

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](https://twitter.com/StreetMobility)

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Pioneering research
and skills

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Research Council

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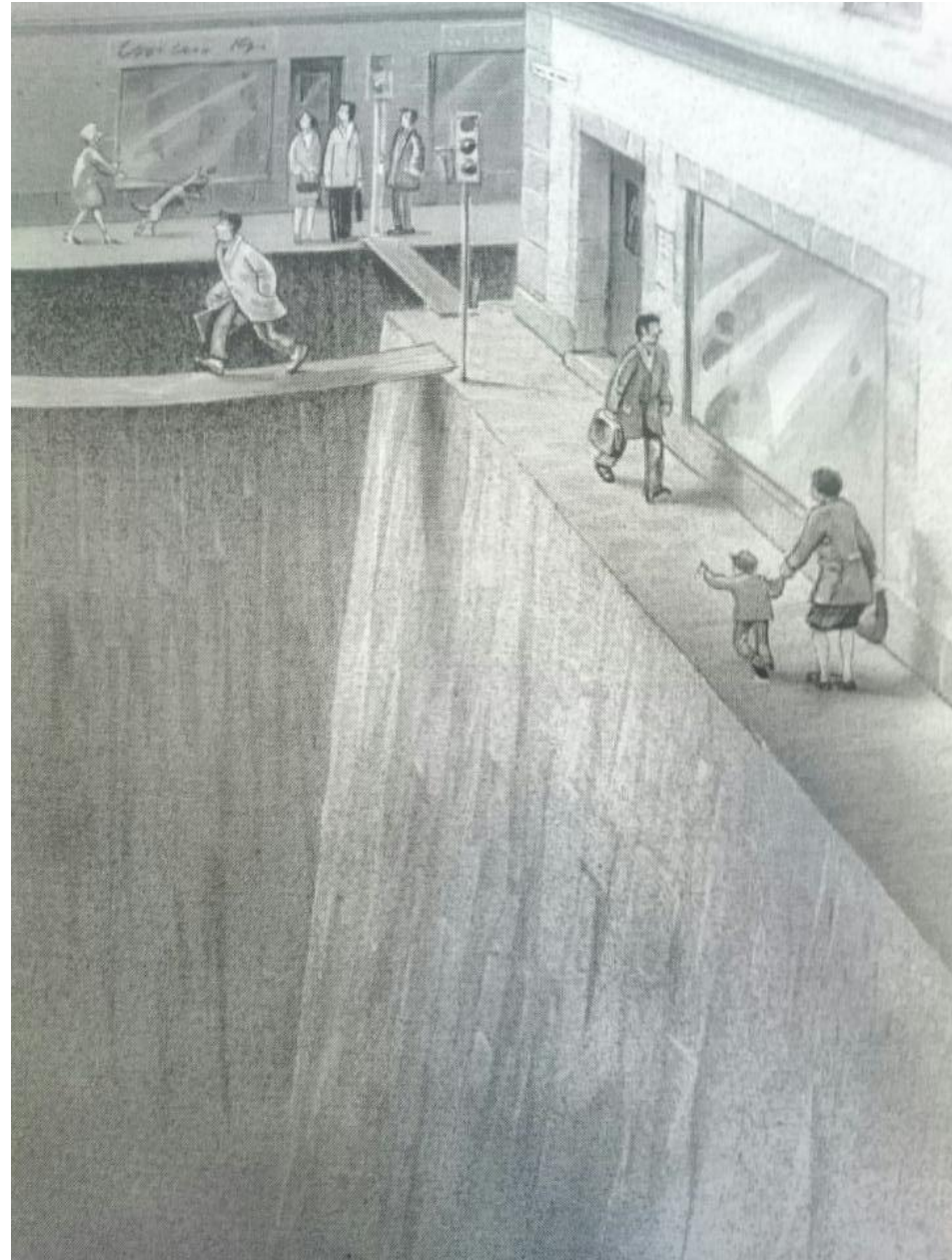
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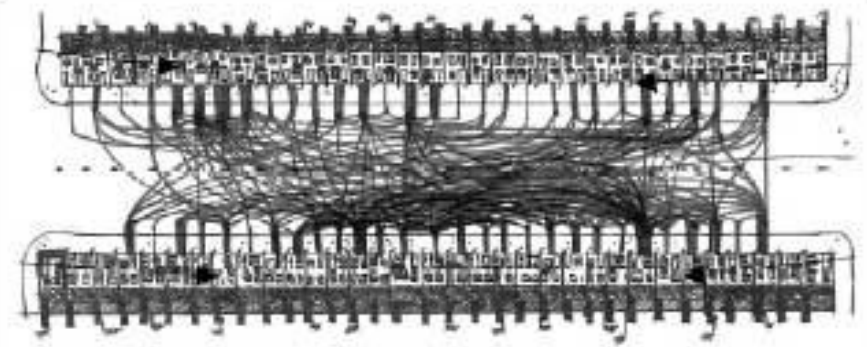
**WHAT IS
COMMUNITY
SEVERANCE?**

**THE BARRIER
EFFECT OF
BUSY ROADS**

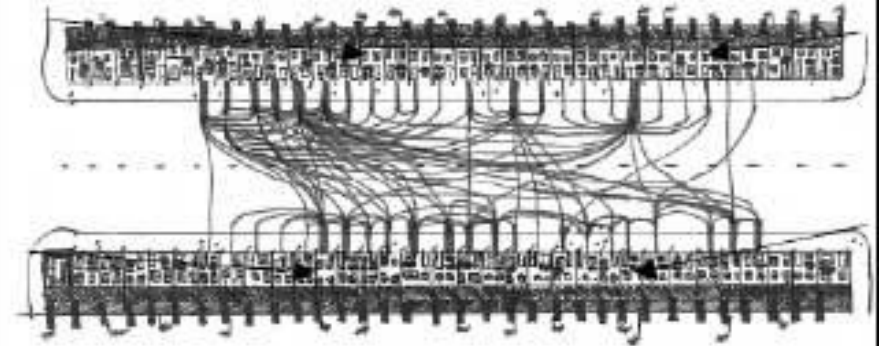


Community severance

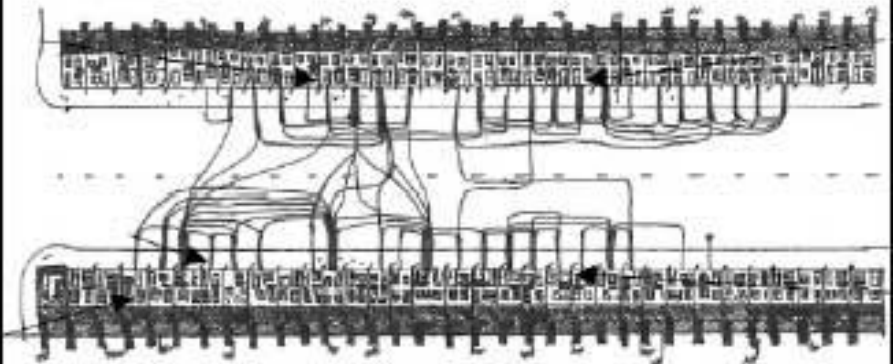
Appleyard D & Lintell M (1972).
The environmental quality of city streets: the residents' viewpoint. *Journal of the American Institute of Planners*, 38(2), 84-101.



LIGHT TRAFFIC: 140 VEHICLES PER DAY
5.35 friends per person/ 6.1 acquaintances

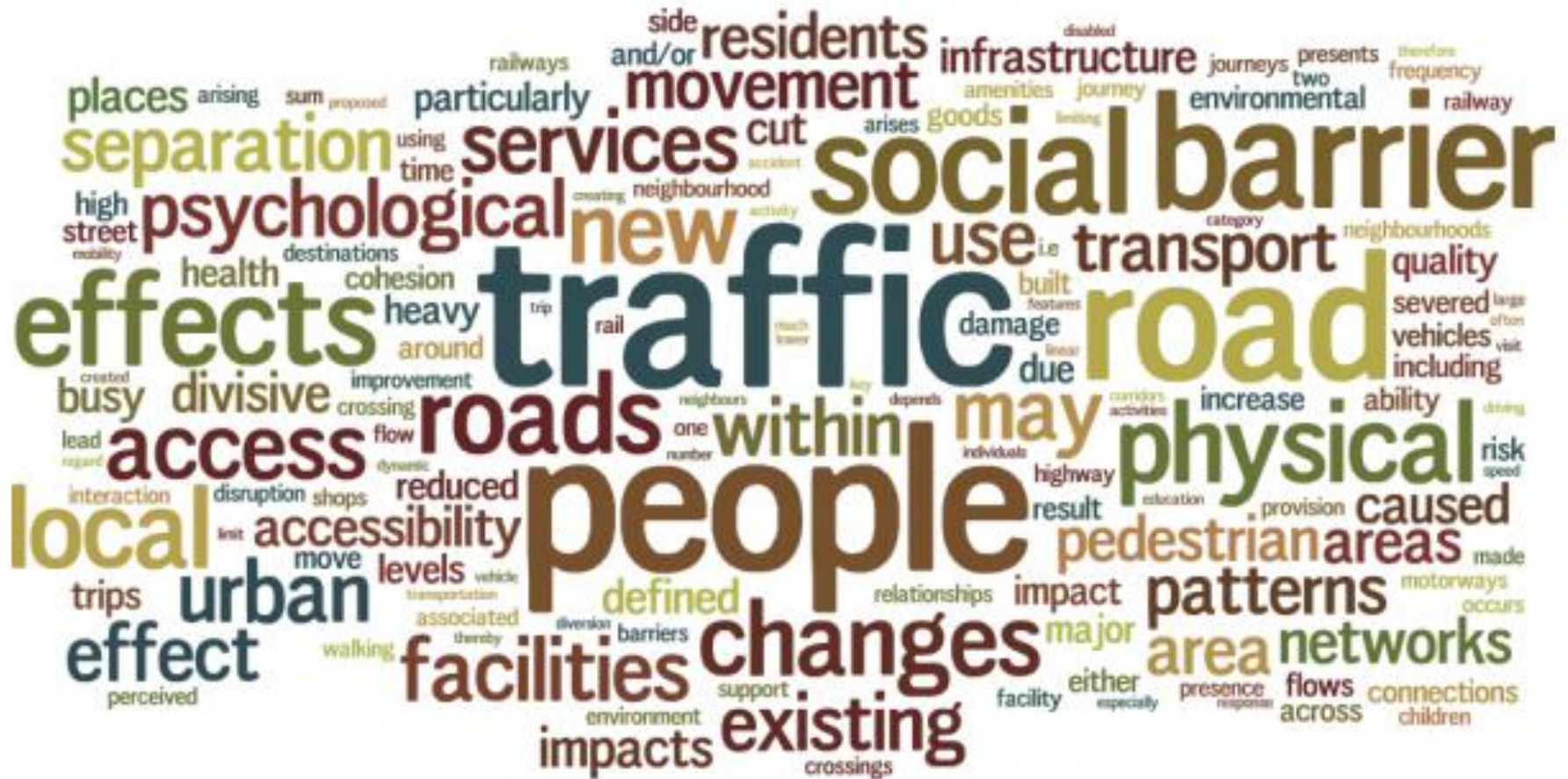


MEDIUM TRAFFIC: 8,420 VEHICLES PER DAY
2.45 friends per person/ 3.65 acquaintances



HEAVY TRAFFIC: 21,130 VEHICLES PER DAY
1.15 friends per person/ 2.8 acquaintances

Figure 3: Word cloud of definitions of "community severance"





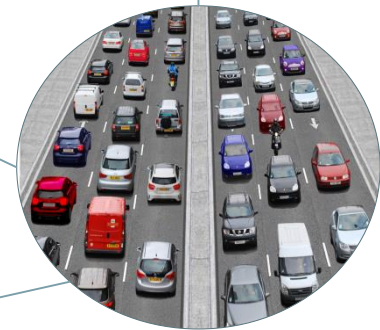
Participatory mapping



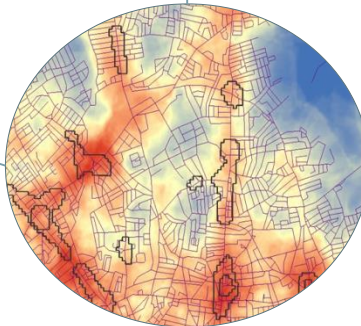
Household survey



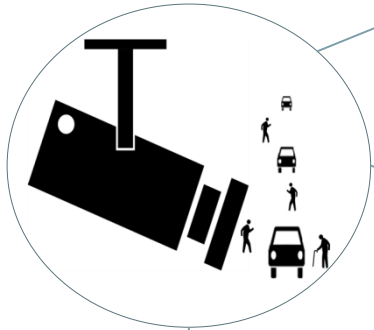
**The UCL
Street Mobility
project**



Stated preference survey



Spatial analysis



Video surveys



Street audits

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**

Participatory mapping

- Informal mapping sessions
- Informal street mapping
- In-depth interviews & participatory mapping workshops

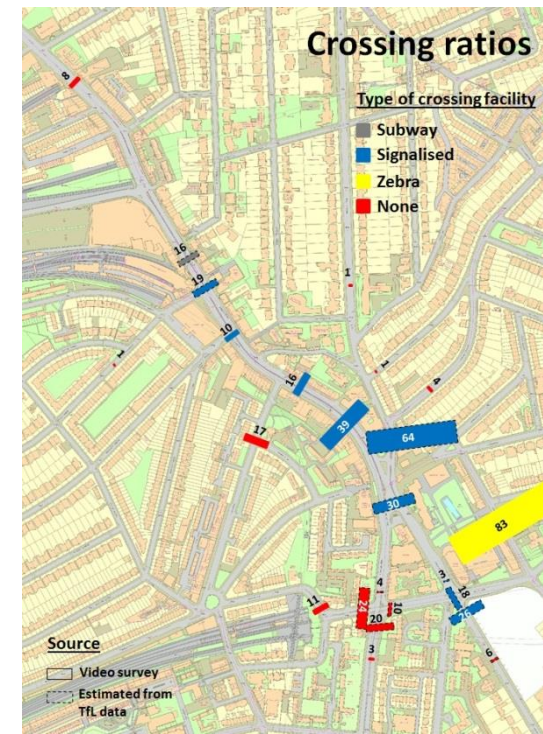


Video surveys

- 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



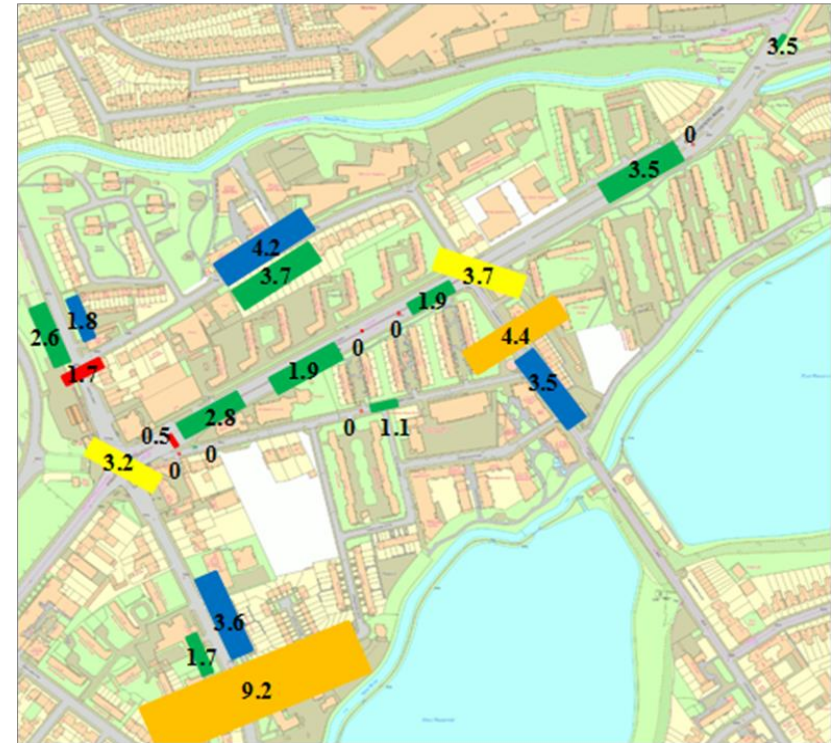
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Video surveys



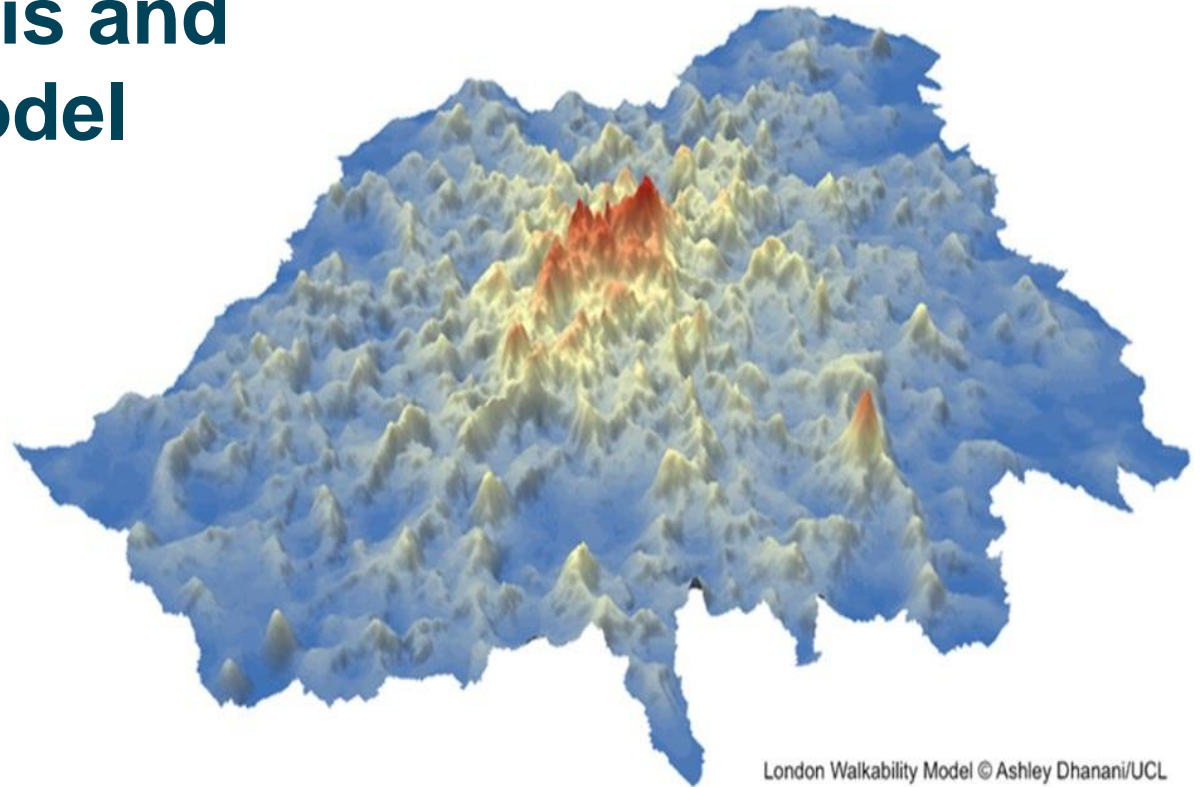
% OF MOBILITY-IMPAIRED



- Walk along pavement
- Walk along pavement, crossing side streets
- Signalized crossing
- Zebra
- Informal crossing

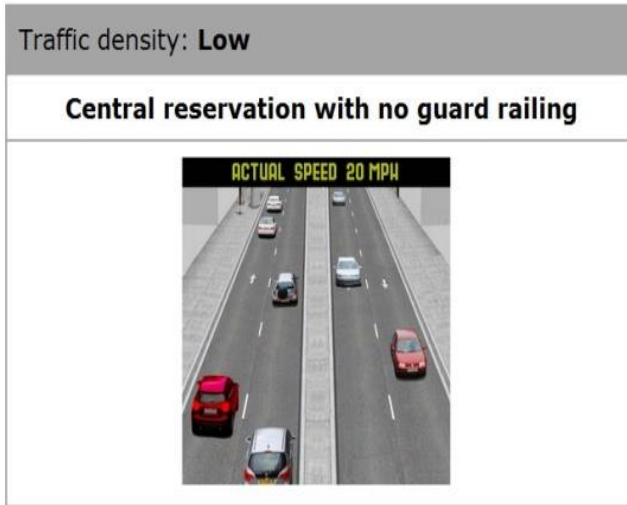


Spatial analysis and walkability model



- **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

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

Option A	Option B
Cross at this point Saving 80p off your one-way ticket cost	Do not cross the road and pay the higher ticket cost

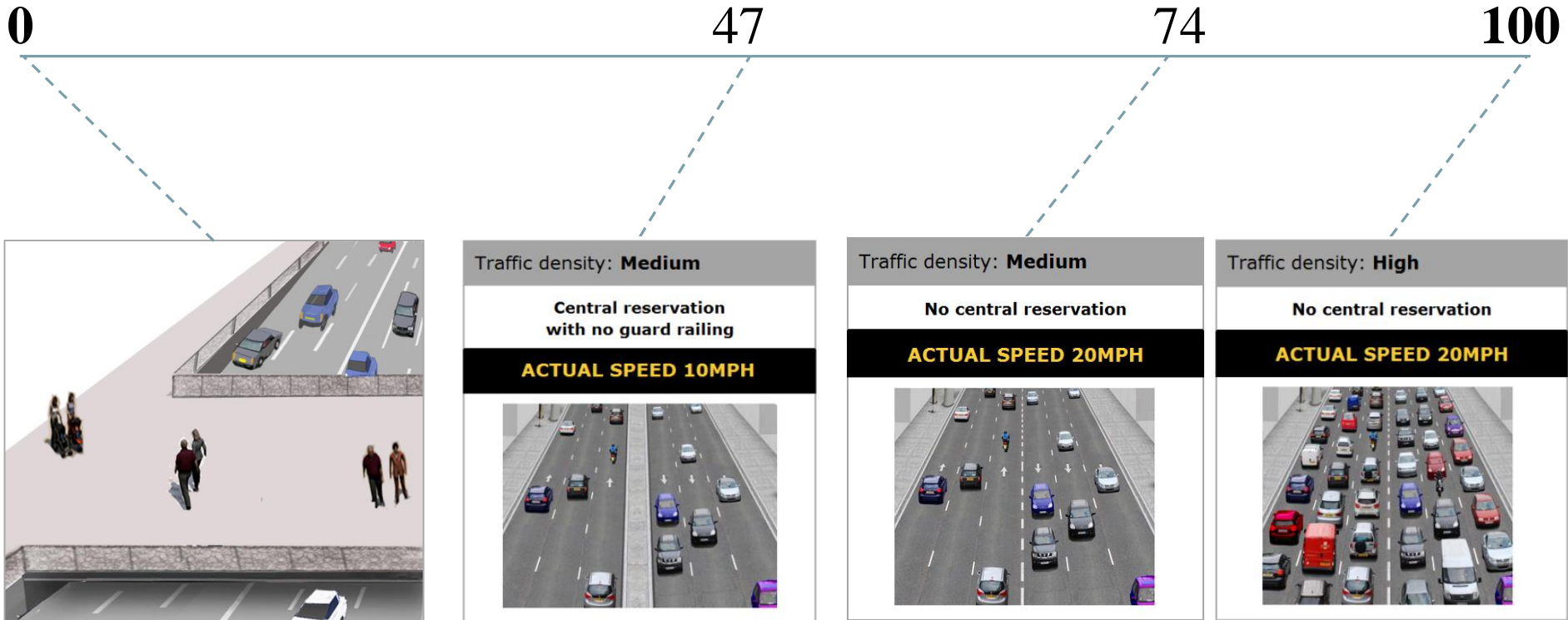
Option A

Option B

- 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



Street audit



PERS						
Link Assessment Form					Page 1 of 2	
Link Name:						
Location:						
Reviewer:				Time:		
Parameter	Checklist Factors	Checklist			Overall Score -3 to +3	Design Comments
		+ve	+/-	-ve		
Effective width	Width for pedestrian flow					
	Wheelchair accessibility					
	All sections acceptable width					
	Separation from traffic					
	Allowance for obstructions					
	Pedestrian congestion					
Dropped kerbs	Located on desire lines					
	Adequate capacity					
	Level dropped/flush					
	Gradient of drop					
	Consistency					
Frequency of dropped kerbs						
Gradient	Severity					
	Steps/ramps					
	Rest points					
	Undulations					
	Appropriate handrails					
	Presence of crossfalls					
Overhead obstructions	Presence of obstructions					
	Location/alignment					
	Overhead obstructions					



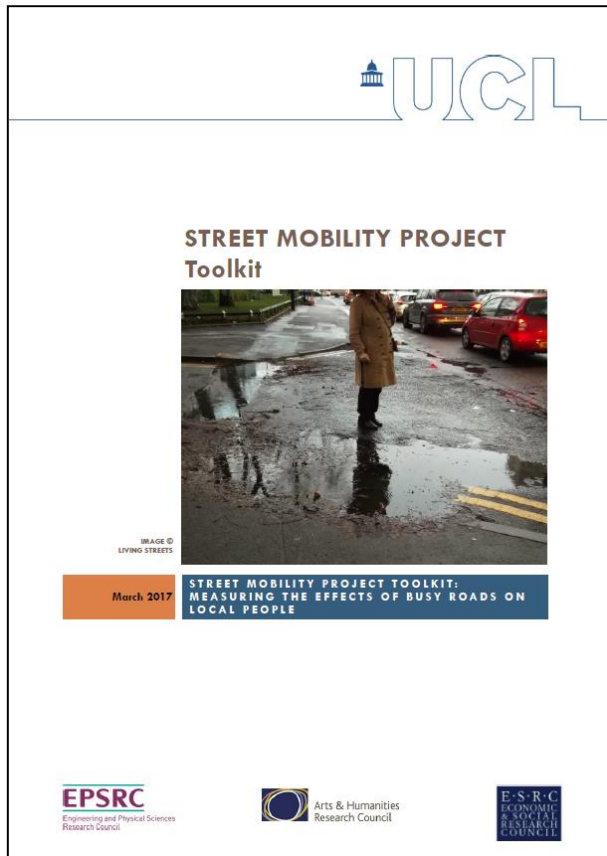
Space syntax

- 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

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