

**Bassetlaw Local Plan, Worksop Central Area  
Technical Note A60 / B6041 Cannon Crossroads, Worksop – December  
2022 Rev 2 (January 2023)**

**Nottinghamshire County Council, Highway Comments for Bassetlaw District Council**

Image 2	<p>The safeguarded NCC roundabout improvement is an indicative sketch at this stage rather than a fully worked up solution. Achieving Design Manual for Roads and Bridges (DMRB) compliant geometry remains challenging. There may be a need to reduce the size of the central island. The indicative overrun may not provide adequate deflection, and pedestrian facilities must be included.</p>
4.3.1	<p>The geometry of the submitted Arcady model has been well interpreted. The performance is predicted to be at capacity with the Tetra Tech 2025 flows which progressively gets worse going further into the future with predicted queues on the A60N in the AM peak of 67.4 pcu in 2038. The Highway Authority has previously confirmed to Tetra Tech that these would be unacceptable. In response, Tetra Tech propose to use a 'flat' flow profile in the model rather than the default 'humped' profile where Arcady takes the peak hour flow, extends it outwards to model 90 minutes and synthesises a hump in the flow profile so that, at the height of the peak the incoming demand flow is slightly high whilst in the outer wings of the modelled 90 minutes the flow is slightly lower (as you would typically expect to see). This is a reasonable approximation of the variations you will see happening over the peak period and makes the model more robust. It is the accepted standard for Arcady and Picady modelling.</p> <p>The Highway Authority would only accept a deviation away from this synthesised profile if survey data was provided which showed a significantly different flow profile. For this, more detailed survey data with flows split into smaller bins (say 5- or 10-minute periods) would be required to then build the flow profile directly in the model. All that appears to have been done is to model a flat profile with no data to back up the assumption. This has resulted in an improvement to the model performance as the flat profile will lower the incoming demand flow in the peak of the peak period. There is no justification provided for that.</p> <p>The junction geometry will need to comply with DMRB guidance as the junction is on the A60 rather than a quiet junction on a street. The NCC design is a sketch to start the process. It shows no pedestrian facilities across any of the approach arms (currently, there all pedestrians all round incorporated into the signalled crossroads). Replacement pedestrian facilities will need to be provided in some form across all arms which will affect the size of the refuges currently shown. They will also have to be around 20m away from the give-way lines so that the signals are not seen as controlling the roundabout which will take the pedestrian routes away from established desire lines at the junction.</p> <p>Additionally, the roundabout design will need to comply with DMRB guidance (CD116). The ICD of the sketch is approximately 28m which is the smallest size of conventional or compact roundabout in CD116 and referring to fig.3.8.1N1 the central kerbed island should have a diameter of 4m to allow large vehicles to turn right, rather than the 14.5m</p>

	<p>as indicated. There are comparable examples of a compact roundabout in Chilwell (Broxtowe, Nottinghamshire) at the junctions of Swiney Way/ Ranson Road and Ranson Road/ Newill Drive/ Hartill Close, however, both of these junctions are significantly larger, having ICDs of around 36m and central island diameters of 15m and 19m respectively. The footprint of these roundabouts would not fit at the Cannon.</p> <p>The main parameters in CD116 to control vehicle speeds at roundabouts are the deflection and entry path curvature where the radius of turn should be sufficiently tight to require a lowering of speed in order to negotiate the roundabout. At a compact urban roundabout, the maximum should be no slacker than 70m. At this location there remains uncertainty as to whether this can be achieved using the 4m island, whilst the larger island shown in the sketch may inhibit the right turns of larger vehicles.</p>
Tables 1 to 4	The tables demonstrates that the existing traffic signals would experience significant queuing in all scenarios.
Tables 5 to 8	<p>Tables 6 demonstrates that the introduction of the roundabout would almost restore capacity at the junction with committed development (15/01477/OUT Thievesdale Lane, 15/01605/OUT A60 Langold, and 15/01457/OUT Firbeck Colliery) with the 2025 Design Flows with only slight predicted queuing on the A60 Carlton Road North and B6041 Thievesdale Lane in the AM and PM peaks respectively in the absence of Local Plan development.</p> <p>Tables 7 and 8 predict significant AM queues on the A60 Carlton Road North arms and Table 7 predicts a slight queue on the A60 Carlton Road South arm in the PM peak. The B6041 Thievesdale Lane queues presented in Table 6 has disappeared. Why is that?</p>
4.4.1	The Highway Authority acknowledges that there may be some redistribution of traffic within a congested network to reduce journey times at the expense of travel distance.
4.4.6	A flat junction modelling profile would only be acceptable if it can be demonstrated that flows are consistent across the hour. The expectation is that there will be a peak.
Tables 9 & 10	<p>As would be expected, there is a predicted reduction in the A60 Carlton Road North queue if there is a bias towards Blyth Road due to the likelihood of queuing traffic at the Cannon crossroads. However, the A60 Carlton Road North queue would remain severe even with a 5% or 10% reduction in flows and which would be well in excess of the predicted queue in Test 1 (2025 AM / PM peak period design flows) without Local Plan development.</p> <p>The resultant diverted trips have not been tested on the wider highway network. What happens to capacity at the A60 Carlton Road / Blyth Road /Turner Road junction if 5% or 10% of trips transfer to Blyth Road?</p>
Tables 11 to 13	A flat profile would only be considered acceptable if that is representative of peak period flows.
5.2.3	It is not reasonable to compare the performance of the traffic signal junction with that of the roundabout post Local Plan development. The roundabout almost completely addresses the severe congestion at this location caused by committed development and in the absence of Local Plan development, funding has been secured, and it is safeguarded on the NCC schemes list. The traffic impact of the Local Plan development at the Cannon Crossroads would reintroduce these severe impacts without further mitigation.
5.4.7	The ADC trip rates are from sites with a similar model split to Worksop that have Travel Plans in place. There is nothing to demonstrate that sustainable travel from Local Plan

	development would materially increase to achieve any kind of measurable mitigation above what has already been accounted for in the trip rates.
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