
Local Plan Review Transport Assessment Report

Phase 1 (December 2020)



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1. Introduction

- 1.1 West Berkshire Council (WBC) is currently undertaking a Local Plan Review (LPR), with the new Local Plan covering the period up to 2037. The new Local Plan will provide the overarching principles that will guide future development in the district. It will replace the existing West Berkshire Local Plan Core Strategy 2016-2026 and Housing Sites Allocations Development Plan Document 2006 - 2026.
- 1.2 As part of the LPR process, WBC are required to assess, consider and consult on options for meeting the housing, employment and other development needs of the district in a sustainable way. Transport is one of the key considerations as part of this process and therefore a Strategic Transport Assessment (TA) is being undertaken to run concurrently with the LPR process to determine the potential impacts of the emerging draft Local Plan and to investigate possible mitigation measures to address such impacts.
- 1.3 This report outlines the first phase of the Transport Assessment work that has been undertaken, including outputs from transport modelling using the Council's strategic transport model. There will be further phases of transport assessment work undertaken as the LPR process evolves.

2. Background

- 2.1 Government guidance highlights the importance for local authorities in undertaking an assessment of the transport implications in developing or reviewing their Local Plan so that a robust transport evidence base may be developed to support the preparation and/or review of that Plan. In response, the LPR aims to be supported by a robust transport evidence base, which will consider the cumulative impact of existing, committed and new developments on transport networks, including local and strategic highway networks.
- 2.2 In addition to the focus on transport modelling and the assessment of highway impacts, both the LPR and its supporting transport evidence base will need to consider opportunities for increasing travel and lifestyle choices and for more journeys to be made by sustainable modes. This will include being alert to and receptive of the expected technological advancements in terms of transport and personal mobility that are currently taking place and will continue to develop apace over the lifetime of the new plan period.
- 2.3 The evidence base will also need to highlight the transport-related infrastructure that will be necessary to accommodate the new development that is expected to come forward in the new Local Plan. These specific infrastructure requirements may then be identified in specific delivery documents, such as the Infrastructure Delivery Plan, Community Infrastructure Levy 123 List and relevant Local Walking and Cycling Infrastructure Plans.
- 2.4 The phases of TA will provide important background evidence to support the sites selected for allocation in the new Local Plan by assessing the potential impact that further development will have on the local highway network. Several TA reports will be produced as the LPR progresses, outlining the outputs of the transport modelling

work undertaken as the proposed development scenarios and associated mitigation packages evolve.

- 2.5 The development and implementation of the package of mitigation measures will be guided by the new transport policies currently being proposed as part of the LPR.
- 2.6 It should be stressed that the mitigation measures required to address the areas of concern highlighted by the transport modelling will not be solely focussed on developing highway improvements. Paragraph 102 of the National Planning Policy Framework outlines that transport issues should be considered at the earliest stage of development and that opportunities to improve walking, cycling and public transport are pursued¹. Therefore, any mitigation packages that will be needed to support development sites will be expected to include the development of sustainable and smarter transport solutions that will provide people with greater opportunities to choose more sustainable travel and lifestyle options.
- 2.7 These solutions are likely to become increasingly prominent throughout the lifetime of the new Local Plan given the increasing need for the decarbonisation of transport as part of measures to tackle the global Climate Change agenda. At a local level, solutions will need to be developed that will contribute to tackling West Berkshire's own declared Climate Emergency, with a commitment for the District to become carbon neutral by 2030.
- 2.8 The Transport Assessment and associated identified packages of mitigation measures will also need to consider the role of 'Future Mobility' and how this will likely influence personal travel behaviour and lifestyle choices. The continued advancement of technologies and the global pandemic, combined with the need to decarbonise transport are having a dramatic change on the transport industry, which in turn is likely to influence travel patterns in West Berkshire over the lifetime of the new Local Plan. Huge developments are taking place in the development of electric vehicles, connected and autonomous vehicles, car-pooling and sharing, as well as micro-mobility such as e-scooters. Further technological advancements in smart card data and ticketing will also enable more seamless journeys.
- 2.9 It is therefore essential that the mitigation measures that will need to be sought are receptive to the furthering development of technologies and the Future Mobility agenda. It is expected that there will be further work on how this will influence transport in West Berkshire as part of the Council's new Local Transport Plan.

3. Transport Assessment work undertaken so far

- 3.1 Work on the TA has been taking place since the call for sites as part of the Housing and Economic Land Availability Assessment (HELAA)² for the Local Plan Review. The suitability of each of the sites submitted from a highways and transport perspective were assessed by officers from the Council's Highways Development Control, Transport Services and Transport Policy teams as part of the wider stage 2b site and broad location assessment of the HELAA process.

¹ National Planning Policy Framework, Ministry of Housing, Communities & Local Government, February 2019

² West Berkshire Housing and Economic Land Availability Assessment, West Berkshire Council, February 2020

- 3.2 In terms of highways and access issues, all sites were assessed according to whether a suitable access onto the local highway network could be achieved and whether there would be a potential impact on highway capacity. With regard to the latter, sites were also identified that would require Transport Assessments and/or detailed modelling using the Council's transport models to assess the wider impact on the local highway network. Comments were also made regarding whether connections to local footway networks could be achieved.
- 3.3 All sites were assessed in terms of accessibility and proximity to local pedestrian, cycle and public transport (bus and rail) networks and accessibility to everyday services and facilities. This included determining accessibility to local centres, education, employment, services and facilities. Where appropriate, comments were made regarding current infrastructure provision (e.g. footways and bus stops), level of bus/rail service provision and to outline potential improvements that could be made.
- 3.4 In terms of larger potential development sites, an indication was provided regarding the travel planning requirements that WBC would expect to be provided to help encourage use of sustainable modes of travel and to reduce single occupancy vehicle use. This included outlining where travel plans or sustainable travel information packs would need to be prepared, and where appropriate, an indication regarding travel plan monitoring contributions that would be required.
- 3.5 The transport and highways input, along with that from other specialist advisors, assisted in helping to identify which of the sites submitted through the HELAA process should be taken forward for more detailed assessment as part of the Local Plan Review process. From a transport perspective, those sites where professional judgement indicated that suitable accesses were unlikely to be achieved or where there would be a substantial impact on the local highway network (which could not be addressed by mitigation measures) were discounted.
- 3.6 The HELAA site and broad location assessment process also calculated the estimated development potential for each site. The figures from these calculations have been used to inform the transport modelling process in terms of the number of residential units or m² floorspace for each site. Further stages of the HELAA site and broad location assessment considered sites in terms of availability and achievability.
- 3.7 The output from the HELAA has included allocating each site into one of the following categories:
- Developable (within five years)
 - Developable in part (years 1-5)
 - Deliverable (within years 6-10 & 11-15)
 - Potentially developable
 - Potentially developable in part
 - Not developable within the next 15 years
- 3.8 For the purposes of the LPR Transport Assessment, those sites categorised by the HELAA as 'not developable within the next 15 years' were discounted from further assessment.

- 3.9 Following the publication of the HELAA process, further detailed discussions between officers from the Council's Planning Policy, Highways Development Control and Transport Policy teams have taken place to determine which potential housing sites should be taken forward for more detailed assessment. These discussions have helped identify the proposed development scenarios that are being tested using the transport models.
- 3.10 In addition to the housing sites, a number of employment sites have been identified through the HELAA process and the Employment Land Review. Typically, these are located either within or adjacent to existing employment areas and have been included as part of the transport modelling work.
- 3.11 The majority of the potential sites that have been taken forward for further assessment are located within or adjacent to the main urban areas in the district. Typically these are in the Newbury and Thatcham area, with a small number in the eastern urban settlements around Theale and Tilehurst.
- 3.12 Of the potential sites that have been taken forward for assessment, these include four reasonably large sites to the North East of the Thatcham Northern Distributor Road and the A4 London Road at Colthrop. Although all were originally submitted separately through the HELAA process, these sites were subsequently submitted together by the four parties as a single site. This forms a proposed strategic housing site at North East Thatcham referred to in the HELAA as site THA20. Some initial masterplanning work has already taken place to develop this strategic option, which has been used to help inform the transport modelling work undertaken for this assessment.
- 3.13 The HELAA also includes sites in town and parish areas that are covered by neighbourhood plans (e.g. Hungerford, Tilehurst, Cold Ash, Stratfield Mortimer). For these areas, it is for the relevant parishes to determine the location(s) where development will occur to meet their assessed allocation. For transport modelling purposes, these areas will each have an indicative value which will be factored into the relevant zone of the transport model.

4. **Transport Modelling for the Local Plan Review**

- 4.1 The Council owns three transport models that are being used to undertake the LPR Transport Assessment. All three models have been developed by consultants WSP on behalf of the Council, which are as follows;
- **West Berkshire Strategic Transport Model (WBSTM) 2017** – a district-wide transport model with separate models for AM peak hour, inter-peak and PM peak hour.
 - **Newbury 2017 VISSIM model** – Local model focussing on the highway network in central Newbury for the AM and PM peaks.
 - **Thatcham 2018 VISSIM** – Local model cordoned around the Thatcham urban area for the AM and PM peaks.

- 4.2 The WBSTM has been wholly developed within the PTV VISUM software platform, which is a widely-used and respected transport modelling software. Appendix A highlights the area of detailed modelling covered by the WBSTM, which roughly follows the local authority boundary, and includes an approximate 8km buffer around the areas where interventions may likely be tested in the future. The WBSTM has also been used to inform the development of the local VISSIM models.
- 4.3 The Newbury 2017 VISSIM model covers the majority of the major road network in Newbury, including but not limited to the following;
- A339 corridor between B4640 and Robin Hood roundabout
 - A4 corridor between Fir Tree Lane and Robin Hood roundabout
 - A343 corridor between Warren Road and A339
 - Newtown Road – Bear Lane corridor
 - Greenham Road
 - B3241
 - Pinchington Lane – Essex Street corridor between Greenham Road and A343
- 4.4 The Thatcham 2018 VISSIM model has been developed using an enhanced area of the WBSTM in Thatcham. It covers the major highway network in Thatcham, including but not limited to the following;
- A4 corridor between Lower Way and Gables Way
 - Thatcham Northern Distributor Road (NDR) - Floral Way and Tull Way
 - The Moors and Station Road
 - Thatcham station level crossing
- 4.5 The WBSTM and the Newbury and Thatcham VISSIM models have each been developed in accordance with Department for Transport (DfT) Transport Analysis Guidance (TAG) current at the time of development. All three models have also been calibrated and validated against observed traffic flow and journey time data in accordance with DfT guidance to ensure that they are sufficiently robust for the purposes of assessment. A Local Model Validation Report (LMVR) has been produced for each of the three models.
- 4.6 All three models will also be made available to developers to test the impact of developments on the transport network in West Berkshire (subject to payment of an appropriate fee). However, it should be noted that for the WBSTM in particular (being a strategic model), additional local junction validation may be required if model outputs are to be used for detailed junction assessments. Developers are encouraged to discuss their individual requirements with WBC.
- 4.7 The three transport models have base years of 2017 and 2018. The modelling work being undertaken as part of the LPR Transport Assessment will cover the plan period up to 2037. The models all have forecast year scenarios for 2026 and 2036 which can be used to test the operation of transport networks for these years without the new sites coming forward and being proposed as part of the Local Plan Review.
- 4.8 For example, the 2026 Core Forecast year includes the outstanding allocations yet to be built in the current Local Plan Housing Site Allocations (HSA) document and any known infrastructure changes that will have happened by this point (see 4.11

below). However, this 2026 forecast does not automatically include any new development proposed through this review that may be complete by 2026 – this is then added as different scenarios are tested in the assessment process.

- 4.9 A main exception to this will be the current Core Strategy strategic housing site at Sandford Park, where housing completions are not expected prior to 2026. However, the 2026 forecast model will include the new access from the A339 to the Sandford housing site as this will be provided in advance as a result of funding from the Thames Valley Berkshire Local Enterprise Partnership Local Growth Deal. When complete, this link will serve as an access to the new Highwood Copse Primary School.
- 4.10 In addition, there are other consented development sites which are not included in the HSA document that have also been incorporated into the 2026 model. This includes the non-HSA site at North Newbury, which is expected to be completed by 2026, along with the agreed highway mitigation.
- 4.11 The 2026 model also includes known highway improvements that have a reasonable expectation of being delivered by that point, these being;
- Kings Road Link Road (to be provided via contributions from TVB LEP Local Growth Fund and redevelopment of the Sterling Industrial site)
 - New access from the A339 to the Sandford development (TVB LEP Local Growth Fund)
 - Dualling of the A339 between the new Sandford access and the Pinchington Lane roundabout
 - Highway improvement works as part of agreed mitigation measures for the North Newbury development
 - Any outstanding highway improvement works yet to be delivered as part of the Racecourse development
- 4.12 The 2036 forecast models include both background national traffic growth and local growth as a result of the developments that are proposed to come forward through the new Local Plan. The local figure will be informed by the range of growth calculated as part of the HELAA report (February 2020) for the local housing need requirement.
- 4.13 In terms of including specific sites to the 2036 model, a small number of scenarios have been identified. Further scenarios are likely to evolve as the modelling work develops. The modelled scenarios undertaken so far are as follows;
- Scenario 1 – following detailed consideration by officers, identified HELAA sites that will be developable (at least in part) by 2036. These include potential sites in the Newbury and Thatcham areas (including the possible strategic housing site at North East Thatcham) and in the east around Theale and Tilehurst.
 - Scenario 1a – as above, but also including the site identified in the HELAA at Henwick Park (plus two adjacent smaller sites), as a principle for development was established in a Planning Inspector's report for a previous planning appeal for this site.

- 4.14 The 2036 models will assume that the current Core Strategy strategic housing allocation at Sandford Park will be rolled forward into the new Local Plan and will be built out with full mitigation by the end of the new plan period. Therefore the 2036 models will include the 1,500 homes at Sandford along with incorporating the latest agreed highways mitigation package for the development into the 2036 model network.
- 4.15 The transport modelling work is being undertaken against the back-drop of the Covid-19 pandemic. While the current restrictions on everyday lifestyles and travel advice have undoubtedly had a marked impact on traffic flows and travel behaviour, it is too early to determine the long-term changes that this may have on traffic and travel in West Berkshire.

5. Transport Modelling Results

- 5.1 The transport modelling work allows a range of outputs to be produced that help provide an indication of network performance and changes in traffic flows arising from the addition of new developments and increases in road traffic. It helps to identify where there are likely to be issues on links and at junctions and can help to identify locations where mitigation may be required.
- 5.2 A range of the junction Level of Service outputs from the WBSTM 2036 Core Forecast and 2037 end of plan period models can be seen in Appendices B - E, covering both the AM and PM peaks. For reference, the VISUM Level of Service (LoS) is commonly used to describe how well a junction or individual turn is performing. LoS is related to the mean delay experienced per vehicle and categorised in the Table 5.1 below.

Table 5.1 – VISUM Level of Service Categories

VISUM Level of Service Category	Mean delay per vehicle	
	Un-signalised junction	Signalised junction
A	0 – 10 sec	0 – 10 sec
B	10 – 15 sec	10 – 20 sec
C	15 – 25 sec	20 – 35 sec
D	25 – 35 sec	35 – 55 sec
E	35 – 50 sec	55 – 80 sec
F	50 + sec	80 + sec

- 5.3 Table 5.1 above shows that the LoS thresholds differ for un-signalised and signalised junctions. One reason for this is that delay at a signalised junction is more 'acceptable' because road users expect to be delayed at traffic lights. If the volume exceeds the capacity for a particular turn, LoS category F will be allocated to that turn regardless of the delay.
- 5.4 The VISUM model calculates the LoS for each individual turning movement, as well as an overall junction LoS. The overall junction is based on the mean delay experienced across all turning movements, which may disguise some congestion issues. Therefore, it is considered a more robust approach to assess junction performance based on the maximum turn LoS at a junction.

- 5.5 The approaches to the junctions which the turns originate from have also been highlighted. For the purposes of the outputs shown in the model output plots in Appendices B-E, the junctions and approaching links are shown as LoS D – yellow, LoS E – orange and LoS F – red (the highest category). Note, junctions and approaching links which experience LoS A or B or C have not been displayed as these are considered to be only minor delays. A summary of the junctions and affected approach links identified in Newbury, Thatcham and the wider modelled area by the junction LoS output plots are outlined in Tables 5.2, 5.3 & 5.4 below.
- 5.6 When you compare the outputs for the 2037 preferred Local Plan development (Scenario 1) with those for the 2036 Core Forecast outputs, they do not differ greatly.
- 5.7 The results from the transport modelling undertaken so far illustrated by the junction Level of Service output plots shown in Appendices B - E provide some form of encouragement that there are not whole swathes of the highway network being identified as being potentially problematic by the end of the plan period. It is also interesting to note the point made in 5.6 that the addition of the predicted level of Local Plan growth arising from the sites identified through the HELAA process is on the whole, not the main factor in causing junctions to display as D, E or F categories. The 2036 Core Forecast output shows a similar pattern of junctions displayed in those categories of the higher delay times. This indicates that the general growth in traffic over the plan period is forecast to cause delays at certain junctions of a level that would require attention regardless of the proposed Local Plan development.
- 5.8 In some areas the Local Plan development causes the delays to increase and the junction or link to progress to a higher (worse) category of delay. This is the case, for example, along the A4 corridor (and adjoining links) in Thatcham in the vicinity of the THA20 site. This is to be expected for the proposed allocation of approximately 2,500 homes at North East Thatcham and highlights the need for further investigation into appropriate mitigation measures.
- 5.9 Another example is the A340 / A4 roundabout junction to the west of Theale which is highlighted as causing delay in the AM peak period when scenario 1 is modelled whilst it does not show such levels of delay for the corresponding period without the Local Plan development added. This highlights the need to drill down into the detail of the modelling work further for this junction. This will help the understanding of exactly where the issue is and enable the consideration of what can be done to improve the level of service that can be expected to be experienced at this roundabout.
- 5.10 Across the network where the transport modelling is highlighting delays and congestion, appropriate mitigation measures (including highway improvements) will be sought to address these concerns. This will, for instance, where junctions have been flagged up by the model involve more detailed work to see what improvements can be made to the existing junction to accommodate additional demand. The development of such measures will need to be undertaken with that for other smarter and active travel mitigation measures to influence travel choices and behaviour and limit the use of single occupancy vehicle journeys.
- 5.11 It is worth highlighting that the growth forecasts are based on projections which were generated pre-COVID (i.e. the DfT forecasting dataset was released in late

2017). The longer term impact of the COVID pandemic on travel patterns and behaviour is not known. However, it is commonly thought that there may be some impact of increased and long lasting working at home patterns. It is therefore worth considering the outputs from the modelling work with this in mind. The levels of service provided at junctions across the district set out in Appendices B - E and Tables 5.2, 5.3 and 5.4 may well not reach these descriptions if there are some longer term changes in travel that are locked in following the end of the pandemic.

Table 5.2 – Forecast level of service delays for 2036 Core Forecast and preferred Scenario 1 for Newbury Area

'Junction / Location	Affected link (where applicable)	2036 Core Forecast		Scenario 1		Notes / Comments
		AM	PM	AM	PM	
A4 Bath Rd / A34 Bypass rbt	A4 Ebnd					A34 southbound entry/exit roundabout
A4 / Station Rd, Speen	Station Rd					
Robin Hood rbt	A339 Sbnd entry					Traffic signalised junction
	B4009					Traffic signalised junction
	A339 Nbnd entry					Traffic signalised junction
	London Rd					Traffic signalised junction
A4 London Rd / Faraday Rd / Newport Rd jcn	A4 Ebnd					Traffic signalised junction
	Faraday Rd					Traffic signalised junction
	A4 Wbnd					Traffic signalised junction
	Newport Rd					Traffic signalised junction
Bartholomew St / Market PI / Northbrook St jcn	Bartholomew St					Traffic signalised junction
	Northbrook St					Traffic signalised junction
Market PI / Cheap St	Market PI					Traffic signalised junction
Bartholomew St / Market St						Traffic signalised junction
Cheap St / Market St						
Bartholomew St / Enborne Rd	Bartholomew St S					Traffic signalised junction
	Bartholomew St N					Traffic signalised junction
A339 / B4321 Bear Lane rbt	A339 Sbnd entry					Traffic signalised junction
	Bear Lane					Traffic signalised junction
	A339 Nbnd entry					Traffic signalised junction
Mill Lane / Hambridge Rd / Boundary Rd jdn	Mill Lane					Traffic signalised junction
	Boundary Rd					Traffic signalised junction
King's Rd / Hectors Way	Hectors Way					Traffic signalised junction
A339 / A343 / Greenham Rd	A339 Nbnd					
A339 / Greenham BP rbt	A339 Wbnd					
	A339 Ebnd					
* Note categories relate to VISUM Level of Service Categories. Only higher length delays (categories D, E & F) are identified. Further details on categories and mean delays per vehicle for un-signalised and signalised junctions can be found in Table 5.1						

Table 5.3 – Forecast level of service delays for 2036 Core Forecast and preferred Scenario 1 for Thatcham Area

'Junction / Location	Affected link (where applicable)	2036 Core Forecast		Scenario 1		Notes / Comments
		AM	PM	AM	PM	
A4 Bath Rd / Henwick Lane	Henwick Lane					Traffic signalised junction
	Bath Rd Ebnd					Traffic signalised junction
A4 Bath Rd / Northfield Rd	Bath Rd Ebnd					Traffic signalised junction
	Bath Rd Wbnd					Traffic signalised junction
	Northfield Rd					Traffic signalised junction
A4 Bath Rd / Park Lane / High St	High St					Traffic signalised junction
	Park Lane					Traffic signalised junction
A4 / The Broadway	Broadway					Traffic signalised junction
A4 Chapel St / The Moors						Traffic signalised junction
A4 Chapel St / Harts Hill Rd	A4 Wbnd					Traffic signalised junction
	A4 Ebnd					Traffic signalised junction
	Harts Hill Rd					Traffic signalised junction
A4 Chapel St / Stoney La	A4 Wbnd					
	Stoney La					
A4 / Falmouth Way / Floral Way	A4 Wbnd					
	Falmouth Way					
A4 Bath Rd / Pipers Way rbt	A4 Wbnd					
	Pipers Way					
Station Rd Level Crossing						Delays in both directions due to crossing closures
* Note categories relate to VISUM Level of Service Categories. Only higher length delays (categories D, E & F) are identified. Further details on categories and mean delays per vehicle for un-signalised and signalised junctions can be found in Table 5.1						

Table 5.4 – Forecast level of service delays for 2036 Core Forecast and preferred Scenario 1 for whole area covered by West Berkshire Strategic Transport Model (WBSTM)

Junction / Location	Affected link (where applicable)	2036 Core Forecast		Scenario 1		Notes / Comments
		AM	PM	AM	PM	
East Ilsley / A34 Nbnd	Nbnd entry slip					No delays showing on A34
East Illsey / A34 Sbnd	Sbnd entry slip					No delays showing on A34
M4 J13	Wbnd off slip					
A339 / Thornford Rd rbt						
A340 Falcon Gyratory, Tadley	A340 wbnd					Traffic signalised junction
	A340 ebnd					Traffic signalised junction
A329 / B4009 xrds Streatley						Traffic signalised junction. Red for all approaches
A329 / Long Lane, Purley	Long Lane					
A340 crossroads, Tidmarsh						
A4 /Burghfield Rd, Reading (located in Reading BC area)	Bath Rd Ebnd					Traffic signalised junction
	Bath Rd Wbnd					Traffic signalised junction
	Burghfield Rd					Traffic signalised junction
A4 Bath Rd / Mill La, Calcot						Traffic signalised junction
A4 / Langley Hill / Charrington Rd jcn	A4 Wbnd					Traffic signalised junction
	Charrington Rd					Traffic signalised junction
M4 Junction 12 / A4 rbt	Ebnd entry to M4					Slip road is subject to ramp metering at peak periods
	M4 W exit at rbt					Traffic signalised junction
	A4 Theale BP arm					Traffic signalised junction
	A4 Bath Rd entry					Traffic signalised junction
Hangar Rd Swing Bridge						Single flow over canal swing bridge (traffic signals)
Deans Copse Rd / Hose Hill, Sheffield Bottom	Deans Copse Ebnd					
	Hose Hill					
Pingewood Rd S bridge	Ebnd					Single flow over rail bridge (traffic signals)
A4 / Sulham Lane	Sulhamstead Hill					
Reading Rd / Hollybush La, crossroads	Reading Rd Sbnd					Traffic signalised junction
	Reading Rd Nbnd					Traffic signalised junction
	Hollybush La Sbnd					Traffic signalised junction
Padworth Rd / Camp Rd						
M4 Junction 11 / A33						Traffic signalised junction above M4 – in Wokingham DC area

* Note categories relate to VISUM Level of Service Categories. Only higher length delays (categories D, E & F) are identified. Further details on categories and mean delays per vehicle for un-signalised and signalised junctions can be found in Table 5.1

6. **Next Steps**

- 6.1 The transport modelling and TA work is an iterative process and further model runs using all three transport models will continue to be undertaken as the preferred development scenario evolves as the LPR process moves forward. This will include work on identifying and scoping the necessary mitigation that will be required to address areas of concern highlighted by the transport modelling outputs shown in this Phase 1 Transport Assessment.
- 6.2 It is anticipated that this further modelling work will continue to be undertaken as part of the LPR TA up to the Regulation 19 submission, with further Transport Assessment reports being produced for future phases.
- 6.3 Highways England will also be engaged in the process so that they can satisfy themselves that the proposals in West Berkshire will not have an adverse impact on the strategic highway network which they manage.
- 6.4 It should be again stressed that the mitigation measures required to address the areas of concern highlighted by the transport modelling work will not be solely focussed on developing highway improvements. The mitigation package will also include the development of sustainable and smarter transport solutions that will provide people with greater opportunities to choose more sustainable travel and active lifestyle options.
- 6.5 Solutions outlined in the package of mitigation measures will also need to take into account the development of new transport technologies, as well as the Future Mobility agenda.

Appendices

Appendix A: Area of coverage for West Berkshire Strategic Transport Model

Appendix B: Junction Level of Service Plot - 2036 Core Forecast AM peak

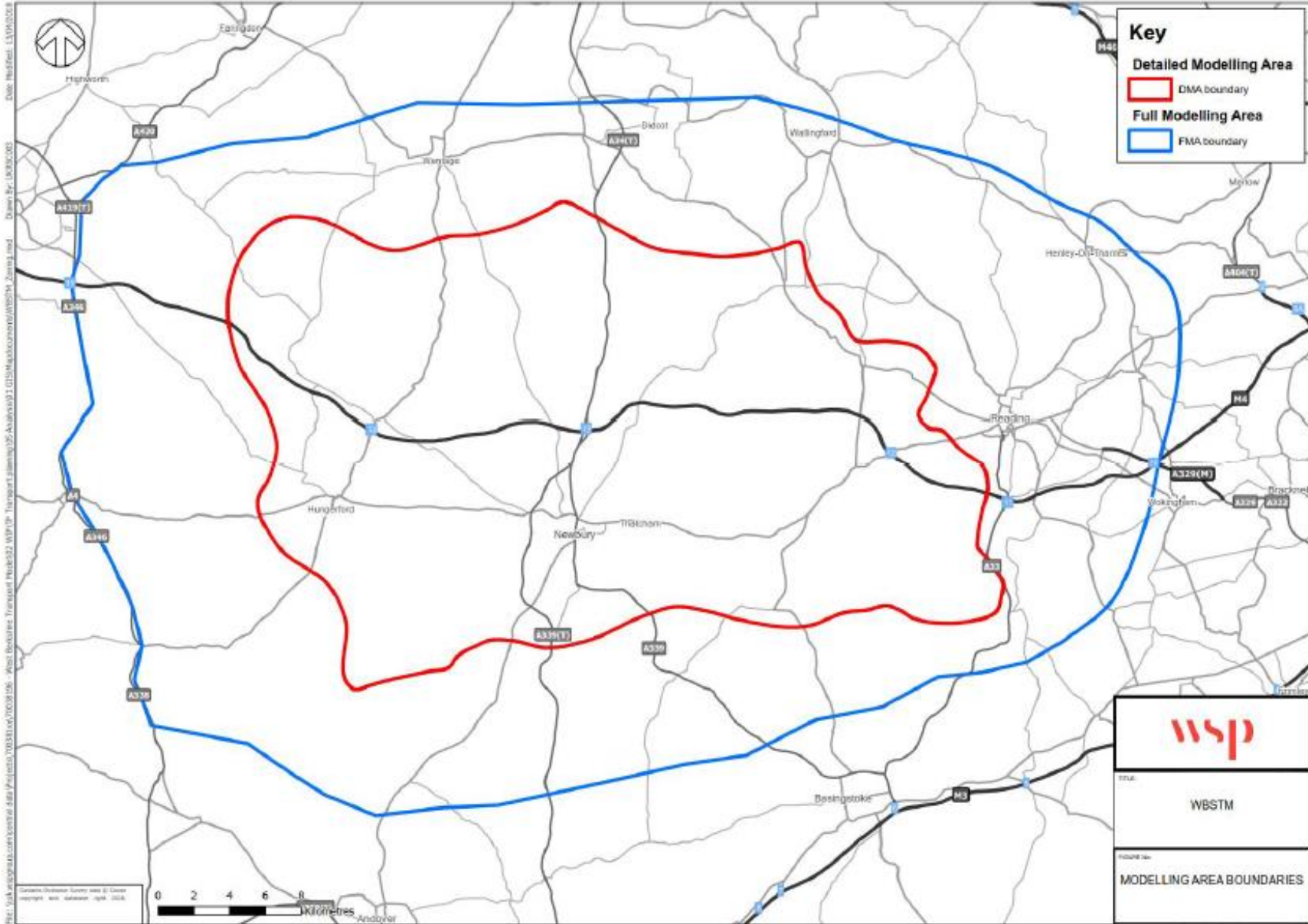
Appendix C: Junction Level of Service Plot - 2036 Core Forecast PM peak

Appendix D: Junction Level of Service Plot - 2037 Scenario 1 AM peak

Appendix E: Junction Level of Service Plot - 2037 Scenario 1 PM peak

APPENDIX A

Area of coverage for West Berkshire Strategic Transport Model



Key

Detailed Modelling Area

DMA boundary

Full Modelling Area

FMA boundary

wsp

Issue:

WBSTM

Project ID:

MODELLING AREA BOUNDARIES

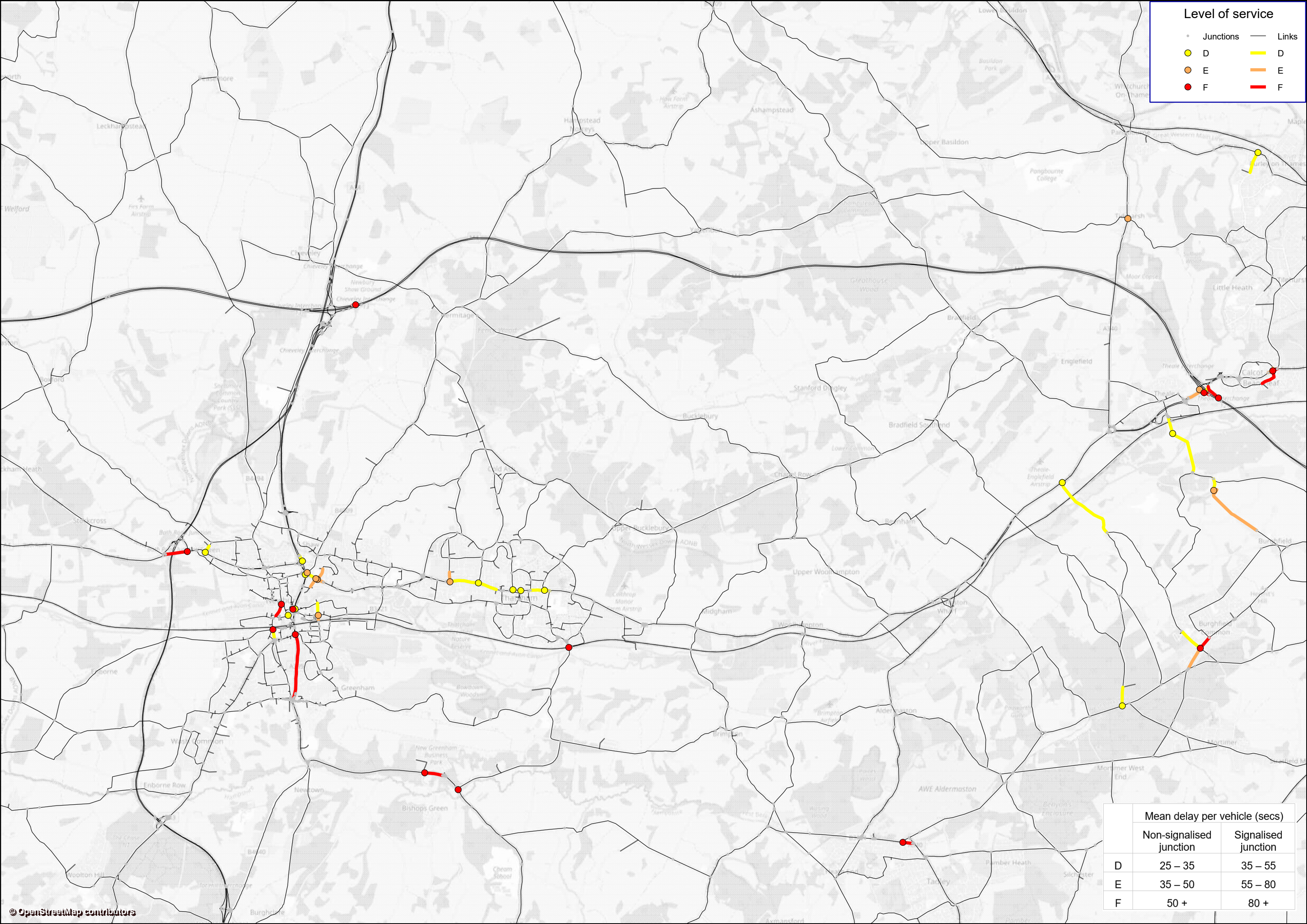
File: \\fs1.wsp.com\central_data\Projects\WBSTM\0009\06 - West Berkshire Transport Model\WBSTM_TrafficPlanning\05 Analysis\01 GIS\Map\wbstm\WBSTM_Zones.mxd Drawn by: LK060303 Date: 06/06/2018

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APPENDIX B

Junction Level of Service Plot - 2036 Core Forecast AM peak

The western part of the District is not shown on the plots as the junctions in Hungerford and the surrounding area were not identified through the modelling work as areas of concern.



Level of service

- Junctions
- Links
- D
- E
- F
- D
- E
- F

	Mean delay per vehicle (secs)	
	Non-signalised junction	Signalised junction
D	25 – 35	35 – 55
E	35 – 50	55 – 80
F	50 +	80 +

APPENDIX C

Junction Level of Service Plot - 2036 Core Forecast PM peak

The western part of the District is not shown on the plots as the junctions in Hungerford and the surrounding area were not identified through the modelling work as areas of concern.



Level of service

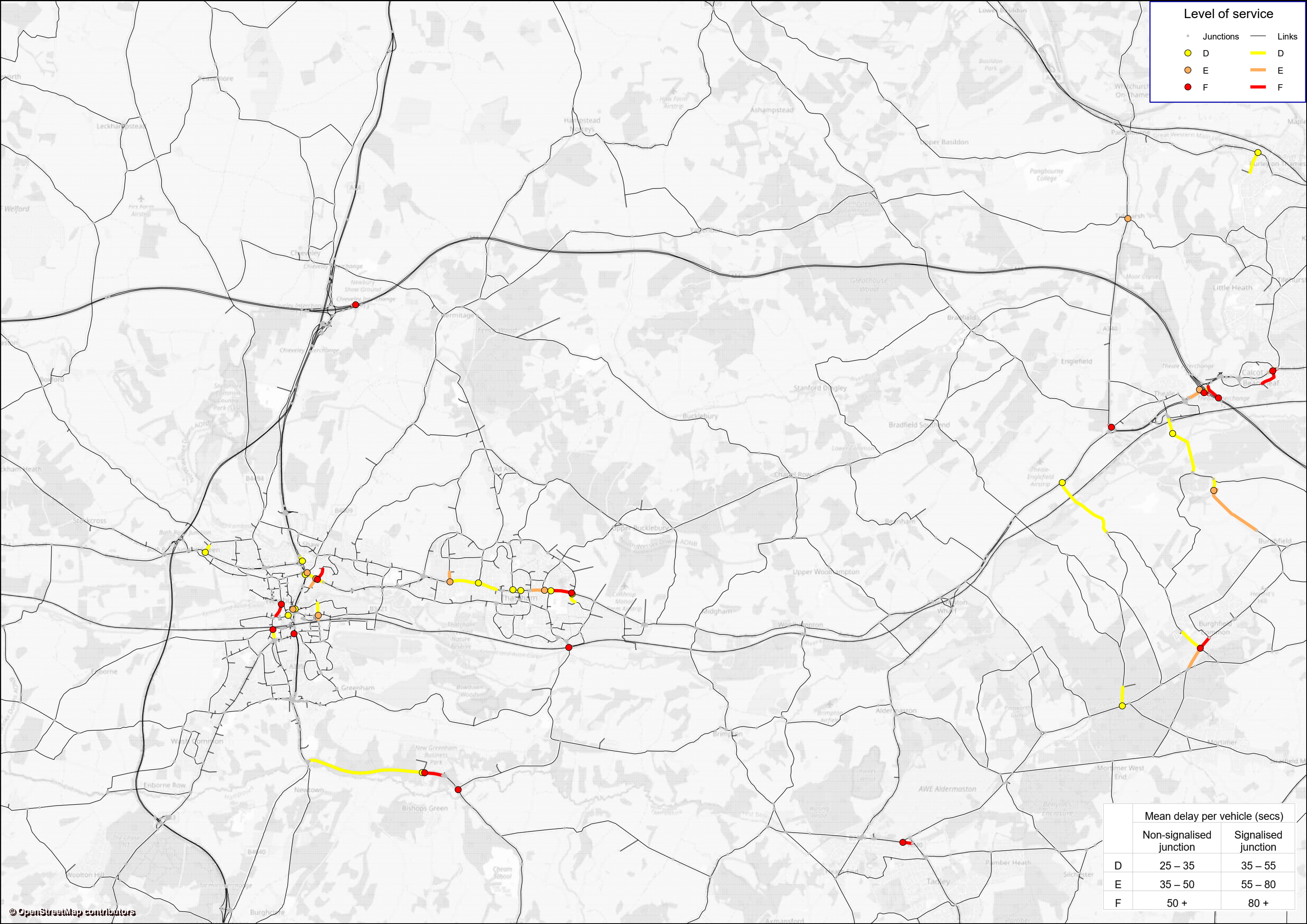
- Junctions
- Links
- D
- E
- F
- D
- E
- F

	Mean delay per vehicle (secs)	
	Non-signalised junction	Signalised junction
D	25 – 35	35 – 55
E	35 – 50	55 – 80
F	50 +	80 +

APPENDIX D

Junction Level of Service Plot - 2037 Scenario 1 AM peak

The western part of the District is not shown on the plots as the junctions in Hungerford and the surrounding area were not identified through the modelling work as areas of concern.



Level of service

- Junctions
- Links
- D
- E
- F
- D
- E
- F

	Mean delay per vehicle (secs)	
	Non-signalised junction	Signalised junction
D	25 – 35	35 – 55
E	35 – 50	55 – 80
F	50 +	80 +

APPENDIX E

Junction Level of Service Plot - 2037 Scenario 1 PM peak

The western part of the District is not shown on the plots as the junctions in Hungerford and the surrounding area were not identified through the modelling work as areas of concern.



Level of service

- Junctions
- Links
- D
- E
- F
- D
- E
- F

	Mean delay per vehicle (secs)	
	Non-signalised junction	Signalised junction
D	25 – 35	35 – 55
E	35 – 50	55 – 80
F	50 +	80 +