The four knowledges of transport planning: Enacting a more communicative, trans-disciplinary policy and decision-making

Geoff Vigar

School of Architecture Planning & Landscape, University of Newcastle, Newcastle upon Tyne, UK

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ABSTRACT

There is widespread criticism of much transport planning practice for relying on particular, 'technical', knowledge forms characterized by instrumental, means-end rationality. At the same time politicians are criticized for taking 'political' decisions with not enough regard for the outcomes of such technical work. Increasingly attempts to capture the embodied knowledge and values of citizens are also brought into this contested terrain. But which knowledge forms should be significant in making policy and taking decisions; and how might they be brought together in political decision-making which is itself subject to its own rationality? This paper argues that the variety of knowledge forms in everyday transport planning processes should be more transparently articulated. Subsequent reflexion can help enhance the quality of transport planning processes, while such transparency bolsters the democratic legitimacy of the outputs of such processes. Such a more explicitly communicative, *trans-disciplinary* mode of governance would help to challenge the power of political rationality. This conclusion has implications for how transport planning as a discipline is enacted.

1. Introduction: the realities of transport planning[1]

Effective transport systems are an essential component of a sustainable, just and economically competitive territory. However what constitutes an effective system will always be contested and how one arrives at decisions and policies to bring such systems into being equally so. The discipline of transport planning has evolved to address this challenge through a number of ever more sophisticated methods. Arguably much effort in particular has focused on ex-ante appraisal methods to evaluate the possible outcomes and effects of schemes and strategies (Mackie and Worsley, 2013). But how strategy-making is actually conducted in practice, and the work that the techniques and practices of transport planning play therein, is under-researched (Gudmundsson, 2011). Where studies exist they suggest that decisions, policies and strategies[2] are often determined by hunch, ideology and the push-and-pull of political force as much as 'technical' evidence (Flyvbjerg, 1998; Gudmundsson, 2011; Hrelja et al., 2013). Into this complex arena comes greater demand for public input into policy and decision-making both from government itself and sometimes citizens. At the very least the latter manifests itself as a demand for greater transparency regarding how policy and decisions are arrived at.

This paper explores this terrain to suggest that the transport planning discipline needs to more *explicitly* address the ways that different forms of knowledge coexist and are brought together in planning processes which can be characterized as relational and communicative. Relational in that the outputs of transport policy and decision-making are strongly influenced by the relations between the principal actors in a given field; and communicative in that the rationality underpinning action is and should be determined by communications between them. A critical issue in this for democratically legitimate transport planning lies in who the actors are who contribute the 'knowledge' that determines policy direction.

Such a project allows for greater transparency with regard to the advice given to and used by politicians, and thus potentially greater trust in the outcomes. This argument is developed by first outlining the trajectory of transport planning practice, suggesting that practices therein have not adjusted to changes in either the wider governance landscape or to demands from those who seek more socially just and/or ecologically sustainable mobility futures (e.g. Banister, 2008). The paper then explores how transport planning processes might develop to generate more robust policy and decision-making and what challenges need to be addressed.

E-mail address: Geoff.Vigar@ncl.ac.uk.

[1] The paper draws primarily on the UK, and particularly the English, experience of transport planning, but the broad argument applies to many jurisdictions.

[2] For the rest of the paper, 'transport planning' is used as a generic term for policy and strategy-making with regard to transport but not micro-level operational planning where it is argued, after Næss and Strand (2012), micro-simulations can play a dominant role.

2. Critiquing technical-rational transport planning

The second half of the twentieth century saw an increasing sophistication in the methods and techniques associated with transport planning. Increased computer modelling capability, better information technology and improved educational standards all drove up the quality of inputs to planning processes. But, the methods and techniques were increasingly called in to question in terms of how well they were able to predict long-term futures and help inform policy-making processes (see Timms (2008); Næss and Strand (2012) for lively critiques). Many were associated with practices of 'predict and provide' whereby travel demands were predicted using ever more sophisticated models which were then provided for through increased supply (Owens, 1995). Where mature transport networks existed, 'predict and provide' as an idea was increasingly questioned. Significantly it took no account of the aims of other policy sectors, this at a time when policy integration was increasingly becoming recognized as an important governmental challenge (Te Brommelstreot and Bertolini, 2010).

As such, transport policy based on predict and provide was heavily path-dependent and increasingly disconnected from wider policy goals. Thus the 'predict and provide' approach was judged increasingly deficient *in its own terms*: by taking little account of the outcomes of planning decisions; as research showed that increases in supply released latent demand (e.g. Standing Advisory Committee on Trunk Road Assessment, SACTRA (1994); Downs, 2004); and, it led to unjust and unsustainable outcomes (Næss and Strand, 2012; Banister, 2008). Thus Goodwin (1997: 9) concluded that years of refining demand models led to the, "*inheritance of an analytical toolkit that is bright, impressive, of unchallengeable intellectual achievement, and wrong*".

Ideas of the 'new realism' (Goodwin et al., 1991), of 'predict and prevent' (Owens, 1995); and latterly the sustainable mobility paradigm (Banister, 2008) all sought to address some of these questions. But calls for greater attention to social justice and a wider politics of mobility often remained outside of this system which focused on a narrow economic competitiveness rationality and neo-classical techniques. Ideas of the smart city, big data and 'green' technological innovations focused on individual behaviors outside of wider determining social practices also have a strong potential to further cement existing social and ecological inequalities and injustices (Banister et al., 2011; Shove et al., 2012; Boussauw and Vanoutrive, 2017). Regardless of the societal challenges transport planning claims to address, Næss and Strand (2012) conclude that existing practices are incapable of guiding choices about whether to build particular infrastructures, or indeed to guide strategy, due to the fundamentally open nature of the system under scrutiny.

Further critiques of the technical-rational approach to policy-making come from both outside the transport planning discipline and within it. Ideas of rationality in policy-making were much criticized in the 1970s and 80s. Linear models whereby evidence would be turned into policy were countered both by political theory and by real-world evidence from inside local and central governments. Studies noted that policy was and should be a social construct in that what constitutes a 'problem', and the means used to address this problem, were a matter of political judgement. How policy was determined was explained through a number of models of: garbage cans (Cohen et al., 1972); policy discourses (Hajer, 1995); advocacy coalitions (Sabatier and JenKins-Smith, 1993); policy streams (Kingdon, 1984); and social learning (Hall, 1993). All were characterized by an emphasis on social relations, that for politicians and transport planners, "ways of seeing and knowing the world, and ways of acting in it, are…constituted in social relations with others", (Healey, 1997: 55–56). And this seeing the world was mutually constitutive of the discourses that underpinned a policy field, such as 'predict and provide', which then framed a given reality (Rein and Schon, 1993; Hajer, 1995) wherein facts, values, theories and interests were brought together by actors with limited

degrees of critical reflection (Vigar, 2002). The next section addresses these concerns by introducing the idea of future transport planning as a communicative trans-disciplinary challenge.

3. Transport planning as a communicative trans-disciplinary challenge

A debate informed by the above findings as to how policy-making actually occurs in practice accepts that models and apparently neutral techniques have embedded within them all sort of value judgements. Opening up the 'black boxes' of the models and debating such assumptions is one way of getting agreement about the parameters of the debate and the robustness of the models. Such a debate could then be situated alongside a whole range of other, 'situated' knowledge, such as the lived experience of a place or network and the emotional and affective dimensions being (im)mobile. Thus more communicative, open, learning-oriented approaches would include an opening up of specific tools for debate but also facilitate a more general sense of stakeholder involvement in the design of policy processes as well as policy development, choice and implementation (Willson, 2001; Willson et al., 2003; Vigar, 2006; Timms, 2008; Curtis and Scheuer, 2010; Murray, 2011; Hrelja et al., 2013).

Acknowledgment of the complexity of the issues and their management,[3] would however help to highlight some of the social and environmental elements that are poorly accounted for in much transport planning practice (e.g. Bullard et al., 2004; Preston and Rajé, 2007; Pucher et al., 2007). It would also require transport planners to move away from an impossible position of neutrality, toward an objective position that acknowledges one's own values and who and what might benefit and not benefit from planning attention.

For example, Castells (1996) conceptualizes environmental problems such as those arising from transport externalities, as ones of struggles over space and time. This arises most significantly in transport terms between spaces of flows and spaces of places; or between 'enclaves' and armatures' (Shane, 2005); or fundamentally the challenges and opportunities of movement and settlement (Mumford, 1966). Castells sees this as a battle between consideration of the network society's dominant capitalist processes (flows) and people's lived routines (spaces). This leads to conflicts over specific projects as well as transport flows generally as they expose debates between "*abstract priorities of technical or economic interests over actual experiences of actual uses by actual people*" (1996: 124). Much transport planning practice focuses on flows with little attention to capturing and valuing place-based issues and experiences, but it is the latter that come into sharp focus when transport schemes are revealed to the public. We need then to capture experiential knowledge and valuations of place and find a way of integrating them with the dominant forms of knowledge typically extant in transport planning processes. This in turn requires a large-scale abandonment of instrumental rationality at the level of agenda-setting in particular, toward a more open and communicative way of determining strategy and making decisions. This in turn suggests greater attention to the design of policy-making processes. Critical to such efforts is attention to, and potentially advocacy of, the voiceless in policy debates – often the old and the young; species and habitats - if sustainable mobility is to be a reality.

The contentious nature of much transport planning in an era of greater citizen activism and less trust in experts also suggest that planning is unlikely to succeed if conducted in a top-down, autocratic way. So, active engagement in policy development is necessary if

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[3] 'Management' is used here in contrast to the idea of 'solutions', to congestion etc. One does not meet the mobility demands of a city and its myriad entities in ways that do not have negative consequences. Thus, recognition that we are attempting to manage situations to achieve certain objectives would help in this regard. Sustainability for example is a process and not an end-state.