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Mr Alan Shepherd
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Highways England
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By Email Only

Re: P/2019/34799 - Highways England Post Submission Note 3

This letter has been prepared to address the comments raised by Highway England's (HE) in their response to Planning Application Reference P/2019/34799, dated 20th December 2019 and the subsequent meeting held on 20th January 2020.

The response is the third response from HE. The HE response acknowledges that most of the comments raised have been addressed in the latest version of the model. The two primary matters that remain outstanding are agreement on the M6 J20 mitigation model and the merge/diverge assessment. These matters are considered in detail below.

It was agreed in-principle at the meeting on 20th January that Curtins' response (as outlined in this note) satisfactorily addresses the outstanding points. Formal agreement is now sought in response to this note to enable the planning application to proceed.

1. M6 Junction 20 Mitigation Model

The latest HE response acknowledges that a number of comments were made on the proposed mitigation modelling in the last HE review and the developer has either amended the design or the model to account for these comments. HE states that this process has introduced a number of new issues that need addressing. These are summarised below in *italics* with Curtins response beneath in red.

Supply of geometric take-offs to Atkins in order accurately check the coding of the saturation flows in the revised model.

A CAD version of the geometric take-offs is attached together with the latest LinSig models.

There are a number of locations where queuing on the circulatory carriageway is more than can be accommodated without blocking the upstream exit, which could lead to an overestimation of the capacity of the network. For example, this occurs on J1:5-2, J1:8-3 and J2:8-1;

The LinSig model demonstrates that the queues shown on J1:5-2 and J1:8-3 will fit in the available stacking space. Any excess queue in J1:5/2 will extend to J2:10 where the model shows no queues.

It is acknowledged that the available space for J2:8-1 could be exceeded on occasions during peak hours, however it is worth noting that MOVA is proposed as part of the junction improvements. Research has identified that installation of MOVA increases throughput and minimises delay by dynamic optimisation. The impact of MOVA has not been considered as part of this assessment and therefore it is considered that the above results presents a worse-case scenario.

Any potential blocking would only be opposed by traffic travelling from the A50 Knutsford Road to Grappenhall Lane. A review of the traffic figures shows a maximum of 90pcus in the AM peak and 40pcus in the PM peak undertaking this movement in the 2029 'with development' scenario. This is less than 2 cars every cycle in the AM peak and less than 1 car every cycle in the PM peak, and is therefore not considered a significant issue.

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In addition, it is also likely that any excess queue would extend along J2:2. The model indicates that there is space available on this link to store any potential excess queue from J2:8/1. It is Curtins view that any excess queues in this location could also be managed by the implementation of a yellow box and installing queue detectors.

Lanes J2:1-2, J1:5-3, J1:4-3 should be 'nearside'. There still remains no justification for the reason(s) these lanes are coded as other than 'nearside';

The model has been updated to reflect this request.

Supply supporting analysis for the appropriateness of the modelled merges between the two junctions. While our initial review has concluded that the base LinSig model is appropriate to draw broad conclusions to the appropriateness of the proposed mitigation, the addition of merges between junctions in the model with mitigation will not accurately reflect the impact of blocking back from these merges, causing knock-on consequences for the operation of the M6 Junction 20.

Link saturation flows were initially used to model the merges between the two junctions, as per the approved model for the Stobart's development. This regulated the volume of traffic travelling towards the SRN.

Curtins modelled the merge as uncontrolled bottlenecks, a deviation from the approved Stobart's model following a request by Atkins. The consequence of modelling the merge as an uncontrolled bottleneck is that all traffic is able to reach the Grappenhall Lane roundabout unobstructed to the M6 J20 and therefore the model demonstrates the worst-case impacts of the development on the SRN.

It is important to note that the approved base model has also adopted this methodology and therefore any assessment of the benefits of the mitigation measures is comparable.

Curtins have provided the ARCADY model titled 'M6 J20 Eastern Rbt-Proposed Improvement' to support the 'maximum flow while giving way' and coefficient values for movements from arm J1:3. Atkins finds that the modelling of this junction is not suitable due to the segregation of the left turn and ahead lanes at the Cliff Lane approach. It is therefore required to model each of the lanes separately to determine the saturation flow for each lane of traffic.

The methodology used to determine the saturation flow was adopted from the approved Stobart's model and used in Curtins base model which has been accepted by HE as suitable and appropriate. It is therefore considered that using a different methodology to determine the saturation flow for the proposed scenario is not appropriate for a fair comparison.

In addition, Highways England has not yet received geometric take-offs and hence can't review the geometrics in the model. The lane length of 60pcu for J1:9-3 appears unrealistic and should be reassessed.

The length of link J1:9-3 has been updated. A CAD version of the geometric take-offs is also attached.

2. Merge/Diverge Assessments

Concentrating on the evening peak hour assessment, where there is a more onerous requirement, the current proposals deliver more generated traffic than the Stobart proposal; a 10.7% increase in traffic (at 2022 traffic forecasts) against the Stobart proposal's 8.6% increase. Whilst the existing provision does not necessarily meet the design standard required, we would re-iterate that we would welcome Curtins comments regarding the analysis and more substantial mitigation offerings, notwithstanding the similar impact arising from the Stobart proposal.

The capacity of the merges and diverges is a pre-existing issue. This is set out extensively in Section 8.4 of the TA.

It should be noted that the merge/diverge issue in the PM peak at the northbound on-slip is partly due to a significant number of northbound vehicles using the slip road to avoid congestion on the mainline. The survey data used to inform the assessment confirms that in the PM peak there were 415 vehicles undertaking this

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movement. If these vehicles were removed from the slip road and added to the mainline, it would alleviate the issue to a degree, but the junction form would still be exceeded. It is therefore Curtins view that the key issue with the merge/diverge in this location is the mainline capacity rather than the merge/diverge itself.

Moreover, HE made no request for the Stobart applicant to mitigate or contribute to any enhancements and given the comparable development impacts it is not clear why the Six:56 applicant should be expected to provide mitigation where other developments supported in the last 6 months have not had to do so.

3. Cumulative Impact Assessment

We have not had any comments regarding the cumulative impact of the Warrington Local Plan developments as per our response of 16th October.

The assessment undertaken by Curtins includes traffic associated with 1,024 committed residential units and the Stobart's development. It is our view that any traffic growth along this corridor will largely be as a result of these developments.

In addition to the above, background traffic growth of 2.4% in the AM peak and 2.2% in the PM has been used for the opening year 2021. In the future year of 2029 a growth factor of 9.5% in the AM peak and 9.1% in the PM peak has been used. These are robust traffic growth figures over and above the committed development flows.

The TA also considered the cumulative impact of the emerging local plan using the Warrington Mutil-Modal Transport Model (WMMTM). A review of the WMMTM data, which is summarised in Tables 7.1 – 7.4 of the TA indicates that the development is likely to have an impact of 5% in the AM peak and 13.8% in the PM peak in the opening year of 2021. For the future year of 2031, there is 1% impact in the AM peak and 8% impact in the PM peak.

It is however worth noting that, a comparison of the traffic data from the WMMTM and that used to undertake the assessment by Curtins used for the TA confirms that the traffic data used by Curtins is significantly higher. On this basis, it is our view that the assessment is robust and provides sufficient cumulative assessment of the Warrington Local Plan.

4. Conclusion

It is Curtin's view that the above analysis does not alter the conclusions of the previously submitted Transport Assessment and we trust that the above provides sufficient clarification to the concerns raised in the consultation response.

We trust that the above addresses all your concerns for you to remove your holding objection.

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