



Environment & Transport Business Unit
Paul Castle, Service Director

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My Ref: IW/JA
Your Ref: 2018/0965
Date: 16 November 2018
Enquiries to: Ian Wilson
Direct Dial:
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Dear Andrew,

Re: Planning application 2018/0965 – Signalised gyratory roundabout with improvements to the existing Dodworth Road/Broadway/Pogmoor Road junction and re-configuration of park, Penny Pie Park, Dodworth Road/Pogmoor Road, Barnsley.

I refer to your letter dated 10th October 2018 regarding the above planning application which is currently under consideration.

I am now in a position to provide you with the further information requested, together with the results of the alternative proposal.

Highway Options

As you are aware, the existing highway layout already operates at capacity at peak times. The increase in predicted traffic results in the junction being over-capacity in both the AM and PM peaks, with extensive queuing in both directions on Dodworth Road and extending towards Junction 37 of the M1.

In addition to assessing numerous options to improve capacity, the existing road layout was tested to determine how much traffic would have to be removed for it to operate within capacity. In the worst case of signal operation with demand on all stages of the signals, 45% of the current traffic would have to be removed. A more realistic signal set up still shows that 40% of current traffic would have to be removed from the highway network (see Appendix 1 - Pogmoor – Flow Reduction Percentages). This level of modal shift cannot be achieved within the timescales needed to prevent queuing back onto the M1 and it is unlikely to be possible in any event. In reality, even more traffic would have to be removed to make an allowance for the anticipated growth that will inevitably occur.

All the options and variations are detailed in the Transport Assessment Appendices with reasons why they were not taken forward for further analysis. You will note that some did not provide sufficient capacity in early stages of assessment and others were not progressed for other reasons such as road safety. The only options studied further were ones likely to provide sufficient capacity, but only the preferred option provides capacity up to at least 2033. The Inter Peak has been modelled in 3 scenarios for 2034, these scenarios are for:



- the existing road layout;
- the proposed gyratory with a higher travel demand;
- the proposed gyratory with travel demand unchanged.

The assessment demonstrated that in both cases, the gyratory reduces average delay per vehicle and increases the average vehicle speed (see Appendix 2 - A628 Dodworth Road / Pogmoor Road Inter Peak VISSIM Model).

Another variant of the preferred option has been assessed (see Appendix 3 - A628 Dodworth Road / Pogmoor Road Gyratory Option Variant C-A LinSig Assessment), by reconfiguring the lane usage and providing for a bus lane to give priority in an easterly direction. This revealed that the preferred option provides more capacity than the Variant C-A which introduces various operational issues and makes adaptive signal control more difficult. It should be noted that this type of modelling is likely to overestimate the capacity of the variant as the effect of weaving vehicles cannot be taken into account.

In summary, the preferred option allows simpler signal control which greatly improves traffic capacity on Dodworth Road in both directions and gives significantly more highway length to “stack” vehicles.

Cycling

In response to the comments made by the Barnsley Riding Club, as a general principal, the Council does not provide dedicated road (carriageway) space for cyclists due to the nature and restrictions of the existing highway network. In the context of this proposal, giving priority to cyclists over vehicles would affect the capacity of the junction. Similarly, separate signals for cyclists cannot be accommodated as they would have a serious detrimental impact on the capacity of the gyratory.

Shared cycle and pedestrian facilities have been provided as part of the scheme and can be seen on the proposed layout, including links through the open space away from the carriageway (see plan 1 - General Layout Plan).

20 mph Speed Limit

A 20mph speed limit is not feasible and not enforceable, it would also seriously affect capacity and journey times which is contrary to what the proposed scheme is trying to achieve.

Landscape

Please refer to Appendix 4 - Landscape and Visual Effects Report which presents initial mitigation of landscape and visual effects.

Noise



A Noise and Vibration Assessment was produced in September 2018 to support the proposed scheme (please see Appendix 5 – Pogmoor Crossroads Noise Impact Assessment v1.0 Sept). There are 2153 residential properties and 5 non-residential noise sensitive buildings that fall within the 600m boundary (of the proposal) noise calculation area. The modelled mitigation was a 1.5m high gabion wall on the northern boundary of the site and a 2.4m noise barrier on the eastern boundary, the assumed road surfacing was Hot Rolled Asphalt. This revealed that of the 2158 properties and buildings reviewed, significant adverse effects as a result of the scheme were identified on:

- a) 20 residential properties which experienced increased road traffic noise by at least 3dB(A);
- b) 56 properties which currently experience high noise levels are predicted to have an increase by at least 1dB(A).

The significant adverse impacts predicted at b) may be avoided through the implementation of a noise insulation scheme in line with the Noise Insulation Regulations package of measures.

As a result of this, it was considered that alternative options should be investigated to try to further reduce the number of properties affected (see Appendix 6 - Noise and Vibration Assessment Technical Note – Comparison of Alternative Noise Mitigations). These options were:

Option A: A 3m high earth bund with a 1m noise barrier on top of the bund to the north east of the gyratory, a 1.5m high gabion wall along the existing Pogmoor Road near the junction with Whitehill Avenue and a 2.4m high noise barrier along the drive of the Firs Care Home.

This option demonstrates the least number of significant adverse noise effects. The bund would have a footprint of approximately 7700m², resulting in a significant amount of the use of the parkland being lost and rendering much of the remainder unusable.

This option removes all the previously reported significant adverse impacts at properties in Grosvenor Walk.

This option has the greatest reduction in significant adverse impacts removing 7 properties, 5 of which are located on Dodworth Road.

Option B: A 1.5m high gabion wall along the northern boundary of the site along the existing Pogmoor Road near the junction with Whitehill Avenue and a 1m high gabion wall along the outer perimeter of the new road, with a 2.4m high noise barrier along the eastern boundary of the site and a 2.4m high noise barrier along the drive of Firs Care Home.

This option results in significant adverse effects at 6 properties in Grosvenor Walk.



Option C: A 1.5m high gabion wall along the northern boundary of the site with a 1.5m high gabion wall along Pogmoor Road near the junction with Whitehill Avenue, a 1m high gabion wall along the outer perimeter of the new road, a 3m high noise barrier along the eastern boundary of the site and a 2.4m high noise barrier on the drive of Firs Care Home.

This option results in 4 properties with significant adverse effects in Grosvenor Walk.

With the exception of the five properties on the existing Dodworth Road/Pogmoor Road junction and 4 properties on Grosvenor Walk, in all options above, the 1.5m high gabion to the east of Whitehill Avenue and the 2.4m high noise barrier along the drive of Firs Care Home remove all the significant adverse effects.

For all the options above, there is a reduction in the significant adverse impacts at residential properties due to increases in road traffic noise of 1 dB(A) or more at properties already exposed to high noise levels when compared to the original assessment in September 2018.

In conclusion, whilst Option A is the most effective in acoustic terms, it would result in the loss of most of the park and would be contrary to Core Strategy Policies 33 and 35.

Core Strategy Policy 40 requires developers to minimise the effect of any possible pollution, including noise pollution, and provide mitigation measures where appropriate. Therefore, the only viable balance between Core Strategy Policies 33, 35 and 40 is that Option C is utilised and forms part of this proposal.

Additionally, the difference between the noise levels for absorptive and reflective noise barriers were compared, and whilst absorptive barriers do show a reduction, the maximum reduction is only 0.3dB compared to a reflective barrier. The use of an absorptive barrier does not change the impacts or the significant adverse effects resulting from the use of a reflective barrier. As a further mitigation, consideration was given to the type of road surfacing material, but as the proposed speed limit is below 50km/h, the use of low noise surfacing materials is unlikely to result in any benefit.

In summary, the significant adverse effects at most of the properties identified may be avoided through the implementation of a noise insulation scheme to the affected facades, in line with the Noise Insulation Regulations' package of measures, assuming the residents accept any offer made.

Ecological Impact Assessment

The Ecological Impact Assessment has been produced for the scheme (see Appendix 7). This details the ecological importance of the trees; the species of bats encountered on site and their activity. Importantly, no bat roosts were discovered on site. The report also identifies mitigation and measures which would compensate for impacts on the site, all of which can be incorporated in the proposed scheme.



BARNSLEY
Metropolitan Borough Council

Environment & Transport Business Unit
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Yours faithfully

Ian Wilson
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