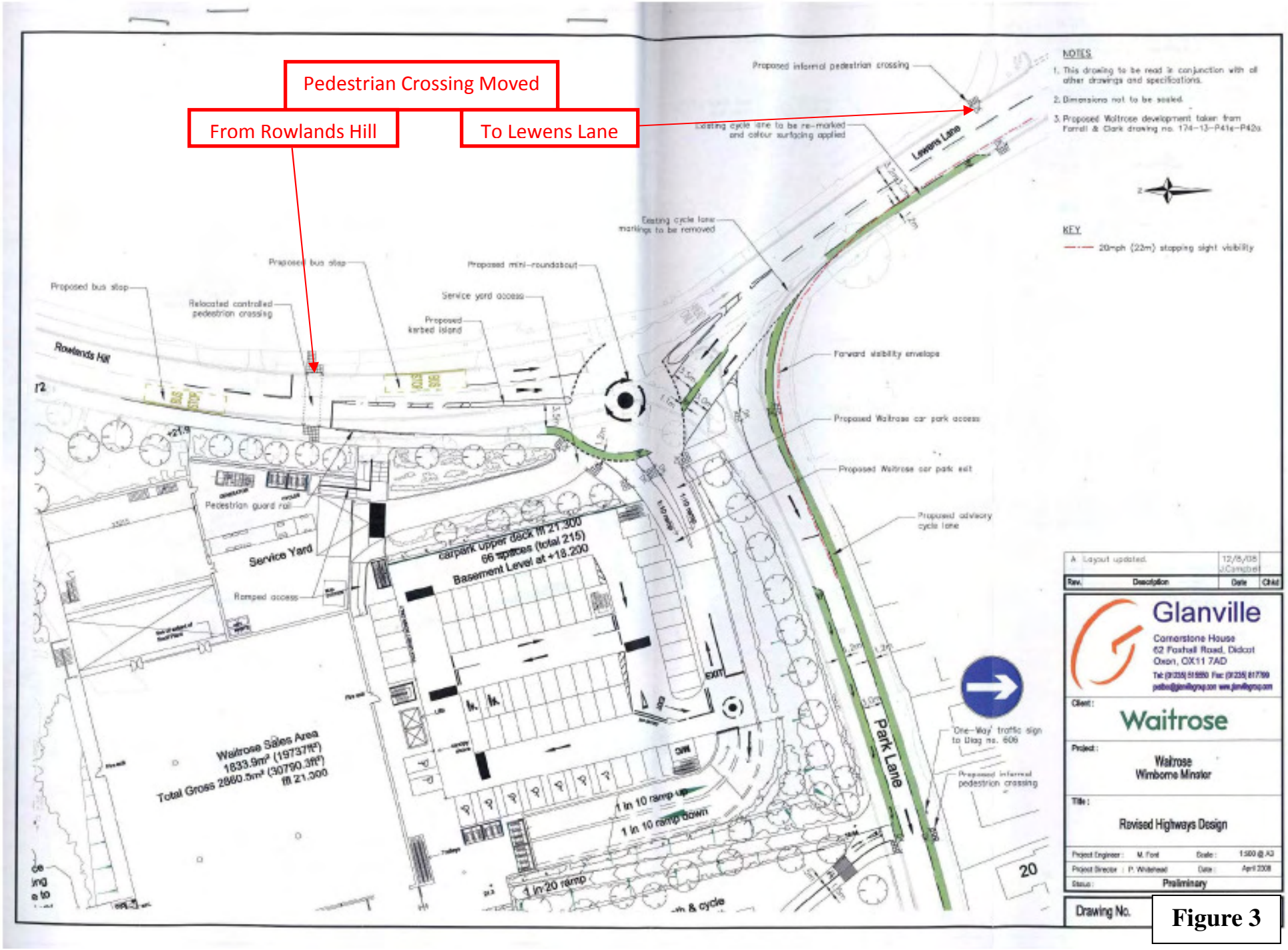

Pedestrian Crossing Moved
From Rowlands Hill
To Lewens Lane
Proposed informal pedestrian crossing
Existing cycle lane to be re-marked and colour surfacing applied
Lewens Lane
Existing cycle lane markings to be removed
Proposed bus stop
Proposed bus stop
Relocated controlled pedestrian crossing
Proposed mini-roundabout
Service yard access
Proposed kerbed island
Rowlands Hill
Forward visibility envelope
Proposed Waitrose car park access
Proposed Waitrose car park exit
Proposed advisory cycle lane
Pedestrian guard rail
Service Yard
Ramped access
carpark upper deck fl 21.300
66 spaces (total 215)
Basement Level at +18.200
Waitrose Sales Area
1833.9m² (19737ft²)
Total Gross 2860.5m² (30790.3ft²)
fl 21.300
1 in 10 ramp up
1 in 10 ramp down
1 in 20 ramp
Park Lane
'One-Way' traffic sign to Diag no. 606
Proposed informal pedestrian crossing
NOTES
1. This drawing to be read in conjunction with all other drawings and specifications.
2. Dimensions not to be scaled.
3. Proposed Waitrose development taken from Farrell & Clark drawing no. 174-13-P41e-P42a.
KEY
20mph (22m) stopping sight visibility
A Layout updated 12/8/08 JCampbell
Rev. Description Date Chkd
Glanville
Cornerstone House
62 Foxhall Road, Didcot
Oxon, OX11 7AD
Client: Waitrose
Project: Waitrose Wimborne Minster
Title: Revised Highways Design
Project Engineer: M. Ford
Project Director: P. Whitehead
Scale: 1:500 @ A3
Date: April 2008
Status: Preliminary
Drawing No.

Figure 3

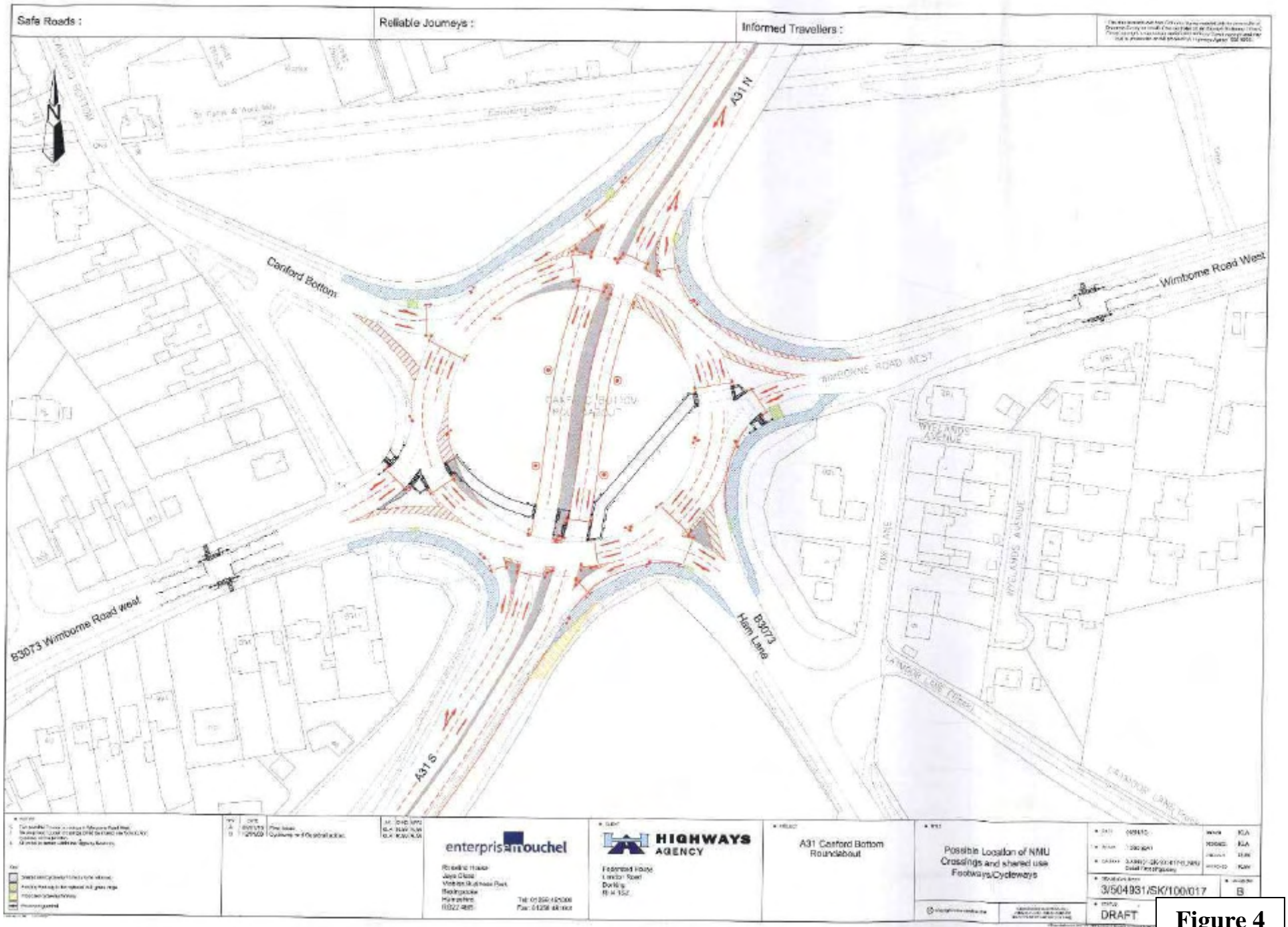
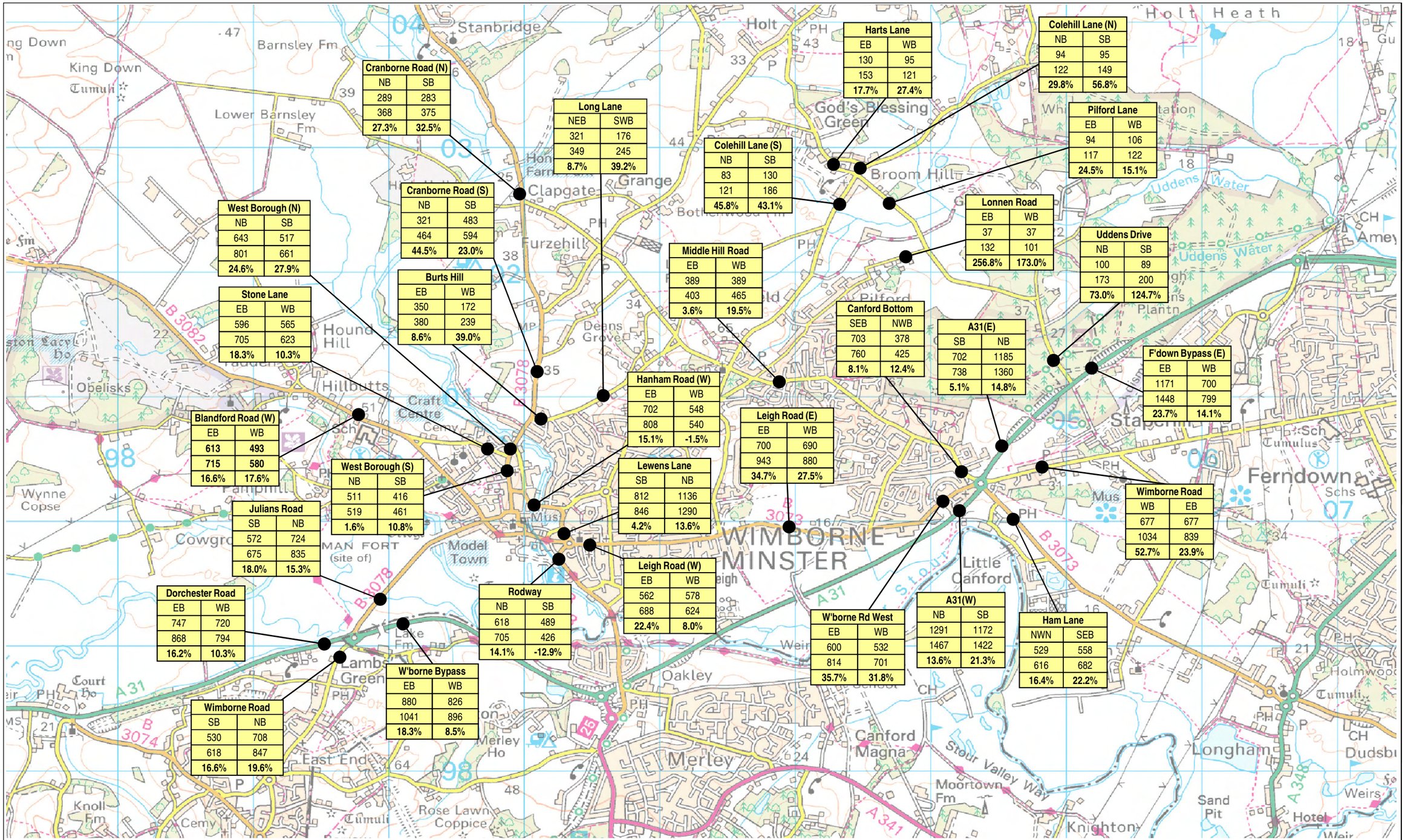

Safe Roads :
Reliable Journeys :
Informed Travellers :
A31 N
Canford Bottom
Wimborne Road West
B3073 Wimborne Road west
B3073 Ham Lane
A31 S
enterprise mouchel
HIGHWAYS AGENCY
A31 Canford Bottom Roundabout
Possible Location of NMU Crossings and shared use Footways/Cycleways
3/504931/SK/100/017
DRAFT

Figure 4

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
2008 Flow
2016 Flow
% Diff

Figure 5.1 - AM Peak 2008 Base / 2016 Option A
Modelled Traffic Flow Comparison within Wimborne

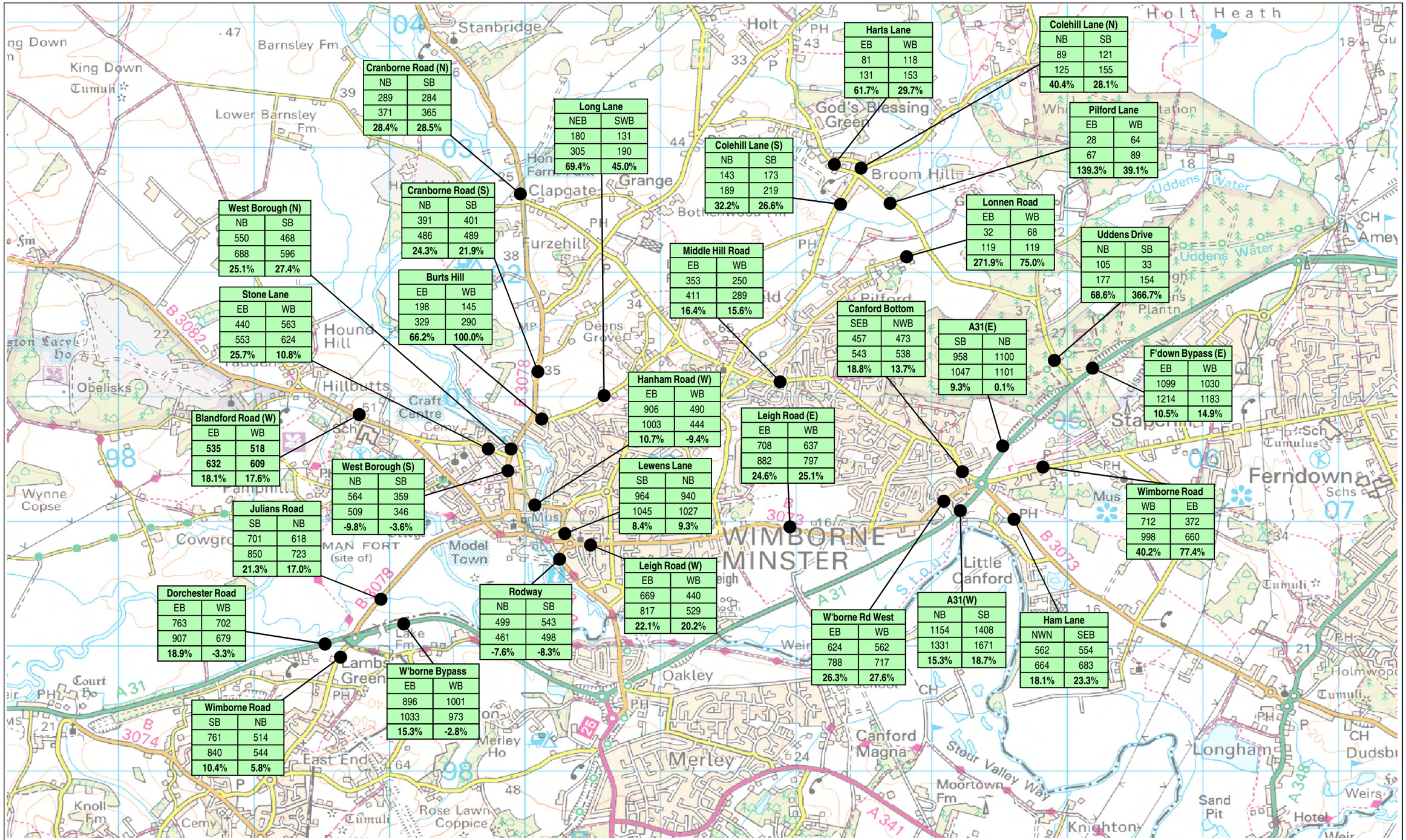
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	Checked	Drawn	Date	Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS	KEY	Location
DORSET County Council		Direction
		2008 Flow
		2016 Flow
		% Diff

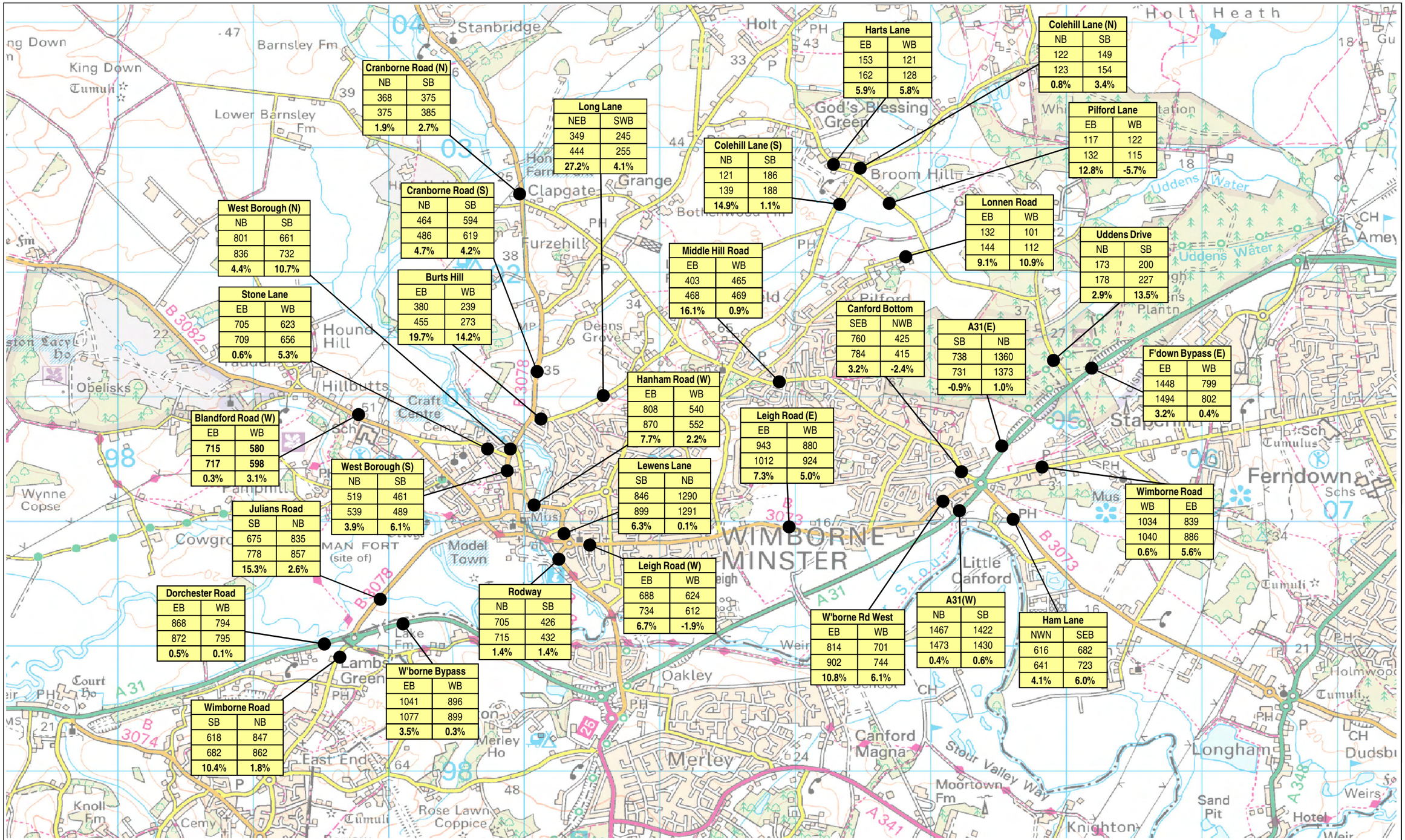
Figure 5.2 - PM Peak 2008 Base / 2016 Option A
Modelled Traffic Flow Comparison within Wimborne

WIMBORNE TRANSPORT MODEL	NTS Scale	PDC Checked	NSR Drawn	16/09/10 Date	0 Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option I
% Diff

Figure 5.3 - AM Peak 2016 Option A - Option I

Modelled Traffic Flow Comparison within Wimborne

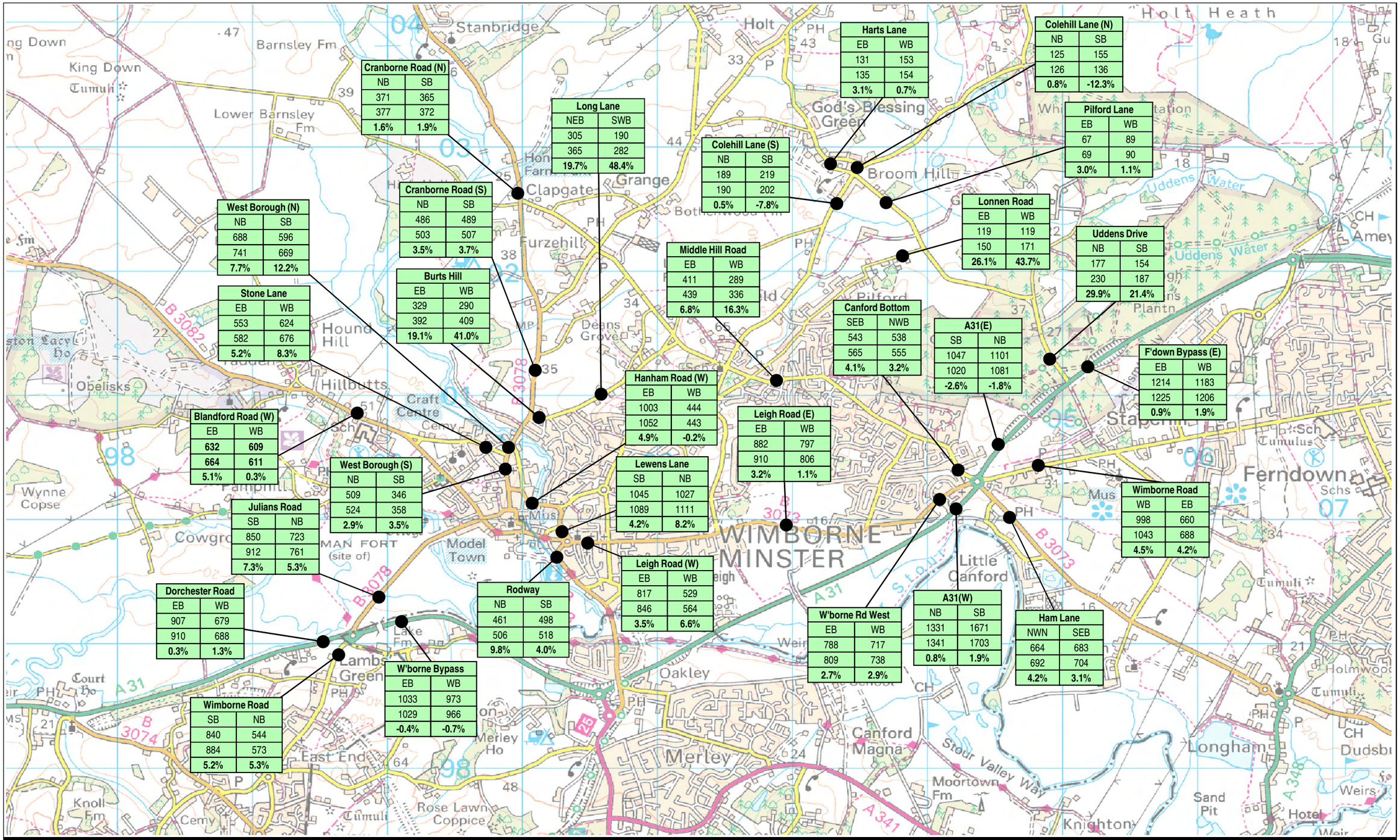
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	Checked	Drawn	Date	Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option I
% Diff

Figure 5.4 - PM Peak 2016 Option A - Option I

Modelled Traffic Flow Comparison within Wimborne

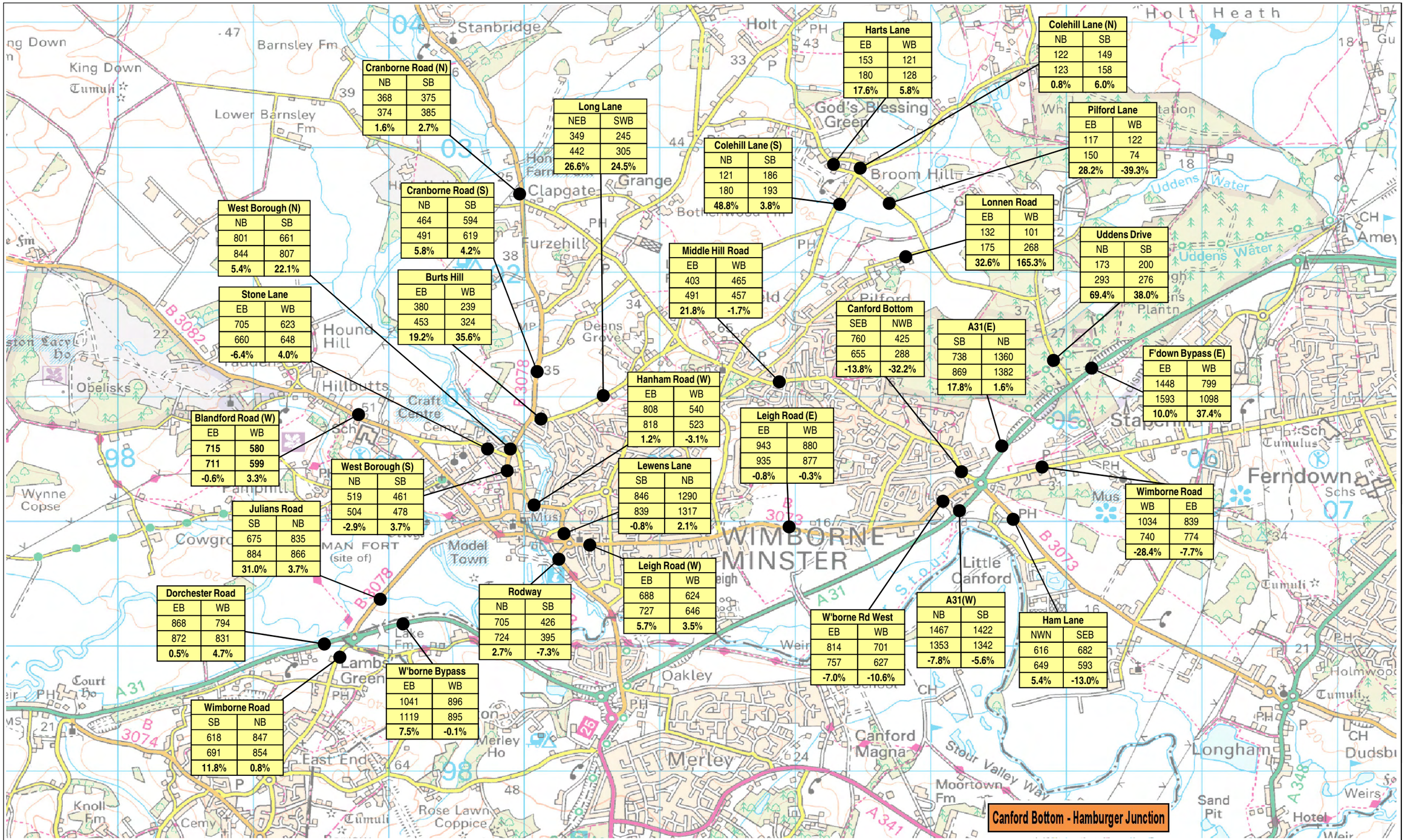
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	**Checked**	**Drawn**	**Date**	**Rev**

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option J
% Diff

Figure 5.5 - AM Peak 2016 Option A - Option J

Modelled Traffic Flow Comparison within Wimborne

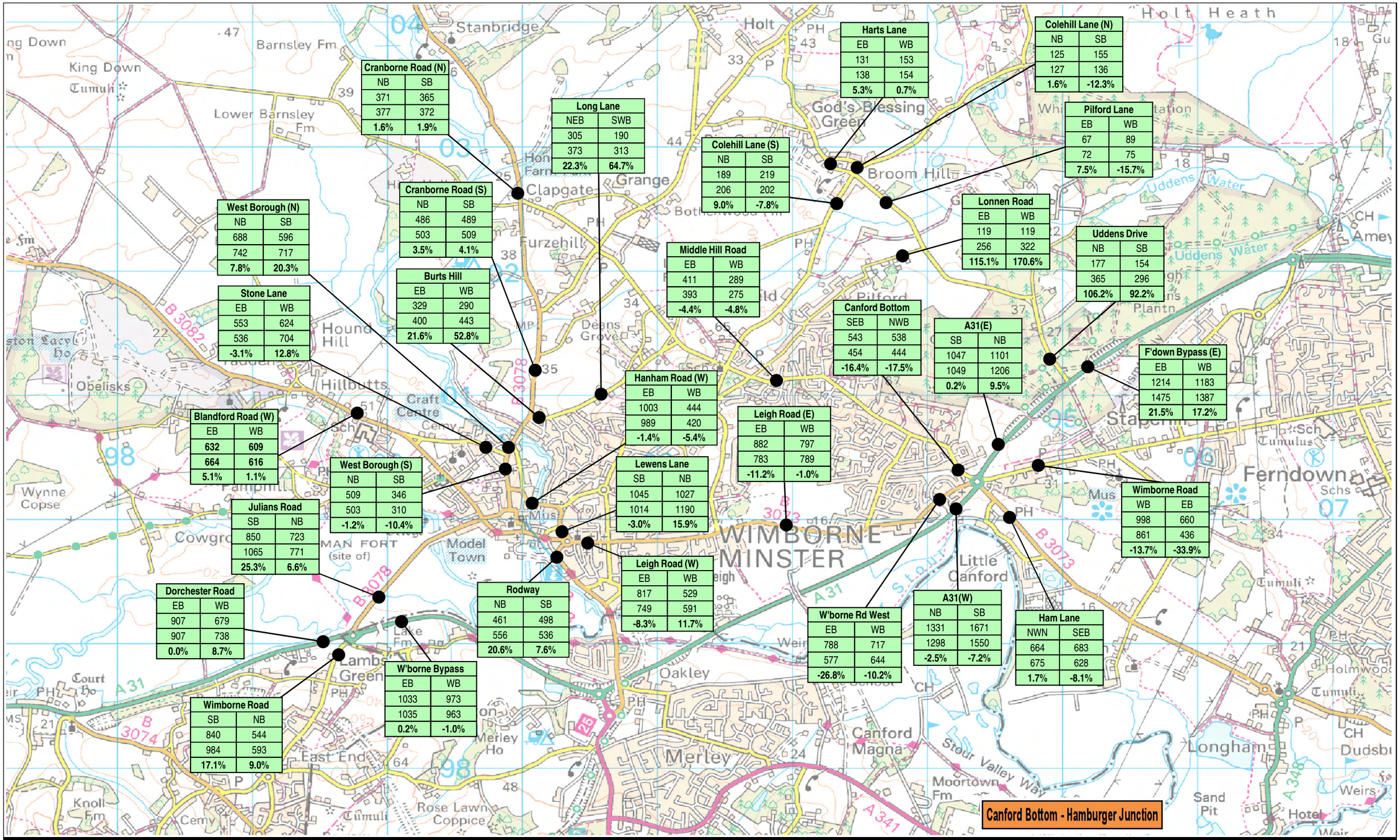
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	Checked	Drawn	Date	Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option J
% Diff

Figure 5.6 - PM Peak 2016 Option A - Option J

Modelled Traffic Flow Comparison within Wimborne

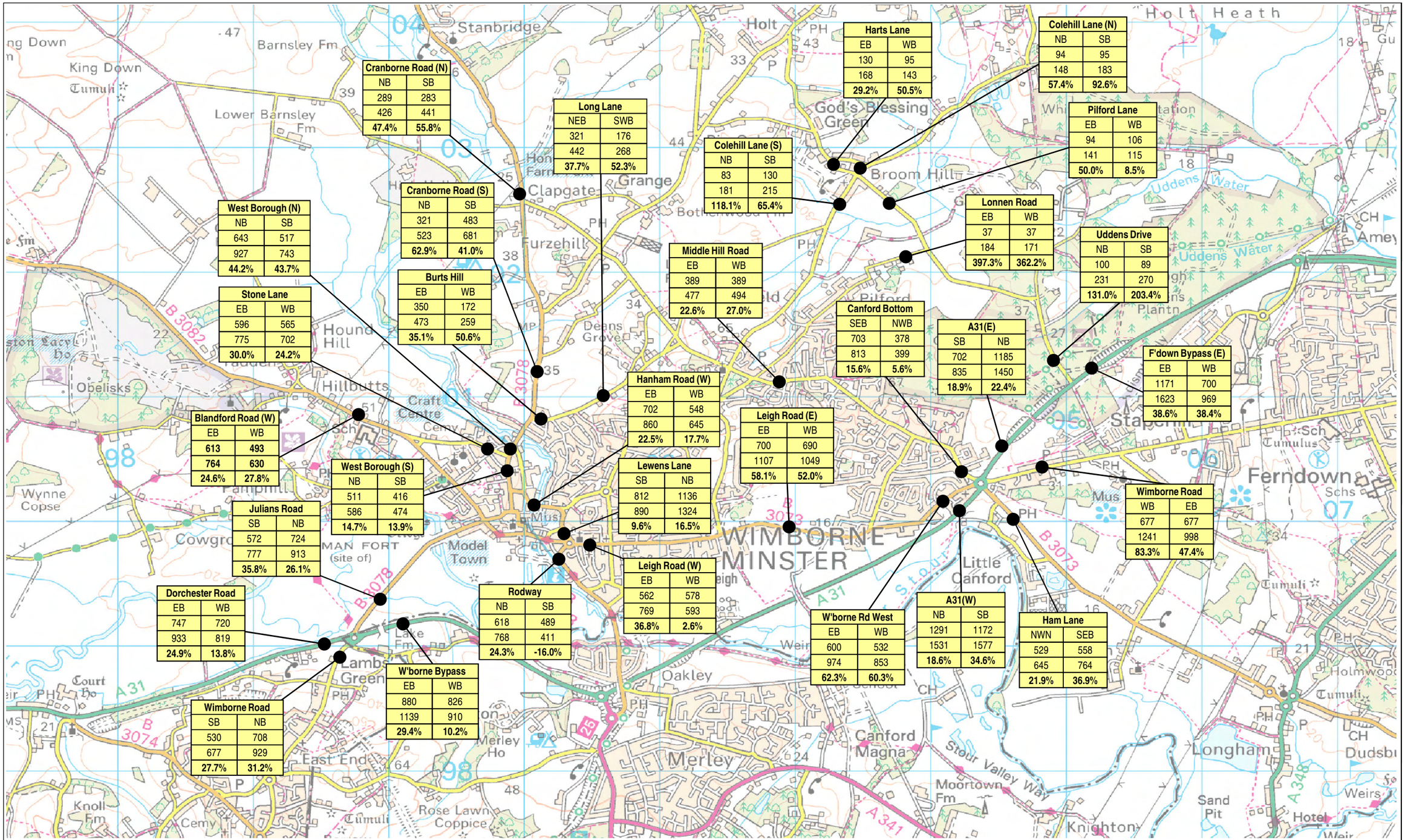
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	**Checked**	**Drawn**	**Date**	**Rev**

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
2008 Flow
2026 Flow
% Diff

Figure 6.1 - AM Peak 2008 Base / 2026 Option A
Modelled Traffic Flow Comparison within Wimborne

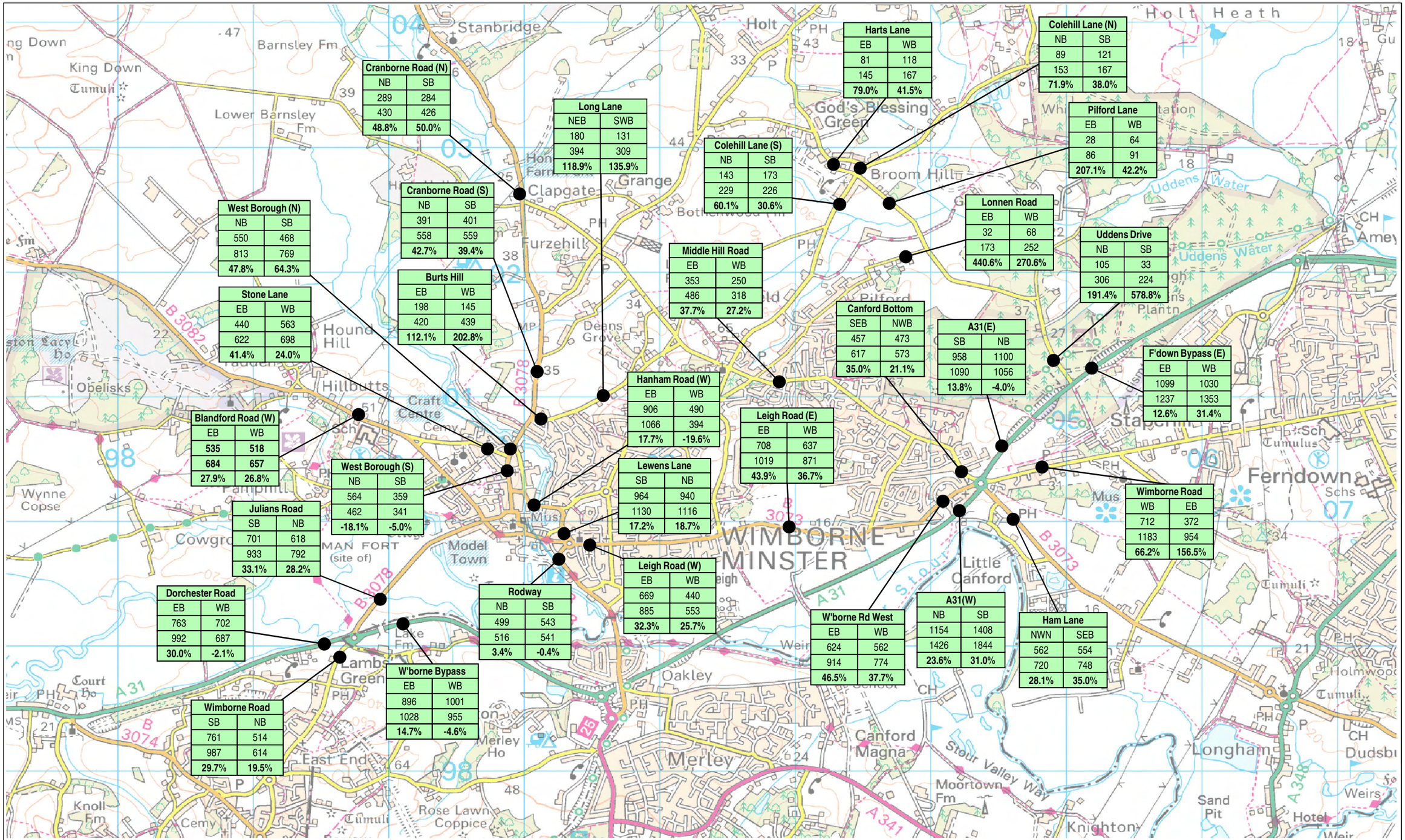
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	Checked	Drawn	Date	Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
2008 Flow
2026 Flow
% Diff

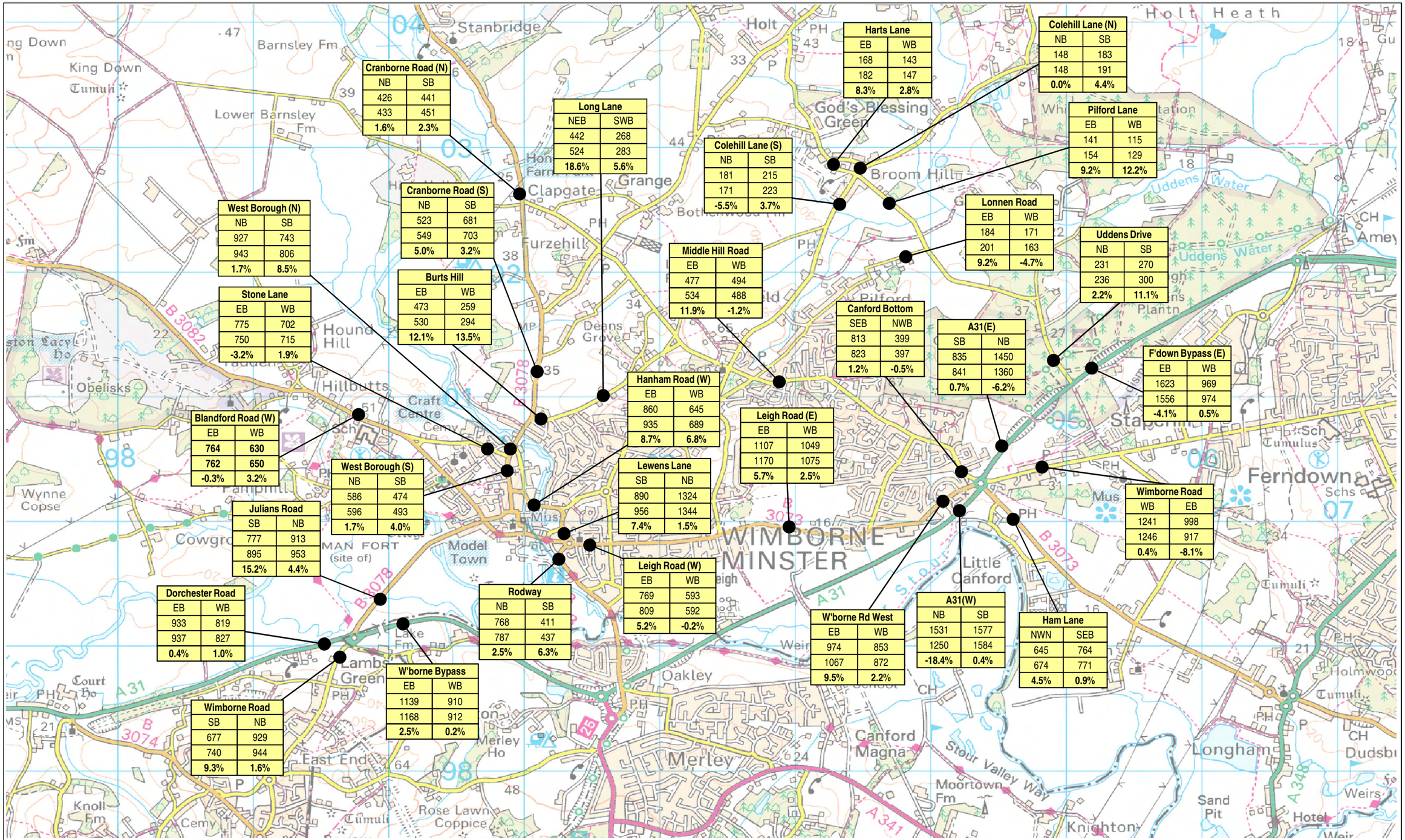
Figure 6.2 - PM Peak 2008 Base / 2026 Option A
Modelled Traffic Flow Comparison within Wimborne

WIMBORNE TRANSPORT MODEL	NTS Scale	PDC Checked	NSR Drawn	16/09/10 Date	0 Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option I
% Diff

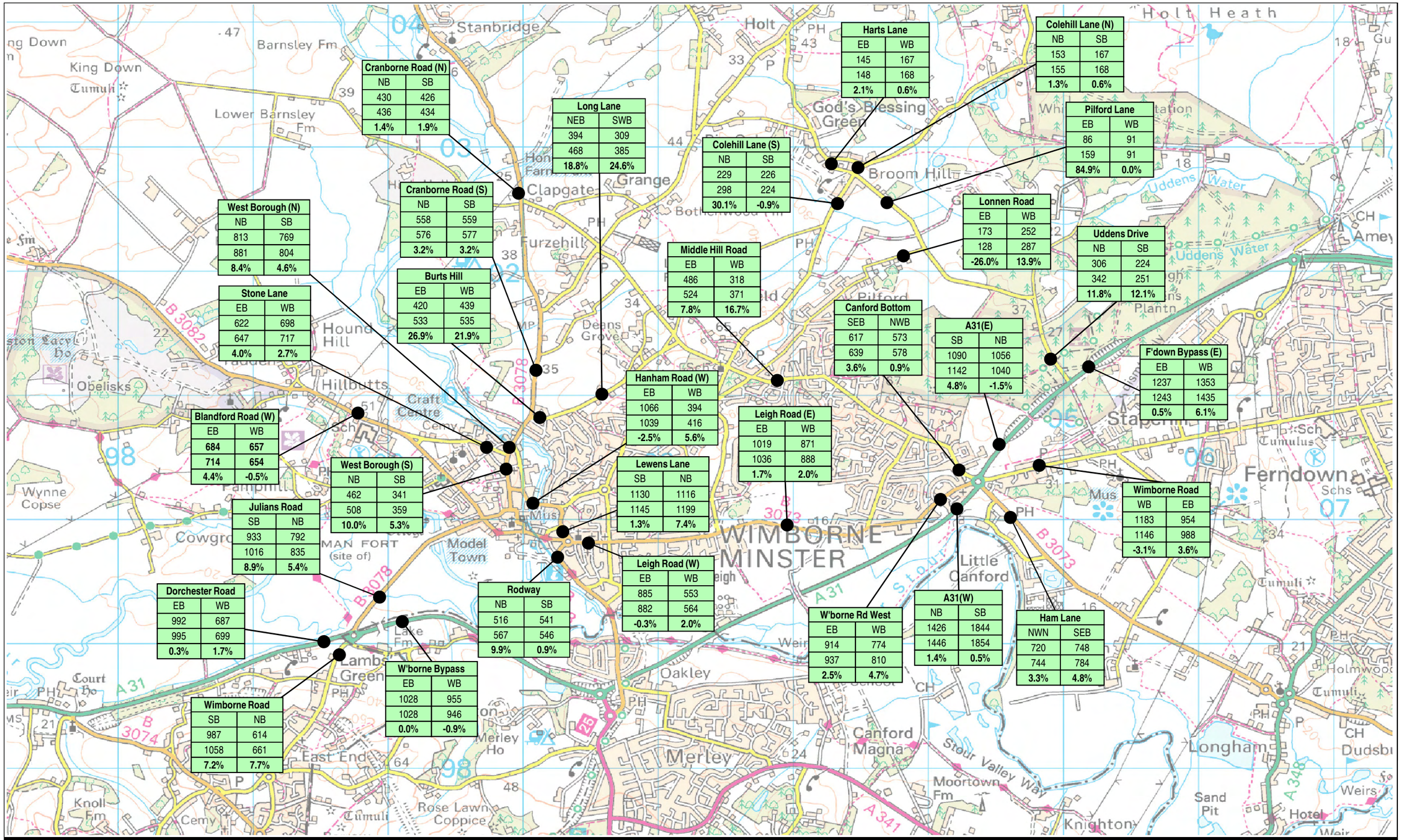
Figure 6.3 - AM Peak 2026 Option A - Option I

Modelled Traffic Flow Comparison within Wimborne

WIMBORNE TRANSPORT MODEL	NTS Scale	PDC Checked	NSR Drawn	16/09/10 Date	0 Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option I
% Diff

Figure 6.4 - PM Peak 2026 Option A - Option I

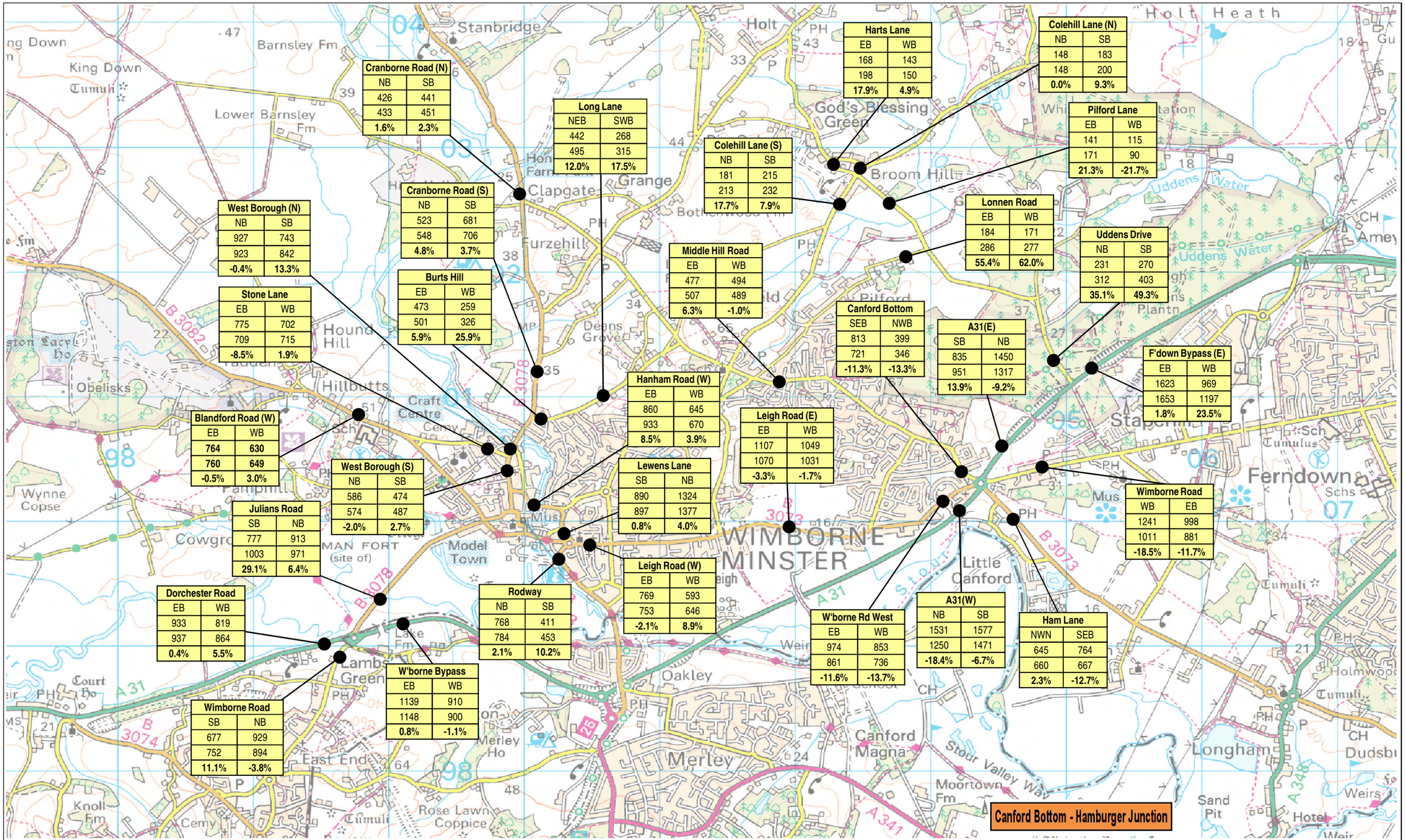
Modelled Traffic Flow Comparison within Wimborne

WIMBORNE TRANSPORT MODEL	NTS Scale	PDC Checked	NSR Drawn	16/09/10 Date	0 Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option J
% Diff

Figure 6.5 - AM Peak 2026 Option A - Option J

Modelled Traffic Flow Comparison within Wimborne

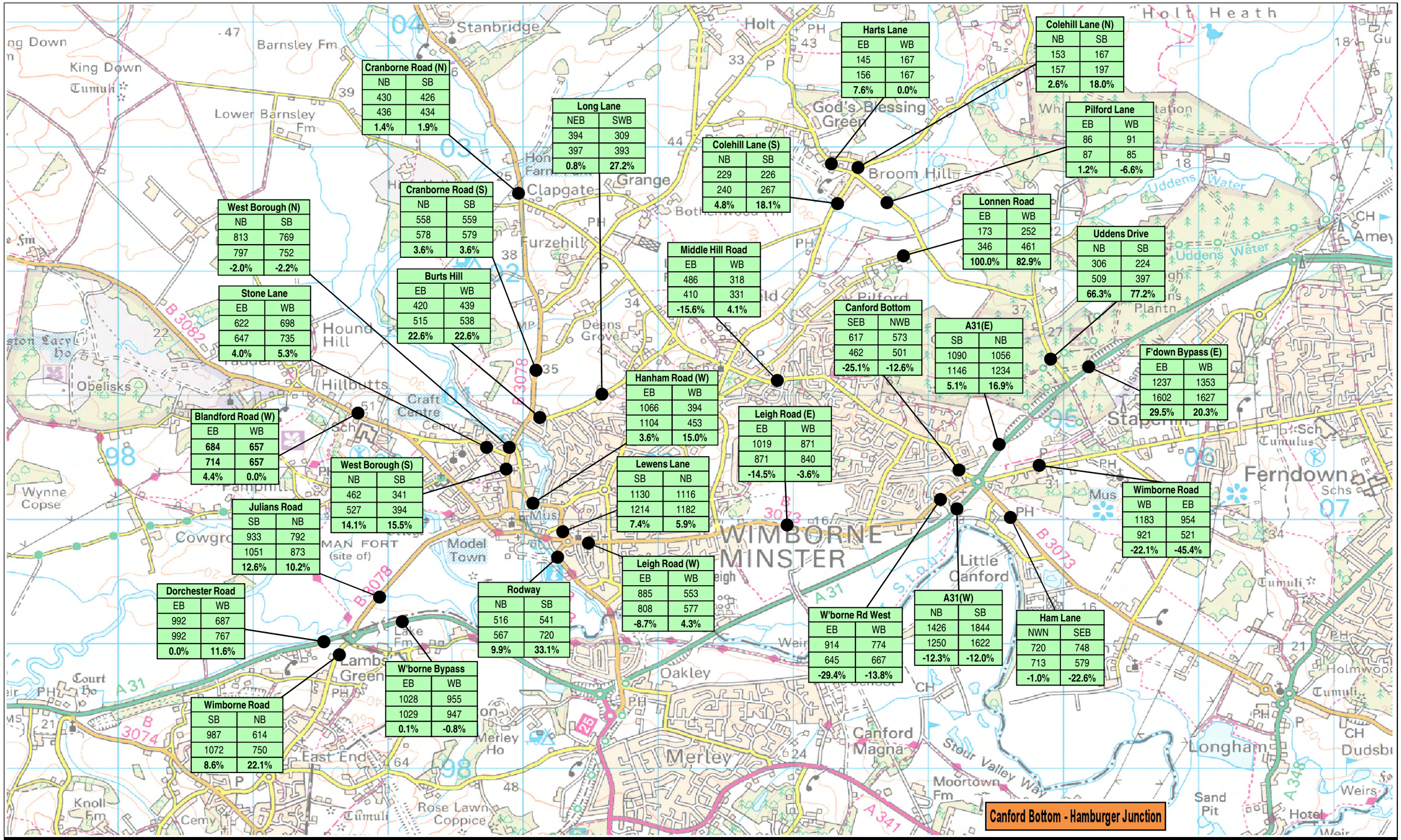
WIMBORNE TRANSPORT MODEL

NTS	PDC	NSR	16/09/10	0
Scale	Checked	Drawn	Date	Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

Wimborne Transport Model - Option Testing Summary Report



GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

KEY

Location
Direction
Option A
Option J
% Diff

Figure 6.6 - PM Peak 2026 Option A - Option J

Modelled Traffic Flow Comparison within Wimborne

WIMBORNE TRANSPORT MODEL	NTS Scale	PDC Checked	NSR Drawn	16/09/10 Date	0 Rev

DORSET ENGINEERING CONSULTANCY
Michael Winter - Head of DEC

ENVIRONMENTAL SERVICES
Miles Butler - Director

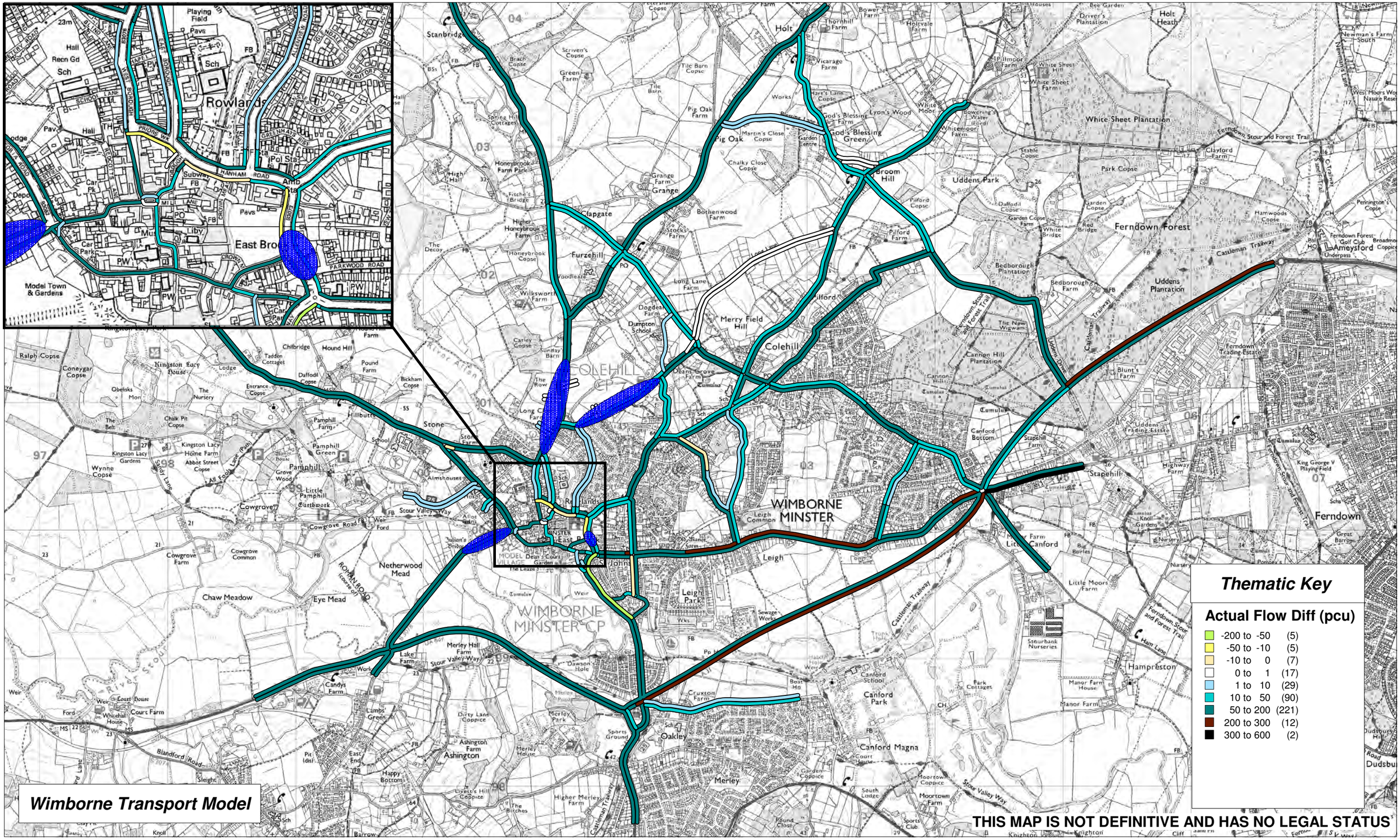


Figure 7.1 - Thematic Map - Differences in Actual Modelled Flow (2008 Base - 2016 Option A AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

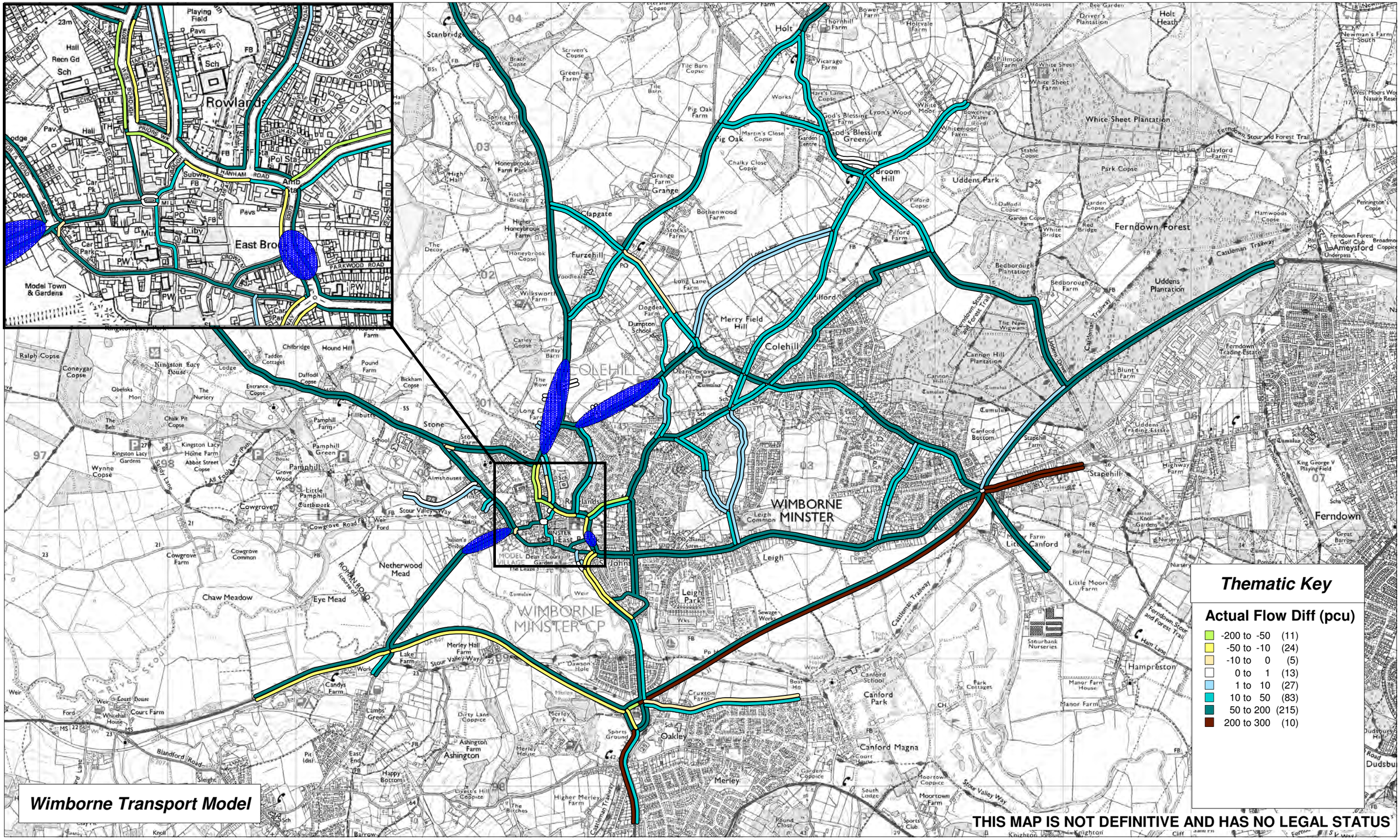


Figure 7.2 - Thematic Map - Differences in Actual Modelled Flow (2008 Base - 2016 Option A PM Peak)

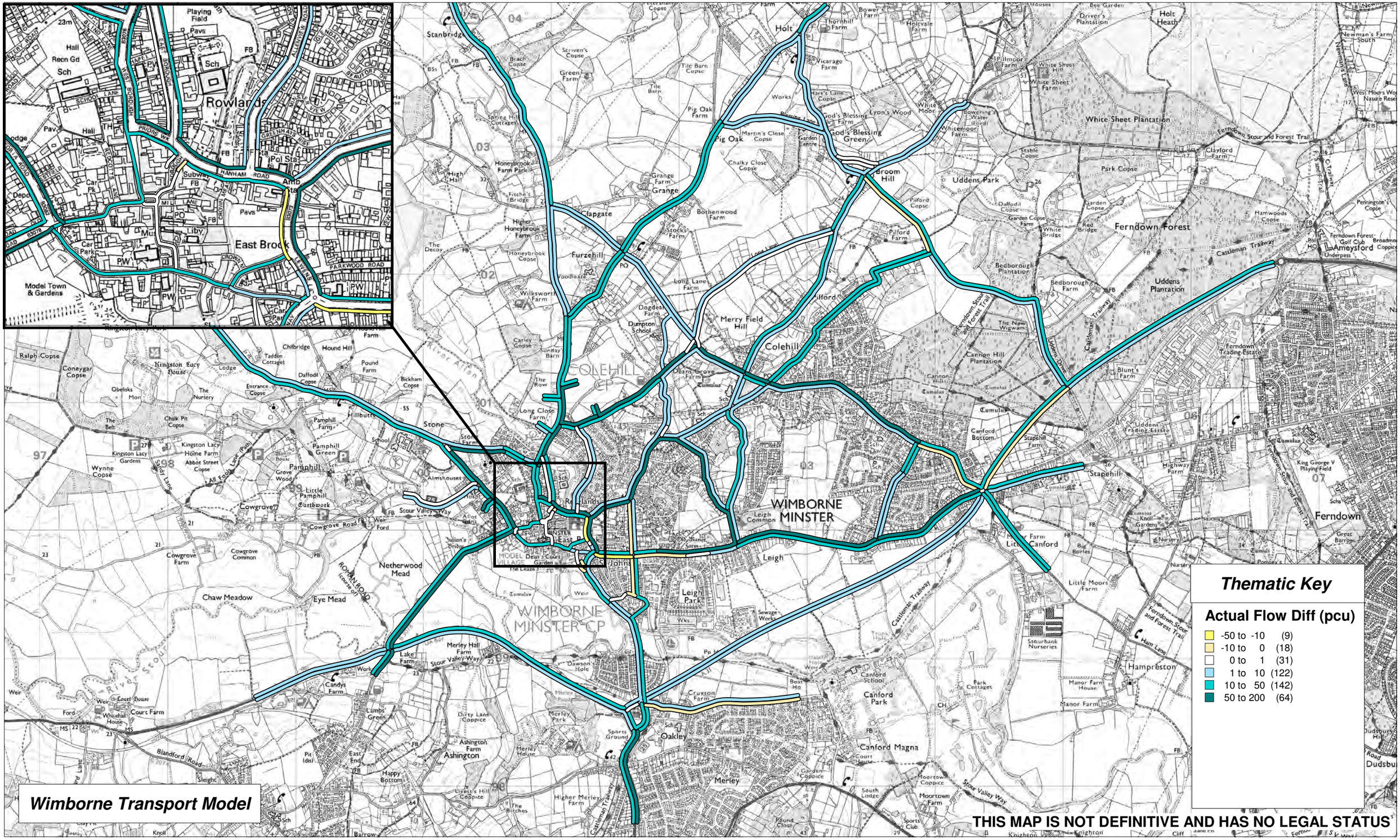


Figure 7.3 - Thematic Map - Differences in Actual Modelled Flow (2016 Option A - Option I AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

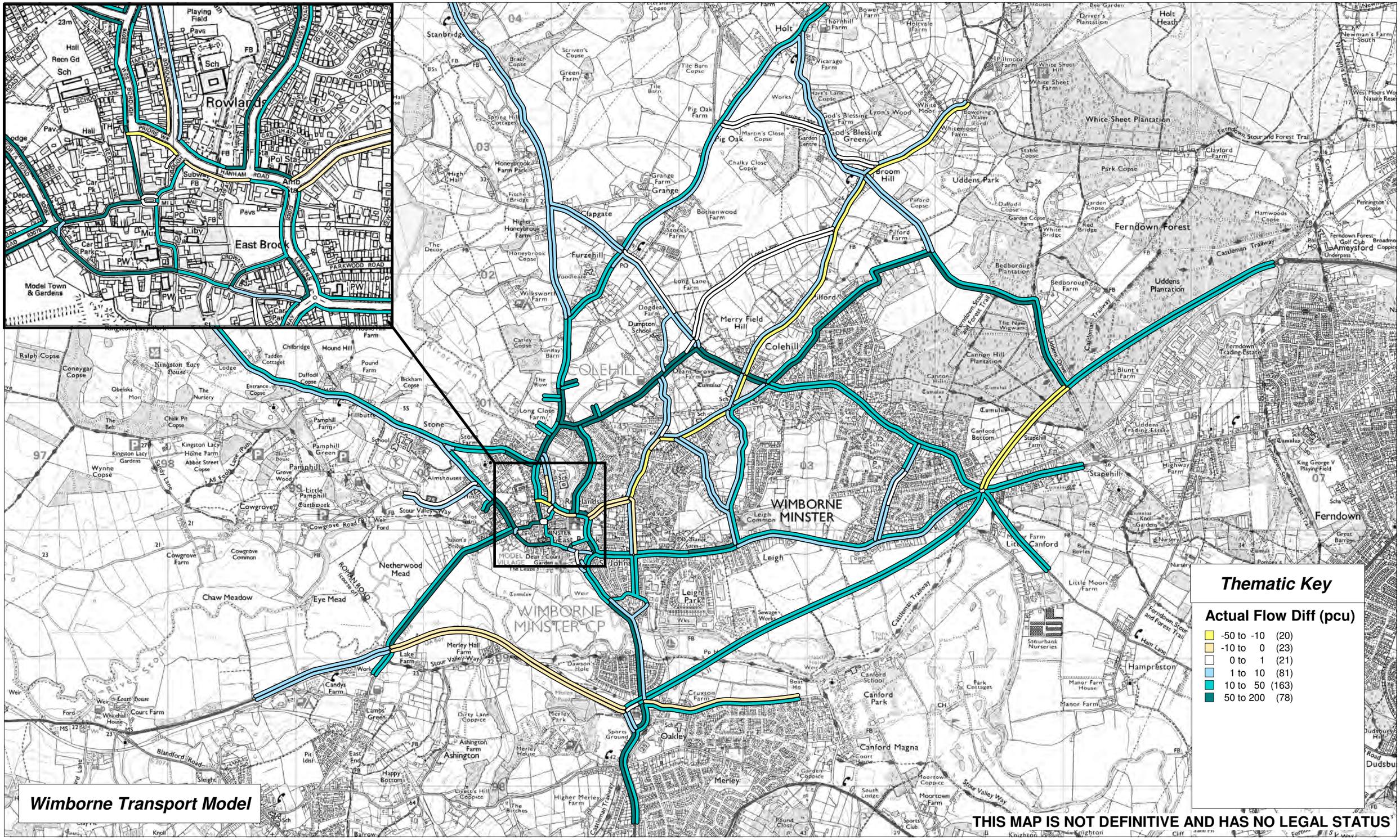


Figure 7.4 - Thematic Map - Differences in Actual Modelled Flow (2016 Option A - Option I PM Peak)

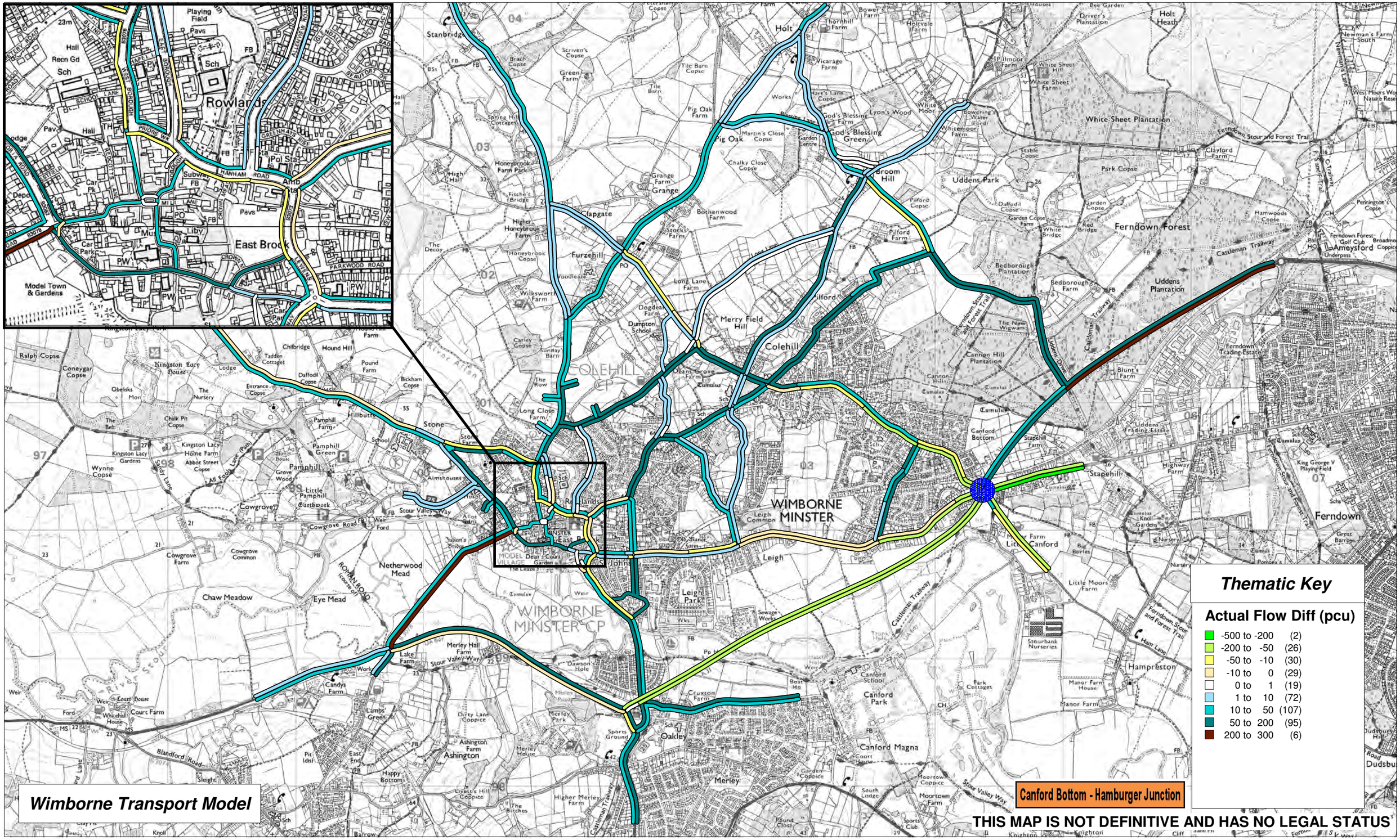


Figure 7.5 - Thematic Map - Differences in Actual Modelled Flow (2016 Option A - Option J AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

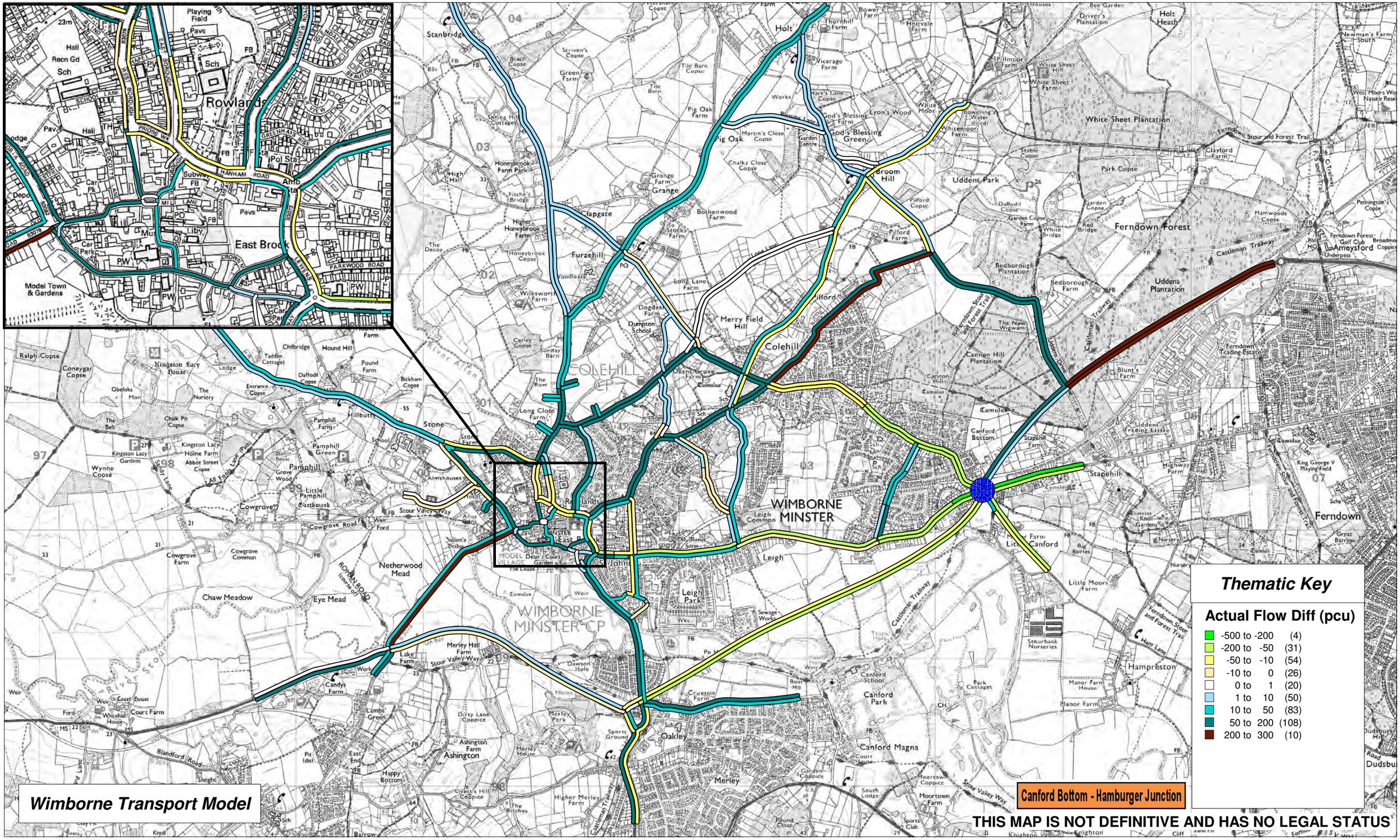


Figure 7.6 - Thematic Map - Differences in Actual Modelled Flow (2016 Option A - Option J PM Peak)

Ref:

Date: 20/09/2010

Scale 1:27000

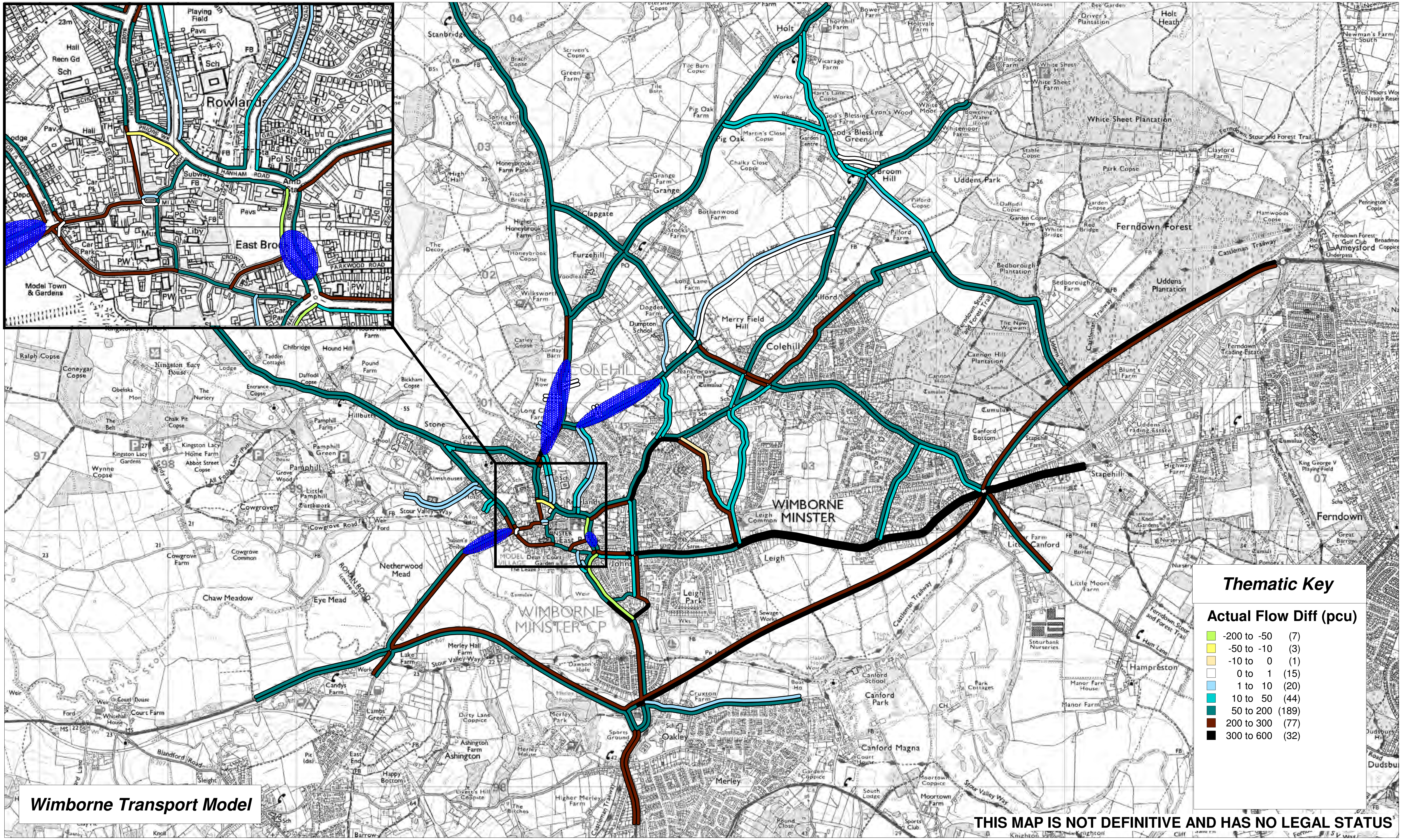
Drawn By: NSR

Cent X: 402168

Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council



Thematic Key

Actual Flow Diff (pcu)

-200 to -50	(7)
-50 to -10	(3)
-10 to 0	(1)
0 to 1	(15)
1 to 10	(20)
10 to 50	(44)
50 to 200	(189)
200 to 300	(77)
300 to 600	(32)

Figure 8.1 - Thematic Map - Differences in Actual Modelled Flow (2008 Base - 2026 Option A AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

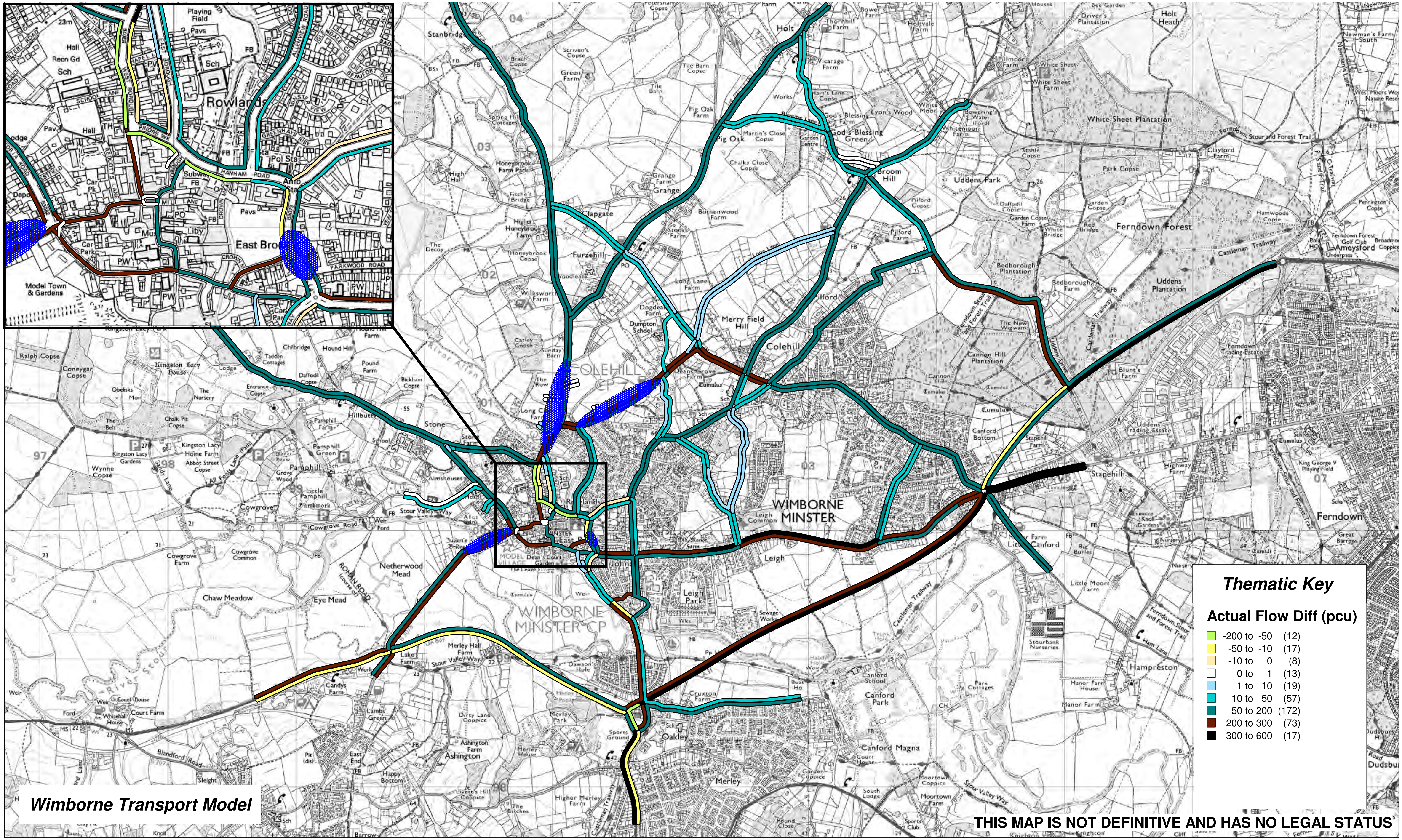


Figure 8.2 - Thematic Map - Differences in Actual Modelled Flow (2008 Base - 2026 Option A PM Peak)

Ref:

Date: 20/09/2010

Scale 1:27000

Drawn By: NSR

Cent X: 402168

Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS

DORSET County Council

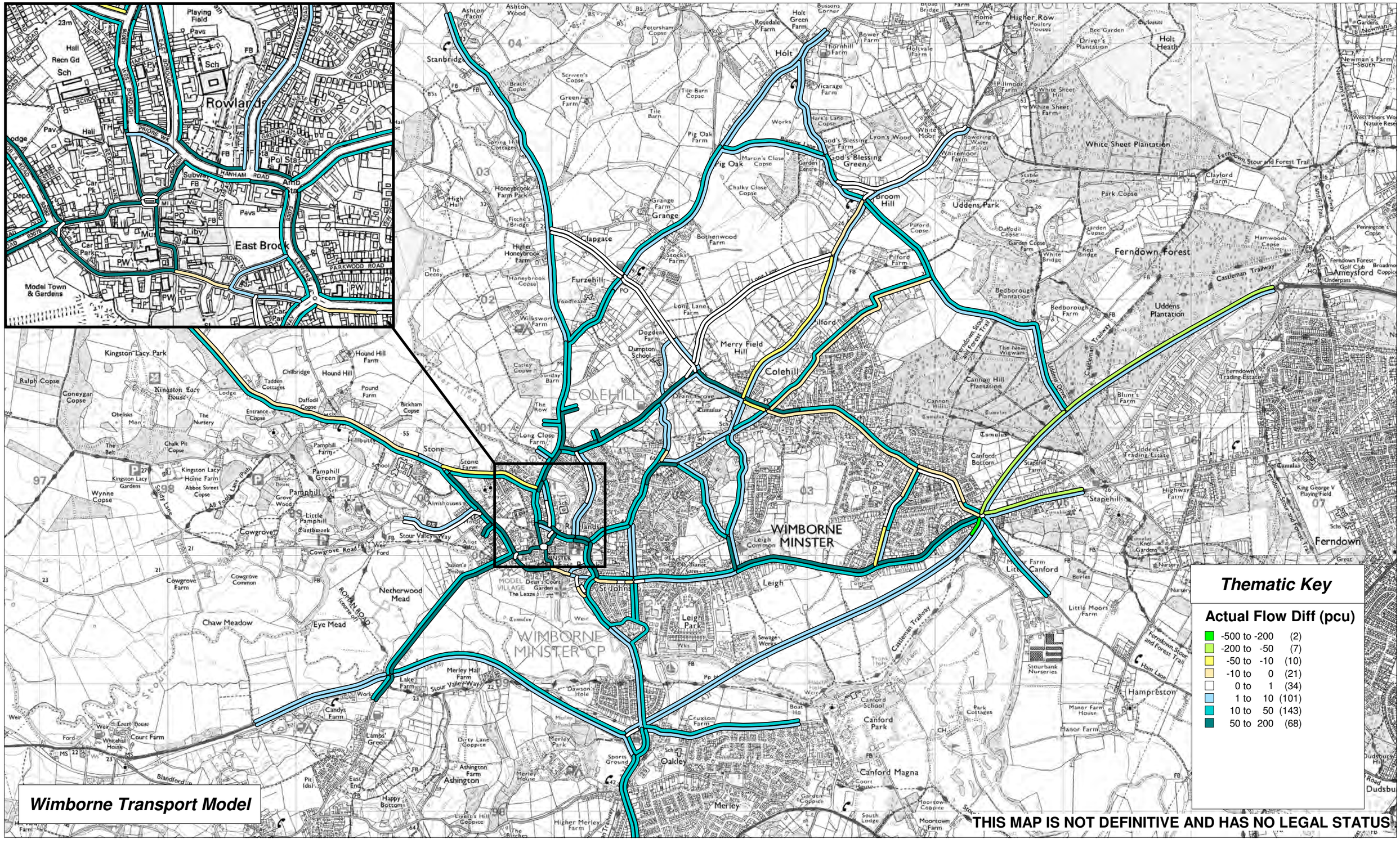


Figure 8.3 - Thematic Map - Differences in Actual Modelled Flow (2026 Option A - Option I AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

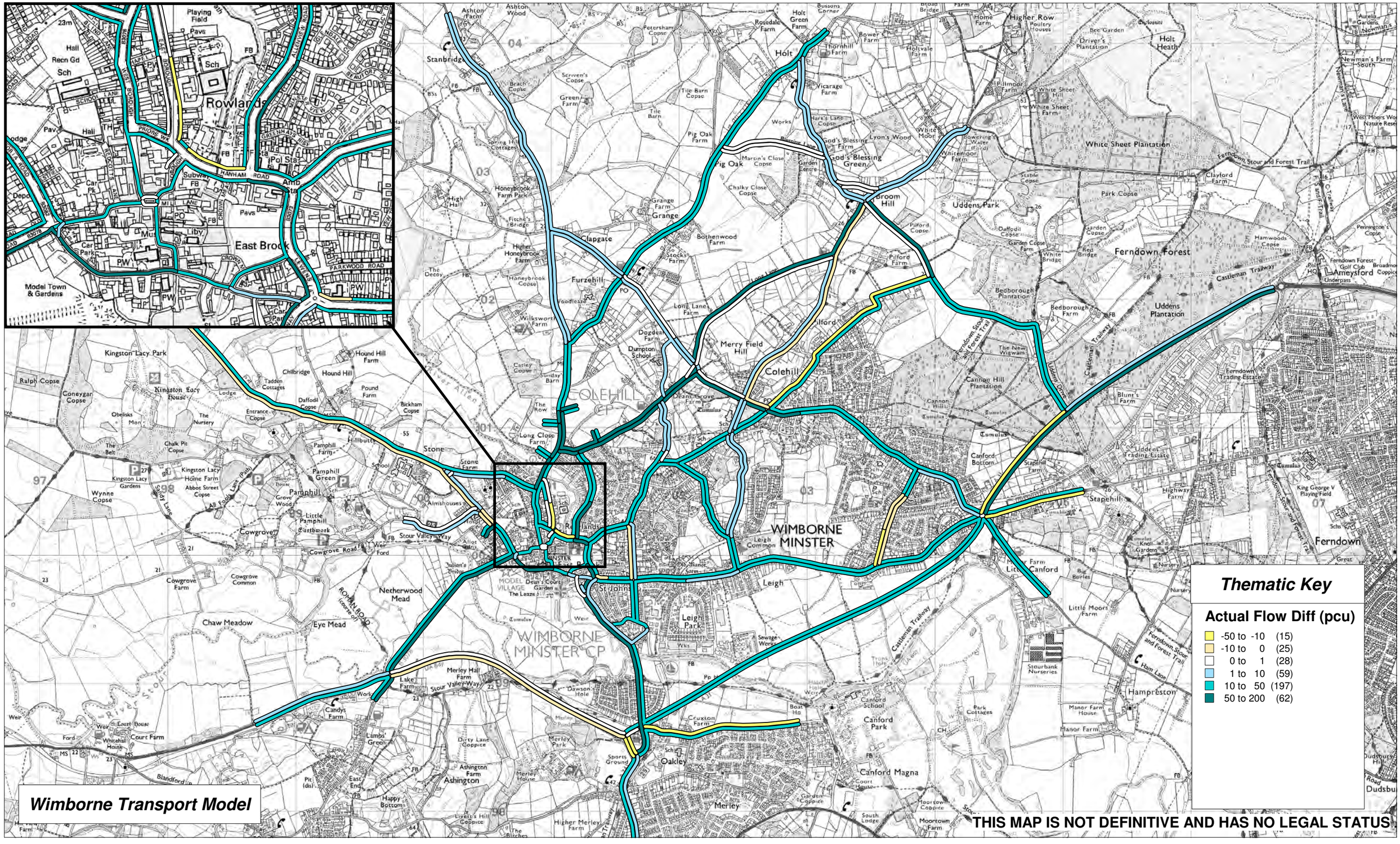


Figure 8.4 - Thematic Map - Differences in Actual Modelled Flow (2026 Option A - Option I PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

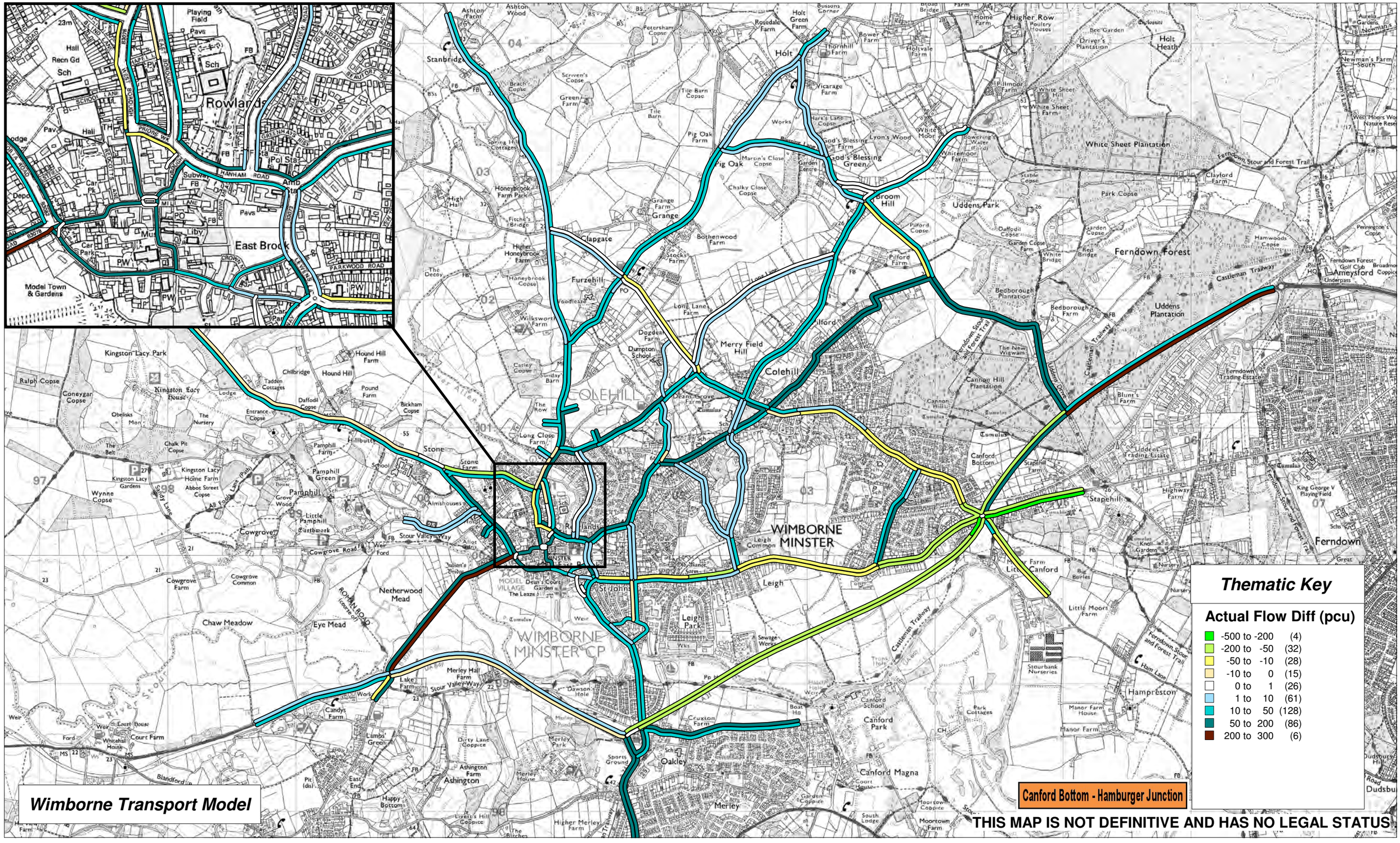


Figure 8.5 - Thematic Map - Differences in Actual Modelled Flow (2026 Option A - Option J AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

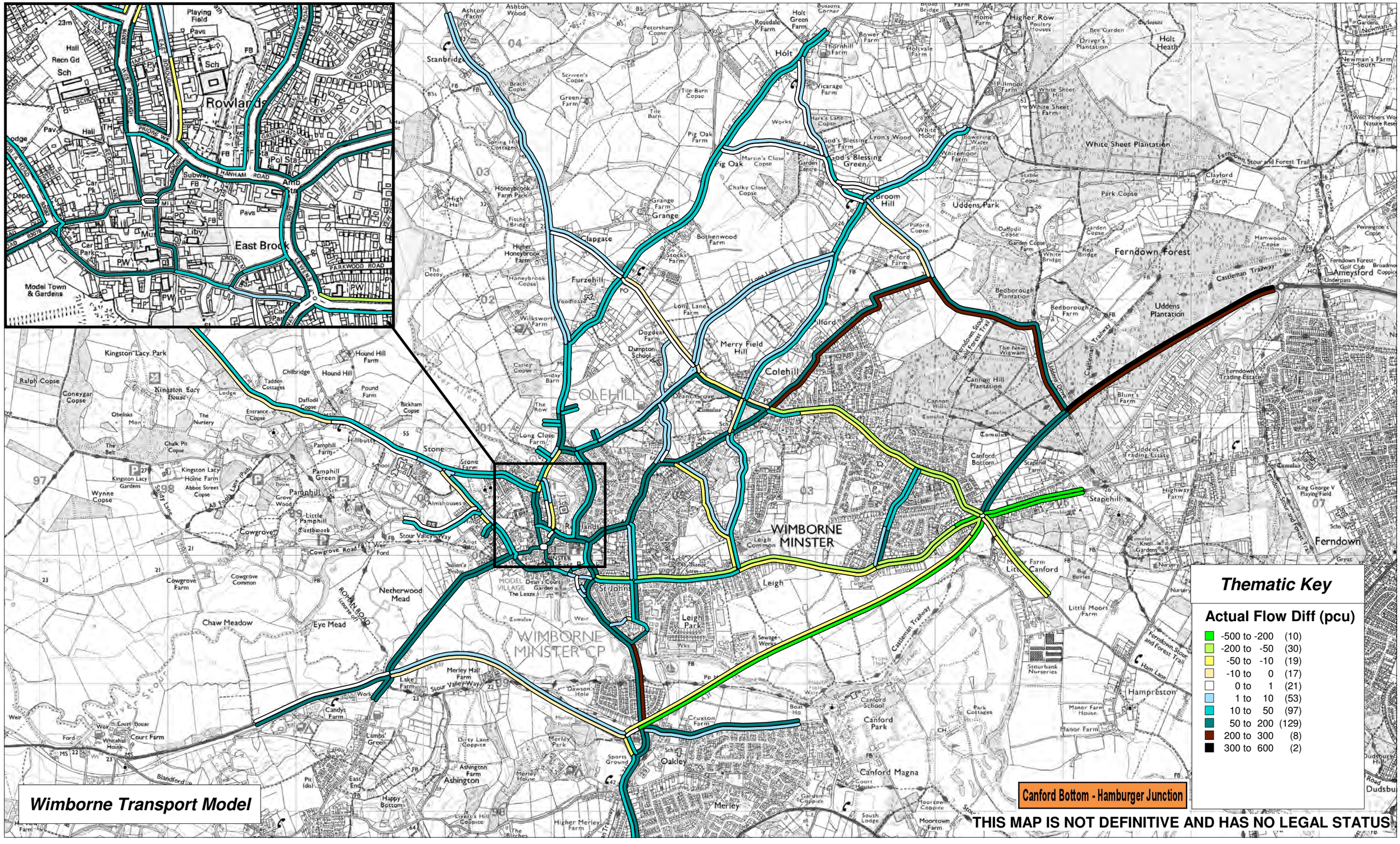


Figure 8.6 - Thematic Map - Differences in Actual Modelled Flow (2026 Option A - Option J PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

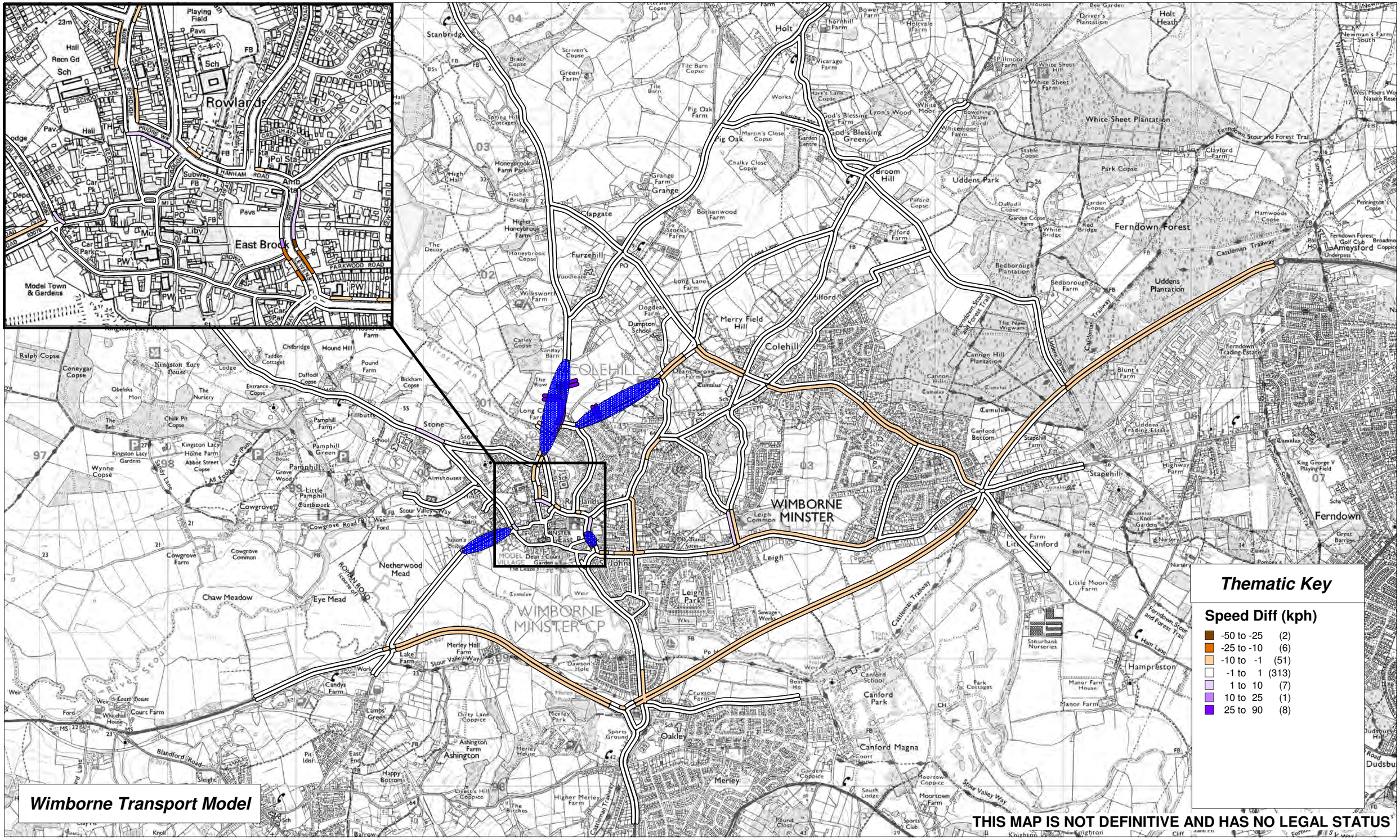


Figure 9.1 - Thematic Map - Differences in Modelled Speed (2008 Base - 2016 Option A AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

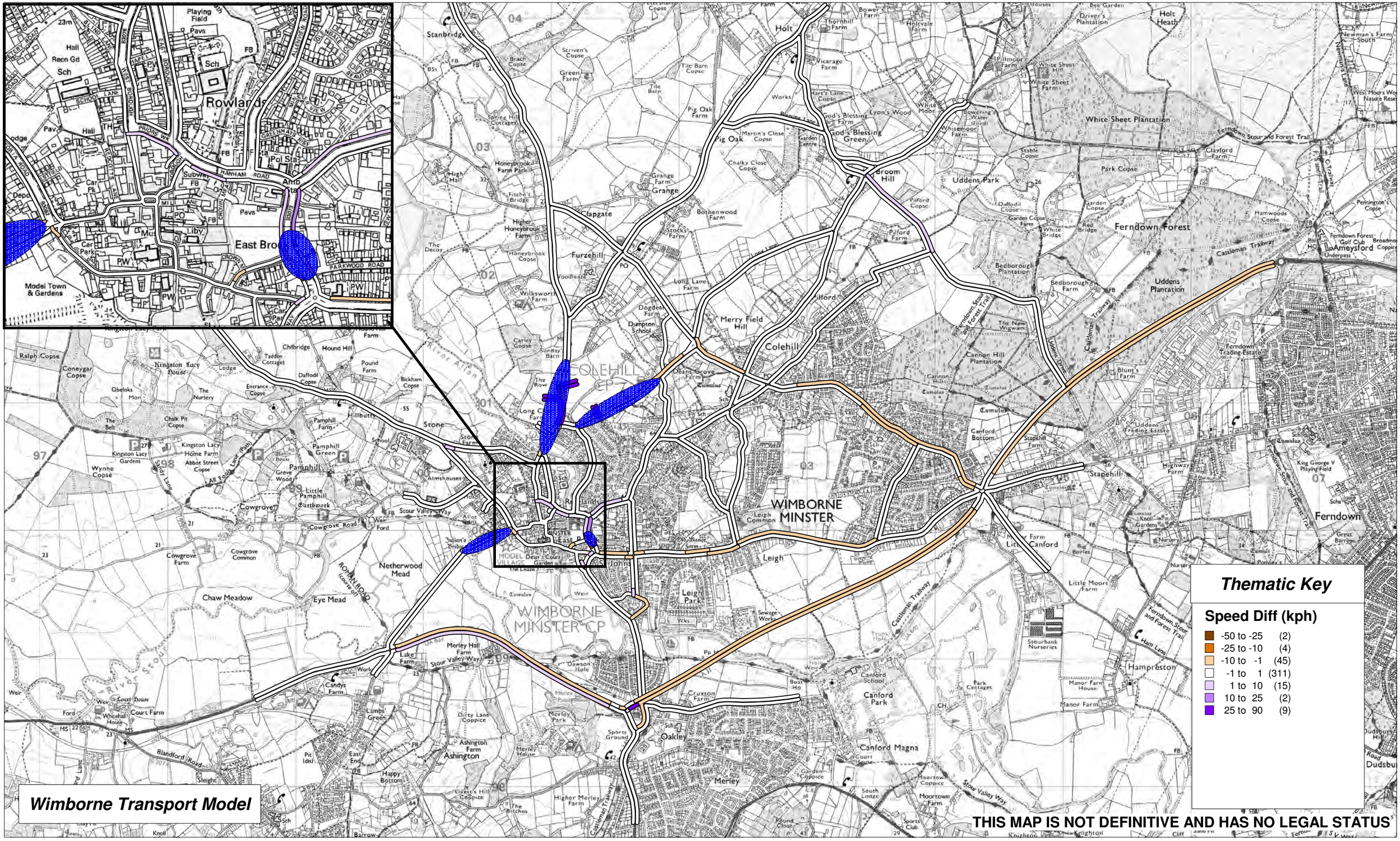


Figure 9.2 - Thematic Map - Differences in Modelled Speed (2008 Base - 2016 Option A PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

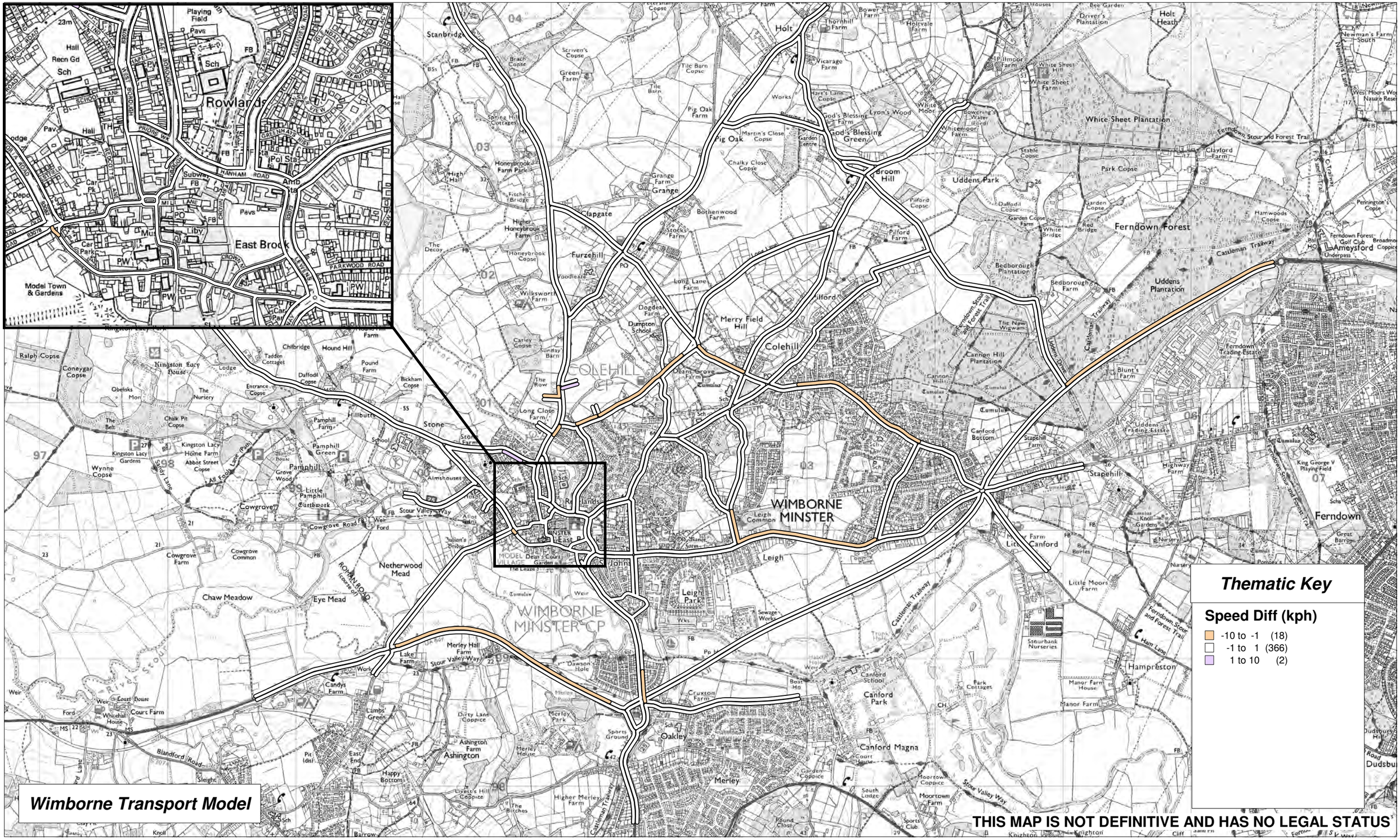


Figure 9.3 - Thematic Map - Differences in Modelled Speed (2016 Option A - Option I AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

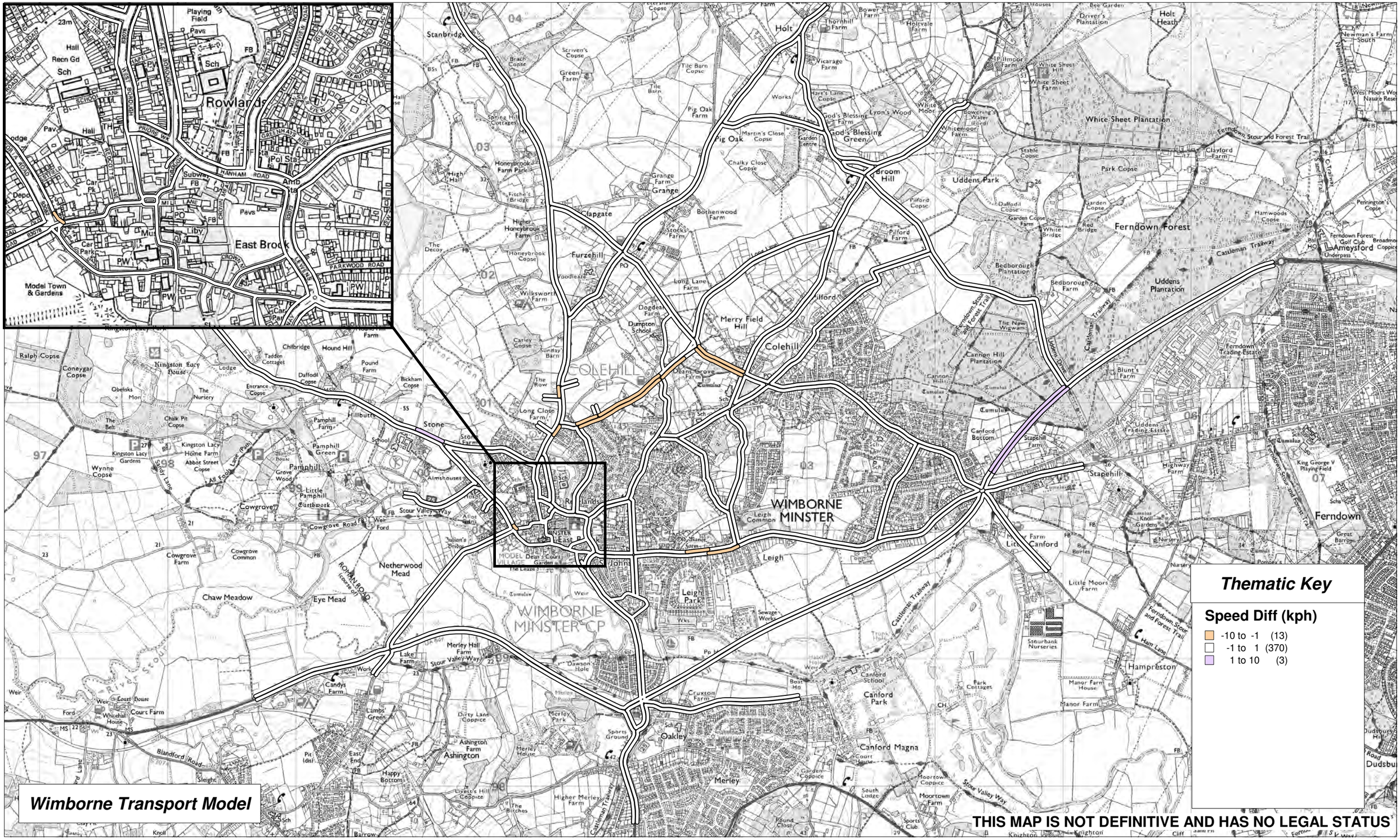


Figure 9.4 - Thematic Map - Differences in Modelled Speed (2016 Option A - Option I PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

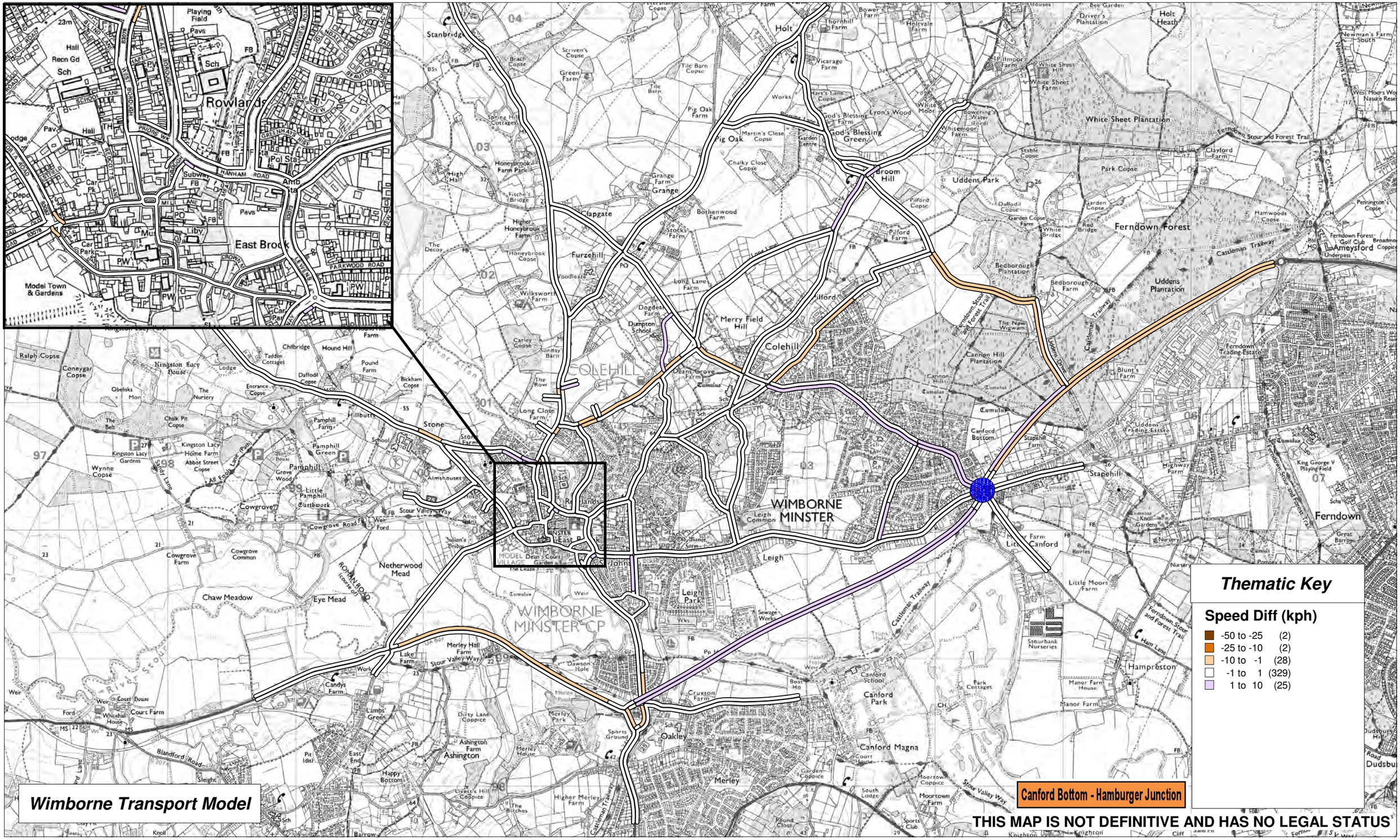


Figure 9.5 - Thematic Map - Differences in Modelled Speed (2016 Option A - Option J AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

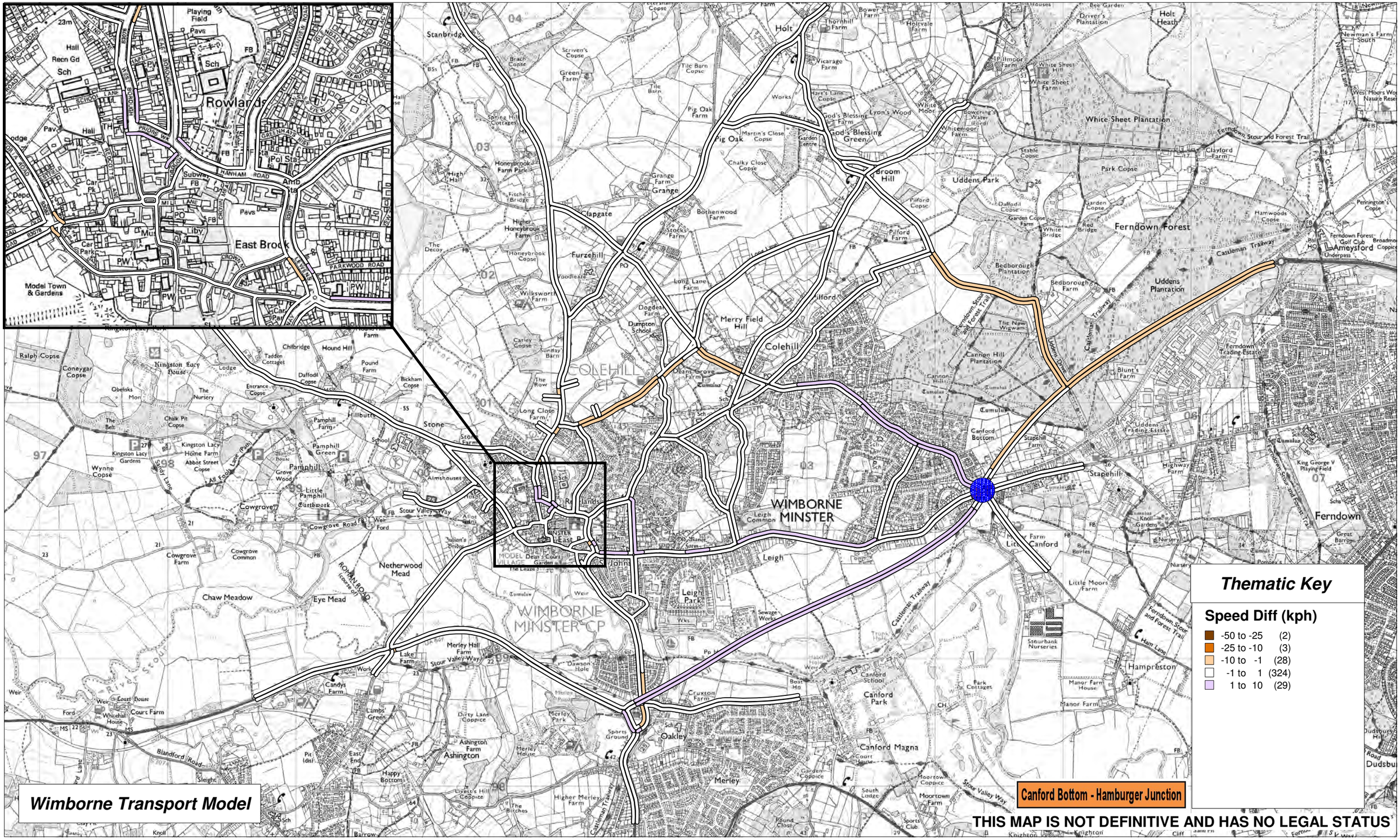


Figure 9.6 - Thematic Map - Differences in Modelled Speed (2016 Option A - Option J PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

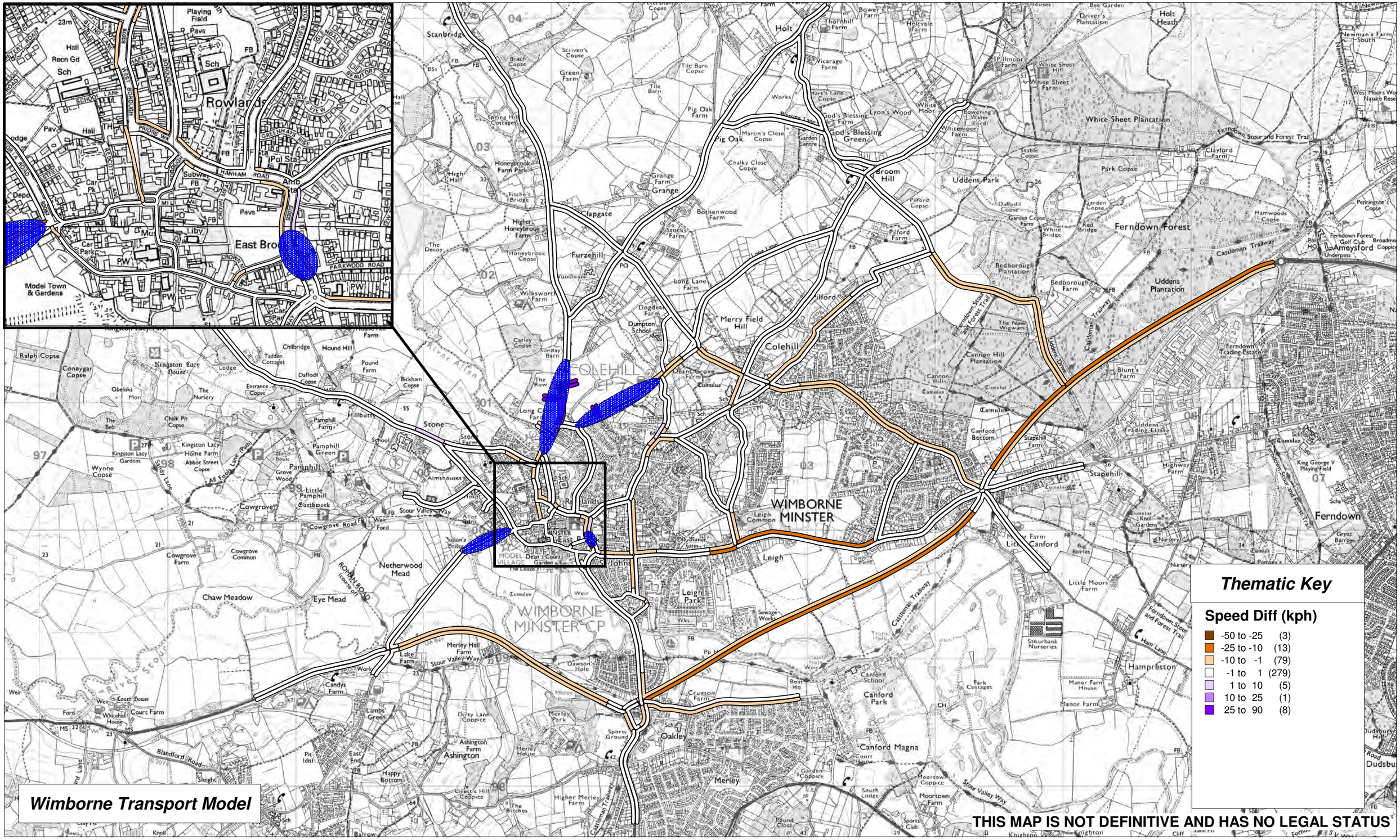


Figure 10.1 - Thematic Map - Differences in Modelled Speed (2008 Base - 2026 Option A AM Peak)

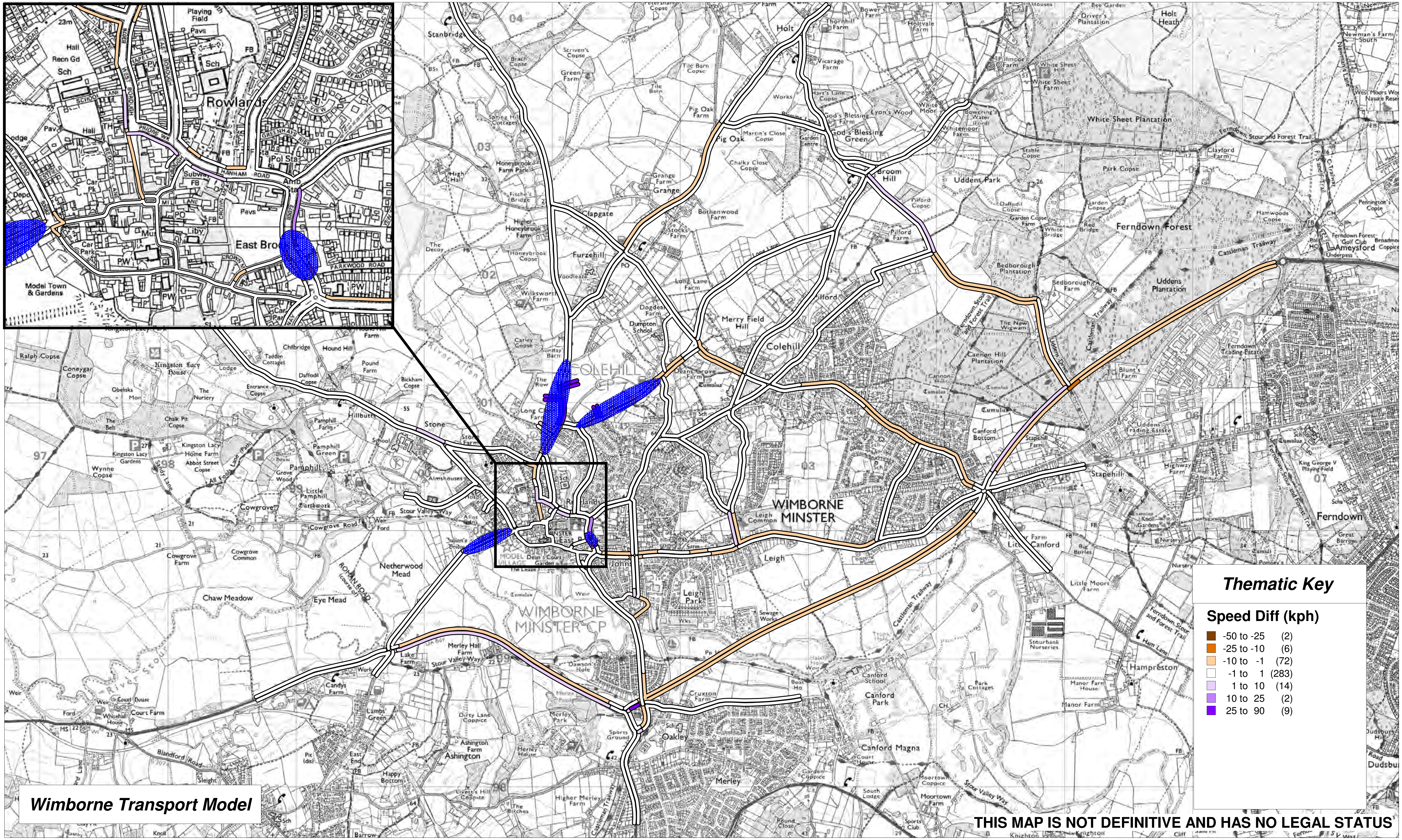


Figure 10.2 - Thematic Map - Differences in Modelled Speed (2008 Base - 2026 Option A PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

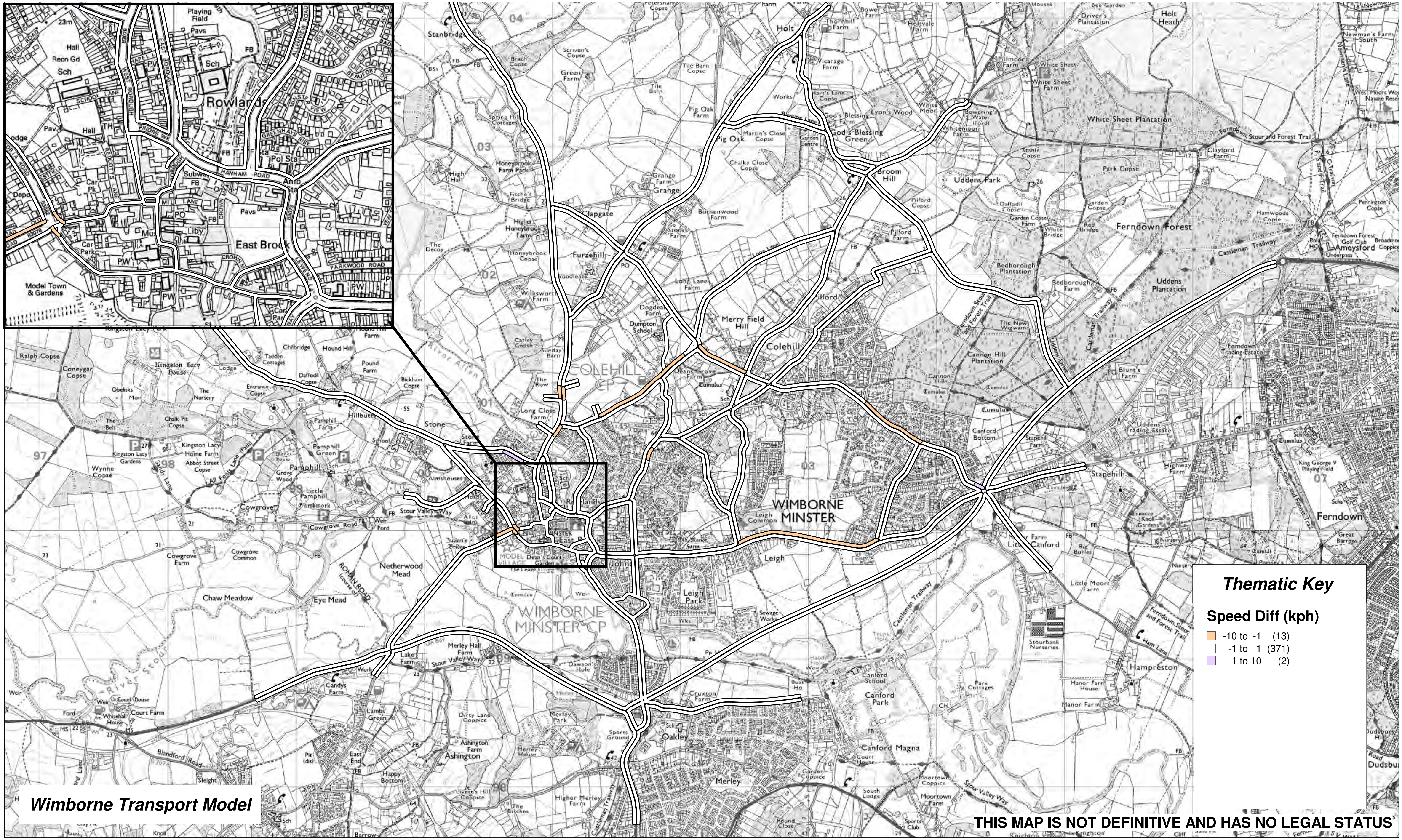


Figure 10.3 - Thematic Map - Differences in Modelled Speed (2026 Option A - Option I AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

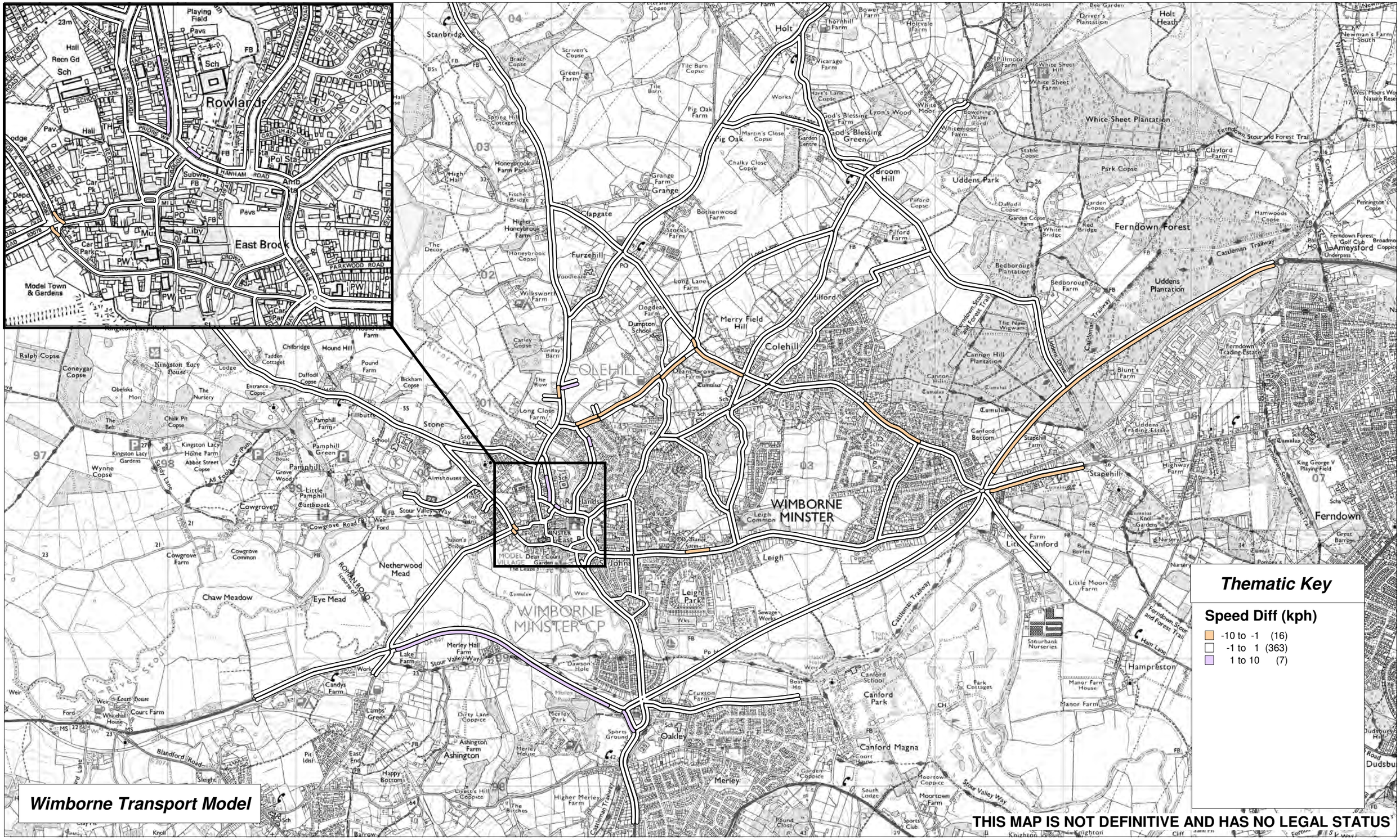


Figure 10.4 - Thematic Map - Differences in Modelled Speed (2026 Option A - Option I PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

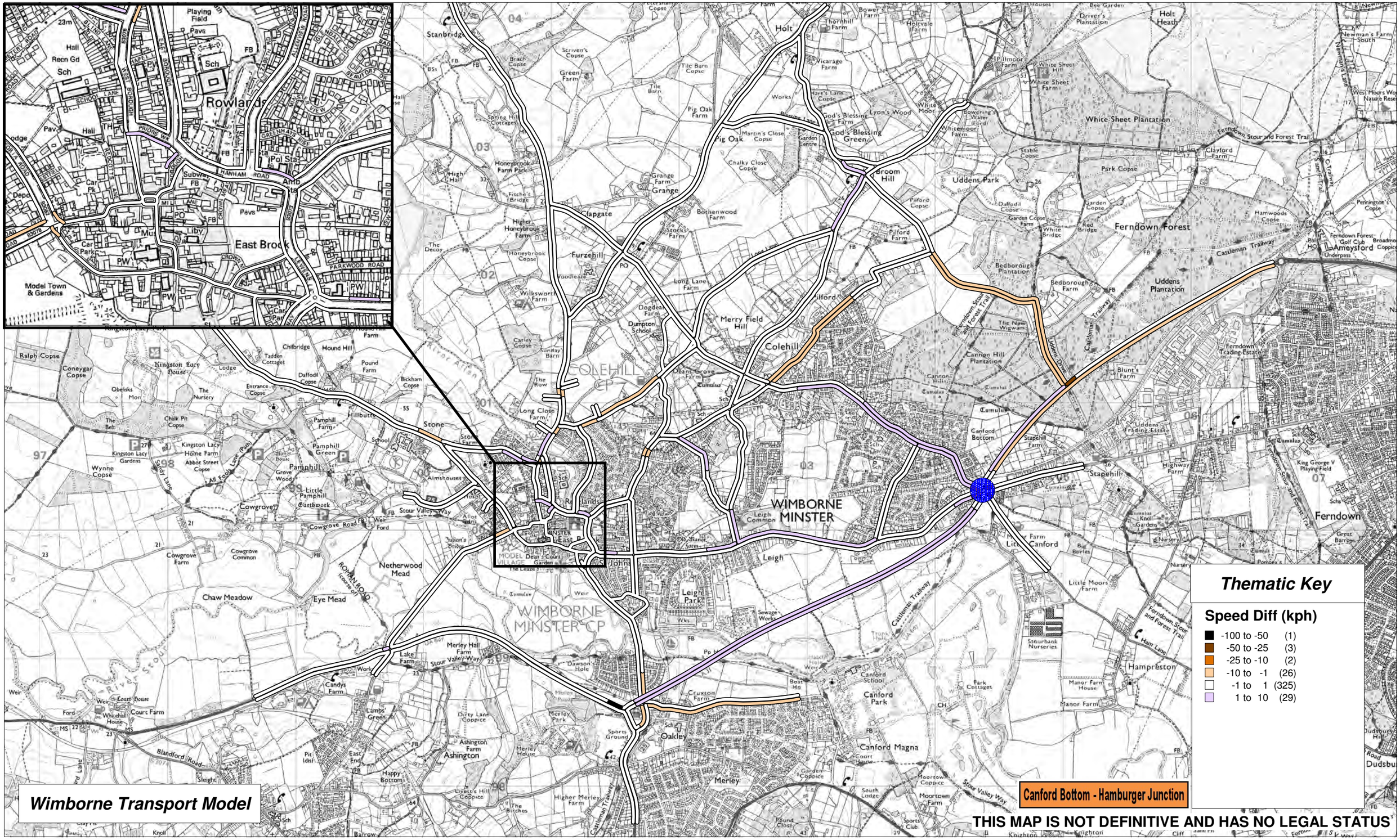


Figure 10.5 - Thematic Map - Differences in Modelled Speed (2026 Option A - Option J AM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

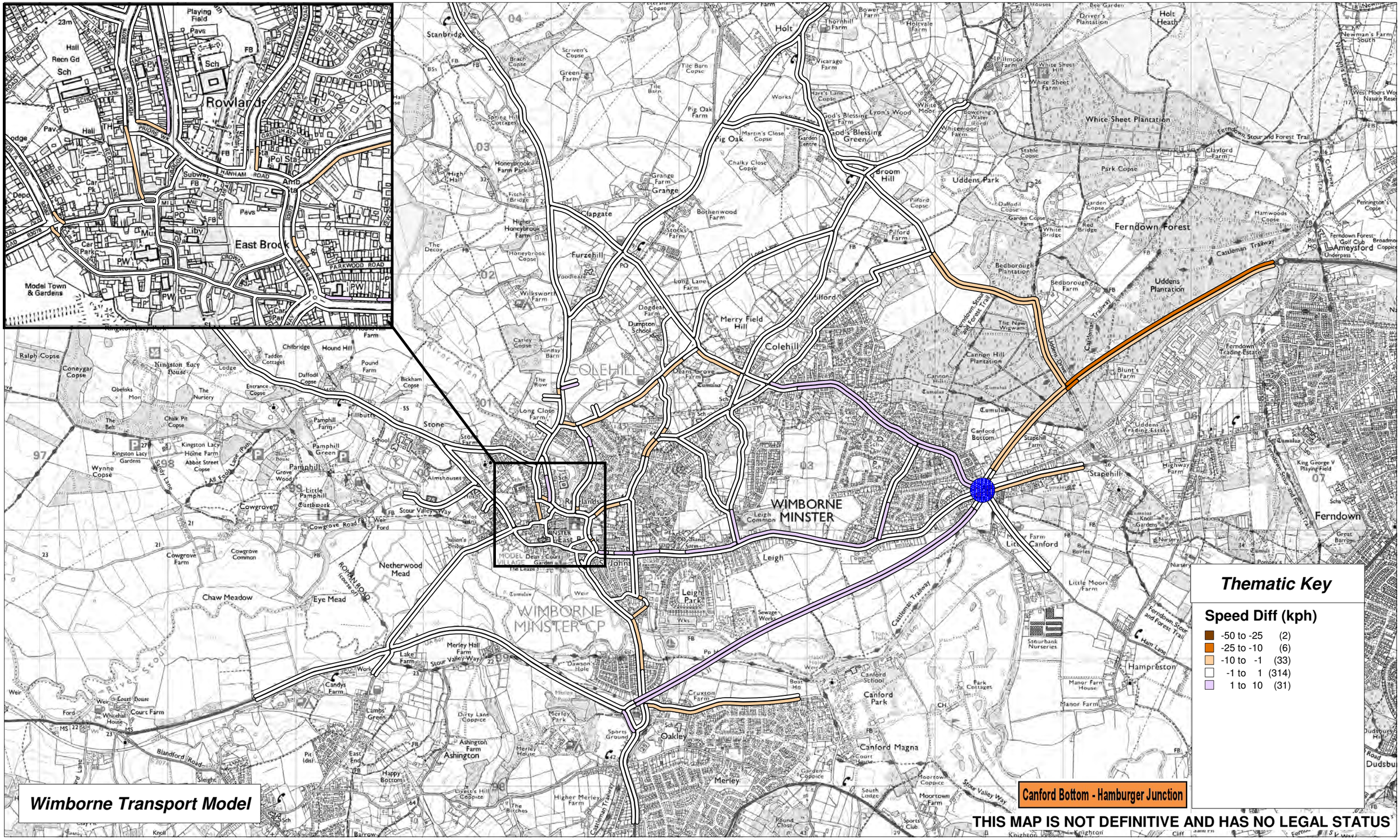


Figure 10.6 - Thematic Map - Differences in Modelled Speed (2026 Option A - Option J PM Peak)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

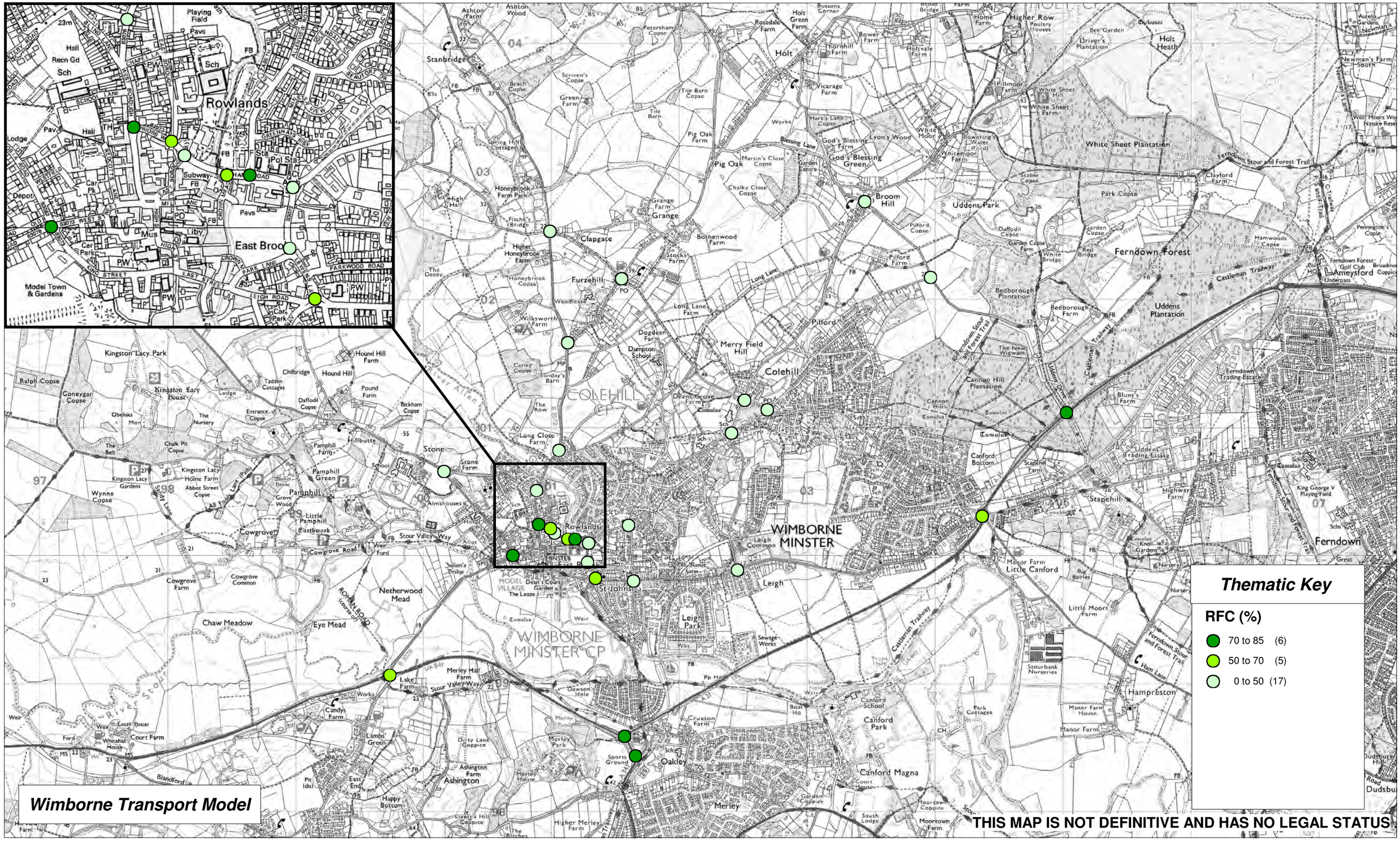


Figure 11.1 - Thematic Map - Modelled Junction RFC's (Base AM Peak 2008)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

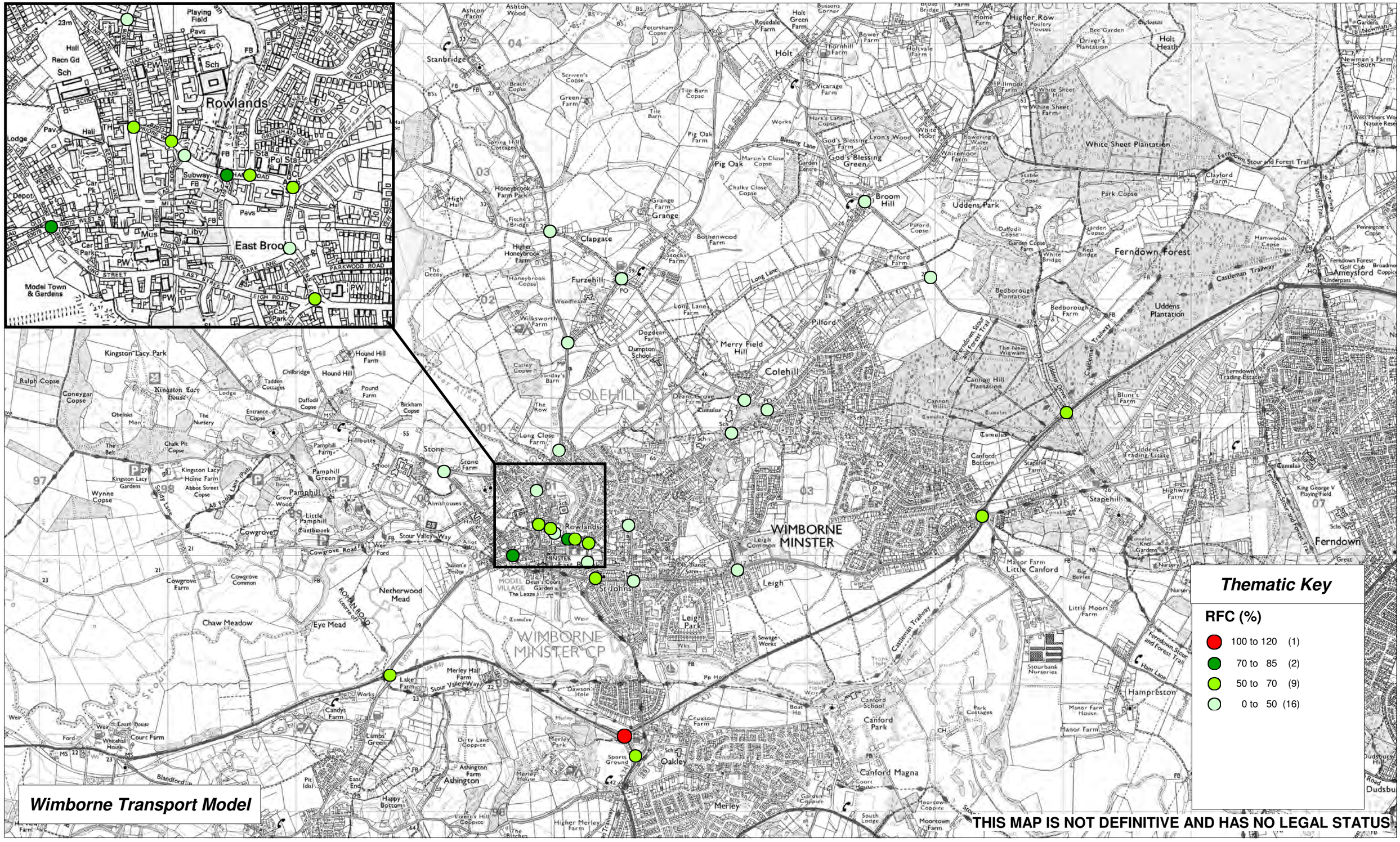


Figure 11.2 - Thematic Map - Modelled Junction RFC's (Base PM Peak 2008)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

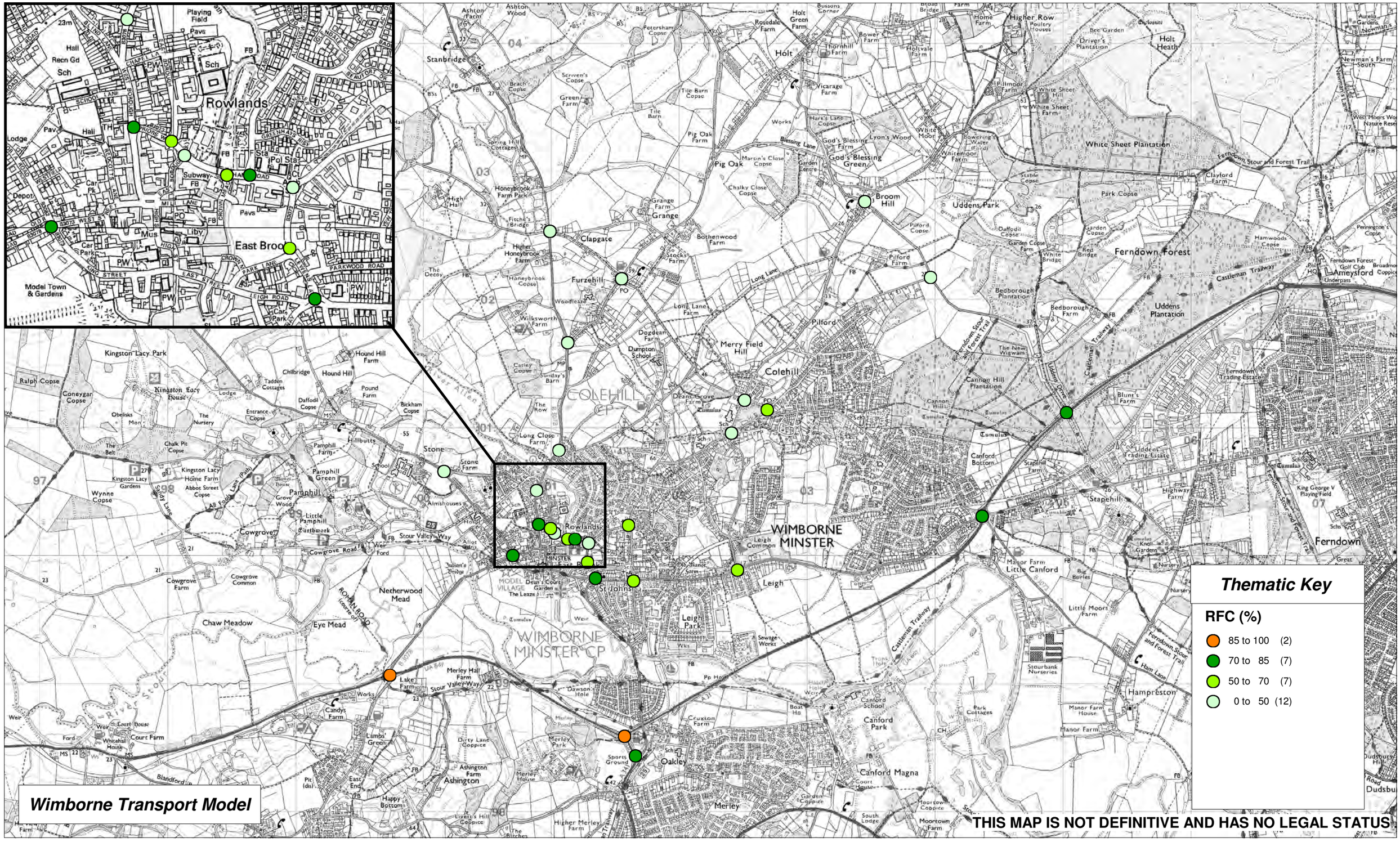


Figure 12.1 - Thematic Map - Modelled Junction RFC's (Option A AM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

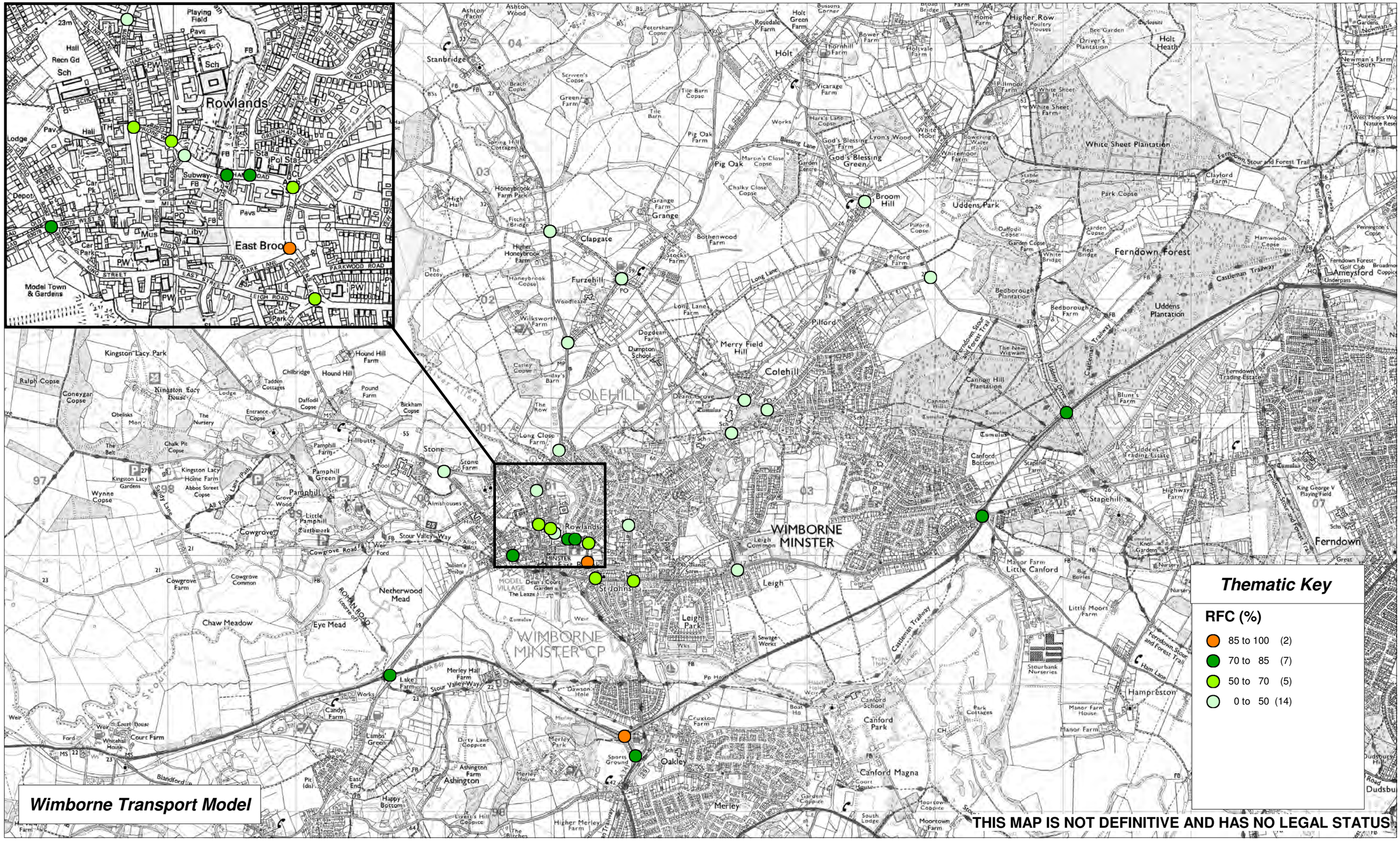


Figure 12.2 - Thematic Map - Modelled Junction RFC's (Option A PM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

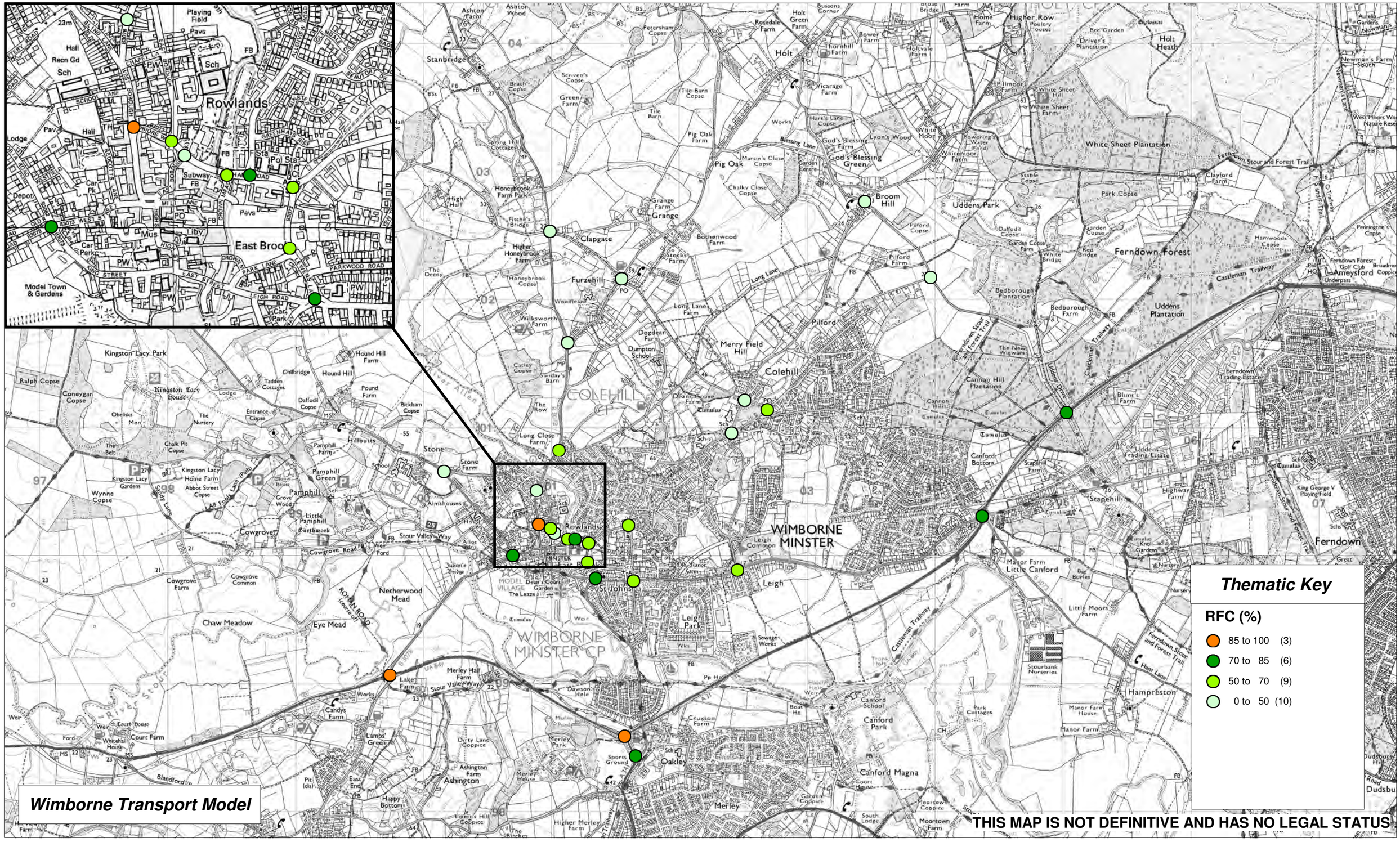


Figure 12.3 - Thematic Map - Modelled Junction RFC's (Option I AM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

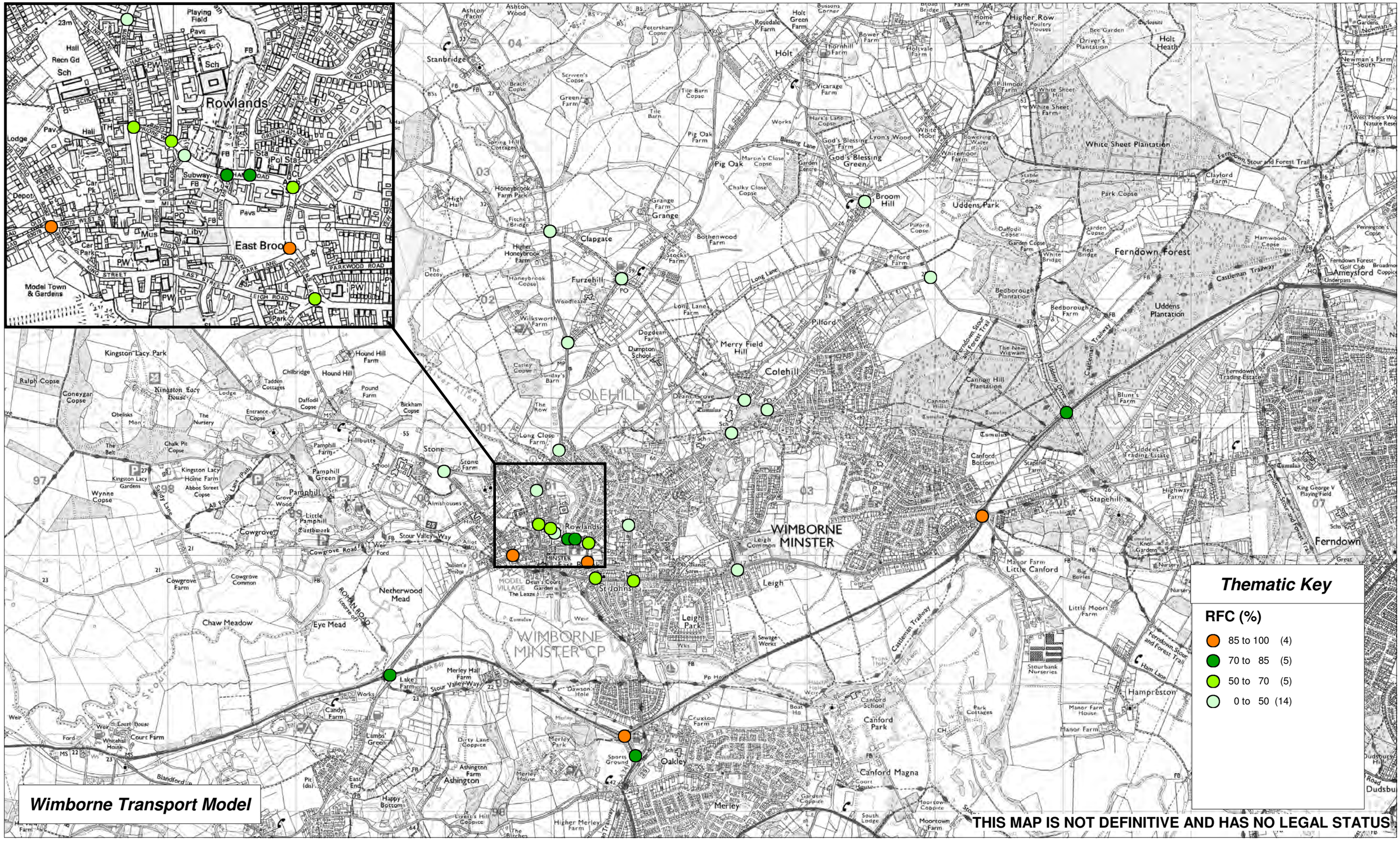


Figure 12.4 - Thematic Map - Modelled Junction RFC's (Option I PM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

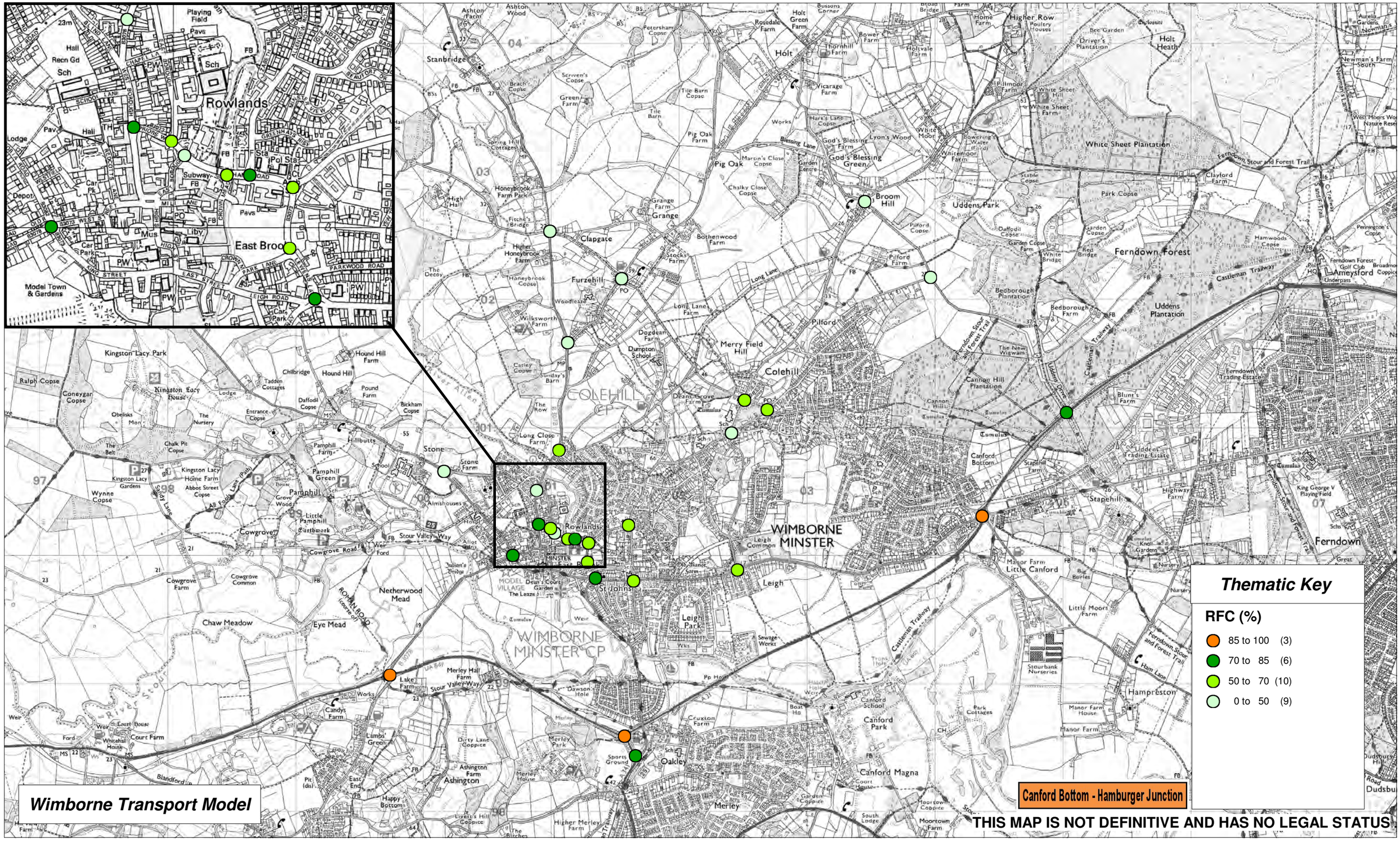


Figure 12.5 - Thematic Map - Modelled Junction RFC's (Option J AM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

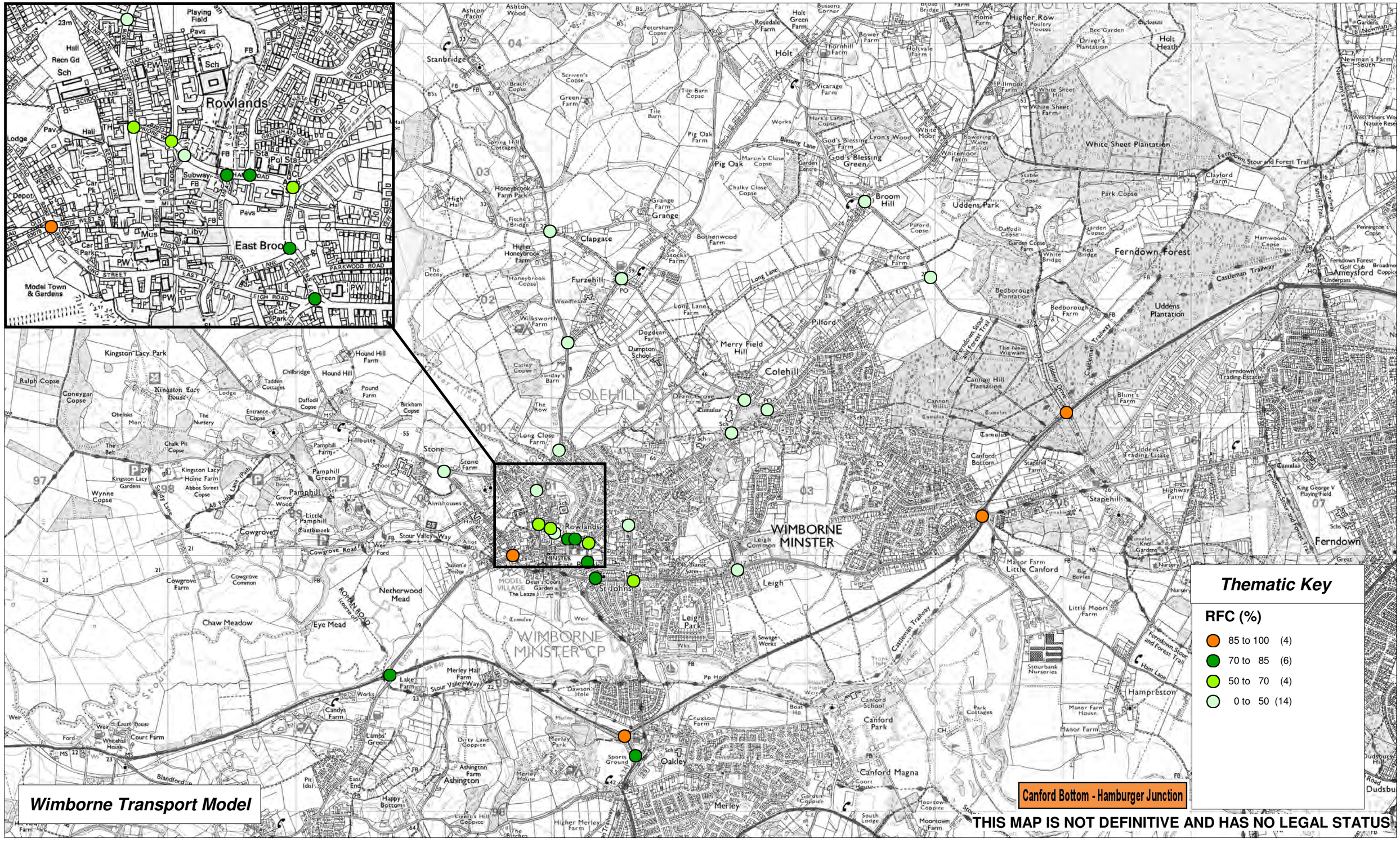


Figure 12.6 - Thematic Map - Modelled Junction RFC's (Option J PM Peak 2016)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

Figure 13.1 - Thematic Map - Modelled Junction RFC's
(Option A AM Peak 2026)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

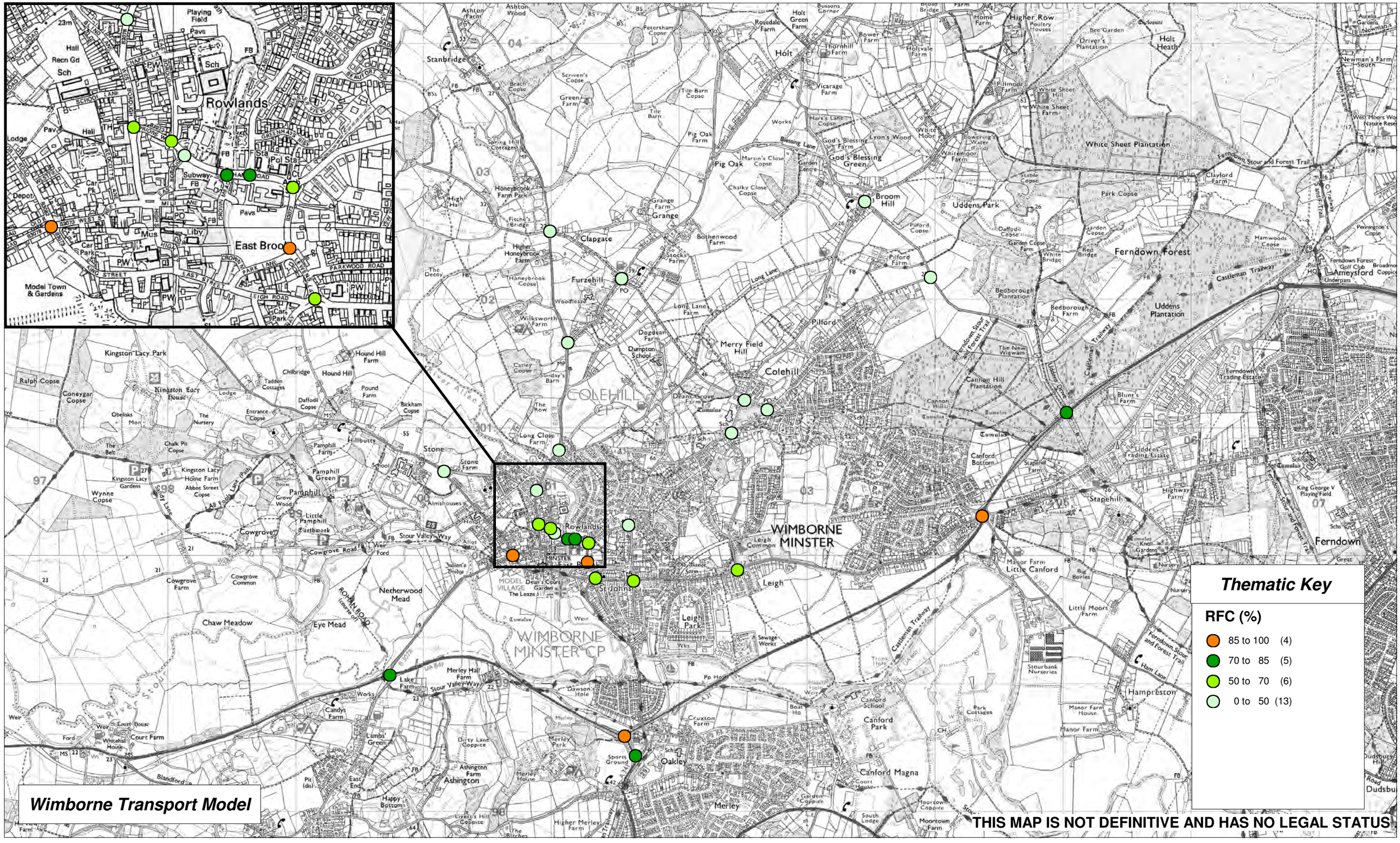


Figure 13.2 - Thematic Map - Modelled Junction RFC's (Option A PM Peak 2026)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

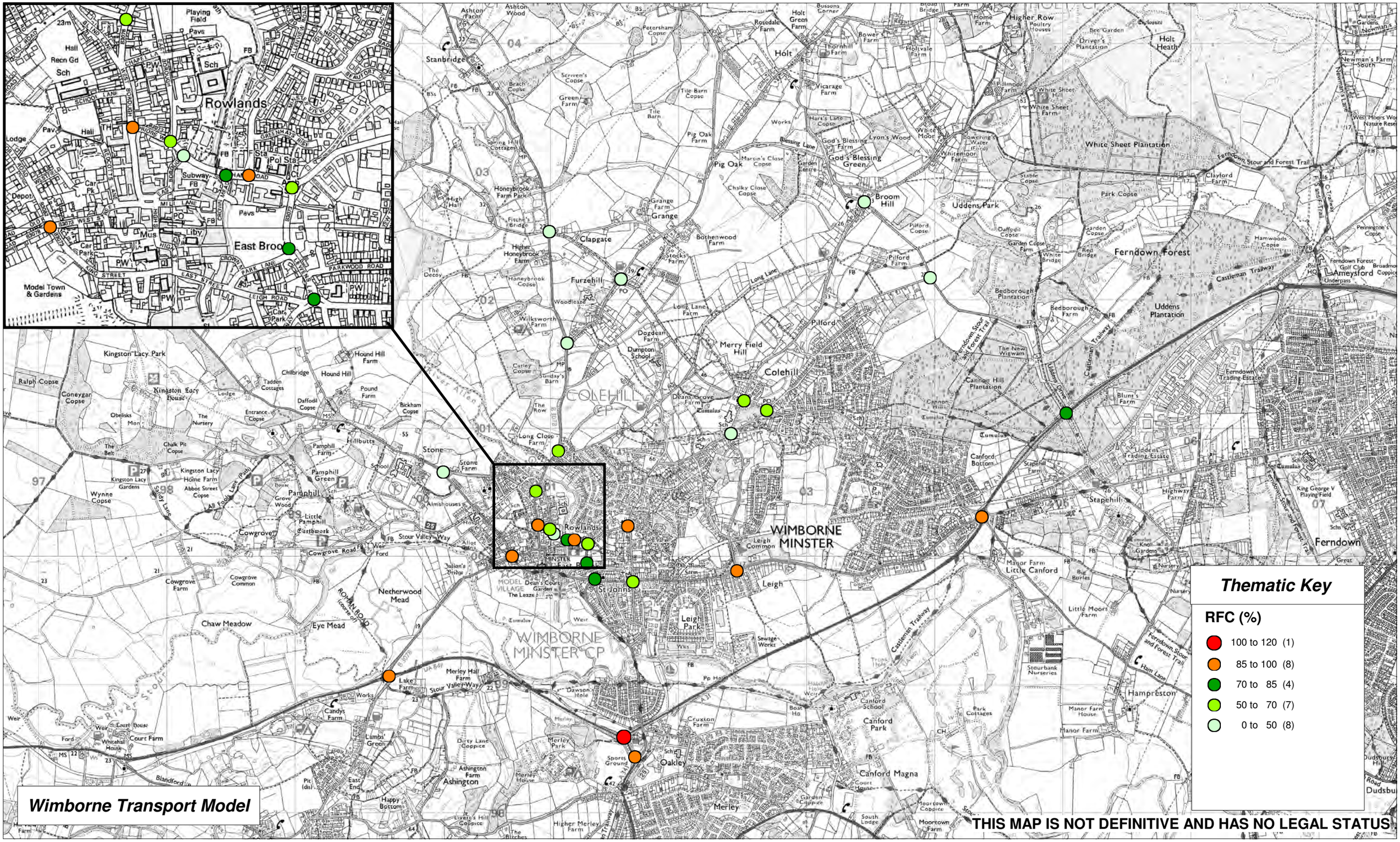


Figure 13.3 - Thematic Map - Modelled Junction RFC's (Option I AM Peak 2026)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

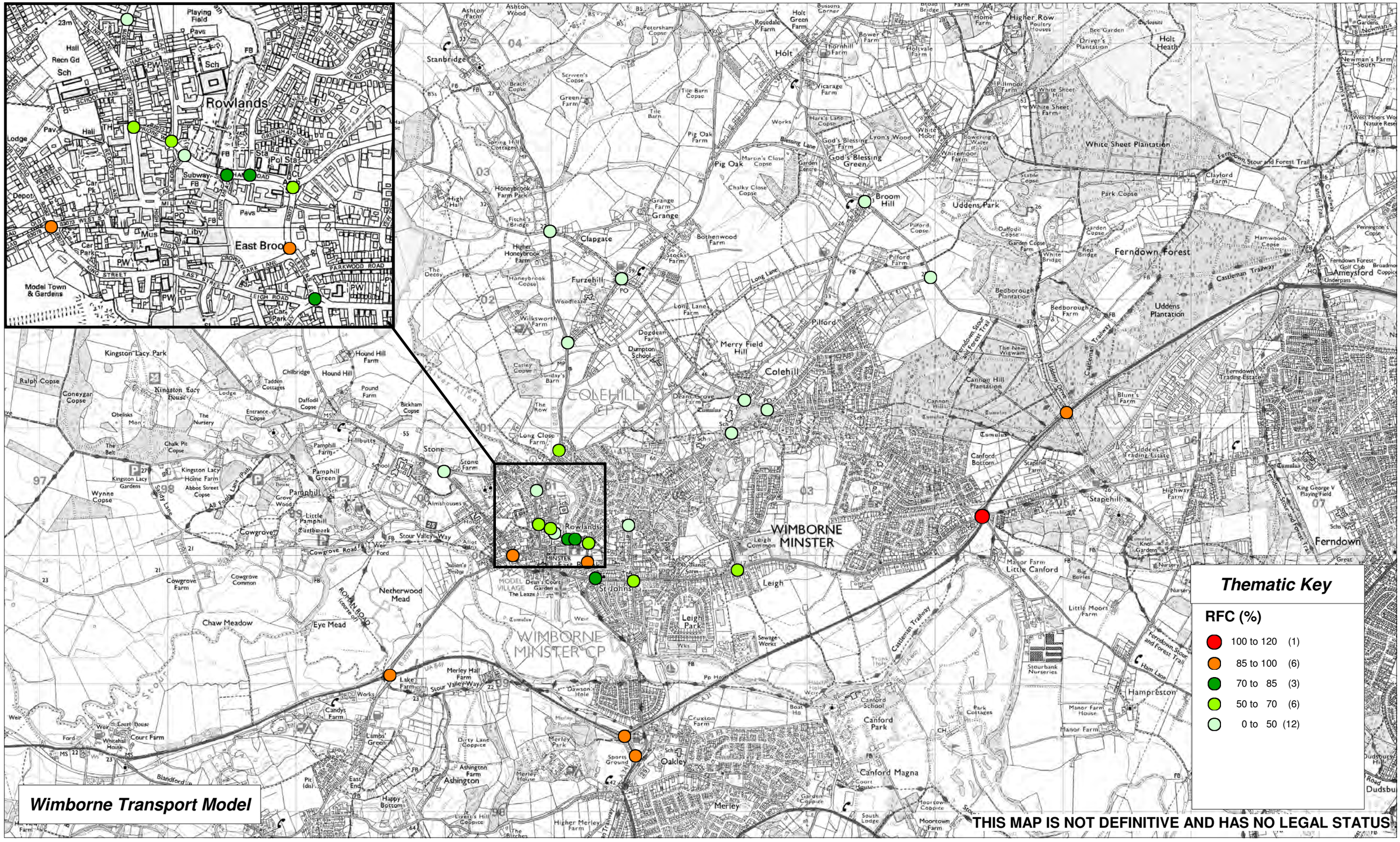


Figure 13.4 - Thematic Map - Modelled Junction RFC's (Option I PM Peak 2026)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

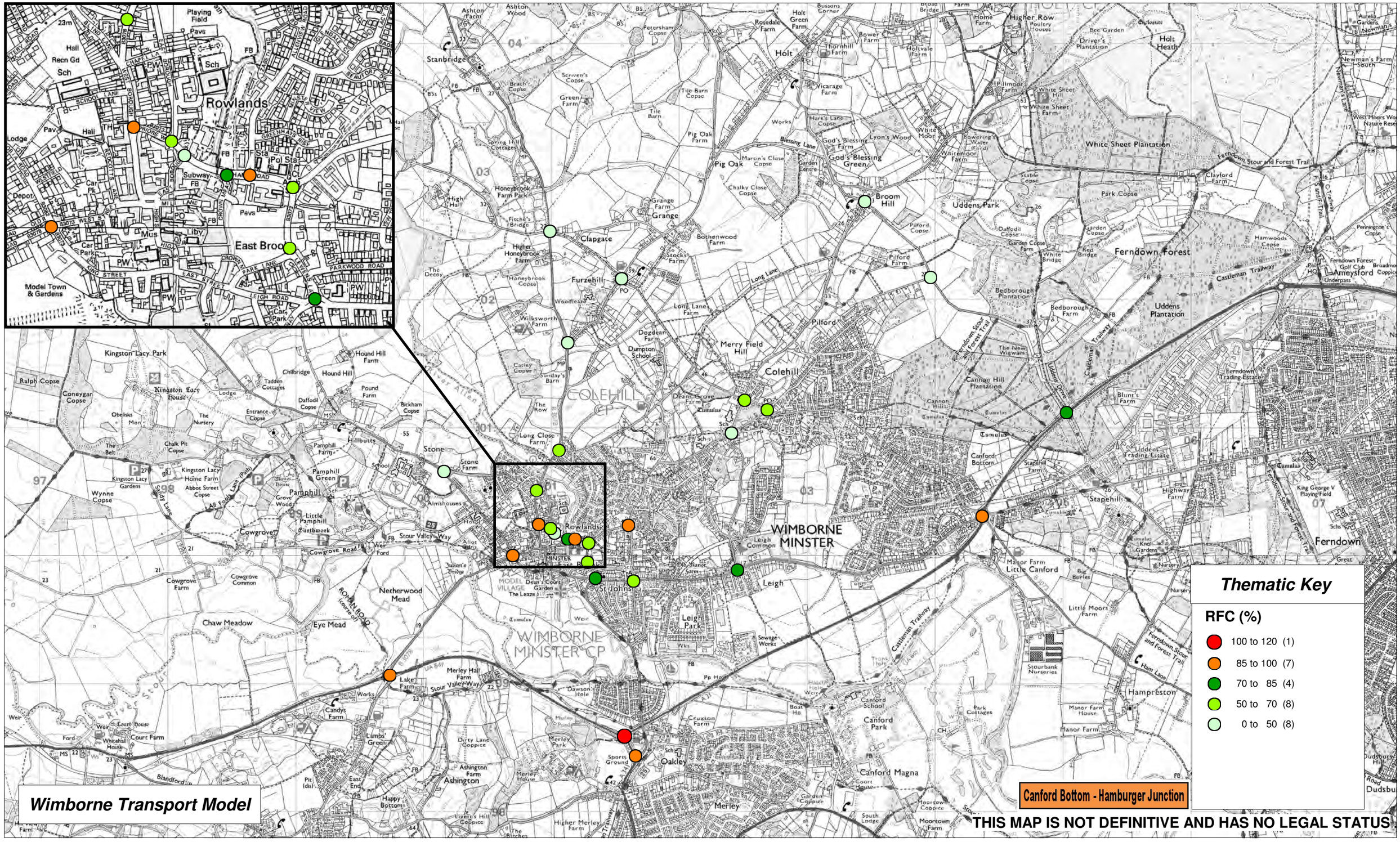


Figure 13.5 - Thematic Map - Modelled Junction RFC's (Option J AM Peak 2026)

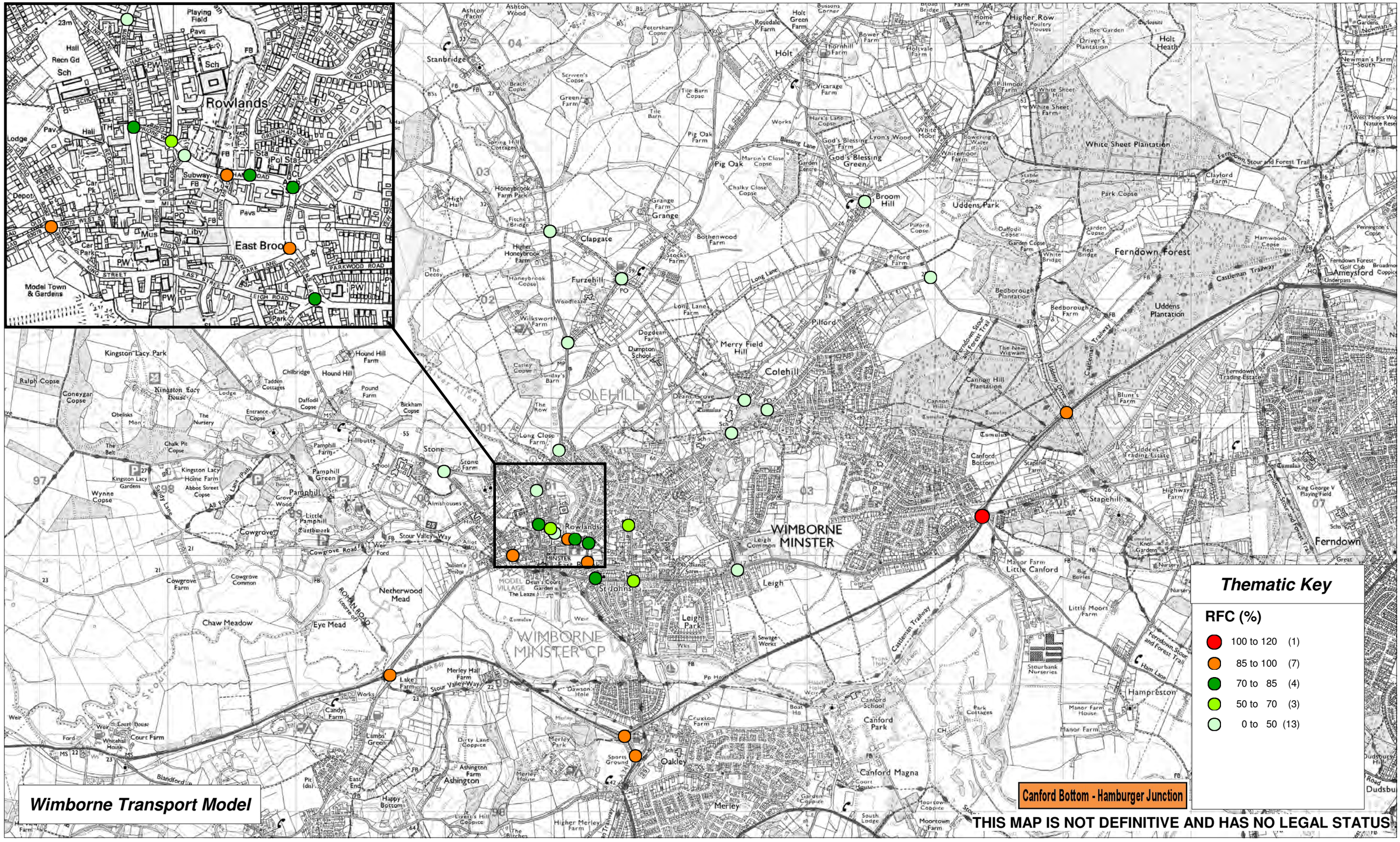


Figure 13.6 - Thematic Map - Modelled Junction RFC's (Option J PM Peak 2026)

Ref:
Date: 20/09/2010
Scale 1:27000
Drawn By: NSR
Cent X: 402168
Cent Y: 100863

GEOGRAPHICAL INFORMATION SYSTEMS
DORSET County Council

APPENDIX A

2008 Base Year					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
16	0.0052	99.0	32	0.0015	99.5
17	0.0047	99.5	33	0.0013	99.3
18	0.0044	99.7	34	0.0017	99.7
19	0.0041	99.6	35	0.0017	99.5
20	0.0031	99.6	36	0.0010	99.7
21	0.0023	99.6	37	0.0010	100.0

2016 Option A					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
27	0.0024	98.6	16	0.0062	95.8
28	0.0021	98.4	17	0.0034	95.9
29	0.0022	98.6	18	0.0039	98.8
30	0.0019	98.7	19	0.0038	98.9
31	0.0020	98.8	20	0.0036	99.4
32	0.0018	99.0	21	0.0036	99.4

2026 Option A					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
28	0.0034	98.0	19	0.0051	98.4
29	0.0029	96.3	20	0.0030	98.4
30	0.0030	99.5	21	0.0038	98.6
31	0.0027	99.6	22	0.0029	99.0
32	0.0026	99.7	23	0.0028	99.0
33	0.0023	99.7	24	0.0027	99.1

2016 Option B					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
25	0.0024	97.9	17	0.0042	95.4
26	0.0025	98.2	18	0.0022	96.6
27	0.0020	98.5	19	0.0020	99.3
28	0.0021	98.6	20	0.0026	99.5
29	0.0026	98.8	21	0.0025	99.3
30	0.0020	99.0	22	0.0022	99.6

2026 Option B					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
28	0.0026	98.8	18	0.0053	98.1
29	0.0023	98.1	19	0.0037	97.9
30	0.0020	99.9	20	0.0040	98.9
31	0.0024	99.0	21	0.0025	99.1
32	0.0018	99.0	22	0.0042	99.6
33	0.0021	99.9	23	0.0025	99.5

2016 Option C					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
15	0.0038	97.1	13	0.0049	96.4
16	0.0031	97.3	14	0.0082	98.4
17	0.0030	98.6	15	0.0041	98.9
18	0.0019	98.8	16	0.0045	99.1
19	0.0028	98.7	17	0.0042	99.2
20	0.0022	98.9	18	0.0034	99.5

2026 Option C					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
20	0.0059	98.3	31	0.0035	98.1
21	0.0059	98.4	32	0.0028	97.9
22	0.0051	98.9	33	0.0019	99.1
23	0.0046	99.2	34	0.0017	99.2
24	0.0047	99.2	35	0.0021	99.8
25	0.0041	99.1	36	0.0012	99.9

2016 Option D					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
28	0.0038	98.5	23	0.0031	99.1
29	0.0034	98.3	24	0.0019	98.5
30	0.0021	98.8	25	0.0019	99.4
31	0.0033	99.1	26	0.0046	98.7
32	0.0030	98.7	27	0.0024	99.0
33	0.0028	99.1	28	0.0024	99.1

2026 Option D					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
41	0.0103	94.9	15	0.0091	94.9
42	0.0084	95.6	16	0.0088	95.8
43	0.0094	97.3	17	0.0079	97
44	0.0085	97.6	18	0.0067	97.8
45	0.0086	97.4	19	0.0058	97.2
46	0.0095	97.6	20	0.0046	98.5

2016 Option E					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
25	0.0029	96.9	15	0.0069	96.6
26	0.0028	98.0	16	0.0030	97.5
27	0.0022	98.6	17	0.0036	99.2
28	0.0025	98.6	18	0.0053	99.7
29	0.0016	98.8	19	0.0048	99.6
30	0.0024	98.9	20	0.0045	99.7

2026 Option E					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
23	0.0048	96.3	28	0.0027	98.9
24	0.0044	96.1	29	0.0023	98.5
25	0.0042	98.5	30	0.0023	99.4
26	0.0039	99.1	31	0.0027	99.5
27	0.0034	99.0	32	0.0052	99.2
28	0.0029	99.9	33	0.0015	98.9

2016 Option F					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
40	0.0019	97.8	31	0.0015	97.9
41	0.0020	98.3	32	0.0012	98.2
42	0.0036	98.5	33	0.0010	99.5
43	0.0019	98.7	34	0.0022	99.6
44	0.0019	98.8	35	0.0009	99.5
45	0.0032	99.0	36	0.0009	99.6

2026 Option F					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
24	0.0038	97.5	43	0.0067	97.4
25	0.0046	96.3	44	0.0076	96.1
26	0.0038	98.4	45	0.0079	97.4
27	0.0040	97.2	46	0.0053	96.8
28	0.0034	98.5	47	0.0052	97.4
29	0.0032	97.3	48	0.0043	97.4

2016 Option G					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
19	0.0033	98.2	12	0.0087	93.5
20	0.0027	98.3	13	0.0035	97.2
21	0.0027	98.5	14	0.0066	98.9
22	0.0026	99.2	15	0.0056	99.2
23	0.0023	99.8	16	0.0028	99.2
24	0.0023	99.6	17	0.0037	99.8

2026 Option G					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
19	0.0059	98.6	39	0.0018	98.9
20	0.0033	98.1	40	0.0017	98.5
21	0.0042	98.6	41	0.0031	99.0
22	0.0045	99.4	42	0.0016	99.6
23	0.0034	99.8	43	0.0015	100.0
24	0.0034	99.9	44	0.0010	99.9

2016 Option H					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
13	0.0059	91.0	35	0.0024	96.8
14	0.0067	95.3	36	0.0037	98.1
15	0.0071	98.5	37	0.0015	98.7
16	0.0031	99.0	38	0.0017	98.9
17	0.0053	99.5	39	0.0012	99.1
18	0.0046	99.2	40	0.0011	98.9

2026 Option H					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
54	0.0044	96.2	21	0.0042	96
55	0.0047	95.5	22	0.0041	96.5
56	0.0046	96.8	23	0.0046	96.9
57	0.0044	98.2	24	0.0043	96.6
58	0.0042	96.6	25	0.0027	96.7
59	0.0043	98.1	26	0.0042	97.4

2016 Option I					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
26	0.0025	98.3	13	0.0093	96.6
27	0.0021	98.4	14	0.0036	96.8
28	0.0020	98.7	15	0.0036	99.0
29	0.0019	98.8	16	0.0053	99.4
30	0.0020	99.1	17	0.0033	99.2
31	0.0017	98.6	18	0.0022	99.5

2026 Option I					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
19	0.0057	98.6	40	0.0029	96.6
20	0.0048	98.4	41	0.0032	98.5
21	0.0049	99.1	42	0.0012	99.0
22	0.0047	99.6	43	0.0021	99.1
23	0.0038	99.6	44	0.0012	99.0
24	0.0038	99.4	45	0.0011	99.8

2016 Option J					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
59	0.0026	97.7	22	0.0025	98.3
60	0.0026	97.8	23	0.0019	98.0
61	0.0015	99.1	24	0.0014	99.2
62	0.0024	98.8	25	0.0047	99.1
63	0.0015	99.0	26	0.0015	99.5
64	0.0015	99.1	27	0.0013	99.5

2026 Option J					
AM Peak			PM Peak		
Iteration	Delta (δ)	%Flow	Iteration	Delta (δ)	%Flow
14	0.0103	90.8	19	0.0057	95.7
15	0.0092	91.5	20	0.0052	95.5
16	0.0081	96.4	21	0.0050	96.5
17	0.0069	95.2	22	0.0064	98.1
18	0.0068	95.4	23	0.0043	96.8
19	0.0059	95.2	24	0.0044	97.0

APPENDIX B

TECHNICAL NOTE – CHANGES TO OPTION NETWORKS

Option A - Network Changes

ALL INITIAL CHANGES TO THE OPTION A NETWORK HAVE BEEN CARRIED THROUGH TO THE REMAINING OPTIONS.

ISTOP changed to 99 to assist convergence

Nodes 8130 and 9670 have been altered due to traffic problems in the future years. New Node 76650 has been created to replicate possible future access onto Julians Road from the Cuthbury Development (Option B). Changes to Nodes 1076 and 8670 have been made to reflect the changes.

SATURN 11111

Node 8130 Oakley Lane/Oakley Hill Junction altered due to problems in the future year

```
8130   3   3   3        143                Oakley Lane/Oakley Hill (56PS)
  74256   1  64  315 1650   1 1 1965   1 1
   1096   1  48  380 1330   1 1 1330   1 1
  76584   2  48  250 1965   1 1 1330   2 2
          60   5    4765847425674256     0
          20   5    276584      0
          40  13    2 1096      0
```

Node 76650 Julians Road/Cuthbury Development Node placed in case future access

```
76650     2   1                      10    Julians Rd/Cuthbury
   1076   1  48  260 1980   1 1
   8670   1  48  170 1980   1 1
```

Node 8670 Pie Corner Mini-Roundabout

```
8670   4   2   1 2234         17     Pye Corner Mini Rbt (ex Buf)
  76650   2  48  170 1300   1 1 1300   2 2    0   0 0
  76617   1  48   20 1326   1 1    0   0 0 1326   1 1
   8672   0  48   10    0   0 0    0   0 0    0   0 0
   8671   1  32   20 1196   1 1 1196   1 1 1196   1 1
```

New Nodes 76652 to 76657 have been created to replicate possible future access points onto Wimborne Road and Burts Hill from the North Wimborne Development sites A & B (Option C). Zone 960 (Site A) has been linked into the external nodes 76655 and 76565; Zone 970 (Site B) has been linked into the external nodes 76653 and 76657. Changes to Nodes 4810, 4831, 4890 and 4821have been made to reflect the changes.

SATURN 11111

Node 76652 Wimborne Road/Site B Development Access

```
76652     3   1                          10        Wimborne Rd/Site B Access
      4831   1  96   220 1791    1 1 2015    1 1
     76653   1  48   100 1906G 1 1 1739G 1 1
     76654   1  96    70 1975    1 1 1655X  1 1
```

Node 76653 Site B Development Access

```
76653     1   0                                    Site B Access External
     76652  1  48   100
```

Node 76654 Wimborne Road/Site A Development Access North

```
76654     3   1                          10        Wimborne Rd/Site A Access
      4810   1  96   200 1791    1 1 2015    1 1
     76655   1  48   100 1906G 1 1 1739G 1 1
     76652   1  96    70 1975    1 1 1655X  1 1
```

Node 76655 Site A Development Access North

```
76655     1   0                                    Site A Access External
     76654  1  48  100
```

Node 76656 Wimborne Road/Site A Development Access North

```
76656     3   1                          10        Burts Hill/Site B Access
      4890*  1  48   180 1500    1 1 1865    1 1
           50   21 1200                2.15
     76657   1  48   100 1500G 1 1 1500G 1 1
      4821*  1  48    570 1865    1 1 1500X  1 1
           50   21 1200                2.15
```

Node 76657 Site A Development Access North

```
76657     1   0                                    Site B Access External
     76656  1  48   100
```

Zone Connectors for Future Option Testing

Option B – No change as Cuthbury development will link into existing Zone 681
Option C – Zone 960 is connected to node 76655 (OSGR 40082/10100)
Zone 965 is connected to node 76565 (OSGR 40089/10091)
Zone 970 is connected to node 76653 (OSGR 40140/10120)
Zone 975 is connected to node 76657 (OSGR 40120/100098)
Option E – Zone 980 is connected to node 76534 (OSGR 40286/09973)
Option G – Zone 985 is connected to node 76233 (OSGR 40385/09995)
Option I – No change as Industrial Estate Zone (682) will be re-utilised and additional traffic will be put onto Zone 628 to reflect St.Margarets Close extension.

Option D - Network Changes

ISTOP changed to 97 to assist convergence in 2026 for both AM and PM Peaks

The proposed Hamburger junction was initially coded with a 2 lane circulatory carriageway between the Wimborne Road West and Canford Bottom Junctions. However, convergence problems in 2026 indicated that additional capacity was required in this location, therefore, the design was amended for 2016 and 2026 to increase the circulatory carriageway to 3 lanes in this location.

Node 8130 has been altered for the 2026 PM Peak due to traffic problems in the future years.

SATURN 11111

Node 8130 Oakley Lane/Oakley Hill Junction altered due to problems in the future year

```
8130   3   3   3        143                  Oakley Lane/Oakley Hill (56PS)
  74256   1  64  315 1650   1 1 1965   1 1
   1096   1  48  380 1330   1 1 1330   1 1
  76584   2  48  250 1965   1 1 1330   2 2
          80   5    4765847425674256     0
          10   5    276584     0
          30  13    2 1096     0
```

Option E - Network Changes

No specific network changes

Option F - Network Changes

Convergence problems in the 2026 AM Peak; Signal optimisation undertaken for the Canford Bottom Hamburger and ISTOP reduced from 97 to 95.

Option G - Network Changes

No specific network changes

Option H - Network Changes

Changes in 2016 AM Peak file for Option F carried forward to this Option.

Option I - Network Changes

No specific network changes

Option J - Network Changes

Changes in 2016 AM Peak file for Option F carried forward to this Option.

APPENDIX C

Summary Statistics Description

Statistic Name	Description
Total Travel Time (pcu hrs)	The sum of both link and junction times which includes time which would be spent travelling on links, subdivided into free-flow speeds and the flow-specific extra travel time on those links with link speed-flow curves.
Travel Distance (pcu km)	Vehicle or pcu-kms on simulation and buffer links.
Average Speed (km/h)	Average speeds of all vehicles in the network.
Total Trips Loaded (pcu's)	Numbers of trips loaded into the network.

Option A 2016 Network Wide Statistics

Scenario	Base Year 2008		Option A 2016		Difference	
	WIM08AM	WIM08PM	WIM16AM - Opt A	WIM16PM- Opt A	AM Peak	PM Peak
Total Travel Time (pcu hrs)	5104.4	5360.9	6176.6	6390.0	1072.2	1029.1
Travel Distance (pcu km)	174537.4	181068.3	208558.3	214171.9	34020.9	33103.6
Average Speed (km/h)	34.2	33.8	33.8	33.5	-0.4	-0.3
Total Trips Loaded (pcu's)	9801.9	9106.4	11947.5	11214.2	2145.6	2107.8

Option A 2026 Network Wide Statistics

Scenario	Base Year 2008		Option A 2026		Difference	
	WIM08AM	WIM08PM	WIM26AM - Opt A	WIM26PM- Opt A	AM Peak	PM Peak
Total Travel Time (pcu hrs)	5104.4	5360.9	6886.1	7061.1	1781.7	1700.2
Travel Distance (pcu km)	174537.4	181068.3	230176.3	235056.3	55638.9	53988
Average Speed (km/h)	34.2	33.8	33.4	33.3	-0.8	-0.5
Total Trips Loaded (pcu's)	9801.9	9106.4	13417.6	12554.7	3615.7	3448.3

Option B 2016 Network Wide Statistics

Scenario	Option A 2016		Option B 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt B	WIM16PM- Opt B	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6206.9	6419.4	30.3	29.4
Travel Distance (pcu km)	208558.3	214171.9	209460.8	215094.9	902.5	923
Average Speed (km/h)	33.8	33.5	33.7	33.5	-0.1	0.0
Total Trips Loaded (pcu's)	11947.5	11214.2	12046.6	11315.6	99.1	101.4

Option B 2026 Network Wide Statistics

Scenario	Option A 2026		Option B 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt B	WIM26PM- Opt B	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	6919.6	7095.1	33.5	34.0
Travel Distance (pcu km)	230176.3	235056.3	231084.8	235994.1	908.5	937.8
Average Speed (km/h)	33.4	33.3	33.4	33.3	0.0	0.0
Total Trips Loaded (pcu's)	13417.6	12554.7	13516.7	12656.1	99.1	101.4

Option C 2016 Network Wide Statistics

Scenario	Option A 2016		Option C 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt C	WIM16PM- Opt C	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6282.5	6512.3	105.9	122.3
Travel Distance (pcu km)	208558.3	214171.9	211824.4	218073.7	3266.1	3901.8
Average Speed (km/h)	33.8	33.5	33.7	33.5	-0.1	0.0
Total Trips Loaded (pcu's)	11947.5	11214.2	12332.0	11607.7	384.5	393.5

Option C 2026 Network Wide Statistics

Scenario	Option A 2026		Option C 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt C	WIM26PM- Opt C	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	6973.2	7199.4	87.1	138.3
Travel Distance (pcu km)	230176.3	235056.3	232477.4	239028.8	2301.1	3972.5
Average Speed (km/h)	33.4	33.3	33.3	33.2	-0.1	-0.1
Total Trips Loaded (pcu's)	13417.6	12554.7	13802.1	12948.2	384.5	393.5

Option D 2016 Network Wide Statistics

Scenario	Option A 2016		Option D 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt D	WIM16PM- Opt D	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6380.8	6637.9	98.3	125.6
Travel Distance (pcu km)	208558.3	214171.9	213020.9	219529.7	1196.5	1456
Average Speed (km/h)	33.8	33.5	33.4	33.1	-0.3	-0.4
Total Trips Loaded (pcu's)	11947.5	11214.2	12332.0	11607.7	0.0	0.0

Option D 2026 Network Wide Statistics

Scenario	Option A 2026		Option D 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt D	WIM26PM- Opt D	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7088.8	7411.1	202.7	350.0
Travel Distance (pcu km)	230176.3	235056.3	233899.0	240796.1	3722.7	5739.8
Average Speed (km/h)	33.4	33.3	33.0	32.5	-0.4	-0.8
Total Trips Loaded (pcu's)	13417.6	12554.7	13802.1	12948.2	384.5	393.5

Option E 2016 Network Wide Statistics

Scenario	Option A 2016		Option E 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt E	WIM16PM- Opt E	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6301.8	6548.0	125.2	158
Travel Distance (pcu km)	208558.3	214171.9	212452.0	219099.4	3893.7	4927.5
Average Speed (km/h)	33.8	33.5	33.7	33.5	-0.1	0.0
Total Trips Loaded (pcu's)	11947.5	11214.2	12435.1	11713.1	487.6	498.9

Option E 2026 Network Wide Statistics

Scenario	Option A 2026		Option E 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt E	WIM26PM- Opt E	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7025.7	7238.9	139.6	177.8
Travel Distance (pcu km)	230176.3	235056.3	234060.1	240155.1	3883.8	5098.8
Average Speed (km/h)	33.4	33.3	33.3	33.2	-0.1	-0.1
Total Trips Loaded (pcu's)	13417.6	12554.7	13905.2	13053.6	487.6	498.9

Option F 2016 Network Wide Statistics

Scenario	Option A 2016		Option F 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt F	WIM16PM- Opt F	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6406.2	6674.9	229.6	284.9
Travel Distance (pcu km)	208558.3	214171.9	213669.9	220634.0	5111.6	6462.1
Average Speed (km/h)	33.8	33.5	33.4	33.1	-0.4	-0.4
Total Trips Loaded (pcu's)	11947.5	11214.2	12435.1	11713.1	487.6	498.9

Option F 2026 Network Wide Statistics

Scenario	Option A 2026		Option F 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt F	WIM26PM- Opt F	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7238.5	7393.4	352.4	332.3
Travel Distance (pcu km)	230176.3	235056.3	235049.9	241577.8	4873.6	6521.5
Average Speed (km/h)	33.4	33.3	32.5	32.7	-0.9	-0.6
Total Trips Loaded (pcu's)	13417.6	12554.7	13905.2	13053.7	487.6	499

Option G 2016 Network Wide Statistics

Scenario	Option A 2016		Option G 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt G	WIM16PM- Opt G	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6311.9	6569.4	135.3	179.4
Travel Distance (pcu km)	208558.3	214171.9	212761.2	219744.1	4202.9	5572.2
Average Speed (km/h)	33.8	33.5	33.7	33.4	-0.1	-0.1
Total Trips Loaded (pcu's)	11947.5	11214.2	12490.9	11773.7	543.4	559.5

Option G 2026 Network Wide Statistics

Scenario	Option A 2026		Option G 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt G	WIM26PM- Opt G	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7036.1	7262.0	150	200.9
Travel Distance (pcu km)	230176.3	235056.3	234372.8	240776.7	4196.5	5720.4
Average Speed (km/h)	33.4	33.3	33.3	33.2	-0.1	-0.1
Total Trips Loaded (pcu's)	13417.6	12554.7	13960.9	13114.2	543.3	559.5

Option H 2016 Network Wide Statistics

Scenario	Option A 2016		Option H 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt H	WIM16PM- Opt H	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6424.3	6701.0	247.7	311
Travel Distance (pcu km)	208558.3	214171.9	214027.8	221313.8	5469.5	7141.9
Average Speed (km/h)	33.8	33.5	33.3	33.0	-0.5	-0.5
Total Trips Loaded (pcu's)	11947.5	11214.2	12490.9	11773.7	543.4	559.5

Option H 2026 Network Wide Statistics

Scenario	Option A 2026		Option H 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt H	WIM26PM- Opt H	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7146.1	7477.4	260	416.3
Travel Distance (pcu km)	230176.3	235056.3	234807.0	242514.3	4630.7	7458
Average Speed (km/h)	33.4	33.3	32.9	32.4	-0.5	-0.9
Total Trips Loaded (pcu's)	13417.6	12554.7	13960.9	13114.2	543.3	559.5

Option I 2016 Network Wide Statistics

Scenario	Option A 2016		Option I 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt I	WIM16PM- Opt I	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6313	6571.1	136.4	181.1
Travel Distance (pcu km)	208558.3	214171.9	212786.2	219781.5	4227.9	5609.6
Average Speed (km/h)	33.8	33.5	33.7	33.4	-0.1	-0.1
Total Trips Loaded (pcu's)	11947.5	11214.2	12495.3	11785	547.8	570.8

Option I 2026 Network Wide Statistics

Scenario	Option A 2026		Option I 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt I	WIM26PM- Opt I	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7018.1	7264.6	132	203.5
Travel Distance (pcu km)	230176.3	235056.3	233437.5	240854.1	3261.2	5797.8
Average Speed (km/h)	33.4	33.3	33.3	33.2	-0.1	-0.1
Total Trips Loaded (pcu's)	13417.6	12554.7	13965.4	13125.6	547.8	570.9

Option J 2016 Network Wide Statistics

Scenario	Option A 2016		Option J 2016		Difference	
	WIM16AM - Opt A	WIM16PM- Opt A	WIM16AM - Opt J	WIM16PM- Opt J	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6176.6	6390.0	6422.4	6700.6	245.8	310.6
Travel Distance (pcu km)	208558.3	214171.9	214065.5	221391.8	5507.2	7219.9
Average Speed (km/h)	33.8	33.5	33.3	33.0	-0.5	-0.5
Total Trips Loaded (pcu's)	11947.5	11214.2	12495.3	11785	547.8	570.8

Option J 2026 Network Wide Statistics

Scenario	Option A 2026		Option J 2026		Difference	
	WIM26AM - Opt A	WIM26PM- Opt A	WIM26AM - Opt J	WIM26PM- Opt J	AM Peak	PM Peak
Total Travel Time (pcu hrs)	6886.1	7061.1	7148.5	7425.2	262.4	364.1
Travel Distance (pcu km)	230176.3	235056.3	234821.0	242297.3	4644.7	7241
Average Speed (km/h)	33.4	33.3	32.8	32.6	-0.6	-0.7
Total Trips Loaded (pcu's)	13417.6	12554.7	13965.4	13125.6	547.8	570.9