



Urban transport and community severance: Linking research and policy to link people and places



Paulo Rui Anciaes^{a,*}, Sadie Boniface^b, Ashley Dhanani^c, Jennifer S. Mindell^b, Nora Groce^b

^a Centre for Transport Studies, University College London, Chadwick Building, Gower Street, London WC1E 6BT, UK

^b Department of Epidemiology and Public Health, University College, London, UK

^c The Bartlett School of Architecture, University College, London, UK

ARTICLE INFO

Article history:

Received 7 March 2016

Received in revised form

7 July 2016

Accepted 18 July 2016

Available online 7 August 2016

Keywords:

Community severance

Pedestrians

Cross-disciplinary research

Public policy

ABSTRACT

Urban transport infrastructure and motorised road traffic contribute to the physical or psychological separation of neighbourhoods, with possible effects on the health and wellbeing of local residents. This issue, known as "community severance", has been approached by researchers from a range of disciplines, which have different ways of constructing scientific knowledge. The objective of this paper is to build bridges between these different approaches and provide a basis for the integration of the issue into public policy. A framework for cross-disciplinary research on community severance is developed, built on the results of two workshops attended by researchers from different disciplines. This framework takes into consideration the chain of direct and indirect effects of transport infrastructure and motorised traffic on local communities and the complexity in the methods used for analysing and formulating solutions to the problem. The framework is then compared with the views of practitioners, based on discussions held in a third and final workshop. It was concluded that to better understand community severance, researchers should frame their work in relation to that of other disciplines and develop tools that reflect the diversity of local contexts and stakeholders, balancing complexity with applicability.

© 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The concept of community severance is used when transport infrastructure or motorised traffic acts as a physical or psychological barrier to the movement of pedestrians. The most extreme cases of community severance are caused by multi-lane roads with physical barriers preventing pedestrians from crossing (Fig. 1a). Even in the absence of these barriers, crossing may be difficult due to features of the road design such as median strips (Fig. 1b) or to high motorised traffic volumes or speeds (Fig. 1c). Severance may also occur in narrow roads with low traffic volumes if there is a lack of basic pedestrian infrastructure such as pedestrian pavements (Fig. 1d).

Despite the growing evidence of the potential impacts of this phenomenon on public health (Mindell and Karlsen, 2012; Cohen et al., 2014; Boniface et al., 2015; Mackett and Thoreau, 2015), there is a scarcity of tools to identify and measure the problem, limiting the scope of policy interventions (Anciaes et al., 2016). This may be because community severance has been approached by researchers in different disciplines, including public health, economics, geography, and urban studies. These researchers have used different concepts and methods to define and analyse the problem. The issue is also relevant to a range of stakeholders, including local communities, road users, and practitioners in different fields, including not only transport and health, but also urban planning and local economic and social policy. These stakeholders have different understandings of the problem and its solutions, and possibly even different opinions about whether this is a genuine problem that should be given priority.

The objective of this paper is to establish an approach for cross-disciplinary research on community severance. It is hoped that this approach will facilitate the dialogue between the different disciplines with an interest in the problem and promote the exchange of data and results among researchers and practitioners currently working separately in the development of policy solutions.

* Corresponding author.

E-mail address: p.anciaes@ucl.ac.uk (P.R. Anciaes).

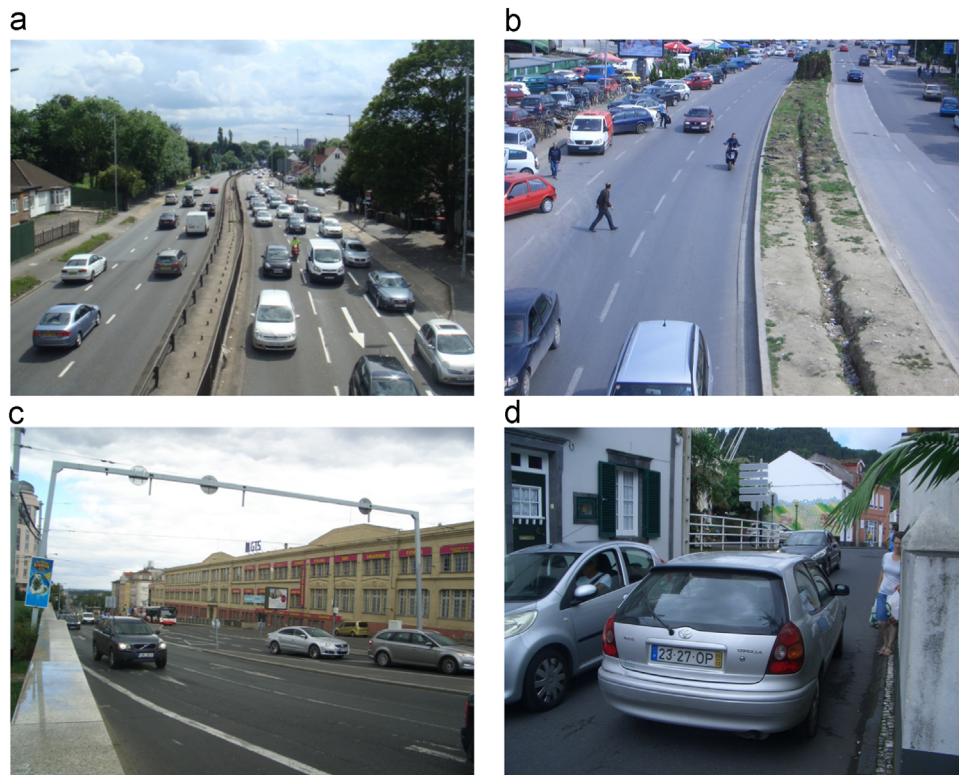


Fig. 1. Examples of severance: a) London, UK; b) Skopje, F.Y.R. of Macedonia; c) Prague, Czech Republic; d) Açores, Portugal.

The paper is the outcome of three workshops organised by the *Street Mobility and Network Accessibility* research project, which is developing tools for identifying and measuring community severance (<http://www.ucl.ac.uk/street-mobility>). The objective of the first two workshops was to compare the multiple understandings of severance used in the different academic disciplines and establish a common language among the members of the project. The third workshop included external advisors and representatives from partner organisations and aimed at discussing opinions and experiences related to actual policies dealing with severance as well as to identify common ground and key points of distinction between the approaches of researchers and practitioners.

The paper is structured as follows: **Section 2** identifies community severance as a problem in the interface between transport, health, and other fields, and as an object of cross-disciplinary research. **Section 3** reviews the issues commonly found in the production of cross-disciplinary research and in its integration into public policy. **Section 4** develops a framework for cross-disciplinary research on community severance. **Section 5** discusses the compatibility of this framework with public policy, taking into account issues raised by stakeholders on the problem. A final section summarizes the findings.

2. Community severance: transport, health, and more

The development of public policy to address community severance has been hampered by the fact that research on this topic has been produced by different disciplines working separately. The differences start with the terms used to define the issue, including variants such as community severance (UK DOT, 1983; Clark et al., 1991), barrier effect (Korner, 1979; Borges et al., 1983), social severance (Lee and Tagg, 1976; Tate, 1997), and community effects (Smith and Gurney, 1992). There is little consensus on the meaning of these terms, as evident in the review of Anciaes (2015), who collected sixty different definitions of community severance and related concepts used in the literature since 1963. Handy (2003) has also noted that severance can be understood either as the converse of connectivity (which is related to the physical characteristics of the local street network) or community cohesion (which takes into account the social implications of those physical characteristics).

Community severance has been regarded as an issue of transport policy because the transport system accounts for the majority of the barriers that separate urban neighbourhoods, including linear infrastructure such as roads and railways, and other large infrastructure such as airports, railway stations, and car parking areas (Héran, 2011). Severance is also a transport issue because it limits the mobility of users of non-motorised means of transport such as walking (Hine, 1996) and cycling (Emond and Handy, 2012). In some countries, the appraisal of major transport projects considers severance impacts (UK DfT, 2014), although these impacts are not usually quantified or valued in monetary terms (Anciaes et al., 2016). A few studies have also called for greater awareness of severance at the level of transport network planning and road design (Rajé, 2004).

There is growing acknowledgement that community severance is also a public health issue. Studies in several countries have shown that high levels of motorised traffic and high traffic speeds discourage walking (Owen et al., 2004) and limit social contacts between residents on opposite sides of the road (Appleyard and Lintell, 1972; Hart and Parkhurst, 2011). There is also growing evidence on the health impacts of insufficient physical activity (Reiner et al., 2013), reduced social networks (Holt-Lunstad et al., 2010), and poor accessibility to goods and services (Mackett and Thoreau, 2015). However, few researchers have been able to disentangle the multiple cause-

Download English Version:

<https://daneshyari.com/en/article/5117914>

Download Persian Version:

<https://daneshyari.com/article/5117914>

[Daneshyari.com](https://daneshyari.com)