Journal of Transport Geography 52 (2016) 155–158

Contents lists available at ScienceDirect

Journal of Transport Geography

journal homepage: www.elsevier.com/locate/jtrangeo

Book review

Urban mobility systems in a comparative perspective — A Research Field between Governance, Urban Form and Travel Behaviour
Transport, Climate Change and the City by Hickman, R., Banister, D., 2014. London Routledge. £90.00 (Hardback) ISBN: 9780415660020, £31.99 (Paperback) ISBN: 9780415660037
Megacity Mobility Culture: How Cities Move on in a Diverse World by Institute for Mobility Research (Ed.), 2013. Springer: Heidelberg u.a. £103.50 (hardback) ISBN 9783642347344, £82.50 (ebook) ISBN: 9783642347351
Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements 2013 by UN Habitat (Ed.), 2013. Hoboken: Taylor and Francis. £33.99 (Paperback) ISBN: 9780415723183, £0 (online)

1. Introduction: the opportunities and challenges of urban mobility

It is a widely accepted view that transport-related problems and challenges become especially apparent in urban contexts. This assessment is intuitively plausible insofar that the sheer mass of moving people and goods in these urban settings leads to problems such as congestion and pollution. The same is true for corresponding innovations and political responses. If they are successful, they are able to affect many people at once in short time and, therefore, attract a lot of attention in transport policy, planning and research.

Hence, not surprisingly the analysis of urban mobility is one of the most continuous and most popular strands of research within transport and mobility studies. Especially, the link between urban form and transport has been captured in numerous ways and consequently, is a central reference point in many studies including the three books under review. Thomson's (1977) typology ranging from full motorisation to traffic limitation as well as the concept of the three D's – density, diversity and design – introduced by Cervero and Kockelman (1997) are just two prominent concepts, which inspired the discussion on interdependences between land use and transport both, theoretically and empirically (Ewing and Cervero, 2010). This view has been partly challenged by studies identifying socioeconomic indicators such as income levels, work schedules, fuel prices and transit fares as critical for urban transport (Dargay et al., 2007; Wegener and Fürst, 1999; Santos et al., 2013, Vanoutrive, 2015). Another popular approach is the categorization of cities by the dominant mode of transport, by labelling them as transit metropolises (Cervero, 1998), cities of cyclists (Gössling, 2013) and car dependent cities (Newman and Kenworthy, 1989).

Work based on these rather objective and 'hard' characteristics is increasingly challenged by studies using rather 'soft' concepts such as attitudes (Anable, 2005) and mobility styles (Lanzendorf, 2002). In this view subjective characteristics such as preferences for a specific mode of transport or a particular neighbourhood type to live in are able to influence not only individual travel patterns but also whole urban mobility systems. The city-level may be affected, e.g. by the development of social norms and political representation. Studies attempting to capture these soft factors on a city or neighbourhood level sometimes use indicators such as the voting behaviour of an urban population (Rietveld and Daniel, 2004), the mode choice of people living in the same neighbourhood (Goetzke, 2008), the preferences for certain neighbourhood and transport characteristics (Cao et al., 2007) as well as the satisfaction with those items (Klinger et al., 2013; Scheiner and Holz-Rau, 2013).

Methodologically, most studies of urban mobility are based on a comparative approach, a historical analysis or a combination of both. Indicator-based city comparisons are among the most influential and most cited studies, often referring to urban form, infrastructural supply and socioeconomics (Newman and Kenworthy, 1989). However, comparative approaches are often criticised by referring to several methodological and epistemological pitfalls. Schwanen (2002) points out that especially the international comparability of cities might be limited since they relate to various tempo-spatial contexts, including different city definitions and data collection methods. Furthermore, quantitative city comparisons have been questioned insofar as they tend to overestimate the distinctiveness of cities by neglecting their interrelatedness, e.g. through travelling policies (McCann, 2011) as well as their embeddedness in political projects such as sustainability (Banister, 2008).

In my view, two aspects of urban mobility research need more discussion. First, there is an ongoing debate about the relative importance of factors influencing urban mobility. With respect to the mentioned dichotomy of objective and subjective indicators, some authors call for "more constraints, less preferences" (Wegener, 2013) in analysing and modelling urban transport, whereas others note that "every survey must have attitudinal questions, preferably many of them" (Patricia Mokhtarian, recorded by Susan Handy, quoted according to ITS, 2013). Second, there is still no consensus, regarding the likelihood of a transition towards more sustainable urban mobility systems and the efficiency of specific planning and policy tools. Just recently, common beliefs and expectation in favour of an implementation of more sustainable urban transport systems are challenged by more sceptical and differentiated views, concluding that "there is still a long way to go toward urban mobility that is genuinely environmentally sustainable" (Schwanen, 2015: 7105).

2. Moving towards sustainability? Evidence from research, policy and practice of urban mobility

All three books offer insights into an overwhelming variety of inspiring case studies of urban mobility by using innovative theoretical and methodological approaches. Given the heterogeneity of cities analysed, one focus of this review is the way in which this diversity is addressed and comparability is produced.

2.1. Perspective 1 — path dependent diversity of urban mobility systems

The volume *Megacity Mobility Culture — How Cities Move on in a Diverse World*, edited by the BMW-funded thinktank *Ifmo — Institute*

http://dx.doi.org/10.1016/j.jtrangeo.2016.03.001
0966-6923/© 2016 Elsevier Ltd. All rights reserved.

for Mobility Research, is based on the results of a two-year research programme including nine postdoctoral fellowships. The research project was integrative in many ways. First, its conceptual reference point is the holistic concept of urban mobility cultures (Götz and Deffner, 2009), which aims to combine the objective and subjective dimensions of urban mobility as introduced in the previous section. Furthermore, the book includes, both, comparative and historical as well as quantitative and qualitative analyses of urban mobility. The nine case studies are framed by a state-of-the-art article on urbanity and transport by Philipp Rode and a cluster analysis, based on the Millenium Cities Database for Sustainable Transport (Kenworthy and Laube, 2001), identifying six city groups each representing a specific *Megacity Mobility Culture* ranging from *Paratransit Cities* to *Auto Cities*. The framework is completed by two reflective chapters on the appropriateness of the mobility culture concept for the analysis of megacities (Chapter 13 and Epilogue). An impressive example of the benefits of combining a historical and a comparative perspective is the chapter on Beijing, illustrating its rapid transition from a *Non-Motorized City* to a *Traffic-Saturated City* and, prospectively, a *Transit City*. In this respect, the collection of papers captures both, the diversity of urban mobility patterns and the historical path-dependencies, e.g. caused by political framings (Berlin, Beijing) or practices of influential actors (Atlanta, Gauteng).

Furthermore, the volume demonstrates that the mobility culture approach inspires experimental and unconventional analyses of place-specific norms and collective routines. This creative approach is exemplified, e.g. by Swapna Ann Wilson's interpretation of the roadside culture in Ahmedabad, including the co-presence of age-old transport modes such as carts and bike-rickshaws and modern means of transport such as metro and BRT, as specific version of the shared space concept (p.67). Another example for a creative organization of urban transport far beyond e-ticketing and strict timetables is the complex system of hand signals used by taxi drivers in Gauteng (South Africa) (p. 118). Even if the integration of these soft factors is not (yet) done in a systematic and comprehensive manner, this collection of explorative case studies shows the enormous potential of integrative concepts such as urban mobility culture, which are there to bridge divides such as material-symbolic or agency-structure.

Last but not least, the case studies are convincing insofar that they are able to reveal the individual character of each megacity. Interestingly, in most of the cases, this is done not only by identifying homogenous structures within a city, an attribute cultural approaches are often criticised for (Mitchell, 1995), but by analysing specific tensions within urban mobility configurations. A typical contradiction is the unequal access to efficient and fast transport modes, e.g. along lines of wealth (Sao Paulo, Gauteng, Los Angeles) or race (Atlanta), often as a result of unfair political representation (impressively shown for Atlanta). Other paradoxes are the co-temporality of centralising and decentralising forces regarding city and transport planning in Berlin after the German re-unification. Similarly, Ivo Wengraf shows that the immense transport challenges London is facing are responded to using rather superficial interventions such as subsidising electric vehicles "without a change to either the ways of moving within the city or the ways of understanding those movements." (p. 207) This cleavage between ambition and reality seems to be characteristic for many cities, as also shown by the next book under review.

2.2. Perspective 2 — lessons to change the world from best practice case studies

The worldwide collection of best practices, arranged by UN Habitat (2013) with the support of well-known external consultants such as Robert Cervero and David Banister, follows the *5-year action agenda* set by the UN Secretary–General Ban Ki-moon in 2012 including sustainable urban mobility as a goal (vii). In pursuing this objective, the volume clearly represents a practice-oriented perspective by identifying critical challenges of urban transport such as congestion or unequal access to transport infrastructure and presenting successful projects and strategies from all over the world. The format is extremely reader-friendly and well-structured, e.g. by including various features such as marginal notes, text boxes and consistently designed figures. In this respect, this is an enormously rich and inspiring collection of numerous well-documented best practices for urban transport solutions. Again, the authors draw on examples from cities located in both, the Global South and the Global North, sometimes with surprising results, e.g. regarding social equality and transport: "In some developed countries, it may even be possible to learn from the experience of some developing countries, where the urban poor are supported by the existence of cheap (mostly informal) transport solutions." (p. 126). From my point of view, the book would have benefited from more of these reflections, e.g. a chapter problematizing the interdependencies and contradictions between both arenas.

The volume follows a classical structure in many ways: Chapter five on mobility and urban form is the self-declared centrepiece of this book (p. 13) by promoting access instead of growth as the central paradigm of urban mobility, aligned by chapters on the sustainable triad of economic, environmental and social objectives. Other key chapters deal with urban freight transport and the governance of urban transport. It is striking that the chapters are pervaded by the notion of a cleavage between ambition and reality of urban transport planning and a lack of public acceptability (e.g. p. 126, 150). I wonder, if a stronger emphasis on subjective dimensions of urban mobility, e.g. by including behaviour patterns and lifestyles could help to understand or even diminish this gap between claiming and implementing ambitious planning goals. This is supported by the call for a more holistic way of thinking in urban mobility planning including, for instance, transparent and accountable decision-making, continuous participation and a better understanding of regulatory and institutional frameworks (p. 193, 198). Nonetheless, so-called soft measures such as travel demand management or tailored awareness campaigns are rather underrepresented in the UN Habitat volume.

2.3. Perspective 3 – long way to go – how to reach sustainable urban transport?

The metropolitan case studies presented by Hickman and Banister (2014) as part of their well-established work on transport and sustainability are basically framed by two approaches, a political one and a methodological one.

From a political point of view the climate change mitigation debate is the central reference. The authors show in an impressive and convincing way, what the target to limit the global warming to 2 °C by 2050 actually means for the organization of urban mobility in cities worldwide (Chapter 1). According to Stern (2009) the average CO_2 emission must not exceed 2 tonnes per capita to reach this objective. Given the current level of 25% of all carbon emissions originate from the transport sector this means adaptations of transport-related CO_2-consumption ranging from a reduction of 95% in car-dependent cities such as Auckland (Chapter 7) to a maximum increase of 200% in cities with a currently low level of motorized transport such as Delhi (Chapter 5). This line of reasoning is especially illustrative, because it reveals the huge challenges at a local level showing that e.g. London is far from a sufficient reduction level even though quite restrictive measures such as the London congestion charge have been introduced (Chapter 3, p. 109). The manifold reasons for this mismatch between ambition and reality are discussed throughout the publication, e.g. suburbanisation processes, exemplified for Oxfordshire (Chapter 4) or the high amount of long-distance travel conducted especially by urban populations, for instance by low-cost carriers, which at least partly contributes to the carbon footprint of the city travellers live in (Chapter 3, p. 133).

Methodologically all five case studies are analysed through the lens of scenario technique and multi-criteria-analysis (MCA), which are

both thoughtfully and comprehensively introduced in Chapter 2. On the one hand, the authors address *the forecasting problem*, i.e. simple quantitative extrapolations following a *predict and provide* paradigm are often not able to capture policy change and other disruptions of the predicted trend (Marsden and Docherty, 2013). Therefore, they argue for scenario analysis, which envisages a broader spectrum of possible futures, often in a rather qualitative and visualising manner. However, Hickman and Banister acknowledge that in policy contexts, e.g. for legitimizing transport investments, some quantification is needed (p. 86–87). Consequently, they suggest to back-up scenarios with multi-criteria-analysis which they define as "a step forward from using a cost-benefit-analysis (CBA), where the impacts considered are often narrowly defined." (p. 87). In this respect, the approach, presented by Hickman and Banister, can be interpreted as a suggestion to bridge the quantitative–qualitative divide in transport research (Goetz et al., 2009).

This broad and differentiated view is exemplified by the five case studies, including carefully developed scenarios by identifying relevant uncertainties and drivers of (potential) change such as technological and behavioural dimension for London or the degree of migration as well as environmental awareness of the decision-makers for the booming Chinese city Jinan (Chapter 6). Furthermore, in line with MCA, normative scenarios include political intervention differentiated by several policy packages (see also Schwanen, 2015) aligned by their potential impact on carbon reducing, which allows policy-makers to foresee the consequences of their decisions.

In sum, Hickman's and Banister's approach is particularly helpful in terms of revealing the practical relevance and potential of certain policy measures. Interdependencies of different policy packages are still poorly understood, though, and not yet fully included in the presented scenarios (p. 134 for London). Furthermore, some of the presented scenarios are still dominated by infrastructural and pricing measures whereas soft instruments such as travel demand management are slightly underrepresented. These shortcomings, which the authors are well aware of (p. 134), could be an inspiring starting point for further research.

3. The global perspective — comparability of urban mobility systems

As mentioned, the selection of analysed cities is very diverse in all three books including megacities in developing countries as well as sprawled agglomerations in North America. Thus, given the criticism on conventional city comparisons (Ward, 2010), particular attention is paid to the way in which the authors produce comparability by linking the various case studies to each other. Hickman and Banister (2014) tie the different cities together by applying the scenario approach to each case study. This is persuasive insofar that it allows identifying trends and uncertainties of particular relevance for the city in question by maintaining the general methodological framework. Similarly, the logic of the case studies analysed by the postdocs invited by ifmo-Institute for Mobility Research (2013) is predefined by the underlying concept of urban mobility cultures. Whereas this rather general theoretical reference enables very different narratives, all case studies have in common that they follow a holistic understanding of urban mobility. On the contrary, the thematic chapters in UN Habitat (2013), even if linked by the paradigms of accessibility and sustainability, are presented in a rather disconnected manner. For instance, the question of whether the organization of urban mobility in developed countries should be regarded as role model or as deterrent example for cities in the Global South is not discussed thoroughly.

In sum, the very different approaches of comparative urban mobility studies are illustrative in terms of the potentials, challenges and drawbacks of their conceptual and methodological framings and will certainly inspire future work on urban mobility.

4. Changeability of urban mobility systems

In the first instance, it has to be noted that all three books under review follow a normative approach by addressing more or less explicitly the need for a transition towards sustainability. This clear positioning is generally appreciated since much transport research tends to neglect the overall picture and political dimension of urban mobility by focusing on modelling details.

However, this seems to be a very difficult and frustrating endeavour. Hickman and Banister point out the huge effort, which is necessary to at least not exceed the current level of global warming and environmental damage. Likewise, the authors of the UN Habitat book report a clear contradiction between ambition and reality of sustainable mobility in many subareas of urban transport planning. Subsequently, the contributors of the ifmo volume show that the development of a fair and sustainable transport system is often hindered by opposing interests, e.g. along lines of class and race, even in developed countries.

Additionally, the role of urban form is seen as critical in initiating more sustainable travel patterns throughout all three contributions, most prominently in the UN Habitat volume. The impact of spatial structures is increasingly debated, though. This is partly acknowledged, e.g. by Hickman and Banister when referring briefly to the concept of residential self-selection (p.39), which basically says that not urban form but residential choice and underlying preferences are crucial for determining everyday travel behaviour (van Wee, 2009). Nonetheless, other criticism of this "urban form euphoria of transportation research" (Scheiner and Holz-Rau, 2007: 487–488) are rather underrepresented. For instance, the question if a densification of the urban fabric attracts especially highly mobile lifestyle groups and therefore, "may foster rebound effects that offset or even outweigh the benefits of short distances by facilitating long-distance travel" (Holz-Rau et al., 2014: 503), e.g. for weekly business trips. This example illustrates that it is worth to analyse the behavioural dimension of urban mobility in more detail in order to understand if and how planning strategies will be accepted.

This is by no means to say that built environment and infrastructure supply do not matter for urban transport planning, but that these features are best understood as interrelated to the behaviour, perceptions and attitudes of a city's population. Therefore, the claim for holistic concepts in transport-related research (Curl and Davison, 2014) and education (Ferreira et al., 2013) is clearly justified. In this respect, the ifmo-Institute for Mobility Research (2013) volume is the most progressive from the three publications under review, since it aims to integrate structural and behavioural as well as material and symbolic components of urban mobility, even if in a rather experimental and explorative way.

5. What's next? — Inspiring future work

The three books discuss the opportunities for and particularly the problems and challenges with urban mobility worldwide. They identify trajectories, lock-ins and breakthroughs on the way to a more sustainable future. In doing so, however, objective indicators such as urban form and socioeconomics are still dominating the analysis and evaluation of urban transport systems. In this regard, the three publications inspire a more holistic view on urban transport, which takes the preferences and behaviour patterns of a city's inhabitants more into account. This could be done not only in an explorative way, but also with a systematic, maybe even quantitative and continuous approach. Whereas in other research fields such as economics, surveys based on subjective perceptions and evaluations are well established (see Ifo, 2015 for the Ifo Business Climate Index based on subjective perceptions of entrepreneurs), in transport studies this kind of assessment exists only for specific modes of transport such as the ADFC cycling index (ADFC, 2014) or the public transport barometer (TNS Infratest, 2015). A systematic assessment of the overall "urban mobility climate" or "urban mobility culture" in various international cities is, to my best knowledge, still required.

From the perspective of policy and practice this corresponds with the need for more people-centred planning strategies such as travel demand management (Enoch, 2012). Even if not at the centre of the analyses, this kind of soft planning tools is considered as relevant in the books under review (e.g. Hickman and Banister, 2014: 131–132, UN Habitat, 2013:193). Taken as a starting point this could inspire a systematic and comparative study of travel demand management approaches in cities around the globe.

Additionally, on a conceptual level we do not yet fully understand how the subjective and individual elements interact with more objective and material components of urban mobility (Klinger et al., 2013; Scheiner and Holz-Rau, 2007). We also know only little on how transitions of urban transport systems and the diffusion of innovation generally work (Geels, 2002). Therefore, attempts of theorizing urban mobility in a holistic and long-term perspective need to be continued and deepened.

Last but not least, the books under review illustrate that global trends and overarching objectives such as urbanization or sustainable development may lead to very different consequences, given the specific local circumstances. However, the interrelatedness of cities has been neglected so far. Aspects such as the successful or failed inter-city transfer of transport policies (McCann, 2011) or the (un)suitability of particular cities as role models for others are worth scrutinizing in more detail in future studies of urban mobility. In sum, the reviewed publications are rich, thoughtful and comprehensive collections of urban mobility case studies, which combine innovative theoretical concepts, creative methods and a clear commitment to sustainable urban mobility. They are inspiring in the sense that they evoke numerous theoretical, empirical and methodological reflections on how to understand and change urban mobility now and in the future.

References

ADFC - Allgemeiner Deutscher Fahrradclub, 2014. ADFC-Fahrradklima-Test 2014: Die Ergebnisse. (Online: http://www.adfc.de/fahrradklima-test/ergebnisse/adfc-fahrradklima-test-2014—die-ergebnisse. Accessed 4 July 2015).

Anable, J., 2005. 'Complacent car addicts' or 'aspiring environmentalists'?: Identifying travel behavior segments using attitude theory. Transp. Policy 12 (1), 65–78. http://dx.doi.org/10.1016/j.tranpol.2004.11.004.

Banister, D., 2008. The sustainable mobility paradigm. Transp. Policy 15 (2), 73–80.

Cao, X., Mokhtarian, P.L., Handy, S.L., 2007. Do changes in neighborhood characteristics lead to changes in travel behavior? A structural equations modeling approach. Transportation 34 (5), 535–556. http://dx.doi.org/10.1007/s11116-007-9132-x.

Cervero, R., 1998. The Transit Metropolis: A Global Inquiry. Island Press, Washington D.C.

Cervero, R., Kockelman, K., 1997. Travel demand and the 3Ds: density, diversity, and design. Transp. Res. D 2 (3), 199–219. http://dx.doi.org/10.1016/S1361-9209(97)00009-6.

Curl, A., Davison, L., 2014. Transport geography: perspectives upon entering an accomplished research sub-discipline. J. Transp. Geogr. 38, 100–105. http://dx.doi.org/10.1016/j.jtrangeo.2014.05.018.

Dargay, J., Gately, D., Sommer, M., 2007. Vehicle ownership and income growth, worldwide: 1960-2030. Energy J. 28 (4), 143–170. http://dx.doi.org/10.5547/ISSN0195-6574-EJ-Vol28-No4-7.

ITS, 2013. UC Davis, Institute of Transportation Studies. Pat Mokhtarian: Mentor, TTP Leader, "Professor Emerita of UC Davis for Life" (Online: http://www.its.ucdavis.edu/slide-show/pat-mokhtarian-mentor-ttp-leader-professor-emerita-of-uc-davis-for-life/. Accessed 28 June 2015).

Enoch, M., 2012. Sustainable Transport, Mobility Management and Travel Plans. Ashgate, Aldershot.

Ewing, R., Cervero, R., 2010. Travel and the built environment: a meta-analysis. J. Am. Plan. Assoc. 76 (3), 265–294. http://dx.doi.org/10.1080/01944361003766766.

Ferreira, A.C., Marsden, G., Brömmelstroet, M.T., 2013. What curriculum for mobility and transport studies?: A critical exploration. Transp. Rev. 33 (5), 501–525. http://dx.doi.org/10.1080/01441647.2013.827266.

Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. Res. Policy 31 (8–9), 1257–1274. http://dx.doi.org/10.1016/S0048-7333(02)00062-8.

Goetz, A.R., Vowles, Timothy M., Tierney, S., 2009. Bridging the qualitative–quantitative divide in transport geography. Prof. Geogr. 61 (3), 323–335. http://dx.doi.org/10.1080/00330120902931960.

Goetzke, F., 2008. Effects in public transit use: evidence from a spatially autoregressive mode choice model for New York. Urban Stud. 45 (2), 407–417.

Gössling, S., 2013. Urban transport transitions: Copenhagen, City of cyclists. J. Transp. Geogr. 33, 196–206. http://dx.doi.org/10.1016/j.jtrangeo.2013.10.013.

Götz, K., Deffner, J., 2009. Eine neue Mobilitätskultur in der Stadt — praktische Schritte zur Veränderung. In: Urbane Mobilität (Ed.), BMVBS - Bundesministerium für Verkehr, Bau und Stadtentwicklung, Verkehrsforschung des Bundes für die kommunale Praxis. NW-Verlag, Bremerhaven, pp. 39–52.

Habitat, U.N. (Ed.), 2013. Planning and Design for Sustainable Urban Mobility: Global Report on Human Settlements 2013. Taylor and Francis, Hoboken.

Hickman, R., Banister, D., 2014. Transport, Climate Change and the City. Routledge, London.

Holz-Rau, C., Scheiner, J., Sicks, K., 2014. Travel distances in daily travel and long-distance travel: what role is played by urban form? Environ. Plan. A 46 (2), 488–507. http://dx.doi.org/10.1068/a4640.

ifmo-Institute for Mobility Research (Ed.), 2013. Megacity Mobility Culture: How Cities Move on in a Diverse World. Springer, Heidelberg u.a.

Ifo - Ifo Institute, Center for Economic Studies, CESifo GmbH, 2015m. Ifo Business Climate Index. (Online: http://www.cesifo-group.de/ifoHome/facts/Survey-Results/Business-Climate.html. Accessed 4 July 2015).

Kenworthy, J.R., Laube, F., 2001. The Millennium Cities Database for Sustainable Transport (CDROM Database). UITP - International Union of Public Transport, Brussels.

Klinger, T., Kenworthy, J.R., Lanzendorf, M., 2013. Dimensions of urban mobility cultures — a comparison of German cities. J. Transp. Geogr. 31, 18–29. http://dx.doi.org/10.1016/j.jtrangeo.2013.05.002.

Lanzendorf, M., 2002. Mobility styles and travel behavior: application of a lifestyle approach to leisure travel. Transp. Res. Rec. 1807, 163–173. http://dx.doi.org/10.3141/1807-20.

Marsden, G., Docherty, I., 2013. Insights on disruptions as opportunities for transport policy change. Transp. Res. A 51, 46–55. http://dx.doi.org/10.1016/j.tra.2013.03.004.

McCann, E., 2011. Urban policy mobilities and global circuits of knowledge: toward a research agenda. Ann. Assoc. Am. Geogr. 101 (1), 107–130. http://dx.doi.org/10.1080/00045608.2010.520219.

Mitchell, D., 1995. There's no such thing as culture: towards a reconceptualization of the idea of culture in geography. Trans. Inst. Br. Geogr. 20 (1), 102–166. http://dx.doi.org/10.2307/622727.

Newman, P., Kenworthy, J.R., 1989. Cities and Automobile Dependence: An International Sourcebook. Gower Publishing, Aldershot.

Rietveld, P., Daniel, V., 2004. Determinants of bicycle use: do municipal policies matter? Transp. Res. A 38 (7), 531–550. http://dx.doi.org/10.1016/j.tra.2004.05.003.

Santos, G., Maoh, H., Potoglou, D., von Brunn, T., 2013. Factors influencing modal split of commuting journeys in medium-size European cities. J. Transp. Geogr. 30, 127–137. http://dx.doi.org/10.1016/j.jtrangeo.2013.04.005.

Scheiner, J., Holz-Rau, C., 2007. Travel mode choice: affected by objective or subjective determinants? Transportation 34 (4), 487–511. http://dx.doi.org/10.1007/s11116-007-9112-1.

Scheiner, J., Holz-Rau, C., 2013. Changes in travel mode use after residential relocation: a contribution to mobility biographies. Transportation 40 (2), 431–458. http://dx.doi.org/10.1007/s11116-012-9417-6.

Schwanen, T., 2002. Urban Form and commuting behaviour: a cross-European perspective. Tijdschr. Econ. Soc. Geogr. 93 (3), 336–343. http://dx.doi.org/10.1111/1467-9663.00206.

Schwanen, T., 2015. The bumpy road toward low-energy urban mobility: case studies from two UK cities. Sustainability 7 (6), 7086–7111. http://dx.doi.org/10.3390/su7067086.

Stern, N., 2009. A Blueprint for a Safer Planet: How to Manage Climate Change and Create a New Era of Progress and Prosperity. Bodley Head, London.

Thomson, J.M., 1977. Great Cities and their Traffic. Penguin, Harmondsworth.

TNS Infratest, 2015. ÖPNV-Kundenbarometer 2015: München. (http://www.tns-infratest.com/Branchen-und-Maerkte/pdf/TNS-Infratest_OEPNV-Kundenbarometer-2015.pdf. Accessed 4 July 2015).

van Wee, B., 2009. Self-selection: a key to a better understanding of location choices, travel behaviour and transport externalities? Transp. Rev. 29 (3), 279–292. http://dx.doi.org/10.1080/01441640902752961.

Vanoutrive, T., 2015. The modal split of cities: a workplace-based mixed modelling perspective. Tijdschr. Econ. Soc. Geogr. 106 (5), 503–520. http://dx.doi.org/10.1111/tesg.12113.

Ward, K., 2010. Towards a relational comparative approach to the study of cities. Prog. Hum. Geogr. 34 (4), 471–487.

Wegener, M., 2013. The future of mobility in cities: challenges for urban modelling. Transp. Policy 29, 275–282.

Wegener, M., Fürst, F., 1999. Land-use transport interaction: State of the art. Transland. Integration of Transport and Land Use Planning: Work Package 2, Delivery D2a.: Dortmund http://dx.doi.org/10.1016/j.tranpol.2012.07.004.

Thomas Klinger
Goethe-University Frankfurt/Main, Department of Human Geography, Frankfurt/Main, Germany
E-mail address: klinger@geo.uni-frankfurt.de.