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TECHNICAL NOTE

Project: P1302: Junction A52/Whiston Eaves Lane
Date: 13/10/15
Title: Moneystone Quarry – Junction Sight Line Assessment

Introduction

1 Paul Mew associates were instructed by the Whiston Action Group to provide an expert witness report on the suitability of the proposed junction improvements at Whiston Eaves Lane junction with the A52 to accommodate new traffic generated by the Moneystone Quarry redevelopment.

2 This report has been prepared by Paul Mew BSc, MSc, MCIHT, MCIT. Mr Mew is a registered Law Society expert witness and has given traffic evidence at many public enquiries including major developments of motorway service areas covering aspects such as junction design, junction capacity and road safety.

Sight Lines

3 Jim Long wrote to Mark Lynch at High Peak DC regarding sightlines stating that the proposed junction layout

'struggles to meet the standards set out in DMRB'

4 Brian Laird the Technical Director (Transport UK North) Infrastructure said

"although the layout of the junction is substandard the accident history does not indicate an inherent road safety issue".

5 Both agreed that the junction has substandard sight lines however because there have been no accidents and that a 30mph speed limit is to be introduced the design should be acceptable.

6 The applicant claims that a speed limit of 30mph can be introduced on the A52 however there is no guarantee that this speed will be achieved unless physical traffic calming such as road humps or chicanes are introduced and this would be unlikely for a road of this status, being an A road serving as a regional distributor road. In the absence of speed restraint measures it is usual to assume drivers will travel above the speed limit when designing visibility splays.



7 As there is no certainty that speeds will remain at or below 30mph, Manual for Streets 2 [MfS2] says that in 30mph speed limits the 37mph 85th percentile will generally be achieved [MfS2 10.1.3]. A speed of 37mph would require a visibility splay stopping sight distance of 59m [MfS1 Table 7.1]. The maximum achievable sightline to the right is 30m and to the left is 34m [Brian Laird Email to Staffordshire CC]. This is confirmed by a safety audit that was carried out. This document flagged up the poor sight lines as an issue. Paragraphs 9.6.3 states that

“the existing sight lines with a 2.4m setback are only 34m looking left from Whiston Eaves Lane and 30m looking right from Whiston Eaves Lane”

8 The Transport Assessment report in support of the application sets out how sight lines could be improved and 2 options are proposed;

9 Option 1 proposes a 30mph speed limit and a right turn lane that improves sight lines to the left to 49m with sight lines to the right remaining at 30m. The right turn lane is considered necessary to meet the mandatory requirement that a right turn lane should be considered where the two-way flow of traffic on the minor road (Whiston Eaves Lane) exceeds 500vpd as would be the case with the proposed development. [DMRB TD42/95]

10 Option 2 proposes a kerb build out with a narrowing of the A52 however no right turn lane is provided in this option. With this option there is no scope to provide a pedestrian refuge or footway along the northern side of the A52 adjacent to the public house. This option bring the give way line further forward and as such has a visibility of 45m to the left and 53m to the right. If this scheme is considered viable it could almost achieve the visibility criteria set out in Manual for Streets provided that the 85th percentile speeds can be reduced to 37mph. Further information is required to justify why a right turn lane, although considered necessary for the first option was dropped for the second option. Discussion should also be provided on the lack of footpath and pedestrian crossing in this option.

11 Option 1 is favoured and this design is for a right turn lane. However as said, it does not improve sight lines looking to the right from Whiston Eaves Lane. Visibility to the right is especially important where approaching vehicles on the A52 are approaching the junction down a fairly steep hill and would be hidden from the view of a driver turning out of Whiston Eaves Lane until only 30 metres away.



12 The safety audit flagged up the limit that is placed on forward visibility created by the wall on the south side of the A52 to the east of the junction (looking right from Whiston Eaves Lane)

13 It is accepted that there have been no reported personal injury accidents in the 5 year period studied however it is a fact that reported injury accidents are rare events and for this reason it is very difficult to correlate accidents and substandard visibility.

14 The proposed Moneystone Quarry development would significantly increase traffic using Whiston Eaves Lane introducing new drivers to the junction where visibility distance to the right is around half of that recommended by Manual for Streets. The Royal Haskoning Transport Assessment Report dated October 2014 advised that

'the proposed development will generate a significant increase in traffic flow at this junction'. At paragraph 9.6.3 it is stated that 'the increase on Whiston Eaves Lane will be 150%. On the west arm of the A52 the increase will be 20% and on the east arm of the A52 the increase will be 9%'. These are all significant increases.

15 In summary, while it is reasonable to apply some common sense to the interpretation of design standards, the achievable sight lines are so far below standards that it is a serious safety concern to consider loading more traffic onto a substandard junction that is not capable of providing reasonable sight lines. By doing so the risk of injury accidents occurring would increase.

Sneyd Arms

16 The decision notice for planning consent that was granted for a development on the Sneyd Arms pub site for dog training. This is a relatively minor traffic generator however the applicant's consent was conditioned such that they have to safeguard a visibility distance of 120m along the A52 in the interests of highway safety. [Condition 6 of planning consent decision letter SMD/2014/0676]. Obviously this requirement is based on a speed limit of 40mph and that visibility meets the DMRB stopping distance for a speed of up to 44mph. It does illustrate that speed and sightlines are taken to be an important consideration along this stretch of road and that the appropriate stopping sight distances should apply.

17 This site is on the outside of a bend in the A52 and as such it will enjoy longer sight lines than is afforded to traffic emerging from Whiston Eaves Lane which is on the inside of a bend of the A52. I regard this sightline requirement as setting an important precedent for later planning applications, that sightline standards should be rigorously applied.

18 In summary the proposed development will add new traffic to a junction where visibility is poor and falls well short of the required standard for highway safety. As such the junction should not be used to access the proposed development.