Developing a suite of tools to assess the effects of busy roads on local residents

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On behalf of the Street Mobility and Network Accessibility project team

www.ucl.ac.uk/street-mobility  @streetmobility

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Participatory mapping

The UCL Street Mobility project

Video survey

Street audits

Spatial analysis

Health and Neighbourhood Mobility Survey

Stated Preference survey
Study results
Finchley Road
Syntax analysis (local scale)
Walkability and connectivity

“Finchley Road is probably the most congested, dangerous, noisy, dirty road in the world.”

(Male, 65-74, Health and neighbourhood mobility survey)
Local residents asked on the street report that the road is a strategic destination with popular local amenities (Swiss Cottage Farmers’ Market, Leisure Centre, O2 Shopping Centre)
London’s walkability
Levels of traffic within peak walkability boundaries

- 39,500-46,500 vehicles (07.00-24.00)
- High % heavy good vehicles & buses/coaches
Survey participants reported that the ability to walk to local places often or always being affected by the speed of traffic or its volume.

- 47% at least occasionally affected by the volume of traffic,
- 15% often or always affected.
Participants’ self-reported ability around their neighbourhood

<table>
<thead>
<tr>
<th>Factors</th>
<th>Never affected (%)</th>
<th>Occasionally affected (%)</th>
<th>Often or always affected (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of traffic, N (%)</td>
<td>109 (53%)</td>
<td>66 (32%)</td>
<td>30 (15%)</td>
</tr>
<tr>
<td>Speed of traffic, N (%)</td>
<td>111 (54%)</td>
<td>65 (32%)</td>
<td>29 (14%)</td>
</tr>
<tr>
<td>Other N (%)</td>
<td>160 (79%)</td>
<td>29 (14%)</td>
<td>14 (7%)</td>
</tr>
</tbody>
</table>
% at least occasionally affected by volume of traffic (own road):
P=0.002
Perception (participatory mapping) of road as socio-economic border between two different groups, reinforced by findings from the IMD (from Oliver O'Brien's blog of IMD deciles)
The PERS survey results show there are barriers to walking other than road traffic, such as railways and dark alleyways (in the NW part) and slopes (in some streets leading to the Finchley road in the E part).
25% of survey participants who did not live on the busiest road reported that they avoided walking along the busiest road.
Respondents of the SP survey prefer to use straight pelicans unless there is another type of crossing that is closer.

<table>
<thead>
<tr>
<th>Staggered pelican</th>
<th>0.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footbridge</td>
<td>1.6</td>
</tr>
<tr>
<td>Underpass</td>
<td>3.6</td>
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</tbody>
</table>

Walking times (minutes) above which people would choose those other types of crossing.
Noise and air pollution

61.04 µg/m³ mean Nitrogen Dioxide levels for October 2014 - October 2015 (EU annual limit is 40 µg/m³)

“I avoid the pollution on Finchley Road by using the bus – it’s foul crossing by the cinema (Swiss Cottage), really disgusting.” (Street survey)

“Exhaust fumes from huge airport buses are dreadful. Killing us.” (S1 survey participant)
Air pollution- HIDE

61.04 µg/m³ mean Nitrogen Dioxide levels for October 2014 - October 2015
(EU annual limit is 40 µg/m³)

20% PM participants cited pollution as a negative perception of the road

36% HNM survey participants reported air or noise pollution presented a difficulty for them in walking around the local area
Noise / air pollution (% problem on road): $P=0.002$

1. Noise / air pollution (% problem on road): $P=0.002$
People also report that the pavement conditions are not adequate for the people with disability.

“I have arthritis and use a walking stick. Many of the pavements are cracked and I have fallen on several occasions.”

(S1 survey participant)
Community severance measurement toolkit

www.ucl.ac.uk/street-mobility/toolkit

The toolkit will be available in March 2017.

www.ucl.ac.uk/street-mobility
Using triangulation to assess a suite of tools to measure community severance


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