

Subject: FW: Wakefield Road
Attachments: 2018 01 19 Wakefield Rd barnsley - TA Review.pdf; A61 Corridor Plan.pdf; GA01-Rev D.PDF; AM - DESIGN 2022.pdf; PM - DESIGN 2022.pdf; Figure 6.pdf

Barbara

Please see below and attached my responses to AECOMs consultation response (attached for information).

The points that require addressing are as follows:

- Reservation of land for the prospective bus corridor shown on the attached Arup drawing (A61 corridor plan)
- The request for extended visibility splays;
- Clarification of Trip Generations;
- Amendment to Site Access Geometries in the Capacity Analysis;
- Request for Figure 6
- Modelling Queries on Wakefield Road / Carlton Road / Smithies Lane Signalised Junction
- Modelling Queries on Carlton Road / Rotherham Road Signalised Junction
- Travel Plan Queries (to follow under cover of separate email).

Reservation of Land for Bus Corridor

Please see the attached drawing GA01 Rev D that shows the south western kerb of Wakefield Road set back into the Site to accommodate the prospective bus lane.

Request for Extended Visibility Splays

Optima do not concur with the appropriateness of providing extended visibility splays (y distance) in a residential area irrespective of the fact that Wakefield Road is a primary route into the town centre.

Notwithstanding these reservations the drawings has been updated to include 2.4 x 70m visibility splays.

Optima have not shown increased X distance measurements for the following reasons:

MfS (paragraphs 7.7.8 & 7.7.9 – extracts below) confirm that an x distance in excess of 2.4m is inappropriate in built up areas and states the following:

7.7.8 Using an X distance in excess of 2.4 m is not generally required in built-up areas.

7.7.9 Longer X distances enable drivers to look for gaps as they approach the junction. This increases junction capacity for the minor arm, and so may be justified in some circumstances, but it also increases the possibility that drivers on the minor approach will fail to take account of other road users, particularly pedestrians and cyclists. Longer X distances may also result in more shunt accidents on the minor arm. TRL Report No. 18420 found that accident risk increased with greater minor-road sight distance.

Based on the above 2.4 x 70m is considered satisfactory in this instance

Trip Generations

AECOM have suggested that the trip rates should be revisited based on the worst case and that this may result in the need to model the Laithes Lane junction. Optima set out a case at the scoping stage that the impact at the Laithes was not material and then further supported this conclusion through the TA.

Optima still consider that the most appropriate values to utilise are those from the bespoke surveyed trip rate from the estate adjacent to the Site. Notwithstanding this, it should be noted that since the application was submitted, there has been a requirement to safeguard land associated with a bus corridor which will reduce the maximum developable quantum assessed 220 to 200 (10% reduction). The combined difference between the two sets of trip rates is 9.87% (as shown in the calculation below). As this is less than the 10% reduction in units it demonstrates that the modelling and the scope of such modelling provided in the TA is robust and does not need revisiting.

	AM			PM			Combined Peaks Two Way
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way	
Surveyed Trip Rate	0.177	0.215	0.392	0.259	0.180	0.439	0.831
TRICS Trip Rate (Optima)	0.099	0.345	0.444	0.298	0.156	0.454	0.898
TRICS Trip Rate (AECOM)	0.113	0.329	0.442	0.320	0.151	0.471	0.913

Calculation of trip rate impact = $((0.913-0.831)/0.831)*100 = 9.87\%$

It should be noted that the 10% reduction in units decreases the impact of the Site to 29 trips in the AM peak and 32 in the PM peak at this junction. This equates to a 1.26% and 1.28% increase in total flows at the junction associated with the proposed development. The number of trips is split over the three approaches and over multiple lanes. The maximum impact on any one lane (A61 northbound) is 10 vehicles in the morning peak hour. A vehicle every 6 minutes is not material or severe.

Amendment to Site Access Geometries in the Capacity Analysis

The modelling of the Site Access has been amended to reduce the carriageway main line width to 6.2m. It has not affected the results. The updated results are attached.

Request for Figure 6

Please see Figure 6 attached

Modelling Queries on Wakefield Road / Carlton Road / Smithies Lane Signalised Junction

The lost time associated with the pedestrian phase was incorporated within the intergreens of the model.

On the date of the survey the Pedestrian phase was demanded 7 times in AM and 4 in PM in the peak hour. 15 seconds is the amount of time lost to the vehicular phases each time the pedestrian phase is demanded. Applying this 15 seconds to the number of times it was demanded equates to 105sec in the AM peak and 60 seconds in the PM peak. Dividing these over the 30 cycles in each peak (165sec/60 cycles to get an average) within the hour provides an additional 2.75s (rounded to 3s) per cycle which has been added to the intergreen between stage 3 and 1 (from phase B to phases A/C increased from 7 to 10s).

Given the low demand for the pedestrian phase it was considered that this represented the best way to assess the junction instead of having an overly long cycle time.

Carlton Road / Rotherham Road Signalised Junction

The lost time associated with the pedestrian phase was incorporated within the intergreens of the model.

The pedestrian phase was demanded 11 times in AM peak and 13 times in PM peak on 26th June. The lost time for the vehicular phases is 17s for each time the pedestrian phase is demanded. Applying this to the number of times demanded equates to 187s and 221s respectively. This equates to 3s and 4s per cycle based on a 60s cycle. This time has been added to the intergreen between stage 2 and 1 (phase BD to AC) which has been increased from 6s to 10s.

Given the low demand for the pedestrian phase it was considered that this represented the best way to assess the junction instead of having an overly long cycle time.

I trust the above provides the necessary clarification/information for you to concur with the original conclusions of the TA.

Should you have any queries please do not hesitate to contact me.

Kind regards

Richard Murphy MCIHT MIHE

Director

Optima Highways & Transportation

Suite 1, 3rd Floor, Goodbard House, Infirmary Street, Leeds, LS1 2JP

www.optimahighways.com

Tel: 0113 245 1679

Mob: 07526 589 784



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Registered address - Leigh House 28-32 St Paul's Street, Leeds, LS1 2JT

Company Registration Number: 07328946