PROPOSED NEW FLOORSPACE AND RELAXATION OF RESTRICTIONS, PEEL CENTRE, BARNSLEY APPLICATION NUMBERS 2015/0987, 2015/0988 and 2015/1028

Introduction

1. This note has been produced by TTHC Ltd to address the consultation response received in relation to the Transport Assessment (TA) submitted to Barnsley Metropolitan Borough Council (BMBC) in association with the retail development proposals at Peel Centre retail park, Harborough Hill Road, Barnsley.

Local Highway Authority Comments

2. BMBC highways officer highlighted the below list of points for further evidence / consideration. This was informed by AECOM's review of the submitted Transport Assessment (TA) (comments dated 15 December 2015):

- Evidence of the 2012 Peel Centre exit survey;
- Further assessment of the methodology to produce the pass-by factor;
- Traffic growth clarification;
- Weekday trip generation, and
- Weekday PM Peak assessment.

3. With respect to the Weekday PM peak assessment, BMBC has suggested that it's standard practice to assess both Saturday and Weekday PM as there will be a different dynamic, different ODs and a greater level of non-Peel traffic during the week. This suggestion was despite the exercise included within the submitted TA which demonstrated that the highest Peel Centre and total gyratory flows are greater in the Saturday peak hour.

4. It should be remembered that the TA has been prepared to consider the implications of the proposed development. As such, it focuses on the worst case time period in this regard, which is clearly the Saturday peak hour. Nevertheless, despite the information

already provided, further information has been included within this Note to ensure that there can be no doubt to this position and conclusion.

5. TTHC's response to these points listed in paragraph 2 is given below.

6. However, prior to addressing these specific points, we would clarify and emphasise that the Saturday peak development impact (new unit plus relaxations) calculated in the TA is only 133 trips two way (reduced to 113 movements taking account of the 'pass-by' trips on the gyratory; or just one in and one out a minute on average). The AECOM report (first paragraph under the heading 'Travel Impacts and Junction Operation') suggests total additional trips of 355 and an 8% increase at the gyratory. This is incorrect. The figure of 355 relates to the uplift in the Base to take account of vacant and consented floorspace (including at Twibell Street), and even then the quoted figure does not take account of actual movements taking account of pass-by. Clearly, this Base element of traffic should not be confused with the development traffic which is the subject of this application.

2012 Peel Centre exit survey

7. AECOM has requested evidence of the Peel Centre exit survey to verify that 16% of visitors to the Peel Centre arrived by sustainable travel modes. Attached at **Appendix A** are the relevant extracts for the 2012 survey which provides details of the survey. Page 34 verifies the 16% figure.

Pass-by Factor

8. The TA assessment was based on an overall pass-by factor of 30% to take account of vehicles already passing the site and simply turning off the highway into the Site (20% southbound passing the site access, and 10% northbound diverting around the gyratory). AECOM has advised that a site-by-site first principles approach should be undertaken to assessing pass-by traffic. They do not offer any alternative suggestion to TTHC's approach, but have requested further assessment of the methodology to produce the pass-by factor, in order to produce a more accurate figure.

9. For context, it should be noted that the inclusion of pass-by traffic is standard practice with assessments such as that set out in the TA as it adds a more realistic dimension to the traffic characteristics which occur in connection with retail park activity.

10. TTHC does not have any information to help inform 'a more accurate figure', and it would be difficult to achieve such without undertaking an extensive piece of work (completely disproportionate to the scale of development impact).

11. However, in order to put the questioned assumption into context a sensitivity test of the proposed development has been undertaken which assumes all of the proposed development flows are 'New' trips to the highway network (ie there would be no pass-by traffic). A comparison of the proposed Peel Centre development flows are presented at **Appendix B**.

12. **Appendix B1** shows the proposed Saturday Peel Centre Total Development flows as presented in TA (assuming 30% pass-by / 70% new). **Appendix B2** shows the equivalent proposed Total Development flows (assuming 100% new trips).

13. The difference between the development flows assuming either 30% pass-by / 70% new or 100% new trips is just 20 movements in total. The addition of 20 movements (assuming no pass-by trip making whatsoever) would have an imperceptible impact on the operation of the gyratory junction. If there were a total of 15% combined pass-by/diverted trips this would translate into an additional 10 movements on the gyratory. This clearly evidences the key point that the assumed pass-by element is not a critical factor in this assessment.

Traffic growth clarification

14. TEMPRO growth factors (in this case 7.9%) have been applied to the existing peak hour traffic flows which travel through the junction (i.e. between A61 Old Mill Lane, A635 Old Mill Lane and A61 Harborough Hill Road), representing general background growth. As the other arms of the junction are cul-de-sacs they will not experience any general growth from future developments, so no growth has been applied other than in connection with the re-occupation of empty units as detailed in the TA.

Weekday impact

15. As noted, the TA concentrated on the Saturday peak hour as this is quite evidently the worst case both in terms of development traffic (observed flows in and out of Peel Centre) and overall flows at the gyratory – this fact is not disputed by AECOM. Where a single specific peak hour is the worst case in terms of both network traffic and forecast development traffic, it is standard practice to assess only this worst case peak hour as by definition any other peak hour will experience less impact.

16. Nevertheless, to address the point raised by BMBC, and so that there can be absolutely no doubt on the point that weekday PM peak development impact is less than the Saturday peak development impact, a calculation of weekday PM peak hour development traffic has been undertaken, following which, the weekday peak 'as counted' flows have been tested within the LinSig model and then compared against the Saturday 'as counted' operation which was reported in the TA. The development traffic is set out first:

Weekday development traffic

17. As set out in the TA there are two elements to the development traffic:
    - that resulting from the additional floorspace in the new unit (936 m^2); and
    - the uplift in trip generation which might result from a relaxation to permit an element of food sales (1,394 m^2 maximum).

18. The same methodology has been adopted for the calculation of weekday PM peak.

19. In relation to the new unit, development trip generation was based on a straight pro-rata uplift of the observed trip rates from the count (which is clearly a robust assumption). The observed PM peak flows were detailed in Table 3 of the TA. These are repeated below along with the resulting trip rates and corresponding trips which would be associated with the new unit (on a pro-rata basis).

New Unit (non-food) Weekday Peak Hour Impact			
	In	**Out**	**Two Way**
Observed peak hour flows (operational floorspace = 13,537 m^2)	201	238	439
Equivalent trip rate (per 100 m^2)	1.48	1.76	3.24
Corresponding trips for new unit (pro-rata) (936 m^2)	**14**	**16**	**30**

20. In relation to the relaxation floorspace, trip generation was calculated based on standalone discount foodstore trip rates factored to take account of the retail park setting (and indeed food use within a wider store use). Within the Saturday assessment the standalone discount foodstore rates (14.91 two way) were multiplied by a 'retail park excluding food' trip rate over 'standalone non-food unit' trip rate (6.47 / 8.26) to reduce the standalone discount foodstore rate by 22% as a reflection of the type of store and retail park setting. There is insufficient weekday data available within TRICS for these two categories to fully repeat this calculation for the weekday, but there is no reason to believe and most certainly no evidence to suggest that this 22% reduction for the retail park setting would not be applicable at any time of the day or day of the week.

21. A further interrogation of TRICS has been undertaken to obtain weekday PM peak standalone discount foodstore rates. By simply comparing these to the equivalent Saturday rates one can quickly see the scale of weekday peak generation relative to Saturday. The weekday PM peak rates represent just 55% of that occurring during the Saturday peak. The weekday development trips have been calculated accordingly. The table below details the standalone discount store trip rates and the associated calculation. The TRICS data is attached at **Appendix C**.

Food Relaxation – Calculation of Weekday Peak Hour Impact (1,394 m^2)			
	In	**Out**	**Two Way**
Standalone discount foodstore trip rates - weekday	-	-	8.16
Standalone discount foodstore trip rates - Saturday	-	-	14.91
Weekday / Saturday factor	-	-	55%
Saturday trip generation (Table 7 of TA)	38	33	71
Equivalent trips for weekday (55% of Saturday)	**21**	**18**	**39**

22. Putting aside any debate on proportion of pass-by trips, the two elements of traffic generation have been summated and compared to the total traffic generation assessed for Saturday. This is summarised below.

Weekday /Saturday Peak Hour Impact Comparison			
	In	**Out**	**Two Way**
Total trips - weekday	35	34	69
Total trips – Saturday (Table 8 of TA)	69	64	133

23. Not only does this confirm that weekday PM peak hour trip generation is substantially lower than that on the tested Saturday, but that the absolute scale of PM peak generation is minimal: equivalent to around just one vehicle movement in or out per minute (or 1.7 movements in every 90 seconds cycle of the traffic lights on the gyratory – taking no account of any pass-by).

Weekday / Saturday operational comparison

24. Table 3 of the TA provides a summary of the Friday PM and Saturday afternoon peaks for the gyratory as a whole and also specifically for traffic entering and exiting Peel Centre (repeated below for ease of reference). The peak hour PCU turning flows for both peaks are indicated in **Appendix D**.

Peak Hour Comparison Summary of Existing Flows (PCUs)				
	Peel Centre			**Gyratory**
	In	**Out**	**Two Way**	**Total**
PM Peak Hour	201	238	439	4221
Saturday Peak Hour	443	448	891	4452

25. As shown in the above table the Saturday peak traffic at Peel Centre is considerably higher than the Friday PM Peak hour, and also the background traffic is also higher at this time (gyratory total flows are approximately 5% higher on the Saturday). This is to be expected given the significant other retail presence in the area.

26. Whilst the overall flows are much higher on the Saturday, BMBC Highways raised a concern that different balances in turning movements between weekday and Saturday might still result in impacts on certain parts of the gyratory being worse on a weekday than on the Saturday.

27. Without undertaking extensive further calculations and modelling, the weekday 'as counted' flows have been tested within the LinSig model and compared against the Saturday 'as counted' operation which was reported in the TA. The results comparison is summarised below. The full LinSig output is provided at **Appendix E**.

A61 / A635 Harborough Hill Gyratory Operational Performance Comparison					
		Existing Saturday Peak		**Existing Weekday PM Peak**	
Link - Entries		**DoS**	**Queue**	**Dos**	**Queue**
1/1	Twibell Street (entry)	14.9%	1	18.2%	1
2/1	Dryden Road (entry) Left	14.0%	1	7.6%	0
2/2	Dryden Road (entry) Left	17.0%	1	9.3%	1
2/3	Dryden Road (entry) Ahead	23.7%	2	19.5%	1
2/4	Dryden Road (entry) Ahead	72.3%	6	31.7%	2
3/1	A61 Harborough Hill Road (entry)	19.7%	2	27.6%	3
3/2	A61 Harborough Hill Road (entry)	84.4%	12	80.6%	12
3/3	A61 Harborough Hill Road (entry)	85.8%	13	81.9%	12
4/1	Meadow Street (entry)	4.5%	1	3.9%	1
5/1	A635 Old Mill Lane (entry)	89.9%	14	72.8%	12
5/2	A635 Old Mill Lane (entry)	83.8%	13	67.8%	12
6/1	Canal Way (entry)	62.3%	3	55.8%	3
6/2	Canal Way (entry)	74.4%	8	64.8%	6
7/1	PC world (Egress)	24.4%	1	8.2%	0
8/1	A61 Old Mill Lane (SB) – Bus Lane	34.7%	1	20.4%	1
8/2+8/3	A61 Old Mill Lane (SB)	94.7%	27	82.8%	16
Internal Circulating					
10/2+10/1	Gyratory East (Ahead & Left)	54.2%	8	41.3%	4
10/3	Gyratory East (Ahead)	35.3%	7	38.6%	7
10/4	Gyratory East (Right)	76.4%	15	74.0%	14
10/5	Gyratory East (Right)	25.0%	1	27.2%	1
12/1	Gyratory West (Left)	38.3%	1	36.8%	1
12/2	Gyratory West (Right)	56.7%	6	62.4%	6
12/3	Gyratory West (Right)	37.0%	2	43.6%	2
16/1	Gyratory North (Right)	49.3%	8	40.8%	5
16/2	Gyratory North (Right)	72.3%	11	72.6%	9
24/1	A61 Old Mill Lane (NB)–Ped Crossing	36.1%	5	42.7%	2
24/2	A61 Old Mill Lane (NB)-Ped Crossing	44.2%	7	51.3%	2
Cycle Time		90 seconds		90 seconds	
Overall PRC		-5.2%		8.7%	

DoS – Degree of Saturation (%) PRC = Practical Reserve Capacity

28. As shown in the above results the Saturday peak is the worst case scenario. The existing PM peak operates with a PRC of 8.7%. Looking at the results on an individual link basis, on 26 out of 27 links, queuing is either the same as, or lower than, the Saturday.

29. Clearly, the addition of weekday development traffic, which is significantly lower than the Saturday development traffic (around half), will not have a significant impact, and this confirms that the Saturday peak is the worst case test in all respects.

Conclusion

30. The worst case development impact is clearly the Saturday peak as tested (twice the trip generation of the requested weekday PM peak). Despite this being apparent from examination of Table 3 of the TA, TTHC has nevertheless accommodated the request of BMBC Highways in order that there can be absolutely no doubt on the point.

31. This Saturday peak hour impact is just 113 additional movements on the gyratory (an average of less than one in, one out per minute), and which incidentally is less than the background traffic growth considered.

32. We would not expect BMBC, as highway authority, to consider implementing highway improvements to cater for such an increase were it to occur as a result of general background growth, and the suggestion that mitigation is required for such an increase when it is as a consequence of development traffic is unreasonable.

33. In terms of background traffic levels, again, Table 3 of the TA indicates that overall flows through the gyratory during the Saturday peak hour are around 5% higher than during the weekday PM peak. Concern was raised by BMBC that different flow balances might result in certain parts of the gyratory being more critical during the weekday, and a weekday assessment was requested. The weekday/Saturday existing flow LinSig results comparison presented above confirms that the small changes in flow balance do not result in any parts of the gyratory having a worse performance during the weekday PM peak. Of course, the addition of the much smaller weekday development traffic

generation (just 69 movements excluding any pass-by deductions) would not have a perceptible impact on the weekday peak operation – irrespective of background flow levels.

34. Having said all of the above, it is also important to remember, as detailed in the TA, that the analysis is based on a number of layers of robust assumptions, all of which combine to over-estimate potential development impacts. These are summarised below for ease of reference:

- The potential trip generation from the vacant and consented floorspace at the Peel Centre has been included;
- The potential trip generation from the vacant units at Twibell Street has been included;
- Trip generation for the vacant mezzanine floorspace at the Peel Centre has been calculated on a straight pro-rata basis (in reality mezzanine floorspace typically generates a much lower footfall than ground floorspace);
- Full TEMPRO growth factors have been applied to the existing passing peak hour flows (TEMPRO growth forecasts already take account of new development, and therefore this results in an element of double counting);
- The existing observed trip rates for the Peel Centre have been applied to the proposed floorspace. By applying a pro-rata trip rate this makes no allowance for increased trip linkages within the Centre as many of the stores visitors will already be visiting the Centre and just adding another store to their visit (linked trips);and
- The assessment flows assume maximum GFA up take of the relaxation of sales restrictions.

35. No account appears to have been taken by Aecom/BMBC of the cumulative effects of all of these robust assumptions in respect of the assessment work. and this is demonstrated by the consultation response which refers to Practical Reserve Capacity (PRC) and quotes the Degree of Saturation (DoS) and queuing results for Old Mill Lane (southbound) 'as an example'. This 'example' is actually the worst case link, and to understand the wider picture, it should be noted that it is the only link to exceed a DoS of 90%. This is despite the numerous robust assumptions which have been adopted.

36. Of course, the signals would be operating beyond practical capacity irrespective of the development proposals. The impact of the development traffic on top of the Base is not significant: the increase in DoS is under 3%, and whilst the queue increases exponentially from 39 to 51 (another 12 PCUs), in real terms, the impact that this would have on users equates to an increase in journey time of less than half a minute even on the basis of the robust assumptions.

37. In the wider context of a journey, such a level of impact cannot be considered as 'severe'. Furthermore, this level of impact is for the worst case single peak hour in the week (not even daily), and at a time when many drivers have choices over their journey making.

38. It would not be appropriate to 'predict and provide' for such robustly derived demands.

39. In conclusion, the impact of development cannot reasonably or credibly be considered to have a 'severe' impact on the operation of the highway. Therefore, in accordance with NPPF policy, no mitigation is proposed.