OECD. (1994). Congestion Control and Demand Management . Paris

OECD. (1996). Towards Sustainable Transportation. Vancouver: The Vancouver Conference

Tumlin, J. (2012). Sustainable Transportation Planning: Tools for Creating Vibrant, Healthy, and Resilient Communities. New Jersey: Wiley.

Turkish Statistical Institute. (2012). Traffic Accident Statistics: Road 2011. Ankara: Turkish Statistical Institute Press.

Wee, B. V. (2007). Environmental Effects of Urban Traffic. In T. Garling, & L. Steg (Eds.), Threats from Car Traffic to the Quality of Urban Life: Problems, Causes, and Solutions (pp. 11-33). Amsterdam: Elsevier

ID 1573 | MOVING TO ACCESS IN TRANSPORT PLANNING: IDENTIFYING BARRIERS, DESIGNING STRATEGIES

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1 INTRODUCTION: THE ACCESSIBILITY APPROACH

Accessibility is a well-established concept in planning research. It measures the ease of reaching destinations or activities, or the potential for interaction (Hansen, 1959). In very general terms, accessibility can be defined as the level of ability to successfully reach a certain object, place, event, or person. It is a key concept for understanding the social and economic life of cities in particular and societies in general.

The purpose of this paper is to inform the 'accessibility approach' to transport policy, planning, and investment by means of critically analysing its implementation barriers in professional circles and how to overcome them. We argue that it is necessary to focus less on technological issues such as what are the best instruments and decision-making tools to promote the accessibility approach. There is now sufficient knowledge about that (Papa et al. 2016). Now, the priority is to identify the institutional, organisational and cultural barriers to this approach.

Mobility and transport networks can facilitate accessibility, but only to a certain extent. Defining accessibility as what is granted by mobility is a reductionism. In our view, mobility is in many cases a necessary condition for accessibility, but rarely is a sufficient one. Traditional transport planning has in numerous instances failed to realise this important nuance. As a result, traditional transport planning has frequently equated implementing measures aimed at increasing mobility to improvements in accessibility levels. That is not necessarily a very accurate way of understanding what happens. This is fully acknowledged by the accessibility planning approach. In fact, accessibility planning recognises that the absolute opposite to that might be closer to the truth: increasing mobility might represent less accessibility (Ferreira and Batey, 2007).

Conflicts between accessibility planning and the dominant transport planning culture have been a barrier to effective implementation of accessibility planning (Bertolini et al. 2005; Bertolini, 2012). This approach of 'mobility-first' planning and investment has largely failed to deliver on the broader urban goals relating to economic growth, social integration, and sustainable development. Conversely, implementing accessibility-based performance measures can allow regions to pursue more coordinated objectives around economic opportunity, social equity, well-being, and health.

Several reasons should encourage the application of the accessibility planning approach., as the potential benefits of using the accessibility approach in applied planning practice are massive. Among other benefits, it facilitates understanding with much greater accuracy how different social groups are served in different ways by the transport system and by public and private services. It also facilitates identifying with higher precision what prevents people from reaching certain places and develop or maintain certain connections. This happens because it offers valuable insights on matters as diverse as mobility and

transport, time budgets and schedules, nature and quality of services, financial and economic constraints, just to mention some possibilities. For further insights see, for example, Ferreira and Batey (2007).

Another reason is that the accessibility approach has the potential of bringing diverse activity sectors (e.g. transport and land use, economics and health care, education and logistics) together to agree on shared actions. This happens because the accessibility approach makes evident the interconnections between individual preferences and characteristics, geodemographic properties, nature and quality of services available, and mobility issues such as travel time savings, travel costs, and levels of service experienced in the transport network. This is not the case with the traditional transport planning approach as its focus is narrower and essentially concerned with mobility issues.

A benefit is also that the accessibility approach has the potential to create a common language among different stakeholders for discussing community conditions and priorities. In this way this approach offers a particularly constructive framework for action on agendas shared by transport authorities, citizens, service providers, technical experts, and land owners. It is also very constructive for creating communication bridges among people with different academic and technical backgrounds. This happens because its epistemological underpinnings are strongly linked with social inclusion theory and its theoretical basis is not mathematics, economics or engineering (which tend to be quite exclusive disciplinary areas), but social science in general and planning in particular.

Finally, another advantage is that the accessibility approach is abundantly equipped with appealing visualisation tools and techniques capable of depicting information in very clear ways. It can therefore facilitate decision-making processes by means of providing powerful visual inputs that integrate and give answers to a wide range of questions and policy issues.

However, a number of barriers exist to making the use of the accessibility approach mainstream. As a result, mobility-oriented planning continues to dominate the professional world. In this paper we aim at uncovering the barriers that planners face when trying to apply the accessibility approach in planning practice and on the pathways to overcome these barriers. This research aim is relevant and timely. Indeed, in the existing literature the main focus has been on the technical properties of accessibility measures and tools, with some exceptions (Curtis & Low, 2012; Geurs & Halden, 2015; Halden, 2014). We believe that accessibility planning research needs now to move on to study in greater detail the institutional barriers that prevent the implementation of the accessibility approach. There are strong reasons to believe that stakeholders involved in planning processes are prone to perceive the accessibility planning approach as something with massive potential, but only when this is introduced in the right institution, adopting the best approach, with the appropriate strategic support, for the appropriate goals, with the correct indicators and datasets, and with the correct timing.

The paper is structured as follows. Following this introduction, section 2 provides a brief description of the methodology used. Section 3 reports the results of the expert's survey, discussing the barriers to the implementation of the accessibility approach in planning practice and discusses pathways to mainstream accessibility planning. Some concluding remarks are drawn in section 4.

2 METHODOLOGY

In this study we applied a qualitative method loosely based on the Policy Delphi protocol (Linstone & Turoff, 2011). The purpose was to obtain insights about (i) the most critical issues in implementing accessibility planning in practice, and (ii) possible pathways to mainstream the accessibility approach. The method is based on the collection of rigorous ideas interviewing highly qualified experts who have deep understanding about the subject area under study.

We conducted a round of in-depth interviews with eighteen leading figures and pioneers of the accessibility approach working in land use planning and transport planning. These experts were chosen from an original group of most cited academic authors as defined during an initial literature review, who helped to identify other non-academic experts. The final group included experts from different disciplines (urban planning, mobility planning, finance) and organisations (academia, consultancies, government and NGOs) and geographical contexts (six from North America, ten from Europe, one from Australia, and one from South America). All these experts work in the field of accessibility planning in either public or private

bodies and are very well-known figures, if not internationally, at least in their own countries and professional worlds.

It is important to highlight that we included in the group of respondents budget professionals and transport economists because those professionals are rarely involved in studies dealing with accessibility planning. This was a conclusion derived after the first round of interviews conducted. We will come back to this point.

3 RESULTS

3.1 INSTITUTIONAL BARRIERS TO THE ACCESSIBILITY APPROACH

The results from the interviews suggest that implementation barriers can be clustered into the following main categories: i) the high costs of the accessibility approach; ii) the fragmented administrative and governmental frameworks; iii) pro-mobility established powers and traditions; iv) the influence of mainstream economics on transport planning; and v) the feeble influence of higher education and research organisations. These factors are likely to mutually reinforce each other.

With regard to the first point, it emerged from the interviews that accessibility analyses need much more extensive datasets than those required in traditional mobility-based modelling processes (typically focused just on simple information about origins, destinations, travel demand, and impedances) and this has a cost. For this reason, accessibility planning is correctly perceived as a more expensive and time-consuming process than traditional transport planning. It was argued that adopting accessibility planning processes comes across as a quite unattractive choice to many public or private organisations. Availability of financial resources is therefore likely to determine which local and national authorities can adopt accessibility planning tools.

According to the interviewed experts, lack of funds for the implementation of accessibility planning is closely linked to the organisation of local and governmental authorities. These are unlikely to provide financial support for schemes that are not aligned with policy priorities shared by several stakeholders, departments and agencies (Banister, 2008). Strategic governance for achieving accessibility requires a combination of coordinated actions across urban land use planning (e.g. housing policy), transportation planning and regulation, financing of investment and operations, and pricing and cost recovery. This is difficult to achieve as it corresponds to a higher level of institutional interaction and cultural complexity.

A third point raised by our experts was the difficulty to overcome the well-established transport planning tradition, strongly based on civil and mechanical engineering and economics. Indeed metrics used by the transport approach are easy to communicate and reflect short-term impacts of political choices. The accessibility approach measures distribution of land use and transport benefits that are not always in the decision maker's agenda. Furthermore, accessibility planning measures long term effects, which are in contrast with the short terms effects needed by politics which the mobility planning approach can more easily offer.

A four aspect is the influence of mainstream economic science applied to transport planning. Traditional economic analyses of transport investments, such as the Cost-Benefit Analysis method (henceforth CBA), primarily use mobility indicators like travel time savings to estimate economic value. While there are still a number of significant complexities not completely solved associated with the objective measurement of accessibility in a way that fits the data needs of CBAs. In other words, as state by one of our expert: 'the economic language used by transport planners has a universal appeal. Accessibility planning does not speak in terms of economic values or prosperity, while everyone wants to be prosperous'.

A final aspect raised from the experts we interviewed is the feeble motivations of higher education and research organizations to promote the accessibility agenda. Academic researchers are not necessarily doing much to promote a transition from mobility to accessibility thinking. According to some answers collected, this mostly happens because academics conducting research with more impact-oriented goals are not necessarily finding it very attractive to do research on accessibility.

3.2 PATHWAYS TO MAINSTREAM THE ACCESSIBILITY APPROACH

This section reports the answers to the second issue discussed in the interviews, which was focused on the possible pathways to mainstream accessibility planning. Those can be summarised in the following five points.

The first action is to clarify much better how accessibility gains and losses can be equated to financial gains and losses so that cost-benefit analyses and other econometric assessment tools can be effectively informed by the accessibility approach. To make accessibility planning mainstream it is important to make evident the financial gains resulting from the accessibility approach and who benefits from it. It seems likely that many accessibility planning experts resent the dominant econometric thinking logic that has become so deeply rooted in transport planning. As a result, they overreact to it by means of dismissing almost completely all sorts of financial and budgetary considerations. It is not acceptable that accessibility planning becomes unable to determine with at least some precision the value for money of alternatives even if this is at some stage considered a secondary policy objective. Some form of assessment of value for money of alternative solutions is therefore most needed.

The second needed action according to the group of experts is aimed at reducing the high costs of accessibility planning by supporting the development and dissemination of open access software and data. As stated in the previous section, one of the main limitations of accessibility planning is that it requires a considerable amount of data, but this action could potentially have massive implications in terms of communication between people and planners. For example, online collaboration (i.e. collaborative mapping projects), GIS, and data visualisation tools are leading to the fusion of the data collection, analysis, and representation steps of accessibility planning.

The third action consists of making accessibility part of the common sense language. The group of experts we interviewed stressed the importance of the ‘public demand’ of accessibility. In other words, it is crucial the role of everyday apps and tools used by the people, to make them aware of the concept and the benefits of accessibility, rather than the benefits of mobility. If there is a public demand for accessibility, then planners and decision makers would be forced to provide what citizen ask for.

The fourth action is in the hand of academics. This consist of developing a holistic understanding of accessibility. The interviewed experts agreed that a common framework to account for the diverse institutional processes that promote the accessibility agenda is a crucial conceptual point to be taken into consideration. This requires in the first place a holistic understanding of what accessibility is and what promotes or reduces it.

The fifth action is to identify and mobilise institutional, geographical, and community implementation niches. One of the experts stated that accessibility planning has much to offer to a wide variety of businesses and corporate powers and it might represent for these actors something as desirable as acquiring more clients or locating better places to invest.

The sixth action consists of increasing the accessibility appeal. Accessibility experts should be able to ‘sell’ accessibility when dealing with influential decision makers in the same way mobility experts ‘sell’ the outputs of their transport models.

4 CONCLUDING REMARKS

In cities and countries across the world, accessibility-oriented planners and practitioners are struggling to implement accessibility policies and programs. This paper started with the notion that technological barriers are not the key ones preventing the accessibility approach from becoming mainstream. The key barriers have instead an institutional nature, and those have been discussed in this paper. Transport, land use and budgets professional using the accessibility approach can bring about a new dimension in planning. In order to achieve a transition from the mobility approach to the accessibility approach a number of actions were collected All the actions presented in the section above correspond to very particular needs in terms of enhanced knowledge about how to proceed. We would like, however, to stress a specific research need in greater detail. A deeper understanding is needed about the extent to which local and national issues influence the topics addressed in this study. We limited our research to the identification of

general international and cross-institutional issues. Future research should explore the institutional barriers of accessibility planning in specific national and institutional frameworks.

A final remark to make before concluding is that the knowledge developed by the mobility approach should be seen as a step towards the accessibility approach. This is an evolutionary process. To plan accessibility necessarily requires a good level of mobility planning and so the accessibility approach includes the mobility approach and all its knowledge forms, infrastructures and technologies. The accessibility approach adds more aspects and dimensions than those exclusively concerned with mobility; it does not and it cannot exclude mobility as a concept or as a social and economic value. This point means that there is no sense in seeing these two approaches as alternatives. They are instead stages of evolution in transport planning that build upon each other and need each other to evolve.

ACKNOWLEDGMENTS

This work is part of the project 'Moving to Access' and was supported by the Brookings Institution and VREF.

BIBLIOGRAPHIC REFERENCES

Banister, D. (2008). The sustainable mobility paradigm. Transport Policy, 15, 73-80.

Bertolini, L. (2012). Integrating mobility and urban development agendas: a manifesto. disP-The Planning Review, 48(1), 16-26.

Bertolini, L., Le Clercq, F., & Kapoen, L. (2005). Sustainable accessibility: a conceptual framework to integrate transport and land use plan-making. Two test-applications in the Netherlands and a reflection on the way forward. Transport Policy, 12(3), 207-220.

Curtis, C., & Low, N. (2012). Institutional barriers to sustainable transport. Farnham: Ashgate Publishing.

Ferreira, A. and Batey, P. (2007). Re-thinking accessibility planning: A multi-layer conceptual framework and its policy implications. Town Planning Review, 78(4), pp. 429-458.

Geurs, K., & Halden, D. (2015). Accessibility: Theory and practice in the Netherlands and UK. In R. Hickman, D. Bonilla, M. Givoni, & D. Banister (Eds.), International Handbook on Transport and Development (pp. 459-475). Cheltenham: Edward Elgar Publishing.

Halden, D. (2014). Shaping the Future: Case studies in UK accessibility planning. Transportation Research Procedia, 1(1), 284-292.

Hansen, W. G. (1959). How Accessibility Shapes Land Use. Journal of the American Institute of Planners, 25, 73-76.

Linstone, H. A., & Turoff, M. (2011). Delphi: A brief look backward and forward. Technological forecasting and social change, 78(9), 1712-1719.

Litman, T. (2011). Evaluating accessibility for transportation planning. Victoria, BC: Victoria Transport Policy Institute.

Papa, E., Silva, C., te Brömmelstroet, M., & Hull, A. (2016). Accessibility instruments for planning practice: A review of European experiences. Journal of Tranport and Land Use, 9(3), 1-20.