
Technical Report

Project: Newgate Lane, Fareham
Client: Pegasus
Subject: Summary of Proof of Evidence

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Summary of Proof of Evidence by Miss Martha Hoskins

In Respect of

**Outline Planning Application for Land at
Newgate Lane (North), Fareham**

and

**Outline Planning Application for Land at
Newgate Lane (South), Fareham**

Introduction

- 1.1. I, Martha Hoskins, am a Senior Consultant at Red Wilson Associates (RWA) with six years' experience in traffic engineering and modelling.
- 1.2. I can confirm I have a full understanding of my duty to the Inquiry and have complied, and will continue to comply, with that duty. I confirm that the evidence which I have prepared identifies all facts which I regard as being relevant to the opinion that I have expressed and that the Inquiry's attention has been, or will be, drawn to any matter which would affect the validity of that opinion, irrespective of by whom I am instructed. I believe that the facts stated within this proof are true and that my opinions expressed are correct and in accordance with my professional skills and experience.
- 1.3. RWA were appointed by Bargate Homes Ltd and Fareham Land LP on 8th November 2019 to undertake VISSIM and LinSig modelling assessments at the junction of Newgate Lane East and Old Newgate Lane in Fareham, Hampshire. This was to support the application by Fareham Land LP and Bargate Homes Ltd. for two housing developments; Newgate Lane (North) (LPA ref. P/18/1118/OA) and Newgate Lane (South) (LPA ref. P/19/0460/OA) respectively. I have been leading on the traffic modelling of the site since RWA's instruction.
- 1.4. My role in the planning application was to act as the modelling specialist to assist in understanding the impact of the two housing developments as a combined assessment and more recently independently of one another.
- 1.5. The following Proof of Evidence (PoE) outlines the base model validation and the future modelled scenarios tested in VISSIM. It explains how the models were constructed as well as how data has been sourced. It also provides details of the LinSig modelling and the signalised options that were tested.

- 1.6. The appropriateness of the physical design improvements of both the right turn lane and signalised junction between the Newgate Lane East junction with Old Newgate Lane is addressed in the Statement of Common Ground on Transport (SCOGT) and within Mr Anthony Jones' Proof of Evidence. This Proof of Evidence demonstrates that the models are set up in accordance with best practice to accurately represent existing base conditions and the future layout in the drawings provided by Pegasus Group. This PoE also sets out the appropriate justification and evidence to support the modelling of the proposed signalised junction including for appropriateness of using an indicative arrow stage on the right turn manoeuvres into the Old Newgate Lane minor arm. My PoE also summarises the results of the modelling. However, the interpretation of the results in terms of compliance with both national and local policy is addressed by Mr Jones in his PoE.
- 1.7. The VISSIM modelling has been created in accordance with Transport for London's Traffic Modelling Guidelines and Highways England WebTAG which are widely known as the leading guidelines for modelling within the industry.
- 1.8. The reasons for refusal associated with this PoE is as follows:
 - h) The proposed development would have an unacceptable impact on the junction of old Newgate Lane / Newgate Lane East resulting in a severe impact on the road safety and operation of the local transport network;*
- 1.9. I will detail the modelling assessments undertaken for the planning application and state how they align with best guidance and existing policies.

VISSIM Modelling

- 1.10. At the time of writing, HCC currently indicate that the implementation of the developments will have a negative impact on the junction in that they will result in excessive queueing on Newgate Lane eastbound (the minor arm) due to an increase in the volume of traffic using the junction. They are concerned that the current proposed methods of mitigation are not suitable.
- 1.11. As modelling is ongoing it is anticipated that some of these concerns will be overcome in advance of the inquiry. The base model has been approved by Atkins, the auditors acting on behalf of HCC.
- 1.12. On completion of the validated base model, the flows were updated to represent both the 2024 opening year scenario without the proposed development at Newgate Lane and scenarios with the two developments independently and combined.
- 1.13. When compared with the 2024 without development scenarios, the journey time results demonstrate that the introduction of the developments will result in an increase in the journey time, queueing and delay for vehicles exiting Newgate Lane particularly in the AM peak. As such it is recommended that mitigation is introduced at the junction.
- 1.14. A priority junction option was produced (Option 3) and the proposed scenarios have been tested in the layout to assess the improvements it has on the existing layout. However, the modelling demonstrated that the development cannot be mitigated using a priority design at the junction.
- 1.15. As such a signalised junction is proposed at the junction of Newgate Lane and Newgate Lane East.

Signalised Junction Proposal

- 1.16. RWA were appointed by Pegasus to review the LinSig modelling of the potential signalised junction option they had developed for the Newgate Lane access onto Newgate Lane East. We were also appointed to assess the viability of a signalised junction.
- 1.17. It is my understanding that HCC have two remaining concerns regarding the signalisation of the junction:
- Firstly, the provision of an indicative arrow meaning that vehicles turning right would be expected to gap accept until the illumination of the right turn arrow if demanded;
 - Secondly, HCC do not agree with the assumptions made regarding the merging on the northbound exit of the junction.
- 1.18. The use of this traffic signal design method is clearly described in Sections 3.5 and 8.3 of Chapter 6 of the Traffic Signs Manual. In which section 8.3.1 specifically states that the method is common (see core document CDH.7 for Chapter 6 of Traffic Signs Manual).
- 1.19. This is supported in CD 123 which states in section 7.16.2 that on roads with design speeds of 72 kph (45mph) right turns should be separately signalled. Above this value there is an increased chance of accidents when the approach speed of the opposing movement is above 45mph.
- 1.20. In the example of Newgate Lane, the 85th percentile design speed of the northbound traffic would need to be below 45mph.
- 1.21. Data collected on vehicle speeds on Newgate Lane by HCC was provided to Pegasus Group. The design speed of the road is appropriate with the 85th percentile speeds falling below the recommendations set out in Chapter 6.
- 1.22. Opportunities to turn would be readily presented to drivers either by the appearance of the indicative arrow, or if the arrow was not called, drivers would, as is normal, turn right in the gap between the main road terminating and the side road receiving green.

- 1.23. In the case of Newgate Lane with Newgate Lane East the volume of traffic turning into Newgate Lane is low in the proposed scenarios. This would mean there would be an average of one to two vehicles turning right each cycle. If the indicative arrow detector is positioned correctly then these vehicles will not demand the indicative arrow stage and instead will clear in the intergreen if they have not had another opportunity in the cycle to gap accept. The design produced by Pegasus Group currently demonstrates space for three vehicles to wait within the junction in front of the stop line.
- 1.24. It is my professional view that a signalised junction with an indicative arrow facility is appropriate at this location.
- 1.25. The concerns owing to the merging on the northbound exit of the junction regard the imbalance in the volume of flow that will use the two ahead lanes at the junction and merge on the exit. HCC have stated that they consider a realistic vehicle split would be 90:10. They have not produced any evidence to show this. However, as the merge is situated approximately 110 metres downstream of the junction, it's my professional opinion that assuming 70:30 would be a cautious approach.
- 1.26. It is my view that vehicles will likely queue equally on the approach to the junction and that cycle by cycle the lane usage is likely to vary. It is effectively a self-regulating situation whereby when road users are queuing, if they see an empty lane next to them, they are likely to use this in order to reduce their journey time and the delay they experience.

Summary

- 1.27. VISSIM modelling has been undertaken of the junction and a robust and validated model of the existing layout has been produced. This model has then been used as a baseline to assess the impact of the developments both individually and together.
- 1.28. It is not possible to mitigate the impact of the development with a priority design as it does not allow control of the most significant movement at the junction; Newgate Lane East northbound.
- 1.29. A signalised junction is therefore being proposed at the location which includes an indicative arrow for vehicles turning right from Newgate Lane East to Newgate Lane.
- 1.30. This junction has been designed in accordance with the Traffic Signs Manual Chapter 6 and CD 123- Geometric design of at-grade and signal-controlled junctions design standards. This design is also common practice across the UK; as such it is my professional opinion that this is an appropriate junction design at this location.
- 1.31. It is my professional opinion that an indicative arrow is a safe method of mitigating the impact of the development at the junction of Newgate Lane with Newgate Lane East.