

Appendix F: Planning Committee Members Questions

Concern is around the speed and volume of traffic on the main road, in particular northbound coming off the roundabout. During the rush hour, especially in the evenings, there are not that many gaps in the traffic (having the site visit during the school holiday will give an artificially low impression of the typical traffic volumes), and the traffic coming off the roundabout onto the main road northbound has no visibility of the junction until it is on top of it. You would not normally expect to be faced with a junction immediately on exiting a roundabout on an A-road.

The February Half Term ATC was not used in any modelling or capacity assessments. An Manual Classified Count, (MCC) survey which is based on an industry standard approach was undertaken to determine the existing two-way traffic levels on the network on the 11th October 2022. The data was used to model the proposed site access arrangement during the busiest recorded peak periods on the public highway. The traffic count data used for junction modelling was undertaken outside of the school holiday periods and assessed the scheme during the worst-case scenarios. The results demonstrate that the proposed access arrangement would operate within capacity without significant queuing or detrimental impact on the existing highway network with the proposed scheme in place.

With regards to visibility at the current site access, it is noted that visibility towards the south is restricted based on the existing access arrangement. However, as a speed survey was undertaken to determine approaching vehicle speeds and measures put in place to enable the required visibility from the proposed access arrangement to be achieved, it is not considered reasonable to assess the suitability of the scheme based on the current arrangement when visibility towards and from the proposed access arrangement would be improved to accommodate the required extent of visibility.

Assuming (as seems certain during rush hour) there is a queue of vehicles southbound waiting to turn right into the site (across the northbound main road); and also a queue of traffic waiting to exit right out of the site southbound (again across the northbound main road) it seems to me likely that both waiting vehicles will take advantage of the small gaps in the northbound traffic and meet in the middle. This does not seem to have been addressed by either HCC or our consultant – or am I missing something?

As part of the submitted Transport Assessment, Junctions 9 was subsequently used to prepare a PICADY model of the A41 / Proposed Site Access T-junction, which included the assessment of the right-turn ghost island. Existing vehicle movements were recorded outside of the school holidays and growthed to the year 2036 for a robust assessment. The results suggest that during the year 2036 all streams operate within capacity and does not highlight that queuing would exceed the length of the right turn lane on the A41 towards the site access. Overall, it has been demonstrated the proposed development will not result in a detrimental impact on the surrounding highway network. Similarly, the level of uplift in trips expected is not expected to alter the transport characteristics of the surrounding highway network and should therefore not worsen highway safety associated with the existing junctions.

A TTN prepared by Evoke Transport, who were commissioned by TRDC to undertake an independent highway related review of the documentation and drawings prepared by Ardent Consulting Engineers following deferral at Committee. The modelling data was provided to Evoke Transport for their detailed review which confirmed that the

modelling was undertaken correctly and the proposed arrangement would operate within capacity without queuing beyond the right turn lane.

How do they propose to avoid multiple collisions as a result?

There is no evidence of collisions occurring at or within close proximity of the existing access arrangement (which includes limited visibility to the south). The proposals include improving the site access, crossing facilities, right turn lane facilities and the cutback of foliage / trees to maximise visibility. Therefore, the improvements to the junction and surrounding infrastructure are a clear betterment that should assist with highway safety at an existing junction where no recorded incidents have occurred.

So how many vehicles are there on the main road in rush hour? / how many gaps in the traffic long enough to enable vehicles to cross the road and enter & exit the site? (how many gaps per minute in rush hour?)

The estimated number of trips associated with the proposed development and modelling of the proposed access arrangement, based on recorded vehicle trips growthed up to the year 2036, are provided within the submitted Transport Assessment. The recorded vehicular movements along the A41 during the peak periods are presented below for ease.

Time Period	A41 South						Watford Road						A41 North						Total
	Left to Watford Road			Straight to A41 (North)			Left to A41 (North)			Right to A41 (South)			Straigh to A41 (South)			Right to Watford Road			
	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	
0730-0745	0	0	0	205	10	225	0	0	0	0	0	0	262	6	274	0	0	0	
0745-0800	0	0	0	211	11	233	1	0	1	0	0	0	237	11	259	1	0	1	
0800-0815	0	0	0	227	6	239	0	0	0	0	0	0	220	7	234	0	0	0	
0815-0830	0	0	0	249	7	263	0	0	0	0	0	0	223	4	231	0	0	0	1960
0830-0845	0	0	0	250	8	266	1	0	1	0	0	0	229	11	251	0	0	0	1979
0845-0900	1	0	1	189	5	199	0	0	0	0	0	0	231	12	255	0	0	0	1940
0900-0915	2	0	2	202	10	222	0	0	0	0	0	0	243	9	261	1	0	1	1953
0915-0930	2	0	2	195	8	211	1	0	1	0	0	0	218	9	236	0	0	0	1909
Hourly Total	0	0	0	937	32	1001	2	0	2	0	0	0	909	33	975	1	0	1	

Time Period	A41 South						Watford Road						A41 North						Total
	Left to Watford Road			Straight to A41 (North)			Left to A41 (North)			Right to A41 (South)			Straigh to A41 (South)			Right to Watford Road			
	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	Lights	HGV	PCU	
1630-1645	2	0	2	255	3	261	2	0	2	1	0	1	232	3	238	1	0	1	
1645-1700	3	0	3	265	3	271	1	0	1	0	0	0	234	5	244	0	0	0	
1700-1715	1	0	1	286	3	292	2	0	2	1	0	1	246	4	254	2	0	2	
1715-1730	2	0	2	273	2	277	1	0	1	2	0	2	291	2	295	0	0	0	2153
1730-1745	2	0	2	282	5	292	1	0	1	5	0	5	228	3	234	1	0	1	2183
1745-1800	0	0	0	269	3	275	0	0	0	1	0	1	236	2	240	0	0	0	2180
1800-1815	0	0	0	265	4	273	1	0	1	1	0	1	244	2	248	1	0	1	2152
1815-1830	0	0	0	279	0	279	0	0	0	1	0	1	222	2	226	0	0	0	2081
Hourly Total	8	0	8	1106	13	1132	5	0	5	8	0	8	999	14	1027	3	0	3	

SUMMARY RESULTS OF A41 / WATFORD ROAD - 11/10/22

This demonstrates that during the busiest AM peak there are 1,001 vehicles travelling north along the A41 and 975 travelling south. During the busiest PM peak, this recorded 1,132 vehicles travelling north along the A41 and 1,027 travelling south. As previously highlighted, these flows were growthed up to the year 2036 and the

proposed arrangement assessed using the industry standard Junctions 9 software. This assessed all movements to and from the proposed access arrangement with the proposed vehicular movements included and demonstrated that the junction overall would operate within capacity with sufficient opportunity to accommodate turning manoeuvres to and from the proposed site access.

I think they are predicting 2 movements in and out of the site per minute? (so one every 30 secs or so). What happens if there is a short gap in the traffic on the main road and vehicles try simultaneously to use the same gap in the traffic to cross entering and leaving the site, thereby meeting in the middle of the road with oncoming fast-moving traffic coming off the roundabout?

It should be noted that the existing junction that has no turning restrictions includes a right-turn lane (albeit with a reduced length than the proposed) with no recorded incidents over the past 5-year period. The overall proposed access arrangement has been designed in accordance with CD 123, published by National Highways (DMRB). This guidance states the following:

“This document is applicable to both new and improved junctions.”

“This document shall be implemented forthwith on all schemes involving the geometric design of at-grade priority and/or signal controlled junctions on the Overseeing Organisations' all-purpose trunk roads”.

As highlighted above, a 'ghost island' junction based on the above guidance is suitable to be implemented on the Trunk Road network and the assessment within this guidance should take into account the potential of conflict. Therefore, it is reasonable to conclude that the proposed improved 'ghost island' junction for this site which has been suitability modelled should be sufficient to serve the proposed development via the A41 which does not form part of the Trunk Road network.

What happens if (similar to the Aldi at Two Waters in Hemel) there is a backlog of vehicles trying to enter the site and queuing back onto the main road? Especially if there are delays exiting the site due to difficulty in turning right on exit.

Right turning vehicles from the site to the A41 south would wait for gaps in traffic before existing, as per the existing arrangement (which accident data does not highlight any recorded incidents). The proposals include the increase length of the right-turn lane on the A41 to assist with queuing vehicles. The proposed scheme was modelled and demonstrated that there should be not queuing that would exceed the length of the right turn lane and conflict with vehicles turning right would be minimal. It is not considered that the proposed scheme and improved junction would result in significant conflict or detrimental impact on the operation of the junction. This is supported by HCC highways, capacity assessment and guidance within National Highways CD 123 document. Furthermore, as previously highlighted Evoke Transport, who were commissioned by TRDC to undertake an independent highway related review of the documentation and drawings prepared by Ardent Consulting Engineers confirmed that the “Design generally compliant, with vehicle movements being accommodated” and “the existing situation has been generally accurately described and assessed”.

It should also be noted that the proposed arrangement has been reviewed by the Local Highway Authority and two Independent Road Safety Audits, where it was concluded that the design would not give rise to any significant road safety concerns.

An area of concern relates to potential for conflict between vehicles turning right into the site (from the southbound right-turn lane) and vehicles simultaneously turning right out of the site (heading south) as both of these movements must cross the northbound main road, using the same crossover. The figures suggests that in the evening peak there are 19 vehicles per minute on the northbound main road (on average one vehicle every 3 seconds) with almost as many in the morning peak. This suggests that there will be few gaps in the northbound traffic sufficient for stationary vehicles to set off and turn across the traffic safely. Assuming there are vehicles queueing waiting to turn right into the site and also waiting to exit the site turning right, if both vehicles set off as soon as a gap appears, how will conflict between the two turning vehicles be avoided? And if one or both vehicles slow or stop, they will then be in the main carriageway as further vehicles come off the roundabout at 40 mph.

Based on the traffic count data for the existing movements at the A41 / Watford Road junction, during the busiest AM peak period there is an average of 17 vehicles per minute travelling northbound and 19 vehicles per minute travelling southbound during the busiest PM peak period. As reiterated previously, Junctions 9 was used to prepare a PICADY model of the A14 / Proposed Site Access T-junction, which included the assessment of the right-turn ghost island. Existing vehicle movements were recorded outside of the school holidays and for a robust assessment growthed to the year 2036. The results suggest that during the year 2036 all streams operate within capacity and does not highlight concerns with regards to right turn entry and exit manoeuvres.

It should be noted that the existing junction that has no turning restrictions includes a right-turn lane (albeit with a reduced length than the proposed) with no recorded incidents over the past 5-year period. The overall proposed access arrangement has been designed in accordance with CD 123, published by National Highways (DMRB). This guidance states the following:

“This document is applicable to both new and improved junctions.”

“This document shall be implemented forthwith on all schemes involving the geometric design of at-grade priority and/or signal controlled junctions on the Overseeing Organisations' all-purpose trunk roads”.

A 'ghost island' junction based on the above guidance is suitable to be implemented on the Trunk Road network and the assessment used to produce this guidance should take into account all movements the potential of conflict. Therefore, it is reasonable to conclude that the proposed improved 'ghost island' junction for this site which has been designed taking into account the above guidance and suitability modelled should be sufficient to serve the proposed development via the A41 which does not form part of the Trunk Road network. There is the potential of conflict at all junction types, including 'ghost island' junctions. However, an exiting vehicle would wait for the right turn entering lane to be free of vehicles that are waiting to enter the site before existing, noting that movements from the major arm have priority. It is not feasible or realistic to design for any potential circumstance associated with inappropriate driving (i.e. attempting to exit the site towards the south whilst the right turn entry lane is occupied). The junction modelling undertaken is industry standard software that determines the suitability of the proposed access arrangement. The results of this assessment demonstrates that the proposed access arrangement would operate satisfactorily with the proposed development in place. Furthermore, as previously highlighted the existing access includes a segregated right turn lane, albeit of a shorter length. However, there have been no recorded incidents as a result of vehicles exiting and entering the existing junction at the same time.