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**For the Attention of Jean Chambers**

Dear Madam

**Land at Newgate Lane (North), Fareham, P/18/1118/OA – Outline planning permission for the demolition of existing buildings and development of up to 75 dwellings, open space, vehicular access point from Newgate Lane and associated and ancillary infrastructure, with all matters except access to be reserved.**

Thank you for consultation on the above planning application. Highway related information submitted under this planning application has been previously reviewed by the highway authority and responses dated 6<sup>th</sup> November 2018 and 11<sup>th</sup> April 2019 have been provided, both requesting further information. The latest submission, titled Transport Technical Note – Newgate Lane and Newgate Lane East Junction (June 2019), aims specifically to address the concerns raised by the highway authority in relation to the proposed signalisation of this junction to address forecast capacity issues at the existing priority junction should the development come forward. These concerns in relation to modelling are copied below.

**Old Newgate Lane / Newgate Lane East (current layout)**

- *A FLAT profile has been used, with a 90-minute time period. Single time segment only has not been ticked as per the Junctions 9 user guide.*
- *It is noted that the traffic flows have been inputted as vehicles and not PCU's.*
- *The base flows appear correct; however, the other scenarios do not appear to align with the provided traffic flow diagrams.*
- *No commentary has been provided on the model validation methodology. In addition, modelled queues do not appear to reflect existing traffic conditions.*

*Until further clarification is provided the models cannot be considered as a sound basis upon which to assess the future operation of this junction during the various traffic flows scenarios as set out within the Updated TA.*

Old Newgate Lane / Newgate Lane East (Proposed signalisation)

- *Lane 1/2 (Newgate Lane northbound offside lane) – a 10 PCU flare length has been included in the model for this lane. This grossly overestimates the use of the flared lane and provides an unrealistic capacity on this approach. Based on the flare length of 60 metres, the 115 metre downstream merge on the exit, it is considered that very few drivers would use the offside lane. Drivers within 60 metres of the junction will realise that they will proceed through at the next green and therefore will see little benefit from using the offside lane. Those familiar with the route will realise that using the offside lane will require them to re-join the main traffic stream quickly downstream. Experience at other junctions indicates that drivers are reluctant to use the offside lanes as they derive little personal benefit on the approach yet find themselves having to force their way back to re-join the main flow on the exit. The traffic/lane flows in the model have been assigned on delay based balancing which places 49% of Newgate Lane northbound into the nearside lane and 51% into the offside lane for all scenarios. This lane distribution will not reflect actual lane usage. The model should be changed in two ways to reflect this behaviour;*
  - *Reduce the actual use of the flared lane to 1 PCU per cycle to provide a realistic usage reflecting the short flare and merge lengths.*
  - *Lock the traffic assignment on the Newgate Lane northbound approach to 90% nearside lane and 10% offside lane.*
- *Lane 2/1 (Old Newgate Lane nearside lane) – a 7 PCU flare length has been included in the model. Physically the flare lane is no more than 1 or 2 PCU long and the flare length should be reduced accordingly.*
- *Lane 2/1 (Old Newgate Lane nearside lane) – the saturation flow does not include the turning radius for this movement. This should be included in the saturation flow measurements. Its inclusion would reduce the saturation flow for this movement.*
- *Only the cyclic order stage change intergreen values have been checked (stage change 1-2-3-1). The following intergreens require changing;*
  - *Phase A to D intergreen should be 6 seconds and not 4 seconds as modelled.*
  - *Phase C to A intergreen should be 6 seconds and not 4 seconds to match that for phase C to B intergreen*
  - *Phase D to C intergreen should be 6 seconds to match that for the phase B to C intergreen.*

*No review has been made of the results (forecast traffic delays and queues) pending changes to the model and verification of the traffic flows.*

It is understood that this application is to be considered in conjunction with an adjoining plot of land to the south, currently subject to a live application for 125 dwellings (planning ref P/19/0460/OA). The Technical Note considers the cumulative transport impact of both sites coming forward on the junction of old Newgate Lane and Newgate Lane East. The highway authority is only able to comment on the submitted information.

The recent realignment and upgrade of Newgate Lane makes up part of the 'Improving Access to Fareham and Gosport' strategy. The technical assessment for

this strategy assumed development of existing brownfield regeneration sites and not development of greenfield sites along the Newgate Lane corridor. The primary aim of the strategy is to stimulate the provision of employment and investment in employment opportunities within Gosport.

### **Modifications to Methodology, Flows and Distribution**

The highway authority's response dated 11<sup>th</sup> April 2019 raised concerns regarding the methodology employed to determine background traffic growth. It was requested that development traffic from the Gosport Waterfront and Daedalus developments should be manually assigned to the network. It was requested that committed development flows are added to the TEMPro growthed base flows to give the forecast future year traffic flows (with Gosport Waterfront and Daedalus to be removed from TEMPro to avoid double counting). Further information was submitted directly to the highway authority by email 29<sup>th</sup> May 2019; the approach set out above has been adopted and the resulting background traffic growth and base flows presented in the Technical Note are considered acceptable (albeit there appears to be a labelling error in appendix 4, with 'Base 2024 "DS2"' flows incorrectly labelled as 'Base 2024 "DS1"' in both the AM and PM).

However, the development traffic flows, and therefore the flows used to model junction performance, have been amended from those originally submitted and are not agreed. Firstly, the highway authority previously raised the below concern. This has not been addressed in the submitted Technical Note.

*The highway authority have undertaken recent data collection for the completed scheme including traffic flows on Newgate Lane East. The PM southbound flows appear low. The raw survey data, including queue length surveys, should be provided for review.*

Secondly, regarding affordable and private trip rates, the original assessment assumed 100% private ownership. It is accepted that TRICs affordable housing trip rates are lower than that of privately owned dwellings. It is the highway authority's experience that, while developers initially propose a proportion of affordable housing (40% in this case), as the development progresses it is not unusual, often due to viability issues, for this proportion to be reduced. As such, for a robust assessment, the originally proposed trip generation should be maintained; the revised development trips shown in Table 5 are not agreed.

Finally, the Technical Note has also applied a 10% reduction in forecast trip generation, to account for reductions in car trips as a result of the Travel Plan. The final trip generation has not been shown in a table, but is included in flow diagrams at appendix 9. Again, this reduction was not included in the originally submitted Transport Assessment and is unacceptable. Firstly, it is noted that an acceptable Travel Plan has not yet been submitted. Furthermore, the Travel Plans targets are exactly that and do not guarantee that private car trips will be reduced by 10%. Nor does a Travel Plan obligate any party to achieve a 10% reduction in car trips, but rather to make best endeavours to achieve the agreed reduction target. For a robust

assessment, no trip generation reduction is acceptable due to the implementation of a Travel Plan.

The previously agreed trip rates were taken from the application for Newgate Lane East link road itself and were presented by the applicant and agreed by the highway authority as acceptable for the assessment of this development; as such and given the above, these agreed trip rates and subsequent trip generation should be retained for a robust assessment. Given this, the modelling outputs presented in the Technical Note cannot be considered a robust forecast of the future situation and have not been commented on. Regardless, the modelling methodology has been reviewed, comments below.

## **Model Methodology**

Several different models were submitted but, given neither affordable housing or Travel Plan reductions in trip rates are acceptable, only the following scenarios have been reviewed:

- 'Previous' – The previously submitted model with updated flows
- 'Revised' – The revised model to the updated junction design

### 'Previous' model

This model replicates the previously proposed junction layout drawing (Figure 1) contained in the Transport Technical Note. The structure and accuracy of this model has been cross referenced to the earlier model. Changes have been made to the intergreen times and the Old Newgate Lane flare length which are now correct.

Various iterations have been produced which are based around the theoretical use of the Newgate Lane northbound offside lane. The traffic distribution between these 2 northbound lanes has been incremental tested from 50%/50% up to 90%/10% in each lane.

Newgate Lane northbound has been modelled with a 10 PCU flare length. While this matches the physical length, it does not reflect the actual usage, which would be much lower. As stated in the previous response the flare length of 1 PCU should be used. This is combined with the 90%/10% traffic split between the nearside and offside lanes previously requested.

### 'Revised' model

This model has been produced to replicate the updated layout drawing (Figure 2). This layout has extended the length of the flared approached on Newgate Lane northbound. The downstream merge distance has also been increased. Both appear to have been achieved without carriageway widening by using the central hatched area. The Old Newgate Lane nearside lane flare length has also been increased.

Newgate Lane East northbound flared lane has been modelled as an infinitely long lane which is incorrect. A physical lane length of 10 PCU has been assigned to this lane in the model. This doesn't replicate the short flare length. Based on the high

tendency for drivers to remain in the nearside lane and their general reluctance to overtake (queue jumping) when using a flare and merge through a signal junction, the actual usage of the flare should be considerably less than the available flare length. The flared lane should be changed to a short lane and an actual use of 2 PCU's assigned to it to reflect the low use of the flared lane.

The extended flare length and merge would widen Newgate Lane northbound over a distance of around 300 metres before returning to a single lane. Beyond the flared section the single lane section would be around 300 metres long before widening back out again on the approach to the HMS Collingwood junction. For driver continuity and to encourage a material increase in the use of the flared offside lane, investigation of the proposed widening to be continuous between the junctions in the northbound direction should be undertaken.

The use of the flare is integral to the overall junction performance. Various flow distribution splits have been tested for the northbound approach (50%/50% to 90%/10%). While the flare length and merge distances have been increased from those previously proposed, without the continuation of northbound widening between the proposed signal junction and HMS Collingwood junction the use of the flare would tend towards the highly imbalance end the scale.

The proposals now include the Newgate Lane East southbound right turn as a give way movement, rather than signal controlled. This is not acceptable in safety terms and is irrespective of the right turn demand flow. Historically gap seeking right turning across multiple opposing lanes has resulted in poor collision records. It is a particular problem off peak when opposing traffic speeds increase and gaps appear more inviting to turn across. Remedial action has been taken at many junctions to separately signal the right turn movement from the opposing traffic. This movement must be fully signal controlled for safety reasons as the safety risk of drivers' gap accepting when turning right across 2 lanes of opposing traffic is not acceptable. The model should be amended accordingly.

The above comments relating to model input flows and model set up should be addressed to allow the highway authority to comment regarding the acceptability of the junction signalisation proposals.

## **Modifications to Junction**

The following comments were previously made in relation to the engineering aspects of the signal design.

### Signalisation

*Drawing figure 16 proposes signalisation of the junction. The following comments can be made with respect to the engineering aspects of this design:*

- *Provision for pedestrians and cyclists should be considered.*
- *There is concern regarding the two accesses to the south of the junction causing late braking when travelling southbound on a green wave.*
- *This option impacts on highway ditches (OWC) and street lighting.*

- *There will be a negative impact on the free flow of traffic, contrary to the design objectives of Newgate Lane realignment.*

The amended junction design extends the flare, merge and right turn lane lengths on Newgate Lane East, increases the left turn radii, increases the southbound through lane width and extends the flare length at old Newgate Lane egress. These amendments do not address the above comments.

Furthermore, Newgate Lane East southbound ahead lane is shown as 4.5 metres wide. Such a width can lead to poor vehicle alignment at the stop line and could encourage drivers to align alongside each other. A maximum lane width of 4.0 metres is required (the modelling saturation flow should be adjusted accordingly). Newgate Lane East north central island width would need to be at least 2.0m wide to allow safe maintenance of the signal head (to match that on old Newgate Lane).

One further proposed amendment is the change in the right turn movement from Newgate Lane East to old Newgate Lane from signal controlled to give way; this is unacceptable as set out in the Modifications to Methodology, Flows and Distribution section above.

### **Revised Modelling**

No review has been made of the modelling outputs pending agreement of input development traffic flows, amendments to the junction design and amendments to the model setup as set out above.

### **Recommendation**

The additional information submitted does not overcome the concerns previously raised. As set out in this response, there remain a number of outstanding comments that need to be addressed. I am also aware that a number of other matters remain outstanding as set out in my response dated 11<sup>th</sup> April 2019.

Should you be minded to determine the application before this information has been supplied for review, the highway authority should be contacted for reasons for refusal.

I trust the above is clear, but please do not hesitate to contact Nick Gammer on the above number should you wish to discuss anything further.

Yours Sincerely,

Ben Clifton  
Transport Team Leader – Highways Development Planning