TECHNICAL NOTE

DENMEAD SCHOOL

Review of Transport Statement

Date: July 2013 **Ref: DMA/13/1699**

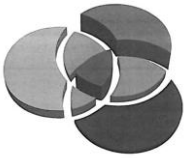
1 INTRODUCTION

1.1 Russell Giles Partnership (RGP) have been instructed by the Denmead Neighbours' Association (DNA) to provide a review of the Transport Statement prepared by SKM Colin Buchanan (13th June 2013), as part of a planning proposal (Planning Reference: 13/2102/FUL) for the redevelopment of the Denmead Preparatory School, Gloucester Road, Hampton.

1.2 The proposals involve the redevelopment of Denmead School (Gloucester Road site) including the demolition of 3 existing single storey teaching blocks, stores, the existing hall and construction of a new two storey building with associated external works and landscaping. As part of the proposals the existing access from Gloucester Road will be maintained. A new emergency vehicle access is proposed via Wensleydale Gardens. In addition a total of 12 car parking spaces (10 for staff and 2 for 'blue badge' visitors) together with 2 mini-bus spaces will be provided.

1.3 With the exception of several changes to the proposed site layout, the proposals remain unchanged from the previous planning application (Planning Reference: 11/4125/FUL), which was refused planning consent by the Royal Borough of Richmond upon Thames (RBRuT) on 20th December 2012, primarily due to the anticipated traffic impact along Gloucester Road. More specifically, as stated in the Planning Officer's report:

"*The proposal, involving an additional 32 pupils, would result in an increase in traffic levels along heavily parked residential roads adjacent to the school, which together with the limited access to the school, would result in increased traffic and associated movements leading to conditions prejudicial to highway safety at times when vulnerable users would be present and using the roads and footways and noise and disturbance to neighbouring residents*."



1.4 Of particular significance, the current application removes all specific references with regards to there being an increase in the number of pupils attending the Gloucester Road site of Denmead School. However, this contradicts the information contained in the Supporting Planning Statement[1], which states: *"….the School will then be able to discuss with the Council whether, in the future, any increases in pupils can be justified against the criteria of development plan policies, and if so by how many."*

1.5 In terms of structure, this note commences with a critical review of the existing school traffic conditions section of the Transport Statement including a consideration of the methodology and results of the parking beat, hands-up and snapshot 'drop-off' and 'pick-up' surveys. It then examines the proposed emergency vehicle access via Wensleydale Gardens. Other issues concerning various inconsistencies / discrepancies within the Transport Statement are listed. This is followed by a summary of the key findings from the review.

2 CRITICAL REVIEW

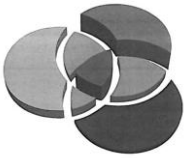
Site Audit – Existing School Traffic Conditions

Parking Beat Survey Results

2.1 Section 4.2 of the Transport Statement outlines the results of a parking beat survey that was conducted along Gloucester Road and Wensleydale Road on Wednesday 24th April during 07:00 - 09:15 and 15:00 - 18:45. The results of a parking audit revealed that there were a total of 87 legal, unrestricted on-street car parking spaces within 200 metres (i.e. 2.5 minute walk) of the school's access along Gloucester Road and a total of 57 spaces within 100 metres of the access along Wensleydale Road. The physical capacity of parking within the areas specified above was calculated on a standard of 1 vehicle occupying a 5 metre parking space. It is normal practice, however, to apply a length of 5.5 metres to 6.0 metres to a parallel parking bay to allow for vehicles to manoeuvre. The school's consultant has therefore over-estimated the available space. Further to this, areas of prohibited parking (i.e. the presence of white lines and private driveways) were excluded from the parking beat analysis.

2.2 The results of the parking beat survey reveal that during the AM period, a total of 65 vehicles are parked along Gloucester Road during between 08:30 - 08:45, thereby generating a parking stress of 75%. During the PM period, the peak demand for parking occurs between 16:15 to 16:30, when a total of 67 spaces are occupied, generating a parking stress of 77%. This observation is inconsistent with Section 3 – Existing Conditions (Paragraph 3.9.2), of the Transport Statement, which states the peak departure time as being between 16:00 – 16:15.

[1] Supporting Planning Statement, Vincent and Gorbing (June 2013)



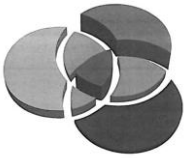
2.3 Within the supporting text, the observed level of parking stress is described as being *"slightly above the threshold of a preferred occupancy of 70%"*. It is noteworthy that no attempt is made to substantiate this figure, which is not referenced in regional / local policy or included within transport planning guidance for conducting parking beat surveys, based on the 'Lambeth' methodology.

2.4 However, of perhaps greater significance, the parking beat survey did not take into account areas of local highway immediately adjacent to the school including the residential cul-de-sacs of Wensleydale Gardens, Carlisle Road and Scotts Drive, all of which experience parking during the AM drop-off and PM pick-up periods. Furthermore, with regards to the parking beat conducted along Wensleydale Road, the survey only incorporated an area of highway 100 metres either side of the school's access. Consequently, the omission of these parking areas represents a significant weakness in the survey methodology, since the data provides only a limited view of the actual parking behaviour associated with parents dropping-off and picking-up pupils at the school.

2.5 The Safety Forum (TSF) was instructed by the DNA to undertake a parking beat survey within 200 metres of the school's access on Gloucester Road. This survey was conducted on Thursday 2nd May 2013 between 07.45 - 09:15 and 15:15 – 16:30. The total number of legal, unrestricted parking spaces in the survey area (i.e. physical parking capacity) was calculated to be 70 (based on 5.5 metres to 6.0 metres length of parallel bay), as opposed to 87, as referred to within the Transport Statement.

2.6 In light of this overestimate, the results of the original parking beat survey conducted by SKM Colin Buchanan were recalculated to establish the level of parking stress along Gloucester Road. These are presented in **Table 2.1** and **Charts 1** to **2**.

2.7 It is evident that based on a total parking capacity of 70 spaces, the parking stress on the local highway, within 200 metres either side of Gloucester Road increases from 75% to 93%, during the AM peak period of 08:30 – 08:45. This suggests that the demand for parking spaces from parents dropping-off pupils along Gloucester Road almost exceeds available supply.



2.8 In addition, it is worth noting the potential impact of weather conditions on the travel behaviour of parents either dropping-off and picking-up pupils along Gloucester Road. More specifically, the parking beat survey was conducted on Wednesday 24th April 2013, which up to that point in time, was recorded to be the warmest day of the year. It is possible that as a result of the warm weather conditions, this may have influenced a number of parents to drop-off and pick-up pupils to / from the Gloucester Road access by using an alternative travel mode to the car. Consequently, the results are not representative of a 'worst' case scenario, which may be experienced during wet weather conditions during Autumn / Winter. Indeed, on these occasions, there will be greater demand for on-street parking along Gloucester Road leading to increased delays.

2.9 On this basis, any increase in the number of pupils attending the School, is therefore likely to exert greater demand on the physical parking capacity along Gloucester Road.

Time Period	SKM Results		SKM Results Adjusted	
	No. of Parked Vehicles	Parking Stress (%)	No. of Parked Vehicles	Parking Stress (%)
07:00 - 07:15	39	45	39	56
07:15 - 07:30	38	44	38	54
07:30 - 07:45	32	37	31	44
07:45 – 08:00	31	36	30	43
08:00 – 08:15	41	47	40	57
08:15 – 08:30	50	57	50	71
08:30 – 08:45	**65**	**75**	**65**	**93**
08:45 – 09:00	59	68	59	84
09:00 – 09:15	48	55	48	69
09:15 – 09:30	41	47	40	57

Table 2.1. Parking Beat Surveys along Gloucester Road (07:00 – 09:30)

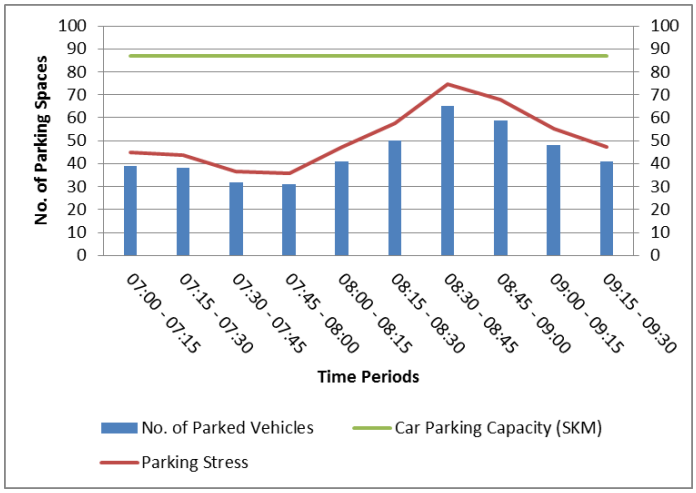


Chart 1: SKM Results

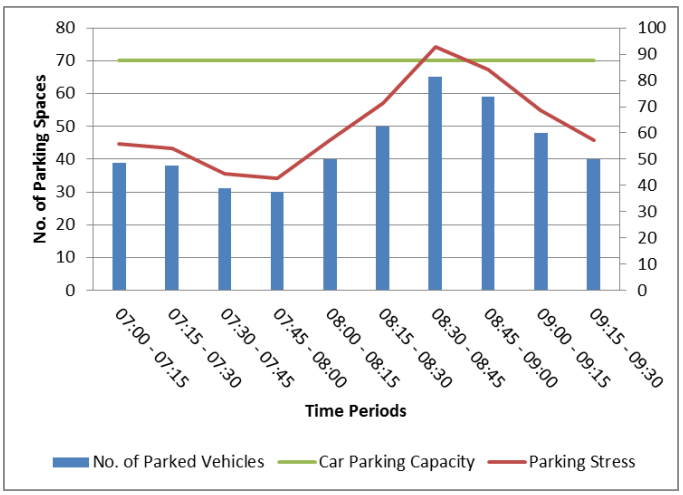
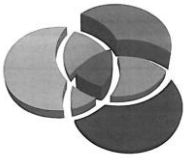


Chart 2: SKM Results Adjusted



2.10 **Table 2.2** and **Charts 3** to **4** demonstrate that during the PM peak period (16:15 – 16:30), the level of parking stress along Gloucester Road increases from 77% to 96%, indicating that the total number of parked vehicles almost exceeds available on-street supply. With regards to the adjusted SKM results, it is noted that the level of parking stress is slightly greater during the PM period. This is consistent with on-the site observations made by local residents living within the vicinity of the Gloucester Road access.

Time Period	SKM Results		SKM Results Adjusted	
	No. of Parked Vehicles	Parking Stress (%)	No. of Parked Vehicles	Parking Stress (%)
15:00 - 15:15	39	45	39	56
15:15 - 15:30	39	45	39	56
15:30 - 15:45	41	47	41	59
15:45 - 16:00	43	49	43	61
16:00 - 16:15	55	63	55	79
16:15 - 16:30	67	77	67	96
16:30 - 16:45	48	55	48	69
16:45 - 17:00	40	46	40	57
17:00 - 17:15	47	54	47	67
17:15 - 17:30	42	48	42	60
17:30 - 17:45	37	43	37	53
17:45 - 18:00	34	39	34	49
18:00 - 18:15	32	37	32	46
18:15 - 18:30	35	40	35	50
18:30 - 18:45	33	38	33	47
18:45 – 19:00	38	44	38	54

Table 2.2. Parking Beat Surveys along Gloucester Road (15:00 – 19:00)

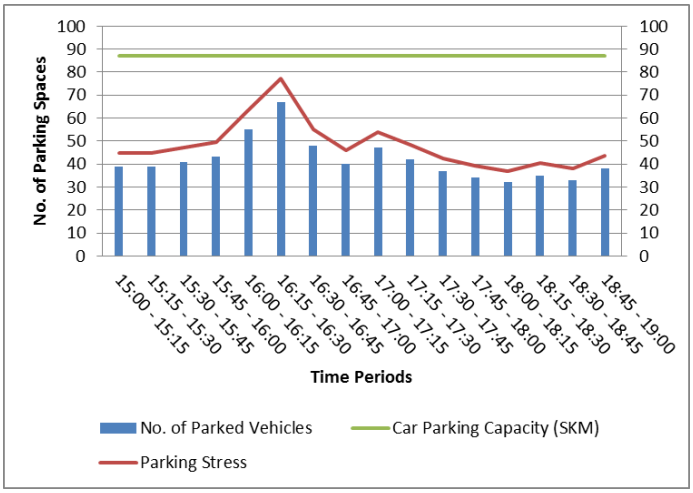


Chart 3: SKM Results

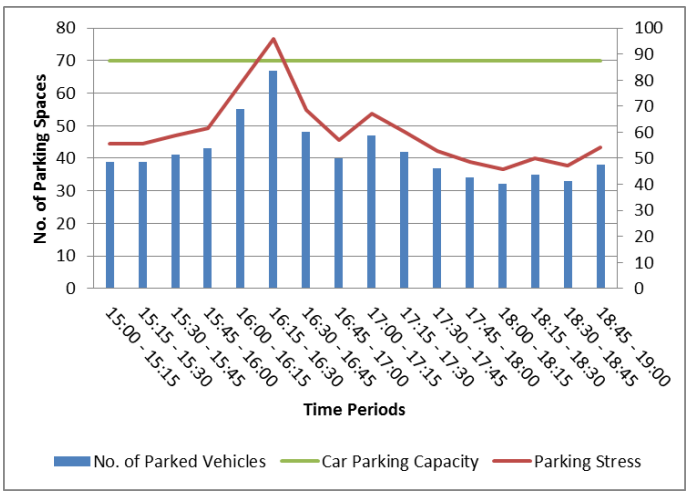
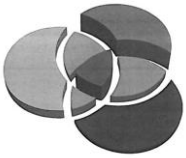


Chart 4: SKM Results Adjusted



Hands-up Survey

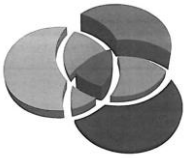
2.11 **Table 4.4** of the Transport Statement presents the modal splits of several hands-up pupil surveys, which have been undertaken at Denmead School (Gloucester Road site) over the past three years. The modal splits are expressed as percentages and show a 26% decrease in the proportion of pupils being dropped-off / picked-up by single pupil occupancy vehicle (SPOV) on Gloucester Road since June 2010. Over the same period of time, there has been a 15% increase in the proportion of pupils dropped-off and picked-up from the Carlisle Park entrance on Wensleydale Road. This change in travel behaviour is attributed to the implementation of the 'two-gate strategy', in which senior pupils are encouraged to be dropped-off / picked-up from the Carlisle Park entrance.

2.12 Paragraph 4.5.7 asserts that the proportion of all SPOV trips to the school has reduced by 11% since June 2010. However, when it is considered that the total number of pupils attending the Gloucester Road site has increased by 27% since 2010 from 112 to 142 this conclusion cannot be supported. In particular, as shown in **Tables 2.3** and **2.4**, based on actual count data, there has been a percentage increase (4%) in the proportion of pupils travelling to and from the school by SPOV and car share.

Mode	June 2010		March 2011		February 2012		September 2012		April 2013	
	No.	%	No.	%	No.	%	No.	%	No.	%
Car (Gloucester Road)	71	63	75	57	81	58	39	28	53	37
Car (Carlisle Park)[2]	0	0	6	5	0	0	27	19	21	15
Car Share (Gloucester Road)	15	13	24	18	25	18	13	9	4	3
Car Share (Carlisle Park)	0	0	0	0	0	0	20	14	13	9
Walk all the way	6	5	12	9	22	16	29	21	28	20
Bicycle	2	2	2	2					7	5
School Bus	14	13	12	9	13	9	14	10	16	11
Rail	3	3	0	0	0	0	0	0	1	1
Other	1	1	0	0	0	0	0	0	0	0
Total	**112**	**100**	**131**	**100**	**140[3]**	**100**	**140**	**100**	**142**	**100**

Table 2.3. Modal Splits derived from Hands-up Surveys

[2] Also referred to as Park and Stride
[3] In the absence of data, the total number of pupils is estimated to be 140



Mode	June 2010		March 2011		February 2012		September 2012		April 2013		Difference
	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Car (SPOV)	71	63	81	62	81	58	66	47	74	52	3
Car Share	15	13	24	18	25	18	32	23	17	12	2
Total	**86**	**76**	**105**	**80**	**106**	**76**	**98**	**70**	**91**	**64**	**5**

Table 2.4. Breakdown of Car Usage to Denmead School

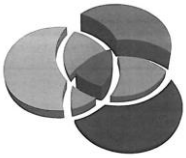
2.13 Overall, there has been an increase of 5 pupils travelling to and from the school by car (SPOV or car share) since June 2010.

Snapshot Surveys

2.14 Section 4.6 and 4.7 of the Transport Statement present the results of two Snapshot surveys involving school 'drop-offs' and 'pick-ups' at both the Gloucester Road and Wensleydale Road accesses. These assessments were conducted on Wednesday 24th April 2013. Paragraph 4.6.1 describes the survey methodology governing the snapshot surveys. In particular, the surveys were conducted between 08:00 – 09:00 and 16:00 – 17:00, taking account all drop-off and pick-up activity 200 metres either side of the Gloucester Road access and 100 metres either side of the Wensleydale Road access. It is further stated that both sides of these roads were surveyed.

2.15 Similar to the inherent weakness associated with the parking beat surveys, the snapshot surveys do not include all areas of the surrounding local highway (i.e. Wensleydale Gardens, Carlisle Park and Scotts Drive) where it is possible for parents drop-off and pick-up pupils. It is incorrectly claimed in Paragraph 4.6.9 that '*although not all the drop-offs were recorded, as some would have taken place outside of the immediate survey area, the analysis gives a good indication of where pupils get dropped off within the immediate vicinity of the site*'. As a consequence, the snapshot surveys do not fully represent the actual parking behaviour of parents within the vicinity of the school.

2.16 Indeed, **Table 2.5** presents the results of observations made by local residents' of pupils accessing Denmead School (Gloucester Road site) via Wensleydale Gardens, between 08:00 and 09:00, over a three day period. It is not possible to fully establish whether the number of pupils accessing the school by non-car modes, were actually dropped-off by parents parking elsewhere on the local highway. However, the results do reveal the number of pupils not accessing the school via the dedicated route into Carlisle Park. As noted in the Transport Statement, it is assumed that all pupils access the school via Wensleydale Road.



Date	No. of Pupils	No. of Pupils Arriving by Car
18th January 2013	4	1
21st January 2013	11	0
22nd January 2013	5	2
Total	**20**	**3**

Table 2.5. Observations of Pupils Accessing Denmead School via Wensleydale Gardens

2.17 In addition to the limitation described above, the following errors are present within the supporting text:

i) Paragraph 4.6.7 incorrectly states that a total of 42 pupils are dropped-off in the area immediately surrounding the school. The correct number is 47, as stated in Table 4.7. Further to this, a total of 9 pupils were observed to be dropped-off by single occupancy vehicle, as opposed to 7.

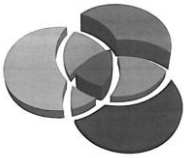
ii) The title of Table 4.7 makes reference to the drop-off survey being conducted during the time period of 08:00 – 09:15, which contradicts the information outlined in Paragraph 4.6.1.

iii) With reference to Table 4.8 (school Snapshot pupil pick-up survey) and supporting text contained in Paragraph 4.7.4, the total number of pupils and cars observed within 200 metres of the school's access along Gloucester Road is incorrect. The total number of pupils is 100 and the total number of cars is 69.

Comparison of Hands-up and Snapshot Surveys

2.18 It is noteworthy that when the results of the hands-up survey are compared with those obtained from the snapshot drop-off and pick-up surveys, there is a significant difference between the number of pupils arriving and departing the school by SPOV and car share. This difference is perhaps surprising given that both surveys were undertaken on Wednesday 24th April 2013.

2.19 As shown in **Table 2.6** there is an 11% difference between the survey data, with regards to the total proportion of pupils travelling to the School by SPOV. This difference, which is more pronounced at the Gloucester Road access, equates to 16 pupils.



Mode	Hands-up Survey April 2013		Snapshot Survey April 2013 – Drop-off		Difference	
	Count	%	Count	%	Count	%
Car (Gloucester Road)	53	37	38	27	15	10
Car (Wensleydale Road)	21	15	20	14	1	1
SPOV Total	74	52	58	41	16	11
Car Share (Gloucester Road)	4	3	9	6	-5	-3
Car Share (Wensleydale Road)	13	9	9	6	4	3
Car Share Total	17	12	18	12	-1	0
Car Total	**91**	**64**	**76**	**53**	**15**	**11**

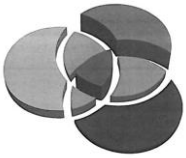
Table 2.6. Comparison of data from Hands-up and Snapshot Drop-off Surveys

2.20 **Table 2.7** compares the results of the hands-up survey with the snapshot pick-up survey conducted between 16:00 and 17:30. There is a 19% difference in the proportion travelling by SPOV, which equates to 28 pupils. In contrast to the drop-off surveys, this difference is more pronounced at the Wensleydale Road access. In addition, there is a significant discrepancy with regards to the proportion of pupils being picked-up by car share from Gloucester Road. For example, the results of the hands-up survey demonstrated that only a small proportion of pupils are picked-up from the vicinity of the Gloucester Road, which is markedly different from the parking behaviour of parents, observed during the snapshot survey.

Mode	Hands-up Survey April 2013		Snapshot Survey April 2013 – Pick-up		Difference	
	Count	%	Count	%	Count	%
Car (Gloucester Road)	53	37	41	29	12	8
Car (Wensleydale Park)	21	15	5	4	16	11
SPOV Total	**74**	**52**	**46**	**33**	**28**	**19**
Car Share (Gloucester Road)	4	3	59	42	-55	-39
Car Share (Wensleydale Road)	13	9	0	0	13	9
Car Share Total	**17**	**12**	**59**	**42**	**-42**	**-30**
Car Total	**91**	**64**	**105**	**75**	**-14**	**-11**

Table 2.7. Comparison of data from Hands-up and Snapshot Pick-up Surveys

2.21 To account for the variation in parking behaviour, Paragraph 4.7.7 of the Transport Statement suggests that this is due to a total of 56 pupils (39%) staying behind for after school activities on the survey day. It is inferred that these pupils may have been picked-up by a different travel mode to the one used to drop them off at the school access points.



2.22 Notwithstanding this, the variation is more likely to be explained by the limitations of the snapshot surveys, which fundamentally, excluded areas of local highway surrounding the school, most notably Wensleydale Gardens, Carlisle Road and Scotts Drive. This provides a more compelling explanation for the discrepancies between the hands-up and snapshot surveys.

School Proposals – Emergency Access

2.23 Section 5 of the Transport Statement provides detail on the proposed development including the provision of an emergency site access via Wensleydale Gardens. It is argued in Paragraph 5.6.2 that the existing access located off Gloucester Road is too narrow in width (i.e. 3.2 metres) to accommodate the movement of a fire engine. In particular, drawing VN19677-EC-TR-0006-01, which is attached as Appendix 'A' (Tracking Drawings) shows the swept path analysis of a fire engine entering the access.

2.24 Support for the use of an emergency access located off Wensleydale Gardens is provided in the form of pre-application correspondence between jhai limited and the London Fire and Emergency Planning Authority (attached at Appendix B of the Transport Statement). Following a review of drawing 786-C01-10 Rev Emergency Site Access, the London Fire and Emergency Planning Authority indicated that there were satisfied with the proposals, subject to the access meeting the prescriptive requirements of the Building Regulations (Approved I Document B5, 2000[4]). Section 17, 'Vehicle Access' provides the following advice on access from the highway:

i) There should be a minimum carriageway width of 3.7 metres between kerbs;

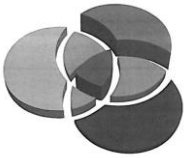
ii) There should be vehicle access for a pump appliance within 45 metres if single family houses;

iii) There should be vehicle access for a pump appliance within 45 metres of every dwelling entrance for flats / maisonettes;

iv) A vehicle access route may be a road or other route; and

v) Fire service vehicles should not have to reverse more than 20 metres.

[4] Statutory Instrument 2000 No.2531, The Building Regulations 2000. London: TSO. Part II, paragraph B5: Access and facilities for the fire service.



2.25 Notwithstanding this, paragraph 3.6 of the Supporting Planning Statement states, as part of the minor amendments to the current planning application that the footprint of the new building will be *"…..repositioned at the entrance gate, allowing better access into the site."* The provision of a 'better' access, which appears to remove the existing 'pinch-point' at the entrance gate, therefore undermines the principal argument supporting the need for an emergency vehicle access off Wensleydale Gardens, as this would be of sufficient width to satisfy the requirements of the Building Regulations.

2.26 Following a review of the swept path analyses for various vehicle types including a fire engine (attached at Appendix A of the Transport Statement), it is apparent that these are based on a different site layout to the proposed site layout plan (drawing 786.D01.06). In addition, following a review drawing 786-C01-10 (attached at Appendix 'B') it is evident that the site layout used for the swept path analysis of the fire engine entering the site via the proposed emergency access (located in the bottom right corner of the drawing) is different from the site layout, which forms the larger image.

2.27 This represents a significant inconsistency and as such additional swept path analyses would need to be undertaken to demonstrate the movement of various vehicles entering / exiting the main school site via the existing Gloucester Road access and justifying the need for the proposed emergency vehicle access off Wensleydale Gardens.

Other Comments

2.28 This section of the Technical Note lists a number of other issues, which were identified following review of the Transport Statement.

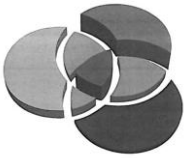
Section 1: Introduction

i) Paragraph 1.1.3 states that a Travel Plan update will be provided as part of the assessment (assumed to be Transport Statement). However, no such document is attached to the report.

Section 3: Existing Conditions

ii) Paragraph 3.5.3 states bus stops located on Station Road, adjacent to Hampton rail station are situated approximately 740 metres walking distance of the School. Based on Google Earth, this distance is estimated to be approximately 830 metres.

iii) Paragraph 3.9.2 states that the morning peak arrival time for pupils is between 08:30 and 08:45, which is inconsistent with the results of the parking beat survey.



Section 4: Site Audit

iv) No raw data for the parking beat, hands-up or snapshot surveys is attached as an Appendix to the Transport Statement.

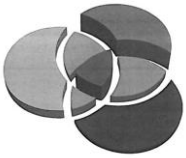
v) Paragraph 4.4.8 describes an accident occurring at 15:25 on Wednesday 20th July 2007. This date is incorrect as the July 20th fell on a Friday. No Personal Injury Accident (PIA) records are attached as an Appendix to the Transport Statement.

vi) Paragraph 4.4.15 incorrectly states that the majority of accidents (64%) within the study area occurred along Uxbridge Road, between Broad Lane and High Street. Further to this, it is stated that 32% of accidents occurred at the Uxbridge Road / Broad Lane junction. With reference to the data presented in Table 4.2, these figures should be amended to 68% and 28% respectively.

vii) Paragraph 4.5.8 states that there has been a reduction of 36 cars dropping-off pupils in the AM peak (taken to be 08:00 – 09:00) within 200 metres of the Gloucester Road access since March 2011. This claim is misleading, since the March 2011 drop-off survey, as stated in the Transport Assessment (December 2011) did not precisely define the drop-off area. Indeed, Paragraph 4.8.2 rather vaguely states that the drop-off survey '*only takes into account the drop-off and pick-up locations in the immediate vicinity of the site'*.

Section 5: School Proposals

viii) Paragraph 5.4.1 suggests that staff will be permitted to park on-site prior to them arriving and departing from the site. However, no details are provided on how this would be enforced.



3 SUMMARY AND CONCLUSIONS

3.1 This Technical Note has been prepared by RGP on behalf of the DNA in response to a planning application (Planning Reference: 13/2102/FUL) involving the redevelopment of Denmead School (Gloucester Road site).

3.2 In summary, the review demonstrates:-

i) The original parking beat assessment (conducted in April 2013) did not include all areas of the local highway, immediately adjacent to the school (i.e. the residential cul-de-sacs of Wensleydale Gardens, Carlisle Park and Scotts Drive) and as a consequence is not fully representative of the parking behaviour of parents dropping-off and picking-up pupils;

ii) The results of a separate parking beat survey, undertaken by TSF demonstrate that the physical parking capacity, within 200 metres either side of the Gloucester Road access is 70, as opposed to 87. When re-analysing the original parking beat based on the physical parking capacity being 70, the results reveal that the demand for parking almost exceeds available supply during the AM (school 'drop-offs') and PM (School 'pick-ups') periods, in turn leading to greater levels of congestion;

iii) The results of the hand-up surveys reveal that the number of pupils travelling by car (either SPOV or car share) to the school has increased by 5 since June 2010. In particular, there has been an increase of 3 pupils travelling by SPOV and 2 as car sharers;

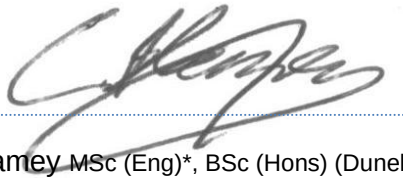
iv) When comparing the results of the hands-up and snapshot surveys, there is a significant difference in the proportion of pupils travelling by SPOV and as car sharers. The inconsistency between the results can be attributed to the limitations of the snapshot surveys, which excluded areas of the local highway where school 'drop-offs' and 'pick-ups' currently occur; and

v) The swept path analyses presented in Appendix 'A' of the Transport Statement is unsatisfactory since it is based on a different site layout to the proposed site layout plan.

3.3 On the basis of this review, it is recommended that the original decision to refuse the planning application is upheld, as the development proposals will encourage a greater number of 'drop-offs' and 'pick-ups' within the vicinity of the existing Gloucester Road access, leading to increased saturation of the physical parking capacity on the local highway surrounding the school.

Author:  Date: 10th July 2013

Anthony Wares MSc, BSc

Reviewed by:  Date: 10th July 2013

Chris Blamey MSc (Eng)*, BSc (Hons) (Dunelm), MCIHT