The effects of busy roads on community severance

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Link up streets, routes and neighbourhoods
Urban Design London
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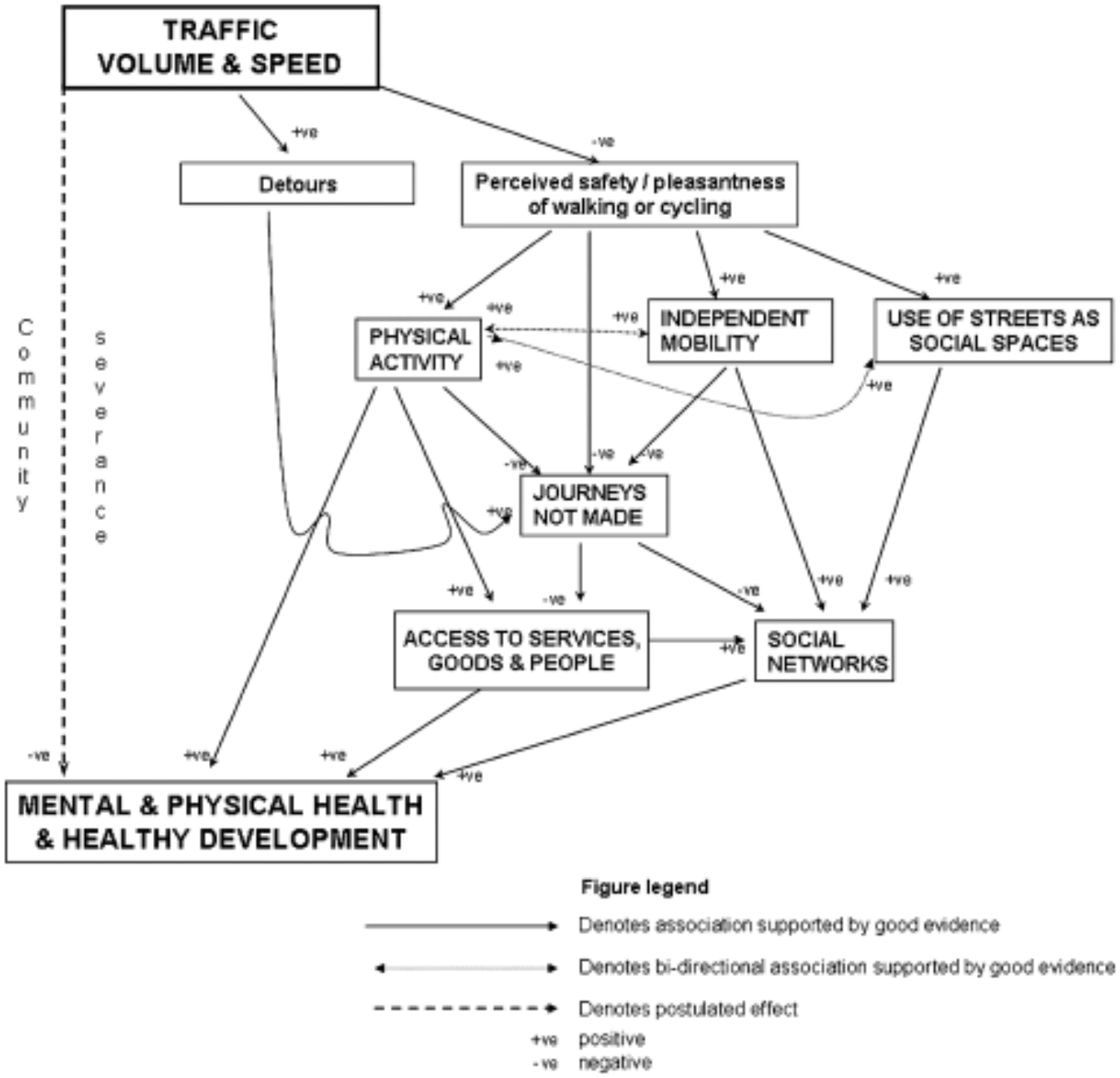
Community severance
(a.k.a. the barrier effect of roads)

What is community severance about?

Based on 60 definitions found in the literature 1963-2015

Community severance and wellbeing

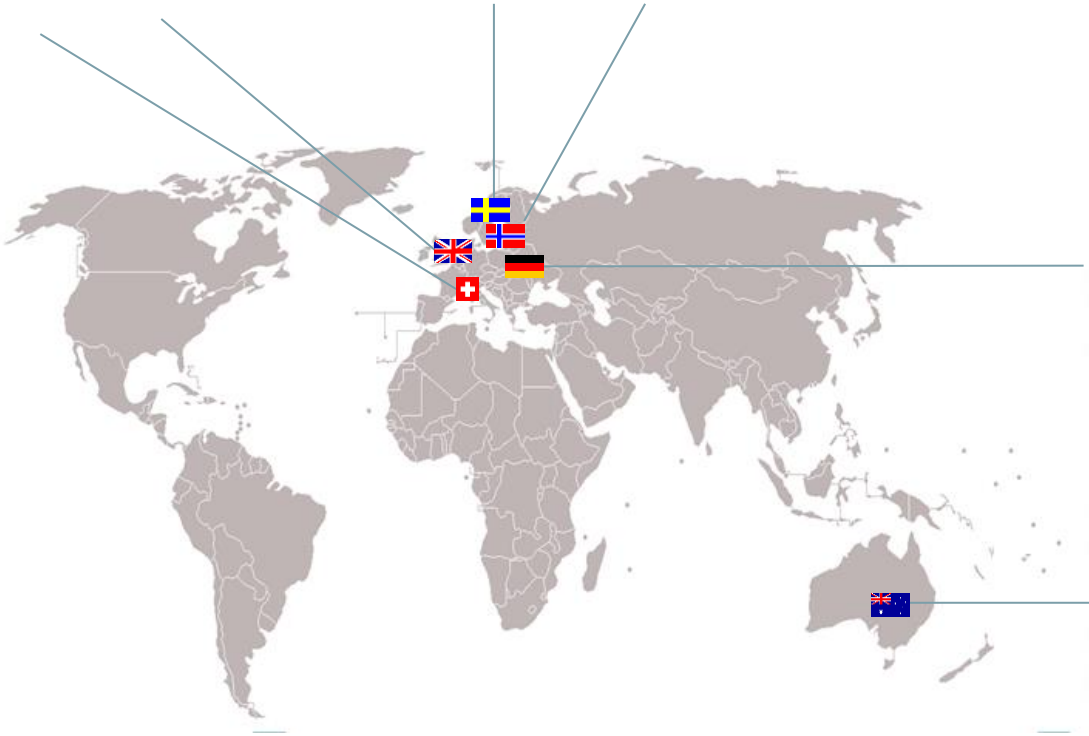


Mindell and Karlsen (2012)
J.Urban Health 89 (2)

How is community severance measured?

Subjective classification of many variables into levels of severance

Detailed formulas were rarely used and have been abandoned



Severance costs=time losses for personal walking trips

Simple formulas, to be applied on a project-by-project basis

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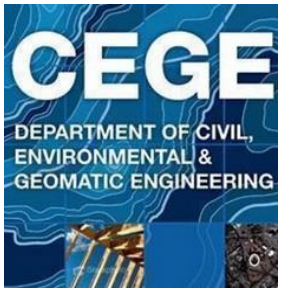
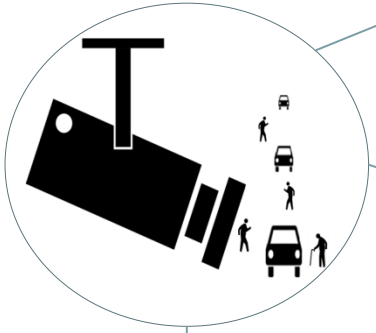
Developing tools to measure and value community severance



Participatory mapping



Video surveys

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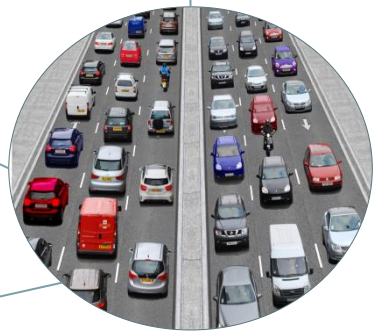
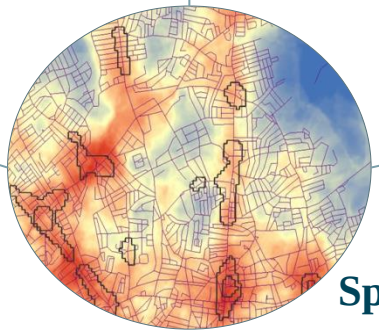
Household survey

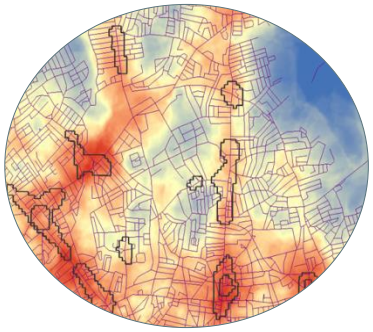
Street audits



Stated preference survey



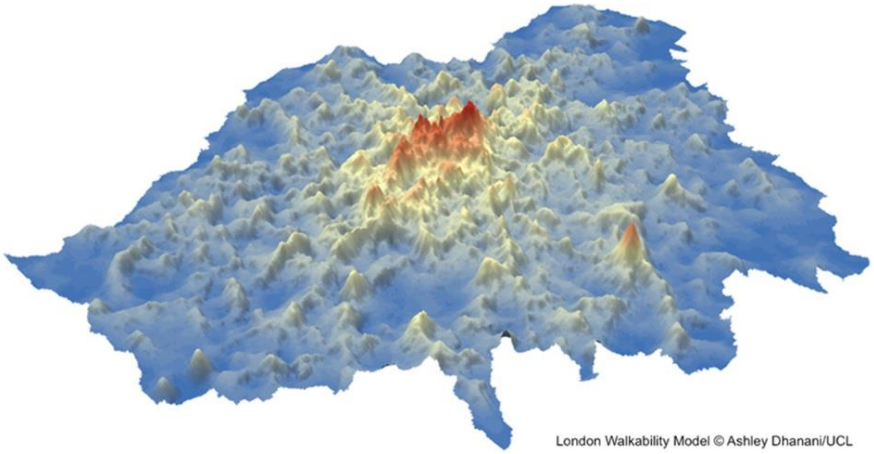
Spatial analysis



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

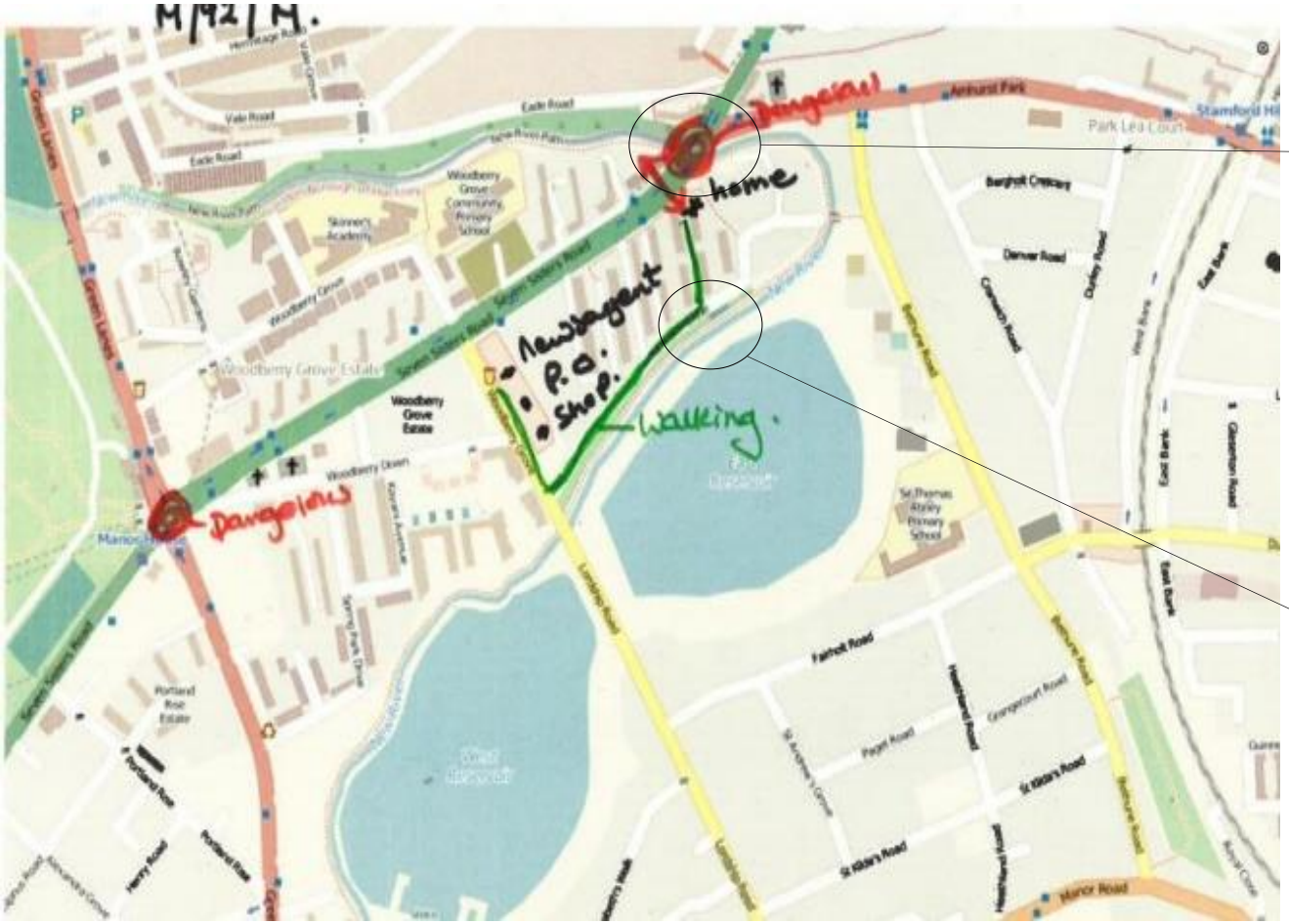
Seven Sisters Road (London)

Finchley Road (London)

Queensway (Southend-on-Sea)

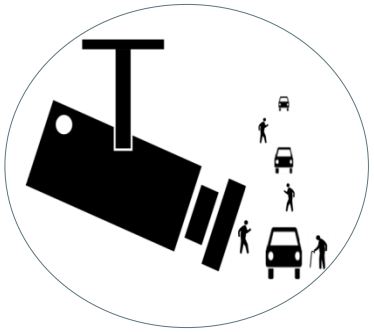
Stratford Road (Birmingham)

METHOD 2
Participatory mapping

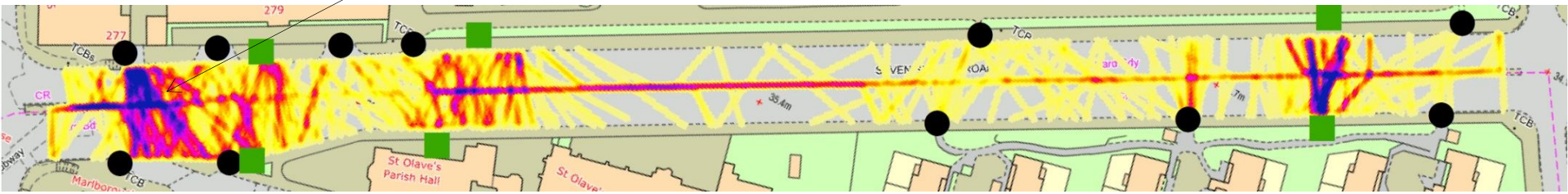


Perceived barriers: Busy road, especially junctions

Routes: Avoid busy road by choosing alternative (longer) routes or taking bus



METHOD 3
Video surveys



18.3

Pedestrians/m^2

0

- Entrances to residential areas
- Bus stops

METHOD 4
Street audits

Pavements

Crossing facilities

METHOD 5
Household survey

Measured traffic volumes
Heavy

Perceived traffic volumes	
Heavy	72%
Average	25%
Light	4%

Traffic affects walking	
Yes	39%
No	33%

Avoids busy road	
Yes	12%
No	27%

METHOD 6
Stated preference survey

Potential intervention	Implicit value
6 → 4 lanes	£1.39
4 → 2 lanes	£1.11
Add central reservation	£1.12
High → medium traffic density	£0.94
Medium → low traffic volume	£0.83
Speed below 30mph	£0.49

Street Mobility Toolkit

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

Project final conference

Wednesday 8th March, 12:30-17:30

Henry Wellcome Auditorium,
Wellcome Collection
183 Euston Road

https://the-effects-of-busy-roads-on-local-people.eventbrite.com

Thank you for your attention!

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Epidemiology and Public Health: Jenny Mindell, Shaun Scholes, Nora Groce, Jemima Stockton
Centre for Transport Studies: Peter Jones, Paulo Anciaes
Bartlett School of Architecture: Laura Vaughan, Ashley Dhanani
Mapping for Change: Muki Haklay, Louise Francis