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Robert D. Bullard  
*San Francisco School of Law*

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# ADDRESSING URBAN TRANSPORTATION EQUITY IN THE UNITED STATES\*

Robert D. Bullard\*\*

## INTRODUCTION

In the United States, all communities do not receive the same benefits from transportation advancements and investments.<sup>1</sup> Despite the heroic efforts and the monumental social and economic gains made over the decades, transportation remains a civil rights issue.<sup>2</sup> Transportation touches every aspect of where we live, work, play, and go to school, as well as the physical and natural world. Transportation also plays a pivotal role in shaping human interaction, economic mobility, and sustainability.<sup>3</sup>

Transportation provides access to opportunity and serves as a key component in addressing poverty, unemployment, and equal opportunity goals while ensuring access to education, health care, and other public services.<sup>4</sup> Transportation equity is consistent with the goals of the larger civil rights movement and the environmental

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\* This article draws from and enhances ideas and research expressed in earlier works. For further discussion, see Robert D. Bullard, *New Routes to Transportation Equity: Why Race Still Matters*, 6 *TRANSP. EQUITY* (Fall/Winter 2003), available at <http://www.ejrc.cau.edu/transequenewsvol6.htm> (last visited July 24, 2004); and Robert D. Bullard et al., *Transportation Justice for All: Addressing Equity in the 21st Century* (Oct. 23, 2002), available at <http://www.ejrc.cau.edu/summit2/TranspJustice.pdf> (last visited July 24, 2004).

\*\* Ware Professor of Sociology and Director, Environmental Justice Resource Center, Clark Atlanta University.

1. See *JUST TRANSPORTATION: DISMANTLING RACE AND CLASS BARRIERS TO MOBILITY* xiii-xiv (Robert D. Bullard & Glenn S. Johnson eds., 1997); Robert D. Bullard & Glenn S. Johnson, *Just Transportation*, in *JUST TRANSPORTATION*, *supra*.

2. See Bullard & Johnson, *supra* note 1, at 8-9; John Lewis, *Foreword* to *JUST TRANSPORTATION*, *supra* note 1, at xi, xi-xii; see also Mark Garrett & Brian Taylor, *Reconsidering Social Equity in Public Transit*, 13 *BERKELEY PLAN. J.* 6, 10 (1999) ("The incongruence between transit ridership patterns and subsidy policies has both social and special consequences that can potentially reinforce existing patterns of racial, ethnic, and economic segregation."), available at <http://www-dcrp.ced.berkeley.edu/bpj/pdf/13-GarrettTaylor.pdf> (last visited July 24, 2004).

3. See Bullard & Johnson, *supra* note 1, at 7-9. "Transportation has a profound impact on residential patterns, industrial growth, and physical and social mobility." *Id.* at 8.

4. See Garrett & Taylor, *supra* note 2, at 6 (noting that "[f]or . . . 'transit dependents' the continued availability of public mass transit is vital for access to jobs, schooling, medical care, and other necessities of life").

justice movement.<sup>5</sup> For millions, transportation is defined as a basic right.<sup>6</sup>

Transportation is basic to many other quality of life indicators such as health, education, employment, economic development, access to municipal services, residential mobility, and environmental quality.<sup>7</sup> The continued residential segregation of people of color away from suburban job centers (where public transit is inadequate or nonexistent) may signal a new urban crisis and a new form of "residential apartheid."<sup>8</sup> Transportation investments, enhancements, and financial resources have provided advantages for some communities, while at the same time, other communities have been disadvantaged by transportation decision making.<sup>9</sup>

### I. OLD WARS, NEW BATTLES

In 1896, the United States Supreme Court wrestled with this question of the different treatment accorded blacks and whites.<sup>10</sup> In *Plessy v. Ferguson*, the Supreme Court examined the constitutionality of Louisiana laws that provided for the segregation of railroad car seating by race.<sup>11</sup> The court upheld the "white section" and "colored section" Jim Crow seating law, contending that segregation did not violate any rights guaranteed by the Constitution.<sup>12</sup>

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5. See Bullard & Johnson, *supra* note 1, at 8-9; see also Lewis, *supra* note 2, at xi-xii.

6. See Scott Bogren, *A Tale of Two Transit Networks: Separate But Not Equal*, COMMUNITY TRANS. MAG., Sept./Oct. 1990 (advocating for a view of "mobility" as a civil right), available at <http://www.ctaa.org/adaview.asp?pageid=1366> (last visited July 27, 2004); see also Bullard & Johnson, *supra* note 1, at 11 (describing the "environmental justice framework" which "rests on an analysis of strategies to eliminate unfair, unjust and inequitable [transportation-related] conditions and decisions" and "incorporates the principle of the right of all individuals to be protecte[d] from environmental degradation").

7. See Bullard & Johnson, *supra* note 1, at 7-9; Garrett & Taylor, *supra* note 2, at 6-7.

8. Robert D. Bullard, *Introduction: Anatomy of Sprawl*, in *SPRAWL CITY: RACE, POLITICS, AND PLANNING IN ATLANTA* 1, 3-4 (Robert D. Bullard et al. eds., 2000) ("Apartheid-type employment, housing, development, and transportation policies have resulted in limited mobility, reduced neighborhood options, decreased residential choices, and diminished job opportunities for African American and other people of color who are concentrated in cities.") [hereinafter Bullard, *Introduction*].

9. See Bullard & Johnson, *Just Transportation*, *supra* note 1, at 7-8.

10. See *Plessy v. Ferguson*, 163 U.S. 537 (1896).

11. *Id.* at 540-52; JOHN HOPE FRANKLIN, *FROM SLAVERY TO FREEDOM: A HISTORY OF NEGRO AMERICANS* 276 (4th ed. 1974).

12. *Plessy*, 163 U.S. at 548 ("[W]e think the enforced separation of the races, as applied to the internal commerce of the state, neither abridges the privileges or immunities of the colored man, deprives him of his property without due process of law,

In 1953, nearly four decades after the *Plessy* decision relegated blacks to the back of the bus, African Americans in Baton Rouge, the capital of Louisiana, staged the nation's first successful bus boycott.<sup>13</sup> African Americans accounted for the overwhelming majority of Baton Rouge bus riders and two-thirds of the bus company's revenue.<sup>14</sup> Their economic boycott effectively disrupted the financial stability of the bus company, costing it over \$1600 a day.<sup>15</sup> The successful Baton Rouge bus boycott occurred two years before the famous 1954 Supreme Court decision in *Brown v. Board of Education* declared "separate but equal" unconstitutional.<sup>16</sup>

On December 1, 1955, in Montgomery, Alabama, Rosa Parks ignited the modern civil rights movement.<sup>17</sup> Mrs. Parks refused to give up her bus seat to a white man in defiance of local Jim Crow laws.<sup>18</sup> Her action sparked new leadership around transportation and civil rights.<sup>19</sup> Mrs. Parks summarized her feelings about resisting Jim Crow in an interview with sociologist Aldon Morris in 1981: "My resistance to being mistreated on the buses and anywhere else was just a regular thing with me and not just that day."<sup>20</sup>

Transportation was a central theme in the "Freedom Riders" campaign in the early 1960s.<sup>21</sup> John Lewis and the young Freedom Riders exercised their constitutional right of interstate travel at the risk of death.<sup>22</sup> Greyhound buses were attacked and some burned in 1961.<sup>23</sup> Nevertheless, the Freedom Riders continued their quest for social justice on the nation's roads, highways, and urban streets.<sup>24</sup>

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nor denies him the equal protection of the laws, within the meaning of the fourteenth amendment . . .").

13. ALDON D. MORRIS, *THE ORIGINS OF THE CIVIL RIGHTS MOVEMENT: BLACK COMMUNITIES ORGANIZING FOR CHANGE* 17-25 (1984).

14. *Id.* at 17.

15. *Id.* at 24.

16. 347 U.S. 483, 493-96 (1954); see also *Brown v. Bd. of Educ.*, 349 U.S. 294, 301 (1955) (requiring "District Courts to take such proceedings and enter such orders and decrees . . . as are necessary and proper to [integrate] public schools on a racially nondiscriminatory basis with all deliberate speed"); MORRIS, *supra* note 13, at 25.

17. See MORRIS, *supra* note 13, at 51-52 ("Mrs. Parks's arrest triggered the mass movement not only because she was a quiet, dignified woman of high morals but also because she was an integral member of those organizational forces capable of mobilizing social movement.").

18. *Id.* at 51.

19. *Id.* at 51-56.

20. *Id.* at 51.

21. Lewis, *supra* note 2, at xi-xii; see also MORRIS, *supra* note 13, at 231-36.

22. Lewis, *supra* note 2, at xi-xii; see also MORRIS, *supra* note 13, at 231-36.

23. Lewis, *supra* note 2, at xi-xii; MORRIS, *supra* note 13, at 231-36.

24. Lewis, *supra* note 2, at xi-xii; MORRIS, *supra* note 13, at 231-36.

While some progress has been made since *Just Transportation: Dismantling Race and Class Barriers to Mobility* in 1997,<sup>25</sup> much remains the same. Discrimination still places an extra “tax” on poor people and people of color who need safe, affordable, and accessible public transportation. Many of the barriers that were chronicled in *Just Transportation* have not disappeared overnight or evaporated with time.<sup>26</sup>

## II. FOLLOW THE DOLLARS

Transportation spending programs do not benefit all populations equally.<sup>27</sup> Follow the transportation dollars and one can tell who is important and who is not. The lion’s share of transportation dollars is spent on roads, while urban transit systems are often left in disrepair.<sup>28</sup> Nationally, 80% of all surface transportation funds is earmarked for highways and 20% is earmarked for public transportation.<sup>29</sup> Public transit has received roughly \$50 billion since the creation of the Urban Mass Transit Administration over thirty years ago,<sup>30</sup> while roadway projects have received over \$205 billion since 1956.<sup>31</sup> On average, states spend just \$0.55 per person of

25. JUST TRANSPORTATION, *supra* note 1.

26. Robert D. Bullard, *Preface to SPRAWL CITY: RACE, POLITICS AND PLANNING IN ATLANTA*, *supra* note 8, at ix (explaining that transportation and zoning decisions continue to create situations that “systematically limit the mobility of poor people and people of color who are concentrated in central cities, where pollution from automobiles is contributing to [an] asthma epidemic . . .”).

27. Bullard & Johnson, *supra* note 1, at 7.

28. See Am. Pub. Transp. Ass’n, *Legislative Update: Bush Budget: Federal Transit Funding Same as FY 2003*, Feb. 5, 2003 (noting that the 2004 budget allocated \$7.226 billion for federal transit funding and \$30.2 billion in federal highway funding), available at [http://www.apta.com/government\\_affairs/positions/washrep/documents/2003february5.pdf](http://www.apta.com/government_affairs/positions/washrep/documents/2003february5.pdf) (last visited July 24, 2004); see also U.S. Office of Mgmt. & Budget, *Budget of the United States Government Fiscal Year 2004*, 2003, at 225-35, available at <http://www.whitehouse.gov/omb/budget/fy2004/pdf/budget.pdf> (last visited July 24, 2004).

29. Thomas W. Sanchez et al., Harv. Univ. Civil Rights Project & Ctr. for Community Change, *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities*, at 11 (2003) available at <http://www.civilrightsproject.harvard.edu/research/transportation/MovingtoEquity.pdf> (last visited July 24, 2004); see also *Surface Transportation Research and Development Needs for the Next Century, Testimony Before the House Comm. on Science Subcomm. on Tech.* (Apr. 23, 1997) (statement of Hank Dittmar, Executive Dir., Surface Transportation Policy Project; noting that “highway and vehicle research . . . account for more than 80% of available funding”), available at [http://www.house.gov/science/dittmar\\_4-23.html](http://www.house.gov/science/dittmar_4-23.html) (last visited July 25, 2004).

30. HANK DITTMAR & DON CHEN, *EQUITY IN TRANSPORTATION INVESTMENTS* (July 1995) (on file with author).

31. *Id.*

their federal transportation funds on pedestrian projects, less than 1% of their total federal transportation dollars.<sup>32</sup> Average spending on highways came to \$72 per person.<sup>33</sup>

Generally, states spend less than 20% of federal transportation funding on transit.<sup>34</sup> The current federal funding scheme is bias against metropolitan areas.<sup>35</sup> The federal government allocated the bulk of transportation dollars directly to state departments of transportation.<sup>36</sup> Many of the road-building fiefdoms are no friend to urban transit. Just under 6% of all federal highway dollars are sub-allocated directly to the metropolitan regions.<sup>37</sup> Moreover, thirty states restrict use of the gasoline tax revenue to fund highway programs only.<sup>38</sup> Although local governments within metropolitan areas own and maintain the vast majority of the transportation infrastructure, they receive only about 10% of every dollar they generate.<sup>39</sup>

From 1998-2003, TEA-21<sup>40</sup> transportation spending amounted to \$217 billion.<sup>41</sup> This was the “largest public works bill enacted in the nation’s history.”<sup>42</sup> Transportation spending has always been about opportunity and equity. In the real world, costs and benefits

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32. Stephanie Bothwell et al., *Design, Physical Activity and Public Health*, Oct. 2003, at [http://www.naab.org/information3902/information\\_show.htm?doc\\_id=194272](http://www.naab.org/information3902/information_show.htm?doc_id=194272) (last visited July 25, 2004).

33. *Id.*

34. Sanchez et al., *supra* note 29, at 11.

35. *See id.* at 16 (indicating that research evidence suggests that states spend more on serving transportation needs in non-metropolitan areas than in metropolitan areas even though urban areas may generate more transportation revenue).

36. Robert Puentes & Linda Bailey, Brookings Inst., *Improving Metropolitan Decision Making in Transportation: Greater Funding and Devolution for Greater Accountability*, 2003, at 4, 10, available at [http://www.brook.edu/es/urban/publications/200310\\_Puentes.pdf](http://www.brook.edu/es/urban/publications/200310_Puentes.pdf) (last visited July 25, 2004).

37. *Id.* at 5 (charting the allocation of TEA-21 funding from 1998-2002 and indicating that just 5.8% of such funds were sub-allocated to metropolitan areas).

38. ROBERT PUENTES & RYAN PRINCE, BROOKINGS INST., *FUELING TRANSPORTATION FINANCE: A PRIMER ON THE GAS TAX 1* (2003), available at <http://www.brook.edu/es/urban/publications/gastax.pdf> (last visited July 30, 2004).

39. *See Highway and Transit Needs: The State and Local Perspective, Testimony Before the House Transp. & Infrastructure Comm., Subcomm. on Highways, Transit & Pipelines 3* (2003) (statement of Victor H. Ashe, Mayor of Knoxville, TN; explaining that “metropolitan areas get to make decisions only on about ten cents on every transportation dollar they generate”), available at [http://www.usmayors.org/uscm/news/press\\_releases/documents/ashetrans\\_050703.pdf](http://www.usmayors.org/uscm/news/press_releases/documents/ashetrans_050703.pdf) (last visited July 25, 2004).

40. Transportation Equity Act for the 21st Century, Pub. L. No. 105-178 (1998) (as amended by Title IX of Pub. L. No. 105-206).

41. Sanchez et al., *supra* note 29, at 6.

42. Dennis C. Gardner, *Transportation Reauthorization: A Summary of the Transportation Equity Act (TEA-21) for the Twenty-First Century*, 30 URB. LAW. 1097, 1097 (1998).

associated with transportation developments are not randomly distributed.<sup>43</sup> Transportation justice is concerned with factors that may create and/or exacerbate inequities and measures to prevent or correct disparities in benefits and costs.<sup>44</sup> Disparate transportation outcomes can be subsumed under three broad categories of inequity: procedural, geographic, and social.<sup>45</sup>

*Procedural Inequity:* Attention is directed to the process by which transportation decisions may or may not be carried out in a uniform, fair, and consistent manner with involvement of diverse public stakeholders.<sup>46</sup> Do the rules apply equally to everyone?

*Geographic Inequity:* Transportation decisions may have distributive impacts (positive and negative) that are geographic and spatial, such as rural versus urban versus central city.<sup>47</sup> Some communities are physically located on the “wrong side of the tracks” and often receive substandard transportation services.<sup>48</sup>

*Social Inequity:* Transportation *benefits* and *burdens* are not randomly distributed across population groups.<sup>49</sup> Generally, transportation amenities (benefits) accrue to the wealthier and more educated segment of society, while transportation disamenities (burdens) fall disproportionately on people of color and individuals at the lower end of the socioeconomic spectrum.<sup>50</sup> Intergenerational equity issues are also subsumed under this category.<sup>51</sup> The impacts and consequences of some transportation decisions may reach into several generations.<sup>52</sup>

Heavy government investment in road infrastructure may be contributing to an increase in household transportation costs.<sup>53</sup>

43. See, e.g., William W. Buzbee, *Urban Sprawl, Federalism, and the Problem of Institutional Complexity*, 68 *FORDHAM L. REV.* 57, 112 (1999) (providing that the main strategy of TEA-21 is to avoid patronage-driven transportation decisions by mandating a more open and participatory planning process as a condition for receipt of federal dollars).

44. *Id.* at 112-15.

45. For an in-depth discussion of equity, see Robert D. Bullard & Glenn S. Johnson, *Introduction to JUST TRANSPORTATION*, *supra* note 1, at 1-2.

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

50. *Id.*

51. Robert D. Bullard et al., *The Costs and Consequences of Suburban Sprawl*, 17 *G.A. ST. U. L. REV.* 935, 965 (2001).

52. *Id.*

53. See, e.g., Nancy Jakowitsch & Michelle Ernst, *Just Transportation*, in *HIGHWAY ROBBERY: TRANSPORTATION RACISM AND NEW ROUTES TO EQUITY* 161-62 (Robert D. Bullard et al. eds., 2004) (providing that U.S. transportation policies have led to a “nationwide shortage of affordable transportation choices”).

Lest anyone dismiss transportation as a tangential issue, consider that Americans spend more on transportation than any other household expense except housing.<sup>54</sup> On average, Americans spend \$0.19 out of every dollar earned on transportation expenses.<sup>55</sup> Transportation costs ranged from 17.1% in the Northeast to 20.8% in the South<sup>56</sup> —where some 54% of African Americans reside.<sup>57</sup> Americans spend more on transportation than they do on food, education, and health care.<sup>58</sup> The nation's poorest families spend more than 40% of their take home pay on transportation.<sup>59</sup> This is not a small point since African American households tend to earn less money than white households.<sup>60</sup> Nationally, African Americans earn only \$649 per \$1000 earned by whites.<sup>61</sup> This means that the typical black household in the United States earned 35% less than the typical white household.

### III. ERASING TRANSPORTATION INEQUITIES

In the real world, all transit is not created equal. In general, most transit systems have taken their low-income and people of color "captive riders" for granted and concentrated their fare and service policies on attracting middle-class and affluent riders out of their cars.<sup>62</sup> Moreover, transit subsidies have favored investment in suburban transit and expensive new commuter bus and rail lines that disproportionately serve wealthier "discretionary riders."<sup>63</sup> Almost 40% of rural counties in this country have little or no pub-

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54. *Id.*; Surface Transp. Policy Project, *Transportation Costs and the American Dream: Why a Lack of Transportation Choices Strains the Family Budget and Hinders Home Ownership*, July 22, 2003, at <http://www.transact.org/library/american-dreamdecoder.asp> (last visited July 30, 2004) [hereinafter STPP, *Transportation Costs*].

55. STPP, *Transportation Costs*, *supra* note 54; see also Ned Luter Floyd, *Transportation Costs*, CLARION-LEDGER (Jackson, MS), Aug. 10, 2003, at 1C.

56. U.S. Dep't of Labor, Bureau of Labor Statistics, *Issues in Labor Statistics*, June 2002, at 2, available at <http://stats.bls.gov/opub/ils/pdf/opbils48.pdf> (last visited July 27, 2004).

57. Jesse McKinnon, U.S. Census Bureau, *The Black Population: 2000*, at 3, available at <http://www.census.gov/prod/2001pubs/c2kbr01-5.pdf> (last visited July 25, 2004).

58. Floyd, *supra* note 55; STPP, *Transportation Costs*, *supra* note 54.

59. Floyd, *supra* note 55; STPP, *Transportation Costs*, *supra* note 54.

60. See G. Scott Thomas, *Racial Income Gap is More Like a Chasm*, BUS. FIRST, Dec. 16, 2002, at 1-2, available at <http://www.bizjournals.com/buffalo/stories/2002/12/16/story2.html> (last visited July 25, 2004).

61. *Id.* at 2.

62. Garrett & Taylor, *supra* note 2, at 7.

63. See *id.* ("Under public pressure to help address traffic congestion and air pollution in metropolitan areas, transit operators across the country are expected to provide services that will be attractive to automobile users, especially single-occupancy

lic transportation,<sup>64</sup> and “[i]n areas with populations from one million and below, more than half of all transit passengers have incomes of less than \$15,000 per year.”<sup>65</sup>

In urban areas, African Americans and Latinos comprise over 54% of transit users (62% of bus riders, 35% of subway riders, and 29% of commuter rail riders).<sup>66</sup> Nationally, only about 5.3% of all Americans use public transit to get to work.<sup>67</sup> African Americans are almost six times as likely as whites to use transit to get around.<sup>68</sup> Urban transit is especially important to African Americans where over 88% live in metropolitan areas<sup>69</sup> and over 53% live inside central cities.<sup>70</sup> About 60% of African Americans live in ten metropolitan areas.<sup>71</sup> The metropolitan areas with the largest black population include New York (2.3 million), Chicago (1 million), Detroit (0.8 million), Philadelphia (0.7 million), Houston (0.5 million), Baltimore (0.4 million), Los Angeles (0.4 million), Memphis (0.4 million), Washington, DC (0.35 million), and New Orleans (0.3 million).<sup>72</sup> Nearly 60% of transit riders are served by the ten largest urban transit systems and the remaining 40% by the other 5000 transit systems.<sup>73</sup>

In *Highway Robbery: Transportation Racism and New Routes to Equity*, the authors chronicle community leaders from New York City to Los Angeles who are demanding an end to transportation policies that compel the flight of people, jobs, and development to the suburban fringe.<sup>74</sup> The private automobile is still the most dominant travel mode of every segment of the American population, including the poor and people of color.<sup>75</sup> Clearly, private au-

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commuters who tend to have higher incomes and far more travel options than transit dependents.”); see also Sanchez et al., *supra* note 29, at 14-15.

64. Bogren, *supra* note 6.

65. *Id.*

66. John Pucher & John L. Renne, *Socioeconomics of Urban Travel: Evidence from the 2001 NHTS*, 57 *TRANSP. Q.* 49, 67 (Summer 2003), available at <http://policy.rutgers.edu/papers/14.pdf> (last visited July 25, 2004).

67. Garrett & Taylor, *supra* note 2, at 11.

68. Pucher & Renne, *supra* note 66, at 67.

69. Cassandra Cantave & Roderick Harrison, Joint Ctr. for Political & Econ. Studies, *Residence and Region*, 2001, at <http://www.jointcenter.org/DB/printer/resident.htm> (last visited July 25, 2004).

70. *Id.*

71. *Id.*; see also McKinnon, *supra* note 57, at 5.

72. McKinnon, *supra* note 57, at 7.

73. Garrett & Taylor, *supra* note 2, at 13.

74. Jakowitsch & Ernst, *supra* note 53.

75. See U.S. Dep’t of Transp., Bureau of Transp. Statistics, *NHTS: Highlights of the 2001 National Household Travel Survey 2* (Chip Moore ed. 2003), available at

tomobiles provide enormous employment access advantages to their owners. Car ownership is almost universal in the United States, with 91.7% of American households owning at least one motor vehicle.<sup>76</sup> According to the 2001 National Household Travel Survey (“NHTS”), released in 2003, 87.6% of whites, 83.1% of Asians and Hispanics, and 78.9% of blacks rely on the private car to get around.<sup>77</sup>

Lack of car ownership and inadequate public transit service in many central cities and metropolitan regions with a high proportion of “captive” transit dependents exacerbate social, economic, and racial isolation, especially for low-income people of color—residents who already have limited transportation options.<sup>78</sup> Nationally, only 7% of white households do not own a car, compared with 24% of African American households, 17% of Latino households, and 13% of Asian-American households.<sup>79</sup>

People of color are fighting to get representation on transportation boards and commissions, and to get their fair share of transit dollars, services, bus shelters and other amenities, handicapped accessible vehicles, and affordable fares. Some groups are waging grassroots campaigns to get “dirty diesel” buses and bus depots from being dumped in their neighborhoods.<sup>80</sup> The campaign to “Dump Dirty Diesels” is about the right to breathe clean air and protect public health.<sup>81</sup> Such efforts are not “sexy” campaigns; they are life and death struggles.

Rosa Parks would have a difficult time sitting on the front or back of a Montgomery bus today, since the city dismantled its public bus system—which served mostly blacks and poor people.<sup>82</sup> The cuts were made at the same time that federal tax dollars

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[http://www.bts.gov/publications/national\\_household\\_travel\\_survey/highlights\\_of\\_the\\_2001\\_national\\_household\\_travel\\_survey/pdf/entire.pdf](http://www.bts.gov/publications/national_household_travel_survey/highlights_of_the_2001_national_household_travel_survey/pdf/entire.pdf) (last visited July 25, 2004).

76. See *id.* (noting that in 2001, “[o]nly 8 percent of households report[ed] not having a vehicle available for regular use”).

77. Pucher & Renne, *supra* note 66, at 65.

78. See Garrett & Taylor, *supra* note 2, at 12-13.

79. Pucher and Renne, *supra* note 66, at 49-77.

80. Natural Res. Def. Council, *Subtracting Sulfur: Reducing Diesel Sulfur Levels to Reduce Urban Pollution*, at <http://www.nrdc.org/air/transportation/psulfur.asp> (last visited May 15, 2004).

81. *Id.* (noting that NRDC’s Dump Dirty Diesels Campaign is calling on countries around the world “to commit to near-zero levels of sulfur in diesel fuel by the end of the decade” as emissions from diesel fuel can cause health problems “include[ing] increased asthma, lung disease, heart disease, cancer and even premature death”).

82. Rich Stolz, *Race, Poverty & Transportation*, POVERTY & RACE, Mar./Apr. 2000, available at [http://www.prac.org/full\\_text.php?text\\_id=91&item\\_id=1811&news\\_letter\\_id=49&header=Poverty%20%20Welfare](http://www.prac.org/full_text.php?text_id=91&item_id=1811&news_letter_id=49&header=Poverty%20%20Welfare) (last visited July 27, 2004).

boosted the construction of the region's extensive suburban highways.<sup>83</sup> The changes in Montgomery took place amid growing racial geographic segregation and tension between white and black members of the city council.<sup>84</sup> The city described its actions "publicly as fiscally necessary, even as Montgomery received large federal transportation subsidies to fund renovation of non-transit improvements."<sup>85</sup>

Windy Cooler, an organizer with the Montgomery Transportation Coalition ("MTC"), describes racial diversity on her region's metropolitan planning organization ("MPO"):

In a city that is 50% African-American where historically and even today, the black community is so egregiously underserved and largely unheard, and where citizens, regardless of color are uninvolved and uneducated in the [transportation] planning process, it is no wonder, in fact it is inevitable, that the needs of the few, who are powerful for the moment, are put above the needs of the whole.<sup>86</sup>

Alabama State Senator George Clay, D-Tuskegee, has vowed to introduce a bill to rein in the road builders.<sup>87</sup> Getting such a bill through the Alabama legislature will not be an easy task because of the attitude of the legislature, Alabama Department of Transportation ("DOT"), and the powerful highway lobby.<sup>88</sup> According to Senator Clay, the Alabama DOT officials "think of the transportation money as their own private preserve."<sup>89</sup>

It is ironic that Rosa Parks lived most of her life after Montgomery in Detroit, the nation's largest metropolitan area without a regional transit system.<sup>90</sup> Detroit builds cars; Detroit is the "Motor City."<sup>91</sup> The federal government transfers \$100 million of Michi-

83. *See id.*

84. *Id.*

85. *Id.*

86. Press Release, Windy Cooler, Montgomery Transp. Coalition, Reclaiming the Dream Conference (Feb. 15, 2002), available at <http://www.motraco.org/press3.html> (last visited Oct. 23, 2002).

87. Mike Sherman, *Fuels, Taxes Now Benefit Roads*, MONTGOMERY ADVERTISER, Feb. 12, 2001, at A1.

88. *Id.*

89. *Id.* (quoting Senator Clay).

90. *See Kelly Thayer, Detroit Draws Closer to Regional Transit System: Speedlink Rapid Bus System Advances*, GREAT LAKES BULL. NEWS SERV., Jan. 4, 2002, available at <http://www.mlui.org/transportation/fullarticle.asp?fileid=11932> (last visited July 27, 2004).

91. Library of Congress, *Detroit "Motor City," Michigan* (explaining that Detroit earned the nickname "Motor City" as "the historic heart of the American automotive industry" where "Henry Ford pioneered the use of the assembly line in manufacturing

gan's annual federal transit taxes, paid by everyone who buys gasoline, to cities in other states that are building or expanding rapid transit lines.<sup>92</sup> But "[a]n effective regional transit system is important in connecting workers with jobs, serving a rapidly aging population, and in reducing traffic congestion, which has a positive effect on the environment."<sup>93</sup> Over 39% of Detroit children have asthma—three times the national rate.<sup>94</sup>

Community groups are fighting to end the kind of transit racism that killed seventeen-year-old Cynthia Wiggins of Buffalo, New York.<sup>95</sup> Wiggins, an African American, was crushed by a dump truck while crossing a seven-lane highway, because Buffalo's Number Six bus, an inner-city bus used mostly by African Americans, was not allowed to stop at the suburban Walden Galleria Mall.<sup>96</sup> Cynthia had not been able to find a job in Buffalo, but she was able to secure work at a fast-food restaurant in the suburban mall.<sup>97</sup> The bus stopped about 300 yards away from the mall.<sup>98</sup>

The Wiggins family and other members of the African American community charged the Walden Galleria Mall with using the highway as a racial barrier to exclude some city residents.<sup>99</sup> The high-profile trial, argued by Johnnie L. Cochran, Jr., began on November 8, 1999.<sup>100</sup> The lawsuit was settled ten days later when the mall owners, Pyramid Companies of Syracuse, agreed to pay \$2 million of the \$2.55 million settlement, over time, to Wiggins's four-year old son.<sup>101</sup> The Niagara Frontier Transportation Authority agreed to pay \$300,000, and the driver of the truck agreed to pay \$250,000.<sup>102</sup>

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automobiles"), available at [http://www.americaslibrary.gov/cgi-bin/page.cgi/es/mi/detroit\\_1](http://www.americaslibrary.gov/cgi-bin/page.cgi/es/mi/detroit_1) (last visited May 17, 2004).

92. Thayer, *supra* note 90.

93. Press Release, General Motors Corp., Big Three Support Development of Tri-County Mass Transit System [hereinafter Press Release], available at <http://media.gm.com/news/releases/010920transit.html> (last visited July 27, 2004).

94. *Living as One: Building Metropolitan Equity, Archdiocese of Detroit*, METRO. EQUITY & PUB. TRANSIT, Oct. 16, 2001, at 1-2.

95. See Kevin Collison, *Mall Bus Policy Called Anti-City; Death Raises Bias Question*, BUFFALO NEWS, Jan. 28, 1996, at 1A.

96. *Id.*

97. Don Chen, *Linking Social Equity with Livable Communities*, in JUST TRANSPORTATION, *supra* note 1, at 33, 39.

98. *Id.*

99. See David W. Chen, *Suit Accusing Shopping Mall of Racism Over Bus Policy Settled*, N.Y. TIMES, Nov. 18, 1999, at B11.

100. *See id.*

101. *Id.*

102. *Id.*

In September 1996, the Labor Community Strategy Center won an historic out-of-court settlement against the Los Angeles Metro Transit Authority ("LA MTA").<sup>103</sup> In the process, the group was able to win major fare and bus pass concessions.<sup>104</sup> They also forced the LA MTA to spend \$89 million on 278 new buses that run on clean-burning compressed natural gas ("CNG").<sup>105</sup> The struggle, led by the Los Angeles Bus Riders Union, epitomizes grassroots groups' challenges to transit racism.<sup>106</sup> In the summer of 1998, the Bus Riders Union began a "no seat, no fare" campaign against crowded buses and second-class treatment by the LA MTA.<sup>107</sup>

In 1994, African Americans in Macon, Georgia filed an administrative complaint with the U.S. Department of Transportation challenging Macon-Bibb County's use of federal funds under the Intermodal Surface Transportation Efficiency Act.<sup>108</sup> Macon-Bibb's population is evenly divided between blacks and whites.<sup>109</sup> Over 90% of the bus riders in Macon-Bibb are African Americans, and more than 28% of Macon-Bibb's African Americans do not own cars, compared with only 6% of the city's whites.<sup>110</sup> A disproportionate share of transportation dollars in Macon-Bibb County went to road construction and maintenance at the expense of the bus system.<sup>111</sup>

In 1993, Macon-Bibb County devoted more than \$33.65 million of federal, state, and local funds for roads, streets, and highways, of which some \$10 million came from federal funds.<sup>112</sup> During the same year, local officials accepted no federal funds for the Macon-

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103. Rober D. Bullard et al., *Dismantling Transportation Apartheid: The Quest for Equity*, in *SPRAWL CITY*, *supra* note 8, at 39, 50 [hereinafter Bullard et al., *Dismantling Transportation Apartheid*]; Robin D. G. Kelly, *Freedom Riders (the Sequel)*, *NATION*, Feb. 5, 1996, at 18.

104. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 50; see Kelly, *supra* note 103, at 18.

105. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 50; Kelly, *supra* note 103, at 18.

106. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 50; Kelly, *supra* note 103, at 18.

107. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 50; Steve Lopez, *The Few, the Proud, the Bus Riders*, *TIME*, Aug. 31, 1998, at 8.

108. David Oedel, *The Legacy of Jim Crow in Macon, Georgia*, in *JUST TRANSPORTATION*, *supra* note 1, at 97, 99.

109. *Id.* at 102.

110. *Id.*

111. *Id.* at 99.

112. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 51; Oedel, *supra* note 108, at 100.

Bibb County Transit Authority and budgeted only \$1.4 million for public transportation.<sup>113</sup> In 1998, the lawsuit was settled out of court, with Macon-Bibb County agreeing to accept federal funds for the first time to support their bus system that is used primarily by African Americans.<sup>114</sup>

Metropolitan Atlanta is struggling to get its roads versus transit balancing act together.<sup>115</sup> Because it is a non-attainment area, limitations were placed on its road-building programs.<sup>116</sup> Even with the Georgia Regional Transportation Authority (“GRTA”), a super state transportation agency created specifically to address Atlanta’s transportation problem, it has been an uphill battle to get funds diverted into building a seamless, coordinated regional transit system linked to the mature Metropolitan Atlanta Regional Transit Authority (“MARTA”).<sup>117</sup> The outlying suburban counties of Cobb, Gwinnett, and Clayton created their own “separate” bus systems, some with the aid of the GRTA.<sup>118</sup> For many white suburbanites, “MARTA” still stands for “Moving Africans Rapidly Through Atlanta.”<sup>119</sup>

The Metropolitan Atlanta Transportation Equity Coalition (“MATEC”), a coalition of eleven black Atlanta organizations, filed an administrative complaint with the U.S. Department of Transportation charging MARTA with racial discrimination under Title VI of the Civil Rights Act of 1964 and failure to comply with the federally mandated Americans with Disability Act (“ADA”).<sup>120</sup>

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113. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 51; Oedel, *supra* note 108, at 100.

114. David G. Oedel, Surface Transp. Policy Project, *The Long March to Transportation Justice in Macon*, 10 PROGRESS, Feb./Mar. 2000, at 6.

115. Bullard et al., *Dismantling Transportation Apartheid*, *supra* note 103, at 51-55.

116. *Id.*

117. *Id.* at 60.

118. *Id.* at 59-60.

119. Indeed, this perception is borne out by statistics. *See id.* at 58 (“A recent rider survey revealed that 78 percent of MARTA’s rail and bus riders are African American and other people of color.”).

120. Letter from MATEC et al., to Ron Stroman, Director of Civil Rights, U.S. Dep’t of Transp., and Nuria Fernandez, Fed. Transit Admin., U.S. Dep’t of Transp. (Nov. 28, 2000) (filing Administrative Charge of Discrimination) [hereinafter MATEC, Administrative Charge], available at <http://www.ejrc.cau.edu/martacomplaint.htm> (last visited July 25, 2004); *see also* Envtl. Justice Res. Ctr., *MATEC Challenges True “Smart Growth” in Atlanta Via Administrative Complaint Filed with U.S. DOT at Conference Designed to Curb Sprawl*, Dec. 4, 2000, at <http://www.ejrc.cau.edu/matecpress120400.htm> (last visited July 25, 2004) [hereinafter *MATEC Challenges*].

MATEC alleged that MARTA's service delivery to communities of color is not up to par with the services provided to white communities. They point out that a disproportionate number of the MARTA's overcrowded bus lines are located in minority communities,<sup>121</sup> and minority communities do not receive a proportionate share of clean compressed natural gas buses<sup>122</sup> and bus shelters.<sup>123</sup> They also contend that MARTA rail stations located in neighborhoods with people of color are poorly maintained and that fewer amenities are provided in comparison with those located in white communities.<sup>124</sup> Additionally, inadequate security is provided at MARTA rail stations serving minority riders.<sup>125</sup>

MATEC also insisted that MARTA's decision to raise its fares would have a negative, disproportionate, and discriminatory effect on and would cause irreparable harm to the system's people of color, as over 75% of MARTA's riders are African American, transit-dependent riders.<sup>126</sup> The coalition alleged that MARTA has denied disabled riders equal access to public buses, entitling them to relief under Title II of the Americans with Disabilities Act<sup>127</sup> and Section 504 of the Rehabilitation Act.<sup>128</sup> Disabled riders have not been accommodated in a timely manner and are disadvantaged due to malfunctioning equipment.<sup>129</sup> The MATEC members also charged MARTA with failing to provide comparable paratransit services.<sup>130</sup> They alleged that disabled riders utilizing MARTA's paratransit services are subjected to long delays and excessively long trips before reaching their destination.<sup>131</sup>

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121. MATEC, Administrative Charge, *supra* note 120, § IV.B.

122. *Id.* § IV.A.

123. *Id.* § IV.C.

124. *Id.* § IV.D.

125. *Id.*

126. *Id.* §§ V, V.A.; *see also* MATEC Challenges, *supra* note 120.

127. MATEC, Administrative Charge, *supra* note 120, § VI; MATEC Challenges, *supra* note 120; *see also* 42 U.S.C. §§ 12131-62 (2001).

128. MATEC, Administrative Charge, *supra* note 120, § VI; MATEC Challenges, *supra* note 120; *see also* Rehabilitation Act of 1973, H.R. 8070, 93rd Cong. § 504 (1973) ("No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.").

129. MATEC, Administrative Charge, *supra* note 120, § VI.

130. *Id.*

131. *Id.*

Transportation subsidies continue to be a sore point in Boston.<sup>132</sup> For years, transit riders of color in Roxbury, Dorchester, and Mattapan have complained about poor services and charged the Metropolitan Boston Transit Authority (“MBTA”) with using their fares to subsidize suburban riders.<sup>133</sup> A recent study from Harvard graduate student Masaya Otake confirmed what these residents have been saying for years—that they were getting shabby treatment from the MBTA.<sup>134</sup> Otake’s study measures and compares subsidies of the various transit modes, and he finds that these subsidy/passenger ratios among the various transit modes are very different. Otake concludes:

Subsidy/Passenger of Commuter rail (\$6.98) is much higher than bus (\$1.90) or subway (\$1.68). Even within bus system, Subsidy/Passenger is different according to the area. For Example, Operating-Subsidy/Passenger in Roxbury bus routes is \$0.71, much lower compared to the MBTA bus (\$1.08), South Boston Bus (\$1.31), and even lower than Regional bus (\$0.86) or “Minority & Low-income” bus routes (\$0.79). The difference may be more if including Capital expenses because of the marginal cost theory.<sup>135</sup>

Roxbury residents use transit four times as often as suburbanites, and therefore, contribute more money in fares to the T’s operating costs than any other community.<sup>136</sup> Comparing the funds the T uses to subsidize bus and rail routes, it becomes apparent that high ridership in Roxbury keeps subsidies per rider lower than in all other areas of the T system.<sup>137</sup> A “reverse Robin Hood” policy operates in many transit systems where the meager resources of poor, transit-dependent riders are used to subsidize affluent transit riders.

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132. See Corey Dade, *Bus Stop: Silver Line’s Critics Press Their Fight for Light Rail*, BOSTON GLOBE, June 25, 2002, at B1; Joe Bonni, *Red Line, Blue Line, Green Line? Try the Black and White Lines: New Study Documents Spending Disparity on Public Transportation Between Minority, White Neighborhoods*, WKLY. DIG, at <http://www.weeklydig.com/dig/content/1002.aspx> (last visited May 17, 2004); Dori Peleg, *On the Move: Boston Residents Fight for a More Just Public Transit System*, DOLLARS & SENSE, July-Aug. 2003, available at [http://www.findarticles.com/cf\\_0/m2548/248/109270313/print.jhtml](http://www.findarticles.com/cf_0/m2548/248/109270313/print.jhtml) (last visited July 25, 2004).

133. See Dade, *supra* note 132; Peleg, *supra* note 132; Bonni, *supra* note 132.

134. MASAYA OTAKE, ANALYSIS AND STRATEGIES FOR TRANSIT JUSTICE IN GREATER BOSTON (2002) (on file with Alternatives for Cmty. & Env’t).

135. *Id.* at vi.

136. *Id.*; see also Dade, *supra* note 132, at B1; Bonni, *supra* note 132; Peleg, *supra* note 132.

137. OTAKE, *supra* note 134, at vi; Dade, *supra* note 132, at B1; Bonni, *supra* note 132.

#### IV. GOVERNMENT RESPONSE

Congress passed the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA")<sup>138</sup> to improve public transportation necessary "to achieve national goals for improved air quality, energy conservation, international competitiveness, and mobility for elderly persons, persons with disabilities, and economically disadvantaged persons in urban and rural areas of the country."<sup>139</sup> ISTEA also promised to build intermodal connections between people and jobs, goods, markets, and neighborhoods.<sup>140</sup> ISTEA mandated that improvements comply with the Clean Air Act,<sup>141</sup> whereby priorities be given to projects that would clean up polluted air.<sup>142</sup> ISTEA also required transportation plans to comply with Title VI of the Civil Rights Act of 1964,<sup>143</sup> which prohibits discrimination in the use of federal funds, investments, and transportation services.<sup>144</sup>

The Transportation Efficiency Act of the 21st Century ("TEA-21") is the largest infrastructure-funding bill ever, and it includes policy provisions that are designed to provide funding for highway and transit programs until 2003.<sup>145</sup> "TEA-3 is the third iteration of the transportation vision established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act (ISTEA) and renewed in 1998 through the Transportation Equity Act for the 21st Century (TEA-21)."<sup>146</sup> TEA-21 expired in September 2003.<sup>147</sup> Congress passed a temporary extension through the Winter 2004.<sup>148</sup>

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138. Intermodal Surface Transp. Act of 1991, Pub. L. No. 102-240, 105 Stat. 1914 (1991). The act is commonly referred to as ISTEA.

139. *Id.* (codified at 49 U.S.C. § 101(2) (2003)).

140. *See id.*

141. 42 U.S.C. § 7470 (1994).

142. 23 U.S.C. § 135(f)(2) (2003).

143. 23 U.S.C. § 108(d)(2)(B) (2003).

144. *See* 42 U.S.C. § 2000d (2003).

145. Liam A. McCann, Note, *TEA-21: Paving Over Efforts to Stem Urban Sprawl and Reduce America's Dependence on the Automobile*, 23 WM. & MARY ENVTL. L. & POL'Y REV. 857, 858-59 (1999).

146. Tea3.org, *About TEA-3: Renewing the Nation's Surface Transportation Law, TEA-21*, at <http://www.tea3.org/about.htm> (last visited May 15, 2004).

147. *See* Memorandum from Michelle Holdgreve, Legal Director, Ohio Dep't of Transp., to Transportation Stakeholders (Oct. 16, 2003), available at <http://www.dot.state.oh.us/budget/fundingupdate10-16.asp> (last visited July 27, 2004).

148. Am. Pub. Transp. Ass'n, *Congress Approves TEA 21 Extension Legislation*, Sept. 26, 2003, at [http://www.apta.com/government\\_affairs/positions/washrep/2003September25.cfm](http://www.apta.com/government_affairs/positions/washrep/2003September25.cfm) (last visited July 27, 2004).

Nationwide, transportation advocates are positioning themselves to get TEA-21 reauthorized to include strong public support, public participation, and a demand of accountability for transportation agencies in the development of transportation projects.<sup>149</sup> The Surface Transportation Policy Project (“STPP”) outlined four challenges of the TEA-21 renewal: “(1) require accountability and reward performance; (2) fix it first; (3) create better transportation choices and build more livable communities; and (4) learn to serve people.”<sup>150</sup> To be effective, a reauthorized TEA-21 must better involve stakeholders and the public.<sup>151</sup>

On February 11, 1994, President Clinton signed Executive Order 12,898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”<sup>152</sup> This executive order reinforces what had been law for three decades.<sup>153</sup> Indeed, the Civil Rights Act of 1964 prohibits discriminatory practices in programs receiving federal funds.<sup>154</sup>

Environmental requirements also reinforce a number of regulatory laws and statutes, including Title VI of the Civil Rights Act of 1964,<sup>155</sup> the National Environmental Policy Act of 1969,<sup>156</sup> and the Federal-Aid Highway Act of 1970.<sup>157</sup> Title VI of the Civil Rights Act of 1964 states, “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimina-

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149. *Id.*

150. Surface Transp. Pol’y Project, Abstract, *Building on TEA-21: Four Challenges for TEA-3*, at <http://www.transact.org/platform.asp> (last visited May 16, 2004) [hereinafter STPP, Abstract]; Surface Transp. Pol’y Project, *Building on TEA-21: Four Challenges for TEA-3* (providing a more in depth analysis of each of the four stated challenges), available at <http://www.transact.org/PDFs/platform.pdf> (last visited May 16, 2004) [hereinafter STPP, *Building on TEA-21*].

151. STPP, Abstract, *supra* note 150; STPP, *Building on TEA-21*, *supra* note 150.

152. Exec. Order No. 12,898, 3 C.F.R. 859 (1995), available at [http://www.epa.gov/compliance/resources/policies/ej/exec\\_order\\_12898.pdf](http://www.epa.gov/compliance/resources/policies/ej/exec_order_12898.pdf) (last visited July 27, 2004); Kenneth R. Wyckle, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, U.S. Dep’t of Transp., Fed. Highway Admin. (Dec. 2, 1998), available at [http://www.fhwa.dot.gov/legregs/directives/orders/6640\\_23.htm](http://www.fhwa.dot.gov/legregs/directives/orders/6640_23.htm) (last visited July 27, 2004).

153. See Wis. Dep’t of Transp., *Environmental Justice* (explaining that Executive Order 12,898 reinforces Title VI of the Civil Rights Act of 1964) [hereinafter Wis. DOT], available at <http://www.dot.wisconsin.gov/projects/env/justice> (last visited July 25, 2004).

154. See *infra* note 158 and accompanying text.

155. See Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d (2003).

156. 42 U.S.C. § 4332 (2003).

157. Pub. L. No. 91-605, 84 Stat. 1713 (codified at 23 U.S.C. § 109(j) (2003)).

tion under any program or activity receiving Federal financial assistance."<sup>158</sup>

The 1994 Executive Order also focuses on the National Environmental Policy Act ("NEPA"),<sup>159</sup> a law that established policy goals for the protection, maintenance, and enhancement of the environment.<sup>160</sup> NEPA's goal is to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing environment."<sup>161</sup> NEPA requires federal agencies to prepare a detailed statement on the environmental effects of proposed federal actions that significantly affect the quality of human health.<sup>162</sup>

The Executive Order calls for improved methodologies for assessing and mitigating health effects from multiple and cumulative exposure.<sup>163</sup> It also provides for collection of data on low-income and minority populations that may be disproportionately at risk.<sup>164</sup> The Executive Order further calls for environmental health impact studies on people who subsist on fish and wildlife, and it encourages the affected populations to participate in the various phases of assessment and mitigation.<sup>165</sup>

Then, on April 15, 1997, the Department of Transportation issued its Order on Environmental Justice, requiring the agency to comply with the Executive Order within the framework of existing laws, regulations, and guidance.<sup>166</sup> In December 1998, the Federal Highway Administration issued an Order requiring the agency to incorporate environmental justice in all its programs, policies, and activities.<sup>167</sup>

## V. SUBURBAN SPRAWL AND HEALTH

In *Sprawl City: Race, Politics and Planning in Atlanta*, the authors documented that government-subsidized sprawl has substan-

158. 42 U.S.C. § 2000d.

159. 42 U.S.C. § 4332.

160. *See id.*

161. 42 U.S.C. § 4331(b)(3) (2003).

162. 42 U.S.C. § 4332; *see also* Exec. Order No. 12,898, 3 C.F.R. 859 (1995), *available at* [http://www.epa.gov/compliance/resources/policies/ej/exec\\_order\\_12898.pdf](http://www.epa.gov/compliance/resources/policies/ej/exec_order_12898.pdf) (last visited July 25, 2004); Wis. DOT, *supra* note 153.

163. Exec. Order No. 12,898, 3 C.F.R. 859; *see* Wis. DOT, *supra* note 153.

164. Exec. Order No. 12,898, 3 C.F.R. 859; *see* Wis. DOT, *supra* note 153.

165. Exec. Order No. 12,898, 3 C.F.R. 859.

166. U.S. Dep't of Transp., *Order to Address Environmental Justice in Minority and Low-Income Populations* (Apr. 15, 1997), *available at* [http://www.fhwa.dot.gov/environment/ejustice/dot\\_ord.htm](http://www.fhwa.dot.gov/environment/ejustice/dot_ord.htm) (last visited July 27, 2004); Notice of Final Order, 62 FED. REG. 18,377 (1997).

167. Wyckle, *supra* note 152.

tial social equity, civil rights, and health implications.<sup>168</sup> Suburban sprawl is fueled by the “iron triangle” of finance, land use planning, and transportation service delivery.<sup>169</sup> Sprawl-fueled growth is widening the gap between the “haves” and “have-nots.”<sup>170</sup> Suburban sprawl has clear social and environmental effects.<sup>171</sup> The *social effects* of suburban sprawl include concentration of urban core poverty, closed opportunity, limited mobility, economic disinvestment, social isolation, and urban/suburban disparities that closely mirror racial inequities.<sup>172</sup> The *environmental effects* of suburban sprawl include urban infrastructure decline, increased energy consumption, automobile dependency, threats to public health and the environment, including air pollution, flooding, and climate change, and threats to farm land and wildlife habitat.<sup>173</sup>

Many jobs have shifted to the suburbs and communities where public transportation is inadequate or nonexistent.<sup>174</sup> The exodus of low-skilled jobs to the suburbs disproportionately affects central-city residents, particularly people of color, who often face more limited choice of housing location and transportation in growing areas.<sup>175</sup> Between 1990 and 1997, jobs on the fringe of metropolitan areas grew by 19% versus 4% job growth in core areas.<sup>176</sup> While many new jobs are being created in the suburbs, the majority of job opportunities for low-income workers are still located in central cities.<sup>177</sup>

Suburbs are increasing their share of office space, while central cities see their share declining.<sup>178</sup> The suburban share of the met-

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168. Bullard, *Introduction*, *supra* note 8, at 2.

169. *See* Buzbee, *supra* note 43, at 91-100.

170. Bullard, *Introduction*, *supra* note 8, at 5-7.

171. *See, e.g., id.* at 11-16 (describing the social and environmental deterioration in the Atlanta area due to sprawl).

172. Bullard, *Introduction*, *supra* note 8, at 1-16; Angela Glover Blackwell, *Promoting Equitable Development*, 34 *IND. L. REV.* 1273, 1273-77 (2001).

173. Bullard, *Introduction*, *supra* note 8, at 1-16; Alan Ehrenhalt, *New Recruits in the War on Sprawl*, *N.Y. TIMES*, Apr. 13, 1999, at A23.

174. Bullard, *Introduction*, *supra* note 8, at 1.

175. *Id.* at 5-6.

176. Robert D. Bullard et al., *Race, Equity, and Smart Growth: Why People of Color Must Speak for Themselves*, Apr. 9, 2004, available at <http://socialclass.org/modules.php?op=modload&name=News&file=article&sid=211&mode=thread&order=0&thold=0> (last visited July 27, 2004).

177. Qin Shen, *Location Characteristics of Inner-City Neighborhoods and Employment Accessibility of Low-wage Workers*, in *ENVIRONMENT AND PLANNING B: PLANNING AND DESIGN* 25, 345-65 (1998).

178. Robert E. Lang, Brookings Inst., *Office Sprawl: The Evolving Geography of Business*, 2000, at 1, available at <http://www.brook.edu/dybdocroot/es/urban/officesprawl/lang.pdf> (last visited July 27, 2004).

ropolitan office space is 69.5% in Detroit, 65.8% in Atlanta, 57.7% in Washington, D.C., 57.4% in Miami, and 55.2% in Philadelphia.<sup>179</sup> Getting to these suburban jobs without a car is next to impossible. It is no accident that Detroit leads in suburban “office sprawl.” Detroit is also the most segregated big city in the United States<sup>180</sup> and the only major metropolitan area without a regional transit system.<sup>181</sup> Detroit really is the Motor City—only about 2.4% of metropolitan Detroiters use transit to get to work.<sup>182</sup>

Transportation-related sources account for over 30% of the primary smog-forming pollutants emitted nationwide and 28% of the fine particulates.<sup>183</sup> Vehicle emissions are the main reasons 121 Air Quality Districts in the United States are in noncompliance with the 1970 Clean Air Act’s National Ambient Air Quality Standards.<sup>184</sup> Over 140 million Americans, of whom 25% are children, live, work, and play in areas where air quality does not meet national standards.<sup>185</sup> Emissions from cars, trucks, and buses cause 25-51% of the air pollution in the nation’s non-attainment areas.<sup>186</sup> Transportation related emissions also generate more than a quarter of the greenhouse gases.<sup>187</sup>

Improvements in transportation investments and air quality are of special significance to African Americans and other people of color who are more likely to live in areas with reduced air quality when compared to whites.<sup>188</sup> National Argonne Laboratory re-

179. *Id.* at 5.

180. Reynolds Farley et al., *Continued Racial Residential Segregation in Detroit: “Chocolate City, Vanilla Suburbs” Revisited*, 4 J. HOUS. RES. 1, 1-2 (1993), available at [http://www.knowledgeplex.org/kp/text\\_document\\_summary/scholarly\\_article/relfiles/jhr\\_0401\\_farley.pdf](http://www.knowledgeplex.org/kp/text_document_summary/scholarly_article/relfiles/jhr_0401_farley.pdf) (last visited July 27, 2004); John A. Powell, *Thinking Big: The Segregated North Forty Years After the Civil Rights Movement, Jim Crow is Alive and Well and Living in Our Suburbs*, BOSTON GLOBE, Mar. 23, 2003, at H12.

181. See Neal Peirce, *A Veto and a Breakthrough: Detroit Transit Thriller*, Jan. 12, 2003, available at [http://www.napawash.org/pc\\_local\\_state/peirce/peirce\\_1\\_12\\_03.html](http://www.napawash.org/pc_local_state/peirce/peirce_1_12_03.html) (last visited July 27, 2004); see also Press Release, General Motors, *supra* note 93.

182. U.S. Dep’t of Transp., Fed. Highway Admin., *Journey to Work Profiles for Large Metropolitan Areas*, available at <http://www.fhwa.dot.gov/ctpp/jtw/jtw8.htm#det> (last visited May 17, 2004).

183. See James S. Cannon *Testimony Before the Senate Fin. Comm.* (July 10, 2001) (testifying on behalf of INFORM, Inc.) [hereinafter Cannon], available at [http://www.informinc.org/opinions\\_cannon.php](http://www.informinc.org/opinions_cannon.php) (last visited July 27, 2004).

184. See *id.*

185. Am. Pub. Transp. Ass’n, *The Benefits of Public Transportation: The Route to Better Personal Health* at 2, available at [http://www.apta.com/research/info/online/documents/better\\_health.pdf](http://www.apta.com/research/info/online/documents/better_health.pdf) (last visited July 27, 2004).

186. *Id.*; see also Cannon, *supra* note 183.

187. See Cannon, *supra* note 183.

188. See *infra* notes 189-91 and accompanying text.

searchers discovered that 57% of whites, 65% of African Americans, and 80% of Latinos lived in the 437 counties that failed to meet at least one of the EPA ambient air quality standards.<sup>189</sup> A 2000 study from the American Lung Association shows that children of color are disproportionately represented in areas with high ozone levels.<sup>190</sup> Additionally, 61.3% of Black children, 69.2% of Hispanic children and 67.7% of Asian-American children live in areas that exceed the 0.08 ppm ozone standard, while only 50.8% of white children live in such areas.<sup>191</sup>

Reduction in motor vehicle emissions can have marked health improvements. For example, the CDC reports that “when the Atlanta Olympic Games in 1996 brought about a reduction in auto use by 22.5%, asthma admissions to ERs and hospitals also decreased by 41.6%.”<sup>192</sup> The CDC researchers also concluded that “less driving, better public transport, well designed landscape and residential density will improve air quality more than will additional roadways.”<sup>193</sup> Excessive ozone pollution contributed to 86,000 asthma attacks in Baltimore; 27,000 in Richmond, and 130,000 in Washington, D.C.<sup>194</sup>

Air pollution from vehicle emissions causes significant amounts of illness, hospitalization, and premature death.<sup>195</sup> A 2002 study in *Lancet* reports a strong causal link between ozone and asthma.<sup>196</sup> Ground-level ozone may exacerbate health problems such as asthma, nasal congestions, throat irritation, respiratory tract inflammation, reduced resistance to infection, changes in cell func-

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189. Dee R. Wernette & Leslie A. Nieves, *Breathing Polluted Air: Minorities are Disproportionately Exposed*, 18 ENVTL. PROTECTION AGENCY J., Mar. 1992, at 16-17.

190. Am. Lung Ass'n, *Children & Ozone Air Population Fact Sheet*, Sept. 2000, available at <http://www.lungusa.org> (last visited July 27, 2004).

191. *Id.*

192. Richard J. Jackson & Chris Kochtitzky, Sprawl Watch Clearing House, *Creating a Healthy Environment: The Impact of the Built Environment on Public Health*, 2001, at 3, available at <http://www.sprawlwatch.org/health.pdf> (last visited July 27, 2004).

193. *Id.*

194. ABT Assocs., *Adverse Health Effects Associated with Ozone in the Eastern United States: Executive Summary ES-8*, 1999, available at <http://www.abtassoc.com/reports/ES-ozone.pdf> (last visited July 27, 2004).

195. Bernie Fischlowitz-Roberts, *Air Pollution Fatalities Now Exceed Traffic Fatalities 3 to 1*, EARTH POL'Y INST., Sept. 17, 2002, available at <http://www.earth-policy.org/Updates/Update17.htm> (last visited July 27, 2004).

196. McConnell et al., *Asthma in Exercising Children Exposed to Ozone: A Cohort Study*, THE LANCET, 2002, at 386-91.

tion, loss of lung elasticity, chest pains, lung scarring, formation of lesions within the lungs, and premature aging of lung tissues.<sup>197</sup>

Air pollution claims 70,000 lives a year, nearly twice the number killed in traffic accidents.<sup>198</sup> A 2001 CDC report, *Creating a Healthy Environment: The Impact of the Built Environment on Health*, points a finger at transportation and sprawl as major health threats.<sup>199</sup> Although it is difficult to put a single price tag on the cost of air pollution, estimates range from \$10 billion to \$200 billion per year.<sup>200</sup> Asthma is the number one reason for childhood emergency room visits in most major cities in the country.<sup>201</sup> The hospitalization rate for African Americans is three to four times the rate for whites.<sup>202</sup> African Americans are three times more likely than whites to die from asthma.<sup>203</sup>

Getting sick is complicated for the nation's uninsured. Blacks and Hispanics are most at risk of being uninsured.<sup>204</sup> Blacks and Hispanics now comprise 52.6% of the 43 million Americans without health insurance.<sup>205</sup> Nearly one-half of working-age Hispanics lacked health insurance for all or part of the year prior to the survey, as did almost one-third of African Americans.<sup>206</sup> In comparison, one-fifth of whites and Asian Americans ages eighteen to sixty-four lacked coverage for all or part of the year.<sup>207</sup>

In addition to health and environment reasons for the United States to move its transportation beyond oil to more secure and

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197. U.S. Env'tl. Protection Agency, OAQPS Staff, *Review of National Ambient Air Quality Standards for Ozone; Assessment of Scientific and Technical Information 1-10* (1996); Haluk Ozkaynk et al., *Ambient Ozone Exposure and Emergency Hospital Admissions and Emergency Room Visits for Respiratory Problems in Thirteen U.S. Cities*, in AM. LUNG ASS'N, *BREATHLESS: AIR POLLUTION AND HOSPITAL ADMISSIONS/EMERGENCY ROOM VISITS IN 13 CITIES 2, 2-7* (1996).

198. Fischlowitz-Roberts, *supra* note 195.

199. JACKSON & KOCHTITZKY, *supra* note 192, at 5.

200. DAVID BOLLIER, *HOW SMART GROWTH CAN STOP SPRAWL: A BRIEFING GUIDE FOR FUNDERS 9* (1998).

201. Ozkaynk et al., *supra* note 197, at 2-7.

202. *Id.*

203. CDC, Nat'l Ctr. for Health Care Statistics, *Death Rates from 72 Selected Causes by Year, Age Groups, Race, and Sex: United States 1979-98*, 2000, at 58.

204. Robert J. Mills & Shailesh Bhandari, *Health Insurance Coverage in the United States: 2002*, U.S. Census Bureau, at 7 (2003), available at <http://www.census.gov/prod/2003pubs/p60-223.pdf> (last visited July 27, 2004).

205. *Id.*

206. Karen Scott Collins et al., Commonwealth Fund, *Diverse Communities, Common Concerns: Assessing Health Care Quality for Minority Americans*, Mar. 2002, at vi, 5, available at [http://www.cmwf.org/programs/minority/collins\\_diversecommunities\\_523.pdf](http://www.cmwf.org/programs/minority/collins_diversecommunities_523.pdf) (last visited July 27, 2004).

207. *Id.*

sustainable alternative fuels, there are compelling energy security and economic strength reasons to invest in clean fuels technology.<sup>208</sup> The United States has over 217 million cars, buses, and trucks that consume 67% of the nation's oil.<sup>209</sup> Transportation-related oil consumption in the United States has risen 43% since 1975.<sup>210</sup> The United States accounts for almost one-third of the world's vehicles.<sup>211</sup> With just 5% of the world's population, Americans consume more than 25% of the oil produced worldwide.<sup>212</sup> More importantly, almost 60% of our oil comes from foreign sources.<sup>213</sup>

### CONCLUSION

Transportation is a basic ingredient for quality of life indicators such as health, education, employment, economic development, access to municipal services, residential mobility, and environmental quality. Transportation continues to be a civil rights issue.<sup>214</sup> Improvements in transportation investments and air quality are of special needs to low-income persons and people of color, who are concentrated in the nation's most polluted urban centers.<sup>215</sup> Transportation investments, enhancements, and financial resources, if used properly, can bring new life and revitalization to much needed urban areas.

Race and class dynamics operate to isolate many low-income and people of color central city residents from expanding suburban job centers.<sup>216</sup> Transportation dollars have fueled suburban highway construction and job sprawl.<sup>217</sup> Some transportation projects have cut wide paths through low-income and people of color neighborhoods, physically isolated residents from their institutions and

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208. Cannon, *supra* note 183; *Facts and Myths Behind Foreign Oil Dependency: Hearing on Oil Diplomacy Before the House Comm. on Int'l Relations* (June 20, 2002) (statement of Rep. Tom Lantos, D-Cal) [hereinafter Lantos], available at [http://www.house.gov/international\\_relations/democratic/statement\\_oil\\_062002.html](http://www.house.gov/international_relations/democratic/statement_oil_062002.html) (last visited July 27, 2004); Joanna D. Underwood, *Less Oil, More World Security*, *EARTH TIMES*, Nov. 9, 2001, available at <http://www.cleanenergyfuels.com/html/newsevents/articles/11-09-01.html> (last visited July 27, 2004).

209. Cannon, *supra* note 183; Lantos, *supra* note 208; Underwood, *supra* note 208.

210. Cannon, *supra* note 183; Underwood, *supra* note 208.

211. Underwood, *supra* note 208.

212. *Id.*

213. Cannon, *supra* note 183.

214. See Bullard & Johnson, *supra* note 1, at 8-9; Lewis, *supra* note 2, at xi-xii; see also Bogren, *supra* note 6; Garrett & Taylor, *supra* note 2, at 6.

215. See *supra* notes 183-203 and accompanying text.

216. See *supra* notes 172, 174-82 and accompanying text.

217. See Bullard, *Introduction*, *supra* note 8, at 1-16.

businesses, disrupted once-stable communities, displaced thriving businesses, contributed to urban sprawl, subsidized infrastructure decline, created traffic gridlock, and subjected residents to elevated risks from accidents, noise, spills, and explosions from vehicles carrying hazardous chemicals and other dangerous materials.<sup>218</sup>

The environmental justice movement has set out clear goals of eliminating unequal enforcement of the nation's environmental, public health, housing, employment, land use, civil rights, and transportation laws.<sup>219</sup> Transportation is a key ingredient in any organization's plan to build economically viable and sustainable communities. State DOTs and Metropolitan Planning Organizations ("MPO") have a major responsibility to ensure that their programs, policies, and practices do not discriminate against or adversely and disproportionately impact people of color and the poor.

### Policy Recommendations

*Transportation Equity Act of the 21st Century ("TEA-21"):* Build on, preserve, and strengthen the environmental, health, air quality, equity, and historic preservation framework and provisions of TEA-21.<sup>220</sup> TEA-21 reauthorization will need to address improved performance and accountability, mobility and choices, safety, economic prosperity, energy efficiency, and new transportation investments that meet the needs and challenges of creating healthy, livable, and just communities.

*Increase Funding to MPOs:* Increase funding to Metropolitan Planning Organizations and provide them with greater flexibility to tailor regional transportation solutions to their own distinct locally-defined needs.

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218. See, e.g., Deborah Kong, *Filipino Americans Work to Preserve Heritage*, HONOLULU STAR-BULL., Dec. 26, 2002 ("By the 1930s, Stockton was home to the largest Filipino population outside the Philippines. But a cross-town freeway cut through the neighborhood in the early 1970s, and the once-vibrant enclave is now just a shadow of what it was."), available at <http://starbulletin.com/2002/12/26/news/story8.html> (last visited July 27, 2004).

219. See Robert D. Bullard, *It's Not Just Pollution, POVERTY, HEALTH & ENVY* (Feb. 6, 2003) (describing the national and international scope of the environmental justice movement and explaining some of the movement's objectives), available at <http://www.ourplanet.com/imgversn/122/bullard.html> (last visited July 27, 2004); Bullard & Johnson, *supra* note 1, at 11 (describing the "environmental justice framework" which "rests on an analysis of strategies to eliminate unfair, unjust and inequitable conditions and decisions" and "incorporates the principle of the right of all individuals to be protecte[d] from environmental degradation").

220. See *supra* notes 150-51 and accompanying text.

*Public Participation:* Ensure greater stakeholder participation and public involvement to receive effective transportation decision making.<sup>221</sup> The statewide transportation agencies and MPOs must design and implement MPO public involvement strategies with community-based organizations to identify minority and low-income populations, their concerns, and facilitate their involvement into transportation decision making.

*Disproportionate and Adverse Impacts:* Ensure the use of performance measures to assess equity impacts (benefits and burdens) of state DOTs and MPOs transportation planning, investment decisions, and policies impact on Title VI protected classes, minority populations, and low-income populations.

*Research and Evaluation:* Improve research, data collection, and assessment techniques to analyze disparities that exist when it comes to transportation benefits. Incorporate an automated mapping system (Geographical Information System) that joins socioeconomic data with transportation plans.<sup>222</sup>

*Interagency Cooperation and Planning:* Promote interagency cooperation in transportation planning, development, and program implementation to achieve livable, healthy, and sustainable communities. An interagency approach offers great promise in addressing social equity and environmental justice concerns. Solutions for many of these local, regional, and state transportation problems will require several agencies working together with the public.<sup>223</sup>

*Environmental Justice and Certification Review:* Incorporate environmental justice as a benchmark for MPO recertification to ensure that compliance of federal funds for transportation projects

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221. See *Foreword* to Howard/Stein-Hudson Assocs., Inc. & Parsons Brinckerhoff Quade and Douglas, *Public Involvement Techniques for Transportation Decision-making*, at 3-5 (1996) [hereinafter *Public Involvement Techniques*], available at <http://www.fhwa.dot.gov/reports/pittd/cover.htm> (last visited July 27, 2004).

222. Ashleigh Gilbert, Ctr. for Cmty. Change, *Ensuring Justice as a Department of Transportation Priority*, at 8 (2002) (on file with author).

223. See, e.g., U.S. Dep't of Transp., Intelligent Transp. Sys., *Let's Talk It Over: Interagency Cooperation Facilitates Success; A Case Study: The New York, New Jersey, Connecticut Metropolitan Area TRANSMIT Operational Test; Ensuring Integration of Intelligent Transportation Systems Products and Services*, at 7 (2000) (explaining that "[t]he interagency cooperation that was established in the NY/NJ/CT Metropolitan Area continues to benefit the region"), available at [http://www.itdocs.fhwa.dot.gov/jpodocs/repts\\_te/8v9011.pdf](http://www.itdocs.fhwa.dot.gov/jpodocs/repts_te/8v9011.pdf) (last visited July 27, 2004); *Public Involvement Techniques*, *supra* note 221, at 3-5 (advocating cultivation of public involvement in transportation decision-making).

include public input and public involvement in the transportation decision making process.<sup>224</sup>

*New Guidelines for Financial Disclosure for Transportation Planning:* Encourage MPOs to develop new guidelines in publicizing their transportation improvement program documents.<sup>225</sup> MPOs, DOTs, and the Federal Highway Administration (“FHWA”) need to create a common system of project tracking and data-sharing among themselves and with community stakeholders.<sup>226</sup>

*Employment Transportation Projects Partnerships:* Implement employment transportation projects that are community-based and consist of training and educating community residents for transportation jobs, and conduct transportation job fairs in low-income minority communities<sup>227</sup> because they are transit dependent and rely on others for their mobility.

*Baseline Assessment Tools:* There is a need for increased knowledge in the development of improved baseline transportation equity assessments that estimate current levels of inaccessibility and adverse impacts; improved mobility assessment methods; air pollution and noise models that are more capable of micro-scale (neighborhood analysis); more effective methods of reaching affected populations and gauging neighborhood-level priorities regarding elements needing preservation or enhancement; better predictive approaches for estimating trip geography and travel desires of low-income populations and minority populations in specific situations; location analysis of public and private facilities that take into account protected populations’ abilities to conduct their daily activities; and improved techniques for communicating probable impact, positive and negative, of contemplated transportation system changes.<sup>228</sup>

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224. Gilbert, *supra* note 222, at 6.

225. Laura Russ, Ctr. for Cmty. Change, *Seeking Direction: Developing New Guidelines for Financial Disclosure in Transportation Planning Practice*, at 11-12 (2002), available at [http://transportationequity.org/pdfs/TEN\\_SeekingDirection.pdf](http://transportationequity.org/pdfs/TEN_SeekingDirection.pdf) (last visited July 27, 2004).

226. *Id.*

227. Carolyn Jeskey & Melanie Bush, Cmty. Transp. Ass’n & Ctr. for Cmty. Change, *Our Role in the Process: A Grassroots Guide to Building Community-Based Employment Transportation*, at 35 (2002), available at [http://www.ctaa.org/images/1\\_Grassroots%20Guide.pdf](http://www.ctaa.org/images/1_Grassroots%20Guide.pdf) (last visited July 27, 2004).

228. David J. Forkenbrock & Lisa A. Schweitzer, *Environmental Justice and Transportation Investment Policy*, at 68 (1997), available at <http://www.oim.dot.state.mn.us/PDPA/files/EJ97/EJreport.pdf> (last visited July 27, 2004).

*Clean Fuel:* There is an urgent need to move the nation's transportation systems away from its current over-dependence on oil.<sup>229</sup> Research needs to be conducted to determine what types of regulatory reform is needed to remove the obstacles to transitioning toward a non-oil based transportation system. Federal and state governments need to serve as a catalyst for promoting alternative fuel such as natural gas, fuel cell systems, and renewable hydrogen. An interagency approach is needed since no one federal agency can address the issue alone.

New government incentives and funding are needed to accelerate the deployment of clean fuel vehicle and infrastructure enhancements for transit, government vehicle fleets, delivery trucks, including garbage trucks, taxis, airport vehicles, school buses, and others. Over seventy cities in the United States are using natural-gas buses in their fleet.<sup>230</sup> Grants, assistance, and other incentives are also needed to promote public and private sector partnerships and alternative fuel and hydrogen vehicle training and certification.<sup>231</sup> The United States Department of Energy ("DOE") has a major role in public education,<sup>232</sup> and outreach efforts need to be expanded.

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229. Cannon, *supra* note 183; Lantos, *supra* note 208; Underwood, *supra* note 208.

230. Underwood, *supra* note 208; *see* Cannon, *supra* note 183 (noting that "[o]ver 7 percent of buses in the US are using alternative fuels (nearly all natural gas)").

231. *E.g.*, 49 C.F.R. Part 538 (2004) (extending financial incentives "to encourage the continued production of motor vehicles capable of operating on alternative fuels), available at <http://www.nhtsa.dot.gov/cars/rules/CAFE/Rulemaking/AMFAFinalRule2004.pdf> (last visited July 27, 2004); Press Release, U.S. Dep't of Energy, NHTSA Extends Dual-Fuel Credit for Fuel Economy Through Model Year 2008 (Feb. 18, 2004) (explaining that "[t]he DOT's National Highway Traffic Safety Administration expects that the four-year extension of the incentive means that manufacturers will produce more dual-fueled vehicles . . . [and] that the U.S. vehicle fleet will have greater capability to operate on . . . domestic fuel"), available at <http://www.nhtsa.dot.gov/nhtsa/announce/press/pressdisplay.cfm?year=2004&filename=pr08-04.html> (last visited July 27, 2004).

232. For example, the DOE recently held a series of workshops on hydrogen energy for state and local government officials. *See, e.g.*, Press Release, U.S. Dep't of Energy, Department of Energy Continues "Hydrogen 101" Education Workshop Series in Austin, TX (Apr. 16, 2004) (providing information on the "Hydrogen 101" education initiative), available at [http://www.energy.gov/engine/content.do?PUBLIC\\_ID=15601&BT\\_CODE=PR\\_PRESSRELEASES&TT\\_CODE=PRESSRELEASE](http://www.energy.gov/engine/content.do?PUBLIC_ID=15601&BT_CODE=PR_PRESSRELEASES&TT_CODE=PRESSRELEASE) (last visited July 27, 2004).

