

Applicant's Response to Secretary of State

Appendix 2

APPLICANT'S POSITION ON STAGE 1 ROAD SAFETY AUDIT

1. There are two issues arising from the Stage 1 RSA which were still the subject of consideration by Highways England (HE) at the close of the Examination and which are referred to in the Secretary of State's letter. From discussions with HE in recent days the Applicant believes that the issue in relation to the pedestrian crossing on the A449/A5 Link Road has been resolved to the satisfaction of HE. Nonetheless the Applicant thought it would be appropriate to set out the Applicant's position clearly on both issues whilst at the same time identifying and providing all the relevant material, some of which was submitted to HE following the close of the Examination.

Pedestrian Crossing on A449/A5 Link Road

2. Details of the preferred location of the pedestrian crossing was submitted to the Examination at Deadline 8 (see [Document 2.9C \(REP08-030\)](#), drawing 70001979-GA-103 Rev I). The crossing had previously been proposed further to the east but was moved to the currently proposed location in response to the original safety audit which required the crossing to be on the desire line of Non-Motorised Users (NMU) travelling along the A449. A departure from the design standards provided by the Design Manual for Roads and Bridges would be required were the crossing to be located further to the west. No departure is required for the proposed position of the crossing.
3. Within its Deadline 8 submission of 21 August 2020 ([REP08-053](#)), Highways England advised of issues relating to potential implications arising from traffic queuing back from the crossing to the proposed roundabout with the A449.
4. Since the closure of the Examination, Highways England have received a further Stage 1 Road Safety Audit which considered the crossing in the revised location as shown on drawing 70001979-GA-103 Rev I. This audit confirmed the location of the crossing to be appropriate in relation to the desire line but identified that it needed to be demonstrated that the provision of adequate visibility for road users towards the crossing and impact on queues, were acceptable.
5. The Applicant has endeavoured to move this matter forward with HE and has submitted Technical Note 46 "*A449 / A5 Link Road Signal Controlled crossing*", which travels with this Appendix.
6. Technical Note 46 provides details of how the further issues identified by the additional Safety Audit can be addressed, providing further clarity on the predicted queue levels obtained from the traffic modelling undertaken of the operation of the signal controlled crossing, as well as identifying how any residual queues that may occur can be accommodated. In addition, it provides details of how adequate visibility towards the signal controlled crossing would be provided in accordance with CD 116 of the Design Manual for Roads and Bridges.
7. The conclusion of TN46 is that the signal controlled crossing of the A449 / A5 link road as submitted at Deadline 8:
 - i. is provided in a location that does not require any departures from design standard;
 - ii. is positioned such that it does not require Non-Motorised Users to deviate from their desire lines;

- iii. can accommodate satisfactorily any queuing traffic; and
 - iv. has suitable visibility towards the crossing which can be provided in accordance with the relevant design standards.
8. Signage is a matter that can be dealt with at the detailed stage as part of the overall signage strategy for the site, which is a position Highways England have accepted in respect of the other highway works proposed by the Applicant which affect the Strategic Road Network.
9. As a result, the Applicant understands that HE is content that the provision of a pedestrian crossing on the A449/A5 link in the vicinity of the roundabout on the A449 is acceptable in principle. Accordingly, the requirement referred to by the Secretary of State would be appropriate.

M6 Junction 12

10. The Secretary of State has asked HE to comment on safety concerns of the circulatory junction at Junction 12 of the M6. The Secretary of State will note that the Applicant's position was set out in Technical Note 40 (Rev B) which was submitted to the Examination in July 2019 ([REP5-005 App 11](#)). Updated versions of TN40 were submitted to HE during August 2019 in which additional material was included to address its concerns. The latest version of TN40 Rev D is enclosed with this letter.¹
11. Section 4 of TN40 is the relevant section, which deals with an analysis of accidents occurring at the junction, and concludes that the incidents are all slight and do not have a common cause (paragraph 4.2). Section 4 of TN40 was expanded to deal with accidents at the M6 roundabout at the request of HE on the basis of there being reference to the A5 corridor in the original RSA. The RSA stated, at paragraph 3.1.14:
- "Summary: Proposed development of the WMI site has the potential to increase the risk of collisions on the A5, especially at Gailey Roundabout.*
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- RECOMMENDATION**
- Collision investigation be carried out on this section of the A5 (including Gaily [sic] Roundabout) and remedial measures proposed to help reduce the possibility of an increase in collisions once the WMI development is completed."*
12. The issue of impact on Gailey Roundabout has since been addressed to the satisfaction of HE.
13. It is worth noting that the specific concern raised in relation to accidents was directed at "the A5 (including Gailey Roundabout)" and no mention was made of the Junction 12. Nonetheless, at the request of HE, detailed consideration was given to J12. Discussions with HE and its advisors following its receipt of TN40, established that HE was seeking further information to demonstrate that traffic speeds on the circulatory carriageway approaching the M6 Junction 12 south bound off slip are not a causation factor in the number of incidents reported at this location. The Applicant believes that the information and analysis included in TN40, submitted to HE on 19 August 2019, provided sufficient information to demonstrate the position. The Applicant understands that HE has no unresolved matters in relation to any other approaches to M6 Junction 12.
14. Para 4.31 of TN40 Rev D provided, as part of its analysis of the accident incidences, details the geometry of the circulatory carriageway at M6 Junction 12 on the approach to the south bound off slip. The conclusion is that the geometry of the circulatory carriageway on the

¹ There were two TN40 updates produced in August 2019. Both have Rev C and August 2019 referred to in the table on the front page. The version submitted with this letter is the second of those TN40 and travels under the file name Rev D and is the most up to date version. This is notwithstanding the reference to Rev C in the table and in para 1.3 of the note, both of which should refer to Rev D.

approach to the south bound off slip is such that it militates against high vehicle speeds and so they are not considered to be a contributory factor, particularly as the severity of the incidents recorded are all "slight".

15. Following receipt of the letter of 24th January 2020 from the Secretary of State, further discussions were held between the Applicant, HE and its advisors in relation to this matter. HE indicated that, to address this matter to its satisfaction further clarification of the geometry of the circulatory carriageway at M6 Junction 12 was required, specifically in relation to the carriageway radii around the roundabout on the approach to the south bound off slip.
16. The measured lane radii of the circulatory carriageway on the approach to the southbound off slip was therefore provided to HE on drawing 70001979-SK-114 Rev B (attached). This is shown for both lanes, plus the centre of the circulatory. Reference is made on the drawing to the Design Manual for Roads and Bridges document CD109 Highway Link Design at Table 2.10 and that a 90 metre radii is "two steps below" the design requirement for a 50 kph (30 mph) road. The maximum radii of the circulatory carriageway approaching the southbound off slip is shown to be 83m. Therefore, the radii on the carriageway of the approach to the south bound off slip is tighter than that which would be prescribed for a road with a design speed of 50 kph in order to accommodate vehicles travelling at this speed. If a more generous carriageway radii were provided, then this would be more likely to facilitate higher circulatory vehicular speeds.
17. As CD 109 deals with Highway Link design, HE then requested consideration be given to Design Manual for Roads and Bridges document CD 122 Revision 1 "Geometric Design of Grade Separated Junctions" in order to ascertain whether there is any specific design requirement as it relates to the circulatory carriageway and vehicular speed.
18. This document deals with the design requirements for merge / diverge lanes joining the mainline carriageway. It does not provide relevant advice in terms of design requirements and any relationship with the speed of circulatory traffic at junctions. At Appendix A, examples of types of Grade Separated Junctions are provided. At page 59 of CD 122, the example of the "Two Bridge Roundabout" configuration is given, which is the type of grade separated junction provided at M6 Junction 12. CD 122 states that "*the requirements and advice on the geometric design of the roundabout elements of this layout are provided in CD 116 (Ref 3.1)*".
19. CD 116 "Geometric Design of Roundabouts" has therefore been reviewed in order to ascertain whether any specific design requirement apply as it relates to the circulatory carriageway and vehicular speed.
20. The Note at paragraph 3.21 of CD 116 states that the entry path radius "*... is the most important determinant of safety at roundabouts because it governs the speed of vehicles through the junction and whether drivers are likely to give way to circulating vehicles*". The entry path radius for traffic entering the roundabout from the west on the A5 entry to the roundabout has been examined as this will provide the entry point for traffic joining the roundabout prior to the M6 south bound off slip. This is shown on drawing 70001979-SK-114 Rev B and indicates a radius of 84m.
21. At paragraph 3.26, CD 116 states that "*At normal roundabouts, the entry path radius shall not exceed 100 metres*". As shown on drawing 70001979-SK-114 Rev B, the entry path radius from the A5 onto J12 is less than 100m, which must limit vehicle speed entering the circulatory carriageway from this direction. For clarity, CD 116 states at page 10 of the Definition and Terms Section that for design purposes, a large roundabout should be treated as a normal roundabout. It is therefore correct to apply the 100 metre radii at this junction.
22. Whilst the circulatory carriageway approaching the south bound off slip is not a highway link, in the absence of categoric advice provided in terms of geometric requirements of the alignment of circulatory carriageway of roundabouts, consideration of the carriageway radii on the basis of CD 109 provides a proxy against design speed. Given that the entry path radius of the A5 from the west does not exceed 100m and the carriageway radii does not

provide a straight alignment, in combination, these geometric factors do not provide a situation where high circulatory vehicle speeds would be encouraged or facilitated.

23. It is noted that the posted speed limit of the M6 Junction 12 is 50 mph, however the design of the circulatory carriageway approaching the south bound off slip is not consistent with such a design speed. Therefore, it would not encourage nor accommodate high circulating vehicle speeds.
24. Consequently, it remains the view of the Applicant that high vehicular circulatory speeds approaching the southbound off slip at M6 Junction 12 are not a contributory factor for the incidents shown and the analysis set out in section 4 of TN40 is correct.
25. Following receipt of this information HE then indicated that, in the absence of high speeds being the cause, it was for the Applicant to identify the precise cause of the incidents currently occurring which it categorised were resulting from "a failure to look properly".
26. The Applicants view on causation factors remains as expressed in para 4.25 to 4.32 of TN40. This sets out the possible reasons for the incidences, all of which are addressed by either the HE's maintenance regime being carried out (overgrown vegetation) or signage. The only other cause is simply human error, such as distraction by mobile phone,
27. Whilst HE have been focused on the issue of accidents at J12 it is relevant to note that:
 - a. Since the data that was provided for TN40, more recent accident data has demonstrated that the number of incidents at the south bound off slip has reduced. The most recently available data available is for the period 2014 to 2018 inclusive and shows that four incidents have occurred on the south bound off slip i.e. less than 1 per annum. The number of incidents shown during the period 2011- 2016, as assessed within TN40 Rev D, amounts to nine incidents i.e. 1.8 per annum. The most recent data shows all incidents to be of a "slight" severity²; and
 - b. The typical national accident rate for a junction of the type at M6 J12 and level of traffic volume forecast at 2021 is 3.2 accidents per year, taking the roundabout as a whole. Over the last five years, there have been no more than 2.6 accidents per year³. This does not suggest a pre-existing safety record at the junction that would require mitigation.
28. In conclusion, there is therefore nothing to indicate that the geometry or other aspects of the junction are responsible for the incidents that have occurred or that there is a safety issue with the roundabout.

² Source - <https://www.crashmap.co.uk/>

³ Source - Colbolt