Title
Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities

Authors
Sanchez, Thomas W.
Stolz, Rich
Ma, Jacinta S.

Publication Date
2003-06-01

MOVING TO EQUITY:
Addressing Inequitable Effects of Transportation Policies on Minorities

By Thomas W. Sanchez, Rich Stolz,
and Jacinta S. Ma

A Joint Report of

CENTER *for*
COMMUNITY CHANGE

The Civil Rights Project
HARVARD UNIVERSITY

This publication should be cited as:

Sánchez, Thomas W., Stolz, Rich, and Ma, Jacinta S. (2003). *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities.* Cambridge, MA: The Civil Rights Project at Harvard University.

Additional copies of this report may be obtained from:
<http://www.civilrightsproject.harvard.edu/>

The Civil Rights Project at Harvard University
125 Mt. Auburn Street, Third Floor
Cambridge, MA 02138
(617) 496-6367
crp@harvard.edu
www.civilrightsproject.harvard.edu

Center for Community Change
1000 Wisconsin Avenue, N.W.
Washington, DC 20007
(202) 342-0519
info@communitychange.org
www.communitychange.org

MOVING TO EQUITY:
ADDRESSING INEQUITABLE EFFECTS
OF TRANSPORTATION POLICIES ON MINORITIES

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

ACKNOWLEDGMENTS

This report was edited by Carol A. Bell. Matthew Colangelo authored portions of the U.S. Transportation Policy in Historical Context section.

The authors would like to thank Angela Chan, Charu Chandrasekhar, and Arjumand Siddiqi for their research assistance. They also thank:

For their thoughtful comments: Robert Puentes, Evelyn Blumenberg, Jon Carnegie, Donna Armstrong, Beverly Ward, and Anne Canby.

For their valuable insights and information: Marc Brenman of the U.S. Department of Transportation Office of Civil Rights, Jon Broadway of the Montgomery Transportation Coalition, Sean Thomas-Breitfeld of the National Council of LaRaza, Ed Morris and Charles Klemstine of the Federal Highway Administration Office of Civil Rights, and Michael Woo of the Northwest Labor and Employment Legal Office; also, the Civil Rights Issue Committee of the Transportation Equity Network, El Foro Latino (Mono County, CA), Los Angeles Bus Riders Union (Los Angeles, CA), SAGE Council (Albuquerque, NM), Riders of Vermont (Montpelier, VT), Alameda Corridor Jobs Coalition (Los Angeles, CA), and Metropolitan Atlanta Transportation Equity Coalition (Atlanta, GA).

For their contributions: Nancy Jakowitsch, Michelle Ernst, and Linda Bailey of the Surface Transportation Policy Project.

In addition, the authors would like to recognize the work of the Co-Directors of The Civil Rights Project, Christopher Edley, Jr. and Gary Orfield, as well as the dedicated staff at CRP—in particular, Angelo Ancheta, Jennifer Badot, and Marilyn Byrne—and staff members Hubert Dixon, Melanie Bush, and Kamilah Woods of Center for Community Change, without whom this report would not have been possible.

The authors and publishers are grateful to the Ford Foundation for its generous support.

MOVING TO EQUITY:
ADDRESSING INEQUITABLE EFFECTS
OF TRANSPORTATION POLICIES ON MINORITIES

EXECUTIVE SUMMARY

Americans are increasingly mobile and ever more reliant on automobiles for meeting their travel needs, largely due to transportation policies adopted after World War II that emphasized highway development over public transportation. These and other transportation policies have had inequitable effects on minority and low-income populations, often restricting their ability to access social and economic opportunities, including job opportunities, education, health care services, places of worship, and other places such as grocery stores. Transportation policies limit access to opportunities through direct effects, such as inequitable costs, and indirect effects, such as residential segregation. The indirect effects are caused in part by the combined effects of transportation policies and land use practices.

This report identifies surface transportation policies' inequitable effects. It examines existing research in the area and highlights the critical need for more research and data collection related to the impact of transportation policies on minority and low-income communities. It also makes recommendations to address the racial injustices created by transportation policies.

U.S. Transportation Policy in Historical Context

Historically, although issues related to transportation were integral to the civil rights movement of the 1960s—embodied in the Montgomery Bus Boycott and Freedom Rides—the civil rights implications of transportation policies were largely ignored until the 1990s. Beginning in the 1950s and 1960s, it was common practice to construct major highways through low-income and minority communities. Similar policies and practices continue today and have led to destruction of thriving neighborhoods, eviction of minorities, and negative health effects.

In the 1990s, the primary federal transportation funding law, the Intermodal Surface Transportation Efficiency Act (ISTEA), changed the way funding was allocated and began to erode the long-standing preference for highway funding. In addition, ISTEA dramatically changed the way transportation projects were planned in metropolitan areas, providing significant responsibility and some funding to Metropolitan Planning Organizations (MPOs). Building on these changes when ISTEA expired, the Transportation Equity Act for the 21st Century (TEA-21) mandated increased public involvement in state and regional transportation planning. It also established grant programs to help serve the transportation needs of minority and low-income communities. TEA-21 is scheduled to expire on September 30, 2003, providing lawmakers an opportunity to make even more improvements and address the continuing inequities that minority and low-income communities experience.

Demographic Realities

Some general demographic facts provide a basis for understanding how transportation, race, poverty, and geography intersect. Although America's population is 69 percent white, 12 percent African American, 12.5 percent Latino, and 3.6 percent Asian American, the composition of major

cities and urban areas is quite different. Almost half of the 100 largest cities have predominantly minority populations, while whites live mostly in the suburbs. Disparities in poverty levels remain between whites and minorities. Whites have a poverty rate of only 5 percent, compared with 22 percent for African Americans, 20 percent for Latinos, and 10 percent for Asian Americans.

Nationally, public transportation users are disproportionately minorities with low to moderate incomes. Overall, public transit users are 45 percent white, 31 percent African American, and 18 percent Latino/Hispanic. In urban areas, African Americans and Latinos together comprise 54 percent of public transportation users (62% of bus riders, 35% of subway riders, and 29% of commuter rail riders.) Twenty-eight percent of public transportation users have incomes of $15,000 or less, and 55 percent have incomes between $15,000 and $50,000. Only 17 percent have incomes above $50,000. Just 7 percent of white households do not own a car, compared with 24 percent of African-American households, 17 percent of Latino households, and 13 percent of Asian-American households.

High Transportation Expenditures and Inequities in Transportation Funding

Transportation costs are particularly burdensome for low-income households, which devote greater proportions of their incomes to transportation-related expenses than do higher-income households. In 1998, those in the lowest income quintile, making $11,943 or less, spent 36 percent of their household budget on transportation, compared with those in the highest income quintile, making $60,535 or more, who spent only 14 percent.

Transportation expenditures continue to rise, reducing the amount low-income households have to spend on housing, food, health care, insurance, education, and other needs. The costs of car ownership can make it difficult to afford to purchase a home, and cars quickly depreciate compared with real property. Between 1992 and 2000, households with incomes of less than $20,000 saw the amount of their income spent on transportation increase by 36.5 percent or more (households with incomes between $5,000 and $9,999 spent 57 percent more on transportation than they did in 1992). In comparison, households with incomes of $70,000 and above only spent 16.8 percent more on transportation expenses than they did in 1992.

There are significant inequities between bus service, which tends to serve more low-income riders, and rail service, which tends to serve higher-income riders. These inequities pale in comparison to the differences between governmental financial and political support for highway systems and for public transit systems. Many transportation planners and policymakers, concerned primarily with the needs of suburban commuters, have focused on constructing highways and commuter rail lines that do little to serve the needs of minority and low-income communities that depend on public transportation.

Examination of state transportation spending priorities reveal another inequity. A body of research suggests that states are spending more resources on transportation needs in non-metropolitan areas than in metropolitan areas. More research examining geographically coded data on spending between cities and other areas would provide a better understanding of how transportation spending patterns impact minority and low-income communities.

Indirect Economic and Social Effects Hinder Access to Opportunities

Transportation policies that favor highway development over public transit have several indirect negative effects. For one, such policies encourage housing development increasingly farther away from central cities, which has played an important role in fostering residential segregation and income inequalities. Also, the practice of locating major highways in minority and low-income communities has reduced housing in those areas. Other transportation investments, such as extending a rail line into a community, have made it more difficult for minorities and low-income individuals living there to afford housing because of ensuing property value increases. Individuals displaced by rising property values commonly have few alternative housing options and may end up living farther away from their jobs and social networks—a problem that is compounded by limited transportation options.

Transportation policies favoring highways over transit have also helped to create "spatial mismatch"—the disconnect that occurs when new entry-level and low-skill jobs are located on the fringes of urban areas that are inaccessible to central-city residents who need those jobs. Public transportation systems operate most efficiently in densely developed urban areas and do a poor job of serving people who need to reach destinations far from the core downtown area.

Transportation policies can also have indirect negative effects in the areas of health and education: Highway construction in minority and low-income communities can impair health through increased pollution, and access to education may be limited by cutbacks in school bus service with no affordable public transit as an alternative.

Many transportation planners and policymakers have failed to recognize the link between transportation and land use policies and the impact of transportation policy on access to social and economic opportunities. Also, they have not recognized the need to take a regional approach in trying to address the inequitable effects of transportation policy.

Unequal Access to Opportunities in the Transportation Construction Industry

Federal transportation spending creates hundreds of thousands of jobs and billions of dollars worth of contracts. Although construction projects are often located in or near minority communities, minorities are generally underrepresented in the construction industry or likely concentrated in low-paying jobs. Of the more than 6.25 million people employed in construction, just 7 percent are African Americans and 17 percent are Latinos/Hispanics.

Minorities represent about 28 percent of the population, but according to the U.S. Department of Transportation (DOT) they own only 9 percent of construction firms and receive about 5 percent of construction receipts. DOT's Disadvantaged Business Enterprise program works to remedy this inequality by requiring states to allocate a portion of their federal transportation dollars to construction opportunities for small disadvantaged businesses, including those owned and operated by minorities.

Language and Information Barriers

Inequitable transportation policy decisions are often made because minority and low-income individuals and communities are unable to learn about transit options or have little voice in transportation planning because of language barriers or lack of information. Like other obstacles to transportation accessibility, language barriers diminish social and economic opportunities by limiting a person's ability to travel (such as by preventing a person from obtaining a drivers' license), which is exacerbated by their inability to communicate to policymakers and planners about transportation needs.

Minimal Outreach to Minority Communities in the Transportation Planning Process

How transportation policies are decided and who is able to influence those decisions have played an important role in creating and sustaining the inequities of current transportation policies. State departments of transportation and Metropolitan Planning Organizations are responsible for planning transportation in a way that achieves the greatest system efficiency, mobility, and access while addressing environmental and social concerns. Although these agencies are required to seek out and consider the needs of low-income and minority households, there are no effective mechanisms to ensure their compliance with this requirement.

Ineffective Legal Protections and Lack of Accountability

Civil rights laws such as Title VI of the Civil Rights Act of 1964 and environmental laws provide some legal protections for minority communities faced with discriminatory transportation policies. Enforcement of these protections, however, has been limited and should be increased. Currently there are no generally accepted measures or standards by which to gauge whether transportation planning and outcomes of transportation policies are equitable, and it is extremely difficult to enforce any requirements for equitable transportation policies.

Primary Policy Recommendations

In the past decade, federal transportation policies have taken some important steps toward becoming more equitable for minority and low-income individuals and communities. Much more needs to be done, however, and the expiration of TEA-21 provides an opportunity for action. Implementation of the following recommendations would significantly support moving to equity:

- Increase funding for public transit and develop new programs and support existing ones that improve minority and low-income individuals' mobility.
- Establish enforceable standards to measure whether the benefits and burdens of transportation policies are distributed equitably to minority and low-income communities.
- Increase funding for research that examines transportation equity, and improve data collection—including by collecting geographically coded data—to provide a better basis for evaluating the effects of transportation policies.
- Increase funding for enforcement of Title VI of the Civil Rights Act of 1964 and the National Environmental Policy Act, and improve efforts to enforce them.
- Recognize the interaction between transportation, land use, and social equity, and support programs that address these effects.

MOVING TO EQUITY: ADDRESSING INEQUITABLE EFFECTS OF TRANSPORTATION POLICIES ON MINORITIES

By Thomas W. Sanchez, Rich Stolz, and Jacinta S. Ma

INTRODUCTION

Transportation plays a vital role in our society. In fact, the Supreme Court recognized that the right to travel is one of the fundamental rights guaranteed by the Fourteenth Amendment to the U.S. Constitution.[1] Given the important role of transportation, it would be expected that policymakers would battle over transportation policy. Too often, however, those battles are fought over what specific projects will be funded and in which states or congressional districts, and scant attention is paid to the larger social and economic effects of transportation policies.

The civil rights movement provides some evidence of the social importance of transportation to people of color. In 1955, the arrest of Rosa Parks for refusing to give her seat on a bus to a white rider sparked the Montgomery Bus Boycott. Freedom Riders faced violent attacks to assert the rights of African Americans to ride on integrated buses traveling interstate.

Many past and current transportation policies have limited the life chances of minorities by preventing access to places and opportunities. The expiration in 2003 of the Transportation Equity Act for the 21st Century (TEA-21) provides an opportunity to address some of the inequitable effects that transportation policies have on minority and low-income communities.

Americans have become increasingly mobile and more reliant on automobiles to meet their travel needs due largely to transportation policies adopted after World War II that emphasized highway development over public transportation. According to Census 2000 data, less than five percent of trips to work in urban areas were made by public transit, but this varies significantly by race and location.[2] Minorities, however, are less likely to own cars than whites and are more often dependent on public transportation. The "transit-dependent" must often rely on public transportation not only to travel to work, but also to get to school, obtain medical care, attend religious services, and shop for basic necessities such as groceries. The transit-dependent commonly have low incomes and thus, in addition to facing more difficulties getting around, they face economic inequities as a result of transportation policies oriented toward travel by car.

Surface transportation policies at the local, regional, state, and national levels have a direct impact on urban land use and development patterns. The types of transportation facilities and services in which public funds are invested provide varying levels of access to meet basic social and economic needs. The way communities develop land dictates the need for certain types of transportation, and on the other hand, the transportation options in which communities invest influence patterns of urban development.

While many lament the trend toward "suburban sprawl" as unaesthetic or damaging to the environment, those who support social equity should also be concerned about this trend. Substantial investment in highway development and other transportation programs that

encourage private automobile use has encouraged and supported low-density developments that extend increasingly farther and farther from the central city and to residential and commercial areas that are increasingly spread out—edgeless cities.[3] In addition to being costly to state and local governments,[4] transportation policies that encourage these growth patterns play a substantial role in producing some indirect, negative social and economic effects, including perpetuating residential segregation and exacerbating the inability of minorities to access entry-level employment, which is increasingly found in suburban areas.[5]

This report reviews existing data and research regarding the economic and social effects of transportation policies. While the data suggest that these policies have inequitable effects on minority and low-income communities, more research is necessary to further understand the effects of transportation policies on minorities, particularly those living in the suburbs.

We first provide historical background and demographic context for the remainder of the report. Next, we examine existing data about the costs of transportation and how these costs combined with current transportation policy priorities have inequitable effects on low-income minorities. We then identify indirect inequitable economic and social effects of surface transportation policies on minorities and examine existing research in this area. These indirect effects include inequitable access to employment and housing, and education and health disparities. The report then delves into the issue of unequal access to opportunities for construction jobs and contracts created by federal transportation programs. We next focus on the role of language barriers in access to transportation and participation in the transportation planning process, and examine the issue of minority participation in transportation planning processes. Following discussion of enforcement of civil rights and environmental laws, we close with policy recommendations and conclusions.

Efforts to improve the fairness of transportation policies must first recognize the complexities and wide impact of those policies on civil rights, mobility, land use, and the environment. These efforts must also include setting easily enforceable standards to measure whether the benefits and burdens of transportation policies are distributed equitably to minority and low-income communities.[6] Transportation researchers and scholars are increasingly recognizing the importance of social equity, largely due to the successful efforts of grassroots organizations to draw attention to the unfairness of transportation policies. An executive committee member of The National Academies' Transportation Research Board predicted in 1999 that "[e]quity will be one of the major themes in transportation policy for the coming decade," and called for more analysis and discussion of the distribution of costs and benefits of transportation projects to minority communities.[7]

The environmental justice movement has addressed some of the inequitable effects of transportation polices on racial minorities and brought attention to the issue of transportation equity. Environmental justice efforts, however, have primarily drawn attention to governmental policies that negatively and inequitably affect the natural environment in areas with concentrated minority populations (and consequently negative health effects).[8] Historically, transportation equity has been largely ignored by the vast majority of transportation planners and researchers. Transportation policy inequities should be addressed both through environmental justice efforts and through traditional transportation analyses about access and mobility. We hope that this

report, by further defining the issues, will compel policymakers, researchers, and administrators who work on transportation policies to recognize the critical need to support transportation equity as part of their work.

U.S. TRANSPORTATION POLICY IN HISTORICAL CONTEXT

Transportation issues have been central to the civil rights movement from its inception, in ways both symbolic and systemic. In 1892, Homer A. Plessy, an African American, attempted to sit in the whites-only section of a segregated railway car. The Supreme Court, in its infamous *Plessy v. Ferguson*[9] decision, created the separate-but-equal doctrine and held constitutional the state statute that required different races to use different railway cars.[10]

During the civil rights movement of the 1960s, much of the discussion about transportation issues for minority and low-income persons revolved around land use patterns and the social and economic conditions of urban areas. Shortly following the civil unrest in Los Angeles in 1965, the California governor appointed a commission chaired by John McCone (McCone Commission) to examine the causes of the unrest. The McCone Commission identified "inadequate and costly" transportation as contributing to high rates of unemployment among the black urban population.[11] In 1968, the National Advisory Commission on Civil Disorders (commonly known as the Kerner Commission) released its report on the causes and effects of riots in U.S. cities. Among its recommendations for enhanced employment opportunities for central-city residents was the creation of improved transportation links between ghetto neighborhoods and new job locations in the suburbs.[12]

In 1968, Dr. Martin Luther King, Jr., described how city planning decisions result in transportation systems that underserve minority communities: "Urban transit systems in most American cities . . . have become a genuine civil rights issue—and a valid one—because the layout of rapid-transit systems determines the accessibility of jobs to the African-American community. If transportation systems in American cities could be laid out so as to provide an opportunity for poor people to get meaningful employment, then they could begin to move into the mainstream of American life."[13]

A Legacy of Highway and Urban Renewal Projects in Minority Communities

Post–World War II surface transportation policies were not favorable to minority and low-income communities. Many older residents of such communities across the country clearly remember the impact that new major highway construction had on their neighborhoods. Generally, federal and state agencies sited highway projects in low-income communities, typically using the rationale that property values were lower. Because of this practice, a great deal of resentment developed in minority and low-income communities toward highway construction that began in the 1950s and 1960s as part of "slum clearance" and "urban renewal" strategies and displaced or physically divided entire communities. These types of highway construction projects occurred during a time when federal transportation "policy" did little more than allocate large amounts of money to build interstate highways.

Case Studies in Michigan and North Carolina

Two case studies highlight the experiences of predominantly minority communities that fought efforts to build highways through their neighborhoods. Both communities were forced to resort to legal action because residents' concerns were not heeded by transportation planners and agencies.

Hamtramck, Michigan, a city within a city—it is almost entirely surrounded by the city of Detroit—now promotes itself as a diverse community, but from 1959 to 1965 approximately 1,800 African-American families were displaced from their homes as part of various urban renewal and revitalization strategies.[14]

In 1959, 600 African-American Hamtramck families were removed to make room for a parking lot; several years later, another 1,200 families, mostly African Americans, were moved to make room for Interstate 75. The freeway isolated the Grand Haven–Dyar neighborhood, which was primarily African American, cutting it off from the rest of Hamtramck, including schools, churches, shops, restaurants, and other amenities. In 1971, a U.S. District Court judge ruled against Hamtramck in a class-action case challenging the city's transportation decisions as discriminatory displacement. The judge's ruling described the city's action as "Negro Removal." In late 2002, the Hamtramck City Council finally settled the 30-year old civil rights lawsuit, and plans are under way to build replacement homes for many of the families displaced by the interstate highway.[15]

In James City, North Carolina, several major transportation projects had already been built in or near the almost 100 percent African-American community that disrupted its economic and community life when the Neuse River Bridge project was proposed. [16] U.S. highway 70, built in the 1970s, literally paved over a historic cemetery that was important to the James City community. In the early 1990s, an airport runway expansion project forced the condemnation of homes and damaged other historic cemeteries of local importance. Advocacy and legal efforts halted plans to run the Neuse River Bridge project, a massive highway bridge and interchange system, right through the center of James City. Eventually, however, the project was sited in another part of the city.[17]

The experiences of Hamtramck and James City are not unique. Dozens of communities across the nation were treated similarly as highways were built through and near them. Residents point to highway construction in cities as diverse as Los Angeles; Memphis, Tennessee; New Orleans; Canton, Ohio; and New York City as a significant contributor to economic and neighborhood blight in previously stable low-income and minority communities.

The Evolution of Federal Transportation Policy

During the 1970s and 1980s, no significant federal efforts were directed toward ensuring transportation equity,[18] and displacement of minorities and destruction of minority communities because of highway construction continued. During this period, however, federal support for public transportation increased, which indirectly benefited low-income, racial minorities through the development and expansion of urban transit systems. These benefits were limited because the

amounts invested in public transportation were dwarfed by amounts invested in building highways. Federal transportation funding went directly to state departments of transportation, which had sole discretion to decide which projects to fund. Federal policy heavily encouraged states to spend on highways by making highway projects eligible for the highest level of federal matching funds—four dollars in federal funding for every dollar the state contributed.[19]

The Intermodal Surface Transportation Efficiency Act (ISTEA) was the first major federal transportation policy to give any consideration to the health, economic, and social effects of transportation policy on racial minority and low-income communities. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,"[20] issued in 1994, went even further by clarifying that federal agencies must identify and address any "disproportionately high and adverse human health or environmental effects" on minority and low-income populations in all of their programs, policies, and activities.

ISTEA,[21] enacted by Congress in 1991, addressed a number of the most significant flaws in previous transportation funding policies. ISTEA included clear (if easy-to-evade) requirements for public participation in transportation planning and provided for some local control of the allocation of federal transportation money. The new law represented a dramatic departure from the previous system of transportation planning; one congressperson noted several years after its passage that ISTEA "…was not simply a highway bill, or even a highway and transit bill. Instead, it restructured the entire process by which we planned and carried out surface transportation improvements in the United States."[22]

One of the more noteworthy changes was that ISTEA made Metropolitan Planning Organizations (MPOs) primarily responsible for planning and allocating transportation funding in metropolitan areas by giving funds directly to them.[23] Although MPOs had been in existence since the 1950s, generally operating either as a subdivision of the state department of transportation or as a function of a regional council of governments, ISTEA and the U.S. Department of Transportation's (DOT's) implementing regulations made them more influential and gave them uniform functions and responsibilities.[24] ISTEA also broadened the membership of the policy-setting boards of MPOs governing large areas, requiring that they include representatives from local governments in the region, agencies operating major transportation systems, and state officials.[25]

ISTEA and its implementing regulations required MPOs and state planning agencies to develop 20-year regional plans outlining in detail the priorities, policies, and strategies for the region's transportation system.[26] MPOs were also required to prepare, with community involvement, a Transportation Improvement Program listing the transportation projects that would be undertaken in the next three years.[27]

In addition, ISTEA made a number of changes that addressed the allocation of federal funding. Most important, mass transit was given the same federal funding match as highways, thus taking a step toward eliminating the clear policy preference for highway spending.

In 1994, President Clinton issued Executive Order 12898, which directed federal agencies to incorporate achieving environmental justice as part of their missions. As a result of

this order, transportation agencies issued guidance for incorporating environmental justice principles into existing programs, policies, and activities. DOT's order on environmental justice indicates that President Clinton's executive order was intended to encompass social and economic effects interrelated to adverse human health and environmental effects.[28]

When ISTEA expired in 1998, Congress passed TEA-21,[29] which currently governs federal funding of surface transportation systems. This act is one of the major tools through which transportation planning and implementation can be made more responsive to equity and environmental justice concerns.[30] With a $217 billion spending allocation for transportation projects over a six-year period (1998–2003 inclusive),[31] TEA-21 has been called "the largest public works bill enacted in the nation's history."[32]

TEA-21 retains the general decision-making structure and planning process that ISTEA created for distributing federal transportation spending to states and metropolitan areas.[33] TEA-21, however, significantly strengthened the opportunities for public involvement and required greater responsiveness to the concerns of minority and low-income communities in the transportation planning process. Other objectives of TEA-21 focus on improving low-income persons' transportation mobility levels by ensuring that public transportation provided through different modes and by different agencies are coordinated to ensure "connections between people and jobs, goods and markets, and neighborhoods."[34]

TEA-21 also established grant programs to help serve the transportation needs of minority and low-income communities. For example, it authorized the Job Access and Reverse Commute grant programs, which provide federal funds to states, local governments, local transit agencies, and nonprofit organizations. Job Access grants were intended to provide new or expanded transportation services to help welfare recipients and eligible low-income individuals get to jobs and employment-related services (education, training, child care, etc.). Reverse Commute grants were designed to transport individuals to suburban employment centers from urban, rural, and other suburban locations. TEA-21 also established the Transportation and Community and System Preservation Pilot Program, which supports local activities to help better integrate land use and transportation planning.

Some other federal laws that are not primarily concerned with transportation have provisions addressing some aspect of transportation equity. For example, the welfare reform act—formally known as the Personal Responsibility and Work Opportunity Reconciliation Act of 1996—was intended to move people off public assistance to some form of employment.[35] Federal policymakers, recognizing in 1997 that most households in the Temporary Assistance for Needy Families program created by the new welfare law had limited transportation mobility, funded a welfare-to-work grant program that could be used for transportation assistance. For fiscal years 1998 and 1999, $3 billion was allocated to states to address mobility needs.[36]

DEMOGRAPHIC REALITIES

The current effect of surface transportation policies on minority and low-income communities can best be understoood in the context of general demographic facts that show how transportation, race, poverty, and geography intersect. The 2000 census provided tremendous amounts of new demographic information that map changes in the American population and the characteristics of its minority population over the past decade. Analysis of the census data shows persistent disparities between whites and people of color.

Residence

Where people live can greatly affect what types of transportation options are available to them to travel to work and to carry out their daily activities. Although America's population is approximately 69 percent White, 12 percent African American, 12.5 percent Latino, and 3.6 percent Asian American,[37] the composition of major U.S. cities and urban areas is quite different. Since 1960, people of color have increasingly populated metropolitan areas.[38] Only 52 of the 100 largest cities have a majority white population, according to 2000 census data.[39] The 100 largest cities generally saw an increase in Latinos, Asian Americans, and African Americans and a decrease in whites, with the Latino population growing the most rapidly.[40] (See Table 1.)

Table 1. **Central-City Racial Composition of Selected Large Cities**

City	% White, Non-Hispanic	% African American	% Latino	% Asian American
Los Angeles	31	12	44	11
New York	35	26	27	11
Chicago	35	34	26	5
Philadelphia	41	44	10	5
Washington, DC	39	45	10	5
Detroit	20	71	5	1
Houston	32	25	37	5
Atlanta	31	62	4	2
Dallas	38	23	34	4
Boston	56	20	13	8

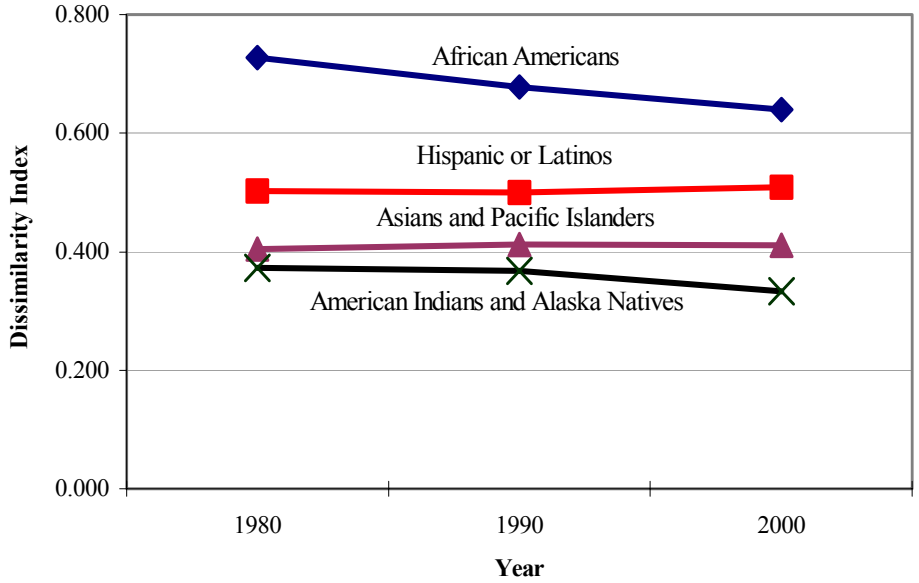
Note: These cities are in the 10 largest primary metropolitan statistical areas.
Source: Lewis Mumford Center (http://mumford1.dyndns.org/cen2000/WholePop/WPdownload.html).

Metropolitan areas, as defined by the U.S. Census Bureau, have increased in population since 1910, but suburban growth has accounted for most of these increases.[41] By 2000, half of all Americans lived in the suburbs.[42] Although more minorities are living in the suburbs than in 1990, whites still have the highest percentage of any racial group living in the suburbs (71%).[43] In the top 102 most populous metropolitan areas, minorities comprised only 27 percent of suburban populations.[44]

As these facts about the populations of cities and suburbs suggest, residential segregation continues to persist. On average, African Americans, Latinos, and whites live in neighborhoods with people primarily of the same race.[45] Over the past 20 years, however, overall racial segregation levels have declined across U.S. metropolitan areas.[46] One report examining five different indicators of metropolitan residential segregation found that overall residential segregation declined between 4 and 11 percent between 1980 and 2000.[47] From 1980 to 1990 the overall rate of change was approximately 3.8 percent, while from 1990 to 2000 it was 3.4 percent—suggesting that racial integration slowed during the 1990s compared with the 1980s. These modest changes are shown in Figure 1. Generally, since 1980, Latino–white and Asian–white segregation levels have remained approximately the same.[48] Black–white segregation remains significantly higher than the levels of segregation for other minority groups.[49]

Trends in residential segregation also vary by region, metropolitan size, and racial composition. It is unclear whether integration is occurring generally for racial minorities or whether it is isolated to more mobile, middle-class households.

Figure 1. **Residential Segregation Indices for all U.S. Metropolitan Areas**



Note: Higher values indicate more segregation; the reference group is non-Hispanic whites.
Sources: U.S. Bureau of the Census, Summary File 1, 1980–2000; Iceland, Weinberg, and Steinmetz (2002).

Income and Wealth

While these general trends suggest that residential segregation is decreasing somewhat in metropolitan areas, the unequal distribution of metropolitan household incomes has not made a corresponding improvement. For example, the neighborhood income gap for African Americans and whites increased in absolute and percentage terms in 40 of the 50 largest metros.[50] In fact, research shows that the level of income inequality in the United States is increasing and that the United States ranks at the bottom in income equality compared with other industrialized

countries.[51] Trends at the national level are symptomatic of income distribution disparities at the state, regional, and local levels and have far-reaching social and economic implications.[52]

Disparities in poverty levels between whites and minorities remain, even though these levels are low for all groups compared with levels found by previous surveys. In 2001, whites had a poverty rate of approximately 8 percent compared with 23 percent for African Americans, 21 percent for Latinos,[53] and 10 percent for Asian Americans.[54] Consistent with these figures are the facts that generally: 1) The poverty rate in cities is almost double the suburban rate, 2) cities have significantly higher unemployment rates than the suburbs, and 3) there is an income gap between those living in the cities and in the suburbs.[55]

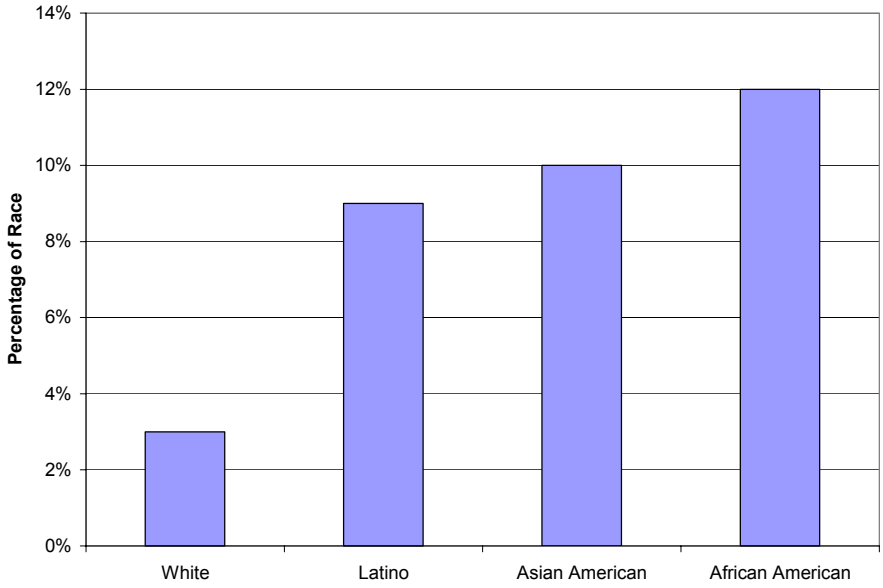
Household wealth—or assets minus debts—differs significantly by race as well. In 1995, the median household wealth was $40,200.[56] For non-Hispanic white households, the median wealth was $49,030. For African-American households it was only $7,073, and for Latino households it was $7,255. For those in the bottom 20 percent, the median wealth by race was $9,700 for non-Hispanic white households, $1,500 for African-American households, and $1,300 for Latino households. Forty-four percent of the wealth in the United States was invested in homes and 8 percent was in motor vehicles. The median value of homes owned was $50,000 and the median value of motor vehicles was $6,675. The section "Transportation Costs and Inequities" discusses the implications of transportation costs and car ownership for wealth accumulation.

Transportation Modes

People's income levels generally correspond with their ability to own a car and the type of transportation they use. The vast majority of Americans rely on cars to meet their transportation needs, but minorities have significantly higher rates of lacking cars. Only 7 percent of white households own no cars.[57] However, 24 percent of African-American households, 17 percent of Latino households, and 13 percent of Asian-American households own no cars.[58]

In part, because people of color have higher poverty rates, they also have higher rates of using public transportation[59] to travel to work. Only 3 percent of whites rely on public transportation to get to work compared with 12 percent of African Americans, 9 percent of Latinos, and 10 percent of Asian Americans (see Figure 2).[60] In urban areas, African Americans and Latinos together comprise 54 percent of public transportation users (62 percent of all bus riders, 35 percent of all subway riders, and 29 percent of all commuter rail riders.)[61]

Figure 2. **Users of Public Transportation to Travel to Work, by Race**



Source: U.S. Bureau of the Census (n.d.)

DEFINING TRANSPORTATION EQUITY

Before examining the specific economic and social effects of transportation policies on minority and low-income communities, it is necessary to define transportation equity. While most transportation planners are concerned primarily with the efficiency and cost of transportation, including people's mobility levels and the accessibility of transportation to the most people, those concerned about transportation equity seek fairness in mobility and accessibility levels across race, class, gender, and disability. The ultimate objective of transportation equity is to provide equal access to social and economic opportunity by providing equitable levels of access to all places.

In the United States, concern about providing equal access to social and economic opportunity has mostly centered around an issue first identified by John Kain (1968) that is now commonly referred to as the "spatial mismatch hypothesis." Spatial mismatch refers to the disconnect between the locations of housing and jobs suitable for lower-income people. In other words, those who most need entry-level jobs (primarily people of color) generally live in central cities while entry-level jobs are mostly in suburban locations that are not easily accessible from central cities.

In England, however, policymakers and advocates often take a broader view of social inequity. The British effort to combat "social exclusion" is a more wide-ranging approach than the American battle against spatial mismatch.[62] Efforts to eradicate social exclusion address communities that are isolated from or marginalized by general society. The English government defines social exclusion as "a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown."[63]

Instead of directly addressing spatial equity questions through housing and land use policies that would improve housing affordability, discourage sprawling development, and improve enforcement of housing discrimination laws, U.S. policymakers have directed significant attention to overcoming the combined problem of residential segregation and limited employment accessibility for low-income persons by improving their transportation mobility. Federal policies fail to directly address the more fundamental issue of "access and participation" on a broad scale. In the United States, attempts to counter spatial inequity are usually limited to improving housing and employment access—represented in some respects by residential segregation—whereas *social exclusion* is a much broader concept. It encompasses concerns about 1) physical (personal) exclusion, 2) geographic exclusion, 3) exclusion from facilities, 4) economic exclusion, 5) temporal exclusion, 6) fear-based exclusion, and 7) space exclusion. Addressing social exclusion includes addressing problems such as lack of access to jobs, education, and training; low levels of access to public transportation at particular times of the day, which has an impact on persons without cars working late and early-morning shifts; and limited access to public and private spaces because of unsafe conditions and design.[64]

Transportation equity is a similarly broad concept. The importance of transportation policies and their inequitable effect on minority and low-income communities by limiting access to social and economic opportunities must be understood in this broader context.

TRANSPORTATION COSTS AND INEQUITIES

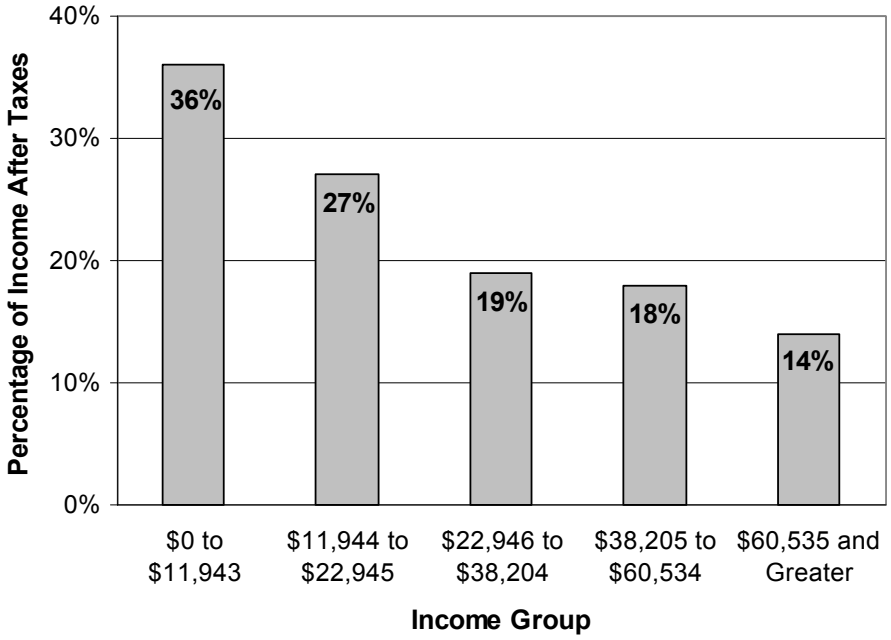
Economic Impact of Transportation Policy on Low-Income and Minority Households

Transportation policies have a direct effect on low-income, minority communities by making it difficult to access transportation to various places. Federal, state, and local transportation policies emphasizing highway construction have led to dependency on automobiles and rising transportation costs. Generally, 80 cents of every dollar spent on federal surface transportation programs is earmarked for highways, and 20 cents is earmarked for public transportation (which includes both bus and rail transit). Although 20 percent of federal transportation funding is generally allocated to public transit, for various reasons, states are unlikely to be devoting 20 percent of their overall transportation expenditures to public transportation.[65]

Thirty states restrict use of their gasoline tax revenues to funding highway programs only.[66] Revenues from gas taxes are the single largest funding source for transportation programs. Several other states allow only a small portion of gas tax revenues to be spent on transit. For example, Michigan allocates for public transportation 10 percent or less of its state gas tax and related transportation revenue.[67] In Alabama, the Birmingham metropolitan region has struggled to raise state and local revenue to match more than $80 million in federal grants for public transportation largely because the state constitution prohibits the use of gas tax revenue for this purpose.[68] At the local level, funds spent on bus transit capital and operating expenses sometimes add up to a small percentage of funds spent on all different types of transit and may be much less than the 20 percent allocated by federal policy.[69]

Policies that restrict allocation of public funds to public transit contribute to increasing household transportation expenses, particularly for low-income families. Data from the Consumer Expenditure Survey suggest that low-income households devote a greater proportion of their income to transportation-related expenses regardless of whether they use public transportation or own a car. A Surface Transportation Policy Project report found that in 1998, those in the lowest income quintile spent 36 percent of their household budget on transportation, compared with those in the highest income quintile, who spent only 14 percent on transportation (see Figure 3). Low-income workers who use a vehicle to commute spend 7 percent more of their income on transportation costs compared with those using public transportation.[70]

Figure 3. **Household Transportation Spending, by Income Group**



Source: Surface Transportation Policy Project and Center for Neighborhood Technology (2000), Consumer Expenditure Survey 1998.

In some metropolitan areas, households spend as much for transportation as they do for housing.[71]

Another measure of the impact of transportation costs on low-income and minority households is the rate of increase in transportation expenditures. Between 1992 and 2000, households with incomes of less than $20,000 saw the amount of their income spent on transportation increase by 36.5 percent or more (households with incomes between $5,000 and $9,999 spent 57 percent more on transportation than they did in 1992). In comparison, households with incomes of $70,000 and above only spent 16.8 percent more on transportation expenses than they did in 1992. This research suggests not only that low-income families are spending more of their incomes on transportation, but also that transportation costs are increasing at a faster rate for these households.

These trends indicate that household transportation costs are increasing over time, meaning that households have less to spend on housing, food, health care, insurance, education, and other needs. Other evidence suggests that the debt incurred by families related to car ownership makes buying a home more difficult. Cars represent a major household expenditure but quickly depreciate as an asset compared with real property.[72]

A major factor contributing to these rising costs is the increase in sprawling development patterns manifest in U.S. metropolitan areas. Sprawling development translates into longer travel distances and more auto dependency. Low-density, noncontiguous development also makes public transit an infeasible option for many commuters. As public transit service diminishes, a household's auto dependency increases. In addition, much research links inefficient land use patterns to negative impacts on air quality, public health, and energy consumption.[73]

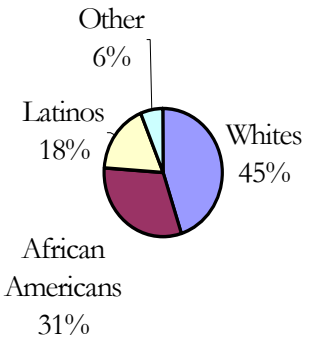
The Equity Costs of Fare Increases

The emphasis on highway and road construction in federal and state policy shifts resources away from public transportation options for low-income families.

According to survey results released by the American Public Transportation Association (APTA) in November 2002, more than 50 percent of the transit agencies that responded to the survey had implemented, or were planning to implement, fare increases (almost 90 percent of the large systems), and 34 percent said they were cutting back on transit service.[74] These fare increases and service cuts are being driven primarily by municipal, county, state, and transit agency budget crises brought on by the nation's economic slump.[75] Those who are dependent on public transportation often have difficulty meeting fare increases.

Although more research is needed in this area, it is likely that because people of color are disproportionately poor and have higher rates of using public transportation, fare increases create a greater economic burden on minorities. An APTA report in 1992 found that nationwide, on average, users of public transportation are 45 percent white, 31 percent African American, and 18 percent Latino/Hispanic (see Figure 4) even though their general populations are approximately 69 percent, 12 percent, and 12.5 percent, respectively.[76]

Figure 4. **Public Transportation Users, by Race**



Source: American Public Transportation Association (1992).

Public transportation users also tend to have lower incomes. Nationally, approximately 38 percent of transit users have incomes of $20,000 or less, while 41 percent have incomes between $20,000 and $75,000. Only 21.5 percent have incomes above $75,000.[77]

APTA research and other sources suggest that fare increases can have very negative consequences for transit agencies.[78] As fares go up, ridership tends to fall. These trends also tend to be more pronounced in smaller population centers. By increasing fares, public transit agencies run the risk of losing ridership, particularly riders with other transportation options. Those that remain—riders who lack other options—bear the burden of higher fares and service cutbacks that may result from ridership decline, which may severely impact their economic livelihoods and ability to access basic services.[79] Little research examines the impact of fare reductions on transit agencies and ridership. One expert found that reducing fares can dramatically increase ridership.[80] More research in this area would provide a clearer understanding of the effect of fare increases on minority and low-income populations.

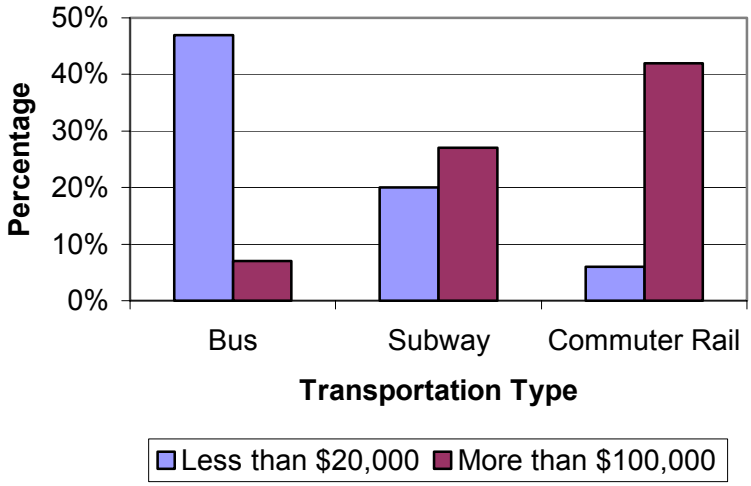
Transportation Policy Favors Higher-Income Public Transit Riders

Research also suggests that low-income riders of transportation tend to subsidize their higher-income counterparts for a couple of reasons. First, fare structures are often designed in such a way that short trips subsidize longer trips, and low-income and central-city riders generally make short trips compared with higher-income suburban users who make long trips.[81] One researcher noted that a user who travels one mile pays more than twice the true cost of the trip, whereas a user who travels 20 miles pays only 20 percent of the cost.[82] Second, the amount of revenue gained from passenger fares, including passes, tends to be higher on central-city transit routes than suburban routes, and more low-income transit riders tend to make trips on central-city routes.[83]

The most egregious example of this subsidization can be seen by comparing bus and rail service.[84] Data from the 2001 National Household Travel Survey show that in urban areas, households earning less than $20,000 comprised 47 percent of bus riders, 20 percent of subway riders, and 6 percent of commuter rail riders.[85] Households earning $100,000 or more comprised 42 percent of commuter rail riders, 27 percent of subway riders, and only 7 percent of bus riders.[86] Clearly, more individuals with low incomes rely on bus service and more high-income individuals rely on rail service (see Figure 5).

Bus transit receives only 31 percent of the capital funds spent nationwide for transit, although it carries more than 60 percent of the trips.[87] This disparity is exacerbated by requirements that federal funding for transit generally must be used only for capital expenditures, not operating expenses. Because rail transit is capital-intensive and bus transit is labor-intensive, a greater emphasis on capital subsidies favors rail service over bus service, and consequently generally favors higher-income over lower-income riders.

Figure 5. **Modes of Transportation, by Household Income**



Sources: Pucher and Renne (2003); U.S. Department of Transportation (n.d.).

Although we are not aware of any studies documenting the disparities in funding spent on bus compared with rail transit in specific cities, Los Angeles is one example of a city that engaged in this type of disparate funding. Community activists and attorneys alleged in a lawsuit[88] in the early 1990s that the Los Angeles Metropolitan Transportation Authority (LAMTA) spent only 30 percent of its resources on bus transit, even though almost 94 percent of its riders used the buses and 80 percent of them were people of color. Seventy percent of LAMTA's resources went to rail, even though only 6 percent of its riders used rail. Rail riders were primarily white.[89]

The gulf between governmental financial and political support for rail compared with bus service, however, is not nearly as great as that for highway systems compared with public transit systems.

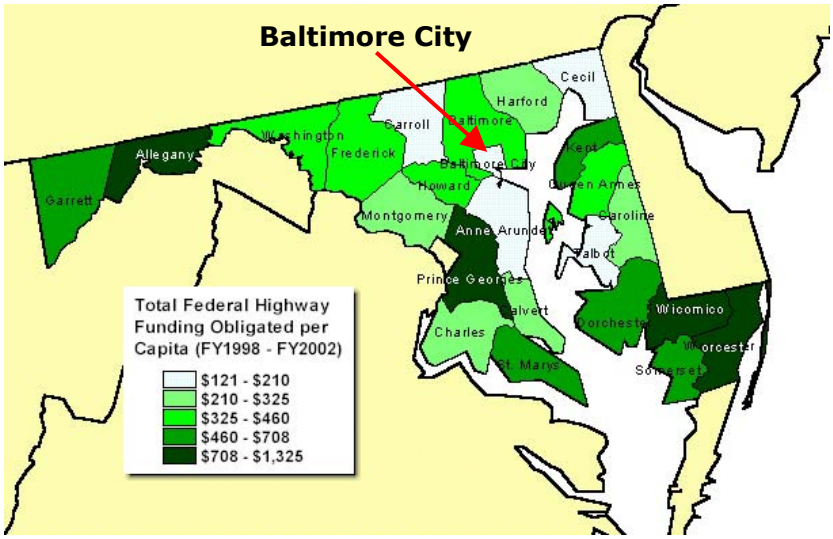
Disparities in Federal Funding by Geographic Area

The negative consequences of funding policies that favor spending on highways over transit are exacerbated because MPOs, which have a better understanding of the transportation needs of metropolitan areas where many minorities and low-income individuals reside, and would be more likely to invest in public transit, only receive a small percentage of federal funds. Currently, MPOs have direct control over only 6 percent of federal transportation funds. This distribution formula discourages establishment of integrated transportation and land use policies. Although states have the ability to provide more funding to local transportation agencies, few states actually do. One notable exception is California, which gives 75 percent of its federal and state transportation program funds to regional and metropolitan transportation agencies. These local agencies have pioneered innovative programs such as providing incentives to develop denser housing within walking distance of mass transit. Increased funding for MPOs would potentially allow them to make major multimodal investments that address air quality, traffic congestion, and other priority concerns of their specific communities.[90]

Although most of the nation's population is located in metropolitan areas, generates substantial revenues for highway spending, and has significant transportation infrastructure needs, there is research evidence that states spend more on serving transportation needs in nonmetropolitan areas than in metropolitan areas.[91] A recent study of transportation spending in Ohio found that while urban counties generated more local revenues for highway spending than other areas, there was not a corresponding high level of spending in urban areas.[92] Studies examining metropolitan areas and counties are informative. An analysis of per capita spending between cities and other areas, however, would provide us with a better understanding of how transportation funds are being spent.[93] This type of analysis is difficult to perform because DOT data[94] on how federal transportation funds are spent are provided only on a county-level basis, and county boundaries do not always coincide with city limits.

In Maryland, however, county boundaries coincide with the city of Baltimore boundaries. Thus, it is possible to determine the per capita distribution of funding by county and determine how funding for Baltimore ranks relative to other counties. An unpublished analysis by the Surface Transportation Policy Project shows that Baltimore receives the lowest federal highway funding per capita in the state—$121 per person—showing a clear preference in funding for suburban and rural counties (see Figure 6).[95] Interestingly, the distribution of this $121 per person is fairly even, with the largest amount spent on bridge repair, and a significant portion directed to bicycle and pedestrian facilities, transit, and road repair. More of this type of analysis and analysis of spending on other types of transportation is necessary to provide a better understanding of whether inequitable patterns of transportation spending exist. This type of analysis can only be performed if more data is collected that is geographically coded and consists of geographic units smaller than counties.

Figure 6. **Federal Highway Spending in Maryland, by County**



Source: Surface Transportation Policy Project.

It is also difficult to analyze whether there are any funding disparities between minority communities and nonminority communities for the same reason—the DOT data are only available for counties.

TRANSPORTATION POLICIES' INDIRECT ECONOMIC AND SOCIAL EFFECTS

The previous section examined the *direct* effects of transportation policies on low-income minorities' finances and their ability simply to get around. This section examines the *indirect* effects of transportation policies.

One of the central indirect effects is the reinforcement of residential segregation. The form that we currently think of as "the city" is a product of both land use and transportation investment decisions. Highway investments in combination with federal housing and lending policies leading to post–World War II suburbanization played a significant role in "white flight" from central cities to suburbs, which had a profound impact in defining urban form and racial segregation patterns.[96] Highway investment encourages the development of suburbs located increasingly farther away from central cities and has played an important role in fostering residential segregation patterns and income inequalities.[97] Inequitable or inefficient land use patterns such as those resulting in residential segregation often are reinforced by policies, such as transportation investment decisions, that were established several decades ago.

As many researchers have documented, residential segregation greatly influences minorities' access to housing, education, and economic opportunities.[98] More research, however, needs to be performed examining the relationship between transportation policies and residential segregation and how it should be addressed.

Spatial Mismatch

Of all the issues in transportation equity, the perceived spatial mismatch between the residential location of low-income, urban (and often minority) households and the location of low-skill jobs has received the most attention in the academic literature.[99] It has been documented that a major factor underlying the spatial mismatch hypothesis was the deconcentration of jobs from central cities. Despite the trend of businesses relocating in suburban zones, a large proportion of metropolitan employment remains in downtowns.

Managerial and information processing services have tended to remain in downtown areas while entry-level, low-skill jobs are flowing to the urban fringe and beyond. Research suggests that the average distance between a central-city resident's home and potential employment locations has been increasing over time.[100] As this distance increases, low-skill workers with few transportation options are unable to travel to these new, dispersed locations. In theory, when job locations are concentrated, commute times and distances are shorter than when jobs are located in dispersed locations—that is, commuting to jobs in dispersed locations is inefficient. Some argue, however, that dispersing residences and jobs leads to *more* efficient transportation because the negative effects of transportation will also be dispersed, resulting in less congestion.[101] Such theories ignore the fact that transit-dependent populations have limited travel mode options.

Related to the spatial mismatch between jobs and central-city residents are reverse commuting travel patterns. While a majority of commute trips flow to the central city from outlying areas, a portion of trips must flow in the opposite direction to connect workers with job

opportunities located in the urban fringe and suburbs. In 2000, 1.6 million people per day made reverse commutes in the 10 largest metropolitan areas. Recently released data from the U.S. Bureau of the Census on county-to-county commute flows in the 10 largest metropolitan areas show that the volume of reverse commuting increased from 3.4 percent to 4.0 percent of all commute trips.[102] This translates into 320,000 new reverse commute trips for those 10 areas. While this may not appear to be a significant increase in reverse commuting, compared with other commute trip types, reverse commutes represented nearly 13 percent of new commute trips in the past 10 years. Also, these figures provide no insight into the number of additional reverse commute trips that might be taken if there were better transportation options serving these travel patterns.

Because it is difficult for public transportation to serve dispersed suburban locations from the central city, workers who have or would like to take a job requiring a reverse commute and are transit-dependent are put at a distinct disadvantage. It is likely that the vast majority of reverse commute trips require a car, especially if travel is required during off-peak periods (evenings and weekends). Without reliable transportation options, transit-dependent workers are often excluded from suburban employment opportunities.

Urban public transportation systems operate most efficiently in concentrated, densely developed urban areas. These systems, which also tend to be oriented toward downtowns, do a poor job of serving dispersed trip origins and destinations.[103] Often transit systems do not adequately serve the needs of minorities and low-income individuals with nontraditional work hours.

There are several important analytical issues to consider when examining the relationship between residential and employment locations. The simple ratio of total jobs to total working-age persons in a specific geographic area is an inadequate indicator of mismatch. Workers' job skills, educational background, gender, race, and mobility are significant factors in determining the numbers and types of jobs that a worker is qualified to hold. Controlling for "skills" and "mobility" matching, the disparity in employment levels by race and gender is generally attributed to historic or contemporary discrimination.[104] Recent research suggests that higher levels of access to public transit service is associated with lower levels of metropolitan wage inequality.[105] However, further research is needed that focuses on the relationships among residential location, transportation mobility, and employment outcomes to inform appropriate public policy decisions.

There are mixed findings on whether improved access to public transportation results in higher levels of employment. A 1997 study in Dade County, Florida did not find a strong relationship between public transportation access to employment locations and rates of employment of minorities.[106] On the other hand, a study examining Atlanta and Portland, Oregon, found that access to bus transit had beneficial effects related to increased employment for all races.[107] Other studies have also indirectly accounted for the role of public transportation in central-city employment levels by incorporating public transportation travel times into job accessibility calculations.[108]

The spatial mismatch analyses leave open the question of whether public transportation significantly affects employment levels and commuting activities in urban areas. With more

detailed data and analysis, these effects can be better understood, providing tangible evidence of the relationship between increasing and improving public transportation and solving metropolitan unemployment and commuting problems. This type of research would be useful to clarify or redirect current policies attempting to overcome the spatial mismatch between low-income persons and employment opportunities.

Some argue that transportation policies and people's preferences are so strongly in favor of traveling by automobiles that mobility benefits from public transportation are considered negligible.[109] Some also argue that public transit is not a viable alternative to the personal automobile due to the geographic imbalance between housing and job locations.[110] The fact that small investments are made in transit (relative to roads and highways) while metropolitan areas continue to sprawl leads to further auto-dependency that imposes a disproportionate burden on low-income persons.[111] Many low-income and minority households lack access to an automobile and thus depend on public transit, which limits the location and types of employment that are available to them.[112]

Recent research suggests that increased automobile ownership rates may have beneficial impacts on low-income workers and their families.[113] Autos not only improve job search activities, but also job retention, especially in cases where (or when) public transit service is unavailable.[114] In addition, autos provide flexibility beyond work-related trips, so that individuals can meet other daily needs related to child care, education, shopping, health care, etc. The role of cars should be a consideration in transportation mobility strategies for low-income and minority people. The challenge, however, is to devise public policy that effectively increases auto access in cases in which other modes are infeasible.

Transportation Policies and Access to Housing

Displacement and gentrification because of transportation projects are two examples of the negative impacts that have been inflicted on low-income neighborhoods of color. Residential location and housing are directly related to the need for equitable and efficient transportation systems, especially for persons with limited mobility. When housing is taken away for freeway projects in minority and low-income communities or becomes unaffordable, the displaced individuals have fewer options for seeking alternative housing and may end up living farther away from their jobs and social networks. This will be especially burdensome if their transportation options are limited. An individual's residential location is crucial and encompasses not only issues of affordability, but also access to public schools, police and fire protection, and public transportation.[115]

Displacement

Transportation policies and practices of locating freeway projects in minority neighborhoods have, in a number of cases, impeded the ability of minorities to access housing. Although there are no empirical data on the number of communities or people affected or the extent of the impact, historical and current examples of disproportionate impacts of transportation projects on minority neighborhoods exist and are discussed in this section.

Freeway placements and expansions in urban areas typically occur where land prices are depressed—which frequently corresponds with the residential neighborhoods of low-income and minority households. Such neighborhoods generally have low levels of political power resulting from institutional discrimination over time. In some respects, freeway locations in cities are the philosophical progeny of "Negro removal" or "urban renewal" programs that were thought to cure "urban blight" by tearing down minorities' homes.[116]

Some freeway construction projects have destroyed thousands of residential units occupied by minority and low-income households. In some cases, community objections to proposed projects have prevented widespread displacement and other inequitable effects. For example, in 1972, individuals and organizations concerned about people who would be displaced by the proposed I-105 "Century Freeway" construction in Los Angeles brought a lawsuit against state and federal government officials seeking injunctive relief. In 1982, the U.S. District Court approved a final consent decree requiring the state and federal defendants to provide 3,700 units of decent, safe, and sanitary replacement housing to residents who were displaced by the freeway.[117]

Another example is the proposed extension to the Long Beach Freeway (710) in California. In 1994, the original proposal to extend the freeway provided more measures to lessen the impact of the proposed freeway in the predominantly white communities of South Pasadena and Pasadena and fewer measures in El Sereno, an almost completely Latino neighborhood in east Los Angeles.[118] The original plan was to place mostly below-grade freeways in Pasadena and South Pasadena, but not in El Sereno. Also, it would have built five tunnel sections in Pasadena and South Pasadena to "mitigate the perception of a divided neighborhood" and only one tunnel in El Sereno (including a tunnel near the South Pasadena High School, but not one near the Sierra Vista Elementary School in El Sereno). Community members objected to the extension as proposed and, through a lawsuit, were able to make the project more equitable.

In addition to destroying thriving neighborhoods, some freeway construction has posed physical hazards to the minorities and low-income individuals living near them. In Miami–Dade County, Florida, community residents remember well the detrimental impact that the construction of Interstate 95 had on vibrant African-American communities and business districts in the 1950s and 1960s. The decision to widen I-95 in the 1990s exacerbated the negative impact of the highway on local residents. Not only had the community never recovered from the original highway construction—the neighborhood's property values had declined significantly over the past couple of decades as blight crept into the community—but the highway is within feet of residents' houses. The only barrier protecting homes from the noise, vibration, and danger of potential accidents was a wire fence. On several occasions, local residents reported cars, tires, and other debris flying into their yards from the freeway, and many residents were afraid to be in the rear of their houses for fear of their lives.[119]

Local residents, who were predominantly minority and low to middle income, argued that the placement of the freeway and the proposed expansion was a clear case of discrimination and environmental injustice. Their accusations were further supported by the observation that other stretches of I-95 in Miami–Dade County in areas that were typically affluent and less likely to be

predominantly minority had well-built and sturdy sound mitigation walls protecting property from the highway. In response to the residents' concerns and allegations of discrimination, Florida officials quickly pulled together the financial resources to build a mitigation wall.[120]

Another current example of how transportation decisions can have a negative impact on a minority community is the controversy over a proposed major road that threatens to destroy a sacred American Indian site just outside of Albuquerque, New Mexico. Community leaders there are struggling to protect the Petroglyphs, a place for prayer and culture for the many Native American tribes (primarily Pueblo Indian tribes) in that region of the country. Despite its designation as a national park in 1998, developers and local politicians have repeatedly attempted to build roads through the park to facilitate access to new suburban growth farther out into the areas around Albuquerque. Through political and community organizing and legal advocacy, the Sacred Alliances for Grassroots Equality Council has succeeded in slowing efforts to develop portions of the Petroglyph National Park. Whether they will be able to prevent completely road construction through the Petroglyphs remains in question because powerful interests continue to advocate for road construction.[121] Although proposed road projects would not destroy the community in which the Native Americans reside, they would be just as harmful because they would destroy a sacred site that is an integral part of their sense of community.

In other large construction projects—such as I-670 in Columbus, Ohio; I-94 in Detroit; I-5 in Portland, Oregon; and I-43 in Milwaukee—anecdotal evidence suggests that minority and low-income communities have been unable to prevent large numbers of individuals from being displaced, and the resulting disintegration of their communities.

Gentrification

Another housing-related impact of transportation policies is gentrification. Gentrification is commonly characterized as a transformation of neighborhood conditions that encompass physical, economic, and demographic dimensions and can be defined as "the process by which higher income households displace lower income residents of a neighborhood, changing the essential character and flavor of that neighborhood."[122] It occurs for a number of reasons, including increased desirability of an area due to a transportation investment such as extension of a commuter rail line, new or improved train service or station, or addition of a highway ramp or exit. Most commonly, gentrification has been portrayed in terms of residential location patterns, such as "back to the city" flows of middle-income households from the urban fringe or suburbs or elsewhere within a metropolitan area.

Gentrification, however, manifests itself through reinvestment and rehabilitation of previously degraded neighborhoods, improving the physical condition and appearance of both residential and commercial properties. Due to the perception that increased property values, increased safety, and improved neighborhood amenities signal neighborhood revival, middle-income households upgrade housing conditions for their personal consumption. While owner-occupied single-family residences replace renter occupancy, businesses that target the demographic group of middle-income homeowners transform older, traditional commercial locations through reinvestment and rehabilitation of structures. Thus, the gentrification process entails physical property improvements, a demographic change to higher income levels, more

"yuppie" (young, urban professionals) households, and property value increases. Some neighborhood gentrifications absorb vacant properties, while others involve replacement (or displacement) of households no longer able to afford housing due to housing cost (price/rent) appreciation.

While some consider property value increases resulting from gentrification to be positive, such changes have also been criticized for worsening the well-being of low-income persons, especially in neighborhoods of color. Some have argued that increases in property values are capitalized in rent increases, which then push households that are less able to pay to other neighborhoods or to undesirable housing arrangements.[123] In particular, some argue that certain antisprawl land use policies that direct housing development away from the urban fringe reduce housing affordability and limit housing choice, especially for low-income households. Others have argued, in addition to causing displacement, that gentrification is undesirable because it leads to homogenous neighborhoods that are not socioeconomically or culturally diverse.[124] However, there is insufficient data to draw specific conclusions about the net social and economic impacts of transportation investments on gentrification and displacement.

Access to Education

Creating barriers to access to education is another indirect effect of transportation policies. Following the Supreme Court decision in *Brown v. Board of Education*,[125] "busing" and yellow school buses became well-known symbols of the fight for equal educational opportunities for African Americans. The significance of these symbols is diminishing because more and more school systems are returning to the idea of neighborhood schools and courts are declaring school districts "unitary," meaning they have eliminated the effects of past segregation as far as they are able. Today's transportation policies, however, still have an effect on access to educational opportunities for a number of minorities and individuals from low-income communities.

No longer do most students rely on yellow school buses to get to school. Many students depend on public transportation to attend school and college as well as participate in extracurricular activities. A recent study of this issue estimated that nationally, during normal school hours, the majority—60 percent—of all student trips were made by car and that these were primarily trips to and from school.[126] One study found that students traveling to or from school in cities of more than 500,000 accounted for 15 percent of all public transportation trips.[127] It was estimated in 1996 that 20 percent of school children in California were using public transportation or other special transportation service to go to school and that growing numbers of students were relying on public transportation in other states such as Ohio.[128]

As The National Academies' Transportation Research Board stated, "transit services in large urban areas have long been used to transport students, particularly those in high school and junior high school."[129] While there is no research documenting how many of these students taking public transportation are minorities, it stands to reason that many of the K–12 (kindergarten through 12th grade) students who depend on public transportation are minorities located in urban areas with a developed public transportation system. Supporting this idea is the fact that Los Angeles,[130] Houston,[131] and Washington, DC[132]—cities with significant minority populations—provide discounted public bus fares for students.

Although the large majority of K–12 students do not need to rely on public transit to get to school, for those who do, access to that transportation may mean the difference between attending and missing school. For instance, during efforts to obtain free student transit passes from the Metropolitan Transportation Commission serving the San Francisco Bay area, evidence was presented that students without access to public transportation would not attend school.[133] A number of high school students in Oakland and El Cerrito, which have significant minority populations, testified that they needed free transit passes because their families sometimes had to decide between food and bus fare.[134] In Portland, Oregon, the school district does not provide bus service for students living within 1.5 miles of a school. Sisters in Action for Power, an organization focusing on the interests of low-income girls and girls of color, pressed for free rides to high school on public buses after its survey of more than 2,000 students found that 11 percent reported missing school due to their inability to meet transportation costs.[135] Students in Providence, Rhode Island, in an informal survey of more than 500 high school students, found that a number of students whose families were unable to afford bus passes stayed home and missed school, especially during harsh winter days, and others got detention for being late because of the amount of time it took them to walk to school.[136] Currently, students attending Providence public high schools who live within three miles of their school must walk or provide their own means of transportation.

Limited funding for schools makes it difficult for school districts to transport all children in school buses. Recent severe cuts in school budgets makes it likely that more school districts will need to reduce the transportation services they provide and that more children will need to rely on public transportation to attend school. Transportation policies should recognize and address this growing need.

In addition, education reform laws do not always consider the impact of access to transportation. For example, states authorizing charter schools do not always require that the schools provide transportation to students.[137] Some states that require charter schools to provide transportation to students only require that they follow the same standards of other schools in the district, such as providing transportation only to those residing in the school district in which the charter school physically exists even though charter schools generally can enroll students from surrounding school districts. Failure to provide transportation may reinforce the segregative effect of charter schools by eliminating the option of low-income minority students to enroll in these schools due to a lack of transportation.[138] Another education reform law, the No Child Left Behind Act,[139] allows students to transfer from "failing" schools, which are often schools with predominantly minority populations. It does not require that transportation be provided to students who wish to transfer. Although this provision has the potential to reduce segregated schools, not providing transportation to nonfailing schools means that many minority students will not be able to take advantage of this option.

Lack of access to transportation also affects access to higher education. Many people of color, for financial and other reasons, attend local community colleges or do not live on campus, often requiring that they find transportation other than walking. For example, minority students make up 30 percent of community college enrollment nationally and their enrollment is often higher in urban areas.[140] It is likely that at least some of these students rely on public

transportation. These students are likely to experience long or inconvenient commutes as many colleges were designed to serve a region and not necessarily to be accessible by public transportation. It is not known how many students who cannot afford a car decide not to go to college or drop out in the face of an overly arduous commute on inadequate public transportation. Federal and local transportation policies must find ways to better serve the transportation needs of those most dependent on public transportation or the dream of equal access to educational opportunities will remain deferred for many students of color.

TRANSPORTATION POLICIES AND HEALTH EFFECTS

Beyond access to social and economic opportunities, transportation policies can create or help to perpetuate health disparities. That racial minorities face health disparities compared with whites is widely recognized. Health professionals also recognize that addressing the inequities requires both health treatment and prevention programs for individuals and social policy changes to address the root causes of inequity.[141] As a National Association of County and City Health Officials paper states, "Socioeconomic conditions such as polluted environments, inadequate housing, absence of mass transportation, lack of educational and employment opportunities, and unsafe working conditions are implicated in producing inequitable health outcomes."[142]

Several articles published in the field of public health have suggested that residential racial segregation is a primary cause of racial disparities in health.[143] One article examined the link between segregation and health disparities in Detroit,[144] which has a population that is approximately 83 percent African American.[145] The article suggests that the transportation policies of the 1950s and 1960s—which supported highway system expansions and location of heavily traveled roads in impoverished neighborhoods in Detroit—led to residents' higher risks for a variety of diseases.[146]

Air Pollution

Like Detroit, many urban areas have significant pollution, much of which can be traced to transportation policies that favor highway development and automobile travel over public transportation. In addition, these transportation policies combined with land use or zoning policies lead to more toxic usage of land in poor and minority neighborhoods than in affluent areas and areas with fewer minorities.[147] Higher percentages of African Americans (65%) and Latinos (80%) compared with whites (57%) live in areas with substandard air quality.[148] Research suggests that these polluted environments in turn result in higher rates of respiratory diseases, such as asthma.[149]

It is known that the occurrence of asthma and asthma-related deaths is higher in African Americans and Latinos than in whites.[150] Asthma is almost twice as common among African Americans as it is among whites. Even more disturbing are the disparities in asthma deaths among African Americans and whites: Though African Americans make up approximately 12 percent of the U.S. population, they account for about 24 percent of all asthma deaths.[151] A report by the Environmental Protection Agency found that non-Hispanic African-American children who live in families with incomes below the poverty level have the highest rate (8.3%) of asthma of all racial groups.[152]

While it is not known to what extent these disparities are due to outdoor pollution, research studies have found a strong and significant correlation between residing near heavy automobile or truck traffic and increased difficulties with respiratory function and higher incidence of disease, such as asthma, in children.[153] Specifically, studies have found that high concentrations of air pollutants from vehicles are linked to asthma.[154] A study of Atlanta during the 1996 Summer Olympics when alternative transportation strategies were implemented[155] found that hospitals and doctors saw significantly fewer children for serious asthma problems.[156] A study examining the effect of daily air pollution levels on asthmatic children living in the Bronx and East Harlem, New York; Baltimore; Washington, DC; Detroit; Cleveland; Chicago; and St. Louis found that increased exposure to certain air pollution was associated with asthma.[157]

The neighborhoods of Harlem and South Bronx in New York City have received attention due to the high rates of asthma among their residents. Central Harlem's population is approximately 88 percent African Americans and 10 percent white.[158] South Bronx has a population of approximately 79 percent Latino and 19 percent African American.[159] Neither of these communities has been meeting air quality standards.[160] Most of the area's bus depots were sited in Harlem[161] and like the South Bronx, it contains or is surrounded by heavily traveled commuter highways.[162] One study of these communities found the rates of developmental and respiratory diseases (such as asthma) are disproportionately high.[163]

Personal Safety

Transportation policies that favor reliance on automobiles and building busy roads in minority communities also raise another public health concern: personal safety—particularly that of minorities and low-income individuals who live in urban areas. Overall, African Americans and Latinos have a pedestrian fatality rate that is almost twice as high as that of whites,[164] and they have a higher percentage of pedestrian fatalities than their percentage of the population in the United States.[165] One study found that the most dangerous metropolitan areas for walking were Orlando, Tampa, West Palm Beach, Miami, and Jacksonville, Florida; Memphis and Nashville, Tennessee; Houston and Dallas–Fort Worth, Texas; and Phoenix.[166] Each of these areas has a significant minority population. A study of Atlanta pedestrian fatality rates during 1994–1998 found that whites had a significantly lower pedestrian fatality rate of 1.64 per 100,000 than Latinos (3.85) and African Americans (9.74).[167] Newspaper accounts have reported that in Orange County, California and in the Virginia suburbs of Washington, DC, Latinos suffer a greater percentage of pedestrian fatalities than their population in those areas.[168]

Disparities in the number of pedestrian deaths are exacerbated because higher percentages of people of color than of whites do not own a car and must rely on walking as a primary mode of transportation. An analysis of 2000 census data show that these minorities are much more likely than whites to walk to work. While 2.6 percent of non-Hispanic white workers walked to work in 2000, 3.2 percent of African-American workers, and nearly 4 percent of Latino and Asian American workers, walked to work.[169]

One study of pedestrian injuries found that children who are pedestrians are at increased risk for serious traumatic brain injury and lifelong disability if they live in poverty, face a large traffic volume and traffic moving at high speeds, and lack space to play other than sidewalks and streets.[170] National Highway Traffic Safety Administration data show that the most dangerous roads for pedestrians are those that have multiple lanes, high speeds, no sidewalks, long distances between intersections or crosswalks, and roadways lined with large commercial establishments and apartment blocks.[171]

Relying on walking for transportation may have other negative effects. One study found that low-income mothers relying on walking as a primary mode of transportation suffered physical fatigue and stress from having to manage walking long distances with young children in all types of weather and on busy roads.[172]

Walking and bicycling have been widely promoted as efficient, low-cost ways to increase physical activity and thus improve overall health.[173] However, minorities and those who live in areas of poverty do not live in areas conducive to walking and bicycling. The Centers for Disease Control identified the most common barriers preventing children from walking and bicycling to school as dangerous motor-vehicle traffic and long distances.[174]

States are spending very little federal transportation funding to improve conditions for walking.[175] As documented by the Surface Transportation Policy Project, a national organization concerned with improving the nation's transportation system, "less than one percent (0.7 percent) of federal transportation construction, operations, and maintenance funds are spent to ensure a safe walking environment."[176] Transportation policy should support both public transit and safe environments for pedestrians.

UNEQUAL ACCESS TO OPPORTUNITIES IN THE TRANSPORTATION CONSTRUCTION INDUSTRY

While minorities often suffer the burdens of having large transportation construction projects placed in their neighborhoods, they do not usually reap the benefits of lucrative contracts or high-paying jobs in the construction industry. Policymakers generally contend that every $1 billion in federal infrastructure investment creates approximately 30,000 to 40,000 jobs in construction and related industries.[177] For communities affected by these investments, the associated noise, dust, and inconvenience of the construction further intensify frustrations with transportation policies. Adding insult to injury, many communities have noted that too many of these jobs are filled by workers living in other neighborhoods. Too little attention has been paid to who gets these jobs and whether any of those who live in the communities burdened by the transportation projects benefit by obtaining employment to construct the highways.

Local Minority and Low-Income Hiring Preferences

Federal law has acknowledged the value of allowing hiring preferences for individuals in certain low-income communities—local hiring preferences for workers on tribal reservations and in the Appalachian region[178] of the country are or have been allowed—but these preferences overlook most of America's low-income communities, particularly in urban areas. TEA-21 allows states to use a percentage of federal transportation funding to pay for supportive services to help women and minorities enter the transportation construction trades, but few states exercise this option.[179]

In Los Angeles, a coalition of community groups, churches, and local elected leaders persuaded the Alameda Corridor Transportation Authority to incorporate a local hiring preference into the contract for a multibillion-dollar multimodal project. The project involved excavation of a 21-mile trench under numerous major and minor roads to lay a rail bed that now links the Ports of Long Beach and Los Angeles to distribution centers in downtown Los Angeles. The project runs through a number of very poor and minority communities in south central and east Los Angeles.

The contract required that 30 percent of all hours worked on the mid-corridor portion of the project go to local residents. It also funded a pre-apprenticeship program, which provided stipends for 650 local residents. More than 700 pre-apprenticeship program graduates were placed in jobs in the construction industry; 188 received jobs on the project. Thirty-one percent of all hours worked on the mid-corridor section of the project were performed by local residents, and 75 percent of them were minorities. Of that group, 190 were former welfare recipients and 102 were women with children.[180] The project finished on-time and under budget.

The Alameda Corridor program succeeded only because a portion of the project was funded by a loan from DOT rather than a federally aided highway grant. The only portion of the project on which the Alameda Corridor Transportation Authority could require a local hiring preference was on the mid-corridor portion; other portions of the project were excluded. Initially, the Alameda Corridor Transportation Authority would not agree to a local hiring preference unless DOT clarified that such a preference was legal. Grassroots groups successfully sought an opinion from DOT, which authorized the local hiring preference on the mid-corridor portion of the project, but concluded that Congress would need to create a new exemption to allow future local hiring preferences on federally aided highway projects.

The significance of hiring local residents to work in the transportation construction industry extends beyond a particular construction project. As the overrepresentation of Latinos in the construction industry suggests, these job opportunities provide the real possibility of sustained employment in a well-paying industry with the prospect for career growth. Given projected growth in the industry and the transferability of construction skills, strategies that ensure greater participation by minorities in local construction projects ultimately may create significant employment opportunities for minorities, particularly for low-income families with few other options.

Minorities' and Women's Employment in Transportation Construction

Minorities and women are either underrepresented in the construction industry or are likely concentrated in the lowest-paying jobs. According to the U.S. Bureau of Labor Statistics, of the more than 6.25 million people employed in the construction industry, the percentages of minorities and women in the construction trades were: 2.5 percent women, 7 percent African Americans, and 17 percent Latinos/Hispanics.[181]

In comparison, 2000 census data showed that women comprised almost 51 percent of the U.S. population, that African Americans comprised approximately 12 percent, and Latinos/Hispanics comprised 12.5 percent.[182] These numbers indicate that women and African Americans are clearly underrepresented in the construction industry. While Latinos/Hispanics are overrepresented compared with their population in the United States,[183] Latino construction workers are likely to be among the lowest-paid workers. Census data show that Latinos have lower incomes than non-Hispanic whites,[184] and recent data from the Bureau of Labor Statistics reveal that the median weekly earning of Latinos is lower than that of all other racial groups.[185]

Specific data on minority and female representation in the transportation construction trades, however, is currently unavailable. The agency responsible for tracking this information is the Federal Highway Administration (FHWA, which is part of DOT), and within FHWA this duty has been delegated to the Office of Civil Rights (OCR). Currently, states are required to submit annual reports to FHWA OCR based on data submitted to them by primary contractors about their workforces. Due to resource and staffing constraints, however, the FHWA OCR has not collected, compiled, or analyzed this data since 1995.

Given these data limitations, it is possible only to hypothesize about the amount of economic benefit women and minorities receive from major federal investments in highway and transit construction. The majority of highway and street construction jobs are unionized positions and pay relatively well. According to the Bureau of Labor Statistics, the mean annual wage of managers in the transportation construction industry is more than $70,000; in construction and extraction the mean annual wage is $35,000.[186] Despite the good jobs created by transportation construction, many low-income and minority community members look on investment in transportation construction with some skepticism because they often do not see jobs to construct projects in their communities held by women or minorities, let alone local residents.

Although the data are not specific to construction of transportation infrastructure, it is possible to anticipate significant job growth in this industry as the result of the reauthorization of TEA-21, which provides the primary federal funding for transportation. The next funding program may send as much as $375 billion to the states for transportation construction projects of all types.

Transportation Construction Opportunities for Minority and Women Contractors

In addition to having the potential to increase employment opportunities for minorities, transportation policies can assist businesses owned by women and minorities. In 1998, when Congress was debating TEA-21, one of the most controversial elements of the proposal was

DOT's Disadvantaged Business Enterprise (DBE) program that was established by President Reagan in 1983.

The purpose of the program is to help small businesses owned and controlled by disadvantaged individuals, including minorities and women, by ensuring that they get a portion of the construction business generated by federal transportation funding. Although minorities represent more than 28 percent of the population, according to DOT, they own only 9 percent of all construction firms and received only about 5 percent of construction receipts. Women-owned construction firms receive only 48 cents of every dollar that they would be expected to receive based on their market availability. The DBE program works to remedy these inequalities.[187]

Since enactment of TEA-21, the DBE program has withstood various court challenges. In the most recent challenge, the current DBE program, which the federal government had refined from the original program, was found to meet constitutional scrutiny. In *Adarand Constructors, Inc. v. Slater*, the 10th Circuit Court found in 2000 that the program is narrowly tailored to meet a compelling state interest and therefore does not violate the equal protection clause of the Constitution.[188] The decision discussed in great detail the government's evidence of discrimination impeding the ability of qualified minority businesses in construction subcontracting to form and discrimination against existing minority businesses impeding the ability of those firms to compete for contracts. For example, the government found that: "the average loan to a black-owned construction firm is $49,000 less than the average loan to an equally matched nonminority construction firm;"[189] prime contractors like to contract with subcontractors with whom they have long-standing relations and as a result new minority businesses are "seldom or never invited to bid for subcontracts on projects that do not contain affirmative action requirements;"[190] and minority construction subcontracting firms received 87 cents for every dollar that they would be expected to receive given their availability.[191]

In 2001, a report by the U.S. General Accounting Office (GAO) examined DOT's DBE program. The report, in examining past court decisions, concluded that there was evidence of past discrimination that could justify the establishment of DBE participation goals for disadvantaged businesses. Similarly, the GAO found that there was insufficient information available to understand fully the economic impact of DBE programs. However, the GAO concluded that in the specific instances where DBE programs were eliminated in Minnesota and Louisiana, minority-owned businesses in the transportation construction industry suffered significant negative impacts—DBE participation, in both contracts and dollars awarded, fell precipitously.[192] (For more information on state participation goals and contract awards, see the Appendix.)

According to DOT data, in fiscal year 2000 the DBE program helped to encourage more than $2 billion in investment to disadvantaged businesses, including minority and women-owned businesses.[193] The exact impact of this investment is impossible to determine due to current gaps in data. However, this is clearly a substantial sum of money that otherwise may not have been available to these small businesses. The DBE program is critical for ensuring that disadvantaged businesses have access to transportation contracts.

LANGUAGE BARRIERS

Like other obstacles to transportation accessibility, language barriers that are not addressed diminish social and economic opportunities, particularly for minorities. Language barriers affect a person's ability to travel (such as by preventing a person from obtaining a drivers license) and prevent individuals from communicating their transportation needs to policymakers. How transportation policies are decided and who is able to influence those decisions have played important roles in creating and sustaining the inequities of transportation policies.

Many Latinos and Asian Americans face language barriers. The 2000 census data show that only 1 percent of whites and 1 percent of African Americans speak English "not well or not at all," compared with 24 percent of Latinos and 17 percent of Asian Americans.[194] Latinos and Asian Americans are the fastest-growing minority populations in the United States, suggesting that language barriers will continue to be an issue in the future.[195]

Latinos account for 50 percent of all of those who speak English not well or not at all.[196] Of those who speak English not well or not at all, 23 percent use public transportation to travel to work.[197] These facts suggests that transportation agencies and those collecting transportation data would be able to serve and reach a significant portion of the population with language barriers by translating documents, announcements, and meeting proceedings into Spanish. Of course, every community has populations that differ in composition and may have significant non-Spanish-speaking populations with language barriers whose needs should also be addressed.

Collection of transportation data often fails to include individuals with limited ability to communicate in English. For example, the National Household Travel Survey, which is the only comprehensive survey of how Americans get around on a daily basis, was conducted only in English until the year 2001.[198] In the 2001 survey, it was conducted in Spanish as well as English, but non-English speakers only made up 1.9 percent of the sample.[199] In addition, the survey is conducted only on the telephone, so those who are simply less comfortable speaking English are more likely to decline to participate.

Executive Order 13166 "Improving Access to Services for Persons with Limited English Proficiency," issued in August, 2000, specifically addresses the need to improve access to federally funded programs and services for persons whose English abilities prevent them from effectively interacting with social service providers. The order reiterates the principles of nondiscrimination embodied in Title VI of the Civil Rights Act of 1964, which states that federally funded programs/services cannot discriminate based on national origin.[200] Specifically, the order clarified to recipients of federal funds that "failing to provide meaningful access to individuals who are limited English proficient" may constitute national origin discrimination under Title VI. In addition, it required federal agencies to provide guidance to recipients of federal funds and create internal guidance for their own agencies to ensure compliance with the order and the 1964 Civil Rights Act.

In 2001, DOT issued "Guidance to Recipients of Special Language Services to Limited English Proficient (LEP) Beneficiaries."[201] This guidance described some situations with which

LEP individuals may have particular difficulties, including 1) obtaining information about public transportation services, 2) understanding regulatory requirements and legal implications of public services, 3) understanding signage, 4) navigating public transportation systems, 5) understanding processes by which planning/transit agencies acquire properties, and 6) seeking employment opportunities.

DOT's guidance emphasizes that recipients of federal funds "should take reasonable steps to ensure LEP persons are given adequate information, are able to understand that information, and are able to participate effectively in recipient programs or activities." It outlined the elements of an effective language assistance program. Specifically, it suggested that a recipient should "conduct a thorough assessment of the language needs of the population and communities affected by the recipient . . . develop and implement written language assistance plans . . . ensure staff understand the recipients language assistance policy and are capable of carrying it out . . . provide necessary services to LEP persons . . conduct regular oversight of their language assistance programs."

This guidance suggests that data gathering for the transportation planning process must be done in a way that represents the service area and the people living there. Transportation planning agencies should assess the languages used, needs, and ability levels of the population, and adjust their data-gathering instruments and methods accordingly. These agencies must also allow meaningful access for those with limited English abilities to participate in the planning and data-collection processes.

In response to the DOT guidelines, the Center for Community Change, a national organization concerned with assisting low-income communities, issued comments stressing the importance of assessing "meaningful access" in terms of breadth, interpretation, and implementation. They recommended that assessments be used to monitor recipient activities and that these assessments include measurable benchmarks to track improvements in services to LEP individuals and public involvement throughout the development of the benchmarks, and that agencies be held accountable to these measures.[202]

Although no comprehensive survey has been conducted to determine how many transportation agencies have implemented strategies for overcoming language barriers, some agencies have taken steps to address the needs of those who are not proficient in English. For example, the New York City subway system has various multilingual maps and brochures as well as a language line that provides multilingual assistance for all transit-related matters every day from 6:00 a.m. to 9:00 p.m.[203] The Washington, DC Metro system publishes its Metro guide in 10 languages in addition to English.[204] Another example is the Minnesota Department of Transportation, which requires publishing notices in non-English newspapers, printing notices in languages other than English, and providing translators at public meetings as part of its "Public Involvement Procedures for Planning and Project Development."[205] The Metropolitan Transportation Commission for the San Francisco Bay area has translated some documents, provided some services, and provided some translation services in languages other than English.[206] Addressing language barriers in transportation planning is particularly important for public policy because leaving out large proportions of urban limited-English-speaking populations gives an incorrect picture of service needs and concerns.

MINORITY AND LOW-INCOME COMMUNITY PARTICIPATION IN TRANSPORTATION PLANNING

In addition to language barriers, other barriers prevent minority and low-income communities from participating in transportation planning processes. The two main bodies responsible for transportation planning are state departments of transportation and Metropolitan Planning Organizations. These agencies bear the difficult and vital responsibility of planning transportation for a region in a way that achieves the greatest system efficiency, mobility, and access while addressing environmental and social concerns. The mandates for environmental justice and social equity in state departments of transportation[207] and MPOs' activities are Title VI of the Civil Rights Act of 1964 and President Clinton's 1994 Executive Order 12898. President Clinton's order states that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

Effects on human health and the environment have implicit connections to social and economic well-being as well as questions of equity. DOT recognized these connections and promotes three core principles of environmental justice that states and MPOs should use in their land use and transportation analyses: 1) To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations; 2) To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and 3) To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.[208]

Several MPOs, in complying with these mandates, have conducted technical analyses to assess how well regional transportation systems serve different social and economic groups. Many of these analyses have been used to demonstrate the need for federal funding for programs such as the Jobs Access and Reverse Commute programs.[209] One report found that nearly half of the MPOs they surveyed had conducted different types of reverse commuting and employment access projects, which are targeted to low-income individuals and minorities. [210]

These principles of environmental justice were integrated into the TEA-21 administrative regulations and became requirements of the state department of transportation and MPO planning processes.[211]

ISTEA and TEA-21 required state departments of transportation and MPOs to increase the role of citizen participation in the transportation planning process. The laws required "early and continuous" public involvement, which has become an increasingly important element of environmental and social justice challenges.[212] During extensive outreach by FHWA and the Federal Transit Administration (FTA) in preparation for the rulemaking process to implement TEA-21's planning and environmental provisions, the public raised concerns regarding equity, environmental justice, and Title VI requirements. Suggestions regarding public involvement included 1) increasing stakeholder and public participation, 2) developing strategies to identify and better engage culturally diverse groups in transportation planning and decision making, and

3) withholding planning certification unless the public involvement process includes underserved communities.[213]

The regulations that implemented TEA-21's public involvement provision require that state departments of transportation and MPOs "seek out and consider the needs of those traditionally underserved by existing transportation systems including but not limited to low-income and minority households."[214] Yet, greater efforts need to be made to increase participation levels of historically underrepresented populations. There are no procedures for reviewing whether state departments of transportation and MPOs are adequately implementing this requirement and, although the Federal Highway Administrator may withhold payment of funds to enforce this regulation, we are unaware of any situations in which this has happened.[215]

Increasing participation of minority and low-income communities in the state department of transportation planning process is particularly important because of the large scale of their projects and the amount of transportation funding they control. It is also more difficult for the same reasons. An FHWA report evaluating statewide long-range transportation plans examined the public involvement efforts described in 48 statewide plans. The report indicated that states varied widely in the points at which public participation was sought. Some states only sought input prior to the planning process and others sought input at multiple stages. Also, the methods employed by states to gain public input varied dramatically, with public meetings the most relied-upon means (44%) for obtaining public input. According to the report, New Mexico officials felt that public meetings only attract those already familiar with the transportation planning process, and thus that state relied on focus groups of randomly selected citizens to help inform its planning process. The report did not indicate any specific efforts states made to ensure that they were obtaining input from minority or low-income households.[216]

One challenge facing MPOs is that many of their boards are overrepresented by suburban interests by virtue of a "one-area, one-vote" system. When district boundaries for MPO board representatives and planning units are drawn that result in approximately equal-sized geographic areas, urban core areas that have denser populations end up being underrepresented compared with suburban zones that have lower population densities.[217] This system influences the level of public involvement and participation of persons based on residential location—and negatively so in the case of low-income, neighborhoods of color in urban core areas. Recent research suggests that MPO board and voting structures have a significant effect on the outcomes of transportation investment decisions—especially those related to public transit.[218]

Although specific information about the racial and ethnic composition of MPO boards has not been collected formally and comprehensively, it is likely that minorities are not appropriately represented on MPO boards. For example, the MPO for Montgomery, Alabama has no minorities on its board even though African Americans make up 40 percent of the local population. During the FHWA and FTA investigation of a challenge to the MPO certification, it was discovered that the MPO had a Citizen's Advisory Committee in name only that had never been convened.[219] In the Philadelphia area, there are 18 voting members and 22 alternates on the MPO board; only five are minorities, and of the 15 nonvoting members and their alternates, only three are minorities. Atlanta's MPO has five minority members among 39 total board members. Detroit, with a population that is approximately 71 percent African American, has an MPO board

whose main policies are set by a 46-member executive committee that is approximately 11 percent African American. Comprehensive collection of data on the composition of MPO boards would be useful in assessing levels of representation by race and ethnicity.

Specific challenges remain in regard to greater public participation and involvement in transportation decision making by state departments of transportation and MPOs. Community-based groups that assist transportation agencies should be encouraged to improve outreach processes and strategies to identify culturally diverse groups and facilitate their involvement. In addition, these efforts are greatly needed to support the information dissemination about transportation and related land use impacts. Organizations such as the Transportation Equity Network of the Center for Community Change[220] and the Funders' Network for Smart Growth and Livable Communities—a national organization supporting philanthropic organizations working to advance social equity, create better economies, build livable communities, and protect and preserve natural resources—advocate for broadening the base of community organizing around issues of smart growth and social and environmental justice.[221] Mechanisms are needed that allow formal recognition of these coalitions as community representatives on MPO advisory committees and decision-making boards. In addition, MPOs, local governments, researchers, and community-based organizations need funds for more data collection and analysis about transportation access to basic needs such as health care, jobs, affordable housing, and public education.[222]

Although state departments of transportation currently control the vast majority of transportation decisions, MPOs play an important role in shaping transportation policies that affect significant populations of minorities and low-income individuals. Both of these agencies can play an increasingly important role in achieving social equity by addressing transportation equity issues through the broad view of social exclusion. Transportation service provision, the consequences of interaction between land use and transportation decisions, and issues of spatial equity are best addressed on a regional basis and at appropriate stages in the planning process. Although regional challenges can be addressed incrementally with localized solutions, the overall set of factors affecting travel supply and demand occurs at the regional level—where land use patterns and transportation efficiency intersect. Regional perspectives can facilitate a more comprehensive approach to questions of social equity.

ENFORCEMENT OF CIVIL RIGHTS AND ENVIRONMENTAL LAWS [223]

Civil rights laws such as Title VI of the Civil Rights Act of 1964 and The Fair Housing Act (Title VIII of the Civil Rights Act of 1968) provide some legal protections for minority communities faced with discriminatory transportation policies such as discriminatory location of particular transportation projects, unequal distribution of transportation resources across metropolitan regions, discriminatory fare structures, and other inequities spotlighted in this report. Enforcement of these protections, however, has been limited because it has not been made a priority and in part because of a lack of resources.

For example, DOT's 2003 budget request included only $9.2 million for the Office for Civil Rights out of a total request of $59.3 billion. This $9.2 million would be used for a myriad of purposes: "to support internal and external civil rights and equal opportunity matters; support

the Minority Serving Institutions student internship program; enforce Federal civil rights statutes; carry out special emphasis commemoration, hiring, reporting and diversity programs; implement executive orders; investigate EEO [Equal Employment Opportunity] complaints, support the Disability Resource Center; support the Shared Neutrals Alternative Dispute Resolution Program; and oversee and coordinate equity programs throughout the Department."[224]

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964[225] prohibits discrimination on the basis of race, color, or national origin in any program or activity receiving federal financial assistance. It applies to all recipients of federal aid, such as state departments of transportation and Metropolitan Planning Organizations. Title VI also applies to all programs run by federal aid recipients, regardless of whether the specific program is federally funded. Prohibited discrimination includes complete denial of benefits or services, provision of inferior benefits or services, or otherwise treating someone differently in the provision of benefits or services because of race, color, or national origin. For example, a Title VI violation would occur if a state transportation agency decided to furnish replacement housing to whites but not to people of color being displaced because of a highway project.

In 2001, the Supreme Court in *Alexander v. Sandoval*[226] ended the ability of private individuals to bring a suit to enforce certain Title VI regulations. Federal regulations under Title VI prohibit recipients of federal funds from conducting activities that have a less favorable effect or "disparate impact" on members of one racial or ethnic group than on another. Now, individuals may only bring lawsuits charging a violation of the Title VI statute in which they must prove that an action was taken intentionally to discriminate. They can no longer rely solely on statistical evidence to show that an action had a disparate impact on persons of a specific race, color, or national origin. Federal agencies, however, can still enforce the regulations. They may suspend or terminate funding to obtain compliance with Title VI or may seek equitable relief, such as an injunction. This change argues for the federal government to more rigorously enforce Title VI because individual lawsuits are now severely limited.

DOT regulations require states to use a range of measures to ensure compliance with Title VI. States are required to: have an adequately staffed civil rights unit, have procedures to address civil rights complaints and to collect statistical data on protected populations, conduct annual reviews of programs, provide training for staff to explain Title VI obligations, and submit annual updates to the regional federal highway administration offices, among others.[227]

Through the issuance of the executive order on environmental justice and DOT guidance, the federal government clarified Title VI requirements as they relate to transportation issues. Specifically, the order requires all federal agencies to make achieving environmental justice part of its mission by identifying and avoiding "disproportionately high and adverse" effects on minority and low-income people. DOT's final guidance on implementing the order described the process for incorporating environmental justice principles into DOT programs, policies, and activities.

Furthermore, FHWA and FTA issued internal guidance on "Implementing Title VI Requirements in Metropolitan and Statewide Planning."[228] This document focused primarily on public involvement and planning activities to be evaluated during an MPO certification process and the process for approving statewide transportation improvement programs, and lists a series of questions to aid verifying compliance with Title VI. Examples include:

- What strategies and efforts has the planning process developed for ensuring, demonstrating, and substantiating compliance with Title VI? What measures have been used to verify that the multimodal system access and mobility performance improvements included in the plan and Transportation Improvement Program, and the underlying planning process, comply with Title VI?

- Does the public involvement process have an identified strategy for engaging minority and low-income populations in transportation decision making? What strategies, if any, have been implemented to reduce participation barriers for such populations? Has their effectiveness been evaluated? Has public involvement in the planning process been routinely evaluated as required by regulation? Have efforts been undertaken to improve performance, especially with regard to low-income and minority populations? Have organizations representing low-income and minority populations been consulted as part of this evaluation? Have their concerns been considered?

Although helpful for community organizations and federal aid recipients, the guidance failed to address the concerns most often raised by community groups regarding the accumulation of negative economic and environmental impacts caused by transportation projects and their location and the distribution of resources across metropolitan communities over time. The guidance called for processes to review potential Title VI or environmental justice issues, but it established no thresholds, expectations, or standards for these reviews.

DOT's Enforcement of Civil Rights

Although the federal government states that it is committed to the enforcement of Title VI, there appears to be very little actual enforcement. For example, states receiving federal funds, in most cases, simply submit a single-page document assuring their compliance with Title VI requirements, including DOT regulations, without any accompanying evidence to support their assurance.

In addition, FHWA received fewer than 20 Title VI complaints in 2002 and initiated no Title VI investigations. In comparison, the Equal Employment Opportunity Commission received 29,910 race-based employment discrimination complaints and filed 246 lawsuits against employers in 2002.[229] The U.S. Department of Education's Office for Civil Rights received 870 Title VI discrimination complaints based on race in 2000.[230] We do not know why the volume of Title VI complaints to FHWA is so low, but possible factors include people's lack of information about how to file a complaint, perception that filing a complaint would not be effective, and lack of information about the agency's authority to enforce Title VI.

In August 2002, DOT's Director of Civil Rights issued "White Paper on Civil Rights Operations at the U.S. Department of Transportation." In the paper, the director acknowledged that numerous studies had raised concerns regarding the authority of the agency's Civil Rights Office, the priority of the civil rights mission within the agency, the adequacy of resources and staffing, and the inability to establish clear measurements for performance and effectiveness. Among specific concerns raised in the document, the director commented that lack of resources prevented DOT from: conducting audits of federal-aid recipients, conducting pre-award reviews and full compliance reviews, monitoring federal-aid recipients, and developing and implementing improved policies. Furthermore, the director acknowledged that DOT is unable to provide sufficient technical assistance to regulated entities and the public, and its capacity to conduct internal training is limited.

In addition, the paper stated independent reviewers have noted that collaboration among civil rights offices within DOT historically has been weak. The civil rights function is scattered widely in the agency, hampering coordination by administrative offices. An example of this lack of coordination can be found in the technical assistance and enforcement structure within FHWA and FTA. FHWA's Office of Civil Rights is responsible for Title VI compliance reviews, but the bulk of them are conducted by FHWA's divisional offices. There is one divisional office for each state and each of them has, at most, one civil rights staff person and several planning staff. The FTA has its own civil rights staff and has offices at the regional level rather than the divisional level.

In the case of a recent civil rights complaint in Montgomery, Alabama, community members who filed the complaint with both FHWA and FTA traveled to Atlanta to meet with their regional FTA office. There they found not only that the regional staff were unaware of their complaint, but also that their communications with the divisional FHWA staff had not been forwarded to their FTA regional counterparts.[231]

Because of these problems, some advocates have turned to environmental laws to seek protections for minority communities.

National Environmental Policy Act of 1969

The requirements of The National Environmental Policy Act of 1969 (NEPA) unquestionably apply to transportation decisionmaking processes.[232] In some instances, The NEPA has given minority communities some protections because of the strong procedural requirements for public review and consideration of alternatives and mitigation (and, increasingly, cumulative and adverse impacts) involved at the transportation project stage. Specifically, NEPA requires 1) identification of the purpose and need for a proposed project or program; 2) an assessment of a project's or program's environmental effects, "including human health, economic, and social effects," on minority and low-income communities, and Indian tribes; 3) consideration of alternatives when significant impacts are expected; 4) identification of mitigation measures to eliminate or minimize significant impacts; and 5) a public process for review of need, impacts, alternatives, and mitigation options.

NEPA challenges to highway proposals are increasingly raising the lack of analyses examining cumulative environmental and social impacts in efforts to stop destructive transportation projects. MPOs and state transportation departments need to consider not only travel patterns encouraged and secondary land use impacts, but also the consequences for access and mobility, household expenditures for transportation, and urban congestion.

Laws and policies protecting people of color are often more difficult to advance than policies protecting the environment. For example, the Endangered Species Act[233] effectively protects endangered species whose habitats are threatened with harm by transportation projects, but similarly strong laws are not in place to protect minority and low-income communities from inequitable transportation projects.

Specific impacts on open spaces, plant and animal habitats, and other ecosystems tend to be easier to quantify than social and economic impacts such as decreased housing affordability, unemployment, weakened economic development, and weakened neighborhood cohesion.[234] NEPA requires an assessment of the impact of any planned transportation project on the environment and *community* before the project can begin.[235] Although some consideration has been given to quantifying or determining how to measure the impact on a community, little attention has been given to conducting these types of assessments.[236]

Current environmental justice efforts related to transportation are encouraging public involvement during the impact assessment phases of project development that can be crucial for residents of disproportionately impacted neighborhoods. While some policymakers are seeking to streamline the approval process for transportation projects, including the environmental impact assessment, assessing the impact on the community is a requirement that was never seriously implemented.

POLICY RECOMMENDATIONS

TEA-21, which directs more than $200 billion in transportation funding to states and communities and determines how these funds may be used, will expire on September 30, 2003. The reauthorization of the act provides Congress with an enormous opportunity to incorporate provisions that will meaningfully address travel issues and concerns of minority and low-income communities across the nation.

The following are some recommendations that follow from the issues raised in the report and from what we know from existing research. Implementation of these recommendations would help address the racial injustices created by transportation policies across the country and advance the national—and constitutional—goal of equality.

1. **Increase funding for public transportation, and develop new programs and support existing programs that improve minorities' mobility.** Public transportation is a public service that should be supported. Also, support programs focusing on the needs of low-income and minority transit users to provide reliable connections to job sites and other necessary destinations. For example, the Job Access and Reverse Commute programs support a number of promising efforts to connect low-wage workers to jobs and services, but

additional funding is needed to examine which of these efforts are most effective and most likely to be successfully replicated. Also, a handful of significant research identifies increased access to cars as having a positive impact on the ability of minorities to gain access to and retain employment, which suggests that pilot programs that help low-income minorities access cars when public transit is inadequate should be developed.

2. **Include performance measures in legislation that evaluate whether transportation decisions and outcomes are equitable and that can be easily enforced by individuals and governmental officials.** Standards are needed to measure whether transportation decisions and project outcomes—including environmental, economic, social, and mobility impacts—are fair for minority and low-income communities. These standards should include analyses of alternative approaches to project design and implementation that provide minority and low-income communities genuine options with respect to the impacts they would face. These measures should encompass equitable transportation planning processes and implementation.

3. **Improve data collection**. Support data collection and management processes that can be used to evaluate the impact of transportation projects and plans on minority and low-income communities. For example, more data about the types of transportation investments that are being made and the specific geographical areas to which these investments are being directed are necessary to better understand 1) whether the needs of minority communities are being met and 2) the relationship between transportation policies and social and economic effects on minority communities. Fund research to inform whether new transportation data collection strategies are necessary, recommend appropriate changes to current collection efforts (such as collecting data in foreign languages), provide guidance on standards to measure whether data collection on minority communities has been adequate, and suggest a medium for data to be systematically reported in a way that allows for comparison across communities.

4. **Increase funding for enforcement of civil rights and environmental laws and regulations, such as Title VI and NEPA, and improve efforts to enforce them.** Encourage efforts to enforce civil rights laws by codifying existing regulatory provisions authorizing DOT to withhold funds if an MPO or a state fails to comply with Title VI. Refine and clarify the obligations carried by states, MPOs, and other recipients of federal transportation funds by identifying the types of data, public input, and modeling efforts that would most likely ensure that minority communities do not disproportionately suffer negative effects from transportation policies.

5. **Increase funding for research that examines the social equity impact of transportation projects.** There is a critical gap in research on these issues. TEA-21 provides funding to ensure that the United States will be a world leader in surface transportation research and development in such areas as human factors and the use of advanced materials by providing $3.3 billion in funding over six years. In DOT's description of "Reports and Studies Required by TEA-21,"[237] only 2 of the 80 items listed appear to address issues related to social equity. This funding could be used in part to create and support efforts to develop research programs that focus the attention of academic institutions, in partnership with community organizations, on examining impacts, including social and economic impacts, of

transportation policies on low-income and minority communities.[238] These research programs should be collaborative and lead to ideas for practical ways to address negative impacts.

6. **Recognize the interaction between transportation, land use, and social equity, and support programs that understand and address this interaction.** Policymakers should use all opportunities to address the inequitable effects of transportation. For example, California and Maryland have prioritized allocation of Low-Income Housing Tax Credits to transit-accessible areas,[239] and other states have different financial incentives for transit-oriented housing development. Also, equity principles should be incorporated into smart growth initiatives because inequitable growth is not "smart."

7. **Restore the ability of individuals to bring lawsuits under Title VI challenging actions that cause a disparate impact on the basis of race, color, or national origin.** The federal government is not well equipped to be the sole enforcer of Title VI complaints because of limited resources and the involvement of multiple governmental agencies in making enforcement decisions.

8. **Allow local communities, in cooperation with other stakeholders, to establish local hiring preferences for transportation projects that will be constructed in or near areas of high unemployment and poverty.** Furthermore, create incentives to ensure that these preferences are complemented with strong recruitment, training, and monitoring mechanisms.

9. **Support efforts to identify and remove barriers to minority and low-income community participation in transportation planning and decision making.** These efforts could include providing resources and incentives to community groups, nonprofit organizations, and academic centers to actively participate in transportation planning. Also, give MPOs incentives to identify barriers to public participation and encourage them to partner with community groups to increase the participation of people from minority and low-income communities.

10. **Preserve DOT's Disadvantaged Business Enterprise program to ensure that a fair share of federal transportation contracting funds are directed to women-owned and minority-owned businesses and ensure that job opportunities are available to low-income and minority individuals in the transportation construction industry.**

11. **Preserve and increase funding for programs that may help to address racial health disparities.** Examples include programs that reduce air pollution from diesel and other vehicular exhaust, and data collection about minority pedestrian activity to better understand pedestrian mobility, exposure, and safety. These resources should be directed to communities experiencing the greatest negative health impacts.

CONCLUSION

Transportation policies not only have inequitable effects on the ability of low-income individuals and minorities to access places, but also have serious indirect effects such as

encouraging and reinforcing residential segregation; restricting access to employment and other economic opportunities, housing, and education; and causing health disparities. This report identifies these effects to illustrate the need for those who work on transportation issues to address seriously the inequitable effects of transportation policies.

As this report—particularly the section on enforcement of civil rights and environmental laws—has underscored, a vital step is the development of measures or standards of whether the burdens and benefits of transportation polices and decisions are equitable to minority and low-income communities. These communities have suffered many of the burdens of transportation policies, and it is unclear how many of the benefits they have gained. Once measures are established, individuals and government officials must be able to easily enforce such measures, including in the courts if necessary; otherwise, equity cannot be ensured.

Another critical need identified in this report is for additional research and data collection on transportation equity issues. Existing research provides some strong indications of the links between transportation policies and inequitable effects on minorities and low-income individuals, but some significant gaps remain. Although TEA-21 allocated $3.3 billion over six years for surface transportation research and development to ensure that the United States will be a world leader in these areas, only a very small fraction of those funds are spent on research examining transportation's effect on social equity.[240]

Policymakers, researchers, and advocates need to recognize the interaction between transportation, land use, and social equity and support programs that understand and address this interaction. There are many opportunities for policymakers to address some of the inequitable effects of transportation policies on minority and low-income communities. The upcoming reauthorization of TEA-21 is one such opportunity. Housing development policies are another. "Smart growth" initiatives are yet another, but smart growth initiatives have not always incorporated principles of equity. Policymakers should use these many opportunities to move us toward equity for all.

AUTHORS

Thomas W. Sanchez is an associate professor of Urban Affairs and Planning and research fellow in the Metropolitan Institute at Virginia Tech in Alexandria, Virginia. Rich Stolz is Senior Policy Analyst at Center for Community Change. Jacinta S. Ma is a Legal and Policy Advocacy Associate at The Civil Rights Project at Harvard.

---

[1] *Shapiro v. Thompson*, 394 U.S. 618 (1969).
[2] Pucher and Renne (2003).
[3] The term "edgeless cities" was coined by Lang (2003).
[4] For a description of some studies examining the costs of sprawl, see Katz and Muro (2003).
[5] Kain (1968).
[6] One scholar, Todd Litman (1999), has set forth a framework for evaluating transportation equity and suggests examining horizontal equity (focusing on fairness of cost–benefit allocation between individual groups that are considered comparable in wealth and ability), vertical equity with regard to income and social class (focusing on

allocation of costs between income and social classes); and vertical equity with regard to mobility need, and ability (focusing on how well an individual's transportation needs are met compared with others in their community).
[7] Wachs (1999).
[8] Some environmental justice advocates are concerned about the built environment as well.
[9] 163 U.S. 537 (1896).
[10] 166 U.S. 552.
[11] Governor's Commission (1965); Kain and Meyer (1970).
[12] National Advisory Commission on Civil Disorders (1968).
[13] Hair (2001) quoting Martin Luther King, Jr., *A Testament of Hope*, reprinted in A Testament of Hope: The Essential Writings and Speeches of Martin Luther King, Jr., 326–27 (James Melvin Washington ed., 1991).
[14] Singer (2002).
[15] Singer (2002).
[16] Shepard and Sonn (1997).
[17] Shepard and Sonn (1997).
[18] See Black (1995) and Weiner (1999) for historical accounts of federal transportation policies.
[19] See Center for Community Change (1998).
[20] President William Jefferson Clinton, Executive Order No. 12898, 50 Federal Register 32 (February 16, 1994).
[21] Intermodal Surface Transportation Efficiency Act (ISTEA), 23 U.S.C. § 101 *et. seq*. (1991) (amended in 1998 by TEA-21).
[22] Hearing on ISTEA Rail Infrastructure Programs before the Railroad Subcommittee of the Committee on Transportation and Infrastructure, 105th Cong. (Mar. 18, 1997) (statement of Rep. Robert A. Borski).
[23] ISTEA, 23 U.S.C. § 101 *et. seq*. (1991). Metropolitan areas are defined as areas with a population greater than 50,000; state departments of transportation continue to oversee areas not covered by an MPO. See 23 C.F.R. §§ 450.104, 450.200, 450.202.
[24] See 23 C.F.R. § 450.312(a); see also Center for Community Change (1998), p. 14.
[25] ISTEA, 23 U.S.C. § 134 and 23 C.F.R. §450.306 (1991). For example, the Boston MPO consists of representatives from the cities of Boston, Everett, Newton, and Peabody; the towns of Bedford, Framingham, and Hopkinton; the Massachusetts Port Authority; the Massachusetts Bay Transportation Authority; the Massachusetts Highway Department; the Executive Office of Transportation and Construction; and other governmental agencies. Boston Metropolitan Planning Organization. Detailed information about the MPO. Retrieved May 2003 from http://www.ctps.org/bostonmpo/mpo/whatde.htm. Some MPOs have included representatives of the business community and the general public on their boards, but these may not be voting members.
[26] See 23 U.S.C. § 101 *et. seq*. (1991); 23 C.F.R. § 450.214(a), (b)(2); 23 C.F.R. § 450.322(a).
[27] See 23 U.S.C. § 101 *et. seq*. (1991); 23 C.F.R. § 450.216(a); 23 C.F.R. § 450.324(a)–(d), (f)(1).
[28] U.S. Department of Transportation (1997).
[29] Pub. L. No. 105–178 (as amended by Title IX of Pub. L. No. 105–206).
[30] See, for example, Center for Community Change (1998), pp. 11, 13–17, 19–22); Gardner (1998); Klesh (2001).
[31] See TEA-21 §§ 1101–1104.
[32] Gardner (1998), p. 1098.
[33] See generally 23 C.F.R. § 450.
[34] Bullard (1996), p. xi.
[35] Danziger, et al. (1999).
[36] Kaplan (1998).
[37] U.S. Bureau of the Census (2001).
[38] Hobbs and Stoops (2002).
[39] Brookings Institution Center on Urban and Metropolitan Policy (2001).
[40] Brookings Institution Center on Urban and Metropolitan Policy (2001).
[41] Hobbs and Stoops (2002).
[42] Hobbs and Stoops (2002).
[43] Logan (2001). Only 39% of African Americans, 49% of Latinos, and 59% of Asian Americans lived in suburbs.
[44] Frey (2001). Suburban diversity is complex, and these overall statistics conceal the significant variations across metropolitan areas and racial or ethnic group. Also see Frey (2002) and Logan (2002a) for more details about these variations.
[45] Lewis Mumford Center (2001). "The typical white lives in a neighborhood that is 80.2% white, 6.7% black, 7.9% Hispanic, and 3.9% Asian. . . . [T]he typical black lives in a neighborhood that is 51.4% black, 33.0% white, 11.4%

Hispanic, and 3.3% Asian. The typical Hispanic lives in a neighborhood that is 45.5% Hispanic, 36.5% white, 10.8% black and 5.9% Asian."
[46] As measured with decennial census data using several different segregation indices.
[47] Iceland, Weinberg, and Steinmetz (2002), using five indicators introduced by Massey and Denton (1988).
[48] Lewis Mumford Center (2001).
[49] Lewis Mumford Center (2001).
[50] Logan (2002b).
[51] McFate (1991).
[52] Galbraith (1998).
[53] Latinos may be of any race.
[54] Proctor and Dalaker (2002).
[55] Logan (2002).
[56] Luckett (2001)
[57] Source: U.S. Bureau of the Census (n.d.)
[58] Source: U.S. Bureau of the Census (n.d.).
[59] The census definition for public transportation includes bus or trolley bus, streetcar or trolley car, subway or elevated railroad, ferryboat, or taxicab.
[60] Source: U.S. Bureau of the Census (n.d.).
[61] Pucher and Renne (2003).
[62] See Sinclair and Sinclair (2001); Church, Frost, and Sullivan (2000).
[63] Office of the Deputy Prime Minister, Social Exclusion Unit (United Kingdom). (n.d.).
[64] See Church, Frost, and Sullivan (2000); Office of the Deputy Prime Minister Social Exclusion Unit (2003).
[65] Puentes and Prince (2003).
[66] Puentes and Prince (2003).
[67] Stolz (2001b).
[68] Niolet (2003).
[69] Interfaith Federation (1999).
[70] U.S. Department of Transportation (2003a).
[71] Surface Transportation Policy Project and the Center for Neighborhood Technology (2000).
[72] Surface Transportation Policy Project and the Center for Neighborhood Technology (2000).
[73] Environmental Justice Resource Center (1999).
[74] American Public Transportation Association (2002). Three hundred and fifty systems were surveyed and 33 percent responded. Twenty-three large, 31 medium, and 60 small systems (defined by number of unlinked trips per year) responded.
[75] American Public Transportation Association (2002).
[76] American Public Transportation Association (1992).
[77] Pucher and Renne (2003)
[78] American Public Transportation Association (1991).
[79] See American Public Transportation Association (1991) and Rubin (2000).
[80] Rubin (2000).
[81] Deka (In press).
[82] Deka (In press).
[83] Deka (In press).
[84] The demographics of a community and amount of subsidization likely vary by locality, and there may be some communities in which this type of subsidization may be appropriate, but not enough data exist to make that determination.
[85] Pucher and Renne (2003).
[86] Pucher and Renne (2003), Table 10.
[87] Deka (in press).
[88] The Los Angeles Bus Riders Union was the lead plaintiff in the case brought by the NAACP Legal Defense and Educational Fund. The case was settled and included provisions requiring LAMTA to reduce bus pass fares, purchase new buses, and expand bus service. (Mann 1997).
[89] See Rubin (2000); Labor/Community Strategies Center, Bus Riders Union, et al. v. L.A. County Metropolitan Transportation Authority, Plaintiffs' Revised Statement of Contentions of Fact and Law, No. CV-945936 (C.D. CA, October 24, 1996).

[90] See Kinsey (2003).
[91] Puentes and Prince (2003).
[92] Hill, et al. (2003).
[93] This type of analysis would provide a better understanding of transportation spending in states with large minority populations in rural areas as well as in states with large minority populations in cities.
[94] Federal Highway Administration data on roadway spending.
[95] Unpublished analysis of Michelle Ernst, Surface Transportation Policy Project, May 2003, based on the Federal Highway Administration's 2001 Fiscal Management Information Systems data.
[96] Jackson (1985); Downs (1971).
[97] Jackson (1985); Downs (1971).
[98] See, for example, Orfield and Eaton (1996); Massey and Denton (1993).
[99] See Ihlanfeldt and Sjoquist (1998).
[100] Holzer (1991).
[101] Gordon, Kumar, and Richardson (1989).
[102] Source: U.S. Census 2000 (retrieved from http://www.census.gov/population/www/socdemo/journey.html and http://www.census.gov/populatin/www/cen2000/commuting.html).
[103] Kain (1968).
[104] Wilson (1987).
[105] Sanchez (2002).
[106] Thompson (1997).
[107] Sanchez (1999).
[108] Ellwood (1986).
[109] Holzer, Ihlanfeldt, and Sjoquist (1994); Kain and Meyer (1970); Meyer and Gómez-Ibáñez (1981); Taylor and Ong (1995); Gómez-Ibáñez (1976).
[110] Wachs and Taylor (1998); Ong and Blumenberg (1998).
[111] Pucher and Renne (2003).
[112] Murakami and Young (1997); Coulton, Leete, and Bania (1997); Meyer (1999).
[113] Ong (1996); Blumenberg (2002); Raphael and Rice (2002).
[114] Wachs and Taylor (1998).
[115] Lee (1997).
[116] powell and Graham (2002).
[117] Bullard and Johnson (1997).
[118] Lee (1997).
[119] Stolz (2002).
[120] Stolz (2002).
[121] SAGE Council, Protecting the Petroglyphs at www.sagecouncil.org/petroglyphs.html.
[122] Kennedy and Leonard (2001) has more on the debate over the exact definition of "gentrification."
[123] Sanchez (1998).
[124] Hodge (1980); Laska and Spain (1980).
[125] *Brown v. Board of Education of Topeka*, 347 U.S 483 (1954).
[126] Transportation Research Board (2002). It estimated that 25 percent of trips were on school buses and only 2 percent were by public transit.
[127] American Public Transportation Association (n.d.). In cities with populations of 50,000 to 199,999, trips to or from school were 26 percent of all transit trips.
[128] Transportation Research Board (2002), p. 17.
[129] Transportation Research Board (2002), p. 16.
[130] See the Los Angeles County Metropolitan Transportation Authority's Web site at http://www.mta.net/metro_transit/fare_info/discount_passes_students.htm describing discounted fares for elementary, middle, and high school students.
[131] See the Metropolitan Transit Authority of Harris County, Texas Web site at http://www.hou-metro.harris.tx.us/services/fares01.asp describing reduced fares for middle and high school students.
[132] See the Washington Metropolitan Area Transit Authority Web site at http://www.wmata.com describing reduced fares for D.C. public school students.
[133] See Metropolitan Transportation Commission (2001), which describes the MTC's consideration of a proposal to provide free bus passes for low-income students as a means to improve student attendance.

[134] Cabanatuan (2001).
[135] Haley (2000); Girls Initiative Network. As a result of the efforts of Sisters in Action, Portland's transit agency serving the three-county area provides free bus rides to low-income high school students.
[136] DARE Seeds of Change (2003).
[137] Some states that do require charter school to provide transportation to students include Florida, Illinois, Kansas, Massachusetts, North Carolina, and New Jersey.
[138] For more information about the segregative effect of charter schools see the forthcoming charter school report to be published by The Civil Rights Project.
[139] Pub. Law 107-110, see § 1116.
[140] The American Association of Community Colleges states that, "in urban areas, community college enrollments reflect the proportion of minorities in local populations." (American Association of Community Colleges, n.d.).
[141] National Association of County and City Health Officials (2002).
[142] National Association of County and City Health Officials (2002).
[143] See Schulz (2002).
[144] Schulz (2002).
[145] Source: U.S. Bureau of the Census (n.d.).
[146] Schulz (2002).
[147] Maantay (2001).
[148] Frumkin (2002) citing Wernette, D. R., and Nieves L. A. (1992). Breathing polluted air: Minorities are disproportionately exposed. *EPA Journal* 18, 16–17.
[149] Wjst, et al. (1993); Weiland, et al. (1994); Oosterlee, et al. (1996); Mortimer, et al. (2002).
[150] Frumkin (2002); Centers for Disease Control (2002a).
[151] American Lung Association (2000).
[152] U.S. Environmental Protection Agency (2000).
[153] Wjst, et al. (1993); Weiland, et al. (1994); Oosterlee, et al. (1996); Mortimer, et al. (2002).
[154] Friedman, et al. (2001); Lin, et al. (2002).
[155] These included "an integrated 24-hour-a-day public transportation system, the addition of 1,000 buses for park-and-ride services, . . . closure of the downtown sector to private automobile travel, altered downtown delivery schedules." (Friedman, et al. 2001).
[156] Friedman, et al. (2001).
[157] Mortimer, et al. (2002).
[158] New York City Department of City Planning. Manhattan Community District 10 Profile. Retrieved May 2003 from http://www.ci.nyc.ny.us/html/dcp/html/lucds/mn10lu.html.
[159] New York City Department of City Planning. Bronx Community District 2 Profile. Retrieved May 2003 from http://www.ci.nyc.ny.us/html/dcp/html/lucds/bx2lu.html
[160] Perera, et al. (2002).
[161] National Association of County and City Health Officials (2002).
[162] Perera, et al. (2002).
[163] Perera, et al. (2002).
[164] Centers for Disease Control and Prevention (n.d.).
[165] Surface Transportation Policy Project (2002).
[166] Surface Transportation Policy Project (2002).
[167] Frumkin (2002), p. 117.
[168] Frumkin (2002), p. 117; Surface Transportation Policy Project (2002), p. 13.
[169] Data source: U.S. Bureau of the Census (2000).
[170] Rivara (1999).
[171] Frumkin (2002); see also Surface Transportation Policy Project (2002).
[172] Bostock (2001).
[173] For example, see Centers for Disease Control and Prevention (2002b) and Pucher and Renne (2003).
[174] Centers for Disease Control and Prevention (2002b).
[175] Surface Transportation Policy Project (2002).
[176] Surface Transportation Policy Project (2002).
[177] American Association of State Highway and Transportation Officials (2002).
[178] 23 U.S.C. 140(d) (tribal reservations preference) and Appalachian Regional Development Reform Act 40 App. U.S.C. 201 (expired October 2001).

[179] 23 US Code Section 140 (b) and (c).
[180] Center for Community Change (2002).
[181] U.S. Bureau of Labor Statistics (2001a).
[182] U.S. Bureau of the Census (2000, 2001).
[183] These employment data include construction projects in Puerto Rico, which may partially account for the overrepresentation of Latinos employed in the construction industry.
[184] U.S. Bureau of the Census (2002).
[185] U.S. Bureau of Labor Statistics (2003).
[186] U.S. Bureau of Labor Statistics (2001b).
[187] U.S. Department of Transportation, Office of Small and Disadvantaged Business Enterprise (n.d.).
[188] 228 F.3d 1147 (10th Cir. 2000).
[189] 228 F.3d at 1170.
[190] 228 F.3d at 1170.
[191] 228 F.3d at 1173.
[192] General Accounting Office (2001).
[193] Federal Highway Administration Office of Civil Rights (2002).
[194] Source: U.S. Bureau of the Census (2000).
[195] U. S. Bureau of the Census (2001).
[196] Source: U.S. Bureau of the Census (n.d.).
[197] Source: U.S. Census as calculated by the National Council of La Raza, based on sample data from the Census 2000 Long Form (May 2003).
[198] Surface Transportation Policy Project (2003b). Also see Bernstein (2002).
[199] U.S. Department of Transportation (n.d.-a).
[200] President William Jefferson Clinton, Executive Order 13166, Federal Register 65, no. 159 (page 50121) (11 August 2000).
[201] U.S. Department of Transportation (2001b).
[202] Stolz (2001a).
[203] Karleen Cooke. (30 May 2003). MTA New York City. Personal communication with Jacinta Ma.
[204] See the Washington Metropolitan Area Transit Authority's Web site at http://www.wmata.com/default.cfm.
[205] U.S. Department of Transportation (2001a), p. 6745.
[206] See the Metropolitan Transportation Commission's Web site at http://www.mtc.ca.gov/index.htm.
[207] We have not conducted a review of state laws, but it is likely that some states have additional laws mandating environmental justice and social equity.
[208] For example, these principles can be found in the FHWA's brochure "An Overview of Transportation and Envorinmental Justice" available at http://www.fhwa.dot.gov/environment/ej2000.htm as well as the FHWA's Environmental Justice Web page at http://www.fhwa.dot.gov/environmenta/ejustice/facts/index.htm#legislation.
[209] These are formally known as the Access to Jobs program.
[210] Wolf and Farquhar (2003).
[211] Wolf and Farquhar (2003). See, 23 C.F.R. §§ 450.212 and 450.316.
[212] Katz, Puentes, and Bernstein (2003).
[213] Federal Highway Administration and Federal Transit Administration (1999).
[214] 23 CFR §450.316. The exact language of the regulation governing state departments of transportation is slightly different, requiring "a process for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households which may face challenges accessing employment and other amenities." 23 C.F.R. § 450.212.
[215] There have been several instances in which FHWA and FTA conditionally certified MPOs (in Indiana, Illinois, Alabama, Florida, California).
[216] Noerager and Lyons (2002).
[217] Mizuno (1995).
[218] Nelson (2003).
[219] Montgomery Transportation Coalition (2001).
[220] The Transportation Equity Network is a national coalition of grassroots organizations in minority and low-income communities concerned with the impact of transportation policies on their communities.
[221] Funders' Network for Smart Growth and Livable Communities (2002).
[222] Surface Transportation Policy Project (2003a).

[223] This section does not address internal U.S. Department of Transportation hiring practices.
[224] U.S. Department of Transportation (2003b).
[225] Title VI of the Civil Rights Act of 1964, 42 U.S.C. ' 2000d, et seq.
[226] 532 U.S. 275, 121 S.Ct. 1511 (2001).
[227] 23 CFR Part 200, §200.9.
[228] U.S. Department of Transportation (1999).
[229] U.S. Equal Employment Opportunity Commission (2003a and 2003b).
[230] It initiated 47 compliance reviews/investigations but did not publish how many of those were based on possible race or ethnic discrimination. U.S. Department of Education (2000).
[231] Broadway (2003).
[232] See the U.S. Department of Transportation's Federal Highway Administration Web site. Transportation decisionmaking factors. Available at http://www.fhwa.dot.gov/environment/nepa/decision.htm.
[233] Endangered Species Act of 1973, 16 U.S.C. §1531.
[234] Almanza and Alvarez (1995); Forkenbrock, Benshoff, and Weisbrod (2001).
[235] National Environmental Policy Act, 42 U.S.C. §§432-4347. Other laws and regulatory documents also require that the impact on a community be considered in transportation decisionmaking processes. See the FHWA's and FTA's environmental justice web site. The Facts. Available at http://www.fhwa.dot.gov/environment/ejustice/facts.index.htm.
[236] For example, see Brock, et al. (1996).
[237] Available at: http://www.fhwa.dot.gov/tea21/tearptsr.htm
[238] An example of this type of research can be found on the National Institutes of Health Web site at http://grants1.nih.gov/grants/guide/rfa-files/RFA-ES-03-007.html.
[239] California Code of Regulations, Title 4, Division 17, Chapter 1.
[240] U.S. Department of Transportation, TEA-21 Fact Sheet available at http://www.fhwa.dot.gov/tea21/factsheets/factsht$.htm

APPENDIX

Table A.1. compiles data from the Federal Highway Administration's Office of Civil Rights, which is responsible for gathering data and implementing the U.S. Department of Transportation's (DOT's) Disadvantaged Business Enterprise (DBE) program. This table is based on data self-reported by states to the federal government; none of this data has been independently verified.

The table reflects changes in the program over time between fiscal years 1995 and 2000. The first column reflects percentage goals for minority contracting in response to percentage goals originally established under TEA-21. The second column reflects the percentage of total funds awarded through contracts that went to DBEs, either as prime contracts or commitments to subcontractors under the original DBE program. The third column reflects changes in state DBE goals since DOT refined its DBE program to meet constitutional requirements and directed that program participation goals be set according to the level of DBE participation that would be expected absent discrimination and based on the number of "ready, willing and able" DBEs in local markets. Twenty-eight states lowered their DBE goals; eighteen, including the District of Columbia, increased their DBE goals. Seven, including Puerto Rico, did not change their goals.

The fourth column shows actual contract awards in fiscal year 2000 under the revised goals. Forty-five states awarded a smaller percentage of funds, through prime contracts and/or subcontracts, to DBEs in fiscal year 2000 than in fiscal year 1995. The percentage of actual contract awards and commitments increased in only seven states. Nationally, in fiscal year 1995, 15.7 percent of contract dollars went to DBEs, but by fiscal year 2000 only 10.5 percent went to DBEs.

Table A.1. **States' Disadvantaged Business Enterprise Program Contract Goals and Awards, Fiscal Years 1995 and 2000**

State	Fiscal Year 1995 DBE Goal (% of contract dollars)	Fiscal Year 1995 DBE Prime Contract Awards Plus Subcontract Commitments (% of contract dollars)	Fiscal Year 2000 DBE Goal (% of contract dollars)	Fiscal Year 2000 DBE Prime Contract Awards Plus Subcontract Commitments (% of contract dollars)
Alabama	10	12.7	9	9.71
Alaska	10	13.2	6.7	7.37
Arizona	10	13.7	9	12.85
Arkansas	10	9.0	8.2	7.62
California	20	25.8	18	10.56
Colorado	10	13.7	10	5.6
Connecticut	12	13.7	10	14.72
District of Columbia	10	40.5	33	29.95
Delaware	10	14.4	10	7.26
Florida	10	15.8	8	7.38
Georgia	10	10.4	10	16.84
Hawaii	10	14.3	19	23.18
Idaho	10	11	7.6	9.77
Illinois	10	14.1	12.5	11.92

Indiana	10	13.5	11	7.69
Iowa	10	11.1	7.5	9.96
Kansas	10	11.8	10	7.59
Kentucky	11.5	20.8	11.5	11.47
Louisiana	10	13.2	10.6	7.26
Maine	10	12.8	7	4.99
Maryland	13	14.7	15	12.27
Massachusetts	11	13	13.8	13.67
Michigan	14	15.5	12	9.62
Minnesota	10	11.8	11.6	2.25
Mississippi	10	16.5	9	10.52
Missouri	10	12.3	15	10.56
Montana	10	17.1	6.5	21.59
Nebraska	10	10	11	8.42
Nevada	10	11.7	5	6.11
New Hampshire	10	23.5	8	13.66
New Jersey	13	20.4	13.4	19.49
New Mexico	14	25.9	10.5	5.61
New York	16	13.7	13.4	12.99
North Carolina	10	11.1	13.51	11.98
North Dakota	10	10.8	7.5	3.28
Ohio	10	18.2	9	8.43
Oklahoma	10	14.7	9.25	11.32
Oregon	14	14	12.9	11.48
Pennsylvania	10	12.8	11.2	8.45
Puerto Rico	30	68.7	30	31.91
Rhode Island	10	10.8	10	8.16
South Carolina	10	11.6	10.5	10.81
South Dakota	10	10.4	7	8.32
Tennessee	10	13.3	11	12.08
Texas	15	17	11.9	14.72
Utah	10	10.3	7	15.6
Vermont	10	15.3	11.2	15
Virginia	12	14.9	10.1	13.05
Washington	16	16.4	14	10.97
West Virginia	10	11.8	10.51	6.43
Wisconsin	10	10.8	11.5	10.69
Wyoming	10	14.4	3.5	7.52

REFERENCES

Almanza, S., & Alvarez, R. (1995). Low-income communities & communities of color. Background paper presented at the Transportation: Environmental Justice and Social Equity Conference, Washington, DC.

American Association of Community Colleges. (n.d.). Student enrollment and characteristics. Retrieved May 2003 from http://www.aace.nche.edu/Content/NavigationMenu/AboutCommunityCollege.

American Association of State Highway and Transportation Officials. (2002). Transportation investment: Stimulate and sustain economic recovery through transportation investment. Washington, DC: Author.

American Civil Liberties Union of Northern California. (n.d.). Reaching for the dream, thinking higher: Cecelia Blanks. Retrieved April 2003 from http://aclunc.org/affirmative-action/dream/blanks.htm.

American Lung Association. (2000, October). *Minority lung disease data 2000.* Retrieved May 2003 from http://www2.lungusa.org/pub/minority/mldd_00.html.

American Public Transportation Association. (n.d.). Public transportation ridership statistics. Retrieved May 2003 from http://www.apta.com/research/stats/ridershp/race.cfm.

American Public Transportation Association. (1991). Effects of fare changes on bus ridership. Washington, DC: Author.

American Public Transportation Association. (1992). Americans in transit: A profile of public transit passengers. Washington, DC: Author.

American Public Transportation Association. (2002). Impact of the 2001–2002 economic slowdown on public transportation. Washington, DC: Author.

Bernstein, S. (2002). Planning as if people and places matter: Surface transportation research needs and performance for the next century. Testimony before the Senate Committee on Environment and Public Works, March 15. Retrieved June 2003 from http://www.fhwa.dot.gov/reauthorization/rmrt09.htm.

Black, A. (1995). *Urban mass transportation planning*. New York: McGraw-Hill.

Blume, H. (1991). Student's bus ride home inspires play on racial tension; Drama: La-Keisha Howlett has turned her experiences into **"**Black Talk" the skits plead for racial tolerance. *Los Angeles Times,* April 4, Long Beach edition, Part J, Page 1, Column 2.

Blumenberg, E. (2002). On the way to work: Welfare recipients and barriers to employment. *Economic Development Quarterly* 16(4), 314–325.

Bostock L. (2001). Pathways of disadvantage? Walking as a mode of transport among low- income mothers. *Health and Social Care in the Community* 9(1), 11–18.

Broadway, Jon. (2003). Montgomery Transportation Coalition. Interview, April 8.

Brock, W., et al. (1996). Community impact assessment: A quick reference for transportation. Washington, DC: U.S. Department of Transportation, Federal Highway Administration. Retrieved June 2003 from http://www.fhwa.dot.gov/environment/nepa/cia.htm.

Brookings Institution Center on Urban and Metropolitan Policy. (2001, April). Racial change in the nation's largest cities: Evidence from the 2000 census. Retrieved April 2003 from http://www.brook.edu/dybdocroot/es/urban/census/citygrowth.htm.

Bullard, R. D. (1996). Introduction: Environmental justice and transportation. In Environmental justice and transportation: Building model partnerships: Proceedings document. Clark Atlanta University.

Bullard, R. D., & Johnson, G. S. (Eds.). (1997). *Just transportation: Dismantling race & class barriers to mobility*. Gabriola Island, B.C.: New Society Publishers.

Cabanatuan, M. (2001, July). Poor kids' pleas for bus passes taken to heart. *San Francisco Chronicle*, p. A-19**.** Retrieved May 2003 from http://www.co.alameda.ca.us/board/carson/news/2001/kids.htm.

Center for Community Change. (1998). Getting to work: An organizer's guide to transportation equity, 13. Washington, DC: Author.

Center for Community Change. (2002). Replicating success: The Alameda Corridor Job Training & Employment Program. Washington, DC: Author.

Centers for Disease Control and Prevention. (n.d.). National Center for Injury Prevention and Control, Injury fact book 2001–2002, Retrieved May 2003 from http://www.cdc.gov/ncipc/fact_book/07_Different.htm

Centers for Disease Control and Prevention. (2002a, March). Surveillance for asthma, United States, 1980–1999. Retrieved May 2003 from http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5101a1.htm

Centers for Disease Control and Prevention. (2002b). Barriers to children walking and biking to school—United States, 1999. *Morbidity and Mortality Weekly Report* 51, 701–704.

Church, A., Frost, M., & Sullivan, K. (2000). Transport and social exclusion in London. *Transport Policy* 7(3), 195–205.

Cohn, S., & Fossett, M. (1996). What spatial mismatch? The proximity of blacks to employment in Boston and Houston. *Social Forces* 75, 557–572.

Coulton, C., Leete, L., & Bania, N. (1997). Housing, transportation and access to suburban jobs by welfare recipients in the Cleveland area. Center for Urban Poverty and Social Change: Mandel School of Applied Social Sciences, Case Western Reserve University.

Danziger, S., Corcoran, M., Danziger, S., Heflin, C., Kalil, A., Levine, J., Rosen, D., Seefeldt, K., Siefert., K., & Tolman, R. (1999). Barriers to the employment of welfare recipients. Poverty Research & Training Center, University of Michigan.

DARE Seeds of Change. (2003). No education without transportation. Providence, RI: Author.

Deka, D. (In press). Social and environmental justice issues in urban transportation. In Susan Hanson & Genevieve Giuliano (Eds.), *Geography of urban transportation* (3rd Ed.). New York: Guilford Press. Manuscript submitted for publication.

Downs, A. (1971). Suburban housing: A program for expanded opportunities. *Real Estate Review* 1(1), 4–10.

Ellwood, D. T. (1986). The spatial mismatch hypothesis: Are there teen-age jobs missing in the ghetto? In Richard B. Freeman & Harry J. Holzer (Eds.), *The black youth employment crisis*. Chicago: University of Chicago Press.

Environmental Justice Resource Center. (1999). Sprawl, Atlanta: Social equity dimensions of uneven growth and development. Atlanta: Clark-Atlanta University.

Federal Highway Administration Office of Civil Rights. (2002). *FY 2000 twelve month summary of federal aid DBE awards and commitments.* Washington, DC: Author.

Federal Highway Administration and Federal Transit Administration. (1999). *Federal Highway Administration and Federal Transit Administration TEA-21 planning and environmental provisions: Options for discussion, office of metropolitan planning and programs*. Washington, DC: Authors.

Forkenbrock, D. J., Benshoff, S., & Weisbrod, G. E. (2001). Assessing the social and economic effects of transportation projects. National Cooperative Highway Research Program. Washington, DC: Transportation Research Board.

Frey, W. (2001, June). Melting pot suburbs: A Census 2000 study of suburban diversity. Washington, DC: Brookings Institution. Retrieved April 2003 from http://www.brookings.org/es/urban/projects/census/freyexecsum.htm.

Frey, W. (2002, February). Metro magnets for minorities and whites: Melting pots, the new Sunbelt, and the heartland. Population Studies Center Research Report No. 02-496. Retrieved April 2003 from http://www.psc.isr.umich.edu/pubs/papers/rr02-496.pdf

Friedman, M. S., Powell, K. E., Hutwagner, L., Graham, L., & Teague, W. G. (2001). Impact of changes in transportation and commuting behaviors during the 1996 summer Olympic Games in Atlanta on air quality and childhood asthma. *Journal of the American Medical Association* 285(7), 897–905.

Frumkin, H. (2002). Urban sprawl and public health. *Public Health Reports* 117, 201–217.

Funders' Network for Smart Growth and Livable Communities. (2002). Community organizing: A Populist base for social equity and smart growth. Livable Communities@Work, Miami, FL: Author.

Galbraith, J. K. (1998). *Created unequal*. New York: Free Press.

Gardner, D. C. (1998). Transportation reauthorization: A summary of the Transportation Equity Act (TEA-21) for the Twenty-First Century, 30. *Urban Law Journal* 1097, 1099–1101.

General Accounting Office. (2001, June). Disadvantaged Business Enterprise: Critical information is needed to understand program impact. GAO-01-586. Washington, DC: Author.

Girls Initiative Network. (n.d.). Students get cheaper Tri-Met passes. Retrieved May 2003 from http://www.girlsinitiativenetwork.org/girlsinactionactivities_trimetpasses.htm.

Gómez-Ibáñez, J. A. (1976). Assessing the arguments for urban transit operating subsidies. *Transportation Research Record* 573, 126–132.

Gordon, P., Kumar, A., & Richardson, H. W. (1989). The spatial mismatch hypothesis: Some new evidence. *Urban Studies* 26, 315–326.

Governor's Commission on the Los Angeles Riots. (1965). *Violence in the city—An end or a beginning?* Los Angeles: Author.

Hair, P. D. (2001). *Louder than words: Lawyers, communities and the struggle for justice*. New York: Rockefeller Foundation.

Haley, K. (2000, September). Sisters acting up: Meet the sisters in action for power. *Wiretap.* Retrieved May 2003 from http://www.alternet.org/story.html?StoryID=9753

Hill, E. W., Geyer, B., O'Brien, K., Robey, C., Brennan J., Puentes, R. (2003). Slanted pavement: How Ohio's highway spending shortchanges cities and suburbs. Washington, DC: Brookings Insitution.

Hobbs, F., & Stoops, N. (2002, November). Demographic trends in the 20th Century: Census 2000 special reports at 100. Washington, DC: U.S. Department of Commerce, U.S. Bureau of the Census.

Hodge, D. (1980). Inner city revitalization as a challenge to diversity? Seattle. In S. B. Laska & D. Spain (Eds.), *Back to the City: Issues in neighborhood renovation* (pp. 187–203). New York: Pergammon Press.

Holzer, H. J. (1991). The spatial mismatch hypothesis: What has the evidence Shown*? Urban Studies* 28, 105–122.

Holzer, H. J., Ihlanfeldt, H. R., & Sjoquist, D. L. (1994). Work, search, and travel among white and black youth. *Journal of Urban Economics* 35, 320–345.

Iceland, J., Weinberg, D. H., & Steinmetz, E. (2002, May). Racial and ethnic residential segregation in the United States: 1980–2000. Paper presented at the annual meetings of the Population Association of America, Atlanta, GA.

Ihlanfeldt, K. R., & Sjoquist, D. L. (1998). The spatial mismatch hypothesis: A review of recent studies and their implications for welfare reform. *Housing Policy Debate* 9(4), 849–892.

Interfaith Federation. (1999). People's Re-certification Hearing on NIRPC, Gary, Indiana, June 1.

Jackson, K. T. (1985). *Crabgrass frontier*. New York: Oxford University Press.

Kain, J. F. (1968). Housing segregation, Negro employment, and metropolitan decentralization. *Quarterly Journal of Economics* 82, 175–197.

Kain, J. F., & Meyer, J. R. (1970). Transportation and poverty. *The Public Interest* 18, 75–87.

Kaplan, A. (1998). Transportation: The essential need to address the "To" in welfare-to-work. *Welfare Information Network: Issues Notes*, 2 (10). Retrieved May 2003 from http://www.welfareinfo.org/transitneed.htm.

Kasarda, J. D. (1983). Entry-level jobs, mobility, and urban minority unemployment. *Urban Affairs Quarterly* 19, 21–40.

Katz, B. & Muro, M. (2003). Smart growth saves money. *Detroit News*, April 13. Available at http://www.detnews.com/2003/editorial/0304/13/a15-134946.htm.

Katz, B., Puentes, R., & Bernstein, S. (2003). TEA-21 reauthorization: Getting transportation right for metropolitan America. Washington, DC: Brookings Institution Center on Urban and Metropolitan Policy.

Kennedy, M. and Leonard, P. (2001). Dealing with neighborhood change: A primer on gentrification and policy choices. Retrieved June 2003 from http://www.brookings.edu/dybodocroot/es/urban/gentrification/gentrification.pdf. Washington, DC: The Brookings Institution and Oakland, CA: Policy Link.

Kinsey, S. (2003). Local control breeds local innovation: California's successful experiment with sub-allocation. *Progress*, p. 3. Washington, DC: Surface Transportation Policy Project.

Klesh, K. J. (2001). Urban sprawl: Can the "transportation equity" movement and federal transportation policy help break down barriers to regional solutions? *Environmental Law Journal* 7, 649.

Lang, Robert E. 2003. *Edgeless cities: Exploring the elusive metropolis.* Washington, DC: Brookings Institution Press.

Laska, S. B., & Spain, D. (1980). *Back to the city: Issues in neighborhood renovation.* New York: Pergammon Press.

Lee, B. L. (1997). Civil Rights and legal remedies: A plan of action. In R. D. Bullard & G. S. Johnson (Eds.), *Just transportation: Dismantling race & class barriers to mobility*. Gabriola Island, BC: New Society Publishers.

Lewis Mumford Center. (2001, April). Ethnic diversity grows, neighborhood integration lags behind. Retrieved April 2003 from http://mumford1.dyndns.org/cen2000/WholePop/WPreport/page1.html.

Lin, S., Munsie, J. P., Hwan, S., Fitzgerald, E., & Cayo, M. R. (2002). Childhood asthma hospitalization and residential exposure to state route traffic. *Environmental Research* A(88), 73–81.

Logan, J. R. (2001, July). The new ethnic enclaves in America's suburbs. Lewis Mumford Center. Retrieved April 2003 from http://mumford1.dyndns.org/cen2000/suburban/SuburbanReport/page1.htm.

Logan, J. R. (2002a, June). The suburban advantage: New census data show unyielding city-suburb economic gap, and surprising shifts in some places. Lewis Mumford Center Census 2000 Metropolitan Racial and Ethnic Change Series. Retrieved April 2003 from http://mumford1.dyndns.org/cen2000/CityProfiles/SuburbanReport/page1.html

Logan, J. R. (2002b). Separate and unequal: The neighborhood gap for blacks and Hispanics in metropolitan America. Lewis Mumford Center for Comparative Urban and Regional Research, University of Albany.

Litman, T. (1999). Evaluating transportation equity. Victoria, BC: Victoria Transport Policy Institute. Retrieved June 2003 from http://www.vtpi.org/equity.pdf.

Luckett, S. (2001, May). Did you know? Homes account for 44 percent of all wealth: Findings from the SIPP 1995. *U.S. Census Bureau Current Population Reports*.

Maantay, J. (2001). Zoning, equity, and public health. *American Journal of Public Health* 91, 1033–1041.

Mann, E. (1997). Confronting transit racism in Los Angeles. In R. D. Bullard & G. S. Johnson (Eds.), *Just Transportation: Dismantling race & class barriers to mobility*. Gabriola Island, BC: New Society Publishers.

Massey, D. S., & Denton, N. A. (1988). The dimensions of residential segregation. *Social Forces* 67, 281–315.

Massey, D. S., & Denton, N. A. (1993). *American apartheid: Segregation and the making of the underclass*. Cambridge, MA: Harvard University Press.

McFate, K. (1991). *Poverty, inequality and the crisis of social policy*. Washington, DC: Joint Center for Political and Economic Studies.

Metropolitan Transportation Commission. (2001). Bus pass pilot program for low income students. Retrieved May 2003 from http://www.mtc.ca.gov/projects/rtp/bus_pass.htm.

Meyer, J. A. (1999). Assessing welfare reform: Work pays. *The Public Interest* 136, 113–120.

Meyer, J. R., & Gómez-Ibáñez, J. A. (1981). *Autos, transit, and cities*. Cambridge, MA: Harvard University Press.

Milton S. Eisenhower Foundation. (1998). *The millennium breach: The American dilemma, richer and poorer*. Washington, DC: Author.

Mizuno, M. (1995). Justice in decision making. Background paper presented at the Transportation: Environmental Justice and Social Equity Conference, Washington, DC.

Montgomery Transportation Coalition. (2001). Report on the Montgomery MPO: The case against re-certification (October 9, 2001).

Mortimer, K. M., Neasa, L. M., Dockery, D. W., Redline, S., & Tager, I. B. (2002). The effect of air pollution on inner-city children with asthma. *European Respiratory Journal* 19, 699–705.

Murakami, E., & Young, J. (1997). Daily travel by persons with low income. Paper presented at the Nationwide Personal Transportation Survey Symposium, Bethesda, Maryland.

National Advisory Commission on Civil Disorders. (1968). *Report of the National Advisory Commission on Civil Disorders*. Washington, DC: U.S. Government Printing Office.

National Association of County and City Health Officials. (2002, September). Creating health equity

through social justice. Draft Working Paper

National Highway Traffic Safety Administration. (n.d.). Safety tips for traveling to school on public transit. Retrieved May 2003 from http://www.nhtsa.dot.gov/people/injury/buses/GTSS/newspublictransit.html.

Nelson, A. C. (2003). Transit decision-making processes by MPOs and regional planning bodies. Discussion paper presented at the Metropolitan Institute at Virginia Tech, Alexandria, VA.

Niolet, B. (2003). Transportation plan rejected. *The Birmingham News*, March 4.

Noerager, K. & Lyons, W. (2002). Evaluation of statewide long-range transportation plans. Washington, DC: U.S. Department of Transportation. Retrieved June 2003 from http://www.fhwa.dot.gov/hep10/state/evalplans.htm

Office of the Deputy Prime Minister, Social Exclusion Unit (United Kingdom). (n.d.). Information on Web site. Retrieved May 2003 from http://www.socialexclusionunit.gov.uk/.

Office of the Deputy Prime Minister Social Exclusion Unit (United Kingdom). (2003, February). Making the connections: Final report on transport and social exclusion. Retrieved May 2003 from http://www.socialexclusionunit.gov.uk/published.htm.

Ong, P. (1996). Work and car ownership among welfare recipients. *Social Work Research* 2(4), 255–262.

Ong, P., & Blumenberg, E. (1998). Job access, commute and travel burden among welfare recipients. *Urban Studies* 35(1), 77–93.

Oosterlee, A., Drijver, M., Lebret, E., & Brunekreef, B. (1996). Chronic respiratory symptoms in children and adults living along streets with high traffic density. *Occupational & Environmental Medicine* 53(4), 241-247.

Orfield, G., & Eaton, S. E. (1996). *Dismantling desegregation: The quiet reversal of Board v. Board of Education*. New Press.

Perera, F. P., Illman, S. M., Kinney, P. L., Whyatt, R. M., Kelvin, E. Z., Shepard, P., Evans, D., Fullilove, M., Ford, J., Miller, R. L., Meyer, I. H., & Rauh, V. A. (2002). The challenge of preventing environmentally related disease in young children: Community based research in New York. *Environmental Health Perspectives* 100(2), 197–204.

powell, j. a., & Graham, K. M. (2002). Urban fragmentation as a barrier to equal opportunity. In D. M. Piche, W. L. Taylor, & R. A. Reed (Eds.), *Rights at risk: Equality in an age of terrorism*. Report of the Citizens Commission on Civil Rights, Washington, DC.

Proctor, B. D., & Dalaker, J. (2002). Poverty in the United States: 2001. Washington, DC: U.S. Bureau of the Census.

Pucher, J., & Renne, J. L. (2003). Socioeconomics of urban travel: Evidence from the 2001 NHTS. *Transportation Quarterly* 57(3), forthcoming. Retrieved May 2003 from http://nhts.ornl.gov/2001/html_files/Socioeconomics%20of%20Urban%20Travel.htm.

Puentes, R., & Prince, R. (2003, March). Fueling transportation finance: A primer on the gas tax. Washington, DC: Brookings Institution.

Raphael, S., & Rice, L. (2002). Car ownership, employment, and earnings. *Journal of Urban Economics* 52, 109–130.

Rivara, F. P. (1999). Pediatric injury control in 1999: Where do we go from here? *Pediatrics* 103(4), 883–888.

Rubin, T. A. (2000). Environmental justice and transportation decisions—The Los Angeles experience. Paper presented at the Transportation Research Board Annual Meeting, Washington, DC.

Sanchez, T. W. (1998). Equity analysis of personal transportation system benefits. *Journal of Urban Affairs* 20(1), 69–86.

Sanchez, T. W. (1999). The connection between public transit and employment. *Journal of the American Planning Association* 65(3), 284–296.

Sanchez, T. W. (2002). The impact of public transportation on U.S. metropolitan wage inequality. *Urban Studies.* 39(3), 423–436.

Schulz , A. J., et al. (2002). Racial and spatial relations as fundamental determinants of health in Detroit at 677. *The Milbank Quarterly* 80(4).

Shepard, F. L., & Sonn, P. K. (1997). A tale of two cities. In Robert Bullard & Glenn Johnson (Eds.), *Just transportation*, pp. 42–52. Gabrioloa Island, B.C.: New Society Publishers.

Sinclair, S. P., & Sinclair, F. (2001). Access all areas? An assessment of social inclusion measures in Scottish local transport strategies. Center for Research into Socially Inclusive Services, Edinburgh College of Art/Heriot Watt University.

Singer, C. M. (2002). New homes lure back blacks kicked out in ‘60s. *The Detroit News,* December 11, p. A1.

Stolz, R. (2001a). Letter to Marc Brenman, Office of Civil Rights, U.S. Department of Transportation, Washington, DC: Center for Community Change.

Stolz, R. (2001b). MOSES Gathering power for transportation equity. In *The Organizing Newsletter*. Washington, DC

Stolz, R. (2002). Transportation equity and environmental justice. In *Planners Network Magazine*. Fall

Surface Transportation Policy Project and Center for Neighborhood Technology. (2000). Driven to spend: The impact of sprawl on household transportation expenses. Washington, DC: Author.

Surface Transportation Policy Project. (2002). Mean Streets 2002. Washington, DC: Author.

Surface Transportation Policy Project. (2003a). Stay the course: How to make TEA-21 even better. Washington, DC: Author.

Surface Transportation Policy Project. (2003b, January). Transfer, Volume IX, Issue 2, available at http://www.transact.org/Transfer/trans03/01_17.asp#4.

Taylor, B. D., & Ong, P. M. (1995). Spatial mismatch or automobile mismatch? An examination of race, residence, and commuting in U.S. metropolitan areas. *Urban Studies* 32, 1453–1473.

Thompson, G. L. (1997). How ethnic/racial groups value transit accessibility: Modeling inferences from Dade county. Paper presented at the Annual Meeting of the Association of Collegiate Schools of Planning, Ft. Lauderdale, Florida.

Transportation Research Board. (2002). The relative risks of school travel: A national perspective and guidance for local community risk assessment. Washington, DC: National Academies.

U.S. Bureau of the Census. (n.d.). Census 2000 data. Available at http://www.census.gov.

U.S. Bureau of the Census. (2000). Table DP-1 Profile of General Demographic Characteristics: 2000. Washington, DC: Author.

U.S. Bureau of the Census (2001) Census 2000 PHC-T-1, Population by Race and Hispanic or Latino Origin for the United States: 1990 and 2000, Table 1 Population by Race and Hispanic or Latino Origin, for All Ages and for 18 Years and Over, for the United States: 2000. Retrieved April 2003 from http://www.census.gov/population/www/cen2000/phc-t1.html.

U.S. Bureau of the Census. (2002, September) Historical Income Tables: Table H-5. Race and Hispanic Origin of Householder—Households by Median and Mean Income: 1967-2001. Retrieved April 2003 from http://www.census.gov/hhes/income/histinc/h05.html.

U.S. Bureau of Labor Statistics. (2001a). Household data annual averages, Table 11. Employed persons by detailed occupation, sex, race, and Hispanic origin. Retrieved May 2003 from ftp://ftp.bls.gov/pub/special.requests/lf/aat11.txt.

U.S. Bureau of Labor Statistics. (2001b). 2000 national occupational employment and wage estimates—Construction and extraction occupations. Retrieved May 2003 from http://www.bls.dol.gov/oes/2000/oes_47Co.htm.

U.S. Bureau of Labor Statistics. (2003). Usual weekly earnings of wage and salary workers, table 2. Median usual weekly earnings of full-time wage and salary workers by age, race, Hispanic or Latino ethnicity, and sex, first quarter 2003 averages, not seasonally adjusted. Retrieved May 2003 from http://www.bls.gov/news.release/wkyeng.t02.htm.

U.S. Department of Education Office for Civil Rights (2000). Annual report to Congress: Guaranteeing equal access to high-standards education. Washington, DC: Author. Retrieved June 2003 from http://www.ed.gov/offices/OCR/AnnRpt2000/index.html.

U.S. Department of Transportation. (n.d.-a). National Household Travel Survey, 2001. 2002 NHTS Users Guide. Retrieved May 2003 from http://nhts.ornl.gov/2001/usersguide/chapter2.html.

U.S. Department of Transportation. (n.d.-b). National Household Travel Survey, 2001. Retrieved May 2003 from http://nhts.ornl.gov/2001/index.shtml

U.S. Department of Transportation (1997). Notice of final DOT Order on environmental justice. Federal Register 62, no. 72 (15 April 1997): 18377.

U.S. Department of Transportation. (1999). Memorandum re: Action: Implementing Title VI requirements in metropolitan and statewide planning. Washington, DC: Author.

U.S. Department of Transportation. (2001a). Transportation and environmental justice case studies (Publication No. FHWA-EP-01-010). Washington, DC: Author.

U.S. Department of Transportation. (2001b). Guidance to recipients of special language services to limited English proficient (LEP) beneficiaries, 66 Federal Register 6733, January 22.

U.S. Department of Transportation. (2003a). BTS Issue Brief (No.1), Bureau of Transportation Statistics. Washington, DC: Author.

U.S. Department of Transportation. (2003b). DOT Budget in Brief 2003. Retrieved June 2003 from http://www.dot.gov/bib/toc.html.

U.S. Department of Transportation, Office of Small and Disadvantaged Business Utilization. (n.d.). The New DOT Disadvantaged Business Enterprise (DBE) Regulation. Retrieved May 2003 from http://osdbuweb.dot.gov/business/dbe/Fact.html.

U.S. Environmental Protection Agency. (2000, December). America's children and the environment: A first view of available measures. Retrieved May 2003 from http://yosemite.epa.gov/ochp/ochpweb.nsf/content/ACE-Report.htm/$file/ACE-Report.pdf

U.S. Equal Employment Opportunity Commission. (2003a). Race-based charges FY 1992–FY 2002. Retrieved June 2003 from http://www.eeoc.gov/stats/race.html.

U.S. Equal Employment Opportunity Commission. (2003b). Litigation statistics, FY 1992 through FY 2002. Retrieved June 2003 from http://www.eeoc.gov/stats/litigation.html.

Wachs, M., & Taylor, B. D. (1998). Can transportation strategies help meet the welfare challenge? *Journal of the American Planning Association* 64(1), 15–19.

Wachs, M. (1999). New expectations for transportation data. Address at the Transportation Research Board Conference on Personal Travel, June 29.

Weiland, S. K., Mundt, K. A., Ruckmann, A., & Keil, U. (1994). Self-reported wheezing and allergic rhinitis in children and traffic density on street of residence. *Annals of Epidemiology* 4(3), 243–247.

Weiner, E. (1999). *Urban transportation planning in the United States: An historical overview.* Westport, CT: Praeger.

Wilson, W. J. (1987). *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.

Wjst, M., Reitmeir, P., Dold, S., Wulff, A., Nicolai, T., von Loeffelholz-Colberg, E. F., & von Mutius, E. (1993). Road traffic and adverse effects on respiratory health in children. *British Medical Journal* 307(6904), 596–600.

Wolf, J. F., & Farquhar, M. B. (2003). Using metropolitan planning organizations as a test case for the new regionalism and the new governance. Paper presented at the American Society for Public Administration 64th National Conference, Washington, DC.