

HE Proposition	RHS Position (see responses to Deadline 5 for further reasoning)	Highways England's response
1.0 Traffic and transport, including traffic modelling and assessment of alternatives		
1.1 The strategic traffic model used by Highways England for the Scheme has been appropriately developed for the base year (2015)	Agree (in part). RHS note that this model is not suitable to provide an acceptable basis upon which to determine future year effects on the local road network. There is no validation of existing conditions within Ripley and, as such, there remains uncertainty regarding the use of the model for projecting future traffic assignment predictions. DCO Scheme modelling routes all Wisley Lane traffic away from the A3 and onto the local road network through Ripley so accurately simulating existing conditions in the Base year is essential.	<p>The 2015 base year strategic and the operational S-Paramics models has been developed, calibrated and validated in accordance with DfT best practice guidance (WebTAG), with a good level of validation, including in Ripley. [Appendix C of the Transport Assessment Report APP-136].</p> <p>It is the outputs of the strategic model that have been used for the assessment of impacts on Ripley and the outputs from the operational model have been used to evaluate the changes in operational performance of the road network, due to the scheme, i.e. changes in levels of service reported in the Transport Assessment Report [APP-136]</p> <p>Routing of traffic in relation to the DCO scheme is a matter for propositions 1.3 to 1.5.</p>
1.1a From ExA Q2.13.29a <i>Confirmation as to whether the base year (2015) traffic flows identified by the Applicant in the submitted application documentation for the B2215 (Portsmouth Road/Ripley</i>	Not agreed for the reasons given.	Highways England will be dealing with this in its response to ExA Q2.13.29. See also response 1.1 above.

<p><i>High Street), Newark Lane and Rose Lane are or are not agreed.</i></p>		
<p>1.1b From ExA Q2.13.29b <i>Confirmation as to whether any of the B2215's links between its junctions with the A3 and A247 and the B2215's junctions with Newark Lane and Rose Lane are or are not currently operating at capacity.</i></p>	<p>Agree in that congestion elsewhere on the B2215 is less critical than that which exists at Ripley.</p>	<p>Highways England will be dealing with this in its response to ExA Q2.13.29.</p>
<p>1.2 The micro-simulation model used by Highways England for the Scheme has been appropriately developed for the base year (2015)</p>	<p>Disagree. The microsimulation model has only been developed for the AM and PM peaks – there is no inter-peak model. Furthermore, as noted in the S-Paramics Local Model Validation Report, the journey time validation routes are only partial (eg through Ripley) and the validation of the routes is not sufficient, particularly routes 5, 9, 10 and 18.</p>	<p>The micro-simulation model has been developed to test the operational impacts of the scheme during most congested conditions rather than the inter-peak. The journey time routes cover key highway links within the extents of the S-Paramics model. As mentioned in the TA [APP-136], each individual hour in the morning and evening peak meets the recommended target specified in WebTAG, which states that 85% of journey time routes are required to be within 15% of surveyed times (or 1 minute if higher than 15%). As the model calibrated and validated against criteria it was fit for use as an operational assessment tool.</p>
<p>1.3 The forecasting methodology used by Highways England for the purpose of the traffic modelling exercise includes the appropriate proposed land use developments and other highway infrastructure and it has been implemented to Highways England standards.</p>	<p>Disagree. RHS take no issue with the land use assumed for Wisley Airfield. However, the modelling of the Wisley Airfield development has not included the associated mitigation at Burnt Common and within Ripley, which will have a bearing on how much Strategic Road Network traffic (to/from the south)</p>	<p>Wisley Airfield development is not included in the 2022 opening year models and as such, the comments from RHS cannot relate to forecasts from that modelled year. There is no live planning application for the proposed Wisley Airfield development, so the</p>

	<p>via Wisley Lane will divert onto the Local Road Network as a consequence of the DCO Scheme.</p>	<p>traffic modelling could not have appropriately included specific highway measures proposed to mitigate its traffic impacts. However, even though Highways England has not modelled the Burnt Common slips, it is reasonable to assume that they will cause less traffic to route through Ripley.</p>
<p>1.3a From ExA Q2.13.29c <i>Assuming the Proposed Development were to be consented and implemented, confirmation as to whether the predicted AM peak, Inter-peak and PM peak hour traffic flows for the Do-minimum and Do-something scenarios in 2022 and 2037 identified by the Applicant in the submitted application documentation are or are not agreed</i></p>	<p>Not Agreed for the reasons given above. There remains uncertainty within the model as to how much traffic will divert away from the SRN and onto the LRN.</p>	<p>Highways England will be dealing with this in its response to ExA Q2.13.29.</p>
<p>1.3b From ExA Q2.13.29d <i>For any link or junction referred to in c) above for which it is predicted that the capacity will be exceeded in the future (ie post-dating the operation of the Proposed Development should it receive consent), please provide an indication when it is expected the capacity of the link or junction would be exceeded and what the reason for the capacity exceedance would be.</i></p>	<p>Not possible for this to be answered given that the modelling is not agreed. We know, for example that the B2215 Portsmouth Road/Ripley High Street/Newark Lane/Rose Lane is operating at capacity but this is not reflected in any of the modelling.</p>	<p>Highways England will be dealing with this in its response to ExA Q2.13.29.</p>

<p>1.4 The Highways England modelling as regards RHS traffic uses an event day (when RHS has more visitors than on a non-event day)</p>	<p>Agree (in part). However, there remains uncertainty regarding RHS traffic as cross referencing with actual model output suggests that not all of this traffic is actually assigned to the network. For example, the 2022 RHS 2 way AADT flow in Table 3.10 of REP1-010 states an RHS Garden traffic flow of 8857 PCUs, whereas the model output and flow plots provided to RHS by HE for the whole 'Wisley Zone' (of which RHS is a part) is lower at 8238 in the DoMinimum and lower again in the DoSomething at 8095.</p>	<p>Agreement of event day demand for RHS Gardens Wisley is noted.</p> <p>The small difference between the numbers quoted by RHS opposite is a result of delays around the modelled network preventing all of the modelled traffic completing their journeys within the modelled hour. The model used, SERTM, covers the whole of the south east of England in some detail and notwithstanding the improvements to the A3 and M25 associated with this scheme, it is delays outside of this Scheme's study area has resulted in some trips not completing journeys within the modelled hour.</p> <p>To ensure consistency between model reporting we refer to all demand at the zone containing RHS Gardens Wisley as being RHS busy day traffic. Whilst not all this traffic is RHS related, the overwhelming majority is (c95%), and the volumes quoted for the zone are still below busiest day levels such as those in the Motion TA for a weekday in April.</p>
<p>1.5 The results from the traffic modelling fairly represent the effects of the Scheme in terms of traffic issues as regards the SRN and the local highway network.</p>	<p>Disagree. The traffic modelling commences from a 2015 Base which has not been validated, particularly in respect of Ripley. Future forecasting based on this modelling, which then routes traffic away from the Strategic Road Network onto such local roads as a</p>	<p>The model has been developed, calibrated and validated in accordance with DfT best practice guidance (WebTAG), with a good level of validation on the strategic and local road networks. Forecasting assumptions have been comprehensively considered and Highways England is satisfied with the representation of</p>

	<p>direct consequence of the DCO Scheme will not be accurately predicted.</p> <p>HE are not able to state how effective their proposed signing strategy (which seeks to retain traffic on the A3) will be.</p>	<p>future year scenarios against which to test this Scheme.</p> <p>Whilst Highways England has not claimed that it is possible to model the proportion of traffic that would follow the signing strategy, but plainly a proportion will follow it.</p>
<p>1.6 Although the traffic modelling assumes all traffic travelling to and from the gardens from the south travel via Ripley in reality some will travel via the SRN</p>	<p>Agree that the model assumes this but disagree that this has been accurately modelled and there remains uncertainty as to how RHS traffic will route to/from the Garden. See previous comment above. Further, it is not acceptable to proceed on this assumption whereby a Strategic Road Improvement Scheme is being promoted which actually results in the local road network being a more attractive proposition for a significant proportion of RHS traffic.</p>	<p>As regards use of the signed route – see above.</p> <p>Furthermore, the Scheme is predicted to result in an overall net reduction in traffic volumes on the local road network of approximately 1% that equates to a reduction of up to 741,000 vehicle kilometers on an average day across the modelled local road network. This is as a result of traffic diverting away from local roads and onto the SRN due to the reduction in traffic congestion and delay delivered on it by the Scheme</p>
<p>2.0 Highway Design Standards</p>		
<p>2.1 The highways design standard that applies to the “left out” from Wisley Lane as proposed by RHS is CD122</p>	<p>Agree based on the specific option presented by RHS.</p>	
<p>2.2 The proposed left out is not compliant with standards CD122</p>	<p>Agree that against the guidance set out in CD122, the RHS Alternative Scheme would be subject to HE’s Departure from Standard process (for ‘Near Straight’ and ‘Horizontal Curvature’) but not in respect of weaving length.</p>	<p>HE SES have indicated that a departure for reduced weaving length between Wisley Lane and Junction 10 would not be agreed due to the high volume of traffic weaving in this location causing increased likelihood of accidents. RHS alternative left out would require a total of five</p>

		departures required to be approved. Full details in Appendix A.
2.3 The proposed Ockham Junction South Facing Slip Roads are not compliant with DMRB standards including CD122	Agree that the southbound on-slip is shown at 75m rather than 85m (which previously constituted a 'one-step below' Relaxation) – this would be subject to HE's Departure from Standard process. Weaving length standard would be met.	Multiple departures would be necessary including for the weaving length to Ripley Services that would be less than standard 1000m. The RHS alternative south facing slip road would require a total of five departures required to be approved. The north facing slip road would require a total of five departures required to be approved. Full details in Appendix B.
3.0 Safety		
3.1 The Wisley Lane diversion will provide a safer access/egress to/from RHS Wisley than the existing one.	Disagree. There has been no comprehensive/wider assessment of this in terms of traffic having to route along other links and through junctions via the longer signed route or via the local villages of Ripley and Send	In terms of safety issues the impact of traffic using other links having used the Wisley lane Diversion to get to and from the garden is negligible. Highways England will respond more fully in response to ExA Q2.13.20
3.2 The Wisley Lane diversion will provide a safer access/egress to/ RHS Wisley than the "left out" proposed by RHS	Disagree. HE's claimed significant safety issue with the existing Wisley Lane junction is not supported by accident records. Furthermore, there has been no comprehensive/wider assessment of this in terms of traffic having to travel further, u-turn at Ockham and join via the northbound Ockham slip road.	In response to ExA Q2.13.16, Highways England will be providing full details of the collisions in the vicinity of the Wisley Lane junction. This information has also been provided to RHS.
4.0 Effects on the Garden and the visitor experience		
4.1 Changes to journey distances and journey times to and from RHS	Agree. These are now agreed as set out in the attached Appendix C.	Noted

Wisley as a result of the DCO Scheme		
4.2 Origin of RHS visitor traffic	Agree (in part) The RHS and HE distributions have been obtained using different methods. However, the results are relatively similar.	Noted
4.3 The journey times information in tables 2.8 and 2.9 of the report are agreed	Disagree. For the reasons set out in response to the traffic modelling above, journey times are not agreed	See response 1.1

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Appendix A. Design Standards – RHS Alternative: Wisley left out

Comments on RHS Alternative Design

Design Speed

DMRB CD 122; *paragraph 5.4 and Table 5.4 Connector road design speed*, requires a slip road to have a minimum design speed of 70kph when the mainline design speed is 120kph, as is the case for northbound A3.

Diverge from Wisley Lane

The RHS Alternative scheme does not comply with standards because the diverge taper length [34m] and nose length [26m] are less than that required by DMRB CD 122; *Table 3.31 Diverge layouts geometric parameters*.

Near Straight

The RHS Alternative scheme does not comply with standards because it makes no allowance for a Near Straight between the diverge back of nose and the radii between Wisley Lane and northbound A3.

DMRB CD 122 *paragraph 5.8* requires a near straight at least equal in length to the nose [40m] to be provided at the back of the nose.

Horizontal curvature

The RHS Alternative scheme does not comply with standards because the radius linking the diverge on Wisley Lane with the northbound A3 merge is proposed to be either 56m or 30m when the desirable minimum radius is 360m.

As noted above the DMRB CD 122 *Table 5.4 Connector road design speed*. Requires the slip road to have a design speed of 70kph. As noted under Table 5.4, CD 109 (formerly TD 9/93) shall be used to determine the horizontal curvature.

DMRB CD 109 *Table 2.10 Design speed related parameters*. Requires for the 70kph Design Speed a minimum radius of 180m with 7% superelevation, which is two steps below the desirable minimum radius (360m),

The absolute minimum radius that can be provided is 90m with 7% superelevation but this would require the design speed to be reduced to 50kph, but this does not comply standards and therefore vehicles will have to negotiate the bend at low speed which will make it difficult for vehicles to merge on to the mainline that will be running at a higher speed.

Comments on RHS Alternative Design

Near Straight

The RHS Alternative scheme does not comply with standards because it makes no allowance for a Near Straight. DMRB CD 122 *paragraph 5.8* requires a near straight at least equal in length to the nose [85m] to be provided at the back of nose.

Merge Type

The RHS Alternative scheme is proposing a Layout B parallel merge (with auxiliary lane), however when using the traffic flows of 476 VPH for vehicles travelling on Wisley Lane south of RHS Wisley and 5493 VPH for vehicles travelling between Ockham and Wisley on the northbound A3, as presented in Appendix A of the Transport Assessment Supplementary Information Report (REP2-011) and inputting these in to DMRB CD122; *Figure 3.12a All-purpose road merging diagram*, the merge type should be a Layout A option 1 – taper merge.

Furthermore, there is no reason to provide a Layout B parallel merge because the three requirements in DMRB CD 122; *paragraph 3.15* do not apply.

Auxiliary Lane

The RHS Alternative scheme is proposing a Layout B parallel merge based on their interpretation of the Auxiliary Lane definition provided on page 7 of DMRB CD 122 “*An additional lane parallel to the mainline carriageway to provide increased merge or diverge opportunity or additional space for weaving traffic*”.

Whilst we agree that the auxiliary lane will increase the opportunity for traffic to merge from Wisley Lane on to the A3 Northbound, it should be understood that this will have a negative impact on the northbound A3 because the weaving length will be reduced for vehicles diverging off to the M25 junction 10.

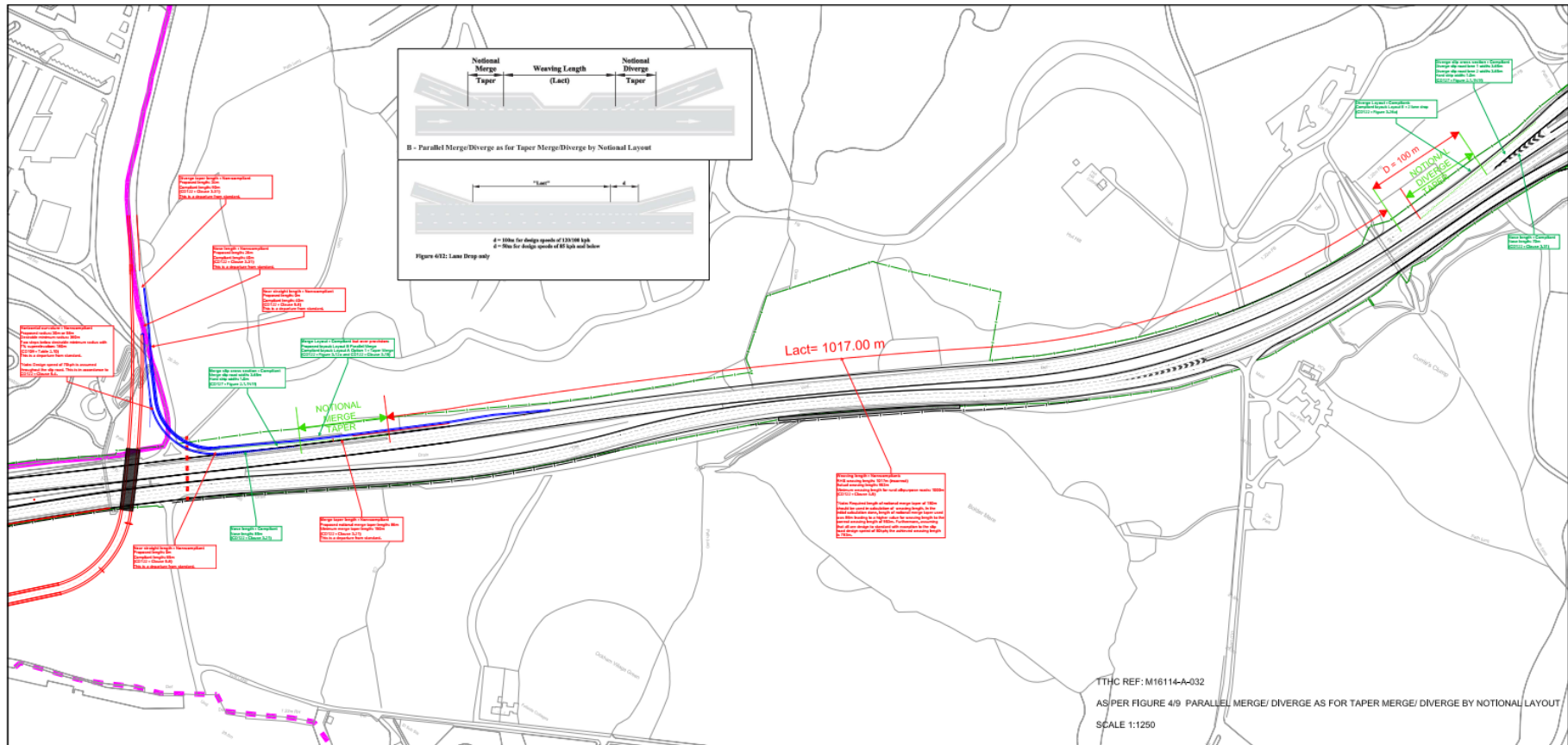
Weaving Length

The RHS Alternative scheme suggests a weaving length of 1017m is achievable, however assuming the above elements are designed to standard with the exception of a nonstandard design speed of 50kph, which would allow the horizontal curvature of 90m, when checking the weaving length using the parameters in DMRB CD 122; *Figure 4.4a and Figure 4.4h* the weaving length achieved is 783m, which does not comply with the standards because the weaving length is less than the 1km required by DMRB CD122; *paragraph 4.5*.

Comments on RHS Alternative Design

If the minimum horizontal curvature [180m] permitted for a design speed of 70kph and complying with standards were to be provided, this would further reduce the weaving length below 783m.

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Appendix B. Design Standards – RHS Alternative: Ockham Park Junction – South Facing Slips

Comments on RHS Alternative Design

Ockham Park Junction South Facing Slip Roads.

A3 Southbound Ockham Park Junction to Ripley Services

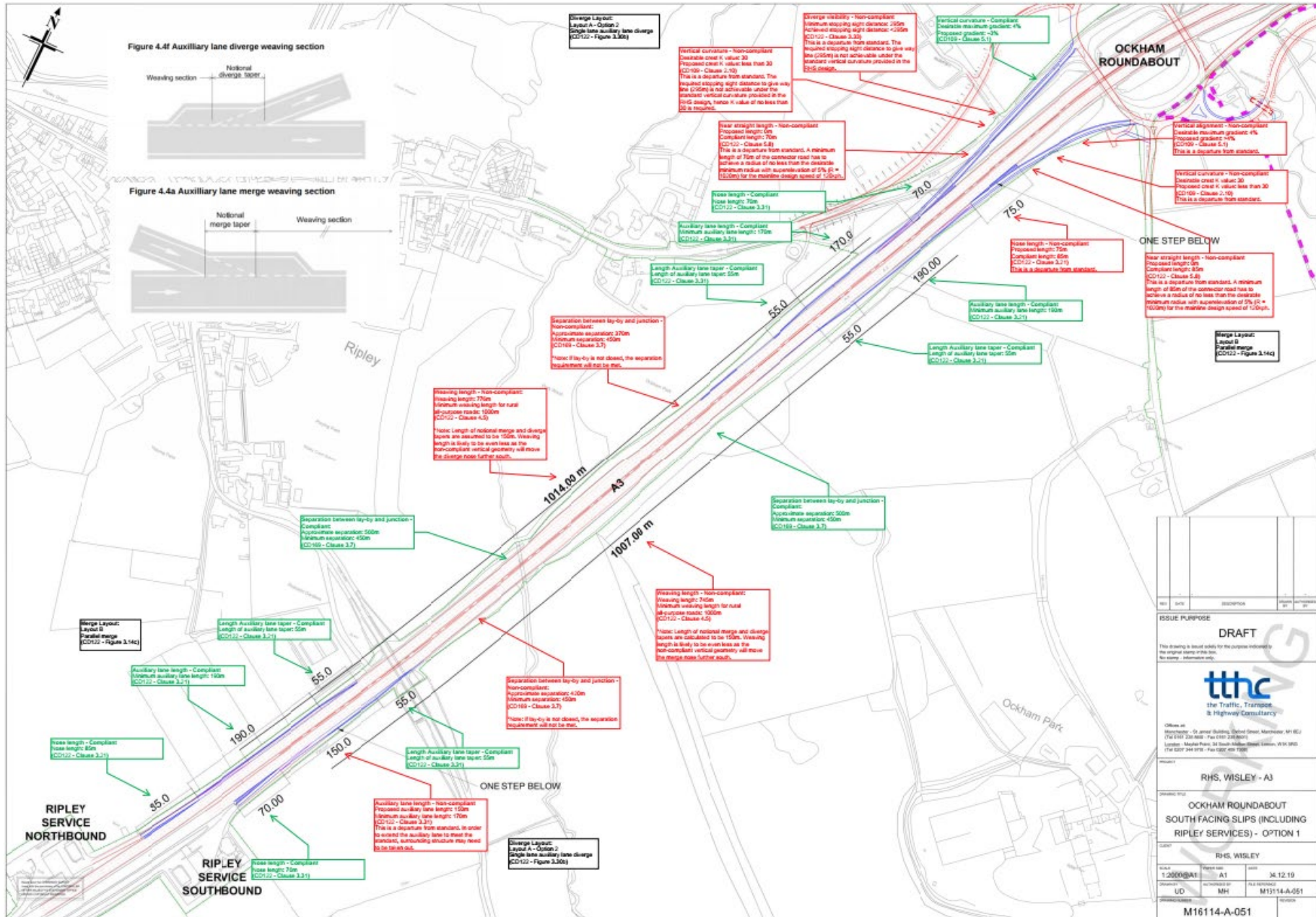
- a) The connector slip road linking the Ockham Park circulatory carriageway with A3 southbound mainline is not compliant with the requirements set out in the Design Manual for Roads and Bridges (DMRB); CD 122 - Geometric design of grade separated junctions. This is because:
- DMRB CD 122; paragraph 5.4 requires the slip road to be designed with a minimum design speed of 70kmph. The RHS Alternative design shows an insufficient length of slip road between the circulatory carriageway and the back of nose; it is not possible to fit the vertical geometry required by the design standards within this length.
 - DMRB CD 122; paragraph 5.8 requires a length of near straight (with a radius no less than 1020m) to be provided at the back of nose, at least equal in length to the nose. The RHS Alternative design makes no allowance for a near straight.
 - DMRB CD 122; paragraph 3.21 requires the nose length to be 85m. The RHS Alternative design provides a non-compliant 75m nose.
- b) The connector slip road linking the A3 southbound mainline with Ripley services is also not compliant with the requirements set out in DMRB CD 122 and CD169 - The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms. This is because:
- DMRB CD 169; paragraph 3.7 requires a separation of 450m between a lay-by and an at grade junction. The RHS Alternative design provides a separation of 420m between the existing lay-by and Ripley Services diverge.
 - DMRB CD 122; paragraph 3.31 requires a minimum auxiliary lane length of 170m. The RHS Alternative design provides a non-compliant 150m for the auxiliary lane. If the minimum length were to be provided, it would require modification to the structure carrying Rose Lane over the A3.
 - DMRB CD 122; paragraph 4.5 requires a minimum weaving length of 1000m between a full grade separated junction and a service area. The RHS Alternative design shows a weaving length of just over 1km, but as detailed above, other aspects of the design are not compliant. In addition, the RHS Alternative design has shown the notional merge and diverge to be less than the required 150m. To make the RHS Alternative design compliant, the weaving length would need to be significantly less than 1km

Comments on RHS Alternative Design

Ockham Park Junction South Facing Slip Roads.

A3 Northbound Ripley Services to Ockham Park Junction

- a) The distance between the existing lay-by located on the A3 Northbound between Ripley services and the diverge to the Ockham Park junction does not comply with CD169 - *The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms*. This is because:
- DMRB CD 169; paragraph 3.7 requires a separation of 450m between a lay by and an at grade junction. The RHS Alternative Design provides a separation of 370m which does not comply.
- b) The connector slip road linking the A3 northbound to the Ockham Park junction is not compliant with the requirements set out in DMRB CD 122. This is because:
- DMRB CD 122; paragraph 5.8 requires a length of near straight (with a radius no less than 1020m) to be provided at the back of nose, at least equal in length to the nose. The RHS Alternative design makes no allowance for a near straight.
 - DMRB CD 122; paragraph 5.4 requires the slip road to be designed with a minimum design speed of 70kmph. The RHS Alternative design shows an insufficient length of slip road between the circulatory carriageway and the back of nose, it is not possible to fit the vertical geometry required by the design standards within this length.
 - DMRB CD 122; paragraph 3.33 requires the mainline Stopping Sight Distance (SSD) [295m] to be provided along the slip road up to the give way line at the circulatory carriageway. The slip road leading from the A3 northbound to the Ockham Park junction as shown on the RHS Alternative design is not of a suitable length to provide the vertical geometry required to achieve the SSD.
- c) DMRB CD 122; paragraph 4.5 requires a minimum weaving length of 1000m between a full grade separated junction and a service area. The RHS alternative design shows a weaving length of just over 1km but as detailed above other aspects of the design are not compliant. In addition, the RHS alternative design has shown the notional merge and diverge to be less than the required 150m. To make the RHS alternative design compliant, the weaving length would need to be significantly less than 1km



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<p>tthc the Traffic, Transport & Highway Consultancy</p> <p>Office at: Marshfield - St Anne's Building, South Street, Marshfield, MK16 0JZ (Tel 0121 224 2811 - Fax 0121 224 2812)</p> <p>London - Maple Park, 34 South Bank Street, London, W1K 9NF (Tel 020 7344 9711 - Fax 0207 476 1100)</p>				
PROJECT				
RHS, WISLEY - A3				
DRAWING TITLE				
OCKHAM ROUNDABOUT SOUTH-FACING SLIPS (INCLUDING RIPLEY SERVICES) - OPTION 1				
DRAWN				
RHS, WISLEY				
SCALE				
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UD MH M11514-A-051				
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PROJECT NUMBER				
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Appendix C. Distance Table Route Comparison (DCO and Existing)

DCO (M25 J10 / A3 INTERCHANGE) - MEASURED DISTANCES BY ROUTE

From A3 South to RHS (Distance Plot 1 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	5,965	-
Existing (via Send and Ripley)	6,110	145
DCO Scheme (via A3)	11,850	5,885
DCO Scheme (via Send and Ripley)	6,410	445

To A3 South from RHS (Distance Plot 2 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	8,845	-
Existing (via Send and Ripley)	9,975	1,130
DCO Scheme (via A3)	11,325	2,480
DCO Scheme (via Send and Ripley)	6,450	-2,395

Round Trip A3 South-RHS	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	14,810	-
Existing (via Send and Ripley)	16,085	1,275
DCO Scheme (via A3)	23,175	8,365
DCO Scheme (via Send and Ripley)	12,860	-1,950

From A3 North to RHS (Distance Plot 3 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via Ockham Rbt)	4,270	-
DCO Scheme (via Ockham & Link)	4,135	-135

To A3 North from RHS (Distance Plot 4 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	2,405	-
DCO Scheme (via Ockham & Link)	4,735	2,330

Round Trip A3 North-RHS	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	6,675	-
DCO Scheme (via Ockham & Link)	8,870	2,195

From M25(E) to RHS (Distance Plot 5 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via Ockham Rbt)	4,460	-
DCO Scheme (via Ockham & Link)	4,300	-160

To M25(E) from RHS (Distance Plot 6 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	2,865	-
DCO Scheme (via Ockham & Link)	5,235	2,370

Round Trip M25(E)-RHS	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	7,325	-
DCO Scheme (via Ockham & Link)	9,535	2,210

From M25(W) to RHS (Distance Plot 5 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via Ockham Rbt)	4,670	-
DCO Scheme (via Ockham & Link)	4,655	-15

To M25(W) from RHS (Distance Plot 6 of 8)	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	2,450	-
DCO Scheme (via Ockham & Link)	4,760	2,310

Round Trip M25(W)-RHS	Measured Distance (m)	Difference vs Existing (A3)
Existing (via A3)	7,120	-
DCO Scheme (via Ockham & Link)	9,415	2,295

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