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Measuring the impact of community severance on local accessibility

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on behalf of the *Street Mobility and Network Accessibility* project team

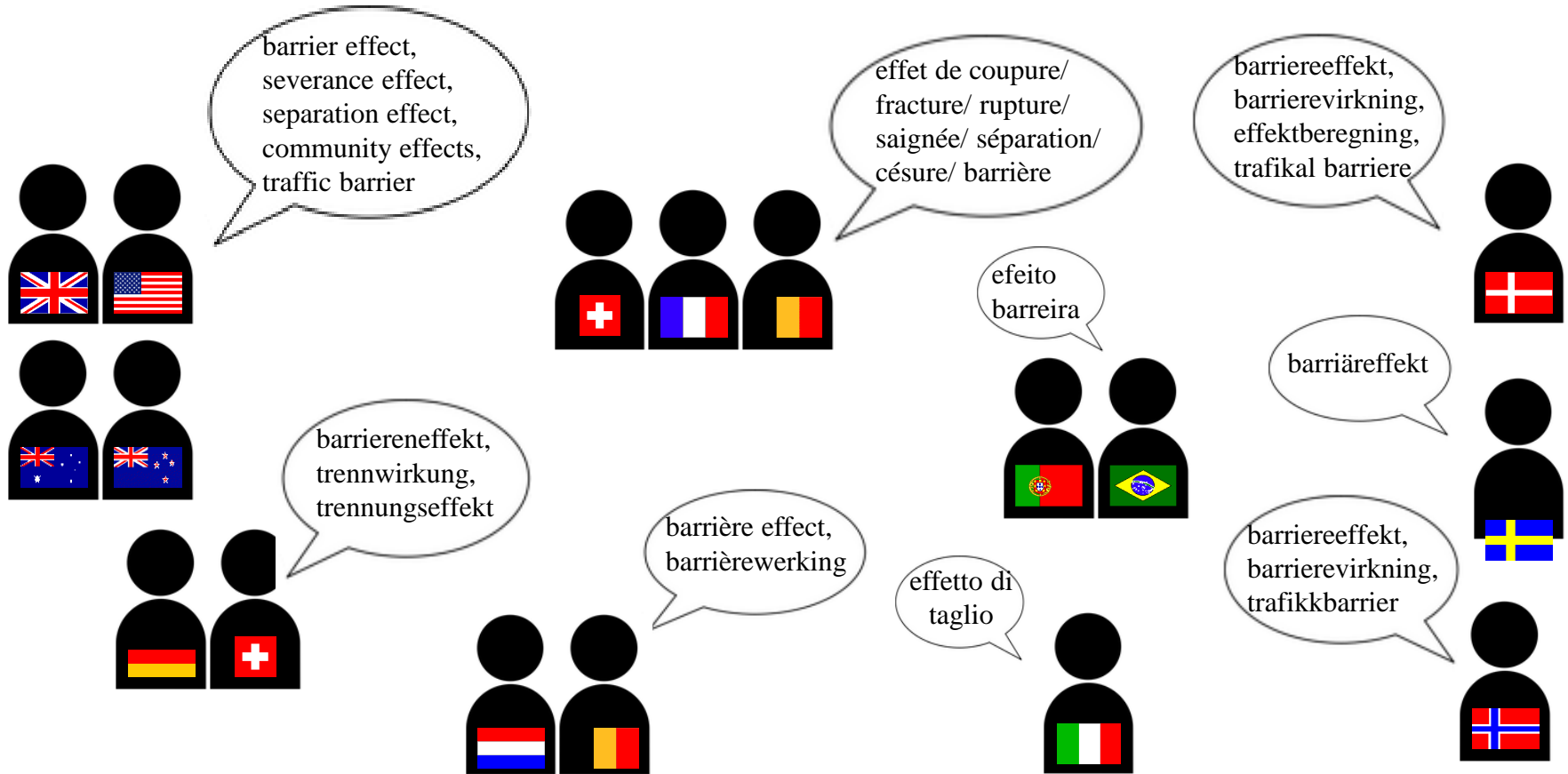
University College London, United Kingdom



What is community severance?



Are we speaking the same language?



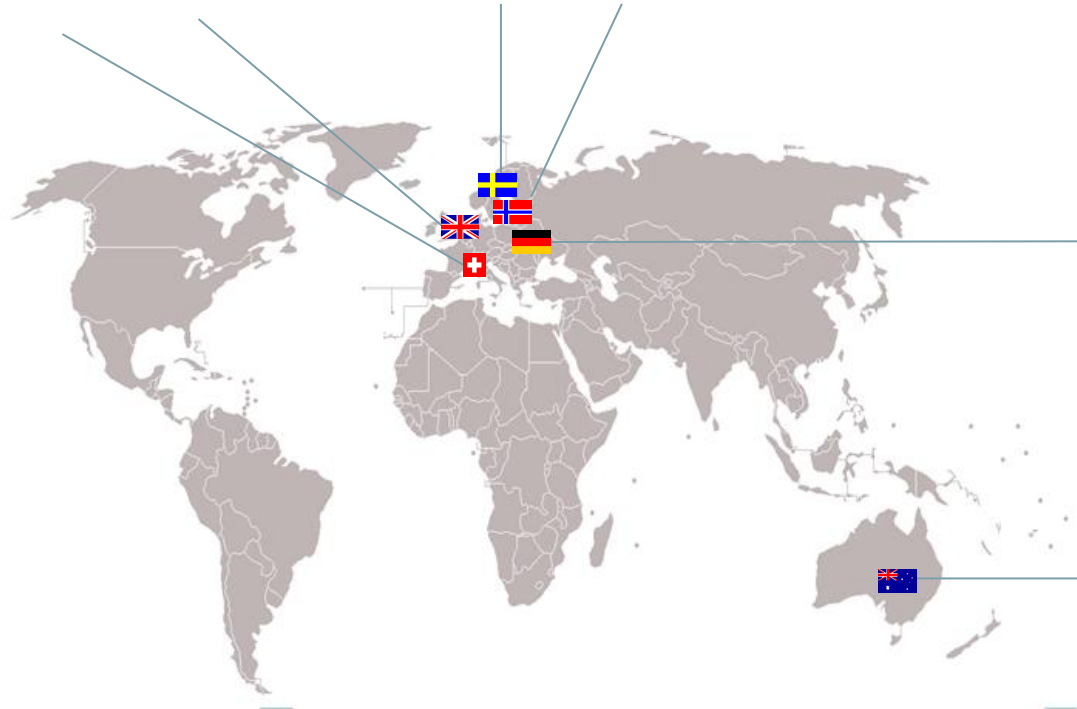
Little..

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

How is it 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

Why this is not enough?

- We need methods that are robust AND practical in order to understanding the nature, incidence and intensity of the problem
- ... and that can measure the specific effects on vulnerable groups such as the elderly and people with mobility restrictions

How could it be measured?



BARRIER



IMPACT



COST



How easy is it to cross the barrier?

Mapping
Traffic counts
Street audits



Characteristics of ...
roads
traffic
pavements
crossing facilities

vs.

Video surveys
On-street interviews
Participatory mapping



Pedestrian...
flows
routes
delay
crossing behaviour



What does the barrier prevent people from doing?

Walk around



WALKABILITY

Street connectivity
Pedsheds (walkable catchment areas)

Reach certain destinations



ACCESSIBILITY

Gravity measures
Walk opportunities index

Have a good walking experience



QUALITY

Amenity (air pollution, noise)
Safety (collision risk)
Perceptions



What is the cost?

STATED PREFERENCE

Surveys to determine people's choices among hypothetical alternatives for road and crossing conditions

WTP for burying road

Soguel (1995)	11.2-15.7
Grudemo et al (2002)	2.1-48 !
Grisolía et al (2015)	25.7

WTP for reducing speed 10mph

Garrod et al (2002)	0.1-0.8
Kelly et al (2011)	9.2 !

REVEALED PREFERENCE

Observe people's choices in markets that implicitly value severance (e.g. housing markets)

Value of road tunnel (per m2)

Lee and Sohn (2014)	1165 !
Kang and Cervero (2009)	85-135

Value of speed humps

Bretherton et al (2000)	0 !
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BEYOND PREFERENCES...

Link consequences of severance with market goods (e.g. health expenditures)

Value of suppressed walk per km

Saelensminde (2002)	0.5-0.6
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**Tweet your
conclusions**

Community Severance @StreetMobility · now

Community severance can be measured as a barrier, impact, or cost. Growing research, slow integration into policy
#TRANSED2015 #pedestrians



Thank you for your attention!



<http://www.ucl.ac.uk/street-mobility>



<https://streetmobility.wordpress.com>



@StreetMobility

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