



Integrating social equity into urban transportation planning: A critical evaluation of equity objectives and measures in transportation plans in North America

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ABSTRACT

Urban transport policies are characterized by a wide range of impacts, and trade-offs and conflicts among these impacts. The task of integrating and reconciling these impacts poses challenges, because they are incommensurable, and they affect different groups differentially. Further, impacts such as those related to social equity are hard to define and measure. In this paper we address two inter-related questions: How is social equity conceptualized, operationalized, and prioritized relative to environmental and other objectives; and how might social equity be more effectively integrated in urban transportation plans in North America? We critically analyze how social equity is incorporated into transportation plans in 18 large North American metropolitan areas, in terms of the quality of the related objectives, how meaningfully their achievement is assessed through the choice of performance measures or indicators, and their prioritization relative to other objectives. We observe that social equity goals and objectives are in many cases not translated into clearly specified objectives, and appropriate measures for assessing their achievement in a meaningful, disaggregated manner are often lacking. At the same time, there are good examples of social equity objectives and measures in several plans. In general, there is a stronger focus on the local environment (and congestion reduction) than on social equity in the plans. We end the paper with a discussion related to considerations for generating objectives and measures for better integrating social equity into urban transportation plans.

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1. Introduction

Throughout most of the 20th century, transportation planning goals were almost entirely *mobility*-based, with a focus on congestion reduction and time savings for motorists, and safety. As the century progressed, social and environmental movements fundamentally affected how governments, agencies and the public perceived the role of transportation systems, thereby influencing urban transport policy. Energy crises and increased environmental awareness in the 1970s led to the focus on other transportation system impacts, including urban air pollution and fuel use, and community disruption. More recently, in response to concerns regarding climate change, and given the major share of transport in greenhouse gas (GHG) emissions (EPA, 2014), their reduction,

through the use of public transit and alternative transport fuels, has become an increasingly important consideration, even playing a major role in how transit agencies advertise themselves – see, for example, advertising campaigns in Montreal (STM, 2010).

Most current transportation plans explicitly present their vision within the context of “sustainability”. However, two issues arise in this regard. First, what exactly is meant by sustainability? And, second, what meaningful approach can be adopted to adequately operationalize this elusive concept? Most conceptions of sustainability focus on some version of what is often called the “3Es” (Environment, Economic, and Equity).² While rarely made explicit in planning documents themselves, the challenge of

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² While this “triple bottom line” thinking has become intrinsically linked to most conceptions of sustainability, some have criticized the inclusion of economic considerations into the definition at all. Brugman (1997) argues that what was originally almost entirely a framework of social and environmental concerns was “blended” into “a less rigorous concept of economic growth” (p. 59). While his argument is somewhat out of the scope of the current research, it does set an interesting tone to the rest of this analysis.

delicately balancing these often competing values has long been addressed in the plan evaluation and sustainable transportation literature (Andrews, 1997; Baer, 1997; Berke and Conroy, 2000; Black, Paez, and Suthanaya, 2002; Boschman and Kwan, 2008; Garnett and Taylor, 1999). Campbell (1996) and Walker (2008), among others, discuss how environmental, economic and social equity goals compete for attention from policy makers, in transportation planning decision-making. Litman (2007) decries narrow notions of sustainability that overlook interconnections among, and suggests useful approaches for reconciling, various economic, environmental, and social goals. Lehtonen (2004) makes the case that it is within the “environmental–social interface” that key decisions must be made in order to achieve any true sense of sustainability. In addition, he highlights assumptions inherent in the various paradigms of sustainability, as well as their strengths and weaknesses, and the conflicts between the paradigms. Most importantly, he highlights the fact that the choice of one paradigm as opposed to another will affect decision-making.³

Transportation outcomes include those that are “tangible”, such as reduced congestion and GHG emissions, improved air quality and safety, increased coverage and use of public transit, and increased cycling and walking. There are also less tangible outcomes related to issues of social equity or exclusion, as well as concepts such as walkability or livability. The former outcomes are easier to measure and to present to the public, and often have more political cachet than those focused on social equity. This can be problematic as more easily quantified goals can be – and are – prioritized at the expense of the “intangible” objectives (Handy, 2008). Indeed, as Dale and Newman (2009, p. 670) point out, compared to ecological and economic indicators, social sustainability indicators remain “frustratingly abstract”, to the extent that they exist at all. In this regard, note that The American Public Transit Association (APTA) assert, in their eight-page “Sustainability Commitment” (APTA, 2013), that “sustainability, preserving the environment, being socially responsible and maintaining economic viability, with an overall contribution to quality of life, is integral to what we do”, and encourage their members to commit to “continuous improvement on environmental, social and economic sustainability”. However, all eight of the performance indicators they list relate to environmental and resource use and waste minimization objectives; not even one relates to social equity. Further, of the approximately 40 “sustainable practices” listed, only one, calling for expanding programs for “populations with few transportation options, such as free passes for low-income school kids”, relates to social equity.

Transportation policies narrowly focused on mitigating energy use, air pollution and climate change, by way of, for example, fuel-efficient vehicles or alternative fuels, are likely to do little to alleviate social inequities, such as those related to poor accessibility for pedestrians and cyclists. These policies might even exacerbate such impacts, as in the case of highway infrastructure development to achieve these ends by increasing motor vehicle speeds and smoothen their flows. Even policies to increase (less polluting) transit ridership might have social equity implications. Krumholz and Forester (1990) highlighted such conflicts, by using examples of transit planning in Cleveland from the 1970s. More recently, Walker (2008) has drawn attention to the conflicting objectives that transit operators may face, in providing service that attracts new riders, versus striving to better serve current users. Both

environmental and economic goals tend to focus on attracting new riders, as replacing car trips has more emission-reducing and revenue-generating potential than improving service for current users. This dichotomy can manifest itself in many North American regions as municipalities prioritize suburban rail systems over improved inner-city bus lines (Bae and Mayeres, 2005). Suburban rail has the potential to reduce air pollutant and GHG emissions if it succeeds in causing a mode shift. However, the benefit to an inner-city resident with low accessibility to employment and other desired destinations due to poor or unreliable public transit is minimal – apart from universal gains in air quality enjoyed by all. Many market-driven solutions to limit car use (congestion pricing and parking policy, for example), arguably have disproportionate effects on low income groups, who will either be “priced out” of their preferred mode more quickly or will pay a larger share of money to use the same service. Likewise, in active transportation, not distinguishing between people who walk or cycle because their neighborhood is amenable to such activity and those who do simply because they lack access to a vehicle or other means of mobility might miss key issues of social equity. In addition, understanding who pays for and who benefits from transportation systems is equally important.

Astoundingly, recent work has challenged the inclusion of equity indicators in discussions of sustainability (Black, 2010).⁴ However, it is surely not unreasonable to measure and understand whether (and which) groups suffer more – or benefit more – as a result of transportation infrastructure decisions. Indeed, as Solow (1991) argues eloquently and persuasively in relation to sustainability, a focus on inter-generational equity often masks current inequities, be it local, regional, or international. The many trade-offs that exist among multiple policy impacts for multiple groups must be clearly understood by planners, transparently integrated into the planning process, and clearly communicated to decision makers and the public they serve.

2. Research framework and methodology

Our ultimate purpose in this paper is to explore how social equity considerations might more effectively be incorporated and operationalized in urban transportation planning. To this end, we first of all use a set of transportation plans in large metropolitan areas in the USA and Canada – which articulate long-range goals, objectives, and methods of defining and measuring progress toward them – to analyze how social equity has been considered relative to other concerns in urban transportation planning; critically assess the quality of the social equity objectives and related performance measures in the various plans; and on this basis, as well as by drawing on the literature related to multi-criteria decision-making (MCDM), which has been used in many policy contexts to clarify and structure multiple policy objectives and develop related performance measures (Keeney, 1988, 1992; Keeney and McDaniels, 1992, 1999), to discuss considerations for generating objectives and measures for more effectively incorporating and operationalizing social equity into urban transportation plans. Following are the research questions we address:

- How is social equity conceptualized, operationalized, and prioritized relative to environmental and other objectives in urban transportation plans in North America?

³ This could even be as a result of visual cues, i.e. are environmental, economic and social values presented as “pillars” or points on a triangle, or instead as overlapping – or concentric – circles? These distinctions could lead to important differences in how these values are conceptualized, balanced, and integrated. See also, for example, the work of Campbell (1996), Agyeman and Evans (2003), Feitelson (2002) and Baer (1997).

⁴ A full critique of this viewpoint is not within the scope of this work, but suffice it to say that intentionally ignoring issues of who benefits and suffers from transportation projects in the name of sustainability appears to be almost indefensible, apart from misconstruing sustainability.

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