

**TRANSPORT STATEMENT
REVIEW**

**SITE ACCESS PROPOSALS FOR
RESIDENTIAL DEVELOPMENT SITE,
MOOR LANE, WESTFIELD, WOKING**

**CLIENT:
WILLOW (WESTFIELD COMMON)
MANAGEMENT COMPANY LTD**

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APPENDICES

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Appendix 1 PICADY Output



1.0 INTRODUCTION

- 1.1 A *Transport Statement* to consider the transport implications of the provision of three vehicular and pedestrian access points to reserved housing land at Moor Lane, Westfield, was submitted to Woking Borough Council in May 2009 by highway consultants Mayer Brown on behalf of Woking Borough Council. Refer to planning application number PLAN2009/0434.
- 1.2 This report has been prepared by Cole Easdon Consultants (CEC) on behalf of *Willow (Westfield Common) Management Company Ltd.* It presents an outline review of the *Transport Statement* submitted in support of the Woking Borough Council planning application.
- 1.3 For the sake of clarity, this report follows the same document structure as presented in the aforementioned *Transport Statement* and should therefore be read in conjunction with it. Relevant paragraph numbering corresponding to that used in the *Transport Statement* is shown in italics within this report.



2.0 SITE ACCESSIBILITY

Paragraph 2.2

- 2.1 Mayer Brown's report states that the nearest bus stops are located '*approximately 500m west of the centre of development site*' and goes on to state '*this is within the commonly accepted walking distance detailed in the PTAL methodology and also within the accepted distances recommended by IHT guidelines*'. However, they do not identify to which guidelines these relate.
- 2.2 Indeed, the Institution of Highways and Transport (IHT) document '*Guidelines for Planning for Public Transport in Developments*' (March 1999) states '*The maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m*'. This statement by the IHT would appear to contradict Mayer Brown's assertion, but without knowing what document the guidelines have supposedly been taken from, it is not possible to comment further at this stage. Notwithstanding, the 400m distance criterion is widely accepted and suggests that the majority of the site under consideration will be too far from the nearest bus stop to encourage sustainable travel by bus. This is in contradiction to both *Planning Policy Guidance (PPG) Note 13: Transport* and *Planning Policy Statement Note (PPS) 3: Housing*, which require development to be sustainable and readily accessible to public bus transport.
- 2.3 Although the walking distances to the nearby bus stops do fall within the accepted walking distances using the PTAL methodology, PTAL is the standard method used by Transport for London and is not commonly used outside of Greater London. As such, CEC consider that in this location, the Institution of Highways and Transport document is more applicable than any reference to the PTAL methodology recommendations.



3.0 TRAFFIC ATTRACTION AND INITIAL JUNCTION MODELLING

Paragraph 3.10

- 3.1 Although Mayer Brown's report states that '*site traffic was distributed at the junction on a pro-rata basis according to the base traffic flows*', the assignments shown on Mayer Brown's Figures 3.2 and 3.6 are incorrectly calculated. For example, in the PM peak hour, departures from the site should be 23% turning left (southbound along Westfield Road) and 77% turning right (northbound along Westfield Road) compared to the 54% and 46% shown on Figure 3.6 respectively.
- 3.2 As such, the development flows have been incorrectly assigned, resulting in invalid results from the subsequent junction analysis. Specifically, the number of vehicles egressing right from the minor arm (Balfour Avenue) will have a significant impact on the junction capacity. By underestimating the number of these 'right-turners' associated with the proposed development, Mayer Brown have erroneously overestimated the future vehicular capacity of this junction.

Paragraphs 3.11 and 3.15

- 3.3 Mayer Brown's report states that Table 3.2 of their report which shows maximum RFC values for Balfour Avenue of 0.969 and 0.976 '*clearly indicates that the junction would operate within capacity with the addition of the predicted development traffic flows*'.
- 3.4 However, the *Design Manual for Roads & Bridges* document TD 42/95: *Geometric Design of Major/Minor Priority Junctions (Volume 6, Section 2, Part 6)* states that '*due to site to site variation, there may be a standard error of prediction of the entry capacity by the formulae of + or - 15% for any site. Thus, queuing should not occur in the various turning movements in the chosen design year peak hour in 5 out of 6 peak hour periods or sites, if a maximum RFC of about 85% is used.*



3.4 Contd.

The *Technical Document* goes on to say ‘*the appraisal should normally be based on an RFC of about 85% in urban areas or 75% in rural areas*’ (i.e. 0.85 or 0.75).

- 3.5 Mayer Brown state that the RFC ‘*generally lies between 0 and 1, with 1 being the junction operating at its maximum theoretical capacity. However it is generally accepted that junctions do continue to operate above this theoretical capacity level*’. This clearly goes against what is stated in the relevant *Technical Document*. As such, the operation of this junction in future years is questionable, should the development proposal go ahead.

Paragraph 3.21

- 3.6 Mayer Brown’s report states that ‘*Mayer Brown is not aware of any accident history at the Westfield Road / Balfour Avenue junction*’, however it is not clear if they have looked into the personal injury accident data for the last five years and established that there are no recorded accidents, or whether they have merely not undertaken this exercise.

General

- 3.7 The traffic surveys used within the Mayer Brown report were undertaken in May 2006. As such, the junction modelling that has been undertaken, presents results for year 2006, effectively telling the reader how the junction would have worked if the development had taken place 3 years ago. No analysis has been undertaken for future year scenarios, such as the expected year of completion and 5 years post completion. Given that this application only relates to the access arrangements, we would not anticipate housing construction commencing until 2011 at the earliest. Therefore, housing completion may not be until 2015, some 9 years after the assessment year Mayer Brown have analysed. Mayer Brown's analysis is not therefore considered to be appropriate or valid.



3.8 It is also noted that junction analysis without the development traffic has not been provided. This 'without development' analysis would enable a comparison of the results, in order to identify the impact of the development traffic.

3.9 CEC have therefore carried out analysis of the Westfield Road / Balfour Avenue junction using the revised traffic distribution for year 2006 (with and without development), where the results are summarised in Table 3.1 below (see Appendix 1 for the full PICADY output):

Table 3.1 Summary of PICADY results for Westfield Road / Balfour Avenue Junction (by CEC)

Scenario		Arm	Max RFC		Max Queue	
			AM	PM	AM	PM
2006	Without Dev	Balfour Avenue (left turn)	0.122	0.044	0.1	0.0
		Balfour Avenue (right turn)	0.287	0.206	0.4	0.3
		Westfield Road South (ahead or right)	0.072	0.083	0.1	0.2
	With Dev	Balfour Avenue (left turn)	0.973	0.229	6.9	0.3
		Balfour Avenue (right turn)	0.983	0.701	8.6	2.1
		Westfield Road South (ahead or right)	0.185	0.322	0.6	1.0

3.10 Table 3.1 above shows that the development traffic will have a significant impact on the junction. During the AM peak, CEC's analysis suggests that the junction will operate at close to maximum capacity, even when using 2006 data. As such, CEC undertook additional analysis for the estimated completion year 2015 with development for both with and without the proposed junction improvements.

3.11 CEC calculated the 2015 traffic flows by applying locally derived growth factors from the TEMPRO software to the base flow data, before applying the development traffic. The results of our analysis are summarised in Table 3.2 below:



Table 3.2 Summary of PICADY results for Westfield Road / Balfour Avenue Junction – Year of Completion 2015 AM Peak (by CEC)

Scenario		Arm	Max RFC	Max Queue
			AM	AM
2015	With Dev	Balfour Avenue (left turn)	1.179	14.6
		Balfour Avenue (right turn)	1.165	19.7
		Westfield Road South (ahead or right)	0.226	0.8
	With Dev (with Mayer Brown Suggested Junction Improvement)	Balfour Avenue (left turn)	1.036	9.0
		Balfour Avenue (right turn)	1.036	11.5
		Westfield Road South (ahead or right)	0.226	0.8

- 3.12 It can be seen from Table 3.2 above, that even with the proposed junction improvements, the junction will still operate over capacity for the predicted year of completion (2015). Significant queuing and delay is predicted, even with the minor improvements suggested by Mayer Brown. In reality, the queuing on Balfour Avenue could extend to circa 20 vehicles in length, as there is insufficient highway width for 'right-turners' (11.5) and left turners (9.0) to queue alongside one another, other than at the give-way line perhaps.
- 3.13 Further queuing and delay can be expected for the 'five years post completion' scenario, in say year 2020.
- 3.13 Since the Westfield Road / Balfour Avenue junction has been shown to experience significant queuing as a result of the proposed development, it is expected that the development traffic will also have a significant impact on the Balfour Avenue / Westfield Common junction, where CEC recommend that this junction should also be modelled for the current and future year scenarios.



4.0 ACCESS OPTIONS APPRAISAL

Paragraph 4.5

- 4.1 Mayer Brown's report makes reference to an initial access feasibility study which was undertaken in 2006, where *'it was concluded that, given the size of the development scheme under consideration, for any access solution there should be two main vehicular site accesses.'*
- 4.2 Although the planning application (for which the 2009 report was produced to support) is for the formation of two main and one emergency vehicular access, all three of these accesses can only be reached via the Westfield Road / Balfour Avenue junction, effectively creating only one point of vehicular access to the development site.
- 4.3 The *Design Manual for Roads & Bridges* document *TD 42/95: Geometric Design of Major/Minor Priority Junctions (Volume 6, Section 2, Part 6)* recommends that for urban situations, a simple priority junction can accommodate up to 500 vehicle movements two-way AADT on the minor arm.
- 4.4 Although the daily trip rates for the development site have not been provided, given that the total arrivals and departures in the AM and PM peaks total 632 vehicle movements, and taking into consideration the existing vehicle movements, it is clear that the daily trips will be significantly higher than 500 vehicle movements at this junction. It is therefore clear that this single access point will not be a suitable point of vehicular access/egress for the entire development proposal of circa 450 dwellings, particularly considering the existing number of dwellings accessed of this junction.



5.0 APPLICATION PROPOSALS

Paragraph 5.3

- 5.1 Mayer Brown's report states that '*both accesses would form the minor arms of priority T-junctions. They will be 5.5m wide, with 6m entry radii and 2m footways on both sides*'. However, no mention has been made of the upgrading of Westfield Way, Westfield Common or Balfour Avenue, all of which are less than 5.5m in width. The effective width of the roads giving access to the development site is less than the 5.5m stated for the new access arrangements. The Mayer Brown report does not consider the width of existing roads leading to the development and their resultant associated vehicular capacity.



6.0 SUMMARY AND CONCLUSIONS

6.1 This *Transport Statement Review* by CEC has highlighted a number of key issues relating to the submitted *Transport Statement* by Mayer Brown. In summary, the key issues relate to:

- the excessive distance to nearby bus stops, and hence non-compliance with government policy documents *PPG13* and *PPS3* which require new development to be sustainable and readily accessible to public bus transport;
- the vehicular capacity of the Westfield Road / Balfour Avenue junction which has been analysed using incorrectly assigned development traffic, and without forecasting to realistic future year scenarios (year 2006 analysed);
- questionable interpretation of PICADY output data, despite the output being based on incorrect input data;
- further concern over other nearby junctions, such as the Balfour Avenue / Westfield Common junction, where the proposed development is likely to have a significant impact; and
- misleading statements regarding the width of vehicular access to the development site which do not consider the width of existing roads leading to the development and their associated vehicular capacity.

CEC – June 2009