Brookbanks NW Harpenden Local Plan Transportation Study - Analysis

1. This report has been commissioned by the developers of NW Harpenden (S5). It is a piece of advocacy rather than an independent assessment, and if you read it only lightly, you could be forgiven for thinking that the expressed concerns about the traffic impact of development in Harpenden are misplaced. If you look more closely at the data, however, a different picture emerges.

TRAFFIC SURVEYS

2. Paragraph 3.5 sets out 5 locations at which traffic surveys have been taken. These are shown in a diagram in Figure 3a. Anyone familiar with S5 will immediately note a particular absence: no traffic survey has been carried out at the junction of the A1081 with Park Hill, at the Nickey Line Bridge, which is the junction which will be most obviously affected by development at S5.

3. The reason for this is given in paragraphs 3.15-3.16. The consultants have not surveyed the A1081/Park Hill junction, or the A1081/Thrales End Road junction, because they are awaiting information from Hertfordshire CC's COMET modelling.

4. Note, also, that there have been no traffic surveys taken along Cooters End Lane, Ambrose Lane, Tennyson Road etc. It is apparent from Figure 3.7 and the table at Figure 3e that no assessment has been made of the impact of development on the country lanes such as Ambrose Lane and Cooters End Lane (beyond the junction with Ambrose Lane) or suburban roads such as Tennyson Road or Hollybush Lane. The traffic impact of development of S5 is not confined to the A1081.

5. It is apparent, therefore, that the evidence presented by the consultants is badly incomplete, because

   (1) Two key junctions on the A1081 likely to be seriously affected by development of S5 have not been assessed at all; and

   (2) The impact on the smaller roads around S5 has not been assessed at all.

JUNCTION CAPACITY

Six assessed junctions

6. Paragraphs 3.21 – 3.32 purport to show, as the summary in para. 3.32 states, that there will be "Nil Detriment" to junction capacity if fairly minor junction improvements are carried out. Reading that, you might assume that the consultants are saying that if minor improvements are effected, the traffic will be no worse than it is now.

7. However, if you look at **Appendix B**, you can see what "Nil Detriment" really means. Each page in Appendix B reviews a junction. On the left side of the page is a table which shows "RFC" and "Queue". This data is presented for the "Base Year" (i.e. now), at the "Future Year" (i.e. 2031), without the development of S5 and then with the development of S5. On the right side of the page is a diagram showing proposed improvements to the junction and a table with the revised "RFC" and "Queue" on the basis that S5 is developed and the improvements are effected.

8. "RFC" means "Ratio of Flow to Capacity", with a score of 1 meaning that the junction is at capacity. However, when priority junctions and roundabouts are designed, RFC levels should not exceed 0.85 (i.e. 85% of capacity) during peak conditions, partly to allow for a margin of error but also because experience has shown that queues and delays start before the 1 (100%) threshold is reached.

9. "Queue" measures the average number of vehicles queuing over the assessed period (usually an hour). This is the average, not the maximum: where the junction is over capacity for extended periods, the maximum may be as much as twice the average queue length. Each vehicle in the queue takes up about 6m of road space, allowing for gaps between cars, so 50 extra cars is 300m of road space.

10. The first junction assessed in Appendix B is the **A5138 with Redbourn Lane**. The data in the table on the left shows that:

    (1) The junction is already operating above capacity (1.007), with a queue of 37.6 cars in the AM Peak. A queue of 37.6 cars is about 225m long.

    (2) In 2031, the RFC will go up to 1.27 without building on S5 and 1.271 by building on it; the average queue goes up to 305.4 and 306.7 cars respectively.

    (3) This means that **the junction will be very significantly over-capacity** and that **the queue of cars in the AM peak will have increased 815% from today. The average queue of traffic will be 1.8km long: the maximum may be as much as 3.6 km long.**

11. On the right hand side of the same page some minor junction improvements are suggested. The only effect would be to strip out the additional cars attributable to the development at NW Harpenden. If the junction improvements are made, the RFC is brought down to a "mere" 1.252 and the queue to 289.6 cars: **i.e., even with the proposed improvements, the junction will be massively over-capacity and the queue will have increased by 770% - the average queue of cars will be "only" 1.7km long.**

12. This is what "Nil Detriment" means – thinking up minor tinkering with the junctions which would strip out the effect of the building on S5 but still leave the junctions at catastrophic levels of over-capacity. The so-called improvements are essentially fictional, because the junctions are going to need major works to be operational in any event (and such major works may not be physically possible).

13. Similarly for the second junction, **the A1081 junction with the B487**, the **RFC will still be 1.268 even with the improvements**, and **the queue 764% greater than present. The average queue of 259.8 cars will be 1.5 km long.**

14. It gets even worse if you consider **the junction of the A1081 and Station Road**. At this junction, the development of S5 will **more than double the length of the average queue, to 117.7 cars, when compared with the 2031 scenario without the development of S5 (51.9).** The **additional cars generated by S5 will increase the queue from 311m (i.e. north of the War Memorial) to 706m (north of the M & S garage).** Remember that this is only the average, not the maximum – the maximum queue might be 1.4km, which would mean that it would extend beyond the Nickey Line Bridge to join the additional traffic backing up from the Park Hill/A1081 junction. Improvements are suggested to bring the RFC down to a "mere" 1.094 and a queue of 52 cars. **However, these improvements involve removing or narrowing islands and central refuges, which will inevitably make the junction less safe for pedestrians.** This is contrary to all policy and best practice, which is to protect vulnerable road users over traffic flow.

15. For the **A1081 junction with The Common**, the queue will be 724% greater than present even with improvements, although the RFC will be just less than 1 (though above the recommended 85%).

16. Even the **new proposed junction for S5 with the A1081 at Roundwood Lane** will be at 89.5% capacity – i.e. above the recommended levels for junction design. That queues start to form before a junction is at 100% capacity is demonstrated by this data: the forecast average queues will be 31.7 cars in the morning peak, adding 190m of backed up traffic to this "congestion hotspot", even though the junction will not be at 100% saturation.

17. Paragraph 32 of the NPPF says that development should be refused on transport grounds "*where the residual cumulative impacts of development are severe*". It is quite clear on this evidence that the cumulative impacts of development will be severe. Harpenden is going to be brought to a complete standstill by the cumulative effects of development, including on S5. It is nonsense to suggest that these impacts will be addressed by the minor realignments which Brookbanks are suggesting. Major strategic work will be required, to which all developers will be required to contribute. At some junctions, like the A1081/Station Road junction, such strategic work may not be possible because of the impact on pedestrian safety.

Two junctions not assessed

18. As indicated above, the consultants have not collected any data or made any assessment of two key junctions, namely Park Hill/A1081/Nickey Line Bridge and Thrales End Lane/A1081 – see paragraphs 3.5, 3.15, 3.16 and figure 3a.

19. There is an attempt to disguise this lack of information by the consultants offering a view, at paras. 3.28- 3.31, about techniques which could "*reduce the predicted levels of delay and congestion*". However, they do not and cannot say that the levels of delay and congestion will be reduced to acceptable levels by these mechanisms. At the A1081/Park Hill junction it is suggested that the introduction of a particular form of junction control (MOVA) "*can reduce delays by over 10%*". However, from the other junctions which have been modelled, it is likely that the increase in over-capacity will be substantially more than 10%.

Summary misleading

20. So the summary at para. 3.32 is desperately misleading in saying that "*suitable highway mitigation measures can be* implemented *to achieve Nil Detriment at all affected junctions*." First, there is no adequate explanation of what "Nil Detriment" really means and second, the report **does not** show that suitable highway mitigation measures can achieve it at **all** affected junctions, because it expressly states that it has not collected data for two of the junctions closest to S5.

LOCATION OF SCHOOL

21. Assurances have been given in answer to public questions put to Planning Policy Committee that the development of S5 will not extend beyond the boundaries of the site as advised by SKM.

22. You will see from paragraph 2.5, however, that the transport report is written on the basis that the school will be to the "*north of Ambrose Lane*".

23. You will also see from paragraph 3.13 that the consultant's modelling assumes, however, that none of the school traffic will access the school from the "*very constrained*" Ambrose Lane.

24. The assumptions which the consultants have adopted gives them the best of all worlds:

    (1) they don't have to address the traffic circulation and parking issues associated with having a school actually on S5, accessed from the A1081; but also

    (2) they don't have to address the traffic problems of school traffic accessing the school from Ambrose Lane. The traffic impact of S5 is not just about the impact on the A1081, it is also about the impact on the residential streets and country lanes around it.

25. There has been, as indicated above, no assessment of the impact of the proposed 500 homes or new school – wherever that may be located – on Ambrose Lane or the roads running into Harpenden other than the A1081.

SAFE CYCLE ROUTES

26. Part of the Developers' "offer" on S5 is safe cycle routes down the A1081 – i.e. on a shared footway/cycleway separate from the traffic. HGBA has always been sceptical about their ability to achieve this, as it would mean major engineering works to widen the Nickey Line bridge.

27. The report is confusing on this issue. On the one hand, Figure 5b would appear to suggest that there will be a separate cycle path all the way down the A1081 to Lydekker Park. On the other, para. 5.5 suggests that only the A1081 north of the Nickey Line bridge would be wide enough to include a shared cycle route.

CONCLUSION

28. SADC planners continue to insist that "*access can be achieved*" to S5; that there is a "*reasonable secondary access from Ambrose Lane*" and that "*there is very high capacity to minimise impact upon the road network by measures to mitigate the impact*" (see Appendix 4 to Development Sites and Strategy Evaluation Report for July 2016 PPC meeting).

29. No evidence from Hertfordshire CC or the Highways Agency has ever been produced which would justify these assertions. From the Brookbanks report we can see that even the data collected by the developers of S5 shows that:

    (1) The proposed access from the development at S5 onto the A1081 by a new junction at Roundwood Lane would be beyond the recommended capacity for new junctions;

(2) There has been no analysis of the traffic impact on Ambrose Lane – so it cannot be known whether the proposed secondary access is "reasonable";

(3) There has been no analysis of the impact on two key junctions close to S5; and

(4) The data in respect of other junctions shows that the cumulative impact upon the road network of development at S5 and elsewhere will be severe and the mitigation measures proposed by the developers will not bring the traffic flows down to acceptable levels.