



Civil rights guidance and equity analysis methods for regional transportation plans: a critical review of literature and practice



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ABSTRACT

Metropolitan planning organizations typically undertake an analysis of regional transportation plan equity to comply with federal anti-discrimination law, most prominently Title VI of the 1964 Civil Rights Act. In this critical review, we examine the law, regulatory guidance, academic research, and agency practice pertinent to equity analysis. We find that recommendations are extensive but generally lack specificity and are rarely enforceable. In the absence of detailed guidance, practice has become dominated by a single method that has foundations in the spatial analysis of environmental exposures and the neighborhood effects literature. We argue that this method is not appropriate for the analysis of transportation investment benefits, in part because target populations must be defined *a priori* based on demographic thresholds for areal units rather than on the basis of exposure. Further, it does not represent the travel behavior of Title VI-protected populations adequately, most notably people of color. Newer travel demand modeling paradigms are capable of sidestepping methodological problems, and legacy models can be adapted and improved. However, agencies generally have not shifted from traditional methods and planners do not view race as a variable relevant to travel behavior. By relying on an analytical technique that is not likely to reflect the travel behavior of people of color, planning agencies reduce the likelihood that racially disparate outcomes will be identified and mitigated. Meaningful transportation equity analyses must include an assessment of both current and near-term conditions and provide racially specific outcomes, while seeking to mitigate inequities through programming decisions.

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1. Introduction

Civil rights and transportation equity are historically inseparable. Ensuring that different population segments and communities equitably share the costs and benefits of transportation investments continues to be a major challenge facing transportation planning. In part, this is because costs and benefits can be quantified in many different ways and their equitable distribution is subject to interpretation. Assertions of inequitable modal investment distributions have long been voiced by transit users, labor unions, and transportation advocates. These issues are often litigated and highlight disparities in transit funding between systems predominantly used by relatively affluent, white, suburban users and the systems predominantly used by relatively poor, minority, urban users (Bullard, 2004; Golub et al., 2013; Grengs, 2002; Pucher, 1982). Research has also identified inequities related to accessibility and transit service, which differ according to neighborhood characteristics (Grengs, 2010; Wells and Thill, 2012). Additionally,

people of color and low-income communities are often physically separated by transportation infrastructure and subsequently burdened with its negative effects (Mohl, 2004; Sanchez et al., 2003; Self, 2003).

Federal law and executive agency guidance dating to Title VI of the Civil Rights Act of 1964, combined with transportation planning's increasingly broad purview in the wake of the Intermodal Surface Transportation Equity Act of 1991's "planning factors," continue to increase the visibility of equity issues in transportation. With substantial concentrations of people of color and low income within their jurisdictions, metropolitan planning organizations (MPOs) are well poised to address equity (Sanchez and Brenman, 2007). As recipients of federal funding, MPOs must demonstrate compliance with Title VI and other guidance designed to mitigate adverse impacts on protected populations, including low-income people, people of color, and transit-dependent individuals, among others. Title VI mandates nondiscrimination on the basis of race, color, and national origin in programs that receive federal funds. Regional transportation plan (RTP) compliance with at least the spirit of Title VI is typically demonstrated by the preparation of an "equity analysis" of the investment strategy embodied in the RTP. Yet despite the regular completion of such equity analyses at MPOs since the late 1990s, transportation outcomes still show

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disparities on the basis of race and class (see [Gobillon et al. \(2007\)](#) for a review).

In this critical review, we discuss transportation law, regulatory guidance, and MPO practice and draw upon our experiences providing stakeholder feedback on and attending public meetings for the Metropolitan Transportation Commission's (MTC) 2013 RTP update. The MTC is the MPO for the nine-county San Francisco Bay Area and has often been at the vanguard of modeling innovations, equity and otherwise; [Amekudzi and Meyer \(2006, 49\)](#) highlight the MTC as producing “one of the best examples” of a regional equity analysis. This review sheds new light on the disconnect between equity analysis and outcomes. We show that there are no standards governing equity analyses but a particular method has taken root that is not suitable for the study of spatially distributed transportation benefits. We argue that appropriately addressing race and civil rights in a regional equity analysis requires that planners revisit longstanding methodological approaches obtained from aggregate, four-step, travel-demand models. We propose substantive improvements motivated by prior work on accessibility and space, transportation case law, and public input received by the MTC throughout the 2000s. This review should be useful for regional planning agencies interested in improving the correspondence between their analyses of equity and environmental justice and the lived experience of protected populations within their jurisdictions.

2. Evidence on race and travel

Race has been linked to travel behavior and transportation performance outcomes. A vast literature has emerged to document the “spatial mismatch” between black workers and jobs in the U.S. originally posited by Kain in the late 1960s ([Ihlanfeldt and Sjoquist, 1998](#); [Kain, 1968](#)). The spatial mismatch hypothesis posits that blacks in central city locations experience inferior employment outcomes because of suburbanization and decentralization of jobs, lower rates of residential mobility, housing and labor market discrimination, and lower accessibility due to location choice and mode availability ([Blumenberg and Manville, 2004](#); [Grengs, 2010](#); [Parks, 2004](#); [Raphael, 1998](#); [Taylor and Ong, 1995](#)). Recent work has extended these findings to other people of color (see, e.g., [Stoll and Covington, 2012](#)). Transportation planning studies have also linked increasing concentrations of minorities to decreasing accessibility and lower levels of transit service ([Grengs, 2001](#); [Wells and Thill, 2012](#)). The ultimate result is generally inferior transportation outcomes and a higher incidence of poverty and unemployment for workers of color in central city areas ([Gobillon et al., 2007](#)).

Different measures of transportation performance have been used to quantify spatial mismatch, including commute time, distance, and speed. The literature suggests that using any of these measures in isolation or highly aggregating results is not appropriate; context is vitally important and travel-related responses to urban form differ by group ([Giuliano, 2000](#)). [Ihlanfeldt and Sjoquist \(1998\)](#) point out that residential location choice is likely endogenous with respect to commute time for whites only. This means that whites more readily trade off increasing commute time for lower per-unit housing costs. [Taylor and Ong \(1995\)](#) found that white commuters from predominantly white areas commuted farther and longer than blacks and Latinos in those areas, while white commuters from predominantly minority areas experienced shorter (distance and time) commutes than blacks and Latinos. A study of Detroit, Michigan, analyzed the commute times of black and white workers employed at the same central business district location ([Zax, 1990](#)). Those results showed that black workers had shorter commute times, but this was because

of segregation-related constraints placed on blacks' residential mobility and location choice rather than an indicator of convenience or accessibility. In general, the study found that white workers' commute times increased with income, while black workers' did not.

Spatial mismatch is a regional phenomenon; as the regional transportation planning and policy body, the MPO has a role to play in its mitigation. While some of the causes of spatial mismatch cannot be addressed by an MPO, like housing and labor market discrimination, others can, including the provision or encouragement of affordable housing and public transit in and near job centers that are matched to the skill and income levels of black workers. In order to develop effective strategies, a planning agency needs to spatially distinguish the information derived from their decision-making tools, including travel-demand models, and better link this information to race/ethnicity. Yet research on travel behavior rarely considers race/ethnicity as an independent variable ([Giuliano, 2003](#)). Several studies do show an independent effect of race/ethnicity, even when controlling for traditional influences on travel behavior including income, family structure, land use, and accessibility ([Chung et al., 2001](#); [Giuliano, 2000, 2003](#); [Johnston-Anumonwo, 2000](#); [Kawabata and Shen, 2007](#); [Kockelman, 1997](#); [Liu, 2000](#)).

In light of the spatial mismatch literature and evidence on the independent effect of race/ethnicity on travel behavior, the role of regional equity analysis becomes clear from a civil rights perspective: a regional equity analysis should be able to capture the extent to which racial dynamics operate in a given region, disproportionately affect people of color and other protected populations, and seek to mitigate them. The situation is complicated because existing law and regulatory guidance is not sufficiently prescriptive, vis-à-vis the findings of the literature summarized above, to ensure meaningful and actionable equity analyses.

3. Law and guidance for equity analysis

In principle, ample law and regulatory agency guidance exists to conduct an equity analysis of RTPs. In practice, however, specific recommendations and clear analysis requirements for MPOs are lacking. President Clinton's 1994 Executive Order 12898 (EO 12898) mandated that the achievement of environmental justice be made a part of every federal agency's mission and specifically identified low-income populations as a protected group. Environmental justice was to be achieved by “identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of . . . programs, policies, and activities on minority populations and low-income populations” ([Clinton, 1994, 7629](#)). The U.S. Department of Transportation (DOT) operationalized EO 12898 with an Environmental Justice Strategy in 1995 and Proposed and Final Environmental Justice Orders in 1995 and 1997, respectively ([USDOT, 1997](#)). While environmental justice was often addressed at the project level, Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) officials issued a joint memorandum in 1999 affirming that “while Title VI and EJ concerns have most often been raised during project development, it is important to recognize that the law also applies equally to the processes and products of planning” ([FHWA/FTA, 1999, 1](#)).

Guidance for planning agencies has generally been issued by the FTA. The Urban Mass Transportation Administration (now FTA) had issued Title VI-related guidance prior to the DOT orders, including guidance for MPOs ([UMTA, 1988](#)). FTA revised the UMTA guidance in 1998 with a new circular that increased specificity vis-à-vis MPOs ([FTA, 2007](#)). The circular prescribed that “MPOs should have an analytic basis in place for certifying compliance with Title

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