Assessing and valuing the impacts of busy roads on local people

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Street Mobility and Network Accessibility project team

www.ucl.ac.uk/street-mobility

@StreetMobility

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WHAT IS COMMUNITY SEVERANCE?

THE BARRIER EFFECT OF BUSY ROADS
Community severance

Figure 3: Word cloud of definitions of "community severance"
The UCL Street Mobility project

Main components:

- Participatory mapping
- Video surveys
- Household survey
- Street audits
- Stated preference survey
- Spatial analysis

The UCL Street Mobility project is a research project that involves various methods to study street mobility. It includes participatory mapping, video surveys, household surveys, street audits, stated preference surveys, and spatial analysis.
Street Mobility Toolkit

• Designed to assist local authorities, consultants and local communities to better understand CS and what to do about it

• Provides advice on how to measure CS, and to assess impacts on local communities

• Some tools aimed at local communities, others at transport professionals
Contents of the Toolkit

- **Introduction**: overview of the toolkit
- What we know
- Participatory mapping
- Health and Neighbourhood Mobility Survey
  - ‘How to’ guides
- Video surveys
- Walkability models
- Valuation tool
- Other useful tools
### Introduction

#### Summary of tools and applicability

<table>
<thead>
<tr>
<th>Tool</th>
<th>Why use it</th>
<th>What resources are needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>People</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Participatory mapping

- Informal mapping sessions
- Informal street mapping
- In-depth interviews & participatory mapping workshops
Household pen-and-paper survey:

Health and Neighbourhood Mobility Survey
Video surveys

- Placing video cameras to film pedestrian and motor traffic
- Compare actual pedestrian flows with expected (from the walkability model)
- Pedestrian crossing behaviour
  - Formal crossings
  - Informal crossings
  - Waiting times
Video surveys

% OF MOBILITY-IMPAIRED

Walk along pavement
Walk along pavement, crossing side streets
Signalized crossing
Zebra
Informal crossing
Spatial analysis and walkability model

• **Walkability** – reflects potential for walking

• **Community severance** can occur where high walkability co-exists with high motorised traffic levels
Stated preference survey

Scenario: there is a bus stop on the other side of the road that is in a cheaper travel zone than the bus stop on this side

<table>
<thead>
<tr>
<th>Traffic density: Low</th>
<th>Central reservation with no guard railing</th>
</tr>
</thead>
</table>

In this scenario, which of the two options would you choose?

<table>
<thead>
<tr>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross at this point</td>
<td></td>
</tr>
<tr>
<td>Saving 80p off your one-way ticket cost</td>
<td></td>
</tr>
<tr>
<td>Do not cross the road and pay the higher ticket cost</td>
<td></td>
</tr>
</tbody>
</table>

- 423 respondents across 4 areas
- Each respondent answered 8 questions, each one with different road conditions
Severance index (examples)

Disutility of crossing the road compared with disutility of not making the trip
### PERS Link Assessment Form

**Location:**

**Reviewer:**

**Time:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Checklist Factors</th>
<th>Checklist</th>
<th>Overall Score</th>
<th>Design Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective width</td>
<td>Width for pedestrian flow, Wheelchair accessibility, All sections acceptable with, Separation from traffic, Allowance for obstructions, Pedestrian congestion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dropped kerbs</td>
<td>Located on desire lines, Adequate capacity, Level dropped/flush, Gradient of drop, Consistency, Frequency of dropped kerbs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gradient</td>
<td>Severity, Stair/step, Rest points, Undulations, Appropriate handrails, Presence of crossfalls, Presence of obstructions, Location/alignment, Overhead obstructions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Space syntax

- Space syntax network analysis methods measure the centrality of networks based on the geometric simplicity of traversing shortest paths between origins and destinations
Community severance measurement toolkit

Most of the toolkit is now available to download. The valuation tool will follow in a few months’ time.

For more information about the project, see:

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

For more details, see eg

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

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