Technical Note

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Project:	**Heslington East Campus**	Job No:	**30080TYOD**
Subject:	**Planning Conditions 6 and 7**	Date:	**10 July 2007**

Introduction

This technical note has been written to provide details of the Heslington East Campus - Conditions 6 and 7 and a suggested methodology to address the requirements of both Conditions.

Condition 6

Condition 6 states:

The developer will undertake an annual survey of traffic travelling to and from the University together with a survey of traffic through the following three principal junctions:

- *Grimston Bar Roundabout/A64 junction;*
- *Melrosegate/Hull Road traffic signal controlled junction; and*
- *Fulford Road/Heslington Lane traffic signal controlled junction.*

The surveys will be undertaken in the period between 07.00 hours and 19.00 hours on a weekday and month approved by the Local Planning Authority. The first such survey shall be undertaken before the commencement of development (which shall exclude any works associated with the undergrounding of overhead electricity lines carried out as 'permitted development' or any evaluation works associated with the Archaeological Remains Management Plan). The developer will determine by reference to the surveys the volume of University related traffic through the junctions. Using the forecasts of traffic generation and distribution for the expansion of the University from the submitted transport assessment the developer will develop a traffic model to predict traffic flows related to the University at each of the junctions in accordance with a phased programme agreed with the Local Planning Authority.

In addition, prior to the development commencing and annually thereafter, the developer will undertake a survey of traffic at the junction between University Road/Field Lane/Main Street South/Main Street West.

The results of the surveys and the current predictions shall be submitted to the Local Planning Authority within 3 months of the date of the surveys and shall be used to accompany applications submitted for approval of reserved matters for buildings as set out in condition 7.

Condition 7

Condition 7 states:

Every application for approval of reserved matters for a building of floorspace greater than 500 sqm will be accompanied by a comparison of the predicted traffic flows related to the University (obtained from the traffic model) with the volumes derived from actual surveys of traffic flows related to the University, carried out as required by condition 6. If the actual surveyed traffic volumes related to the University at the three principal junctions identified in condition 6 are more than 5% higher than the predicted traffic flows in the morning and evening peak periods, the developer shall prepare details of mitigation measures and an associated implementation programme to reduce the actual traffic flows to the predicted levels. The agreed mitigation measures shall be submitted to the Local Planning Authority for approval and implemented by the developer. For the avoidance of doubt the peak hours above shall be considered to be between 08.00 and 09.00 hours and 17.00 and 18.00 hours during the working week within University and school term time.

Adopted Survey Methodology

The methodology adopted, negated the need to undertake traffic through surveys, as stated in Condition 6, at the three principal junctions. The data required for both Condition 6 and 7, "the traffic volumes related to the University at the three principal junctions" could be obtained without this information.

To determine the University related traffic travelling through the three key junctions, questionnaires were undertaken at five of the main car parks on the Heslington West Campus listed below:

- Biology & Wentworth;
- Campus Central;
- Campus North;
- Campus South & West; and
- Vanburgh.

These car parks account for approximately 70% of the total car parking stock of the Heslington West campus.

The questionnaires were undertaken over a three day period (Friday 9th, Monday 12th and Tuesday 13th March) over a 12 hour period between the hours of 07:00 and 19:00. To avoid any double counting people were only interviewed once. An interview sample rate of approximately 33% was obtained.

The surveys were undertaken in addition to the annual transport surveys that are carried out at the University each year. The questionnaire comprised of four simple questions, which were asked to drivers entering the car parks. The question asked where:

- Arrival and departure time at the University (to the nearest quarter hour);
- How often they make this journey;
- Which junction they used to get to the University; and
- Which junction they will use to leave the University.

A map was shown to drivers showing the three junctions referred to in the conditions to help them identify which junction they had or were going to use, if any. It should be noted that a number of people surveyed stated that they travelled through both the A1079 Hull Road / A64 junction and Green Dykes Lane / Hull Road traffic signal controlled junction on their way to and from the University:

In order to obtain the number of university related vehicles using the three key junctions, a number of steps took place.

Firstly, a percentage of traffic from each car park group using each junction was established, and then car park entry/exit figures for the five locations that the questionnaires took place were used to factor up the original numbers. Summing the answers across all car parks, a calculation was undertaken to find out the percentage of junctions being used by all interviewees.

Using these percentages and the total entry/exit figures from the five car parks plus all the other entry counts into the campus the number of University related traffic using each junction was calculated.

As the time, to the nearest quarter of an hour, was obtained for both arrivals and departures it was therefore possible to ascertain the total number of University related trips that travel through the three key junctions in the two peak hours defined in Condition 7 as 08:00-09:00 and 17:00-18:00.

In 2007 these were calculated as being:

AM Peak
- A1079 Hull Road /A64 Junction – 157 plus an additional 31 = **188**
- A1079 Hull Road / Green Dykes Lane Junction – 177 plus an additional 31 = **208**
- Fulford Road / Heslington Lane Junction – **148**

PM Peak
- A1079 Hull Road /A64 Junction – 145 plus an additional 30 = **175**
- A1079 Hull Road / Green Dykes Lane Junction – 147 plus an additional 30 = **177**
- Fulford Road / Heslington Lane Junction – **200**

N.B. Additional trips take into account those trips that travel through both the A1079 Hull Road / A64 junction and Green Dykes Lane / Hull Road traffic signal controlled junction on their way to and from the University.

Proposed Monitoring Methodology

A traffic model has been produced, which can be used to predict the likely increases in traffic flows at each of the three key junctions associated any change in population in students, staff, Heslington West Knowledge Transfer and Heslington East Knowledge Transfer. This model predicts the permitted flows across the three key junctions, over and above which Condition 7 would be triggered and mitigation would be required.

The model uses the predicted increase in people of each category (students, staff, Heslington West Knowledge Transfer and Heslington East Knowledge Transfer) associated with each proposed development as a proportion of the following:
- Base Number of people (each category); and
- Predicted Final Number of people (each category).

The proportion is then applied to the difference between the existing and target of the three factors stated in the Transport Assessment that impact upon the number of car trips to obtain a "trip score" for the proposed scenario:
- Mode Share;
- Car Occupancy; and
- Flexible Working.

This scenario trip score is then compared with that of the base scenario to predict a percentage change in trips by car.

This percentage change is then applied to the existing flows surveyed in the base year for both AM and PM peak through the three key junctions. An additional 5% is then applied to the resultant flows to provide a mitigation threshold over and above mitigation measures would be required as part of Condition 7.

Annually, in March, surveys are undertaken to establish University related trips. Based on the populations of students, staff, Heslington West Knowledge Transfer and Heslington East Knowledge Transfer at that time, the predictive model will be run again to derive threshold values.

The results of the surveys are then compared with the predicted flows for the three key junctions as described above with the following three outcomes:
- Actual surveyed flows are lower that predicted by the model – No mitigation required;
- Actual surveyed flows are above that predicted but below the mitigation threshold as predicted by the model – No mitigation required; or
- Actual surveyed flows are above mitigation threshold – Mitigation measures are required, as stated in Condition 7.

Summary

This technical note has been written to provide details of the Heslington East Campus - Conditions 6 and 7 and has suggested a methodology to address the requirements of the conditions.