

# **Environmental Justice in Transportation Planning and Policy: Some Evidence from Practice in the Baltimore-Washington DC Metropolitan Region**



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16. Abstract  <p>The purpose of the report is to answer two broad research questions: (1) how is environmental justice in transportation addressed and implemented to take into account low-income populations and minority communities and their needs, problems, and aspirations? And (2) how are environmental justice data and concerns incorporated into the transportation decision-making process? The research employed multiple methods. These included a literature review; qualitative interviews with transportation planners, practitioners and policymakers, and other stakeholders in transportation planning and policy in the Baltimore-Washington D.C. metropolitan area; and a focus group in Baltimore. Our primary analytical framework was drawn from critical ethnography and studies of practice and discourse in public policy.</p> <p>Three different views of environmental justice emerged from this study of the Baltimore-Washington D.C. metropolitan area. Most private consulting firms in the area are engaged in environmental justice, because it's a source of job and contracts. Most public officials in the region are engaged in environmental justice and public participation because it's a federal regulation and requirement. However, most citizen and advocacy groups in the region consider environmental justice and its implementation as part of the agency's mission. The lack of uniform standards regarding environmental justice issues, coupled with scarcity of information, as well as the complexity of the issues, are all obstacles to implementing and enforcing environmental justice principles. Access to information is an important issue for community organizations, advocacy groups, low income and minority groups. Public agencies often hold meetings at places that are not easily accessible, or at times difficult for transit dependent, low-income, and minority populations to attend.</p> <p>We recommend that transportation agencies in the Baltimore-Washington D.C. metropolitan area take a proactive stance in involving low-income and minority communities in the transportation policy and planning process. This should involve establishing outreach programs through nonprofit organizations, minority institutions, and advocacy groups that already play significant roles in these communities. The transportation agencies should work with these organizations to set up public meetings and hearings that are accessible. They should consider holding meetings in the communities themselves, and at times and on days which will allow the maximum possible participation. One idea that may be effective is holding informal, small-group meetings in neighborhoods, initiated by community leaders. Another way to boost participation would be to provide child-care during the meeting. Utilizing people who understand the culture of the targeted communities to initiate contact is also crucial to ensure greater participation among minority groups. In addition to the process of soliciting community involvement, making information on transportation issues readily available is critical. Such methods as radio, schools, libraries and churches could prove to be effective means of communications. There is also the need to translate documents into languages other than English to reach out to the non-English speaking minorities. The findings also suggest the need for transportation agencies, particularly the MTA, to re-evaluate bus schedules and routes to meet the demand of low-income and minority populations that depend on the system.</p>			
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# 1. Introduction

This project was funded by the National Transportation Center (NTC) at Morgan State University and is a pioneering effort to explore strategies and responses available to transportation planners and policy analysts in dealing with environmental justice in transportation. In transportation, environmental justice requires that transportation system changes should be studied carefully to identify the nature, extent, and incidence of probable consequences of such improvements on low-income communities and minority populations (simply defined as Black, Hispanic, Asian American, American Indian, or Alaskan Native)<sup>1</sup> (Forkenbrock and Schweitzer, 1999). Efforts should be made to prevent high and adverse impact of transportation system changes on these communities in order to ensure environmental justice. Addressing the strategies to deal with environmental justice is not only timely, but met the NTC's theme "Transportation: A Key to Human and Economic Development". It is also in concurrence with the United States Department of Transportation's (USDOT) "Strategic Plan," which calls for the protection and enhancement of communities and natural environments affected by transportation (<http://www.dot.gov/>). In general, USDOT intends to identify and address high and adverse human health and environmental effects of transportation policies and programs on minority and low-income populations. Specifically, USDOT is committed to three basic principles of environmental justice: 1) ensure public involvement of low-income and minority groups in the transportation decision-making process; 2) prevent disproportionately high and adverse impacts of transportation decisions on low-income and minority communities; 3) and assure that low-income and minority groups receive a proportionate share of transportation benefits.

The purpose of the report is to answer the following research questions:

*Who are the various stakeholders involved in environmental justice issues?*

*What are the needs of various stakeholders in terms of information on environmental justice?*

*How do broader institutional and structural questions of power, class, culture, ethnicity, race, gender and control manifest themselves in the practice of environmental justice?*

*What tools and techniques (e.g., data gathering, analytical methods) are available to transportation planners, policy makers and managers to assess the benefits and impacts of transportation projects on low-income and minority communities?*

*How can environmental justice principles be integrated into transportation planning and the decision-making process?*

*Are there examples of transportation planning projects in which environmental justice was proactively considered in the planning process?*

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<sup>1</sup> We provide the detailed definitions of "low-income communities, minority populations and environmental justice in a later section of the report.

*Are there examples of projects initiated as a result of environmentally related concerns?*

*What proactive actions can be taken to assure that a proportionate share of benefits is received by low-income and minority communities?*

*What tools are available to disseminate transportation planning information to low-income and minority populations?*

*What tools are available to increase participation of low-income and minority populations?*

## **2. Research Methodology**

The research employed multiple methods. These included literature review; qualitative interviews with transportation planners, practitioners and policymakers, and other stakeholders in transportation planning and policy; and a focus group.

Our primary analytical framework was drawn from critical ethnography and studies of practice and discourse in public policy (Van Maanen, 1988; Hummel, 1991; Liggett 1996; Throgmorton, 1996; Watson 2002). Such a methodology relies on qualitative interpretative inquiry and seeks to understand the unique and contextual, rather than make generalized propositions. This methodology explores “practice stories” and case studies in order to seek answers to the questions discussed above. For our purpose, “practice stories” (Hummel, 1991; Forester, 1999) are defined as stories of practice, narrated by transportation officials, planners and policymakers. These stories illustrate the research questions that we attempt to answer. Such a methodology relies on qualitative interpretative inquiry and seeks to understand the unique and contextual, rather than make generalized propositions.

As we were seeking a wide range of stories and cases, the literature review was not limited to academic literature. Thus, we searched trade journals, internet resources, materials available at the Federal Highway Administration (FHWA), the United States Department of Transportation (USDOT), the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), the Association of Metropolitan Officials (AMPO), and the American Public Transportation Association (APTA), as well as at universities engaged in similar research (e.g., Clark Atlanta University, University of Minnesota’s Institute of Race and Poverty, etc.).

Because the study did not follow the logical positivist method of inquiry, we did not do a random sample during the interviews. Instead, we selected a variety of professionals and stakeholders (see Appendix I for the list of transportation professionals and stakeholders interviewed). Although the interviews were open-ended, a formal questionnaire was developed. Additional questions arose during the interviews because of their open-ended nature. As a supplement to the interviews, one focus group session was conducted with members of the Transit Riders’ League of Metropolitan Baltimore.

We first present a review of the literature, followed by analyses of the interviews, and then the focus group survey. Finally, we present conclusions and policy recommendations.

### 3. Literature Review

#### 3.1 Equity, Environmental Justice and Transportation Policy

Although the debate on environmental justice in transportation planning and policy is relatively new, equity issues in the field have been the subjects of scholarly and policy debates since the 1960s. The civil rights movement had its roots in transportation, when African-Americans in Baton Rouge, Louisiana staged a successful bus boycott in 1953 (Bullard, et. al. 2000). Two years later, Rosa Parks made herself immortal by refusing to give up her seat in the front of a bus to a White man in Montgomery, Alabama. Rejuvenated interest in equity issues has recently taken hold among transportation planners and policymakers, as they address such issues as environmental justice, disability, integration of bicycling and walking into transportation systems, and the Personal Responsibility and Work Opportunity Act of 1996 (PRWORA) popularly known as “welfare to work” (see Bullard and Johnson, 1997; Forkenbrock and Schweitzer, 1999; Sanchez, 1999; and Khisty, 2000). The PRWORA or welfare to work program replaced the former federal welfare program – the Temporary Assistance to Needy Families (TANF). The aim of PRWORA was to enhance the mobility of low-income populations to job sites. In addition to job access, issues of fairness in transit service pricing and quality of service are also of concerns. A hallmark of the welfare to work legislation was the imposed time limits and mandatory work requirements for welfare recipients. The legislation also set goals for reducing welfare rolls and providing job skills and opportunities for steady employment.

Other equity debates came into focus in the wake of disruption of the African-American neighborhoods during the "interstate era"<sup>2</sup>; spatial mismatch between housing and jobs; and obstacles to improving the mobility of low-income, elderly, minority groups, and women (Kasarda, 1983, Levine, 1998; Bullard and Johnson, 1997; Denmark, 1998; Sanchez, 1999)

Scholars and policymakers have also studied the urban transportation constraints of low-income and minority populations. Some constraints are a function of income and lack of access to employment centers or available jobs (see Levin, 1998; Talen, 1998; Cervero, 1996; France Institute, 1999; Citizens Planning and Housing Association, 2000; Center for Community Change, 1998; Metropolitan Washington Council of Government, 2000). Others are a function of household composition, family circumstances, and related factors, including race, gender, education, age, household size, and the individual’s role in the household (see Bernard et. al, 1996; Sarmiento, 1996; Johnson, 1996). Yet another constraint is the lack of involvement by low-income and minority populations in transportation-related decisions and actions, particularly in the early stages of the planning process.

According to former Secretary of Transportation Rodney Slater, “Transportation is the key to welfare-to-work”. This was reflected in the vision of the Transportation Equity Act of the 21<sup>st</sup>

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<sup>2</sup> Although highway construction activity increased with the Federal Aid Road Act of 1916, the beginning of the “interstate era” can be traced to the Federal Highway Act of 1956. Title II of the Act provided a mechanism to deliver massive funding for construction of highways. The era came to an end by the 1980’s when the interstate system was virtually completed (Levy, 1997).



Century (TEA-21) of 1998, which builds on the Intermodal Transportation Efficiency Act of 1991 (ISTEA). This program requires states to work with local agencies to ensure that the transportation needs of welfare recipients and low-income persons are being met. Public participation and equity is also central to accomplishing TEA-21.<sup>3</sup> Until the passage of the ISTEA in 1991 and TEA-21 in 1998, transportation decisions and actions focused mainly on the general population, overlooking the differences in the household circumstances and travel constraints of low-income and minority communities. Federal, state, and local transportation agencies have now recognized these issues and are beginning to address them.

As stated earlier, concerns for equity and citizen participation among transportation agencies and officials is a relatively new phenomenon. Transportation planning and implementation in the United States has generally been conducted by state and local agencies (Khisty, 2000). For most of the past century, transportation planning focused on accommodating the demand for travel and the needs of automobiles through the construction of roads and other transportation facilities (Horan and Jordan, 1998). Soon after World War II, the United States embarked on construction of a 44,000-mile nationwide system of highways with the passage of the Federal Highway Act of 1956 and the implementation of the Interstate and Defense Highways program. Construction of highways became one of the biggest civil engineering feats of the century, but also tore apart the existing urban fabric of the United States.

Although the official creation of transportation planning organizations dates back to the early 1960s, and their numbers increased with the passage of the Federal-Aid Highway Act of 1970 ([http://www.ampo.org/who/about\\_mpos.html](http://www.ampo.org/who/about_mpos.html)), we find little evidence of equity concerns and citizen involvement during this period. This is despite the fact that the act provided the first provisions for protection of communities and the human environment. The act required urban areas with a population of 50,000 people or more to organize planning organizations in order to receive federal transportation funding. By 1965, 224 MPOs were formed, largely in response to the requirement of the Bureau of Public Roads (predecessor to the Federal Highway Administration) for urban areas to create planning organizations that were focused on the regional transportation planning process.

The Housing and Urban Development Act of 1965 encouraged MPOs to be controlled and headed by elected officials, as opposed to appointed ones, thereby opening up avenues for citizen participation. This Act also encouraged local governments to address transportation planning regionally, rather than locally. Despite these innovations, transportation planning was still focused largely on the development and implementation of the 3C (continuing, comprehensive, and cooperative) planning process in the 1960s and 1970s. In the 1970s, changes were made to the planning process to incorporate short-range capital improvement programs, along with the long-range plans. The 1970s also saw an increase in environmental and energy concerns, but little progress was made in involving the public or in terms of creating an equitable and just transportation system.

The U.S. Department of Transportation (USDOT) had a long-standing policy to ensure non-discrimination under Title VI of the Civil Rights Act of 1964. The Act states that “no person in

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<sup>3</sup> These and other Acts and their implications on equity and citizen participation are discussed in a later section of the report.

the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” However, we find little evidence of serious implementation of this act in the 1960s and 1970s. In fact, by the time the interstate construction program was in full swing in the 1960s, the “great freeway revolt” was underway. The freeway revolt was the opposition by citizen groups and news media regarding construction of freeway at the time (Khisty, 2000). Despite these protests, highways were planned primarily in terms of civil reengineering specifications, with the virtual exclusion of environmental factors and citizen participation (Mason and More 1971). Critics also claimed that highways and automobiles caused air pollution, ruined aesthetic qualities of cities, and resulted in irreparable damage to communities (Dittmar, 1995; Kay, 1997).

In fact, a highway-centered emphasis and lack of citizen participation remained ingrained in transportation planning until the 1990s (Horan and Jordan, 1998). The passage of ISTEA by the Congress in 1991 fundamentally altered U.S. transportation policy. As pointed out by Horan and Jordan (1998), ISTEA created an urban transportation planning process that linked it to several policy domains - environmental, economic; and social. The goal was to improve the overall quality of life in communities. As they pointed out, ISTEA created a place-based planning model, in which the place itself, rather than the movement from place to place, became the central concern of public policy. ISTEA called for a planning process in which traditional transportation goals (namely moving people and goods) were balanced with non-traditional goals that addressed ways in which transportation related to other aspects of society. Compliance with air quality standards was also strictly mandated by ISTEA (Paaswell, 2001).

In order to receive federal funding, transportation planners now had to develop comprehensive plans that considered the 15 factors listed under ISTEA (Horan and Jordan, 1998). ISTEA mandated that the federal government designate an MPO for each metropolitan area. This MPO is responsible for coordinating the transportation plans of all government entities within its jurisdiction. The passage of ISTEA resulted in more power and authority being given to local officials in the metropolitan planning process ([http://www.ampo.org/who/about\\_mpos.html](http://www.ampo.org/who/about_mpos.html)). This legislation gave MPOs the framework for operations, management, and investment in transportation systems that were flexible, people-centered and equity-oriented. It encouraged participation from community stakeholders, elected officials, and citizens and helped move toward a multimodal transportation system that would increase mobility and access. ISTEA aimed to increase public involvement in the transportation policy process by requiring public review and comment on key transportation decisions; mandating that the public involvement process be inclusive, involving those that were traditionally underserved by transportation systems; and requiring the demonstration of explicit consideration and response to public input (Horan and Jordan, 1998). It gave transportation direction and guidelines from the federal level, but invoked state and local partnerships to implement them. It provided for flexible funding of modes of surface transportation and supported substantial emphasis on early program planning and environmental considerations. It mentioned the importance of Indian tribal government involvement in planning and described women as socially and economically disadvantaged individuals. Its policy emphasis included improved mobility for the elderly, disabled and economically disadvantaged.

Public participation and equity is also central to accomplishing the vision of TEA-21 of 1998, which builds on ISTEA (Passwell, 2001). TEA-21, and its supporting regulations, reinforce Title VI and continue to strengthen initiatives that protect and enhance communities and the natural environment. TEA-21 also created a new program for Job Access and Reverse Commute Grants to develop transportation services designed to transport welfare recipients and low-income individuals to and from jobs. In addition, USDOT adopted strategic goals that emphasize non-discrimination in implementation of programs, policies, and activities (<http://stratplan.dot.gov/archive>). The "Human and Natural Environment Strategic Goal" outlined in USDOT's "Strategic Plan" (ibid) calls for the protection and enhancement of communities and natural environments affected by transportation. In general, USDOT intends to identify and address high and adverse human health and environmental effects of transportation policies and programs on minority and low-income populations.

Along with safety and mobility, achieving environmental justice is another mission of the USDOT. The origins of government's attempts to address the environmental justice issue date back to February 11, 1994, when President Clinton signed Executive Order (E.O.) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This order directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on minority and low-income populations.

In response to Presidential directives concerning E.O. 12898, USDOT issued a proposed Environmental Justice Strategy on February 13, 1995, and then a final order on the subject, Order No. 5610.2 (*Order to Address Environmental Justice in Minority Populations and Low-Income Populations*), on April 15, 1997. The Order generally describes the process for incorporating environmental justice principles into all USDOT's existing programs, policies, and activities. The Federal Highway Administration (FHWA) issued DOT Order No. 6640.23, *FHWA Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, on December 2, 1998. The order requires the FHWA to implement the principles of the DOT Order 5610.2 and E.O. 12898 by incorporating environmental justice principles in all FHWA programs, policies, and activities (Forkenbrock and Schweitzer, 1999; U.S. Department of Transportation, et.al. 2000).

Specifically, USDOT is committed to three basic principles of environmental justice. These are:

Ensure full and fair participation of low-income and minority groups and communities potentially affected by the transportation decision-making process.

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.

Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations.

Today, environmental justice is an important part of the transportation planning process and must be considered in all phases of planning and policy. These include all public-involvement plans and activities, the development of Regional Transportation Plans (RTPs), Transportation Improvement Programs (TIPs), Statewide Transportation Improvement Programs (STIPs), and work programs (such as the Unified Planning Work Programs - UPWPs). A truly integrated and effective planning process actively considers and promotes environmental justice within individual projects and between groups of projects, across the total plan, and in policy decisions ([www.fhwa.dot.gov/environment/ej2000.htm](http://www.fhwa.dot.gov/environment/ej2000.htm); U.S. Department of Transportation, et.al. 2000).

Executive Order 12898 and the DOT and FHWA Orders on Environmental Justice addressed persons belonging to any of the following groups:

**Black** - a person having origins in any of the black racial groups of Africa.

**Hispanic** - a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

**Asian** - a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.

**American Indian and Alaskan Native** - a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

**Native Hawaiian or Other Pacific Islander** - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

**Low-Income** - a person whose household income (or, in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines.

The problem with environmental justice defined in terms of minority and low-income populations, is that there are minority populations at all income levels. Within the framework provided by Executive Order 12898, U.S. DOT Order 5610.2 addresses only minority and low-income populations. There is no consideration for elderly, children, disabled, or other similar populations. Thus, impacts on the community as a whole should be routinely investigated, analyzed, mitigated, and considered during decision making.

In this context, environmental justice should be considered and addressed in all National Environmental Policy (NEPA) decision-making, and appropriately documented in Environmental Impact Statements, Environmental Assessments, Categorical Exclusions, or Records of Decision Properly implemented environmental justice principles and procedures should improve all levels of transportation decision-making, result in transportation facilities that fit more harmoniously into communities, and avoid disproportionately high and adverse impacts on minority and low-income populations ([www.fhwa.dot.gov/environment/ej2000.htm](http://www.fhwa.dot.gov/environment/ej2000.htm); U.S. Department of Transportation, et.al. 2000).

### 3.2 Methods of Public Participation and the Roles of Stakeholders

Public involvement is an integral part of environmental justice in transportation planning and project development. DOT Order 5610.2 directs the Department to provide minority and low-income populations' greater access to information on, and opportunities for, public participation in matters that may impact human health and the environment. Continuous interaction between community members and transportation professionals is critical to successfully identify and resolve potential environmental justice concerns. DOT Order 5610.2 also asks whether a proposed action or plan causes disproportionately high and adverse effects on minority and low-income populations, and whether these populations are denied benefits. Community impact assessment can provide this framework. Like public involvement, community impact assessment is an integral part of DOT's planning and project development ([www.fhwa.dot.gov/environment/ej2000.htm](http://www.fhwa.dot.gov/environment/ej2000.htm); U.S. Department of Transportation, et.al. 2000).

Federal and state DOTs, MPOs and transit providers can advance Title VI and environmental justice by involving the public in transportation decisions. Effective public involvement programs enable transportation professionals to develop systems, services, and solutions that meet the needs of the public, including minority and low-income communities. State DOTs successfully integrate Title VI and environmental justice into their activities when they:

*Ensure that State Transportation Improvement Program (STIP) findings of statewide planning compliance and NEPA activities satisfy the letter and intent of Title VI requirements and environmental justice principles.*

*Enhance their public-involvement activities to ensure the meaningful participation of minority and low-income populations.*

MPOs serve as the primary forum where State DOTs, transit providers, local agencies, and the public develop local transportation plans and programs that address a metropolitan area's needs. MPOs can help local public officials understand how Title VI and environmental justice requirements improve planning and decision-making.

Although the concept of citizen participation is fairly new in transportation, the concept dates back to the 1960s in the planning community. Radical-style citizen participation, known as "advocacy planning," was developed by Paul Davidoff (1965), and became popular among planners in the late 1960s. The proponents of advocacy planning assumed that there are a wide variety of client groups, with diverse and often opposing goals and interests, and that planning professionals should be aware of this reality. They should, in fact, help voice the interests of their clients in the same fashion that lawyers serve theirs. The essence of advocacy planning was an attempt to increase the power of deprived and underprivileged people by fighting apathy, guiding their complaints, and formulating their ideas to bureaucratic organizations.

Garcia and Replogle (2000) present a framework of public participation and equitable transportation policy, which suggests that transportation agencies should have policy goals that are equitable, environmentally sound, and economically vital. In order to achieve these goals,

such agencies should gather, analyze, and publish information that is necessary to understand the impact of their decisions on communities. Agencies must also ensure full and fair participation of all communities in the decision-making process. Finally, they should avoid intentional discrimination and unjustified adverse disparate impacts in policy decisions.

An undated document, published by Hoover and Gomez (n.d) for the engineering firm Parsons Brinckerhoff, provides some concrete ideas for public participation in transportation planning. According to the authors, informal small-group techniques are often most effective. This involves small-group meetings in neighborhoods initiated through community leaders. Such meetings are often more comfortable than a public forum for minority groups. They also suggest that community and religious organizations may be invaluable in building communications between agencies and community groups, and that the use of financial incentives might increase participation. Non-mainstream media, such as radio, can prove to be effective means of communications. Innovative recruitment tactics, such as sending staff to churches, may increase participation. Special meeting provisions, such as providing childcare during meetings, can also lead to an increase in public participation by minority and low-income populations. Using minorities in reaching out to such communities and understanding the culture of the community are also crucial to ensure public participation among minority groups.

In 1998, the Baltimore Metropolitan Council (BMC), on behalf of the Transportation Steering Committee (TSC), commissioned the MATRIX Group, LLC, and Bonham Research to develop a report (completed in 1999) on how equity issues may be addressed in Baltimore region's transportation system policies and plans. The TSC was the region's designated MPO committee responsible for developing the region's transportation policies and plans, while the BMC provided technical support to the TSC when this summary was published. The report recommended that the TSC should adopt equity in transportation investment as a goal to guide future policy and plan development in the Baltimore region. It was further recommended that, at a minimum, TSC should assess the distribution of potential impacts of proposed plans and policy alternatives for racial and ethnic minorities and low-income groups identified for attention in Federal Environmental Justice Policies, and for people with disabilities under the Federal Americans with Disabilities Act (ADA).

Transportation plays a pivotal role in society by providing access to nearly all of a person's non-home based activities. Most people do not use transportation for the sake of transportation but rather to gain access to jobs, schooling, medical treatment, shopping, recreation, etc. The authors feel that in planning for new transportation facilities, it is important to consider not only views of those with financial resources to pay for them but also views of those who will benefit from their implementation (Richard and Kostyniuk, 1998).

The traditional transportation planning process accommodates the disparate views of stakeholders by a variety of means including public hearings and information sessions. These meetings serve to address economic issues, access to activities, neighborhood vitality, safety issues, community noise, availability and convenience of the transportation system, and equity issues associated with distribution of the cost and benefits of the system. Unless societal issues such as these are adequately addressed, there is a risk of incurring great societal costs. However,

there is not often a clearly defined process to bring the information gleaned from these meetings into the decision process in a structured way.

A way to include the disparate views of the many decision makers in transportation is presented. It derives from the need to address such views and the work of the authors in developing and demonstrating a decision support tool for an intelligent transportation system (ITS). Implementation for TRB's ITS Innovations Deserving Exploratory Analysis (IDEA) program. It became apparent to the authors that the method developed in the ITS implementation was applicable to transportation decisions generally.

The decision support method developed in the ITS IDEA project was named multi-organization decision analysis (MODA). This method has its roots in a variety of decision analysis methodologies, specifically decision risk analysis. The development of MODA, its demonstration in bringing societal issues into ITS decisions, and its applicability in bringing societal issues into more general transportation decisions were described.

Decision risk analysis (DRA) is a decision support method that brings together representatives of all stakeholders in the decision of concern through a series of structured dialogues that build on the diversity of opinions. The DRA process as described by Barabba and Zaltman evolved from the early work of Keeney and Raiffa, Howard and Matheson and Oppenheimer. It includes a decision review board, which consists of the major stakeholders in the process that have decision responsibility, a core study team of technical people who are knowledgeable about technical information and analytical methods, and a facilitator. The facilitator is a neutral third party who ensures that the procedures are followed. The DRA process consists of four steps: framing the problem, specifying alternatives, performing analysis, and making decisions. Throughout the DRA process, buy-in or consensus of the decision review board is required before moving on to the next step.

According to the authors, the MODA process appears to have great potential in the transportation decision-making process. It is a structured and efficient method of bringing together a variety of stakeholders from both the public and private sector. It facilitates not only hearing the voice of the public but also ensuring that it is included in the decisions made. Two of the key characteristics of MODA are the development of a vision shared by all participating decision makers and reaching a consensus at each step of the process. The shared vision is a critical first step in providing common ground on which to proceed. Reaching consensus at each step assures buy-in to the ultimate decision by the members of the decision-making team. The demonstration of MODA described in the article was used to evaluate an intelligent transportation system implementation. The transportation process is comprehensive and encompasses a wide range of alternatives in an urban area or a larger region. The focus of this article was narrow in nature but the application of MODA to a larger scale project is felt to be encouraging.

### **3.3 Tools and Techniques for Assessing Environmental Justice in Transportation**

Forkenbrock and Schweitzer (1999) provide a useful illustration of how quantitative methods can be employed to estimate the relationship between access to public transit and labor force participation levels. Using 1990 census data for Portland and Atlanta, the study employed a

Geographic Information System (GIS) to analyze location and characteristics of residents with varying levels of access to public transit. GIS is used to estimate distance measures and accessibility indices for employment and residence locations. A two-stage least squares regression is used to estimate the relationship of access to public transportation to labor force participation levels. The results indicate that improved access to public transit can overcome the physical separation between the residential location of non-white workers and jobs. Petersen (n.d.) discusses a methodology developed by the Chicago Area Transportation Study to determine whether transit service was provided equitably in the Chicago area. The methodology employs statistical analysis to assess equity issues in transit service.

Sanchez's (1998) study is also a useful methodological piece that shows how to determine the incidence of urban transportation service benefits by income, race, and urban location, using Atlanta as a case study. The method uses multiple regressions to estimate the implicit price or demand for property attributes, such as quality of public services, environmental quality, neighborhood conditions, and property improvements. The estimated locational benefits (increases in property values) of personal transportation accessibility, holding other determinants of property value constant, are compared to social and economic household characteristics to describe the incidence of these benefits. The analysis suggests that the lowest income, non-white, central-city homeowners realize the same, if not higher, per square foot benefits as their affluent white urban and suburban counterparts.

### **3.4 Cases in Effective Implementation of Environmental Justice in Transportation**

In the wake of new federal guidelines on environmental justice that amplify Title VI of the Civil Rights Act, growing attention has been placed on the need to incorporate environmental justice principles into the process and products of transportation planning. In response to this challenge, State DOTs, and Metropolitan Planning Organizations (MPOs) around the country are evaluating and developing implementation processes to proactively and/or retroactively mitigate the impacts of transportation plans and processes on low-income population and minority populations. The following section of the report highlights cases of effective implementation procedures and practices in environmental justice in transportation<sup>4</sup>:

#### **3.4.1 The Ohio Department of Transportation (ODOT)**

The Ohio Department of Transportation (ODOT) proposed tasks set forth to implement environmental justice in transportation (ODOT, n.d). These are useful, as they are applicable to other situations. The first task consisted of developing a demographic profile of State/MPO areas, which would determine where low-income populations live and work. The second task would involve establishing methods for evaluating disproportionately high adverse effects and ensuring proportionate benefits. The third task consisted of developing techniques that are acceptable in minimizing adverse effects of projects or mitigating such effects. The fourth task consisted of determining adequate types of public involvement and outreach efforts. The fifth task was ensuring public involvement and outreach during implementation of environmental justice procedures. The sixth task was to examine how the State and MPOs could integrate the

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<sup>4</sup> See the U.S. Department of Transportation et.al. (2000) for detailed stories of some of these cases.



above actions and analysis in their planning process. The seventh task consisted of developing acceptable standards for documentation by MPOs and the State. The eighth and last task was to determine when and by whom each task was to be implemented.

### **3.4.2 The Wisconsin Department of Transportation (WisDOT)**

The Wisconsin Department of Transportation (WisDOT) and Allied Drive residents initiated a process leading to a transportation needs assessment study of Verona Road and West Beltline in 1997. Verona Road and West Beltline are two of the City of Madison's most heavily traveled corridors. Madison is the capital city of Wisconsin and the home of the University of Wisconsin at Madison, one of the Nation's largest universities. With a population slightly more than 200,000, Madison is Wisconsin's second largest city. Madison is located in Dane County, which apart from the city and the surrounding metropolitan area is largely rural and agricultural. Over the years, congestion problems at the intersection of these two roads had increased significantly. The configuration of the intersection of Verona Road and the West Beltline essentially isolated the predominately minority community of Allied Drive from the rest of Madison.

WisDOT's efforts to engage Allied Drive community residents in the needs assessment study process helped answer three key questions about involving low-income and minority populations in transportation planning efforts: What is the value of public involvement from a transportation planning perspective? How is meaningful public involvement best achieved? What are the difficulties of conducting effective outreach to a low income, transient community? The Allied Drive community is an exception to the vast majority of Madison neighborhoods, which are primarily stable and middle class. Located in the southwestern portion of the city, Allied Drive is home to approximately 4,000 residents. The neighborhood has a significantly greater proportion of minority and low-to moderate- income residents than the rest of the city.

The issues confronting the Allied Drive neighborhood were only one part of a broader set of area transportation problems, the needs of these residents could have been easily ignored. This is an example of proactive actions taken by a State Department of Transportation to ensure environmental justice. Targeted community involvement throughout the needs assessment process helped WisDOT keep sight of the Allied Drive neighborhood's particular concerns. During the course of this public outreach process, extra efforts were made to involve the predominantly minority community of Allied Drive just south of the West Beltline along Verona Road. With very few vehicle owners, this neighborhood was concerned chiefly with pedestrian, bicycle, and transit issues. Participating Allied Drive residents voiced concerns about safety and accessibility. Another important aspect of WisDOT's outreach to the Allied Drive neighborhood was a partnership with Akira Toki Middle School, which is attended by the children from Allied Drive and a number of west Madison neighborhoods.

Major lessons learned from the needs assessment study and the entire public involvement process that WisDOT undertook includes the following: Effective public involvement is best achieved through variety of techniques. WisDOT held public meetings, open houses, and a charrette. They also produced a video and engaged local school children. Meaningful public involvement helps ensure solutions respond to genuine needs. The transportation needs reflected the community's sincere interest in creating a more livable community.

Facilitating low-income and minority residents in the decision-making process may require special attention. Involving Allied Drive residents in the process only resulted from persistent outreach efforts by WisDOT and its partners.

### **3.4.3 The North Carolina Department of Transportation (NCDOT)**

Another case study described in the U.S. Department of Transportation (2000) document is that of East-West Expressway, in Durham, North Carolina. This is an example of a “retroactive policy to ensure environmental justice. In 1959, the East-West Expressway, a 10-mile, limited-access highway, was planned near the central business district of Durham North Carolina. Passing through a mixture of industrial, railroad, and older residential land uses, the expressway was to connect I-85 with I-40. The right-of-way for part of the project had been acquired with urban renewal funds and as a Federal aid project. In 1973, plans were proceeding for the right-of-way acquisition for the remainder of the highway when a court decision required the FHWA and NCDOT to prepare an Environmental Impact Statement (EIS) to comply with the NEPA of 1969.

An unbuilt segment of the expressway goes through a small African-American neighborhood known as Crest Street. Crest Street had existed for more than 100 years, originally as an agricultural settlement of former slaves on the outskirts of Durham. Crest Street residents, already acquainted with large-scale, urban renewal displacements of other African-American neighborhoods to complete another segment of the expressway during the 1970s, opposed the expressway.

For two years, the leaders of the Crest Street community in Durham worked closely with the FHWA, the NCDOT, the City of Durham, Duke University, the U.S. Department of Housing and Urban Development, and others to develop a comprehensive impact mitigation and enhancement plan to preserve the cohesiveness of the Crest Street community. The situation in this case was difficult from the beginning, with property acquisition and housing relocation issues being difficult to manage without racial overtones and acrimony. The case is notable because it clearly illustrates the potency of violations of the Civil Rights Act of 1964 and its applicability to transportation projects.

After many years of meetings, plans, court rulings, and task forces, a final plan was agreed upon for the Crest Street neighborhood in 1982. Many houses were rehabilitated with entirely new interiors and modern conveniences. Sixty-five houses were moved from the old community to the new, In addition, several new single-family homes were built; a former school was converted to housing for the elderly; existing houses on the new site were rehabilitated; and apartments were built for those who could not afford to purchase homes. The Crest Street redevelopment was completed in 1986 and the expressway was completed in 1992.

The development and implementation of the Crest Street mitigation and enhancement plan is an example of what a collaborative problem-solving approach can accomplish when pursued during transportation decision-making. The Crest Street experience offers several lessons to be learned about resolving conflict between parties:

*Identify Essential Parties:* The Crest Street dispute was resolved only after several parties who had participated in the controversy, but who were not crucial to the final settlement, withdrew from the negotiations.

*Recognize Critical Issues for Each Party:* Progress was made when individual interests of each major party to the dispute were deemed legitimate. The ability “to see the other side” only occurred when each part was given legitimacy and recognized each other.

*Sense of Urgency:* All parties felt a sense of urgency because of their prior resource commitments, their fears of letting the constituents down, and failing in their principle objectives.

*Elements of Uncertainty and Flexibility:* Each party had specific interests to pursue, but they were flexible to possible alternative solutions or mutually acceptable solutions. While the expressway was needed, the city was not fully sure the Crest Street community needed to be completely displaced. So the question became how to best mitigate the disruption and accomplish building the expressway.

### **3.4.4 The Southern California Association of Governments (SCAG)**

The Regional Transportation Plan (RTP) adopted by Southern California Association of Governments (SCAG) is an example of proactive policy to ensure equity and citizen participation in the transportation planning process (U.S. Department of Transportation, 2000).

The Regional Transportation Plan (RTP) was a three-year planning process that involved the SCAG, 14 SCAG sub-regions, county transportation commissions, Caltrans, Los Angeles County Metropolitan Transportation Authority, the FTA and FHWA, a peer review committee and public involvement. In the RTP, SCAG grappled with several important methodological issues in the consideration of equity in transportation planning.

SCAG is the designated MPO for a six-county region, covering 38,000 square miles and equal in size to the state of Ohio. As an MPO, SCAG is required to produce a regional transportation plan with a minimum 20-year planning horizon every three years. SCAG also produces a Regional Transportation Improvement Program (RTIP) every two years. The 1998 SCAG RTP, known as Community Link 21, developed and adopted performance indicators that gauge the social and economic effects of transportation investment decisions on the region’s minority and low-income populations. The methods adopted by SCAG gave the transportation community greater insight about how and to what extent the region’s transportation users receive benefits from the transportation system as well as pay for those system benefits.

SCAG's RTP intensively explored the benefits and burdens of their current and prospective transportation program upon various racial, ethnic and income categories. MPOs and states can observe several effective practices from SCAG’s efforts. These include:

*Demographic Profile of Socioeconomic Groups:* SCAG used demographic, income, travel and employment information to consider the travel characteristics and needs of low-income and minority persons covered by Civil Rights Title VI and other laws.

*Benefits and Burdens were integrated into a Performance-Based Methodology:* SCAG treated the equity issues as an integral indicator in its performance-based plan evaluation and decision-making process.

*Peer Review Committee Challenged and Informed the MPO:* SCAG recognized its investigation of equity raised new and challenging methodological issues for its staff, decision makers and the public. The agency recognized it could benefit from a wide range of input and review of the entire process.

*Employed Alternative Dispute Resolution Approach:* SCAG understood that Title VI was being successfully employed against the region's major transit service provider in a lawsuit. SCAG determined that using an alternative dispute resolution process could be much less costly than a lawsuit.

*Public Involvement Processes and Comments Influenced Methodology:* Between the preliminary and final studies, SCAG's equity analysis was refined in response to comment and further study was given to detailing accessibility by income, race and ethnicity.

SCAG's efforts are reproducible and within the capabilities of other MPOs. The SCAG RTP process offers important lessons to MPOs and states. Equity and efficiency are not mutually exclusive goals. Benefits and burdens can be integrated into performance-based planning process. There is room for improvement in the public involvement process throughout the endeavor. Dispute resolution processes offer an alternative to litigation.

### **3.4.5 The California Department of Transportation (Caltrans)**

The rebuilding of the Cypress Freeway in West Oakland, California is another example of a proactive policy. Of all of the scenes of destruction in the aftermath of the Loma Prieta earthquake that struck the San Francisco Bay area on October 17, 1989, the lasting image was the collapse of the Cypress Freeway in West Oakland. Forty-two people died when concrete pillars supporting the upper section of the double-deck freeway collapsed, destroying a one and one-quarter-mile section of Interstate 880.

The Cypress Freeway was built in the 1950s to connect the sprawling tract lands of southern Alameda County to downtown San Francisco and Oakland's industrial waterfront. Its path through the predominately African-American community of West Oakland split the community in half and uprooted 600 families and dozens of businesses. A roughly four-square-mile area was cut off from downtown and more affluent sections of West Oakland to the east. Over the years, neighborhood business withered from isolation while residents were forced to endure the fumes and noise from the thousands of cars passing overhead.

However, the collapse of the freeway created the potential for dialogue over how and where the freeway would be reconstructed, an opportunity that had not been available to West Oaklanders 35 years before when the structure was originally built. Although the California Department of Transportation (Caltrans) originally proposed to rebuild the freeway in its existing location, a coalition of West Oakland community representatives quickly formed an opposition to the plan. Caltrans worked with a wide range of stakeholders to select a new alignment for the freeway that meets the needs of both the traveling public and the community of West Oakland. In addition, a \$13 million project to reforest and landscape the former freeway site into a boulevard that will reunite West Oakland.

The Cypress Freeway Replacement Project offers an example of a transportation agency that worked hard and, for the most part effectively, to address the needs and concerns of a low-income and minority community in the planning, design, and construction of an enormously complex and controversial project. The project contains examples of some of the following effective practices:

*Responsiveness to Community Preferences:* In the aftermath of the earthquake and the collapse of the freeway, Caltrans faced enormous pressure to reconnect a key link between Oakland and San Francisco. The least costly and most efficient way would have been to rebuild the freeway on the existing right-of-way. This was initially proposed but after community input, an alternative route was found with a much less dramatic impact on the low-income and minority communities of West Oakland.

*Highlighting Neighborhood History and Culture:* In addition to selecting a new, less intrusive alignment, Caltrans worked with the Oakland community to mitigate the impact of the freeway and freeway construction on local residents. Caltrans also excavated a site where significant African-American artifacts belonging to railroad workers were uncovered. This material became part of a museum exhibit.

*Provision of Multiple Economic Benefits for the Community:* The new alignment for the Cypress Freeway provides several economic benefits for West Oakland residents and businesses. The new alignment allows for greater port expansion and access to jobs in the port as well as greater access for residents and businesses in general in the West Oakland community.

*Local and Minority Participation in Construction:* Caltrans also undertook steps to facilitate participation of local and minority workers and contractors in the construction phase of the project.

### **3.4.6 The North Jersey Transportation Planning Authority (NJTPA)**

Another proactive policy described in the above-mentioned document (U.S. Department of Transportation, 2000) is the case of the State of New Jersey's implementation of its welfare program, WorkFirst New Jersey (WFNJ), following passage of PRWORA. Like the federal initiative, WFNJ emphasizes moving aid recipients off welfare and into steady employment. In 1997, the New Jersey Department of Human Services (NJ DHS) studied the State's bus transportation network for its ability to help WorkFirst participants re-enter the workforce. The

study used GIS to analyze factors such as known locations of jobs held by and appropriate for WorkFirst participants, child care facilities, job training centers, and bus routes.

The North Jersey Transportation Planning Authority (NJTPA), the State's largest MPO, also used GIS for its recent Regional Job Access and Reverse Commute Transportation Plan to identify opportunities for cooperative efforts, or linkages among New Jersey's 13 northern counties. The plan suggested coordinating county-based or regional services and implemented a method to evaluate and prioritize future job access and reverse commute projects.

*The WorkFirst study demonstrated how post census data incorporated into GIS mapping can facilitate a better understanding of the needs of an often highly transit-dependent population.*

*The NJTPA Study also demonstrated several effective practices important for integrating environmental justice principles into transportation planning. They included:*

*Recognizing that job access is a crucial problem that disproportionately effects low-income and minority populations.*

*Illustrating how cooperative relationships between federal, state, and local partners, along with collaboration between State labor departments and social service agencies can leverage resources to solve problems.*

*MPOs can provide the necessary forum for developing close partnerships with local communities affected in the transportation planning process.*

The results of both studies showed that making employment accessible to WorkFirst participants is an ongoing challenge but can be achieved. In the process of developing these plans and studies the following lessons were learned about environmental justice, data analysis, and planning:

*Many state and federal agencies compile post-census data, which can be invaluable resources for analyzing demographics, needs and transit destination for target populations.*

*GIS applications are tools that provide significant spatial representations of problems and are readily available and user friendly to a variety of transportation organizations, government agencies, or social services.*

*A regional planning agency, such as an MPO, can be instrumental in providing resources, guidance and links with smaller jurisdictions. Effective use of quantitative tools, such as GIS, requires an understanding of the qualitative characteristics of the populations and regions for which an agency plans. Agencies must be sensitive to the entire context in which welfare recipients live.*

### 3.4.7 The Bay Area Rapid Transit (BART)

The case of Fruitvale Transit Village is an example of how environmental justice principles were incorporated into the planning and design of this transit-oriented development (TOD) (U.S. Department of Transportation, 2000). The Fruitvale Transit Village project is the result of a broad-based partnership among public, private, and non-profit organizations working together to revitalize a community using (TOD) principles. TOD is a planning concept that seeks to use mass transit stations as building blocks for economic revitalization and environmental improvement. In September of 1999, groundbreaking took place on a \$100 million mixed-use development adjacent to the Fruitvale BART station. However, this is not the end of the story; this case study focuses on how environmental justice principles were incorporated into the planning and design of the Fruitvale Transit Village.

The origins of the project date back to 1991, when BART announced plans to construct a multi-layered parking facility next to the Fruitvale station. Although the community agreed the new parking was necessary, the design and location of the facility did not sit well with Fruitvale residents and business owners. Members of the community were concerned that the proposed structure would increase traffic and pollution and further separate the Fruitvale neighborhood from the BART station. The Unity Council galvanized opposition to the parking structure design and location, arguing that a broad-based community planning process should guide any development around the BART station.

Faced with this strong opposition, BART withdrew its proposal and agreed to work with the Unity Council on a plan for the area. During the next several years, the Unity council engaged local stakeholders in a comprehensive visioning and planning process that laid out the parameters of the Fruitvale Transit Village. Plans of the Transit Village included a mixture of housing, shops, offices, a library, a childcare facility, a plaza, and other community services all surrounding the BART station. The Fruitvale Transit Village project illustrates a number of key themes and effective practices that are central to incorporating the principles of environmental justice into transportation planning and design:

*Effective Partnerships:* All major development projects face certain legal, regulatory, and financial hurdles. The use of effective partnerships with a wide range of groups is the key to overcoming obstacles.

*Flexibility and Innovation by Project Partners:* Projects partners acted in creative and sometimes unorthodox ways to overcome key barriers. BART entered into an exclusive negotiating agreement with the Unity Council, agreed to a land swap and relocation of its facility and worked collaboratively with a community group on a project initiated by the community.

*Use of Creative Funding:* The Unity Council and its partners tapped diverse sources of public and private funding.

*Effective Public Involvement:* The planning process led by the Unity Council featured creative public involvement strategies such as community site planning meetings, workshops, and a community design symposium.

*Use of Transportation Assets as a Community Building Tool:* TOD, a planning concept that has been used successfully in various suburban locations, is largely untested in the inner city. The Fruitvale project might hold valuable lessons about the potential use of mass transit to stimulate economic growth in urban settings.

### **3.4.8 The Mid-Ohio Regional Planning Commission (MORPC)**

The Mid-Ohio Regional Planning Commission (MORPC), the MPO for the greater Columbus, Ohio region is yet another agency that took innovative steps toward ensuring environmental justice (U.S. Department of Transportation, 2000). In January 2000, MORPC convened a task force to develop a process with which to assess and ensure compliance of the agency's transportation planning efforts with environmental justice requirements of Title VI. This process ultimately contained four steps: Identify and map locations of low-income and minority populations; Identify transportation needs of target populations; Document and evaluate the agency's public involvement process; and quantitatively assess benefits and burdens of transportation plans with respect to target populations.

MORPC's efforts are noteworthy for using analytical techniques and public involvement. The agency effectively used GIS mapping to locate low-income and minority populations within the Columbus metropolitan area. This information was incorporated into a travel-demand forecasting model to assess the benefits and burdens of existing and planned transportation system investments on target populations.

MORPC also undertook significant steps to publicize its efforts and involve the public. The task force that developed the review process represented public, private, and non-profit sectors. In addition, MORPC held an open house to provide opportunities for public comments on the draft report upon its release. The entire draft report was also posted on MORPC's web site, along with minutes from all five Environmental Justice Task Force meetings.

MORPC's environmental justice review process serves as an example of how one MPO comprehensively evaluated the extent to which its regional planning efforts incorporate the principles of Title VI and the Executive Order on environmental justice. The review process illustrates a number of effective practices for ensuring that environmental justice requirements are fulfilled:

*Technical Advisory Groups and Public Involvement Techniques:* MORPC engaged the public and transportation service providers in carrying out its environmental justice review process by convening a broad-based task force to advise agency staff.

*GIS Mapping of Target Populations:* In identifying and mapping the locations of target populations within the Columbus metropolitan area, MORPC had to balance the need for current data against the need for data that were usable in its travel demand-forecasting model. In the end, the MORPC used 1990 census data that will allow for easy adaptation once future census data is available.



*Use of Accessibility and Travel Time Measures from MPOs Travel-Demand Forecasting:* In assessing the benefits and burdens of transportation system investments on low-income and minority populations, it makes sense for MPOs to use analytical methods with which they have prior experience.

*Documenting the Review Process:* MORPC's Draft Environmental Justice Report thoroughly documents the methodology developed to carry out the agency's environmental justice review process. This is important because the report identifies a clear set of procedures for assessing future planning efforts from an environmental justice perspective.

### **3.4.9 The City of Tucson Department of Transportation (TDOT)**

Another case study described in the U. S. Department of Transportation's environmental justice document (U.S. Department of Transportation, 2000) is that of TDOT's effort to proactively implement environmental justice. During 1995 and 1996, the Federal Transit Administration (FTA), through its Livable Communities Initiative, awarded the City of Tucson, Arizona, \$1.5 million to carry out a series of transportation enhancements along a one-mile stretch of South Park Avenue. The South Park area, located within Tucson's federally designated Enterprise Zone, is a low-income, minority community originally settled by African Americans during the 1940s. It is an area rich in cultural and historical significance because, during these early days, it was one of a few places in Tucson where African-Americans could purchase land, build homes, start businesses, and create a community.

FTA's Livable Communities Initiative (LCI) was established, in part, to assist transit dependent communities with economic recovery. From 1995 through 1999, the Tucson Department of Transportation (TDOT) worked with residents and businesses in the South Park neighborhood to plan and implement a series of improvements that increased transit, pedestrian, and bicycle safety and accessibility; enhanced commercial districts aesthetics along South Park Avenue; and reinforced the community's sense of pride in its unique history and culture. From an environmental justice standpoint, the South Park Avenue Improvement Project is noteworthy for three principal reasons:

*Community Partnerships:* Partnerships were developed to leverage financial and technical resources for planning and implementing transportation enhancements in a low-income, minority community. The project culminated a 10-year planning process whose major participants included the Tucson Urban League, the South Park Neighborhood Association, The University of Arizona, U.S HUD, TDOT, and FTA.

*Context-sensitive Design Tools:* Context-sensitive design tools were used to re-awaken a community's sense of identity and pride. Art components of the South Park Avenue Improvement Project, including mosaics, totems, and sculptures, were designed to draw attention to and celebrate the neighborhood's history and strong community spirit.

*Citizen Participation:* Highly creative and effective public involvement strategies gave community residents a strong sense of project ownership. For example, community residents voted on project designs and created artwork integral to the project.

Some of the important lessons of the South Park Avenue Improvement Project include:

*Partnerships bring knowledge, expertise, financing, and other resources to the table. Low-income, minority communities, in particular, may need to draw on a variety of sources to assemble the resources necessary to advance costly transportation projects.*

*Partnerships that bring together stakeholders from public agencies, community organizations and the private sector have tremendous potential for discovering and implementing creative solutions to complex problems.*

*Transportation improvements can serve a broader purpose by playing a role in revitalizing distressed communities. Transportation officials who manage projects in such areas should be on the lookout for opportunities to integrate transportation enhancement investments into community redevelopment, economic development, and other local land-use initiatives.*

*Residents of low-income and minority neighborhoods may justifiably feel that their issues and concerns have not been adequately addressed in the planning and implementation of public work process.*

### **3.4.10 The New York State Department of Transportation (NYSDOT)**

As with most departments of transportation, strict regulatory compliance had long been a part of the culture at the New York State Department of Transportation (NYSDOT) (McVoy et.al., 2000). While this reactive approach reduces environmental damage, it was not always the most effective way of doing business. NYSDOT's environmental initiative began in April 1998 with the creation of the Environmental Initiative Statement. A major premise of the environmental initiative is that partnerships work better than contention. NYSDOT has joined with environmental agencies in a common purpose to advance state environmental programs. The five major objectives of NYSDOT's environmental initiative were as follows:

Promote and strengthen an environmental ethic throughout the department. Staff should feel a responsibility to leave project sites in better condition than they found them and look for opportunities to enhance New York's environment.

Advance state environmental policies and objectives with NYSDOT resources. Advance environmental polices as part of the department's normal work. Fund environmental benefit projects, including storm water retrofits, wetland restorations, habitat enhancements, recreational access, informational signs, landscaping, and environmental research.

Partner with others to construct environmental enhancements. Pursue opportunities for joint development. Incorporate environmental elements or facilities funded by other agencies, municipalities, or environmental groups into NYSDOT construction and maintenance projects.

Pilot new environmental protection and enhancements methods. Cooperatively research and pilot new methods to, for example, reduce environmental toxins, improve air quality, and increase the use of recycled materials.

Strengthen relationships with environmental agencies, organizations and local municipalities. Improve communications, streamline permitting, share program information, and conduct joint training. Gain their confidence in NYSDOT's ability to self-regulate.

In adopting this ethic, NYSDOT has joined with environmental agencies in a common purpose. The environmental initiative is a public-service ethic that has provided a basis for NYSDOT staff to realize some of their larger responsibilities. As such, there is a strong community and public-outreach component to the environmental initiative that improves current public involvement methods by providing a basis for positive interactions. NYSDOT staff members consult with local municipalities and environmental agencies on a regular basis to determine what enhancements can and should be incorporated into the department's work.

According to the authors, the initiative probably has saved real dollars for the state and local governments. Administrative costs are down, mitigation costs are down, and although project costs are up, project development has sped up. From a statewide perspective, the overall cost of enhancements is reduced by the economies of scale associated with incorporating enhancements into those situations in which they can be most efficient and effective.

The authors conclude that NYSDOT's environmental initiative is more than just an effort to incorporate environmental features into a project, streamline a regulatory process, or improve interagency cooperation. It is a public-service ethic that provides a philosophical basis for accomplishing all of these objectives and more. It is about a public agency taking pride in embracing its larger responsibilities. NYSDOT's framework can be adapted to any state and strengthen best practices from any source.

### **3.4.11 The National Capital Region Transportation Planning Board (TPB)**

In the summer and autumn of 1998, the National Capital Region Transportation Planning Board (TPB) sponsored an independent study by a consulting firm to assess its public involvement program for transportation planning carried out in the Washington, D.C., region (Graves and Casey, 2000). The Washington region's metropolitan planning organization was one of the first to commission an assessment of its public involvement efforts as required under ISTEA. The purpose was to provide an overall assessment of TPB's public involvement program and recommendation options for improvement.

The assessment was conducted in three phases, the first phase was to review public involvement efforts in the region and, for comparative purposes, other selected metropolitan regions across the United States. The second phase was to interview knowledgeable stakeholders on public involvement in the Washington region. The final phase was to prepare a report presenting findings and recommendations to the TPB based on the efforts from the first two phases.

The focus of the first phase was to identify public involvement opportunities sponsored by the TPB and local jurisdictions. In addition, this phase of the assessment was to determine the range of public involvement activities other MPOs employed. Relying on document searches and computer searches on the Internet and interviews with various transportation and agency staff across the region, the assessment team identified a variety of transportation public involvement activities taking place in the region.

The assessment team found that there were many opportunities for public involvement in transportation planning in the region. Among the most visible public involvement efforts were the TPB's citizen advisory committee (CAC) and its vision planning process. In addition to two opportunities provided through TPB, there were a variety of public involvement opportunities sponsored by other local jurisdictions. The methodology for documenting public involvement opportunities in other metropolitan areas was as follows: the assessment team first identified key metropolitan areas from which to obtain information, and then obtained information about their public involvement efforts. Documents were prepared under direction of DOT's Volpe Center, the FHWA and the FTA. The public involvement efforts in other metropolitan areas were similar to those in the Washington area. In terms of total public involvement activity, the Washington region was clearly above average.

The focus of the second phase, the stakeholder interviews, was not to gather data for statistical analysis of responses, but rather to provide a detailed picture of perceptions about the TPB public involvement program. Thus, the interviews were structured around a dozen open-ended questions designed to elicit information about the stakeholders' knowledge about TPB-sponsored public involvement activities and suggestions for improvements where appropriate. As expected, the stakeholders' interviews yielded a diverse array of opinions regarding the TPB public involvement program.

Phase three of the project was to present the findings and recommendations based upon the first two phases. Four themes were found; strengthen outreach to stakeholders and the public; enhance access to information; improve the public's understanding of TPB's responsibilities; and either discontinue or enhance the council of government.

Since the TPB received the findings and recommendation from the assessment presented in the journal, TPB has begun implementing efforts to enhance, rather than disband, the CAC. In addition, TPB is making a significant effort to improve public understanding of TPB's role and responsibilities in regional transportation decision-making. At the time this journal was presented, the authors felt that it is far too early to comment on TPB's efforts.

#### **3.4.12 The North Carolina Department of Transportation (NCDOT)**

The need for a circumferential freeway around the city of Wilmington was identified in a transportation study in 1972. The need could not be met until passage of state legislation, the North Carolina Highway Trust Fund Act, of 1989. The act was aimed to improve North Carolina's intrastate highway system in order to promote economic development. The Wilmington Bypass is part of the US-17 intrastate corridor, which is the state's major north-south route east of I-95. The plan designated two separate projects for planning and

environmental study, including an eastern section from I-40 to US-17 (referred to as the US-17 connector) and a western section from US-17 to I-40 (referred to as the Wilmington Bypass) located in New Hanover County and extending into Brunswick County (Lane et. al, 1998).

An early alternative analysis for the Wilmington Bypass project yielded several potential corridors. One of those corridors directly affected the St. James A.M.E. Church and the Rockhill Community Center, and displaced several residences within the Rockhill/Chair Road neighborhood located in the northern sector of the Wrightsboro Community. As a result of direct and indirect impacts to this predominantly minority neighborhood, along with other substantial impacts located in Brunswick County, this alternative was eliminated. Subsequently, two other alternative routes were approved to be studied known as the northern and southern alternatives.

In 1994, Governor Jim Hunt passed further legislation that was aimed to accelerate construction of key economic development highways. Accordingly, construction for a section of the Wilmington Bypass from US-421 to I-40 was accelerated in order to relieve congestion within Wilmington's business district. The draft environmental impact statement (EIS) was released for public comment in 1995. For environmental and traffic utilization reasons, the southern alternative was the preferred alternative in this draft EIS.

After public review the citizens along the southern alternative requested a third alternative be studied. This route, called the center alternative, was similar to the alignment of the first alternative that was dismissed due to its adverse impacts to the Rockhill/Chair Road Community. The center alternative did minimize some impacts to the St. James A.M.E Church and the Rockhill Community Center.

The new center alternative and southern alternative were deemed worthy of further review and an expanded EIS was prepared. Because of the previous decision to eliminate an alternative in the Rockhill/Chair Road neighborhood, residents in its vicinity as a discriminatory action viewed the inclusion on the center alternative. Residents contended that they were not consulted in the decision-making process and further felt the alignment would destroy the cohesiveness of their community. Consequently, NCDOT was indicted with accusations of racial disparity.

In response to strong opposition to the center alternative, further complicated by the united opponents of the southern alternative, NCDOT augmented the Wilmington Bypass Public Involvement Process. In addition, NCDOT pursued preparation of an environmental justice analysis for both alternatives.

The environmental justice analysis conducted for the Wilmington Bypass project exhibits a method for determining whether a project would disproportionately affect minority or low-income populations by theoretically defining the proportionate impacts. Although the accuracy of the analysis conducted for the project is a function of the representativeness of aggregated census data to the population area, results show that calculated percentages could be methodically developed with available census data for determination of a theoretical proportionate and fair impact distribution. The accuracy of this analysis further depends on the assumption that the neighborhood retained the same racial and income characteristics as

displayed in the 1990 census data and will retain these demographics throughout the planning period.

Despite the strides made toward quantifying environmental justice impacts, problems with evaluating qualitative environmental justice effects of projects (community cohesion, quality of life, community values, and other social effects) remain. Most often, these are the contested issues and the issues that are most laborious and expensive to evaluate. Case-study databases are an answer to this type of impact projection; however, further analysis is needed to develop a list of parameters that should be investigated for such impact projections.

In conclusion, the authors felt, there will never be a single approach or answer for determining disproportionate impacts within the context of environmental justice evaluations. This can be attributed primarily to the evaluation's dependence on peoples' perception, values and attitudes. However, the authors feel this analysis has shown that methods can be developed that are appropriate for the given project circumstances.

#### **4. Analysis of the Interviews**

This section presents the findings that emerged from the interviews conducted with transportation planners and policymakers. Our primary analytical framework for analysis of these interviews was drawn from critical ethnography and studies of practice and discourse in public policy (Van Maanen, 1988; Hummel, 1991; Liggett 1996; Throgmorton, 1996; Watson 2002). As stated earlier, such a methodology relies on qualitative interpretative inquiry and seeks to understand the unique and contextual, rather than make generalized propositions. The analysis explores stories of practice, narrated by transportation officials, planners and policymakers "practice stories" from which we identified major trends. We first present these major trends that emerged from the interviews in bold text. We then illustrate these trends with quotes from these interviews.

**For most public officials (such as those from MPOs, Maryland Department of Transportation, Maryland Transit Administration, Maryland Department of Planning, and Federal Highway Administration (FHWA), enforcing environmental justice and public participation is a federal regulation and is, hence, a requirement.**

For example, an official from FHWA stated,<sup>5</sup> "In this agency we are taking very seriously the instructions from our department secretary. Environmental justice . . . is an expansion of Title VI President Clinton gave an Executive Order . . . in '94 . . . to all of his cabinet secretaries . . . which defined what Title VI requires us to do in the execution of our program. . . . The order directed the secretaries to . . . look at your program . . . and then write guidelines . . . which will interject this concern into our processes from beginning to end . . . FHWA had pretty well developed their guidelines on how to include environmental justice concerns in all parts and all the stages of the program, . . . It was used as a model for the DOT Order. . . . Environmental justice was already becoming a part of our way of doing business." He continued, "The FHWA

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<sup>5</sup> The responses have been edited, as indicated by the ellipses for conciseness and to increase clarity.

environmental justice orders are guidelines. They are not codified in regulation; they are instead good practices that we recommend to the state's DOT."

According to an MTA official, "Just the presence of that regulation or executive order has, as an agency, made us think more about those issues."

To cite yet another example, an MPO official stated, "Since we do regional transportation planning, we fall under the purview of several federal regulatory functions, most importantly TEA-21, but the Title VI regulations also apply to us, because we receive federal funding. So, based on that, we must take environmental justice issues into consideration during the development of our transportation improvement program."

Yet another official from the Maryland Department of Transportation stated, "The State Highway Administration and Maryland Transit Administration both have project level environmental justice analysis in place." Another official from the same agency stated, "A lot of the impetus for doing environmental justice analysis comes from the federal requirements."

One State Highway Administration Official (SHA) stated, "There is the executive order on environmental justice that the President issued in 1994. So we are required here at SHA to consider environmental justice impacts on projects that receive federal funding and even projects that receive state funding."

**For most citizen and advocacy groups, these issues are part of agency goals and mission. These organizations also believe that broader institutional issues of race and class manifest themselves in the practice of environmental justice.**

For example, a community organizer from a citizen's group stated, "my job is to organize transit riders in the Baltimore region . . . It is core to our mission to create an equitable system . . . You could look at equity from the perspective of race. The rapid rail system heads north and south through the city and people that have to go east and west take an hour-and-a-half-long slow bus trip through the city. Express buses are largely in more predominately-white communities . . . Service is better from suburbs to the city than from the city to the suburbs, which hampers the people living in the city to commute to the high-growth suburban areas for service-sector jobs. You can also look at it from the perspective of the Baltimore region vs. the greater Washington region, where a disproportionate amount of capital funding has recently been going to the Washington region and into suburban projects of Montgomery County, which is very powerful in the State legislature, rather than to the Baltimore region . . . Our organization . . . challenges MTA to give better service. We also challenge the state leadership to put more money into transit than into highway widening . . . into the Baltimore region than the DC region, and to give MTA adequate funding to serve their core ridership, which is largely bus riders."

An official from Citizen Planning and Housing Association stated "the CPHA transportation program is all about equity and justice in my point view. I think our agenda as a larger nonprofit needs to be fueled by agenda of day-to-day riders. The issues we work on are driven by day-to-day riders such as job access." Other aspect looks at sprawl and lack of investment in older communities and throughout the region"

A Senior Staff Attorney, of the Community Law Center, stated, “The Community Law Center represents community organizations in Baltimore city and most of the organizations that we work with are low-income neighborhoods. We have actually just identified environmental justice as an area that we want to concentrate on.”

**Most private consulting firms are engaged in environmental justice and citizen participation because it is a source of work due to federal regulations.**

One consultant stated, “Because it is a requirement that federal agencies consider environmental justice in their planning and project development, there is work to be done by consultants advising agencies to do that.”

A vice president of another private consulting firm reiterated the issue by stating, “The company is a consulting firm that does a wide range of engineering and environmental studies. In order to primarily carry to the NEPA process, it usually involves writing a NEPA document (either environmental assessment or environmental impact statement) for a given transportation improvement. One component of that is going through socio-economic analysis and recently in the last, probably five years, has involved environmental justice considerations. The Executive Order issued by President Clinton several years ago brought that under the NEPA umbrella and it becomes part of our scope of work. It is done to primarily help the agency we are working with, to comply with the environmental justice requirements and include that process in the NEPA document.”

Yet another official of a private firm stated, “I am an environmental planner and part of my responsibilities here are to deal with economic analysis for NEPA documentation and all of the other documentation we put together for our other transportation projects. Environmental justice is part of every one of those projects. We have to perform environmental justice analysis for every project and that is how I became involved in it to this point. State Highway Administration has come out with their environmental justice guidelines and all of us are very familiar with the guidelines and apply them to each one of our projects.”

**For most public officials as well as advocacy groups, citizen participation is a complex issue. It is difficult to get citizens to attend public meetings, since this may not be a priority among low-income and minority populations or they may not feel that their involvement may change policy outcome. Food, shelter and family needs may rank higher with such groups. Lack of communication and lack of perceived relevancy of the issue is often the reason for non-involvement of citizens. For many agencies, the problem also lies with identifying the vulnerable groups. One way to increase community participation is to reach out to the community. However, it takes a long time to build a relationship between a community and an official agency. There is also a need to translate documents into languages other than English to reach out to non-English speaking minorities.**

One official from a mass transit agency stated that, “citizen participation happens on many different levels . . . When we are going for an EA or EIS, we have to do a public hearing . . . . We tend to do those things that are perfunctory and we . . . only go above and beyond once



people start to yell and scream about a particular issue . . . It has been a struggle for me, I'm constantly wanting to . . . talk . . . to neighborhood groups, but there is this agency tendency to hold off . . . doing that until you are in the formal process." The same official continued, "I think it requires an agency to understand the level of need its customers are operating on. Our bus patrons, while . . . getting to work . . . is critically important to them, for them to have food on the table and shelter over their head at night is equally important . . . It is hard for us to expect them to go spend two hours at an evening meeting trying to help us figure out where to site a bus facility, or whether this route or that route should be re-routed, or whether we should build a subway line here or there. We have to be willing to meet the community where they are at, both physically and psychologically."

He continued, "The other thing we tend to do is segregate the riding public from the non-riding public . . . We will make a change on a bus route, because of a request of a community organization, and never consult the riders who may happen to live in that neighborhood or the riders going through that neighborhood to go to work . . . Community associations tend not to represent poor minority members of the community, especially in a majority white community. If we have to move the 11 bus route, I expect our people to be on the 11 bus route talking to riders or at the bus stop talking to riders . . . We spend a lot of staff time going to evening meetings, where there is a dozen or so people, but we never spend that same staff time getting on a bus and talking to riders".

The need to reach out to the community was well stated by an MPO official. According to her, "It helps to make contact with one or more individuals in the community, so they invite you in and you have someone that will bring you to the meeting, so you're not just an outsider standing there. You follow up with the community. If they ask us a social service question . . . we say . . . we'll pass it along . . . We try to make materials available in the community and in the libraries."

Another official in the same MPO pointed out the importance of non-English documents by stating "in terms of other languages, there are a lot of standard documents that we might hand out . . . For each agency to hire a translator, it seems inefficient and costly . . . Federal assistance would be very helpful."

The importance and difficulty of reaching out to non-English speaking minorities was pointed out from an SHA official who stated, "For instance, in Montgomery County there is a large Hispanic population, we'll make sure we have a translator at the meeting. We make sure we put an advertisement of the meeting in the Hispanic press and maybe even translating a brochure in Spanish to reach out to these folks. We make sure we identify early who these people are in the community and that we outreach to them to make sure they know what is going on and have a chance to put their voice into the process."

An official from another MPO reiterated the need to reach out to communities by stating, "I think, generally, with any outreach activities to the public you have to understand the communities, the community representatives. You have to understand their time, their efforts. I think our model is a little different and we use community leaders and these leaders are the representatives of various community agencies around the region. This is their job to come to a meeting like this. So, this is easy for them to come to our venue. We also provide incentive to

community members to come because we want to make it important for them to come as well as for us, to hear their issues. So, we provide reimbursement for their travel, we provide them with food, and we create a positive relationship with them.”

This need to reach out to communities was also reiterated by advocacy groups. For example, an official from one such group stated, “I know a sure way to get to a community in Baltimore City is through designated community leaders and its legislative and political people. That has always been my avenue when I need to get to a particular community. I would always go to the elected officials and say who do I need to talk to and will you help me?”

An advocacy group official clearly pointed out that a lack of communication often results in a lack of participation. He stated that “We talk technical; we talk MPO, VMT, TIP, SIP.” He continued, “We don’t say, hey, how is your bus service? How long did it take you to get to work? Unfortunately, we are a bunch of technocrats engaged in this decision-making process . . . who haven’t figured out how to speak common everyday English about those issues.” He also pointed out that the relevancy of the issue was important in involving citizens. “You almost have to make some of the decision-making . . . and some of the impact more immediate. People will stay engaged in something . . . if there is some level of immediacy . . . I think people will find . . . the time if they feel there is some level of relevance.”

The difficulty of identifying vulnerable groups and reaching out to them was well stated by one official from the Department Transportation and Public Works, Baltimore County. According to him, “the challenges are first of all, I believe, to identify the particular people in the community that you are targeting. While that may seem mundane or seem like a rather easy thing to do, for us it has not been one of the easiest things . . . environmental justice is to go a little bit further or take the next step. I would think that we are not there yet and we haven’t been able to take that next step. Because we are not sure again who these groups are and where these groups lie.”

He continued, “I’m thinking myself, what would it take for me as a disenfranchised person/group who are struggling with everyday survival and every day issues of drugs, crimes, lack of response from bureaucrats, so on, to come to a regional transportation meeting? I guess that’s where my disconnect sort of lies. For us to move to a point where we are going to get that group to attend meetings is going to require a lot of effort. To me that is the challenge.”

Finally as pointed by one advocacy group member, citizens may not get involved in the planning process because they feel their involvement may not influence policy. As stated by this official, “I think the major piece and a reason a lot of people don’t get involved in the planning process as a whole is that they feel they have little ability to impact the end results.

**The lack of standards and regulatory guidance in policy planning process is an obstacle to implementing environmental justice.**

As aptly stated by an MPO official, “I think an additional challenge on the technical side is that this is still new enough that there aren’t many examples . . . There is no standard way to do public involvement . . . it’s still a lot of trial and error.”

An official from the Maryland Department of the Environment reiterated the point by stating, “One of the primary challenges with the environmental justice movement is that there is so little regulatory guidance. Most of us are trying to address an issue that is almost indefinable. Environmental justice does not have the necessary regulatory guidelines. What it had, some of it was struck down by the Supreme Court cases. So the challenge has become more difficult for us, citizens across the state call and ask us about environmental justice issues, but the State does not have the regulatory ability to address the concerns. They are working on developing regulations. But environmental justice is a fairly new and dynamic, complex issue and that in itself poses another challenge.”

**The use of GIS along with various statistical techniques, community surveys and site analyses are the best tools available for gathering and analyzing data on environmental justice.**

For example, an official from a Mass Transit Authority stated that “we are getting more sophisticated in terms of GIS modeling and such. We are very good at identifying the potential negative impacts.”

An official from Baltimore County government reiterated the point by stating “Looking at data and trying to map that data, putting that data into geographic areas, that’s our biggest tool. We use Arc View and we use a number of layer-based data, zoning, census information, permit information, housing values, land values and acreages.”

An MPO official reflected the same notion by stating, “We just completed our long range transportation plan. The main tool we used was our travel demand model, that looked at race and income, and we looked at accessibility.”

Another official from the MPO stated that there was “no standard of measurement.” She continued, “The experience I have had is that the GIS we use is more to identify the communities, than being the first step in the process.”

An official from the Maryland Department of the Environment stated, “One, we are looking at a set of tools to better understand what threats communities are facing.” He continued, “We are going to be doing community surveys that will help to get anecdotal information from people to find out their concerns and recommendations. We do community characterization, which is a little more or requires more GIS information and we use this information for a snapshot of how the community is doing. That will be a significant thing for us. We also want to do spatial analysis, which has two or three levels, and one is exposure analysis where we look at communities to find out how exposed they are to certain facilities. He continued, “Then we do screening mechanisms, and we look at screening tools that have been used. The screening model looks at databases within jurisdictions. It comes out with a threshold and if the threshold shows that one community is more exposed to environmental hazard as a consequence of a transportation highway project, it would discourage highway officials from doing additional projects that could exacerbate environmental justice issues.”

An official from the Maryland Department of Planning stated, “I use a lot of empirical data, particularly census data, Census 1990 and 2000. I also use some historical census data in order to track population changes over time. I guess census data, even though it is imperfect, is my major data source. Also I look for environmental data, particularly EPA databases, which include a lot of location information of different environmental facilities. GIS is a very popular tool and of course I use GIS a lot. Modeling is another popular tool and I use a lot of modeling tools, such as TransCad, Dram/Empal and TP Plus. I try to integrate GIS with transportation modeling to study the impacts of transportation proposals and policies particularly on accessibility.”

**There is a need to go beyond census data in order to identify groups that could benefit from environmental justice principles.**

For example, a staff member from FHWA stated, “we suggest ... school lunch programs, senior citizens program, social services, health services, can help you identify groups at a more discrete level.... these groups are the ones you want to have interactions with, to determine what their transportation needs are... to determine if these are the same as the community at large or are different in nature.”

An MPO official reinforced this view by stating, “We need to know the low income and minority. Where are these folks? What are the income levels, where do they live? And then on the other side we need to know where the jobs are . . . that’s a lot more difficult, to get information on low wage jobs, the turnover, the shift period, because you then obviously want to know if there’s transit, a guaranteed ride home. You need to get folks to all the different shifts, and on the weekends. So we need to know where they are and what time of day. So it’s the kind of data that tells you where people live and where people work.”

Even the private consultants also echoed the same data needs. According to one consultant, “We try to use the census data to narrow the field down to where we think there might be an impact upon a low-income or minority community. From that point we get into a gray area because there are no specific data needs. A lot of it is talking to people who are familiar with the area. A lot of times we start with the local planner. The county or local jurisdiction usually has someone who is in charge of the particular area we are looking at and they work with the communities on a daily basis. That is usually our first point of contact. From that point, we start to look at community associations, churches, and any sort of organizations that might have some familiarity with the area. In my opinion, the trickiest part of the entire analysis is trying to find people who know where the potential environmental justice communities might be and then trying to establish boundaries for those communities.”

An official of the Maryland Department of Environment stated, “In every single State agency, we have data pool. Many of these models require data and we just do not have the data, especially health data. Health data is inaccessible in the State. For one, I do not think we have done a good job in collecting it and, two, I do not think we fully know what information to collect. In Baltimore asthma rates are going up exponentially and a lot of us think it has to do with environmental issues. But there is no research on that. One of the projects that

organizations have to engage in is to figure out the right data, some sort of data taskforce on critical data that needs to be collected to better understand EJ concerns.”

One official from an advocacy group stated, “We would definitely like to see data for all the city streets, in terms of width, number of lanes, width of those lanes, and volume of traffic. We could utilize the GIS data. . . . I know that we’ve been able to get GIS data that shows where different bus lines and bus stops are, but we don’t have any data about the reliability or the frequency of those lines.”

### **Access to information was an important issue among community organizations and advocacy groups.**

For example, an official from an advocacy group stated that “there are tools that should be implemented, and I think the biggest tool should be access to knowledge and the whole information field, so communities can make some intelligent decisions . . . Until every community is armed with the knowledge and ability to make those kinds of decisions, people will be disadvantaged and disenfranchised. The lower you are on the totem pole, the easier you are to be stepped on by the system.”

An official from another such group summed up his frustrations of data availability by stating, “I know one of the things that I found frustrating about the rail planning process was that I ended up creating my own maps and I know other people were trying to create their own maps and trying to figure out how the process was going on and how best to develop a larger rail system. In large part, that was a very internal process that MTA and advisory committee were involved with and they did not give residents and riders a lot of tools to be able to work on that.”

## **5. Analysis of the Focus Group**

An analysis of the focus group suggests the following three main propositions:

**First, infrequent service and difficulty of connections are major problems faced by transit-dependent citizens. The plan of the city makes it difficult for buses to get around, further compounding the problem. Services for the disabled in the city are also very inadequate. Overcrowding on some of the bus lines is an issue with transit-dependent citizens. More buses and interconnectivity of modes is needed for better service.**

For example, one member of the Transit Riders League of Metropolitan Baltimore stated, “When you don’t have a car, it is difficult to get around, because buses are not on time, and the connections are not good.” Another member of the group articulated the problem by stating, “If you are transit-dependent and you are going at odd hours, there aren’t enough buses . . . So it doesn’t encourage people to use transit. Couple that with the fact that this is an old city with an old plan that hasn’t changed since the city was designed, and the buses are still trying to get around these streets . . . The most hopeful plan is the new rail system, but . . . I wonder if we will have the political will to get it done. The mayor calls [Baltimore] the greatest city, but you can’t be the greatest city with a second-class transit system like today . . . The services in the city for the disabled are dismal . . . Meeting the basic requirements of the ADA is an issue.”

Another member stated, “They need better buses, more buses, better connectivity, and collaboration between the modes . . . If you look at a map of the buses, you will see so many gaps in service where the buses could connect better.”

**Second, there is discrimination in provision of transportation service and infrastructure.**

The fact that there is discrimination in provision of transportation service and infrastructure was well articulated by a member of the group who stated, “The system now is set up as a system of haves and have-nots. If you have a car and money, you get shuttles and shelter and the like. But those in low-income areas have longer distances between their stops. They have to wait many hours for buses that do not come . . . Those who have to use public transit . . . in Baltimore typically . . . are poor, minority, specifically African-Americans . . . Because we structured this system in an unjust manner, it tends to do the opposite of what we want in terms of . . . diversity in Baltimore . . . It doesn’t have to be that way. There is enough money, good will, and planning to ensure equity. Once upscale people start to ride the bus, it gets better.”

**Third, transit-dependent people do not participate in meetings because of the lack of adequate transportation, and because the meetings are often held at inappropriate hours that make it difficult for transit-dependent people to attend. Furthermore, public meetings are often held after the decisions have been made.**

As clearly stated by one member, “there have been several public meetings and the last one they had was inaccessible to bus riders.” Another member stated “they often have transit meetings in the most inopportune places for those who ride transit.” Inappropriate meeting times were also a major concern. For example one member stated, “Hearings are also not scheduled around the public. They are often in the morning or lunchtime, when the public is working.” Another member stated, “I would like to see public meetings on the weekend.”

Some of the members felt that public meetings were often held after the decisions had already been made. For example, one member stated that “a lot of the time when they have the meetings, it is when decisions have already been made, so public input will not matter.”

## **6. Summary of Survey and Focus Group**

As stated at the beginning of the report, we attempted to answer several research questions for the study. In this section we summarize the extent to which we were able to answer these research questions. We list the research questions that we posed, followed by the answers that we found. This is followed by overall conclusions and policy recommendations.

### **Who are the various stakeholders involved in environmental justice issues?**

Our analyses and findings show that public agencies, private consulting firms, quasi-public agencies, advocacy groups, community organizations, and the general public are the primary stakeholders. Public agencies include organizations such as the Maryland Transit Administration (MTA), Maryland Department of Environment (MDE), Baltimore County Department of Public

Works and Transportation (DPW), Maryland State Highway Administration (SHA), Maryland Department of Planning (MDP), Federal Highway Administration (FHWA), U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA). The quasi-public agencies include the Baltimore Metropolitan Council (BMC) and related councils of government such as the Metropolitan Washington Council of Governments (WASHCOG). Private consulting firms who are stakeholders are the ones that do contracts for public agencies that have to comply with the environmental justice principles. The advocacy groups and community organizations that are involved in environmental justice issues are wide and varied in terms of their size, outlook, and ethnic and racial compositions. These include groups such as Environmental Defense Fund, 1000 Friends of Maryland, Citizens Planning and Housing Association, Empower Baltimore Management Corporation and so on.

### **What are the needs of various stakeholders in terms of information on environmental justice?**

Access to information is an important issue among community organizations and advocacy groups. Both public and private agencies feel the need to go beyond census data in order to identify groups that could benefit from environmental justice. Such data is also needed to conduct other types of analysis that pertain to environmental justice. However, such data is not readily available and needs to be collected. Contact with school lunch programs, senior citizens programs, social services, health services, community associations, churches, and any sort of grassroots organizations are essential to identify transportation needs of the poor and disadvantaged. There is also a need to define and identify the low income and minority, their income levels, and their place of residence. Information on jobs (especially low-wage jobs) is another key element of data collection strategy. It is important to identify people and organizations who know where potential EJ communities might be and then try to establish boundaries for those communities.

### **How do broader institutional and structural questions of power, class, culture, ethnicity, race, gender and control manifest themselves in the practice of environmental justice?**

Although we did not find concrete answers to the above issues, our analysis indicates that the poor and minority population bear high and adverse impacts of transportation systems and projects. In fact, such population groups regularly suffer from environmental injustice due to a lack of political voice. Although many advocacy groups, and more recently MPOs, are working for such disadvantaged groups, the problem of environmental injustice still remains ingrained in our society.

### **What tools and techniques (e.g., data gathering, analytical methods) are available to transportation planners, policy-makers and managers to assess the benefits and impacts of transportation projects upon low-income and minority communities?**

Our analysis shows that most agencies have not made much progress in collecting information beyond census data. Most of the agencies rely on census data. However, most agencies are aware of the need to collect data that goes beyond census data. A few of the agencies are making an effort to reach non-traditional sources, such as senior citizens programs, social services, health

services, community associations, churches, and grassroots organizations, to collect appropriate data. The most commonly used tool includes GIS along with various statistical techniques. Other techniques like spatial analysis, community surveys, and screening models are also useful in identifying communities that would benefit from proactive implementation of environmental justice.

### **How can environmental justice principles be integrated into transportation planning and the decision-making process?**

MPOs and other public agencies have to be proactive in order to integrate environmental justice into the transportation planning process. Citizen participation is a key element of such a process. One of the biggest barriers in citizen participation among low-income and minority populations is the low priority assigned to transportation issues by this segment of the citizenry. Providing food, shelter, and other family needs rank far above transportation. Another key constraint is the lack of participation in the decisions and actions during the early stages of the transportation planning process. Holding meetings at places that are not easily accessible by transit-dependent people, or at times that make it difficult for them to attend, acts as a deterrent to participation. Holding meetings too far into the planning process for citizens to have a real impact is yet another deterrent to participation. Lack of communication and lack of perceived relevancy of the issues is also a reason for non-involvement of citizens. The best way to involve low-income and minority populations is to reach out to the community. This can consist of establishing outreach programs through non-profit organizations, minority institutions, and advocacy groups that already play significant roles in these communities. This is discussed in detail in a later section of the report.

Drawing from the literature on non-governmental organizations in the developing world (Bratton, 1989, Farrington et al 1993; Hulme and Edwards, 1997) we contend that human action also plays a significant role in determining the level of concern for environmental justice and equity issues among these agencies. The analytical framework employed in studies highlight the importance of viewing institutions as organizations of human identities, objectives, and social histories. From this perspective, human action is important to understand agency behavior. Thus, if an agency has officials who come from a grassroots background, there is a greater concern for environmental justice issues. However, for most citizen and advocacy groups, these issues are part of the agency's goals and mission. This is natural because the people who work in these organizations joined them to bring about social change and equitable distribution of resources. Naturally, they are likely to act proactively to ensure proper implementation of environmental justice and equity in transportation planning and policy. The social histories of these advocacy groups play a significant role in their actions. They were formed in the first place to advocate the needs of the poor and underrepresented. Thus, they are likely to be proactive in talking up issues of justice and equity in transportation. In summary, there is a sharp contrast between governmental organizations and advocacy groups. While governmental agencies may be taking up environmental justice issues, because it is an official mandate, advocacy groups do so because this is their goal and mission.



**Are there examples of transportation planning projects in which environmental justice was proactively considered in the planning process?**

Our study revealed several specific examples in which equity and/or environmental justice were proactively considered in the planning process. These have been discussed in detail in the literature review section “Effective Techniques for Implementing Environmental Justice in Transportation.” To reiterate, these include the Ohio Department of Transportation’s effort to propose tasks to implement environmental justice; the Wisconsin Department of Transportation’s initiation of a process leading to a transportation needs assessment study of Verona Road and West Beltline; the Regional Transportation Plan adopted by Southern California Association of Governments; the State of New Jersey’s implementation of its welfare program, WorkFirst New Jersey; the case of Fruitvale Transit Village where environmental justice principles were incorporated into the planning and design of this transit-oriented development; the Mid-Ohio Regional Planning Commission’s innovative steps toward ensuring environmental justice; the Tucson Department of Transportation’s effort to proactively implement environmental justice; the New York State Department of Transportation environmental initiative; and the National Capital Region Transportation Planning Board’s effort to assess its public involvement program for transportation planning carried out in the Washington, D.C. Region.

**What proactive actions can be taken to assure that a proportionate share of benefits is received by low-income and minority communities?**

The most proactive action is to reach out to low-income and minority populations to increase their involvement in decision making. As discussed, this must be achieved through establishing outreach programs through non-profit organizations, minority institutions, and advocacy groups that already play significant roles in these communities. Transportation agencies should set up public meetings and hearings that are accessible to such populations. Citizens should be involved early enough in the process to have a significant effect on the outcome.

**What tools are available to disseminate transportation planning information to low-income and minority populations?**

Existing tools include public meetings at community centers, local schools, and churches; outreach programs through non-profit organizations, minority institutions and organizations, community organizations, neighborhood associations, and advocacy groups; local radio; television; schools; libraries; churches and printed material.

**What tools are available to increase participation of low-income and minority populations?**

As discussed, the best tool to increase low-income and minority populations is to reach out to the community. This can consist of establishing outreach programs through non-profit organizations, minority institutions, and advocacy groups that already play significant roles in these communities. The transportation agencies should work through these organizations to set up public meetings and hearings that are accessible by these groups. They should consider holding meetings in the communities themselves, and at times and on days (such as on weekends), which will allow maximum participation. Attendance would be more likely, if the meetings were held

at local schools, libraries, or churches. One idea that may be effective is holding informal, small-group meetings in neighborhoods, initiated by community leaders. Such meetings might be a more comfortable forum than standard public meetings and hearings. Another way to boost participation would be to provide child-care during the meeting. Utilizing people who understand the culture of the targeted communities to initiate contact is also crucial to ensure greater participation among minority groups. Another essential concern is to seek community involvement very early in the planning process, well before crucial decisions have already been made.

## **7. Conclusions and Policy Recommendations**

In summary, this study suggests that, for most public officials (such as those from MPOs, Maryland Department of Transportation, Maryland Transit Administration, Maryland Department of Planning, and FHWA), enforcing environmental justice is a requirement mainly because it is a federal regulation. However, human action also plays a significant role in determining the level of concern for this and other equity issues among these agencies. If the agency has officials who come from a grassroots background, there is a greater concern for these issues.

Consequently, most private consulting firms are engaged in environmental justice and citizen participation by way of contracts with government agencies. However, for most citizen and advocacy groups, these issues are part of the agency's goals and mission. Although the environmental justice and the opportunity for citizens to participate in policy making and planning is mandated by federal law, it is often difficult for both government agencies and advocacy groups to get low-income and minority populations involved, because this may assign higher priority to tasks such as providing food, shelter, and other family needs.

Public agencies have to be proactive in order to integrate environmental justice into the transportation planning process. Citizen participation is a key element of such a process. One of the biggest barriers in citizen participation among low-income and minority populations is the low priority assigned to transportation issues by this segment of the citizenry. Another key constraint is the lack of participation in the decisions and actions at the early stages of the transportation planning process. Most people from low-income groups have never attended public meetings or hearings to discuss transportation problems. Meetings are often held at places not easily accessible, or at times that make it difficult for transit-dependent citizens to attend. Attendance would be more likely if the meetings were held at local school, libraries, or churches. Also, meetings are often held too far into the planning process for citizens to have a real impact. Lack of communication and lack of perceived relevancy of the issues is also a reason for non-involvement of citizens.

The scarcity of information about environmental justice, as well as the complexity of the situation and the lack of standard ways of dealing with these issues are obstacles in implementing environmental justice principles. Access to information is a particularly important issue among community organizations and advocacy groups. Nonetheless, agencies are making progress using tools such as the Geographic Information System (GIS) and other mathematical models in implementing environmental justice. The study indicated that MTA, MDOT and

FHWA are somewhat helpful in addressing the transportation needs of low-income and minority populations, within their own bureaucratic constraints.

We also found that there is discrimination in provision of transportation and infrastructure services, with low-income areas getting poor quality of services. Relatively better off, majority-white communities tend to have better access to convenient, reliable mass transit, with more express service and less connections required to arrive at their destination, as opposed to the situation with lower-income, predominantly minority populations. The plan of the city also makes it difficult for buses to navigate the city, further compounding the problem of timely service. Services for the disabled in the city are also quite inadequate. Overcrowding on some of the bus lines is also an issue with lower-income transit-dependent citizens.

We recommend that transportation agencies take a proactive stance in involving low-income and minority communities in the transportation policy and planning process in order to ensure environmental justice. This should involve establishing outreach programs through non-profit organizations, minority institutions, and advocacy groups that already play significant roles in these communities. The transportation agencies should work through these organizations to set up public meetings and hearings that are accessible by these groups. They should consider holding meetings in the communities themselves, and at times and on days (such as on weekends) which will allow the maximum possible participation. One idea that may be effective is holding informal, small-group meetings in neighborhoods, initiated by community leaders. Such meetings might be a more comfortable forum than standard public meetings and hearings. Another way to boost participation would be to provide childcare during meetings. Utilizing people who understand the culture of the targeted communities to initiate contact is also crucial to ensure greater participation among minority groups. Another essential concern is to seek community involvement very early in the planning process, well before crucial decisions have already been made.

In addition to the process of soliciting community involvement, making information on transportation issues readily available is critical. Such outlets as radio, schools, libraries, and churches could prove effective means of communications. There is also the need to translate documents into languages other than English to reach out to non-English speaking minorities.

The findings suggest the need for the three transportation agencies to become more involved in educating and empowering low-income and minority communities regarding ongoing and future transportation projects that may affect their lives. The findings also suggest the need for transportation agencies, particularly the MTA, to re-evaluate bus schedules and routes to meet the demand of low-income and minority populations that depend on the system. MTA should also consider expansion of the light rail and subway systems to convenient locations near low-income and minority communities. More buses and interconnectivity of modes are also needed for better service. The frequency and quality of the services should be improved, especially in the poorer segments of the city, in order to make the transit system just and equitable. Low-income and minority communities value the availability of a combination of transportation services, including bus, light rail, and subway, while retaining the option of using one's own car.

Because low-income and minority populations are so dependent on public means of transportation, it is imperative that transportation agencies consider their immediate needs, such as transportation to and from schools, work, and churches; reliable and frequent service; and more convenient access to light rail and the subway. There is also a need to explore and understand the non-work travel patterns of the low-income and minority populations in the Baltimore area.

The consideration of the needs of under-served communities in transportation planning is a necessity. It is clear that adequately addressing the needs of low-income and minority populations benefit not only these communities, but also the entire Baltimore Metropolitan Area.

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**Appendix I**  
**Names and Addresses of Professionals and Stakeholders Interviewed**

<b>Number</b>	<b>Agency</b>	<b>Contact and Phone</b>
1	Baltimore Metropolitan Council 2700 Lighthouse Point East Rm. 310 Baltimore, MD 21224-4774	Jocelyn Jones Transportation Planner 410-732-0500 x 1049 Regina Aris, Manager 410-732-9572
2	Environmental Defense 1875 Connecticut Ave., NW Washington, DC 20009	Scott Spenser, Transportation Specialist 202-387-3500 202-234-6049
3	1000 Friends of Maryland 1209 N. Calvert St. Baltimore, MD 21202	Dan Pontius, Director 410-385-2910
4	Citizens Planning and Housing Association. 218 West Saratoga Street Baltimore, MD 21201	Brent Flickinger, Transport Program Director 410-539-1369
5	Maryland Transit Administration 6 St. Paul Street Baltimore, MD 21202	Jamie Kendrick 410-767-8762
6	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224	Andrew Sawyers 410-631-8054
7	Transit Riders League 218 West Saratoga St. Baltimore, MD 21201	Caroline Harmon 410-539-1369
8	Baltimore County Dept. of Public Works and Transportation 111 W. Chesapeake Avenue, Room 326 Towson, MD 21204	Craig Forest 410-887-3554
9	MD State Highway Administration Project Planning Division, 3 <sup>rd</sup> Floor 707 N. Calvert Street. Baltimore, MD 21202	Donald Sparklin 410-545-8564 410-899-6250 pager
10	Maryland Department of Planning 301 West Preston St. Baltimore, MD 21201-2365	Feng Liu 410-767-4577
11	The Matrix Group 4701 Keswick Road Baltimore, MD 21201	Andre Lemer 410-235-3307
12	Empower Baltimore Mgmt. Corp 3 South Frederick St. Suite 800 Baltimore, MD 21202	Bill Wiley 410-783-4410

<b>Number</b>	<b>Agency</b>	<b>Contact and Phone</b>
13	U.S. Department of Transportation Federal Highway Administration Eastern Resource Center City Crescent Building 10 S. Howard St. Suite 4000 Baltimore, MD. 21201	Ms. Jareene Barkdoll 410-962-0051 Brian Betlyon (Betlion) 410-962-0086 Sandra Talbert Jackson 410-962-4342 x 133 Denis Winslow 410-962-4342 x 1116
14	McCormick and Taylor Associates 3600 Clipper Mill Road Baltimore, MD 21211	Andre Smith 410-662-7400
15	Baltimore County Dept. of Planning 401 Bosley Avenue Towson, MD 21204-4420	Jef Mayhew 410-887-3521 Rose Katzenberger 410-887-3211
16	Jobs Opportunity Task Force @ Sojourner Douglass 500 North Caroline Street Baltimore, MD 21205	Jamal Mubdi-Bey (Mudu-bey) 410-276-0306 x 242
17	MDOT Project Planning Division 10 Elm Road Baltimore, MD 21240	Cindy Johnson 410-865-1288 Marsha Kaiser, Director 410-865-1275
18	The Wilson T. Ballard Company 17 Gwynness Mill Court Owings Mills, MD 21117	Mark D. Lotz 410-363-0150
19	URS Corporation 4 N. Park Drive Suite 300 Cockeysville, MD 21030	Allen Starus 410-785-7220
20	Baltimore Regional Initiative for Developing Genuine Equity (BRIDGE) Dept. of Housing & Urban Development (HUD) 10 S. Howard Street, 5 <sup>th</sup> Floor Baltimore, MD 21201	J. C. Shay 410-962-2520 x3119 Ethel Locks x3307 Laverne Brooks Bob Herbert
21	Metropolitan Washington Council of Governments, 777 N. Capital Street NE Suite 3000 Washington D.C. 20002	Malaika Abernathy 202-962-3394
22	U.S. Environmental Protection Agency (EPA) 1200 Pennsylvania Ave, NW (2201A) Washington DC 20004	Robert J. Knox Associate Director EPA 1-800-962-6215 202-564-2515
23	Community Law Center State Dept of Comm. Development 2500 Maryland Avenue Baltimore, MD 21218	Kristine Dunkerton 410-366-0922 x229 Mike Bainum 410-366-0922

<b>Number</b>	<b>Agency</b>	<b>Contact and Phone</b>
24	Neighborhood Design Center 1401 Hollins Street Baltimore, MD 21223	Patrick McMan 410-233-9686 410-233-9687