

Stage 1 Road Safety Audit – Designers Response (Newgate Lane/Newgate Lane East, Proposed Signalised Junction)

REF: BRS.4989

DATE: MARCH 2020

1. This designer's response has been prepared by Pegasus Group in response to the Stage 1 Road Safety Audit (RSA1) prepared by Andy Paul, Road Safety and Highway Engineering Consultant and Kevin Seymour, Road Safety Consulting Ltd, to support planning application references: P/19/0460/OA and P/18/1118/OA for up to a total of 190 residential dwellings at land off Newgate Lane, Fareham.
2. The RSA1 assessed the option of signalisation at the Newgate Lane/Newgate Lane East junction. The following documentation was provided to the auditors ahead of the audit:
 - i. Drawing No. BRS 4989 Figure 16 Rev A;
 - ii. Location Plan;
 - iii. Transport Assessment;
 - iv. Transport Technical Note;
 - v. Traffic Modelling Data; and
 - vi. Red Wilson Associates Technical Note (January 2020).

Problem 2.1 – Location – Junction Right Turn Lane

3. The RSA1 only identified one problem and recommendation as follows:

Problem

4. Potential collisions between northbound vehicles on Gosport Road and vehicles turning right into Newgate Lane.

5. The traffic signal staging diagram doesn't appear to show the Gosport Road southbound right-turn phase operating within a signal stage. DMRB CD123 states that, where the 85th percentile approach speed is greater than 72 kph (45 mph), there is an increased risk of collisions between right-turning vehicles seeking gaps and on-coming vehicles travelling at speed. DMRB also states that where the 85th percentile approach speed is greater than 72 kph (45 mph), right-turns should be separately signalled.
6. Higher northbound vehicle speeds on Gosport Road (particularly in off-peak traffic conditions) may mean that gap acceptance by the drivers of right turning vehicles could lead to right-turn collisions or to sudden braking and shunt type collisions.

Recommendation to Problem 2.1

7. At detailed design stage, signal staging / phasing should incorporate a separately signalled right-turn into Newgate Lane. It would be appropriate to measure northbound vehicle speeds to design signal staging and phasing arrangements accordingly.

Designers Response to Problem 2.1 and Recommendation

8. Traffic count data along Newgate Lane East has been obtained from Hampshire County Council for the period between Monday 24th February 2020 and Sunday 1st March 2020. The counts suggest that the northbound 85th percentile speeds within the vicinity of the Newgate Lane / Newgate Lane East junction are 39.8mph across the seven day survey period. The northbound 85th percentile readings suggest that between the hours of 06:00 and 23:00 speeds remain below 45mph and generally below 40mph. It is therefore considered that during standard hours of free flowing traffic, speeds are lower than the 45mph threshold detailed in DMRB CD123, paragraph 7.16.2.
9. During the peak hours the forecast level of traffic turning into Newgate Lane will be very low. The vehicle flows forecast to make this manoeuvre during the DS2 Base + Committed Development + Development scenarios for the AM and PM peaks are 41 and 49 vehicles respectively, equating to less than one vehicle per minute. It is therefore considered that the right turning vehicles into Newgate Lane do not need to have a dedicated right turn stage.
10. The LinSig modelling of the junction completed by Red Wilson Associates (RWA), issued to the highway authority on 6th February 2020 includes for an option that assessed an indicative right turn arrow stage. The modeller at Red Wilson has advised that due to the low number of vehicles turning right it is assumed that this stage will not be demanded unless required. Vehicles wishing to turn right will likely turn in the interstage period and therefore not trigger the detectors to call the indicative arrow stage. The interstage is 6 seconds which is considered sufficient to allow 2 to 3 vehicles to turn and clear the northbound Newgate Lane before the Newgate Lane stage recommences.
11. During the hours of 00:00 – 05:00, when traffic flows are considerably lower, 85th percentile speed readings peak at 47.9mph. However, the volume of northbound traffic is very low between 00:00 – 05:00 and the volume of traffic turning right into Newgate Lane will be very low to non-existent.

RSA1 Observations

12. On the southbound Gosport Road approach to the junction, the drawing shows lane widths of 4.5m for the straight ahead lane and 3.0m for the right-turn lane. At detailed design stage, it may be more balanced to decrease the straight ahead lane to 4.0m and increase the right-turn lane width accordingly.
13. Currently, there is a traffic island protecting the right-turn lane from southbound vehicles on Gosport Road, as shown below. It is unclear from the drawings whether this island will remain in place or be replaced by a similar traffic island. It may be prudent to retain a traffic island at a suitable position in the final scheme design.

Designers Response to RSA1 Observations

14. With regard to the observation at Paragraph 12, the southbound and right turn approaches on Newgate Lane East can be amended, subject to discussions with HCC and further investigation of the impact on the modelling results.
15. With regard to the observation at Paragraph 13, an island segregating right turning traffic from southbound travelling vehicles can be provided within the final scheme design, subject to discussions with HCC.