Exploring community severance in Latin American cities

Learning from Street Mobility Project

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Bogotá 06/11/2017
São Paulo 09/11/2017
Santiago 14/11/2017
Temuco 15/11/2017
Community severance
(a.k.a. the barrier effect of roads)
The reverse of community severance
Streets for people (not for cars)
### How is community severance assessed in national official guidance for transport appraisal

<table>
<thead>
<tr>
<th>Country</th>
<th>Mentioned</th>
<th>Attributes specified</th>
<th>Measured</th>
<th>Monetised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td></td>
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<tr>
<td>Denmark (old)</td>
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<tr>
<td>Denmark (current)</td>
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<td>Finland</td>
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<tr>
<td>Germany</td>
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<td>Italy</td>
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<tr>
<td>Netherlands</td>
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<tr>
<td>New Zealand</td>
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<tr>
<td>Norway</td>
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<tr>
<td>Sweden (old)</td>
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<tr>
<td>Sweden (current)</td>
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<td>Switzerland</td>
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<td>UK</td>
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<tr>
<td>USA</td>
<td></td>
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</tr>
</tbody>
</table>
Academic research on severance

- consensus on concepts and language
- dissemination of research results
- international collaboration
- application in transport planning
UCL STREET MOBILITY PROJECT

Developing tools to measure and monetise community severance

Project funded by:
UCL Street Mobility project

- Video surveys
- Street audits
- Spatial analysis
- Participatory mapping
- Household survey
- Stated preference survey
METHOD 1
Spatial analysis

- Density
- Land use mix
- Street connectivity

Walkability model

High traffic volumes explain cases where measured walking flows are lower than those predicted from the walkability model

Case study selection
Case studies

London 1

London 2

Birmingham

Southend-on-Sea
METHOD 2
Participatory mapping
METHOD 3
Video surveys
METHOD 4
Street audits

Crossing facilities

Pavements
METHOD 5
Household survey

PERCEPTIONS ABOUT ROAD
- Traffic Volume
- Traffic Speed
- Crossing Facilities

PERCEPTIONS ABOUT WALKING
- Barrier to Walking
- Avoid Walking

POSSIBLE WIDER IMPACTS
- Social Capital
- Health
- Wellbeing

DEMOGRAPHICS
LOCATION
METHOD 6

Stated preference survey

Traffic density: **Low**

Central reservation with no guard railing

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**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>Do not cross the road and pay the higher ticket cost</td>
</tr>
<tr>
<td>Saving 80p off your one-way ticket cost</td>
<td></td>
</tr>
</tbody>
</table>

- Option A
- Option B
**METHOD 6**

**Stated preference survey**

Tool to value benefits of policies

### ROAD

**Green: cells to be edited**

**How long is the section of the road?**

2000 meters (between 100 to 2000m)

*Use the dropdown menus to select the characteristics of the road, or choose one of the built-in options*

<table>
<thead>
<tr>
<th><strong>CURRENT SCENARIO</strong></th>
<th><strong>FUTURE SCENARIO</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of lanes (in each direction)</td>
<td>3</td>
</tr>
<tr>
<td>Central reservation</td>
<td>no</td>
</tr>
<tr>
<td>Traffic density</td>
<td>high</td>
</tr>
<tr>
<td>Traffic speed</td>
<td>20mph</td>
</tr>
</tbody>
</table>

**Built-in options**

*Click on buttons*

- **Best possible conditions**
- **Worst possible conditions**
- **Same as current**
Street Mobility Toolkit

Available from
http://www.ucl.ac.uk/street-mobility/toolkit
APPLICATION

Mindell et al. (2016) Using triangulation to assess a suite of tools to measure community severance
Journal of Transport Geography 60, 119-129

Finchley Road, London

- High traffic volumes (~45,000 vehicles/day)
- 50km/h speed limit
- Lack of crossing facilities
- Walls separating pavements from road
METHOD 2
Participatory mapping

“Finchley Road is 'just a big pain', traffic is so heavy, buses, coaches and lorries - it’s a river of traffic constant, non-stop”
(Female, 60)

“I avoid the crossing at Swiss Cottage - there isn’t enough time to cross - the traffic is so quick and the buses and coaches all trying to beat the lights is very intimidating.”
(Female, 75)
METHOD 3
Video surveys
METHOD 4
Street audits
**METHOD 5**

**Household survey**

### Measured traffic volumes

<table>
<thead>
<tr>
<th>Heavy</th>
<th>79%</th>
</tr>
</thead>
</table>

### Perceived traffic volumes

<table>
<thead>
<tr>
<th>Heavy</th>
<th>79%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>19%</td>
</tr>
<tr>
<td>Light</td>
<td>2%</td>
</tr>
</tbody>
</table>

### Traffic affects walking

<table>
<thead>
<tr>
<th>Yes</th>
<th>31%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>47%</td>
</tr>
</tbody>
</table>

### Avoids busy road

<table>
<thead>
<tr>
<th>Yes</th>
<th>5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>26%</td>
</tr>
</tbody>
</table>
## METHOD 6

### Stated preference survey

<table>
<thead>
<tr>
<th>Potential intervention</th>
<th>Implicit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 → 4 lanes</td>
<td>£1.92</td>
</tr>
<tr>
<td>Add central reservation</td>
<td>£1.61</td>
</tr>
<tr>
<td>High → medium traffic density</td>
<td>£1.07</td>
</tr>
<tr>
<td>Speed below 50km/h</td>
<td>£0.91</td>
</tr>
</tbody>
</table>
SYNTHESIS

• Finchley Road is an unpleasant place for pedestrians due to high **traffic levels** and the lack and poor quality of **crossing facilities**.

• This has a negative impact on the **mobility** and of local residents

• **Policies** to reduce severance have a measurable benefit
Street mobility in the Latin American environment

Additional elements to take into account

- Arterial roads in centre, difficult to be avoided by pedestrians
- Severance from BRT infrastructure
- Multiple issues in some suburbs
- Interface bus-pedestrian networks
Street mobility in the Latin American environment

Additional elements to take into account

Road space allocation

It’s not only cars vs. pedestrians

Spatial-social inequalities

Growing age inequalities
Thank you for your attention!

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