LSHTM Development
TN01 Construction traffic impact assessment
Produced for LB Camden
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1 TRAFFIC IMPACT ASSESSMENT

1.1 INTRODUCTION

1.1.1 Norman Rourke Pryme has been commissioned by London Borough of Camden to undertake a traffic impact assessment related to the construction of a new development by London School of Hygiene and Tropical Medicine (LSHTM) at 15-17 Tavistock Place.

1.1.2 Within the Construction Management Plan it proposes two locations where construction vehicles would load and unload at the site. Some vehicles would use a temporary on-street loading bay within the eastbound cycle lane. However, other vehicles would be required to reverse into the access at the site, which would require a temporary road closure to facilitate the turning movement. This assessment analyses the potential impact on the local road network, as a result of the road closure using micro-simulation traffic modelling.

1.2 BASE NETWORK

1.2.1 In order to assess the traffic impact of the road closure to allow a vehicle to reverse into the site, a micro-simulation VISSIM model has been produced. The VISSIM model includes the following junctions along the Tavistock Place corridor, with the LSHTM site located just east of Herbrand Street.

- Bedford Way/Tavistock Square/Gordon Square (signalised)
- Woburn Place/Tavistock Square/Tavistock Place (signalised)
- Herbrand Street/Tavistock Place (priority)
- Marchmont Street/Tavistock Place (signalised)

TRAFFIC DATA

The London Borough of Camden undertook traffic surveys along the Tavistock Place corridor for three days between 22nd and 24th of May 2018 for the period 07:00 to 19:00.

Based on the information provided in the Construction Management Plan, construction vehicles would have access to the site between 09:30-16:30. Using the May 2018 traffic surveys, it has been identified that the highest hourly traffic flows in the study area, during the hours of operation, are between 09:30-10:30 (occurring on 22nd of May 2018). This is therefore the hour that has been used for the VISSIM modelling assessment.

SIGNAL DATA

1.2.2 Following the introduction of the eastbound-only traffic scheme which was implemented along the Tavistock Place corridor in November 2015, LinSig traffic models were produced of the three junctions within the LSHTM study area in 2016 and these were subsequently submitted and approved via the TfL Model Audit Process. Although these LinSig models are three years old, it is felt that they still represent the current signal timings along the corridor and therefore signal timings from these models have been coded into the VISSIM model. The only change that has been made is a shift of the green time at the Bedford Way/Tavistock Square/Gordon Square junction. This is to give an additional 5 seconds of green time to the eastbound approach, as it was observed that the 2016 and 2018 traffic flows differed, with the 2016 survey showing a total eastbound flow of 119 PCUs while the 2018 survey shows 354 PCUs.
1.3 **Assessment of Impact**

1.3.1 Construction vehicles would have access to the site between 09:30-16:30. Based on the Construction Management Plan the highest number of vehicles that would appear in a day is 24 vehicles between 6th April 2020 and 8th June 2020. To allow a vehicle to reverse into the site the road would need to be closed for a duration of 3 minutes, according to the Construction Management Plan.

1.3.2 Based on this information, the VISSIM model has been coded with an average time interval between the arrival of two construction vehicles, which is calculated as 17.5 minutes (24 vehicles in 7 hours). This would mean that the maximum times that vehicles would stop in an hour would be 4. For example, if a vehicle arrives at 09:30 then the next vehicles would arrive around 09:48, 10:05 and 10:23.

1.4 **Conclusion**

1.4.1 The VISSIM model shows that the 3 minute road closures would not have a significant detrimental impact on the local road network. Based on the modelling the maximum queue length during the road closure would extend up to the junction of Woburn Place/Tavistock Square/Tavistock Place but the impact would not extend beyond this junction. Therefore it is anticipated that the road closure could potentially cause some exit blocking at this junction, however, the modelling shows that the queues would clear before this causes significant delays and would not extend back to upstream junctions.

1.4.2 A short video has been produced which shows an example of the road closure and the formation of the queue. Figure 1 shows an extract from the video showing the length of queue, immediately before the road closure is removed.

**Figure 1: Queue forming during closure**

1.5 **Recommendations**

1.5.1 It is recommended that there is a minimum of 10 minutes between the arrival of vehicles requiring the road closure, to allow the road network to settle down and return to normal operation between road closures.

1.5.2 It is also recommended that during construction the duration of the road closure is monitored to ensure that the road closure is limited to a maximum of three minutes. Should the closure last longer than three minutes then this may adversely affect the network with queues blocking back beyond the Woburn Place/Tavistock Square/Tavistock Place junction.