Contents

1. Introduction 4
2. Parking Provision, Standards and Policies 5
3. Historical Parking Data and relevance 9
4. Parking Supply and Demand in 2011 and in 2020 12
5. Uno Bus Operation 15
6. Travel Planning 17
7. Impact of 2020 Vision in Terms of Trips 20
8. Summary and Conclusions 21

List of Figures
Figure 1.1  Site in Relation to the Regional Highway Network
Figure 1.2  Site in Relation to the Local Highway Network
Figure 6.1  2011 Student Primary Mode of Travel
Figure 6.2  2011 Staff Primary Mode of Travel
Figure 6.3  2002 - 2011 Student Primary Mode of Travel
Figure 6.4  2002 - 2011 Staff Primary Mode of Travel

List of Appendices
Appendix A  University of Hertfordshire Car Parking Locations
Appendix C  Extract From 2007 Parking Beat Surveys
Appendix D  UNO Bus Service Routes
1. Introduction

1.1 Mayer Brown Limited has been appointed by the University of Hertfordshire to prepare this Transport Statement in support of their 2020 Estates Vision, a ten year masterplan for their two principal campuses at College Lane and de Havilland in Hatfield, Hertfordshire.

1.2 This statement sets out the core transport implications of the 2020 Estates Vision, providing background information on car parking, travel planning and travel in general in addition to identifying additional stages where further assessment would be required in support of detailed planning applications.

1.3 The principles of the transport strategy have been based on the following key fundamentals, which underpin the approach taken to sustainable travel:
- The 2020 Estates Vision is intended to provide an efficient and effective University with a distinctive campus experience;
- There will be no change in the operational parameters of the University;
- The proposals will not result in any greater capacity for staff/students than already exists;
- There are no significant changes proposed to the existing points of vehicular access to the campuses;
- The University’s overall objective is to reduce car borne trips to the campuses, and the University’s Local Authority approved Green Travel Plan will assist in achieving this; and
- The University will be reviewing its parking policies to determine, in the absence of Controlled Parking Zones, how far on-street parking can be brought onto campus.

1.4 With the fundamental principles of the development unlikely to result in any material changes in travel to and from the site, this document provides a commentary on the existing travel habits of staff and students in addition to the current parking demands at the site.

1.5 The key stages of the 2020 Estates Vision are set out in detail in the Masterplan document alongside the academic year in which the works are anticipated and are summarised in the table opposite.

1.6 The location of the two main campuses in relation to the regional and local highway networks is illustrated at Figures 1.1 and 1.2 attached hereto respectively.

1.7 As set out in Table 1.1 above, the proposals at College Lane will increase student

<table>
<thead>
<tr>
<th>Project</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>de Havilland Campus</td>
<td></td>
</tr>
<tr>
<td>Informal Learning and Social Spaces</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>External Areas including, Events Plaza, sports amenity and link to Club de Havilland</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>College Lane Campus</td>
<td></td>
</tr>
<tr>
<td>Multi-Storey Car Park</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>Learning and Student Zone</td>
<td>Spring 2014</td>
</tr>
<tr>
<td>Student Accommodation and Energy Centre</td>
<td>Phased completion – each Autumn term in 2014, 2015 and 2016</td>
</tr>
<tr>
<td>Science Building</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>Boulevard</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>Engineering Building</td>
<td>Early 2017</td>
</tr>
<tr>
<td>Senate Building</td>
<td>Autumn 2017</td>
</tr>
<tr>
<td>Refurbishment of Main Building and new Lecture Theatre</td>
<td>Autumn 2018</td>
</tr>
<tr>
<td>Teaching Building</td>
<td>Autumn 2019</td>
</tr>
<tr>
<td>Conference Centre</td>
<td>Spring 2021</td>
</tr>
</tbody>
</table>

Table 1.1: de Havilland and College Lane Development Phases Summary
accommodation on campus, housing a greater proportion of students at College Lane, effectively drawing them to reside within the site from the immediate area and further afield. This document therefore also considers the implications on travel and parking associated with relocating these students to the campus.

1.8 The University’s travel habits and car parking demands have been the subject of a series of detailed assessments over many years.

1.9 The Travel Plan itself dates back to the 1990’s and in more recent years has incorporated thorough reviews of staff and student travel patterns, which were most recently updated in 2011. These updates to the Travel Plan provide invaluable information to the University’s Travel Plan coordinator in respect of the effectiveness of measures and enable a suitable dialogue between the University and Local Planning Authority on how to take matters forward.

1.10 Parking demand data for the University dates back to 2001, with further reports and analysis undertaken in 2004 by WSP and 2007 by Traffic Data Centre. A more recent set of parking surveys were commissioned in late 2011 and are presently being analysed.

1.11 All of the evidence to date in respect of parking demand indicates that the University has a significant over provision of spaces, which is both unsustainable in terms of travel and an ineffective use of land.

1.12 This Transport Statement provides details of the Travel Planning strategy and car parking demand at the University, drawing together the historic and most recent analysis and data in that regard.

1.13 This report is divided into the following sections:
- Parking Provisions, Standards and Policies;
- Historical Parking Data and relevance;
- Parking Supply and Demand 2011-2020;
- Uno Bus Operation;
- Travel Planning;
- Impact of 2020 Estates Vision in Terms of Trips and Parking Provision; and
- Summary and Conclusions;

2. Parking Provision, Standards and Policies

2.1 This section of the statement provides details on the level of on-campus parking presently available at the University sites, their parking policy and charges and sets out the changing demands for parking that have been recorded since 2004 and the theory behind establishing recent parking demand figures.

2.2 The structure of this section is as follows:
- 2011 Existing on-Campus Parking Stock;
- Parking Charges and Policies;
- Relevant Parking Standards; and
- Surrounding Public Highway.

2011 Existing on-Campus Parking Stock

2.3 In May 2011 The University undertook a review of its parking stock to identify latest numbers of car parking spaces around the campus.

2.4 This survey included College Lane, de Havilland, Titan/MacLaurin and Angerland Park and Ride.

2.5 Satellite sites (such as Meridian House, Fielder Center and Bayfordbury) were excluded from this count as they all exist in their own right and do not impact on the on-campus parking.

2.6 The table below sets out the existing supply level at 3,686, with further details and plans showing the locations of each site to be found in Appendix A of this statement.

<table>
<thead>
<tr>
<th>Location</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Lane</td>
<td>2,055</td>
</tr>
<tr>
<td>de Havilland</td>
<td>669 (including 79 new spaces adjacent to Law Building)</td>
</tr>
<tr>
<td>Titan/MacLaurin</td>
<td>176</td>
</tr>
<tr>
<td>Angerland Park and Ride</td>
<td>786</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3,686</strong></td>
</tr>
</tbody>
</table>

Table 2.1: Summary of Campus Parking Stock
2.7 Within the above figures, there are 350 car parking spaces set aside for resident students on the College Lane Campus. There is presently no provision for car parking for those residents on the de Havilland site as the approval for that element of the development was conditional on it being car-free.

Parking Charges and Policies

2.8 The University presently operate a series of controls within its on-site parking areas which, with the exception of blue badge holders, require payment of a fee to park on the campuses.

2.9 The current charging policy represents a careful balance. Nil or minimal charges effectively encourage more people to travel to the campuses by car, increasing congestion and on street parking. Excessive charging would result in a higher proportion of on-street parking.

2.10 The charges and policies employed relating to parking charges have therefore been set at a level to encourage the use of sustainable travel to the site (principally via the Uno Bus service) but are cognisant of the fact the University do not wish to impose such severe charges that will result in an increase in on-street parking occurring.

2.11 A brief summary of the current parking policy is set out below.

Staff

2.12 Staff parking on the site must display one of the following:
   i) A “fee paying staff” pre-paid permit; or
   ii) A valid UoH Blue Badge permit; or
   iii) A valid parking permit (not pre-paid) and a valid pay and display ticket

2.13 Staff parking areas are set out on the plans in Appendix A.

Students

2.14 Student residents may apply for a permit to park on the College Lane Campus in a designated residents area, but are required to apply for a residents permit at an annual charge. This does not allow them to park within other areas of the University campuses.

2.15 Students who do not reside on the College Lane Campus are able to apply for a permit to park on the University campuses. The permits are free, but subject to being displayed with a valid pay and display ticket.

2.16 The University will not issue a parking permit to any student with a Hatfield postcode (except blue badge holders) as it is deemed that they are able to undertake a more sustainable way of travelling to the site.

2.17 The University will be reviewing its parking policies to determine, in the absence of Controlled Parking Zones, how far on-street parking can be brought onto campus.

Relevant Parking Standards

2.18 The WHBC parking standards are applied on a Zonal basis to ensure appropriate parking restraint. The calculation allows for the accessibility of a site, its economic health and context and other criteria considered important in this context.

2.19 The 2004 parking standards use a set of predefined “cells” of identifiable character, which were set in 2004 when the parking standards document was published.

2.20 In 2004 the College Lane Campus was identified by the Council in Zone 3 on “Map 3 – Hatfield” and therefore benefitted from a requirement to reduce the parking standards to 50%-75% of those maximum standards stated.

2.21 Over the past 7 years, characters of cells will have inevitably varied and a review of the zonal scoring for the College Lane Campus has therefore been undertaken.
2.22 The table below provides details of the criteria against which the campus has been scored, with appropriate comments:

<table>
<thead>
<tr>
<th>Zone Types</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>13-10</td>
<td>9-6</td>
<td>5-3</td>
<td>2 or below</td>
</tr>
</tbody>
</table>

Table 2.2: Hatfield Scoring Criteria for Zones

<table>
<thead>
<tr>
<th>Score</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Close to Galleria and a number of bars and a co-op, so a score of 1 is reasonable</td>
</tr>
<tr>
<td>0</td>
<td>Hatfield Town Centre scores 2, but we are well outside the defined TC boundary. Site does not encompass any part of the core retail/leisure core of Hatfield.</td>
</tr>
<tr>
<td>1</td>
<td>Some local cycle links/ reasonable footway provisions available</td>
</tr>
<tr>
<td>4</td>
<td>Rail station &gt;800m away, but good access to buses, especially considering the Uno bus provision</td>
</tr>
<tr>
<td></td>
<td>Total 6</td>
</tr>
<tr>
<td></td>
<td>Zone 2</td>
</tr>
</tbody>
</table>

Table 2.3: Mayer Brown Zonal Parking Score 2011

2.23 For a Zone 2 site, the council’s guidance allow for 25%-50% provision of the maximum standards.

2.24 Given the sites score in relation to the scoring band set out in Table 2.2 above, it would not be unreasonable to assume that 50% of maximum standards are applicable for the College Lane Campus.

2.25 When applying the WHBC standards to the existing FTE Staff/Student numbers and residences (allowing for the previously agreed car free nature of de Havilland halls of residence), the 50% parking provision would equate to a maximum of 2,713 spaces in 2011 as set out in the table below:

<table>
<thead>
<tr>
<th>Site</th>
<th>FTEs</th>
<th>Spaces Required (100% provision): sub-total</th>
<th>Spaces: 50% max (Zone 2-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Lane Staff</td>
<td>1800</td>
<td>1800</td>
<td>900</td>
</tr>
<tr>
<td>College Lane Students 1</td>
<td>7464</td>
<td>1493</td>
<td>746</td>
</tr>
<tr>
<td>Additional staff transferred to College Lane</td>
<td>200</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Conference Centre (visitors &amp; staff) 2</td>
<td>300</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>College Lane Totals</td>
<td>9764</td>
<td>3593</td>
<td>1796</td>
</tr>
<tr>
<td>de Havilland Staff</td>
<td>308</td>
<td>308</td>
<td>154</td>
</tr>
<tr>
<td>de Havilland Students 1</td>
<td>6375</td>
<td>1275</td>
<td>638</td>
</tr>
<tr>
<td>de Havilland Totals 3, 4</td>
<td>6683</td>
<td>1583</td>
<td>792</td>
</tr>
<tr>
<td>Total FTEs</td>
<td>16447</td>
<td>5176</td>
<td></td>
</tr>
<tr>
<td>College Lane Residential</td>
<td>1500</td>
<td>250</td>
<td>125</td>
</tr>
<tr>
<td>de Havilland Residential</td>
<td>1500</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>5426</td>
<td>2713</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.4: Parking Standards Set against Existing FTE’s and Accommodation
2.26 This figure is notably close to the existing demand for parking and well below the current provision of 3,686 set out above.

2.27 Details of how these standards apply to the 2020 Estates Vision and proposed additional residences are set out later in this report.

**Surrounding Public Highway**

**College Lane**

2.28 The surrounding highway network to the north, east and south of the site is predominantly fronted by residential properties, with roads to the west being of a strategic nature, prohibiting parking and presenting a level of severance to the College Lane Campus.

2.29 30mph speed limits typically prevail, with reasonable footway provisions and street lighting.

2.30 While on-street parking is largely permitted, there are occasional waiting restrictions protecting junctions and sections of carriageway to ensure the free flow of vehicles. A number of the restrictions are only in force during the University term time.

2.31 During a survey of the on-street parking availability in September/October 2011 a total of 4,177 available legal parking spaces were identified within 800m of any point on the College Lane Campus, being a 10 minute walk from any point on the site. Further details on their usage is set out later in this report.

**de Havilland**

2.32 The de Havilland Campus lies to the north of the A1057 St Albans Road in an area which is predominantly occupied by employment based activities, with the exception of a small level of residential properties on Cunningham Avenue and Nimrod Drive.

2.33 The roads surrounding the campus are subject to 30mph restrictions, with the exception of the A1057, which is subject to a 40mph limit.

2.34 The site benefits from good footway links and street lighting in addition to the provision of pedestrian crossing facilities on major desire lines.

2.35 The residential streets to the south of the A1057 (St Albans Road) are heavily restricted with double yellow markings prohibiting parking. There is however a limited level of on-street parking permitted, subject to time restrictions prohibiting parking during term time.

2.36 For this reason, when considering on-street parking, the remainder of this report concentrates on those roads surrounding the College Lane Campus.
3. Historical Parking Data and Relevance

3.1 This section of the assessment considers the following:
- Historical Demand Data – 2006 (WSP Report)
- 2007 Data and parking demand document calculations including background to the latest “Parking Demand Model”

Historical Demand Data (2006 WSP report)

3.2 As part of the Student Forum development (now constructed), WSP were commissioned in 2006 to prepare an Access and Parking Strategy to consider the increase in demand for car parking up to 2010 and set that in the context of the forecast demand.

3.3 The 2006 study undertaken by WSP [contained in Appendix B] interrogated data from 2001 and 2004 which was collected for the Masterplan process and formed part of the Draft Supplementary Planning Guidance in respect of the site prepared by Welwyn Hatfield Council. The demand estimation also interpreted a survey of all the University accesses from March 2004 to assist in the estimation of future parking demand.

3.4 At the time of the study, the University had a total of 2,472 car parking spaces on campus (being 640 at de Havilland and 1,832 at College Lane).

3.5 The 2004 surveys identified that all of these spaces were being utilised at peak times.

3.6 Furthermore, the analysis concluded that there were potentially 435 staff/students parking on the surrounding roads and a further 95 at the Stanborough Park and Ride.

3.7 The total peak demand was therefore 3,002 vehicles in 2004 (being 2,472+435+95), including all those who park on-street.

3.8 WSP’s analysis then considered the projected growth of the University up to 2010 and applied appropriate factors to predict future parking demand across the campus parking and on-street.

3.9 Table 4 of the WSP Report, which sets out the predicted increase in demand for parking (including on-street demand), alongside the projected supply is replicated below and summarises their conclusion that there will be sufficient supply in 2010 to support all of the University’s requirements.

<table>
<thead>
<tr>
<th>In SPG 2004</th>
<th>Sep-05</th>
<th>Sep-06</th>
<th>Sep-07</th>
<th>Sep-08</th>
<th>Sep-09</th>
<th>Sep-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Demand from Masterplan Transport Assessment</td>
<td>3002</td>
<td>3061</td>
<td>3120</td>
<td>3179</td>
<td>3237</td>
<td>3296</td>
</tr>
<tr>
<td>based upon surveyed demand 2004 plus 2% growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car Park locations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>de Havilland</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>College Lane Residential</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>College Lane Teaching</td>
<td>See Figures 1-3</td>
<td>1482</td>
<td>1516</td>
<td>1564</td>
<td>1289</td>
<td>1329</td>
</tr>
<tr>
<td>Park and Ride</td>
<td>95</td>
<td>95</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>On Street</td>
<td>435</td>
<td>435</td>
<td>200</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Titan Court</td>
<td>0</td>
<td>80</td>
<td>80</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zenith Court</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>118</td>
<td>118</td>
<td>118</td>
</tr>
<tr>
<td>Total parking provision</td>
<td>3002</td>
<td>3116</td>
<td>3634</td>
<td>3197</td>
<td>3237</td>
<td>3497</td>
</tr>
</tbody>
</table>

Table 3.1: WSP Car Parking Demand/Supply Projections (2006)
3.10 It is noteworthy that the above analysis makes no allowance for the predicted success of the Travel Plan, which will result in less reliance on the private car. These figures can therefore be considered robust.

2007 Data and Parking Demand Model

On-street Data

3.11 In 2007, Traffic Data Centre (TDC) commissioned a comprehensive set of duration of stay surveys on the roads surrounding the College Lane Campus.

3.12 Surveys were undertaken in March 2007 (when the University was in occupation) and April 2007 (during University holidays).

3.13 The whole report is available as a separate document on request and presents in a largely graphical manner the level of on-street parking and duration of stay for the surrounding highway. Of most notable value are the graphs set out on page 17, which can be found in Appendix C of this assessment (annotated by Mayer Brown).

3.14 The graphs would suggest that there were circa 70 “visitors” parking on street at any one time. This conclusion is drawn from the data on the graph for 1300 hours, where it can be seen there are circa 190 “visitors (1-7 hours)” in March 2007 and 120 in April 2007.

3.15 While not possible to accurately measure from the graphs, it does provide an indication that there is an increased activity in on-street parking demand during term time. A brief interrogation of some of the raw data behind the 2007 surveys confirmed that the on-street demand varied between March and April by circa 50-100 in any one hour, suggesting the interpretation of the graphs was reasonable.

3.16 There is clearly a significant reduction in estimated on-street parking between 2004 and 2007, which correlates well with the introduction of the Angerland Park and Ride site. This suggests that the Park and Ride facility is resulting in a significant displacement of parked vehicles from the public highway.

2007 On-Campus Data

3.17 Alongside the on-street surveys commissioned by TDC in 2007 a full survey of the on-campus parking provision was also undertaken.

3.18 These surveys covered the College Lane Campus, de Havilland Campus and the Angerland Park and Ride on the 15th March and 12th April 2007.

3.19 Beat surveys were undertaken on a bi-hourly basis from 0700-1900 hours, recording the level of occupancy of each car park.

3.20 At the time of the surveys, the following car parking capacity was identified:

<table>
<thead>
<tr>
<th>Car Park</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Lane</td>
<td>1,925</td>
</tr>
<tr>
<td>de Havilland &amp; Zenith</td>
<td>848</td>
</tr>
<tr>
<td>Angerland park and ride</td>
<td>786</td>
</tr>
<tr>
<td>Total</td>
<td>3,559</td>
</tr>
</tbody>
</table>

3.21 At its peak, the 2007 car park survey identified a demand for 2,973 cars being parked within University parking spaces, with a surplus of 586 spaces.

Parking Demand Model

3.22 In parallel with the traffic surveys, the University have been monitoring the travel habits of staff and students via their bi-annual travel plan survey.

3.23 By utilising the recorded modal split, typical attendance figures, Full Time Equivalent (FTE) data and responses relating to parking location, it was possible to build a simple car parking demand model.

3.24 Taking the travel plan data and FTE figures for 2007, it is possible to estimate the car parking demand derived from this “first principles” approach.
3.25 In 2007 the University recorded a car/person ratio of 0.353 cars/FTE student and 0.726 cars/FTE staff member. Furthermore, there are typically 70% of staff and 31% of students on site at any one time.

3.26 By applying the FTE figures to the 2007 data above, it is possible to estimate a total car parking demand in 2007 of 2,901 vehicles. This is demand both on campus and off site (i.e. on street).

3.27 As set out above, the recorded demand on site alone in 2007 was 2,973 vehicles. The 2007 on-street surveys also suggest that there is a further demand for 70 vehicles in any one hour, presenting a total recorded demand in 2007 of 3,043.

3.28 The calculation therefore underestimates the potential peak demand for parking by circa 4-5% (being the difference between 3043 and 2901).

3.29 The parking demand model therefore takes the following form:

\[
[\text{Staff FTE} \times \text{Staff Attendance} \times \text{Staff person/car ratio}] + [\text{Student FTE} \times \text{Student Attendance} \times \text{Student person/car ratio}] \times 1.04
\]

3.30 The recorded staff or student car/person ratio has been recalculated biannually following the travel plan survey.

3.31 The above calculation provides a total parking demand (i.e. both on and off campus) and does therefore not identify the impact of on-street parking alone.

3.32 The University are however able to extract from the Travel Plan survey the level of staff/students who advise they park on-street. This percentage of drivers parking on street can then be utilised in the above formula to estimate on-street demand arising from day visitors to the campuses. This is set out later in this document.
4. Parking Supply and Demand in 2011 and in 2020

4.1 This section sets out the detail of:

- How the Parking Demand Model was used to inform the 2020 Estates Vision in terms of parking supply;
- Additional surveys that have been commissioned to reinforce the Parking Demand Model;
- Initial findings of 2011 surveys;
- Comparison of initial 2011 survey results to the Parking demand Model forecast; and
- Parking demand changes up to 2020, with reference to 1,500 new student units on College Lane.

### Informing the 2020 Estates Vision

4.2 As previously set out, the Parking Demand Model can provide a reasonable estimation of parking demand for the University.

4.3 With a fundamental principle of the 2020 Estates Vision to not materially grow in terms of FTE staff and students across the University, 2011 data has been applied to the model to estimate the total parking demand for car parking over the next 9 years.

4.4 The responses from the 2011 travel Plan identified that the car/person ratio for staff and students attending the campus were 0.706 and 0.366 respectively, having allowed for car sharing.

4.5 As set out above, the University know that there are typically 70% of staff and 31% of students on site at any one time.

4.6 The table below sets out the FTE’s and corresponding calculation:

<table>
<thead>
<tr>
<th>FTEs</th>
<th>On site population - staff (term)</th>
<th>On site population - student</th>
<th>2011 cars parked</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Lane Staff</td>
<td>1800</td>
<td>1260</td>
<td>-</td>
</tr>
<tr>
<td>College Lane Student</td>
<td>8964</td>
<td>-</td>
<td>2779</td>
</tr>
<tr>
<td>de Havilland Staff</td>
<td>308</td>
<td>216</td>
<td>-</td>
</tr>
<tr>
<td>de Havilland Student</td>
<td>6375</td>
<td>-</td>
<td>1976</td>
</tr>
<tr>
<td>Titan Court Staff</td>
<td>200</td>
<td>140</td>
<td>-</td>
</tr>
<tr>
<td>Visitors</td>
<td>50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>17697</td>
<td>1476</td>
<td>4755</td>
</tr>
<tr>
<td>Total Parking Demand</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Plus 4% (not applied to visitors)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4.1: Estimated 2011-2020 Parking Demand
4.7 The estimated total demand for car parking is therefore 3,046, being 2,996 + 50 visitors.

4.8 This calculation inherently includes those visiting the site and parking on-street. The 2011 Travel Plan Survey identified that 12.9% of students park on street with 0.2% of staff doing so.

4.9 Applying these percentages to the figures above suggests that circa 226 people park on street during peak hours, which slightly increases to 247 when allowing for those who car share and also park on street. Clearly these numbers decline outside peak hours.

4.10 Therefore, the resulting demand in respect of on-campus car parking is 2,799 spaces, assuming all visitor spaces are occupied (being 3,046-247).

4.11 With 3,686 available car parking spaces on site, the above calculation enforces the conclusions of the 2007 surveys, being that there is a large surplus of unused car parking on the University campuses.

4.12 This surplus is estimated to be 887 spaces (3,686-2,799), or 640 (3,686-3,046) assuming you can encourage those 247 drivers who park on street to use the campus parking.

4.13 The key conclusion reached from this analysis is that there should be no requirement for any additional parking on the site.

4.14 It is also clear that there is scope to review the parking stock allocation, with the potential to set aside surplus parking for use by the proposed 1,500 additional residences. This matter is detailed later in this report.

Additional surveys to reinforce the Parking Demand Model

4.15 While the evidence is such that the Parking Demand Model provides a reasonable estimation of parking demand by the University and is a sound basis to develop the 2020 Estates Vision, it has been considered a valuable exercise to undertake a series of new parking surveys to underpin the work prepared to date.

4.16 Surveys of both the on-site car parking and on-street area surrounding the College Lane Campus were therefore commissioned, with the following scope:
- All streets within an 800m walk of any point of access to the site (a 10 minute walk);
- All University designated car parks; and
- 2 hourly beat surveys from 0700-1900 hours.

4.17 A series of three different days of surveys were commissioned, as follows:
- Thursday 15th September 2011 – Outside University Term Time;
- Tuesday 4th October 2011 - Week 2, University Registration, busy period; and
- Tuesday 8th November 2011 – a Typical University weekday during the peak autumn term.

4.18 The results of these surveys are still being compiled and analysed. There are however some headline figures that can be extracted relating to the demand for on-campus parking and on-street demand.

4.19 In October 2011, during a busy period for the University, a peak on-site parking demand of 3,044 cars was observed. This has been identified as a busy week for the University, with a higher than normal demand for parking.

4.20 Furthermore, the surveys suggest that, within the 800m cordon, there are presently 173 day visitors parking on street during peak hours.

4.21 The initial results for one of the busiest weeks recorded a parking demand of 5.6% greater than the Parking Demand Model estimates. \((173+3044)-3046 \times 100\).

4.22 Given the survey was undertaken during a busy registration week, this minor discrepancy is to be expected.

4.23 Once the November surveys have been completed, it will be possible to draw a more appropriate comparison between the Parking Demand Model and what has been recorded on the ground in 2011. Early indications are however encouraging, suggesting that the Parking Demand Model is a suitable tool for its purpose.
Parking Demand Changes up to 2020

4.24 As set out in the introduction to this report the 2020 Estates Vision is not intended to materially change the number of FTE staff or students attending the site.

4.25 There is therefore no expectation that the demand for parking on the site will materially change from that estimated above.

4.26 Notwithstanding this view, the University are seeking to provide a net increase of 1,500 student residences on the College Lane Campus as part of the early phases of the 2020 Estates Vision.

4.27 In addition, there needs to be consideration given to the phasing of the works to ensure that a suitable level of car parking is maintained during the construction process.

Proposed 1,500 additional residences

4.28 The University are open to discussion on what level of car parking should be allocated to these additional residences, but are mindful of the following facts:
   i) There are already 350 spaces provided for residents on the College Lane Campus, with some significant surplus not being used, which could be allocated to the new residences;
   ii) There is a clear and demonstrable surplus of parking on the University campuses which should not be increased; and
   iii) The current parking standards would only permit 1 car space per 12 units (Zone 2 standards), equating to an allocation of 125 car spaces for the additional residents.

4.29 With an excess of circa 800 surplus on-site car parking spaces, it would seem reasonable to conclude that there will be an agreeable solution to this matter.

4.30 It should also be borne in mind that the University have targets within their Travel Plan to reduce the level of parking demand by circa 500 spaces, which would be in addition to the surplus of 800+ identified above. Further details of this target and how it will be achieved are set out in Section 6 below.

4.31 In light of the above, there is the theoretical scope to reduce the level of parking provided at the University campuses and it is on this basis that the 2020 Estate Vision has been developed.

Construction Phasing – maintaining suitable parking stock up to 2020

4.32 In terms of the provision of parking during the construction phases of the 2020 Estate Vision, it is anticipated that there will be a suitable level of spaces maintained at all times.

4.33 As each stage of the 2020 Estate Vision comes forward, each application will be accompanied by a separate Transport Statement which will detail the temporary arrangements for parking during that construction phase.

4.34 Furthermore, it is anticipated that any contractor working on the project will adopt a policy of sustainable travel and discouraging single occupancy vehicle trips. As such, each contractor will be expected to provide a Construction Travel Plan which will consider the following sustainable travel initiatives:
   i) Off site park and ride
   ii) Considerate contractor behaviour
   iii) Requesting contract staff not to park on-street
   iv) On-site lockers for contractors’ tools for those to use public transport
   v) Car sharing
   vi) Shuttle buses to local transport nodes
5. UNO Bus Operation

Brief History

5.1 UNO was established in 1992 as an intercampus shuttle serving the Universities sites in Hatfield, St Albans, Hertford and Watford.

5.2 In addition, services were created to provide student nurses with attractive and viable alternatives to the private motorcar for accessing major National Health Service facilities throughout Hertfordshire and North London.

5.3 This additional mode of transport also provided the University with an attractive and viable alternative to the private car for travel to the University’s campuses for other staff and student groups, whilst also providing the local community with a public transport service.

5.4 Prior to setting up the company, the University did try and negotiate with private bus operators to provide extra services but found this was an expensive and therefore unattractive option.

5.5 Consequently, in 1992 the University brought forwards its own services. Universitybus (as it was known then) developed a route network to the major towns around Hatfield, including Watford, Welwyn Garden City, St Albans, Luton, Hertford and North London.

5.6 In 2005, the bus service was re-branded “UNO” and is now a major operator in Hertfordshire, with 92 buses at its disposal to provide Park & Ride/intercampus shuttle services for the University and commercial services over the areas outlined. A copy of the route plans is contained in Appendix D of this statement.

Charging Structure

5.7 UNO is now the second largest commercial bus operator in Hertfordshire. Charging is based on a two zone system, with Welwyn Garden City, St Albans and Hatfield within zone 1 and the remaining outside of this area covering Hertfordshire, South Bedfordshire and North London. A breakdown of charging is outlined below.

<table>
<thead>
<tr>
<th>Zone 1</th>
<th>Zone 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>£5</td>
<td>£3</td>
</tr>
<tr>
<td>£20</td>
<td>£10</td>
</tr>
<tr>
<td>£65</td>
<td>£33</td>
</tr>
</tbody>
</table>

Table 5.1: Public UNO Bus Charges

Facilities

5.8 Facilities include an up to date bus depot, which can hold 100 buses and service, clean and fuel vehicles on a daily basis.

5.9 Bus stops are provided by HCC, will all University shelters fitted with real time screens and are well lit.

5.10 UNO are part of the HCC real time scheme, which is due to launch in early 2012, with the University Park and Ride being used as a trial.

Patronage

5.11 At present the break down for public use is circa 66% public and 34% University (staff and student).

5.12 The current operation sees circa 6.5 million (over 2 million are staff and students) using the services annually. This equates to around 18,000 passengers/day.

5.13 Of the 6.5 million approximately one million are users of the Angerland park and ride facility.
Existing Service Constraints

5.14 The Angerland Park and Ride bus is presently operating at capacity, but its demand is largely controlled by the level of spaces provided at the Angerland site, which remains static.

5.15 The majority of services operate at around 90% capacity, with the 634, 636 and 614 operating at full capacity. Maintaining such a close parity between supply/demand ensures that services remain viable.

Service Review Procedure and Potential improvements to be brought forward up to 2020

5.16 Additions or alterations to services are based purely on funding by the University or identification of commercially viable routes.

5.17 It is clear that providing additional capacity will be a viable option, UNO will do this (whether this is a commercial decision, University subsidy or a tender provided by a third party i.e. HCC).

5.18 The fleet is currently being fitted with new INIT ticket machines, that allow services to run real time information via on street screens, but also importantly mobile devices.

5.19 This is due to begin roll out in early 2012. In addition, as part of the University’s Travel Plan, mobile ticketing is being investigated, with launch on the University’s Park and Ride shuttle service in January 2012. UNO has also purchased two Hybrid vehicles, which reduce emissions to air, due to a dual diesel and battery operated engine.

5.20 If successful, UNO would look to expand its Hybrid fleet.

5.21 In addition, UNO is part of the ‘Network St Albans’ Quality Partnership, based in the City of St Albans. The partnership has just secured £2 million of funding to develop on existing work, but also develop new Travel Planning measures.

5.22 These include the Real Time on the Park and Ride (and then wider UNO network) as well as being able to purchase tickets using your mobile phone, wi-fi on the UNO network, simpler to understand network, route specific and bus stop information, a multi-operator ticket (which includes Hatfield within the St Albans area), public transport information INTALINK app (already available), as well as QR codes on all bus stops (for reading with SMART phones).

5.23 The University are acutely aware that the provision of any additional car parking at their campuses is likely to undermine the UNO bus services. Furthermore, the University are also mindful that there is the potential to improve/increase UNO bus services to support their Travel Planning aims of reducing the level of overall car parking on across their sites.
6. Travel Planning

Introduction

6.1 The University monitor the travel habits of staff and students biannually via their Travel Plan surveys, most recently undertaken in 2011.

6.2 Each version of the document provides an update on measures that have been specifically developed over the preceding years, with an annual Action Plan included in each issue of the Travel Plan update, which sets out agreed work and targets for the University Travel Plan Coordinator.

6.3 The University acknowledge that the Travel Plan requires internal drivers to achieve environmental, economic and social improvement and external policy drivers from central and local government.

6.4 The most recent version of the update report was prepared in 2010 (based on 2009 results), with a 2011 version presently being prepared based on the April 2011 Travel Plan survey.

Achievements to Date

6.5 The University remains the only University to own and manage its own bus company (UNO) with the specific aims of providing affordable and reliable transport for students, staff and the local community.

6.6 As set out above, this service runs a fleet of 90 buses, serving areas in Hertfordshire, South Bedfordshire and North London.

6.7 The University’s Environmental Strategy has organised a number of initiatives to raise staff and student awareness of alternative travel modes. These include working with the University’s Health and Safety Office to promote and organise health walks for staff and students and providing a programme of adult cycle training in conjunction with the Hertfordshire Road Safety Unit.

6.8 Major progress includes the development of the UNO bus network and the Park & Ride scheme, which opened in 2006.

6.9 In the same year the University worked with Herts Highways to secure £70K for joining the University to the National Cycle Network (the Alban Way), which included the provision of a dual cycleway and signage on site.

6.10 In 2009, the University opened its new Forum Building, which includes six bus shelters (with timetable screens provided by Herts Highways), and in 2010 it opened its new terminal, based behind the de Havilland Campus.

6.11 Looking beyond the University, the organisation has been a major contributor in setting up the Network St Albans, Quality Network Partnership in the city of St Albans.

6.12 This partnership works with all major public transport operators within the city (including UNO), looking at workable ways of improving public transport for existing users and encouraging new users.

6.13 The partnership has had a number of successes, primarily securing joint European Regional Development Funding (ERDF) with Suffolk County Council, to undertake be-spoke travel planning for 160 Small and Medium Enterprises within St Albans and Ipswich. The University provides both the secretariat, travel planners and management support for both these community social travel projects.

6.14 A primary aim of working in partnership, is that the University itself can gain benefits from such work. As such, the launch (in Feb 2011) of mobile m-ticketing on the University’s Park and Ride, and then wider UNO network, has been a direct result of such partnership work.

2011 Travel Plan Update

6.15 The University will be preparing a 2011 update following their Travel Plan Survey in 2011, which will be released shortly and will detail how the measures undertaken in the last two years have affected the travel habits of staff and students.
6.16 It is not the intention of this statement to reproduce the updated document, however, the table below sets out the 2011 modal split and provides a brief commentary on the results.

6.17 Just over a third (35%) of students drive alone by car to the University (2011), with over a quarter (27%) either using the bus or walking (26%).

6.18 All modes have seen variations over the years (since 2002), with decreases and increases recorded.

6.19 These variations can be attributed to many variables that influence individual behaviour. The overall trend is that SOV users are increasing back to 2002 (37%).

6.20 In comparison, currently 2/3 thirds of staff travel by themselves by car, with 8% travelling by bus and 8% walk.

6.21 Overall, a decrease has been seen since 2002, when 82% travelled alone by car, although data shows a plateaux out of SOV users, just below the 70% mark.

6.22 The figures below show the current and historic primary mode of travel for staff and students.

Figure 6.1: 2011 Student Primary Mode of Travel

Figure 6.2: 2011 Staff Primary Mode of Travel
7.0 IMPACT OF 2020 ESTATES VISION IN TERMS OF TRIPS

7.1 With the underlying principles of the development proposals aimed at improving the Student University experience, the 2020 Estates Vision is not intended to result in any material increase in staff or student FTE numbers attending the site.

7.2 Furthermore, the University will continue to operate within its approved consents in respect of hours of operation and permitted uses.

7.3 With the above in mind and with a desire to secure a reduction in car parking (to remove the unused spaces) it is reasonable to conclude that the 2020 Estates Vision will not result in any material changes in trips to and from the University campuses.

7.4 In respect of the proposed 1,500 additional student residences being proposed on the College Lane campus, it is expected that these will result in a reduction of movements on the adjacent highway and public transport infrastructure during the critical peak periods as they will remove the need for students to travel to the site.
7. Impact of 2020 Estates Vision in Terms of Trips

7.1 With the underlying principles of the development proposals aimed at improving the Student University experience, the 2020 Estates Vision is not intended to result in any material increase in staff or student FTE numbers attending the site.

7.2 Furthermore, the University will continue to operate within its approved consents in respect of hours of operation and permitted uses.

7.3 With the above in mind and with a desire to secure a reduction in car parking (to remove the unused spaces) it is reasonable to conclude that the 2020 Estates Vision will not result in any material changes in trips to and from the University campuses.

7.4 In respect of the proposed 1,500 additional student residences being proposed on the College Lane Campus, it is expected that these will result in a reduction of movements on the adjacent highway and public transport infrastructure during the critical peak periods as they will remove the need for students to travel to the site.

7.5 In order to provide a broad estimation of the saving in vehicle trips to the site as a result on the new residences, reference has been made to the 2011 modal splits obtained from the latest Travel Plan survey.

7.6 It is known that 31% of the 1,500 new residents would have been on site at any one time, equating to 465 students likely to be travelling to the University in the morning peak period.

7.7 From the Travel Plan surveys, it is known that there are approximately 0.366 cars being driven for each student attending the University.

7.8 It is therefore reasonable to assume that there will be approximately 170 vehicle trips to the University removed from the local highway network as a result of the proposed residences. A reasonable proportion of these will be travelling through the strategic highway network junctions, which are congested in peak times. Their removal from the network should therefore be seen as a benefit in highways terms.

7.9 Clearly, if the Travel Plan is successful in achieving its target of reducing the demand for parking by 513 vehicles in 2020, this will also result in a significant benefit to the adjacent highway.

7.10 The 2020 Estates Vision does include the provision of a new central car park which will allow for the removal of the disaggregated parking which causes an element of severance around the existing site.

7.11 The new car park is presently shown on the west of College Lane on land owned by the University and will take the form of a multi-storey deck, with access onto the western side of College Lane.

7.12 With this car park replacing provisions already accessed from College Lane, there will be no change in the dynamics of the vehicles access to the University campuses and therefore no detriment to the adjacent highway network.
8. Summary and Conclusions

8.1 Mayer Brown Limited has been appointed by The University of Hertfordshire to prepare this statement in respect of their 2020 Estates Vision for the redevelopment of their campuses.

8.2 Full details of the 2020 Estates Vision are set out in the Masterplan document, but its underlying principles and aims do not result in any material increases in staff or students attending the University. The 2020 Estates Vision does include the provision of 1,500 new student residences on the College Lane Campus to accommodate students who presently travel to the site on a daily basis.

8.3 This document identifies the following:

i) There is presently a clear and demonstrable over-supply of car parking across the University;

ii) The current parking provision exceeds that permissible under current parking standards;

iii) The present surplus parking provision is more than would be permitted for the proposed 1,500 student residences on College Lane;

iv) The 2020 Estates Vision is likely to result in a saving in trips on the adjacent highway network and public transport infrastructure during the critical peak periods and over the course of a typical day;

v) The University can maintain a suitable level of car parking during the construction phases of the development and this will be demonstrated through the accompanying documentation as part of each formal submission;

vi) The University will encourage their contractors to employ appropriate considerate behaviour during the construction process;

vii) The University already operates a comprehensive Travel Plan and have done so for many years. There is an established commitment to promoting sustainable travel and a documented history of striving to achieve a reduction in single occupancy vehicle trips;

viii) The Travel Plan will be reviewed at each key stage of the 2020 Estates Vision, with revisions and measures to be agreed with the Highway Authority and Highways Agency;

ix) The University is unique in respect of being the only establishment of its kind to operate a successful series of bus services, for both university staff and students as well as the general public. These services underpin the Travel Plan and remain under constant review and refinement; and

x) The University will be reviewing its parking policies to determine, in the absence of Controlled Parking Zones, how far on-street parking can be brought onto Campus.

8.4 Given the above, it is considered that the 2020 Estates Vision is unlikely to result in any material impact on the adjacent highway or public transport network and is likely to deliver net benefits.
Appendix A: University of Hertfordshire Car Parking Locations
Appendix B:
WSP Report “Parking and Access Strategy”
June 2006
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<th>Revision 1</th>
<th>Revision 2</th>
<th>Revision 3</th>
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<td></td>
<td></td>
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<tr>
<td>Date</td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>J B Lloyd</td>
<td></td>
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<td>J Penfold</td>
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## Contents

1 Scheme Proposals ........................................ 1
2 Existing Transport Characteristics ................. 3
3 Parking Strategy and Development Phasing ....... 5
4 Conclusions ............................................ 8
1 Scheme Proposals

1.1.1 WSP Development has been instructed by the University of Hertfordshire to update the parking and access strategy document in support of the later phases of its Campus redevelopment programme.

1.1.2 This document refers back to studies carried out for the development of the University Masterplan during 2004 and were then encompassed within the Draft Supplementary Planning Guidance produced by Welwyn Hatfield Council in conjunction with the University.

1.2 STUDENT FORUM

1.2.1 The proposals for the new Student Forum and car park were presented to Officers on the 11th May for their informal consideration. Turnberry Consulting and RMJM Architects detailed the high quality approach to the scheme, emphasising that the facility is designed to meet University demand only in terms of entertainment and parking.

1.2.2 Officers rightly highlighted parking as a key issue for clarification and this document seeks to refresh the matter as the Campus redevelopment programme moves into its final stages, particularly in respect of the Student Forum project although the ramifications of this study is Campus-wide.

1.3 HIGHWAY ACCESS

1.3.1 The Student Forum project has incorporated the following highway related elements.

- New traffic signal junction onto A1001 to create a southern access into the College Lane campus.
- Relocated bus terminus and a new internal access road between College Lane and the new junction.
- A pull-in area and drop-off for the new nursery.
- Revised junction of the internal access roads from the southern part of the campus onto College Lane.

The highway elements of the project are illustrated on drawing 30620/GA/01.

1.3.2 Within the Draft Supplementary Planning Guidance document dated April 2004, there was a requirement for a new southern access from the A1001, within what was designated as the Southern Access Zone. This new access is complimentary to the works currently being constructed at the Roehyde junction. This includes the installation of traffic signals and remodelling of the junction of College Lane and Roehyde Way which currently forms the main access into the College Lane Campus. This improves the access into the campus as it removes the restriction on turning movements from Roehyde Way.

1.3.3 The maximisation of public transport usage is an integral part of the University’s travel policies. The co-location of a relocated bus terminus with the Student Forum project and the creation of a new southern access, are important improvements to assist in delivering the sustainable objectives of the transport policies.

1.3.4 It is proposed that the new junction is only used for buses and access to the multi-story car park and service yard rather than creating an alternative route into the
main part of the College Lane Campus. It is important that buses have a significant priority into that part of the site to maximise the benefit of the relocated bus terminus.

1.3.5 Consequently, there will be two bus gates, one immediately north of the access into the Student Forum service yard and another south of the access into the nursery drop-off area. This will ensure that the internal road cannot be used for through traffic.
2 Existing Transport Characteristics

2.1 UNIVERSITY TRAFFIC

2.1.1 Within the transport support for the Masterplan it was decided to carry out a survey of the University to encompass the full profile of movements across the academic day.

2.1.2 The 12 hour count was carried out on 11 March 2004 and comprised a count of all access and egress points from both College Lane and De Havilland, with all modes of transport being counted. The survey covered the arrivals and departures of all modes of transport including buses. Passengers alighting from and getting onto all buses were counted. The survey also covered the interim park and ride facility located at Stanborough.

2.1.3 This provides the base information for looking at the traffic impact of current developments at the University. The basic statistics for the traffic to and from the University are summarised below:

Table 1 - Transport Statistics – From Survey 11/3/04

<table>
<thead>
<tr>
<th>Arrivals</th>
<th>Number of Cars</th>
<th>Occupancy rate</th>
<th>Vehicle Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons By Car</td>
<td>6340</td>
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<td>54.0%</td>
</tr>
<tr>
<td>Hgv</td>
<td>8243</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buses</td>
<td>60</td>
<td>0.5%</td>
<td></td>
</tr>
<tr>
<td>Cycles</td>
<td>396</td>
<td>3.5%</td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td>4572</td>
<td>40.0%</td>
<td></td>
</tr>
<tr>
<td>Bus Passengers</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
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</table>

<table>
<thead>
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<th>Departures</th>
<th>Number of Cars</th>
<th>Occupancy rate</th>
<th>Vehicle Trips</th>
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<tr>
<td>Cycles</td>
<td>354</td>
<td>3.5%</td>
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<tr>
<td>Pedestrians</td>
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<td>2.0%</td>
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<td>Bus Passengers</td>
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<tr>
<td>TOTAL</td>
<td>991</td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

2.1.4 The numbers of pedestrians includes those who have parked off campus and walked onto the site. This was assessed by on -street parking surveys carried out in March.

2.1.5 Surveys were carried out on the 9 March 2004 within streets adjacent to the University campus in 3 locations

- to the south of the College Lane Campus in the area to the west of Bishops Rise down to Hazel Grove.
- To the east of the College Lane Campus in the area bounded by Bishops Rise, Eagle Way, Woods Avenue and Travellers Lane
- To the South of the De Havilland Campus in the Ellenbrook Area.

2.1.6 The survey comprised a parking beat survey with observations on vehicle number plates parked in the following periods, 07:00, 10:00, 13:00 and 17:00. The results were analysed to identify the amount of cars parked across the various periods. It
was considered reasonable to look at cars parked between the periods 10:00 and 17:00 as being likely to belong to students who would then walk to the campus. Cars parked at 07:00 were excluded as being likely to relate to residential uses.

2.1.7 The survey identified that the following numbers of cars assumed to be related to student use were parked in the 3 periods

Table 2 – On Street Parking numbers

<table>
<thead>
<tr>
<th></th>
<th>Ellenbrook</th>
<th>South Area</th>
<th>East Area</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>10:00</td>
<td>35</td>
<td>80</td>
<td>141</td>
<td>256</td>
</tr>
<tr>
<td>13:00</td>
<td>28</td>
<td>114</td>
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<tr>
<td>17:00</td>
<td>28</td>
<td>111</td>
<td>138</td>
<td>278</td>
</tr>
<tr>
<td>Max demand</td>
<td>35</td>
<td>114</td>
<td>195</td>
<td>344</td>
</tr>
</tbody>
</table>

2.1.8 It was therefore concluded that the degree of off campus parking in these three areas represents a peak of some 350 spaces. The surveys for a particular day are often considered to be subject to a 10% daily variation and it would therefore be reasonable to consider a maximum peak daily parking demand of 385 spaces.

2.1.9 In addition during 2001, WSP had carried out an on-street parking study for the area immediately north of the College Lane Campus encompassing High Delis and Roe Green Close, this identified at that stage a further peak of some 50 on-street spaces. We therefore assumed a total on-street parking demand for 435 spaces.

2.1.10 Consideration of these surveys concludes that the degree of off campus parking represents a peak of some 435 spaces resulting in additional car movements of 2023 being generated during the 12 hour survey period. This also represents a corresponding reduction in pedestrian movements as the students using those spaces will have walked into either the College Lane or De Havilland Campus.

2.1.11 Taking account of the changes outlined above, the modal split was then altered to indicate a higher level of travel by car including those people currently driving to the area and parking in adjacent streets.

Table 3 - Total Person Trips – adjusted to reflect on street parking

<table>
<thead>
<tr>
<th></th>
<th>Mode share</th>
<th>Mode share</th>
<th>two-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Car</td>
<td>9294</td>
<td>64.0%</td>
<td>8507</td>
</tr>
<tr>
<td>Hgv</td>
<td>60</td>
<td>0.4%</td>
<td>61</td>
</tr>
<tr>
<td>Cycles</td>
<td>215</td>
<td>1.5%</td>
<td>188</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>3649</td>
<td>25.6%</td>
<td>3798</td>
</tr>
<tr>
<td>Bus Passengers</td>
<td>1347</td>
<td>9.3%</td>
<td>991</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14505</td>
<td>13485</td>
<td></td>
</tr>
</tbody>
</table>

2.1.12 The surveyed traffic figures and resulting parking accumulation provide the basic information for further consideration of the phased parking requirements of the Student Forum project.
3 Parking Strategy and Development Phasing

3.1 EXISTING PARKING PROVISION

3.1.1 For car based travel there are 1832 designated spaces available at the College Lane campus consisting of staff, student and visitor parking. At the De Havilland campus there is a total of 640 spaces, of which 100 spaces are designated as used by the sports facilities. This therefore results in an overall combined campus provision of 2472 spaces, being available for University use.

3.1.2 In addition the park and ride site at Stanborough and the level of on street parking have to be taken into account, at the time of the survey there was a peak usage of 95 spaces at Stanborough and an allowance for 435 spaces on-street as set out previously.

3.2 UNIVERSITY PARKING DEMAND

3.2.1 During the surveys, the car parking at Hatfield (at both campuses) was operating at capacity, with a peak parking level of 2498 spaces. In addition it was also necessary to consider the park and ride and the overspill parking onto the adjacent residential roads, for this a parking level of 95 for the Park and Ride and 435 spaces on-street are applicable.

3.2.2 On the assumption that all of the Campus provision is fully utilised there is a demand for a total of 3102 spaces for current conventional University use. The expansion plans for the University are for an additional 2% per annum FTE students and associated staff. The demand for these in terms of parking is estimated to give a total parking requirement for 3355 spaces.

3.2.3 The requirement for parking demand has been calculated from the surveyed flows into and out of the various facilities plus the allowance for on-street parking which has been assessed using the same daily profile as the existing park and ride site. The resulting daily profile for the current level of students and staff is given below:

Daily Profile and parking accumulation for the current combined Hatfield Campus

![Daily Profile and parking accumulation for the current combined Hatfield Campus](image)

3.2.4 The impact of the University expansion was then allowed for by factoring the traffic levels pro-rata the increase in student numbers. This was on the basis of a 2% per annum increase until 2009 which has then been extended to 2010, resulting in a student
body of 18019 by that date. It is assumed that the level of staff will increase in proportion to the student body. The revised profile reflecting the expansion is given below:

**Daily Profile and parking accumulation for 2010**

![Image of daily profile and parking accumulation for 2010](image)

### 3.3 PARKING PROPOSALS

3.3.1 Throughout the programme for the completion of the Student Forum project it is necessary to ensure that parking is balanced across the University so that during the extended construction period, adequate parking is provided for both students and staff.

3.3.2 Within the Draft Supplementary Planning Guidance document April 2004, there was a commitment from the University to maintain parking provision over the period covered by the masterplan.

3.3.3 The parking demand at 2004 and then 2010 has been previously set out, with a demand for 3002 at 2004 and 3350 at 2010. This growth in demand is a result of the projected growth in student numbers of 2% per annum. Within the Masterplan transport study an additional reduction for a degree of modal change away from car travel was assumed. This has now been discounted to ensure that a robust growth scenario is used for the assessment of parking demand.

3.3.4 The University have been internally consulting on their transport strategy and travel plan policies. It is anticipated that these will be rationalised and implemented in the future.

3.3.5 The table below shows the changes in parking provision to accommodate that demand on an annual basis. The principle changes are within the College Lane campus as land is utilised and released during the construction of various projects over the period to September 2010. This change in the location and volume of spaces is also illustrated on Figures 1-3 in relation to specific areas.
Table 4 – Parking Reconciliation – 2004 to 2010

<table>
<thead>
<tr>
<th></th>
<th>In SPG 2004</th>
<th>Sep 05</th>
<th>Sep 06</th>
<th>Sep 07</th>
<th>Sep 08</th>
<th>Sep 09</th>
<th>Sep 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parking Demand from Masterplan Transport Assessment</strong></td>
<td>3002</td>
<td>3051</td>
<td>3120</td>
<td>3179</td>
<td>3237</td>
<td>3296</td>
<td>3355</td>
</tr>
<tr>
<td>based upon surveyed demand 2004 plus 2% growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Car Park locations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>De Havilland</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>College Lane Residential</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td><strong>College Lane Teaching See Figures 1-3</strong></td>
<td>1452</td>
<td>1515</td>
<td>1551</td>
<td>1289</td>
<td>1329</td>
<td>1599</td>
<td>1709</td>
</tr>
<tr>
<td>Park and Ride</td>
<td>95</td>
<td>95</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>On - Street</td>
<td>435</td>
<td>435</td>
<td>200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Titan Court</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>80</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zenith Court</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>118</td>
<td>118</td>
<td>118</td>
<td>118</td>
</tr>
<tr>
<td><strong>total parking provision</strong></td>
<td>3002</td>
<td>3116</td>
<td>3634</td>
<td>3197</td>
<td>3237</td>
<td>3497</td>
<td>3517</td>
</tr>
</tbody>
</table>

3.3.6 The table is based upon the following assumptions:
- Growth assumptions set out above.
- The Angerland Park and Ride comes into use September 2006
- The CPZ’s within South Hatfield are operational before September 2007
- 120 spaces within Car Park 2 are available within 2007/2008
- The new car park built within the Student Forum project is live by September 2009

3.3.7 The figures in Table 4 demonstrate that there will be adequate parking provision for the expected demand throughout the period leading up to the completion of the Student Forum in 2010. The demand forecast has not included any reduction in car travel that may occur as a result of the implementation of travel plan policies and has been calculated to represent a robust assessment of parking demand.
4 Conclusions

4.1.1 The Traffic Surveys carried out in March 2004 provide a sound basis for the calculation of parking demand for all the changes to the College Lane Campus, including the Student Forum project.

4.1.2 The parking demand profile has been calculated including a significant amount of on-street parking in addition to the demand for spaces within both Hatfield campuses.

4.1.3 The availability of spaces within both campuses has been analysed over the period up to September 2010 taking due account of changes within the College Lane campus during that period. This includes assumptions on the timing of the implementation of the external CPZ’s by Welwyn Hatfield and the impact of the operation of the new Angerland Park and Ride site.

4.1.4 The comparison of capacity and demand figures for parking demonstrates that once the Student Forum project is complete the availability of parking spaces will be greater than the projected demand.

4.1.5 The comparison illustrates that throughout the period up to September 2010 the demand for parking can be accommodated within the various University car parks available. This is summarised below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>3120 spaces</td>
<td>3634 spaces</td>
</tr>
<tr>
<td>2007</td>
<td>3179 spaces</td>
<td>3197 spaces</td>
</tr>
<tr>
<td>2008</td>
<td>3237 spaces</td>
<td>3237 spaces</td>
</tr>
<tr>
<td>2009</td>
<td>3296 spaces</td>
<td>3497 spaces</td>
</tr>
<tr>
<td>2010</td>
<td>3355 spaces</td>
<td>3617 spaces</td>
</tr>
</tbody>
</table>

4.1.6 The parking Strategy as illustrated above has the following key points

- 2006 capacity includes the use of on-street parking spaces,
- The figures beyond 2006 demonstrate that all parking demand can be met by spaces within the campuses, with no on-street parking spaces required.
- The University’s parking strategy is not directly dependant upon the implementation of CPZ’s within South Hatfield
- 120 spaces within Car Park 2 are available within 2007/2008 as a buffer to manage the short term parking numbers
- The new 580 space car park built within the Student Forum project is live by September 2009 providing additional capacity.

4.1.7 The parking demand figures are inclusive of the on-street parking numbers and with the combined parking available within College Lane Campus and de Havilland, including the Angerland Park and Ride, that level of demand can be met without the use of on-street parking.

4.1.8 The figures demonstrate that the University is planning for a level of parking that is more than sufficient for the demand that is expected.
Figures 1-3
Appendix C:
Extract From 2007 Parking Beat Surveys
Appendix D: UNO Bus Service Routes