

UC Berkeley

Earlier Faculty Research

Title

Equity and Environmental Justice in Sustainable Transportation: Toward A Research Agenda

Permalink

<https://escholarship.org/uc/item/9607n3t9>

Author

Deakin, Elizabeth

Publication Date

2007



**Equity and Environmental Justice in
Sustainable Transportation: Toward a
Research Agenda**

Elizabeth Deakin

UCTC
No. 805

**The University of California
Transportation Center**

University of California
Berkeley, CA 94720

The University of California Transportation Center

The University of California Transportation Center (UCTC) is one of ten regional units mandated by Congress and established in Fall 1988 to support research, education, and training in surface transportation. The UC Center serves federal Region IX and is supported by matching grants from the U.S. Department of Transportation (Caltrans), and the University.

Based on the Berkeley Campus, UCTC draws upon existing capabilities and resources of the Institutes of Transportation Studies at Berkeley, Davis, Irvine, and Los Angeles; the Institute of Urban and

Regional Development at Berkeley; and several academic departments at the Berkeley, Davis, Irvine, and Los Angeles campuses. Faculty and students on other University of California campuses may participate in Center activities. Researchers at other universities within the region also have opportunities to collaborate with UC Faculty on selected studies.

UCTC's educational and research programs are focused on strategic planning for improving metropolitan accessibility, with emphasis on the special conditions in

Region IX. Particular attention is directed to strategies for using transportation as an instrument of economic development, while also accommodating to the region's persistent expansion and while maintaining and enhancing the quality of life there.

The Center distributes reports on its research in working papers, monographs, and in reprints of published articles. It also publishes *Access*, a magazine presenting summaries of selected studies. For a list of publications in print, write to the address below.



**University of California
Transportation Center**

2614 Dwight Way
Berkeley, CA 94704-1782
Tel: 510/642-4749
Fax: 510/643-5456

DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the Department of Transportation, University Transportation Centers Program, in the interest of information exchange. The U.S. Government assumes no liability for the contents or use thereof.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

- ther, J. and J. Renne (2003), 'Socioeconomics of Urban Travel: Evidence from the 2001 NHITS', *Transportation Quarterly*, **57** (3), 49–79.
- inc, J. and J. Wells (2004), 'Emerging European-Style Planning in the US: Transit-Oriented Development', *World Transport Policy and Practice*, **10** (2), 12–24.
- ade, J. and B. Schlag (2003), 'Acceptability of Urban Transport Pricing Strategies', *Transportation Research F*, **6** (1), 45–61.
- ence (2004), Special issue 'Towards A Hydrogen Economy', **305** (5686), 957–76, 13th August 2004.
- nsportation Research Board (2001), *Making Transit Work: Insight from Western Europe, Canada, and the United States*, Washington, DC: National Academy Press.
- nsportation Research Board (2002), *Surface Transportation Environmental Research – A Long Term Strategy*, SR268, Chair, Elizabeth Deakin, Washington, DC: National Academy Press, p. 236.
- C – Transportation Association of Canada (1993), *Briefing: A New Vision for Urban Transportation*, Ottawa, <http://www.tac-atc.ca/english/pdf/urban.pdf>.
- C – Transportation Association of Canada (1998), *Briefing: A Primer on Urban Transportation and Global Climate Change*, Ottawa, <http://www.tac-atc.ca/english/pdf/global.pdf>.
- C – Transportation Association of Canada (2004), *Briefing: Urban Transportation and Air Quality*, Ottawa, <http://www.tac-atc.ca/english/pdf/airquality.pdf>.
- nsport Canada (2004), *Sustainable Development Strategy, 2004–2006*, Ottawa, Canada <http://www.tc.gc.ca/programs/environment/sd/sds0406/menu.htm>.
- Department of Transportation (2004a), *Intermodal Surface Transportation Efficiency Act of 1991*, Washington, DC, 2004, <http://ntl.bts.gov/DOC/Siste.html>.
- Department of Transportation (2004b), *TEA-21: Moving Americans into the 21st Century*, Washington, DC, 2004, <http://www.fhwa.dot.gov/tea21/>.
- Department of Transportation (2004c), *Safe Routes to Schools*, National Highway Traffic Safety Administration, Washington, DC, 2004, <http://www.nhtsa.dot.gov/people/injury/pedhimot/bike/saferouteshtml/toc.html>.
- Department of Transportation, Federal Highway Administration (2004), *National Bicycling and Walking Study: 10-year Status Report*, October 2004, <http://www.fhwa.dot.gov/environment/bikeped/study/>.
- Department of Transportation, Federal Transit Administration (2003), *Statistical Summary of Grant Assistance Programs*, http://www.fta.dot.gov/transit_data_info/reports_publications/publications/statistical_summaries/15972_ENG_HTML.htm.
- Environmental Protection Agency (2004a), *Major Environmental Laws*, Washington, DC, 2004, <http://www.epa.gov/epahome/laws.htm>.
- Environmental Protection Agency (2004b), *Federal and California Exhaust and Evaporative Emission Standards for Light-Duty Vehicles and Light-Duty Trucks*, Washington, DC, 2004, <http://www.epa.gov/otaq/stds/ld.htm>.
- Environmental Protection Agency (2004c), *State Sustainability Plans: Global Warming*, Washington, DC, 2004, <http://yosemite.epa.gov/oar/globalwarming.nsf/contents/ActionsStateActionsPlans.html#Mitigation>.
- Federal Highway Administration (2003), *Highway Statistics 2003*, Washington, DC: U.S. Department of Transportation.
- k, C. (2000), Essential Psychology for Environmental Policy Making, *International Journal of Psychology*, **35** (2), 153–67.

3. Equity and Environmental Justice in Sustainable Transportation: Toward a Research Agenda¹

Elizabeth Deakin

3.1 INTRODUCTION

Equity and environmental justice issues have again become prominent topics of debate in transportation planning and research in the last ten years. Advocates for environmental justice – for short, EJ – have made themselves highly visible in many transportation planning and decision-making processes, in some cases seeking seats at the table and in other cases using protest, political pressure, and legal action to force change. Transportation practitioners have responded in many different ways, in some cases by forming partnerships for new programs serving low income and minority populations and in other cases resisting the perceived challenges to their expertise and authority. Researchers have been heavily involved, providing technical documentation for and against the varying claims of the parties and examining EJ activities as a topic for research.

In this chapter a theoretical and legal framework for the consideration of equity and EJ in transportation planning and decision-making is presented. The theoretical underpinnings of EJ are set forth, drawing upon theories of justice for the disadvantaged and theories on the right of members of the public to participate in governmental decisions. Then the development of EJ as a political movement in the United States is reviewed – with roots in civil rights law, protests against hazardous waste sites and urban freeways, and advocacy planning – and the parallel development of EJ as a legal and regulatory mandate is summarized. Following this is a discussion of how research, planning practice and community activism have drawn upon one another in addressing EJ issues.

Drawing upon the author's work with EJ in the San Francisco Bay Area, the author shows that the agendas of low income and minority communities are substantially different from those of the non-minority population, and

these differences raise important questions about the responsiveness of current transportation programs and decision processes to EJ communities. Finally, drawing upon the previous sections of the chapter, it is shown that EJ mandates and movements require the development of improved analytic and evaluation methods and a different approach to public involvement. The chapter concludes with a preliminary list of research needs, including research into procedures, methods and outcomes, as well as a brief discussion of the applicability of the findings to other developed and developing countries.

3.2 THEORIES OF JUSTICE

Planners are called upon to promote equity in their work, to assure fairness in their procedures and secure justice through their plans and programs. Equity, fairness, justice – what exactly do these terms mean in planning?

One definition of justice is to have a basis in fact and follow established rules and procedures to produce an impartial result – one with an absence of prejudice or favoritism. This was the late US Supreme Court Justice Benjamin Cardozo's definition of fairness and justice under the law.

Yet long tradition supports the idea that justice does not always mean treating everyone the same. For example, the law considers context, evaluating the circumstances in interpreting the facts. In addition, in Anglo-American jurisprudence equity developed as a formal body of doctrines and rules of procedure designed to supplement, and if necessary override, common law and statutes, in order to protect substantive, fundamental rights of individuals. The law of equity addresses those circumstances where the 'ordinary' rules, applied in a blind or narrowly rigid fashion, would produce a result that violates our sense of justice in another of its meanings – that a just result is a good one. Today both the law of equity and the rules of administrative procedure, directing how government should operate, recognize that due process may require the varying of rules and procedures to reflect acknowledged differences in the context and the specifics of the situation. Justice requires attention to both process and outcome, and it certainly requires attention to detail.

The noted philosopher John Rawls set forth conceptions of justice that offer a still broader conception of equity. Rawls based his theory of justice-as-fairness on two principles. Rawls' first principle is equality in the assignment of rights and duties. His second principle holds that social and economic inequalities are just only if they result in compensating benefits for everyone, and in particular for the least advantaged members of society (Rawls 1971).

While American law does not extend quite so far as Rawlsian justice, increasingly, the law does call for identification and mitigation of adverse impacts (e.g., the National Environmental Policy Act and its state equivalents, e.g., the California Environmental Quality Act) and for providing full and fair compensation for harm done to some in the process of providing benefits to many others (e.g., the Uniform Relocation Assistance and Real Property Acquisition Policies Act). Further, public planning and decision-making processes are increasingly aiming not just for mitigation of adverse effects but for their avoidance or amelioration. Indeed, in their study of large transportation projects, Altshuler and Luberoff found that one reason construction costs have been escalating is that there are growing political pressures to mitigate adverse social and environmental impacts and otherwise 'do no harm'. Hence the Rawlsian conception of benefits for everyone is increasingly growing and influencing both the formal law and the practical politics of transportation decision-making.

3.3 THEORIES OF PARTICIPATION

While public participation has long been mandated in transportation planning and decision-making, there recently has been a large upswing in both dissatisfaction with traditional, limited forms of participation such as public hearings and experimentation with new forms of participation and decision-making methods and processes. This in turn has led to new consideration of the justifications for participation in government planning and decision processes.

Campbell and Marshall (undated), building upon the typology developed by Stoker (1997), note that the varying rationales for participation draw upon a large body of social theories that deal with both the nature of the interests to be served and the process of decision-making. These include ideas of (1) instrumental participation, based on the right of the individual to pursue self-interest (see again Rawls 1971); (2) communitarian participation, based on community rights and duties associated with securing the collective well-being as well as the idea that individual self-development occurs through participation, along with a growing appreciation of the interests and aspirations of others (Etzioni 2004, Sandel 1982, Lowndes 1995); (3) the politics of presence, the argument that excluded or marginalized groups not only need to be heard but also represented in decision-making by people who share their identity and experiences (Sandercock 1998); and (4) deliberative democracy, which emphasizes the creation of institutions, contexts and practices that promote open dialogue and the emergence of shared solutions

through the exploration of multiple forms of knowledge and the development of new understandings (Healey 1997).²

All of these rationales – individual and collective rights, community responsibilities, the politics of presence and the process of deliberative democracy – are present in current discussions of public involvement in transportation planning and decisions today. They also are reflected in law and regulation. Since the 1960s, in successive highway bills, Congress has responded to community concerns about transportation impacts by expanding citizen participation and requiring increasingly detailed analyses of social, economic, and environmental effects. Both the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and its successor, the Transportation Equity Act for the 21st Century (TEA-21), mandate increased public participation and specifically call out the need to increase the involvement of ‘traditionally underrepresented groups’, including low income and minority populations.

3.4 ENVIRONMENTAL JUSTICE

Environmental Justice has grown out of two sets of issues – the civil rights concerns over disparate impacts of projects and discriminatory effects of government actions, and the longstanding demands for public participation in government decisions. The specific EJ terminology has roots in siting disputes of the 1980s. Research indicating that low income and minority communities disproportionately housed toxic waste disposal sites led to a series of citizen actions organized by groups that collectively have come to be known as the EJ movement. The term was first used in connection with the organized civil rights protest over the proposed location of a landfill for the disposal of PCB-contaminated soil in Warren County, North Carolina, amidst a poor, predominantly minority community.

EJ came into common parlance after the wide dissemination of the 1991 document, ‘Principles of Environmental Justice’, written at a congress of civil rights and environmental advocates (First National People of Color Environmental Leadership Seminar 1991). This document also expanded the basic concept from its previous narrow focus on the equity of siting practices and resulting adverse environmental effects to a broader framework of sustainable development, including the built as well as the natural environment.

EJ as it is commonly used today refers to equity in the distribution of both negative and positive impacts across racial, ethnic, and income groups, with environment broadly defined to include social, economic, and ecological effects. EJ advocates, along with other advocates for community

reinvestment, have turned their attention to the distribution of transportation benefits and costs and have begun to seek transportation investments that will increase social equity, improve access and mobility among disadvantaged populations, and help improve quality of life in low income and minority neighbourhoods. Their approaches have changed over the years, in part because of changing legal and regulatory requirements and interpretations.

The Legal Framework for Environmental Justice in the US

The principal legal basis for EJ in the US is Title VI of the Civil Rights Act of 1964. Title VI has two provisions: Section 601 bars racial and ethnic discrimination in any federally funded program:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Section 602 of Title VI authorizes federal agencies to promulgate rules and regulations implementing § 601. Section 602 states in part:

Each Federal department and agency which is empowered to extend Federal financial assistance to any program or activity, by way of grant, loan, or contract other than a contract of insurance or guaranty, is authorized and directed to effectuate the provisions of section [601] of this title with respect to such program or activity by issuing rules, regulations, or orders of general applicability which shall be consistent with achievement of the objectives of the statute authorizing the financial assistance in connection with which the action is taken ...

It is well established that private parties may bring suits under § 601; however, plaintiffs in § 601 suits must establish that the defendants intentionally discriminated against the plaintiffs. Because of the difficulty in proving intent, until recently, plaintiffs commonly filed suit under § 602, under which they needed to show only that the defendant’s actions had a discriminatory impact, a standard typically established with statistical information. In 2001, however, in the case *Alexander v. Sandoval*, the US Supreme Court ruled, 5–4, that Section 602 does not carry with it an implied right for private parties to bring action, overturning a long line of previous decisions.³ This effectively ended direct civil rights litigation over EJ, but left open complaints to federal agencies, whose responsibilities under Section 602 were undisturbed by the Court’s ruling. The agency has the duty to investigate and determine whether a Title VI violation has occurred; a party who remains dissatisfied following this action can sue under the

Administrative Procedure Act alleging that the agency's action (or inaction, such as a failure to intervene on behalf of the complaining party) is arbitrary, capricious, or not in accord with the facts.

The DOT and other federal agencies issued Title VI regulations in the 1970s, but these regulations were not utilized to address environmental concerns by the agencies or by concerned parties until the 1980s, and then with relatively little success. This changed in the mid-1990s when, with the growth of the EJ movement, the Clinton Administration issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.⁴ The Executive Order stated in part:

Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

The Executive Order further called for federal agencies to develop EJ strategies that (1) promote enforcement of health and environmental statutes in low-income and minority areas; (2) 'ensure greater public participation'; (3) improve research and data collection; and (4) 'identify differential patterns of consumption of natural resources among minority populations and low-income populations'.

In response to Executive Order 12898, the Department of Transportation in April 1997 issued a DOT Order that provides guidelines for Title VI compliance. Programs that may disparately impact racial and ethnic groups are permissible only if they can be justified by a 'substantial need for the program' and if the alternatives would have 'other adverse social, economic, environmental or human health impacts that are more severe' or if they would involve higher costs 'of extraordinary magnitude'. 'Practicable' alternatives will be considered involving an analysis of social, economic, and environmental effects of making changes.

The various federal agencies that comprise the US DOT shortly thereafter adopted their own regulations and policies reflecting these principles. Because most transportation programs provide federal aid to state, regional and local government agencies, a large portion of the DOT regulations apply to the programs of these other layers of government. For example, the Federal Highway Administration regulations call out specific responsibilities for state Departments of Transportation, Metropolitan Planning Organizations (MPOs), and transit operators. All agencies must take steps to assure that both the decision-making process and the distribution of benefits and burdens is fair; further, agencies are specifically directed to:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations.

Further, state DOTs must:

- Develop technical capability to assess benefits and adverse effects of transportation activities among different population groups.
- Develop appropriate procedures, goals and performance measures.
- Ensure that State Transportation Improvement Program (STIP) and National Environmental Protection Act (NEPA) activities, i.e., environmental reviews, satisfy the letter and intent of Title VI requirements and EJ principles.
- Ensure the meaningful participation of minority and low-income populations.
- Create and enhance intermodal systems and support projects that can improve the natural and human environments for low-income and minority communities.

MPOs must:

- Enhance analytical capabilities to ensure that the long-range transportation plan and the transportation improvement program (TIP) comply with Title VI.
- Identify residential, employment and transportation patterns of low-income and minority populations, identify and address needs and assure that benefits and burdens of transportation investments are fairly distributed.
- Improve public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making.

Transit operators must:

- Deliver equitable levels of service and benefits to minority and low-income populations, considering changes in transit facilities and services, new investments, and maintenance and vehicle replacement policies.

- Avoid, minimize or mitigate disproportionately high and adverse effects on minority and low-income populations.
- Enhance public involvement activities to identify and address the needs of minority and low-income populations in making transportation decisions.

Enforcement also is mandated. In particular, state DOTs must certify compliance with Title VI to get federal funds, and the federal government reviews the certification. The MPO planning process likewise must meet Title VI compliance and must also be certified through federal review. Complaints about any recipient of federal funds must be investigated by responsible federal agency.⁵

Community Action on EJ Issues

Community action on EJ has taken a variety of forms, from organizing and protest to litigation to the development of cooperative planning processes and new programs.

Litigation on transportation EJ issues, brought before the Supreme Court's *Alexander v. Sandoval* decision denying an implied private cause of action under Section 602 of the Civil Rights Act, had mixed results.⁶ Housing discrimination cases had been fairly successful, but transportation cases often failed on the grounds that the decisions made were reasonable under the circumstances. For example, in *Coalition of Concerned Citizens Against I-670 v. Damian*,⁷ the District Court held that routing an interstate through a black neighbourhood was permissible, despite its disproportionate adverse impact on a minority group, because other routes had been considered and rejected for legitimate reasons; hence the decision was rational and the process for deciding it had been even-handed. Similarly, in *Community for a Better North Philadelphia v. SEPTA*,⁸ plaintiffs protested the discriminatory allocation of transit funds for suburban rail extensions to the detriment of inner city transit services and users, but the court refused to intervene, finding that SEPTA had good reason for suburban expenditures – namely to reduce air pollution and congestion by inducing changes of mode. Cases brought after Executive Order 12898 seemed destined for greater success; in a lawsuit against the Los Angeles Metropolitan Transportation Authority,⁹ for example, advocates for bus riders – largely minorities – successfully challenged the transit authority's decisions to spend massive sums on a suburban-oriented light rail system while at the same time cutting bus services in the central city. The case was settled, with a consent decree requiring renewed expenditure on the bus system, fare reductions, reduction in overcrowding, new service to major centres of employment, education and health care throughout the county, and

a joint working group to oversee the implementation of the consent decree (which remains under court supervision).

Since *Alexander v. Sandoval* limited direct access to the courts, advocates for the poor and minority communities have increasingly used a combination of lobbying, complaints to federal agencies during certification processes, organizing, and persuasion to insist that inner city residents be heard and to obtain needed programs and projects. In the San Francisco Bay Area, complaints about public involvement practices were filed during federal certification of the MPO, leading the MPO to reform procedures and add new substantive programs directed toward low income and minority communities. In Chicago, planning advocacy has focused on securing new housing and improving services in inner city areas, especially around transit stations. In one instance, the activist group Centre for Neighbourhood Technology formed a coalition with suburban groups to stop rail line abandonment and get reinvestment in the inner city rail lines. The Clean Buses for Boston Coalition successfully lobbied the MBTA to buy clean buses and relocate bus maintenance facilities. A coalition of community groups and environmentalists in Oakland convinced Caltrans to relocate an earthquake-damaged elevated freeway rather than just rebuild it through the low income, minority neighbourhood. Still, these efforts have had the character of one-time interventions rather than a more fundamental change in process; while there may be mutual learning going on, it has not yet revealed itself in a changed way of doing things. Indeed, private discussions with state DOT officials and MPO staff reveal considerable frustration about the demands being placed on their organizations by EJ advocates, as well as confusion about the responsibility to respond to EJ concerns versus the demands of the majority.

Environmental Justice and Local Planning Practice

While EJ issues are relatively new to state DOTs and MPOs, they are increasingly embedded in the practices of local planning offices. Indeed, the idea that justice necessitates an examination of the distribution of gains and losses, and sometimes requires compensatory action, has been a powerful one for planners. Paul Davidoff, who is honoured by planners for his devotion to equity in planning, viewed the profession as a means of addressing a wide range of societal problems. He saw planning as a way to improve physical and economic conditions for all people, including those with the fewest resources at their command. The challenge for planning professionals, following this line of thinking, is to find ways to promote participatory democracy and positive social change.

Several highly-respected planning practitioners have taken up this challenge and devoted much of their professional lives to improving equity. A well-known example was the Cleveland planning department under the leadership of Norm Krumholz. The planning department directed its resources to reduce the disparities between rich and poor and to improve the circumstances of people suffering from poverty and racism.

Planning practice in most US cities offers a wealth of opportunities for taking up the challenge of social equity. For community development planners working in inner cities and older suburbs, preservation, renovation, redevelopment, and infill are being used together with community-based social and economic programs to foster neighbourhood and business district revitalization. Brownfields cleanup and redevelopment programs are being coordinated with jobs strategies and transportation investments. Increasingly these efforts are also being coordinated with programs to improve schools, reduce crime, beautify neighbourhoods, and provide a mix of housing types at a range of prices. Experimental programs such as the location efficient mortgage being tested by Fannie Mae are being combined with transportation innovations such as car sharing to offer significant new choices for inner city dwellers.

Suburban planners are increasingly raising social equity issues as well. A new round of initiatives to open up housing markets to allow greater opportunity and choice is being carried to the suburbs in several states, challenging trends toward the inward focus and homogeneity of privatized and gated communities. Sustainable development advocates are drawing the connections between the continued suburbanization of jobs and housing, the plight of the inner cities, and the loss of valued habitat and open space. Transportation planners are introducing traffic calming and pedestrian and bicycle improvements into suburbs that had been entirely oriented toward the automobile.

Infrastructure planners are looking not only at the specific impacts of particular projects, but at the choice of instruments for finance in evaluating equity. Increasingly, infrastructure planners are also stepping back from the specifics of projects to examine whether different alternatives – recycling a larger portion of the waste stream, for example, or offering commuters transit passes instead of parking – might produce more balanced, and fairer, results. In some cases these alternatives are generated by community members, who are seeking not only greater information about transportation and its impacts, but also want to bring about substantive changes in transportation policies, programs, and projects. In several recent cases, recognizing the value of transportation research and analysis in these endeavors, community groups have sought to reproduce and test the current transportation models and

evaluation measures on their own, and have produced original research (e.g., Almanza and Alvarez 1995, Mann et al. 1996).

In addition, there has been growing recognition that social justice in planning requires a democratization of the planning and decision processes, and that this can often be attained through cooperative approaches (Ostrom 1990). The success of such an approach depends, however, on building a capacity to participate, to identify and communicate one's own interests, and on developing sufficient mutual trust and other forms of social capital (including leadership) to keep the process going. The increased use of capacity building and consensus processes in a variety of planning applications (Innes 1992, 1998) is an important start toward broader participation and democracy, and hence greater social equity, in planning.

Research on Environmental Justice

Researchers have both contributed to and responded to the EJ movement and EJ-related activities in planning practice. For example, planning research on the distribution of environmental impacts and economic benefits and burdens has provided an important factual basis for reform efforts. Researchers have exposed discrimination in the provision of public services, from the paving of streets and installation of sewers to the delivery of quality education (see, e.g., Ratner 1968, Inman and Rubinfeld 1979, Haar and Fessler 1986).

Researchers have also sought to address unfairness in the allocation of public burdens, from the routing of highways through inner city neighbourhoods to the siting of landfills, incinerators and hazardous waste disposal sites (Lazarus 1993, Been 1993). Research on EJ in facilities siting offers a good example of the work yet to be done. Evidence has mounted from studies of incinerators, landfills, waste sites, high-pollution industries and large scale transportation facilities, almost all showing that neighbourhoods having these locally unwanted land uses – LULUs – tend to be poorer and to house a higher percentage of minorities than other neighbourhoods. It is less clear, however, whether this result is due to discriminatory siting practices or other forces that lead minorities and the poor to settle in impacted areas – racial and ethnic discrimination, a shortage of affordable housing, constraints on the availability of jobs, transportation and services (Been 1993).

Regardless of the causality, the result is the same: a disproportionate burden on people of colour and the poor. But because the appropriate remedy depends on the causes, there is much work for planners to do in investigating and where necessary reforming both siting procedures and the larger urban development processes that produce the LULUs in the first place.

Research on Emerging Forms of Participation and Planning Process

Research also has been underway on new forms of participation and emerging planning approaches. Here perhaps the most interesting and challenging issue has been the emergence of a line of research, drawing both from theory and from observations of practice, on consensus building and collaboration. As Innes (2003) points out, 'Consensus building has deep roots in practices and theories of interest-based bargaining, mediation and alternative dispute resolution, building on while transforming these for use in planning and policy making'. She goes on to report that research on consensus building has shown that it can produce shared understanding of issues and other players, capacity to work together, skills in dialogue, joint learning, innovative problem solving, shared heuristics for action, feasible and implementable actions, and can lead to participants' redefining themselves and their objectives; second order effects such as spin-off partnerships, new ideas for use in other situations, and new institutional forms of planning and action also are common (multiple citations omitted). However, criticisms of the consensus building approach have also begun to proliferate. This is especially the case among those who are concerned about reaching agreements in a timely fashion, but questions also are raised about the conditions under which consensus is achievable or even desirable.

Drawing upon the work of Susskind, McKernan and Thomas-Larmer 1999, Wondollock and Yaffee 2000 and Innes and Booher 1999, Innes argues that not all consensus-seeking activities are consensus building and concludes that a process that is consensus-building should be characterized by the following conditions:

- Inclusion of a full range of stakeholders.
- A task that is meaningful to the participants and that has promise of having a timely impact.
- Participants who set their own ground rules for behaviour, agenda setting, making decisions and many other topics.
- A process that begins with mutual understanding of interests [presenting and aiming to achieve their interests, broadly defined] and avoids positional bargaining [presenting their case in terms of specific solutions].
- A dialogue where all are heard and respected and equally able to participate.
- A self-organizing process unconstrained by conveners in its time or content and which permits the status quo and all assumptions to be questioned.
- Information which is accessible and fully shared among participants.

- An understanding that consensus [substantial, effective agreement] is only reached when all interests have been explored and every effort has been made to satisfy these concerns (Innes 2003; bracketed materials added).

Indeed, after studying several US participation processes that seek to involve and respond to multiple interests but fall short of Innes's conditions for consensus-building, Campbell and Marshall conclude that 'The results of group decision-making tend to favor non-controversial options which weakly satisfy all but are unlikely to challenge the status quo of prejudice and injustice', (see work of Bachrach and Baratz (1970) on the 'mobilization of bias'). Campbell and Marshall go on to quote Lowndes (1995):

... Direct democracy presents difficult questions in terms of the practice and principle of urban politics. How can the interests of minorities be protected in the face of vociferous majorities? How can long-term strategies be developed in the face of short-term demands? How can the needs of the city as a whole be balanced against interests of particular neighbourhoods, and the demands of one neighbourhood evaluated against another? How can elite manipulation of direct democracy devices be avoided, given the costs involved in organizing petitions and campaigns? ... While participation may form an important basis for citizenship, it is perhaps most valuable in the context of a strong and vibrant representative democracy - where accountable representatives have the authority to evaluate needs, balance demands, establish priorities and monitor the outcomes of the political system (Lowndes 1995: 169).

Much more research on participation and processes for decision making is clearly needed to address these issues.

Empirical Studies on Environmental Justice: Examples from the San Francisco Bay Area

In my work on EJ in the San Francisco Bay Area, a metropolitan region of 6.8 million inhabitants in a land area about half the size of the Netherlands, I have had the opportunity to gather information on EJ issues and perspectives both as a participant-observer and in more conventional research approaches. In 2002-2003 I was asked to serve as an intermediary between EJ groups and the MPO, the Metropolitan Transportation Commission. In this role I organized meetings with EJ group leaders, participated as a 'translator and interpreter' in meetings with MTC staff, and provided both groups with information on possible analysis methods, issues, and alternatives. Following up on that work as part of a research study, I conducted a series of semi-structured interviews with a total of 43 representatives of community-based organizations in low income and minority areas around the region.

As a participant-observer I was able to document the concerns, interests, understandings and misunderstandings of the EJ participants and the agency staff; as an interviewer I was able to examine transportation issues of concern and priorities in systematic detail. I then could compare the issues, concerns, and priorities of the EJ participants to those reported by agency officials, documented in regional surveys, and reflected in current transportation plans and programs.

Bay Area polls regularly suggest that congestion ranks first or second (depending on the state of the economy) among the 'problems' facing the region, with congestion on freeways and arterials a top issue. Regional plans and programs likewise emphasize congestion relief on freeways and development of alternatives to auto travel in congested corridors, especially for long trips. As part of the latter effort, proposals to build rail extensions to newly developing suburbs and to develop freeway-flier express bus services and high occupancy vehicle lanes on freeways are a high priority. Elected officials who sit on the board of the MPO and other multi-modal transportation agencies are especially concerned about the need to relieve congestion through a multi-pronged attack.

The Bay Area has been at or near attainment of air quality standards for several years now, so efforts to reduce regional pollution levels have been largely replaced by efforts to maintain the relatively clean air quality we now have. Instead, growth has become the top environmental concern at this time. The region's continual sprawl development is a recurrent issue – the topic has been debated about once a decade since the 1960s – and the current regional debate focuses on whether and how to promote 'smart growth' (e.g., transit-oriented development, infill, urban revitalization) in order to reduce loss of farmlands and open space and lower auto dependence. Both agency staff members and elected representatives saw this as the most contentious topic facing the region because of its potential for altering regional-local government relations, constraining local government prerogatives over development decisions, and altering private markets.

In contrast, not a single one of these issues or investment proposals was listed in the top five by any of the EJ groups or interview respondents. Instead, the issues they raised were focused on access issues, economics and pricing, and the adverse effects of transportation facilities, and the projects they sought addressed these issues.

Access issues were related to transit dependence and to the high cost of owning and operating an automobile. The lack of night time and weekend transit service was frequently mentioned as a problem for those who work during those periods; limited weekend service was also a problem for those who depend on transit because they often need to handle shopping and other personal business then. Related economic issues included, in particular, the

high cost of transportation, especially transit fares, and the lack of discounts for low income transit dependents, the lack of school buses and consequent high cost of using public transit for school transportation, and the high costs of insuring cars in inner-city neighbourhoods.

Asked about environmental concerns, EJ respondents listed concerns about facilities located in or near their residential neighbourhoods and the consequent noise, emissions and traffic problems the neighbourhoods experienced. Specific issues included truck traffic from ports and airports, traffic and parking spillover from park and ride lots, exposure to diesel and other particular pollutants due to truck traffic and diesel buses concentrated on neighbourhood streets, and speeding and shortcutting traffic on residential streets. Pedestrian accident rates were another major concern of the EJ respondents. Finally, while a few of the EJ respondents saw continued suburban growth as watering down concern for existing developed areas, others were more concerned that proposals for infill and transit oriented development would lead to gentrification and displacement of lower income and minority residents.

EJ respondents' priorities for projects were (1) more frequent and reliable bus service, with at least hourly service 24 hrs a day, 7 days a week; (2) fare discounts for regular riders and low income riders; (3) location and design of new facilities to minimize adverse neighbourhood impacts; (4) new low emissions buses; and (tied for fifth place) (5) sidewalk and pedestrian crossing improvements and also (5) facilities retrofits and regulations (soundwalls, traffic calming devices, etc.) to reduce noise and traffic incursions.

Differences between majoritarian concerns and priorities and those of the EJ respondents also extended to procedural issues. Among staff and elected officials, the general reaction was that the current planning process worked 'pretty well', with some concerns voiced about local parochialism and lack of attentiveness to cost-effectiveness. Among the EJ respondents, the evaluation of the process was quite different, with the overwhelming majority saying that they and their groups were largely marginalized. EJ representatives objected to the perceived lack of responsiveness of decision-makers to public comments and proposals, the priority given to new construction in the suburbs vs. operations of existing facilities and systems, and the fact that the projects the EJ community is most concerned about were largely constrained to a small part of the overall transportation budget for the region by prior decisions.

The vast differences in priorities and perspectives of the EJ groups and the transport agency staff and elected officials (few of who are minority and none of whom are currently poor) provide clear evidence that policies and

practices will need more attention from the research community in the coming years.

3.5 RESEARCH NEEDS

The previous sections have identified a number of areas where planning practices are changing, where challenges to current policies are arising, and where better knowledge is needed. Here I outline some preliminary research topics in two categories: methodological development and data analysis, and policy development and policy evaluation.

Methodological Development and Data Analysis

The need for information on the incidence and distribution of costs and benefits has risen greatly due to EJ requirements and is generating new demands on the transportation planning process. Methods that are capable of disaggregating impact information and displaying effects on different communities and socio-economic groups are needed, in place of or as complements to existing aggregate methods and measures. One result has been an emerging trend toward new techniques for data collection and analysis, new models for forecasting, and new approaches for the evaluation of the costs and benefits of planned transportation actions. In addition, research on the role of analysis in the planning process, as well as on the larger question of the role of public participation in planning and decision making.

Specific areas where more research is needed include:

- Data analysis on differences in travel patterns by racial, ethnic and income level; effects of immigration status, time in country vs. stable preferences.
- Improved analysis and evaluation methods for examining incidence of impact (benefits and costs) by income and ethnicity as well as geography; best practices (inadequate practice: count the number of facilities nearby).
- Improved measures of accessibility taking into account time of day and day of week as well as travel time, distance and cost.
- Long term vs. short term effects of investments considering location and land use (e.g., freeways supported suburbanization of industry, net pollution exposure may have declined).
- Role of technical analysis results in decision-making.
- Research on the gathering and reporting of public preferences.

- Research on conflict resolution, consensus building, and other participatory planning processes.

Policy Development and Policy Evaluation

EJ concerns point to the need for research on a number of substantive areas. They include the following:

- Equity of alternative funding mechanisms (fuel taxes, road pricing, other taxes and fees).
- Equity consequences of current expenditure programs (roads, transit, other; capital, operating).
- Equity of car ownership policies and regulations: insurance rate-setting, insurance pools; vehicle registration fees; inspection requirements; other policies affecting transportation costs.
- Health consequences of current exposures; interactions with health care access, health-related behaviours such as smoking.
- Choices vs. constraints in residential location in impacted neighbourhoods.
- Effectiveness of innovative programs to aid low income areas, people – short and long term.
- Concerns about gentrification and displacement due to policies promoting infill, urban revitalization, transit-oriented development; gentrification effects of congestion.
- Shortages of funding (public or private) for affordable housing, community development, job development, historic preservation.
- Location effects of zoning requirements, parking requirements, permitting processes; effects of poor maintenance and investment in infrastructure; effects of exactions and fees.

It is important to recognize that that these lists are preliminary. They have been developed upon reflection on the concerns of low income and minority community representatives, but surely a more detailed, nuanced and sophisticated list would emerge in each region through discussions with the community members themselves.

3.6 CONCLUSIONS

This chapter has examined current theories, laws, regulations, and planning practices regarding transportation and EJ. While the chapter focuses on the US, I am convinced that many of the same issues and concerns arise in other

countries, in both advanced economies and emerging ones. Certainly international research on the theories of justice and participation has informed this chapter, and comparative research on planning practices and policies has long been conducted across the oceans.

While EJ is an American term that grew out of the specificities of the American experience with civil rights, large minority populations, income disparities, and a political expectation of individual and group participation, the underlying concepts' relevance to the transatlantic research community represented by STELLA can only be growing. As Europeans expand opportunities for public participation in transportation decisions, and as the diversity of European populations increases, many of the issues illustrated by the US experience are likely to be seen in Europe as well. Because European transportation and social welfare policies are substantially different in many respects from the US, opportunities for comparative analyses are presented.

NOTES

1. The legal section of the chapter draws upon material developed by the author with Diana Zinkl and Robert Smith.
2. Campbell and Marshall add a fifth theory, which they dub the politics of the consumer, in reference to the body of theory that assumes that collective will is most effectively articulated through consumer preferences and that the market is the pre-eminent mechanism for the expression of choice. In this conception the role of government is to facilitate the expression of those preferences. Because this theory does not address the problem of people not in position to express their preferences, it is omitted from further consideration here.
3. *Alexander v. Sandoval*, 532 U.S. 275, No. 99-1908 (April 24, 2001).
4. Executive Order 12898, Feb. 11, 1994, in code of federal regulations as 59 Fed. Register 7629 (Feb. 16, 1994). Readers should note that Executive Orders remain in effect indefinitely; they do not end with a particular administration.
5. Taken from <http://www.fhwa.dot.gov/environment/ej2000.htm>.
6. Litigation also occurred over EPA-regulated facilities citing, distribution of public services, siting of public housing, hospital closings and urban renewal.
7. *Coalition of Concerned Citizens Against I-670 v. Damian*, 608 F. Supp. 110 (S.D. Ohio 1984).
8. *Community for a Better North Philadelphia v. SEPTA*, 1990 WL 121177 (E.D. Pa. 1990).
9. *Labor Community Strategy Center et al. v. the Los Angeles County Metropolitan Transit Authority etc.* US District Ct. Central Dist. CA, Consent Decree 11/1/96.

REFERENCES

- Almanza, S. and R. Alvarez (1995) 'Transportation Facilities in Low-Income Communities and Communities of Color', *Race, Poverty and the Environment*, 6 (1) 15-7.
- Altshuler, A.A. and D.E. Luberoff (2003), *Mega-Projects: The Changing Politics of Urban Public Investment*, Washington, DC: Brookings Institution.

- Bachrach, P. and M.S. Baratz (1970), *Power and Poverty: Theory and Practice*, New York, NY: Oxford University Press.
- Been, V. (1993), 'What's Fairness Got to Do with It? Environmental Justice and the Siting of Locally Undesirable Land Uses', *Cornell Law Review*, 78, 1001.
- Campbell, H. and R. Marshall (undated), 'Public Involvement and Planning: Looking Beyond the One to the Many', Sheffield, England: University of Sheffield.
- Clayton, G. (1987), 'Equality and Variety in the Delivery of Urban Services', *Harvard Law Review*, 100, 946.
- Etzioni, A. (2004), *The Common Good*, Cambridge, UK: Polity Editorial.
- Gelobter, M. (1992), 'Toward a Model of Environmental Discrimination', in B. Bryant and P. Mohai (eds), *Race and the Incidence of Environmental Hazards: A Time for Discourse*, Boulder: Westview Press.
- Haar, C. and D. Fessler (1986), *The Wrong Side of the Tracks*, New York: Simon & Schuster.
- Healey, P. (1997), *Collaborative Planning: Shaping Places in Fragmented Societies*, Houndsmills, England: Macmillan.
- Inman, R.P. and D.L. Rubinfeld (1979), 'The Judicial Pursuit of Local Fiscal Equity', *Harvard Law Review*, 92, 1662.
- Innes, J. (1992), 'Group Processes and the Social Construction of Growth Management', *Journal of the American Planning Association*, 58 (4), 440-53.
- Innes, J. (1998), 'Information in Communicative Planning', *Journal of the American Planning Association*, 62, 460-72.
- Innes, J. (2003), 'Consensus Building: Clarifications for the Critics', Berkeley, CA: Dept. of City and Regional Planning, University of California.
- Innes, J. and D. Booher (1999), 'Consensus Building as Role Playing and Bricolage: Toward a Theory of Collaborative Planning', *Journal of the American Planning Association*, 65 (1), 9-26.
- Krumholz, N. and J. Forrester (1990), *Making Equity Planning Work: Leadership in the Public Sector*, Philadelphia: Temple University Press.
- Lazarus, R. (1993), 'Environmental Justice: The Distributional Effects of Environmental Protection', *Northwestern University Law Review*, 87, 787.
- Lowndes, V. (1995), 'Citizenship and Urban Politics', in D. Judge, G. Stoker and H. Wolman (eds), *Theories of Urban Politics*, London: Sage, pp. 160-80.
- Mann, E. and the Planning Strategy Center (1996), *A New Vision for Urban Times*, Los Angeles, CA: Labor/Community Publications.
- Ostrom, E. (1990), *Governing the Commons*, Cambridge, England: Cambridge University Press.
- Ratner, G. (1968), 'Inter-Neighborhood Denials of Equal Protection in the Provision of Municipal Services', *Harvard Civil Rights - Civil Liberties Law Review*, 1.
- Rawls, J. (1971), *A Theory of Justice*, Cambridge, MA: Harvard University Press.
- Sandel, M. (1982), *Liberalism and the Limits of Justice*, Cambridge, UK: Cambridge University Press.
- Sandercock, L. (1998) (ed.), *Making the Invisible Visible: A Multicultural Planning History*, Berkeley, CA: University of California Press.
- Susskind, L., S. McKernan and J. Thomas-Larmer (eds) (1999), *The Consensus Building Handbook: A Comprehensive Guide to Reaching Agreement*, Thousand Oaks, CA: Sage Publications.
- Wondollock, J.M. and S.L. Yaffee (2000), *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*, Washington D.C.: Island Press.