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SMART GROWTH AND SUSTAINABLE TRANSPORTATION: CAN WE GET THERE FROM HERE?

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SMART GROWTH AND SUSTAINABLE TRANSPORTATION: CAN WE GET THERE FROM HERE?

Cover Page Footnote

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SMART GROWTH AND SUSTAINABLE TRANSPORTATION: CAN WE GET THERE FROM HERE?

*Oliver A. Pollard, III**

INTRODUCTION

As the U.S. Supreme Court has observed, “[D]riving an automobile [is] a virtual necessity for most Americans.”¹ Transportation and land use laws and policies have played a primary role in creating this dependence on motor vehicles; they have spurred scattered suburban development and promoted driving. At the same time these laws and policies have made other transportation options—such as public transit, bicycling, and walking—less practical, desirable, and safe.² As a result, driving is often a necessity rather than a choice.

The dominant transportation and development approaches of the past fifty years have offered significant benefits, including job creation, economic growth, and increased mobility. However, the adverse consequences of these approaches are substantial. These consequences include severe air and water pollution; accelerating land consumption; worsening traffic congestion; record expenditures of public funds for road projects and far-flung development; isolation of senior citizens and others who cannot drive; lack of access to jobs for low income individuals; deteriorating older suburban and urban areas; and threats to national security due to dependence on imported oil.³

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1. *Wooley v. Maynard*, 430 U.S. 705, 715 (1977).

2. This Article focuses on land-based personal travel, rather than air, water, or freight transportation. It focuses on the United States, although countries worldwide face similar issues. As one author noted, the issue of sustainable transportation “is becoming acute in the developed countries of the world that are already feeling the negative consequences of transportation use, and it will intensify soon in developing countries as they acquire the resources to build and expand their transportation systems.” Barbara C. Richardson, *Toward a Policy on a Sustainable Transportation System*, 1670 TRANSP. RES. REC. 27 (1999).

3. See, for example, F. KAID BENFIELD, MATTHEW D. RAIMI & DONALD D.T. CHEN, *ONCE THERE WERE GREENFIELDS: HOW URBAN SPRAWL IS UNDERMINING AMERICA’S ENVIRONMENT, ECONOMY AND SOCIAL FABRIC* (1999) for an overview of these impacts.

New paradigms are emerging to address these shortcomings. Changes to transportation policies have begun to move to a more sustainable⁴ approach that reduces subsidies for driving, offers a broader range of transportation choices, and addresses the links between transportation, land use development, environmental quality, and community livability.⁵ In addition, a flurry of state and local initiatives have begun to provide alternatives to scattered development and excessive motor vehicle use.⁶ These initiatives, often lumped together under the label “smart growth,”⁷ vary widely.⁸ They include efforts to develop a more balanced transportation system; revitalize existing communities; preserve open space and farmland; and promote development that offers a variety of land uses in close proximity and that can support public transit, bicycling, and walking. Public opinion polls and ballot box returns indicate strong public support for these steps.⁹

4. The term “sustainability” has multiple meanings. The most widely cited definition is to “meet the needs of the present without compromising the ability of future generations to meet their own needs.” THE WORLD COMM’N ON ENV’T AND DEV. (THE BRUNDTLAND COMM’N), OUR COMMON FUTURE 43 (1987). The concept of sustainability includes economic, equity, and environmental aspects, all of which are relevant to transportation. This Article will primarily focus on environmental sustainability and consider a sustainable transportation system to be one that meets the present transportation needs of all people (not just those who can drive) without harming the environment.

5. These changes are discussed more fully in Part II of this Article.

6. See, e.g., PHYLLIS MYERS, THE BROOKINGS INST. CTR. ON URBAN AND METRO. POL’Y, LIVABILITY AT THE BALLOT BOX: STATE AND LOCAL REFERENDA ON PARKS, CONSERVATION AND SMARTER GROWTH, ELECTION DAY 1998 (1999), available at <http://www.brook.edu/dybdocroot/es/urban/myers.pdf>; PHYLLIS MYERS & ROBERT PUENTES, THE BROOKINGS INST. CTR. ON URBAN AND METRO. POL’Y, GROWTH AT THE BALLOT BOX: ELECTING THE SHAPE OF COMMUNITIES IN NOVEMBER 2000 24 (2001), available at <http://www.brook.edu/dybdocroot/es/urban/balotbox/finalreport.pdf>.

7. Smart growth is an evolving, imprecise concept that is being promoted as the leading alternative to sprawl. Smart growth advocates frequently state that what constitutes smart growth varies depending on the state, locality, or community. However, a key characteristic of smart growth is that it does not seek to stop development; rather, it seeks to accommodate or even promote economic growth, while protecting the environment, creating healthier communities, and reducing the costs of providing services for new development. See, e.g., SMART GROWTH NETWORK, WHAT IS SMART GROWTH? 4-5 (2001), available at <http://www.epa.gov/dced/pdf/whtissg4v2.pdf>.

8. See Oliver A. Pollard, III, *Smart Growth: The Promise, Politics, and Potential Pitfalls of Emerging Growth Management Strategies*, 19 VA. ENVTL. L.J. 247 (2000), reprinted in 2001 ZONING AND PLANNING LAW HANDBOOK 829 (West Group ed., 2001)(discussing smart growth initiatives and concepts).

9. In a recent national poll, seventy-eight percent of people surveyed supported state governments funding schools, roads, and other services in existing communities rather than encouraging development in the countryside. SMART GROWTH AMERICA, GREETINGS FROM SMART GROWTH AM. 2-43 (2001) (citing Belden, Russonello &

Smart growth is not anti-growth, and sustainable transportation is not necessarily anti-automobile. Rather, these paradigms seek to reduce the adverse impacts of current land use and transportation patterns and practices, while preserving their benefits. Central to these efforts is a focus on reorienting current public policies that promote costly and destructive transportation and land use development patterns towards more economically efficient, equitable, and environmentally sound outcomes that strengthen communities and enhance the quality of life.

Sustainable transportation and smart growth are linked. Smarter growth patterns will be difficult to achieve without more sustainable transportation approaches; significant transportation improvements will be difficult to achieve without more sensible development practices.

The first Part of this Article provides an overview of current transportation policies, as well as their inconsistency with the smart growth approach. Part II examines steps that can be taken to create a more efficient and less destructive transportation system, as well as some of the hurdles to transportation reform. Part III concludes the Article by considering recent events in Atlanta—the country's most sprawling metropolitan area—that highlight both opportunities and hurdles for smart growth and sustainable transportation.

I. HOW DID WE GET HERE? ROADS, DRIVING, AND SPRAWL

Rapidly rising motor vehicle use and exploding suburban development have transformed the United States since World War II.¹⁰ These trends are integrally linked and mutually reinforcing: build-

Stewart, Support for Smart Growth Policies (Sept. 2-10, 2000) (unpublished study)). The same poll found that almost eight out of ten people support smart growth tools such as providing tax credits and low interest loans for rehabilitating historic properties and revitalizing city and older suburban neighborhoods. When asked to identify the best long-term solution for reducing traffic, seventy-five percent chose either public transportation or developing communities where less driving was needed. Only twenty-one percent supported road building. Other surveys have shown much greater public support for expanding public transportation and building new bikeways and sidewalks than for new highway construction. See FED. HIGHWAY ADMIN., MOVING AHEAD: THE AMERICAN PUBLIC SPEAKS ON ROADWAYS AND TRANSPORTATION IN COMMUNITIES 5 (2000).

10. See, e.g., JANE HOLTZ KAY, ASPHALT NATION 245 (1997); VUKAN R. VUCHIC, TRANSPORTATION FOR LIVABLE CITIES 2-18 (1999); Peter O. Muller, *Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis*, in THE GEOGRAPHY OF URBAN TRANSPORTATION (Susan Hanson ed., 2d ed. 1995).

ing more roads leads to more sprawl; more sprawl leads to more driving.¹¹

A. Public Policies Promoting Motor Vehicle Use

Current transportation and development patterns are the result of many factors.¹² They are not, however, solely the result of individual preferences and market forces.¹³ Smart growth recognizes that public investments, regulatory policies, and tax policies shape the pace, scale, and location of development.¹⁴ Public policies also influence the mode, frequency, and distance of travel.

Federal, state, and local transportation policies have fueled auto-dependence and sprawl. For decades, these policies focused on building new roads to serve motor vehicles.¹⁵ Highway building was a major state and local expense by the 1920s. The defining transportation policy of the past century, however, was the Federal Aid Highway Act of 1956.¹⁶ This act launched an unprecedented effort to construct a 41,000-mile interstate highway system.¹⁷ As a recent survey of urban specialists concluded, "More than any other single measure, the 1956 act created the decentralized, automobile-

11. Robert Cervero, *Growing Smart by Linking Transportation and Urban Development*, 19 VA. ENVTL. L.J. 357, 359 (2000) ("Insidiously, sprawl and car-dependency feed off one another."); see also VUCHIC, *supra* note 10, at 23-92.

12. These factors include public policies, increasing affluence, personal preferences, demographics, and employment patterns.

13. See, e.g., Todd Litman, *Transportation Market Reforms for Sustainability*, 1702 TRANSP. RES. REC. 11-20 (2000).

14. See, e.g., DAVID BOLLIER, HOW SMART GROWTH CAN STOP SPRAWL: A FLEDGLING CITIZEN MOVEMENT EXPANDS 3 (1998) ("[P]ublic policy often gives highly preferential, subsidized treatment to sprawl. There is no 'level playing field' that allows efficient land use and transit alternatives (such as light rail transportation; compact, mixed-use neighborhoods; pedestrian-friendly town centers, etc.) to compete on an equal basis with sprawl. Indeed, public policy has traditionally been hostile to these alternatives." As Jane Jacobs observed forty years ago, "The immense new suburban sprawls of American cities have not come about by accident—and still less by the myth of free choice between cities and suburbs." JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* 308 (1961).

15. Michael Lewyn, *Suburban Sprawl: Not Just an Environmental Issue*, 84 MARQ. L. REV. 301, 312, 350 (2000) ("In sum, in most of America (especially in suburbs and smaller cities) government has rigged transportation systems to make driving a necessity for anything resembling a normal life. . . .").

16. Federal Aid Highway Act of 1956, 23 U.S.C. 101-118 (2002). The Act authorized what has been characterized as "the largest construction program in world history." Christopher B. Leinberger, *The Metropolis Observed*, URB. LAND, Oct. 1998, at 30.

17. See VUCHIC, *supra* note 10, at 93-127.

dependent metropolis we know today.”¹⁸ The federal government paid 90% of construction costs, states paid 10%, and localities paid nothing. During this period of unprecedented road-building, public transit received comparatively meager federal funding. This further skewed transportation decision making in favor of highway construction. Even today, federal spending on roads is almost five times as large as transit spending, and the disparity is often far greater at the state level.¹⁹

Highway funding is not the only public policy that influences travel behavior. Federal, state, and local government subsidies that encourage automobile use total hundreds of billions of dollars a year, including spending on maintaining roads, traffic control, and law and parking enforcement.²⁰ These subsidies make it cheaper for people to live further from where they work, shop, and engage in other activities, which spurs development on the fringes of existing communities and necessitates increased driving distances and frequency. In addition, subsidies for new roads have served as can openers to the countryside, opening previously inaccessible areas to development. As two conservative analysts concluded, the current dominance of motor vehicles as a transportation mode “reflects massive and sustained government intervention on behalf of automobiles.”²¹

18. U.S. EPA, *OUR BUILT AND NATURAL ENVIRONMENTS: A TECHNICAL REVIEW OF THE INTERACTIONS BETWEEN LAND USE, TRANSPORTATION, AND ENVIRONMENTAL QUALITY* 10 (2001) (quoting ROBERT FISHMAN, FANNIE MAE FOUND., *THE AMERICAN METROPOLIS AT CENTURY'S END: PAST AND FUTURE INFLUENCES* 10 (1999)), available at http://www.smartgrowth.org/pdf/built_environment/Chapter2.pdf.

19. In Virginia, for example, almost 85% of the current state transportation budget is devoted to roads, approximately 5% to transit, and less than 1% to pedestrian and bicycling projects. In many states, gasoline tax revenues are constitutionally or statutorily obligated to fund roads. As a result, “when there is a [transportation] problem, planners naturally turn to this highly funded alternative for the solution. Transit, meanwhile, competes with education and mental health for annual budget dollars.” Christopher Lee, *Transportation 2025*, URB. LAND, June 2000, at 60.

20. See STEPHEN H. BURRINGTON, CONSERVATION LAW FOUND., *ROAD KILL: HOW SOLO DRIVING RUNS DOWN THE ECONOMY* 27-29 (1994); JAMES J. MACKENZIE, ROGER C. DOWER & DONALD D.T. CHEN, WORLD RES. INST., *THE GOING RATE: WHAT IT REALLY COSTS TO DRIVE* 61 (1992). See generally PETER MILLER & HOHYN MOFFETT, NATURAL RES. DEF. COUNCIL, *THE PRICE OF MOBILITY: UNCOVERING THE HIDDEN COSTS OF TRANSPORTATION* (1993); Mark E. Hanson, *Automobile Subsidies and Land Use*, 58 J. OF THE AM. PLANNING ASS'N 60 (1992) (discussing federal spending to promote the use of automobiles). Some of these estimates also calculate externalities such as health and environmental impacts.

21. PAUL M. WEYRICH & WILLIAM S. LIND, *CONSERVATIVES AND MASS TRANSIT: IS IT TIME FOR A NEW LOOK?* 11 (1996).

Governmental regulatory policies also encourage auto-dependence and suburban sprawl. For example, local governments often adopt minimum parking requirements that mandate substantial free parking, encouraging people to drive more and further.²² By making driving cheaper and more convenient, these policies also discourage the use of other transportation modes. Parking policies also influence travel choices by making stores and office buildings less accessible to pedestrians and bicyclists. Increased distances between buildings, huge expanses of asphalt, and an increased likelihood of injury from motor vehicles make walking and bicycling less attractive.

Another type of regulatory policy that shapes transportation and land use are street design standards. These standards often focus exclusively on increasing the flow of automobile traffic, and mandate the construction of unnecessarily wide roads with high speed limits.²³ Such standards increase noise and pollution, reduce pedestrian safety, and harm neighborhood attractiveness.²⁴ They encourage people to drive by making alternative transportation modes less practical and safe, and they also contribute to accelerating land consumption.

Land use policies also shape travel behavior. Local zoning ordinances typically require land uses to be segregated, preventing homes from being located near offices, stores, or schools.²⁵ Designed to prevent incompatible land uses from adversely affecting one another, single-use zoning effectively dictates sprawling development patterns, requiring people to drive virtually everywhere for everything.²⁶ Substantial evidence suggests that residents of sprawling areas make more vehicle trips and drive longer distances than people living in more compact areas, and that they also use

22. See generally Donald C. Shoup, *The Trouble With Minimum Parking Requirements*, 33 *TRANSP. RES. PART A* 549 (1999); Richard W. Willson, *Suburban Parking Requirements: A Tacit Policy for Automobile Use and Sprawl*, 61 *J. AM. PLAN. ASS'N* 29, 30 (1995).

23. CONSERVATION LAW FOUND., *TAKE BACK YOUR STREETS: HOW TO PROTECT COMMUNITIES FROM ASPHALT AND TRAFFIC* 24-28 (1998).

24. See *id.*; see also DONALD APPLEYARD, *LIVABLE STREETS* 34-35 (1981); Michael Southworth & Eran Ben-Joseph, *Street Standards and the Shaping of Suburbia*, 61 *J. AM. PLAN. ASS'N* 65 (1995) (arguing that "current street standards [have] resulted in uniform, unresponsive suburban environments").

25. The United States Supreme Court upheld the validity of such zoning ordinances in *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1926), and thus traditional zoning is often referred to as "Euclidean zoning."

26. See, e.g., Lee R. Epstein, *Where Yards are Wide: Have Land Use Planning and Law Gone Astray?*, 21 *WM. & MARY ENVTL. L. & POL'Y REV.* 345, 347-50 (1997).

mass transit less and walk less.²⁷ As Robert Cervero has noted, “sprawl creates near total dependence on the private car.”²⁸

B. Consequences and Limitations of Current Approaches

Transportation policies centered on road-building and motor vehicle use have produced phenomenal mobility. Americans drove over 2.6 trillion miles on highways in 1998, double the rate in 1975.²⁹ This is an average of over 7.2 billion miles each day, the equivalent of eighty trips to the sun. The growing rate of automobile use has outpaced increases in population and the number of drivers. Between 1980 and 1997, the number of miles driven increased by sixty-three percent—over three times the rate of the population increase during that time.³⁰ The average trip length and the number of vehicle trips per person have risen, as has the amount of single occupancy motor vehicle use.³¹

There is increasing evidence of the limitations of a road-centered transportation approach. Mobility has begun to decline in many areas, as traffic congestion has worsened. A study of sixty-eight U.S. metropolitan areas found that in 1999 drivers wasted approximately 4.5 billion hours stuck in traffic.³² The average number of hours of delay per person per year more than tripled between 1982 and 1999, rising from eleven to thirty-six hours.³³ A recent report by the U.S. Department of Transportation acknowledged that despite record levels of funding, it is not possible to “build enough lanes or roads” to address congestion.³⁴

New and wider highways can generate significant new traffic without providing long-term congestion relief. Although new and expanded roads may temporarily alleviate congestion, they can rapidly fill up as commuters change their routes, time of travel, and

27. See BENFIELD ET AL., *supra* note 3, at 36; U.S. EPA, *supra* note 18.

28. Cervero, *supra* note 11, at 358.

29. BUREAU OF TRANSP. STATISTICS, U.S. DOT, NATIONAL TRANSPORTATION STATISTICS 2000, at 45 tbl. 1-29.

30. U.S. EPA, *supra* note 18, at 19 (citing Federal Highway Administration statistics).

31. BENFIELD ET AL., *supra* note 3, at 31.

32. DAVID SCHRANK & TIM LOMAX, THE 2001 URBAN MOBILITY REPORT (2001).

33. *Id.*

34. U.S. DOT, THE CHANGING FACE OF TRANSPORTATION 1-13 (2000). It has been estimated that 1800 miles of new highways and 2500 new lane-miles of streets would have had to have been built between 1998 and 1999 alone to have kept congestion from getting worse in sixty-eight major metropolitan areas. Alternatively, congestion levels between 1998 and 1999 would not have gotten worse if 6.1 million new trips had been taken by transit, carpooling, or some other mode of transportation. *Id.*

mode of travel to take advantage of the new capacity.³⁵ New road capacity also spurs further development and driving.³⁶ A report by the Commission on the Future of Transportation in Virginia concluded: "congestion increases as people move outward from urban centers, and additional lane miles of roads to accommodate the people lead to more development, and more people, and more congestion, and more lane miles, and around it goes."³⁷ As one civil engineer noted, "The rule is this: If you build it, they will come. It's called induced demand. Every mile of road you build induces people to drive."³⁸

Current transportation policies are not environmentally sustainable and do not promote smart growth. Current levels of road-building and motor vehicle use produce tremendous pollution, consume resources and land, and foster far-flung, low density development that is environmentally destructive and costly to serve.³⁹

Extensive road building and motor vehicle use⁴⁰ is linked to virtually every environmental problem, including air and water pollution; habitat destruction; loss of wetlands; global climate change; and waste disposal.⁴¹ For example, motor vehicles are a primary source of air pollution, particularly of carbon monoxide and the

35. See ANTHONY DOWNS, *STUCK IN TRAFFIC: COPING WITH PEAK-HOUR TRAFFIC CONGESTION* 27 (1992).

36. See Lewis M. Fulton, Robert B. Noland, Daniel J. Meszler & John V. Thomas, *A Statistical Analysis of Induced Travel Effects in the US Mid-Atlantic Region*, J. OF TRANSP. & STATISTICS, Apr. 2000, at 2; Mark Hansen, *Do New Highways Generate Traffic?*, ACCESS, Fall 1995, at 19-20; Mark Hansen & Yuanlin Huang, *Road Supply and Traffic in California Urban Areas*, 31 TRANSP. RES. A 205, 217 (1997). As one court noted, "Highways create demand for travel and [suburban] expansion by their very existence." *Sierra Club, Ill. Chapter v. U.S. DOT*, 962 F. Supp. 1037, 1043 (N.D. Ill. 1997).

37. COMM'N ON THE FUTURE OF TRANSPORTATION IN VA., INTERIM REPORT, H.R. Doc., at 12, 39 (1998).

38. Richard Perez-Pena, *I-287: Extend It and They Will Drive on It*, N.Y. TIMES, June 2, 1996, at 35. Another reason it may not be possible to build our way out of congestion is that, as a recent study found, building and widening roads can cause substantial traffic congestion and delay, and it can be years before the time lost due to construction-related delays is offset by the time saved by the new facility. SURFACE TRANSP. POLICY PROJECT, *ROAD WORK AHEAD: IS CONSTRUCTION WORTH THE WAIT?* (1999).

39. Numerous books and reports have explored and catalogued these impacts. See, e.g., BENFIELD ET AL., *supra* note 3; TRANSP. RES. BD., COMM. FOR A STUDY ON TRANSP. AND A SUSTAINABLE ENV'T, *TOWARD A SUSTAINABLE FUTURE: ADDRESSING THE LONG-TERM EFFECTS OF MOTOR VEHICLE TRANSPORTATION ON CLIMATE AND ECOLOGY* (1997). See generally JANE HOLTZ KAY, *ASPHALT NATION* (1997).

40. Driving directly causes only a portion of motor vehicles' environmental impacts; associated activities like vehicle manufacturing and repair, oil drilling and refining, and the disposal of vehicles and parts all take a heavy toll on the environment.

41. See, e.g., TRANSP. RES. BD., *supra* note 39.

two precursors of ozone smog: nitrogen oxides and volatile organic compounds.⁴² Motor vehicles also generate significant amounts of particulate matter, lead, and toxic pollutants.⁴³ These pollutants contribute to environmental and health harms such as premature death, lung-tissue damage, asthma attacks, impaired visibility, and forest damage,⁴⁴ and approximately 141 million Americans live in areas with unhealthy levels of ozone.⁴⁵ Although individual tailpipe emissions have fallen sharply as a result of federal regulations and technological advances, these gains have been offset by the tremendous growth in the amount of driving.⁴⁶

In addition, motor vehicles are a primary source of emissions that could cause disastrous economic and environmental effects by altering the climate throughout the world.⁴⁷ Transportation produces thirty percent of the carbon dioxide (the primary greenhouse gas resulting from human activities) in the United States.⁴⁸ Each vehicle emits an average of over one pound of carbon dioxide for every mile traveled,⁴⁹ and carbon dioxide emissions from transportation are rising.⁵⁰

Excessive motor vehicle use has also led to unsustainable levels of petroleum consumption. Americans account for a quarter of world petroleum consumption, two-thirds of which is used for transportation.⁵¹ Over half of the petroleum consumed in the

42. On-road vehicles emit 56% (over 50 million tons annually) of the total carbon monoxide, 32% (over 7.7 million tons annually) of the nitrogen oxides, and 29% (over 5.3 million tons) of the volatile organic compounds in the country. U.S. EPA, NATIONAL AIR POLLUTANT EMISSION TRENDS, 1900-1998, at 2-6 tbl. 2-1 (2000), *available at* <http://www.epa.gov/tnn/chieftrends/trends98>. Moreover, motor vehicles produce a much higher percentage of these pollutants in certain areas, particularly in urban areas.

43. *Id.* at 7-11 to 7-14 tbl.7-3.

44. See TRANSP. RES. BD., *supra* note 39; AM. LUNG ASS'N, THE STATE OF THE AIR 2001 (2001), *available at* <http://www.lungusa.org/air2001>.

45. AM. LUNG ASS'N, *supra* note 44.

46. Reid Ewing, *Measuring Transportation Performance*, 49 TRANSP. Q. 91, 94 (1995) (citing J. KESSLER & W. SCHROEER, OFFICE OF POLICY ANALYSIS, U.S. EPA, MEETING MOBILITY AND AIR QUALITY GOALS: STRATEGIES THAT WORK (1993)). Total nitrogen oxide emissions from on-road vehicles were higher in 1998 than in 1970. U.S. DOT BUREAU OF TRANSP. STATISTICS, NATIONAL TRANSPORTATION STATISTICS 2000, at 296 tbl. 4-41 (2001), *available at* <http://www.bts.gov/btsprod/nts>.

47. TRANSP. RES. BD., *supra* note 39.

48. See EPA, *supra* note 42, at 8-7 tbl. 8-4.

49. TRANSP. RES. BD., *supra* note 39, at 79.

50. EPA, *supra* note 42, at 8-5 tbl. 8-1.

51. U.S. DOT BUREAU OF TRANSP. STATISTICS, *supra* note 46, at 231 tbl. 4-1. Almost 155 billion gallons of fuel were consumed by motor vehicles in 1998, an average of 719 gallons per vehicle. *Id.* at 244 tbl. 4-9.

United States is imported.⁵² Petroleum is the largest component of our trade deficit and the dependence on imported oil is a clear threat to national security. Although vehicular fuel efficiency has improved substantially over the past few decades, the Federal Corporate Average Fuel Economy (“CAFE”) standards for passenger cars have not increased since 1985, and the fuel efficiency for 2001 model year vehicles was the lowest since 1980.⁵³

The motor vehicle and road-centered approach to transportation also has caused a dramatic rise in land consumption. Motor vehicles require substantially more land than other modes of travel.⁵⁴ Public highways, streets, and adjacent rights of way occupy approximately 20 million acres in the United States, an area the size of South Carolina.⁵⁵ An estimated half of all space in cities is devoted to accommodating cars,⁵⁶ and parking areas alone may consume up to thirty percent of city land.⁵⁷ Further, transportation investments shape the rate and location of development, and road-centered policies have fueled sprawling development and consumed tremendous amounts of land.

Current transportation approaches also contrast with the smart growth emphasis on revitalizing existing communities and channeling new growth to areas where infrastructure already exists. The focus on building new roads as the solution to transportation problems has had a profound adverse impact. It has demolished and divided communities⁵⁸ and made them less livable by generating noise, pollution, and pedestrian hazards. Road projects have made it cheaper to live on the fringes of developed areas, drawing residents and businesses away from cities, towns, and older suburbs.⁵⁹

52. U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY REVIEW 2000, at 135 tbl. 5.7 (2001), available at <http://www.eia.doe.gov/emeu/aer/pdf/038400.pdf>. Total petroleum imports average almost 11 million barrels a day and have set a new record in each of the past five years. *Id.* at 129 tbl. 5.4.

53. U.S. EPA, LIGHT-DUTY AUTOMOTIVE TECHNOLOGY AND FUEL ECONOMY TRENDS: 1975 THROUGH 2001 i (2001).

54. See VUCHIC, *supra* note 10, at 53-60.

55. TRANSP. RES. BD., *supra* note 39, at 79.

56. Michael Renner, *Rethinking the Role of the Automobile*, WORLDWATCH PAPER NO. 84, June 1988, at 46.

57. ROBERT CERVERO, THE TRANSIT METROPOLIS: A GLOBAL INQUIRY 48 (1998).

58. The homes of almost twenty percent of African-Americans in Baltimore were demolished to build two interstates there. Epstein, *supra* note 26, at 370 (citing Roy Kienitz, *Progress* (Surface Transp. Policy Project, Washington, D.C.), July 1996, at 2).

59. See, e.g., Muller, *supra* note 10, at 42-45.

II. RETHINKING TRANSPORTATION: TOWARD A MORE SUSTAINABLE APPROACH

A. New Directions

Smart growth does not seek to proscribe suburban development or to halt all growth.⁶⁰ Instead, it seeks to capture the benefits of growth while minimizing the costs by reducing subsidies for sprawl and guiding development in ways that are less environmentally destructive, more efficient, and that create healthier, more vibrant communities.⁶¹ In short, smart growth focuses less on whether to grow than on how to grow.

Sustainable transportation efforts can be viewed similarly. Instead of seeking to prohibit motor vehicles or reduce mobility, these efforts seek to reduce subsidies for motor vehicle use and to develop a transportation system that is less environmentally damaging, provides efficient mobility and access, and protects community livability. The issue is not whether to travel, but how to travel.

This Section provides an overview of some of the most promising tools and strategies to promote more sustainable transportation and smarter growth.⁶² There is, however, no single solution. A comprehensive approach is called for, with more sensible federal policies, as well as a range of solutions tailored to the circumstances of particular states, regions, and localities.

1. *Broadening the Focus of Transportation*

A more sustainable approach to transportation requires redefining the objectives of transportation policies. For decades, these policies have almost exclusively focused on serving cars and trucks. Transportation system performance has been assessed largely in terms of how fast vehicles could move from one point to another.⁶³

60. As Maryland governor Parris Glendening stated, "The goal of smart growth is not no growth or even slow growth. Rather the goal is sensible growth that balances our need for jobs and economic development with our desire to save our natural environment before it is forever lost." Michael Pawlukiewicz, *What Is Smart Growth?*, URB. LAND, June 1998, at 46 (citing a speech to the Partners for Smart Growth Conference in December 1997). See Pollard, *supra* note 8, for a more complete discussion of smart growth concepts.

61. See, e.g., SMART GROWTH NETWORK, *supra* note 7, at 4-5.

62. An exhaustive review of tools and strategies that can promote more sustainable transportation is beyond the scope of this article. This section will not address tools such as congestion pricing, ecological taxes, improving fuel efficiency standards, tightening tail pipe emission regulations, and providing research funding and incentives for purchasing hybrid (e.g., gas-electric) and alternative fuel (e.g., natural gas, fuel cell) vehicles.

63. Ewing, *supra* note 46, at 92.

This focused transportation planning on new or expanded road projects that added capacity and could reduce vehicle delay—at least initially.⁶⁴ Transportation came to be viewed as an end in itself, rather than as a means to accomplish societal and individual objectives, such as access to goods and services for all citizens (including elderly, disabled, and low-income people who cannot drive), community livability, economic development, and environmental protection.⁶⁵

Support is increasing for a broader transportation approach that emphasizes not just mobility but accessibility⁶⁶ and providing more transportation choices. This approach places a higher value on strategies that reduce the need for driving, such as bringing different activities closer together to shorten trips and make other transportation alternatives more feasible.⁶⁷

There also is increasing recognition that transportation is a means to achieve a range of objectives, and that these goals should play a greater role in transportation decision making. At the federal level, the landmark Intermodal Surface Transportation Efficiency Act of 1991 (“ISTEA”)⁶⁸ broadened the focus of the national transportation system to recognize the need to balance mobility concerns with other goals. ISTEA states that “It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy, and will move people and goods in an energy-efficient manner.”⁶⁹ Broadening the goals of transportation policy is an important step—one that most states still have not taken.

64. *Id.* at 91.

65. *Id.* at 91-92.

66. Accessibility has been defined as “the ease with which desired activities can be reached from any location.” Ewing, *supra* note 46, at 92.

67. Todd Litman, *Exploring the Paradigm Shifts Needed to Reconcile Transportation and Sustainability Objectives*, 1670 *TRANSP. RES. REC.* 8 (1999).

68. Intermodal Surface Transportation Efficiency Act of 1991, Pub. Law 102-240, 105 Stat. 1914.

69. *Id.* When federal transportation legislation was reauthorized in 1998, this broader focus was retained. For example, one of the seven specified transportation planning factors is to “protect and enhance the environment, promote energy conservation, and improve quality of life.” 23 U.S.C. § 134(f)(1)(D) (2002).

2. *Curbing Auto Subsidies and Providing Meaningful Transportation Choices*

To promote more sustainable transportation and smarter growth, the pervasive subsidies and regulations that encourage motor vehicle use and limit other transportation options must be reduced and eventually eliminated. Public transit, bicycling, walking, and other travel options are underfunded and often overlooked, despite the fact that they could replace many motor vehicle trips and are frequently less costly, less polluting, more energy efficient, provide greater access to a broader range of people, and offer greater relief from traffic congestion. A more balanced approach that provides meaningful, high quality transportation choices is needed. A true multimodal system would provide a wealth of interconnected travel choices, including light rail, commuter rail, high speed rail, buses, shuttles, paratransit, ridesharing, bicycling, walking, and motor vehicles.⁷⁰

One of the most important changes needed is to address the funding inequities that have skewed transportation decisionmaking and travel behavior.⁷¹ At the federal level, ISTEA began to make such a shift. Among other things, it allowed federal funds that formerly had been restricted to highway spending to be used more flexibly by states to support a variety of transportation modes.⁷² The Transportation Equity Act for the 21st Century (“TEA-21”)⁷³, which reauthorized ISTEA, further reduced the share of total transportation funding dedicated exclusively to highway construction. ISTEA and TEA-21 also provide funding for transportation “enhancements,” which include pedestrian and bicycle facilities.⁷⁴ TEA-21 took a further step by providing a guaranteed level of

70. Of course, each of these modes may not make sense in a particular area. For example, some forms of transit require a certain level of population density to be feasible. See for example VUCHIC, *supra* note 10, at 26-49 for an examination of the advantages, disadvantages, and applicability of various transportation modes.

71. See discussion *supra* Part I.A. This is not to suggest that merely spending more money on transportation alternatives is sufficient. Building a new rail line, for example, without careful analysis and complementary land use steps, can be a costly undertaking with little impact on travel behavior or emissions. It is difficult to develop attractive alternatives to driving, however, without substantially altering current funding inequities.

72. See, e.g., Jonathan Walters, *The Highway Revolution That Wasn't*, GOVERNING, May 1995, at 30.

73. Transportation Equity Act for the 21st Century, Pub. L. No. 105-178, 112 Stat. 107 (1998).

74. 23 U.S.C. § 133(d)(2) (2002) (dedicating ten percent of certain transportation funds for transportation enhancements); 23 U.S.C. § 101(a)(35) (2002) (defining “transportation enhancements” to include pedestrian and bicycle facilities).

funding for transit, which previously was more vulnerable than highways to budget cuts.⁷⁵

These and other changes, however, have not fundamentally altered the bias toward highway funding. Although federal funds devoted to public transportation almost doubled between 1990 and 1998, the overall share of funds for transit declined during this period.⁷⁶ Federal spending on bicycle and pedestrian projects grew rapidly during the past decade, but remains a very small portion of federal transportation spending.⁷⁷ ISTEA and TEA-21 still provide massive funding for highway construction, and many of the funding innovations they contain merely make it possible for states to use federal transportation funds for alternatives to highways.⁷⁸ Federal transportation law does not require states to significantly increase their transit funding, and many have not, continuing to use the bulk of the federal funds they receive for highway projects.⁷⁹ This problem is exacerbated by state transportation funding policies that also tend to strongly favor roads.

Nonetheless, some states have moved forcefully to use federal transportation funds for alternatives to highways, and there have been notable state and local initiatives to increase funding for transportation alternatives.⁸⁰ A citizen referendum that passed in Maine in 1991 ushered in a more fundamental change, the type of

75. See Lisa Wormser, *Two for TEA*, PLANNING, Aug. 1998, at 10.

76. SURFACE TRANSP. POLICY PROJECT, CHANGING DIRECTION: FEDERAL TRANSPORTATION SPENDING IN THE 1990s, at 5 (2000) [hereinafter CHANGING DIRECTION].

77. *Id.* at 12 (noting that federal spending on bicycle and pedestrian projects rose from a little over \$7 million in 1990 to over \$222 million in 1999).

78. TEA 21 is the largest public works legislation in history. Although it extends a number of policy reforms pioneered in ISTEA, it has been criticized for substantially increasing highway funding, which will in turn increase motor vehicle use and its attendant problems. See, e.g., Liam McCann, *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 (1999).

79. It has been estimated, for example, that eighty-seven percent of the \$50 billion flexible funds given to state transportation departments between 1992 and 1999 went to highway and bridge projects, while less than seven percent went to other transportation modes. CHANGING DIRECTION, *supra* note 76, at 1; see also Walters, *supra* note 72, at 30.

80. In Charlotte-Mecklenburg County, North Carolina, for example, voters approved a referendum in 1998 adopting a half-cent sales tax to fund a twenty-five-year plan that includes \$1 billion in transit improvements. *Approval of Transit Tax Gets Things Moving*, CHARLOTTE OBSERVER, Nov. 5, 1998, at 1C. For dozens of other examples of investments in transportation alternatives, see SURFACE TRANSP. POLICY PROJECT, TEN YEARS OF PROGRESS: BUILDING BETTER COMMUNITIES THROUGH TRANSPORTATION *passim* (2001).

change needed at all levels of government.⁸¹ Maine's Sensible Transportation Policy Act not only requires that transportation planning and investments minimize environmental impact, but also that "the full range of reasonable transportation alternatives be evaluated for all significant highway construction and reconstruction projects" and that decisions "give preference" to alternatives to road construction.⁸²

A host of other measures can modify or eliminate the subsidies and regulations that make it cheaper and easier to drive.⁸³ Parking subsidies, for example, are estimated to total \$36 billion each year.⁸⁴ Federal tax law allows employers to deduct the costs of providing employees free or discounted parking as a business expense and employees may receive these benefits tax-free.⁸⁵ Tax deductions for free parking are currently allowed up to \$175 per employee per month, while transit and vanpool deductions have only recently increased to \$100 per employee per month.⁸⁶ This disparity skews travel choices in favor of driving. Several states have adopted tax provisions that promote greater commuter choice of transportation modes. Maryland offers employers a fifty percent tax credit of up to thirty dollars per month for transit benefits they provide each employee.⁸⁷ In addition, a California statute requires certain employers to let employees "cashout" parking benefits and receive a cash payment equal to the market value of parking subsidies in lieu of receiving such subsidies.⁸⁸

Eliminating subsidies to drive and offering more transportation choices can significantly impact travel behavior. Case studies of the California cashout statute indicate that it could reduce solo driving by 17% and vehicle miles traveled to commute by 12%,

81. See *Bond Proposals Totaling \$8 Billion Win Support Across U.S.*, WALL ST. J., Nov. 7, 1991, at A16.

82. ME. REV. STAT. ANN. tit. 23, § 73(B) (West 1991).

83. See, for example, VUCHIC, *supra* note 10, at 271-314, for a review of many of these proposals, including fuel taxes, road pricing, and parking supply standards.

84. Donald Shoup, *Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies*, 4 TRANSP. POL'Y 201 (1997).

85. I.R.C. § 132(f) (2002).

86. Modifications to the federal tax code increased these benefits to \$100 a month, beginning January 1, 2002; prior to that date, the cap was \$65. Transportation Equity Act for the 21st Century, Pub. L. No. 105-178, § 9010, 112 Stat. 107 (1998).

87. MD. CODE ANN., ENVIR. § 2-901 (b) (2000).

88. CAL. HEALTH & SAFETY CODE § 43845 (West 2002). A recent report by the State's Legislative Analyst's Office, however, highlighted both the limited scope of coverage of this law and the slow pace of efforts to implement it. LEGISLATIVE ANALYST'S OFFICE, A COMMUTER'S DILEMMA: EXTRA CASH OR FREE PARKING? 7, 13 (2002).

while increasing carpooling by 64%, transit use by 50%, and bicycling and walking to work by 39%.⁸⁹ Recent experience with transit, bicycle, and pedestrian projects nationwide has shown that people will choose these alternatives if they are practical, safe, and convenient.⁹⁰ Governmental subsidies and regulations, however, continue to be biased against these alternatives.

3. *Maintaining and Improving Existing Infrastructure*

A more sustainable transportation approach entails improving existing infrastructure before undertaking new construction projects. Over half of the urban highways in the United States are in fair or poor condition, and about one third of urban bridges are deficient.⁹¹ A “fix it first” approach would increase the efficiency and safety of existing infrastructure, reducing the need for costly new projects. Such an approach would also reduce land consumption for new projects and aid smart growth efforts to guide development to existing communities by ensuring that roads, sidewalks, and other facilities offer safe, attractive, and comfortable travel.

Transportation reforms at the federal level and in several states have adopted a “fix it first” approach. ISTEA and TEA-21 both increased the federal focus on repairing existing facilities. The percentage of total federal transportation spending on repair increased from thirty-nine percent in 1990 to forty-nine percent in 1999.⁹² Some states have also begun to focus more on maintaining existing infrastructure. For example, the New Jersey legislature authorized a referendum voters ultimately adopted that dedicated additional funds to the state’s Transportation Trust Fund. The referendum requires the state transportation department to submit a capital spending plan emphasizing road and bridge repair and to demonstrate annual progress towards meeting goals to repair deficient roads and bridges.⁹³

89. Shoup, *supra* note 84, at 201.

90. Numerous light rail lines, for example, have greatly exceeded projected ridership. See, e.g., SURFACE TRANSP. POLICY PROJECT, *supra* note 80. Nationally, transit use has increased faster than driving in recent years. Between 1996 and 2000, transit use increased by twenty-one percent while driving rose by only eleven percent. SURFACE TRANSP. POL’Y PROJECT, *supra* note 80, at 8.

91. U.S. DOT BUREAU OF TRANSP. STATISTICS, *supra* note 46, at 34-37 tbls. 1-23, 1-24.

92. CHANGING DIRECTION, *supra* note 76, at 5.

93. Congestion Relief, Transportation Trust Fund Act, ch. 73, 2000 N.J. Laws; see also *New Jersey Legislature Approves Landmark “Fix-it-First” Transportation Bill*, MOBILIZING THE REGION (Tri-State Transp. Campaign, New York, N.Y.), July 3, 2000, at 1, available at <http://www.tstc.org/bulletin/pdf/mtr276.pdf>. However, the New

4. *Ensuring Context-Sensitive Road Design*

The focus of current transportation planning on maximizing the speed and volume of motor vehicles and on increasing driver safety has led to the development of uniform highway and street design standards.⁹⁴ These standards address matters such as street width, intersection design, on-street parking, the presence and width of sidewalks, and tree planting along streets.⁹⁵ Although often useful as guidelines, the inflexible application of street design standards has led to numerous oversized, insensitively designed projects.⁹⁶ All too often, highways and streets have been built, straightened, or widened according to standards that do not consider their impact on residents, or on the natural, scenic, cultural, or historic attributes of areas where they are located. Road projects have also frequently limited transportation options by creating wide expanses of pavement and fast-moving traffic that make an area hazardous for pedestrians and bicyclists. In contrast, sustainable transportation and smart growth require road design that can satisfy mobility needs while minimizing environmental damage, preserving the features that define a community, and encouraging walking and bicycling.

The movement toward more flexible design standards and context-sensitive design has gained momentum.⁹⁷ Federal transportation law now acknowledges the importance of designing projects that are sensitive to the surrounding natural and human environment, particularly in historic and scenic areas. Among other

Jersey Department of Transportation has not adhered to these requirements. It has characterized the repair goals as “out of reach” and its capital programs have devoted comparatively few funds to maintenance and repair. *See NJ Capital Program – Déjà vu All Over Again*, MOBILIZING THE REGION (Tri-State Transp. Campaign, New York, NY), Mar. 4, 2002, available at <http://www.tstc.org/bulletin/20020304/index.html>.

94. The most influential standards are contained in the AM. ASS'N OF STATE HIGHWAY AND TRANSP. OFFICIALS (“AASHTO”), A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (4th ed. 2001), commonly referred to as the “Green Book.” Although the Green Book expressly states that it is intended to provide guidelines, many states, localities, and transportation department personnel have treated it as providing inflexible mandates.

95. *Id.*

96. *See* CONSERVATION LAW FOUND., *supra* note 23, at 2-5; DEBORAH L. MYERSON, SCENIC AMERICA, GETTING IT RIGHT IN THE RIGHT-OF-WAY: CITIZEN PARTICIPATION IN CONTEXT-SENSITIVE HIGHWAY DESIGN 2-4 (1999).

97. *See, e.g.*, Aileen Cho, David Kohn, Debra Rubin & Steven Daniels, *Road Less Taken*, ENGINEERING NEWS-REC., Jan. 1998; MYERSON, *supra* note 96, at 15-21; Reid Ewing, *From Highway to My Way*, PLANNING, Jan. 2001; Harold E. Peaks & Sandra Hayes, *Building Roads in Sync With Community Values*, 62 PUBLIC ROADS, Mar./Apr. 1999, <http://www.tfhr.gov/pubrds/marapr99/flexdsgn.htm>.

things, ISTEA eliminated the requirement that national design standards be used, except where a highway is part of the National Highway System.⁹⁸ In addition, the Federal Highway Administration has produced a guide that encourages designers to carefully consider the context and location of a project; stresses the substantial flexibility of current federal law and design standards; and offers extensive illustrations of more sensitive design options.⁹⁹ The federal government has not, however, provided substantial funding for such projects, which can cost more to design and build than projects using a cookie cutter design.¹⁰⁰

Although states have significant latitude to develop design standards and to design particular projects,¹⁰¹ only a handful have adopted meaningful policies regarding context-sensitive design.¹⁰² There has been greater interest in new approaches to road design at the local level, where a wave of projects have begun to reduce the impact of motor vehicles on neighborhoods.¹⁰³ "Traffic calming" measures are particularly popular. These measures reduce the speed of vehicles by making various physical modifications in and along roadways, such as narrowing streets, raising crosswalks, and installing speed humps or traffic circles.¹⁰⁴ Calming traffic offers

98. See Intermodal Surface Transportation Efficiency Act of 1991, § 1016(c), Pub. L. No. 102-240, 105 Stat. 1914 (1991).

99. FED. HIGHWAY ADMIN., U.S. DOT, FLEXIBILITY IN HIGHWAY DESIGN (1997); see also Ewing, *supra* note 97. In addition, the Institute of Transportation Engineers has produced street design guidelines tailored to more traditional neighborhoods.

100. The provision of funds for transportation enhancements in ISTEA and TEA-21, however, has allowed communities to begin to correct past design mistakes, funding projects such as adding sidewalks and bicycle lanes that can make roads less formidable barriers for pedestrians and bicyclists.

101. See, e.g., Ewing, *supra* note 97 (discussing how the implementation of ISTEA and the National Highway System gave states the latitude to adopt alternative design, safety, and construction standards and take into account environmental, scenic, aesthetic, historic, community, and preservation impacts on the proposed design).

102. See Ewing, *supra* note 97. Connecticut, Minnesota, and Vermont are among the states that have adopted such policies. In addition, Connecticut and Vermont have adopted legislation that calls for context-sensitive design for certain types of projects. See 19 Vt. Stat. Ann. § 10(c)-(d) (2001).

103. See, e.g., S. ENVTL. LAW CTR. & ENVTL. LAW INST., SMART GROWTH IN THE SOUTHEAST: NEW APPROACHES TO GUIDING DEVELOPMENT 24-26 (1999), available at http://www.southernenvironment.org/originals/publications/smart_growth/sr-southeast99.pdf. The City of West Palm Beach, Florida, for example, has adopted a resolution that traffic calming be incorporated into any work that requires a street to be altered or repaired. CITY OF WEST PALM BEACH, FLA., Res. 230-98 (Sept. 21, 1998).

104. See S. ENVTL. LAW CTR. & ENVTL. LAW INST., *supra* note 103, at 26; see also INSTITUTE OF TRANSPORTATION ENGINEERS, TRADITIONAL NEIGHBORHOOD DEVELOPMENT STREET DESIGN GUIDELINES: RECOMMENDED PRACTICE (1999).

numerous benefits, including making streets safer for bicyclists, pedestrians, and motorists; and reducing congestion on certain types of streets.¹⁰⁵

5. *Linking Transportation with Environmental and Health Protection*

Until relatively recently, transportation policy and environmental policy operated almost completely independently of one another and often at cross purposes.¹⁰⁶ Of particular significance, the dominant federal transportation policy focus on highway building has been in direct conflict with efforts to reduce air pollution.¹⁰⁷

The federal Clean Air Act requires EPA to establish National Ambient Air Quality Standards for various pollutants in order to protect public health and welfare;¹⁰⁸ the EPA has promulgated standards for six such pollutants.¹⁰⁹ The level of most pollutants has decreased since adoption of the Clean Air Act,¹¹⁰ although millions of Americans live in areas that do not meet standards for ground-level ozone—the primary component of urban smog.¹¹¹ A central reason for this ongoing problem is that the dramatic increase in the total number of miles driven—spurred in large part by highway projects—has negated much of the reduction in tailpipe emissions per mile that federal environmental laws and policies have accomplished.¹¹²

Recognizing this problem, Congress amended the Clean Air Act in 1990¹¹³ and adopted provisions in ISTEA designed to link transportation planning and air pollution control.¹¹⁴ Under the Clean

105. See CONSERVATION LAW FOUND., *supra* note 23, at 31-32; Stephen H. Burlington, *Restoring the Rule of Law and Respect for Communities in Transportation* 5 N.Y.U. ENVTL. L.J. 723-26 (1996).

106. See generally JANE HOLTZ KAY, *ASPHALT NATION* (1997) (contrasting significant federal highway funding with increasing attempts to reduce air pollution and environmental hazards caused by traffic and cars).

107. *Id.*

108. 42 U.S.C. §§ 7408-7409 (2002). These health impacts include premature death, respiratory illness, asthma attacks, learning disabilities, and cardiovascular damage. These pollutants harm the natural environment as well, causing or contributing to acid rain, reduced visibility from haze, and forest damage.

109. 40 C.F.R. part 50 (2002).

110. U.S. EPA, *supra* note 18, at ES-2, E-S5 fig. ES-1.

111. See *supra* note 45 and accompanying text.

112. See *supra* note 46 and accompanying text.

113. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (codified as amended at 42 U.S.C. 6921).

114. See Michael R. Yarne, *Conformity as Catalyst: Environmental Defense Fund v. Environmental Protection Agency*, 27 *ECOLOGY L.Q.* 841, 850 (2000) (noting that

Air Act Amendments, transportation projects must be consistent with the applicable State Implementation Plan, a plan each state must develop to show how it will attain air quality standards.¹¹⁵ In areas that do not meet Clean Air Act standards, transportation projects can no longer receive federal funding or approval unless they are part of a regional transportation program that “conforms” to the applicable State Implementation Plan.¹¹⁶ Thus, the emissions that a regional transportation plan is projected to produce must be consistent with the motor vehicle emissions estimates allowed in the applicable State Implementation Plan. ISTEA (and subsequently TEA-21) then linked approval of regional long range transportation plans and short-term funding programs in non-attainment areas to the conformity requirements in the Clean Air Act Amendments.¹¹⁷

These conformity requirements help ensure that transportation planning and investment decisions support—rather than undermine—efforts to reduce air pollution. The provisions arguably will lead communities in non-attainment areas to more carefully evaluate road-building projects that spur sprawling development and additional driving; to invest more in transit and other transportation alternatives; and to address land use development issues in order to avoid a cutoff of federal transportation funds.¹¹⁸ On the other

these provisions “represent Congress’s most ambitious attempt yet to integrate transportation and air quality planning”).

115. 42 U.S.C. § 7410. The Supreme Court has recognized the importance of attaining these standards as the “driver” in the Clean Air Act statutory scheme. *Whitman v. Am. Trucking Ass’n, Inc.*, 531 U.S. 457, 464-68 (2001).

116. 42 U.S.C. § 7506(c)(1) (2002) prohibits any metropolitan planning organization from giving “its approval to any project, program or plan which does not conform to” an approved or promulgated implementation plan. Section 7506(c)(2) of Title 42 of the United States Code limits federal agency approval or funding of projects, programs, or plans. The Clean Air Act Amendments also required steps to slow the growth of vehicle miles driven, including the following “transportation control measures”: public transit improvement programs, restricting lanes to high-occupancy vehicles, and constructing bicycle and pedestrian facilities. These measures have been extremely controversial, but are a part of the clean air plans of many regions.

117. 23 U.S.C. §§ 109(j), 134(g)(3) (2002); 23 U.S.C. § 135(f)(2) (2002); 23 C.F.R. §§ 450.216(a)(4), 450.220(a), 450.324(b) (2002). In addition to the conformity requirements, Congress further addressed the link between transportation and air quality in ISTEA and TEA-21 by providing funding for transportation projects that help current and former non-attainment areas for ozone or carbon monoxide to meet air quality standards. The Congestion Mitigation and Air Quality Improvement Program (“CMAQ”) channels highway funds to states and localities for projects such as transit improvements, ridesharing programs, traffic flow improvements, pedestrian and bicycle facilities, cleaner fuels, and vehicle inspection and maintenance programs. 23 U.S.C. § 149 (2001).

118. *See Yarne, supra* note 114, at 867.

hand, conformity provisions may have limited effectiveness since they only apply to non-attainment areas, and even in these areas they do not sufficiently address the impact of land use decisions on transportation and air quality.¹¹⁹

Despite these shortcomings, current conformity provisions do provide an important potential link between transportation and air quality. In addition, these provisions have brought some measure of coherence to federal transportation and air quality policies, and they have increased public and political attention to these issues. Ultimately, the extent to which they further sustainable transportation and smart growth goals by promoting regional transportation, land use, and air quality planning largely depends upon their enforcement.¹²⁰

6. *Promoting More Sensible Development*

It is not possible to significantly reduce the need for driving without addressing land development patterns and community design. Scattered development limits the range of realistic transportation choices. When the nearest grocery store is miles away, for example, there is no choice but to drive. In contrast, more traditional forms of city and neighborhood development—where employment, shopping, and other activities are close to residences—require fewer and shorter vehicle trips, consume less land, require less infrastructure, and generate less air pollution.¹²¹ A study of alternative development scenarios in three metropolitan areas found that if the sites were developed in a more compact, traditional manner, they could reduce the number of miles driven by about fifty percent or more, and significantly reduce total vehicle emissions.¹²² These patterns of development also increase transportation options by generating the ridership needed to make mass transit feasible and the proximity to destinations that makes walking and cycling practical. A study in Portland, for example, found that creating a pedestrian-friendly neighborhood, where crossing the street is easier, sidewalks are continuous, and local streets are

119. D. Brennen Keene, *Transportation Conformity and Land-Use Planning: Understanding the Inconsistencies*, 30 U. RICH. L. REV. 1135, 1181 (1996) (concluding that conformity requirements are “merely a small band-aid on a large wound in the majority of states that have adopted the Euclidean model [of zoning]”).

120. *Id.* at 1144-52. Part IV of this Article discusses the application and enforcement of these provisions in Atlanta.

121. U.S. EPA, *supra* note 18 (reviewing numerous studies).

122. *Id.* (citing E. ALLEN, G. ANDERSON & W. SCHROEER, *THE IMPACTS OF INFILL VS. GREENFIELD DEVELOPMENT: A COMPARATIVE CASE STUDY ANALYSIS* (1999)).

connected, could result in a ten percent reduction in vehicle miles traveled per household.¹²³ On a regional scale, more compact and mixed use development in Portland was projected to result in a 27% increase in trips by transit, walking, and bicycling and to reduce work trips in single occupant vehicles by 22.5%.¹²⁴

Transportation investments are a critical tool for promoting more sensible growth patterns. Reducing the dominant focus on highway funding and increasing public investment in high quality transportation alternatives¹²⁵ are essential to curbing sprawl and reducing motor vehicle use. In addition, transportation funds can be targeted to benefit existing communities. Maryland's Priority Funding Areas Act,¹²⁶ for example, targets the flow of state funds for "growth related" projects, including highways, to existing communities and to additional areas where growth is planned, as long as these additional areas meet minimum state criteria for elements such as average residential density. By limiting state financial assistance outside of these areas, the statute creates a strong incentive for localities to guide growth to existing communities.¹²⁷

A host of regulatory hurdles also must be addressed to promote smart growth and sustainable transportation. These steps include reducing and eliminating (where appropriate) zoning hurdles to mixed use, clustered development such as single use zoning, large minimum lot sizes, side and front yard setback requirements, and minimum parking requirements. Local comprehensive plans and zoning ordinances also can be amended to reduce the prevalence of cul-de-sac streets which tend to dump drivers onto a handful of roads that rapidly clog with traffic and limit pedestrian and bicycle use. A network of interconnected streets that offers alternative routes to any destination might be promoted or required instead.

In addition to eliminating barriers to smarter growth, incentives can be provided to encourage more sensible development, such as tax credits for rehabilitation and infill development that encourage the revitalization of existing communities.¹²⁸ Another useful tool is

123. 1000 FRIENDS OF OR., 7 MAKING THE CONNECTIONS: A SUMMARY OF THE LUTRAQ PROJECT 16 (1997) http://www.friends.org/resources/lut_vol7.html.

124. *Id.* at 15.

125. *See supra* notes 70-90 and accompanying text.

126. MD. CODE ANN., STATE FIN. & PROC., §§ 5-7B-01 to 5-7B-10 (2001) (adopted as part of a broader "Smart Growth and Neighborhood Conservation" initiative).

127. This approach can be strengthened further by giving priority not only to transportation investments in existing communities, but to those communities that have adopted land use policies that promote more sensible growth patterns.

128. *See, e.g.*, S. ENVTL. LAW CTR. & ENVTL. LAW INST., *supra* note 103, at 14-18.

to provide density bonuses and streamlined review for development close to transit stations in order to encourage transit-oriented development. Further, tax credits to employers who provide additional jobs near transit and incentives to people to buy a home near their workplace would encourage development close to existing infrastructure.¹²⁹

Coordination of transportation and land use planning and policies can dramatically increase the effectiveness of these strategies, but unfortunately land use and transportation planning typically operate independently of one another. Federal transportation policy has begun to bridge this divide. The Secretary of Transportation is now directed to ensure that federal transportation funds “are used to support balanced and comprehensive transportation planning that considers the relationships among land use and all transportation modes”¹³⁰ In addition, transportation planners are required to consider “[t]he effect of transportation decisions on land use and development.”¹³¹ Such provisions are a relatively modest beginning; they are not self-executing, and at present they are largely aspirational statements.¹³²

Efforts to work at a regional level to coordinate transportation improvements with land use plans throughout a metropolitan area are more promising. Local governments in the Charlotte-Mecklenburg area, for example, created the 2025 Transit/Land Use Plan.¹³³ This plan addresses both the necessary transportation investments needed to create more sensible growth and the necessary land use and urban design characteristics needed to create a more effective,

129. Trip Pollard, *Greening the American Dream? If Sprawl Is the Problem is New Urbanism the Solution?*, PLANNING, Oct. 2001, at 12-13. For example, under Maryland’s Live Near Your Work Program, employers, the state, and local government each provide \$1000 to people buying a home near their workplace. In addition, the Federal National Mortgage Association (Fannie Mae) is conducting a test of location-efficient mortgages, which increase the amount of allowable loans for borrowers living close to a center city or public transit since this proximity allows them to reduce their transportation costs.

130. 49 U.S.C. § 5303(h) (2001).

131. 23 C.F.R. § 450.208(a)(14) (2002).

132. A federal attempt to promote integrating transportation and land use that has had a greater impact is the requirement that areas with populations over 50,000 create Metropolitan Planning Organizations. 23 U.S.C. § 134(b) (2001). These regional organizations control spending of a portion of federal transportation funds and are required to integrate land use considerations into decisions regarding federally-funded transportation projects.

133. LDR INT’L INC., ET AL., 2025 INTEGRATED TRANSIT/LAND-USE PLAN FOR CHARLOTTE-MECKLENBURG (1998).

more sustainable transportation system.¹³⁴ The plan outlines how the local governments will, in coordination with the Charlotte-Mecklenburg Planning Commission and the Metropolitan Transit Commission, revise master plans and zoning ordinances to focus future development along and within agreed upon transportation corridors and transportation center areas. It also calls for incentive packages that encourage station area development, and for acquiring key parcels within transit station areas to ensure that their development complements transit service.¹³⁵ Further, the plan calls for investing \$1 billion in a mixture of transit improvements, including bus rapid transit and rail service to targeted development areas.¹³⁶

B. Hurdles to Meaningful Change

There are numerous hurdles to sustainable transportation and smart growth.¹³⁷ Despite the recent surge in initiatives, transportation and land use reform has progressed slowly overall and tremendous obstacles remain.

One significant hurdle to reform is the inertia supporting deeply-rooted policies. A shift to more sustainable transportation and smarter growth requires fundamental changes in policies that have been dominant for at least the past fifty years. Subsidies that encourage driving are so pervasive, for instance, that they are no longer recognized as skewing transportation choices.

This hurdle is magnified by sizable and powerful transportation bureaucracies that are resistant to change.¹³⁸ This institutional resistance is enhanced by the tremendous political strength of special interests that profit from policies favoring highways, motor vehicles, and sprawl.¹³⁹ As a result, the necessary reforms are often difficult to achieve. As noted above, for example, although ISTEA and TEA-21 provide states much more flexibility to use federal transportation funds for projects other than new roads, most states

134. *Id.*

135. *Id.*

136. *Id.*

137. See Pollard, *supra* note 8, for further discussion of some of these hurdles.

138. For example, transportation departments "grew out of highway departments and so they tend to see highways as the solution of all the country's transportation problems." Lee, *supra* note 19, at 58; see also Burrington, *supra* note 105, at 694-700.

139. These interests include real estate developers, highway builders, concrete suppliers, trucking companies, car dealers, and oil companies. Developers in the Washington, D.C. area, for example, launched a \$3 million campaign to build support for their highway-centered transportation proposals. Peter Behr & Victoria Benning, *Businesses to Move Ahead on Road Strategy*, WASH. POST, June 12, 1999, at B1.

continue to focus on road-building.¹⁴⁰ During the ISTEA reauthorization process, a number of state transportation departments and highway lobbyists tried to go even further, pushing to eliminate many of ISTEA's policy innovations, such as funding for transportation enhancements and air quality improvement measures.¹⁴¹

An additional hurdle to changing transportation and development patterns is that although these patterns frequently have a regional scope, there are few governmental institutions with the authority to address regional issues. Many of the potential steps to reduce sprawl and motor-vehicle dependence therefore cannot be implemented effectively without the creation of a regional authority or the close cooperation of numerous local governments. However, localities are typically not willing to relinquish any of their authority or autonomy,¹⁴² particularly since they frequently compete with each other to attract economic development. There has been an increase in regional cooperation, such as the Charlotte-Mecklenburg transit and land use plan, but the need for regional action continues to pose a major hurdle to reform.

A further factor limiting efforts to promote more sustainable transportation and smarter growth is that although public opinion strongly supports environmental protection, more sensible growth, and more transportation choices,¹⁴³ individual actions are often inconsistent with these opinions. These inconsistencies raise questions about the political and practical feasibility of needed reforms. Many commentators have questioned, for example, whether America's "love affair with the car" precludes any significant change in travel behavior and have noted that people seem to dislike both sprawl and density.

The public's receptiveness to changing transportation and development approaches will wax and wane, and it will be difficult to remove subsidies, such as free parking, that people have come to

140. See *supra* notes 19, 78-80 and accompanying text. One report concluded that "Although ISTEA and TEA-21 enshrined a new approach to transportation spending at the federal level, there is scant evidence that this new spirit has penetrated into many of the state bureaucracies that administer federal funds. Most state DOTs continued to spend federal transportation dollars as they did before: on highways." CHANGING DIRECTION, *supra* note 76, at 16.

141. See David Hosansky, *Bike Riders Hope Trail Leads to More Federal Money: But Highway Interests Want Focus on Roads, Not 'Alternatives' as Congress Prepares to Reauthorize Transportation Act*, CONG Q., Aug. 26, 1997, at 953, 956.

142. See, e.g., David Goldberg, *Metro Business to Local Governments: Why Can't You Get Along?*, ATLANTA J.-CONST., Mar. 10, 1997, at E1.

143. See *supra* note 9 and accompanying text.

expect almost as a matter of right. However, increasing public awareness of the growing costs of current approaches and the broadening base of groups supporting reform are providing momentum for long term change. Moreover, there is increasing evidence that although Americans typically do enjoy driving, they hate sitting in traffic and will use transportation alternatives if they are available, safe, attractive, and convenient. In addition, although people dislike density, many individuals lack direct experience with development alternatives that have greater density than sprawling suburban projects, but are nonetheless well-designed and offer a high quality of life.¹⁴⁴ Recent real estate trends suggest that a significant market segment would choose traditional neighborhood and transit-oriented developments.¹⁴⁵ Each worthy project that overcomes the hurdles against it provides further impetus for change.

III. THE SHAPE OF THE FUTURE? GRAPPLING WITH GROWTH IN ATLANTA

The Atlanta metropolitan region has experienced explosive economic growth. During the 1990s, the region led the nation in both population growth and job creation.¹⁴⁶ Unfortunately, the region also has come to epitomize suburban sprawl, experiencing explosive, scattered development, heavy automobile dependence, skyrocketing traffic congestion, and poor air quality.¹⁴⁷ Atlanta's experiences illustrate the shortcomings of current transportation and land use approaches, the potential for addressing these shortcomings, and the obstacles to smarter growth and meaningful transportation reform.

144. Cf. Timothy Beatley & Richard Collins, *Smart Growth and Beyond: Transitioning to a Sustainable Society*, 18 VA. ENV'T'L L.J. 287, 319 (2000) (noting that "... for many residents in our communities it is unclear how to begin reshaping their lives to act more sustainably," and that "even when people are highly motivated to make a choice supportive of sustainable communities, it may be difficult or impossible for them to actually do so").

145. See, e.g., PRICEWATERHOUSECOOPERS & LEND LEASE, EMERGING TRENDS IN REAL ESTATE 2001 (2000).

146. SMARTRAQ, TRENDS, IMPLICATIONS & STRATEGIES FOR BALANCED GROWTH IN THE ATLANTA REGION 3 (2001), available at <http://www.smartraq.net/pdfs/synthesis.pdf>.

147. *Id.* at 1.

A. Sprawl, Roads, and Air Quality

Atlanta has been ranked the city most threatened by sprawl in the United States.¹⁴⁸ The Atlanta area expanded from sixty-five miles to 110 miles in length between 1990 and 1997, and has been characterized as “the fastest-growing human settlement in history.”¹⁴⁹ Development consumed approximately 571,000 acres between 1982 and 1997, an average of over 100 acres a day.¹⁵⁰ As a co-author of a recent study on sprawl in major cities stated, “By most indicators, Atlanta is the most sprawled major metro area in the country.”¹⁵¹

People in Atlanta drive over 100 million miles every day¹⁵²—the equivalent of traveling to the sun and part of the way back. On average, each person drives almost thirty-four miles per day, among the highest driving rates in the country.¹⁵³ Traffic congestion in Atlanta is second only to that in Los Angeles, and “is rising faster than in any other major city.”¹⁵⁴ The average amount of time spent stuck in traffic more than doubled between 1992 and 1999—from twenty-five to fifty-three hours per person per year; and in 1999 a total of 152 million hours were lost due to delay.¹⁵⁵ This increase in congestion occurred despite an aggressive road construction program. By the late 1990s, Atlanta had more highway lane miles per person than any city except for Dallas.¹⁵⁶

Largely due to sprawling development and automobile dependence, the thirteen-county metro Atlanta region has the worst air pollution in the Southeast and is among the nation’s most polluted

148. SIERRA CLUB, *THE DARK SIDE OF THE AMERICAN DREAM: THE COSTS AND CONSEQUENCES OF SUBURBAN SPRAWL* 5 (1998).

149. Leinberger, *supra* note 16, at 30.

150. WILLIAM FULTON, ROLF PENDALL, MAI NGUYEN & ALICIA HARRISON, *THE BROOKINGS INST., WHO SPRAWLS MOST? HOW GROWTH PATTERNS DIFFER ACROSS THE UNITED STATES* 8 (2001), available at <http://www.brook.edu/dybdocroot/es/urban/publications/fulton.pdf>.

151. Dahleen Glanton, *Sprawl Tests Atlanta's Limits; City Pays Price for Unchecked Growth*, CHI. TRI., Aug. 7, 2001, at 1 (quoting George Galster); see also George Galster, Royce Hanson, Hal Wolman, Stephen Coleman & Jason Freihage, *Wrestling Sprawl to the Ground: Defining and Measuring an Elusive Concept* (2000).

152. SCHRANK & LOMAX, *supra* note 32.

153. FED. HIGHWAY ADMIN., *HIGHWAY STATISTICS 2000* tbl. HM-72 (2001), available at <http://www.fhwa.dot.gov/ohim/hs00/hm72.htm>.

154. SCHRANK & LOMAX, *supra* note 32; Kelly Simmons, *Atlanta Tailgating L.A. on Gridlock: We're Fastest in Nation at Adding Traffic Jams*, ATLANTA J.-CONST., May 8, 2001, at 1A.

155. Simmons, *supra* note 154.

156. SMARTRAQ, *supra* note 146, at 6.

areas.¹⁵⁷ During the summer, ground-level ozone concentrations significantly exceed EPA's National Ambient Air Quality Standards. The region is a "serious" non-attainment area, and a pending lawsuit seeks to reclassify the region as a "severe" non-attainment area.¹⁵⁸ There is a thirty-five percent increase in emergency room visits for respiratory-related illnesses on days when ground-level ozone levels are high.¹⁵⁹ Emergency room visits by children for asthma dropped by more than forty percent during the 1996 Summer Olympics when motor vehicle use declined and transit use increased.¹⁶⁰ Air pollution in Atlanta is more directly related to motor vehicle pollution than in most other cities.¹⁶¹ Cars and trucks are responsible for over half of the nitrogen oxide emissions in the region, emitting 264 tons of nitrogen oxides per day.¹⁶²

Transportation and land use policies and patterns in Atlanta have had other severe environmental and health impacts. For example, the Chattahoochee River has been named one of the most endangered rivers in the country, due in large part to the rapid growth of the Atlanta area.¹⁶³

Although Atlanta has experienced tremendous economic growth, the consequences of the region's rapid expansion include significant adverse economic impacts. The cost of congestion in Atlanta is estimated to have been over \$2.6 billion in 1999 alone.¹⁶⁴ In addition, air quality and traffic congestion problems are making the area a less desirable location to live and impacting business

157. AM. LUNG ASS'N, *supra* note 44; Larry Copeland, *Atlanta Pollution Going Nowhere*, USA TODAY, Jan. 31, 2001, at 3A.

158. *Sierra Club v. Whitman*, Civil Action No. 1:01-CV-00127-BBM (D.Ga. Jan. 17, 2001); *see also* Kelly Simmons, *War on Atlanta Air Goes Back to Court*, ATLANTA J.-CONST., Jan. 18, 2001, at 1B.

159. Mary C. White, Ruth A. Etzel, Wallace D. Wilcox & Christine Lloyd, *Exacerbations of Childhood Asthma and Ozone Pollution in Atlanta*, 65 ENVTL. RES. 56 (1994).

160. Michael S. Friedman, Kenneth E. Powell, Lori Hutwagner, LeRoy M. Graham & W. Gerald Teague, *Impact of Changes in Transportation and Commuting Behaviors During the 1996 Summer Olympic Games in Atlanta on Air Quality and Childhood Asthma*, 285 J. AM. MED. ASS'N., 897-905 (2001).

161. Copeland, *supra* note 157.

162. ATLANTA REG. COMM'N, 2025 ATLANTA REGIONAL TRANSPORTATION PLAN 4-16 (2001).

163. Press Release, American Rivers, Nation's Most Endangered Rivers of 1998 Announced (Apr. 6, 1998) (stating that runoff from parking lots, streets, roofs and other nonpoint sources cause 72% of the water quality violations), <http://www.americanrivers.org/pressrelease/pressmer1998.htm>.

164. SCHRANK & LOMAX, *supra* note 32, at 4.

expansion and recruitment.¹⁶⁵ As a result, the Metro Atlanta Chamber of Commerce has expressed concern that “growing traffic congestion now threatens the quality of life and economic vitality of the entire region.”¹⁶⁶

B. The End of Business as Usual?

A major contributor to Atlanta’s growth problems is the heavy emphasis that state, regional, and local policymakers have placed on building new roads.¹⁶⁷ A recent national report ranked Georgia among the bottom tier of states that have adopted a more balanced, forward-looking transportation approach, placing it among the states that are “generally acting as if the Department of Transportation is still the Highway Department.”¹⁶⁸ Alternatives that can reduce congestion and pollution are chronically underfunded. Georgia spent only 2.3% of the “flexible” federal transportation funds it received on alternative transportation modes between 1992 and 1999, and it did not even provide the minimum levels of funding that Congress has established for projects that offer alternatives to motor vehicle use.¹⁶⁹ Only four percent of the state’s \$3.87 billion transportation funding in the past five years has gone to transit.¹⁷⁰

Despite the problems auto-dependent sprawl and road-centered transportation policies have created for Atlanta, politicians and

165. See, e.g., Greg Jaffe, *Is Traffic-Clogged Atlanta the New Los Angeles?*, WALL ST. J., June 18, 1998, at B1; Matt Kempner, *A Perimeter Biggie Balks at Traffic: Hewlett-Packard Rethinks Tower*, ATLANTA J.-CONST., Aug. 6, 1998 at A1. A recent real estate investment survey ranked Atlanta twelfth out of eighteen cities for investment potential. PRICEWATERHOUSECOOPERS & LEND LEASE, *supra* note 145, at 35.

166. NAT’L ASS’N OF LOCAL GOV’T ENVTL. PROF’LS, *PROFILES OF BUSINESS LEADERSHIP ON SMART GROWTH: NEW PARTNERSHIPS DEMONSTRATE THE ECONOMIC BENEFITS OF REDUCING SPRAWL* 13 (1999).

167. See, e.g., Jaffe, *supra* note 165 (noting that “the state DOT has been investing in roads and highways for decades, leaving other modes of transportation in the dust”).

168. CHANGING DIRECTION, *supra* note 76, at 32.

169. *Id.* at 17-18. Between 1992 and 1999, 116% of highway funds Congress had authorized were actually obligated by Georgia; only 68% of transportation enhancement funds and only 88% of CMAQ funds were obligated. *Id.* at 18.

170. Maria Saporta, *State’s Shown us Studies, But Has Yet to Show Rail Money*, ATLANTA J.-CONST., June 11, 2001, at 3B (noting that “despite study after study showing that Georgia and metro Atlanta need to develop a rail system to move people, the state has yet to invest any real dollars to make it happen.”); see also BROOKINGS INST., *MOVING BEYOND SPRAWL: THE CHALLENGE FOR METROPOLITAN ATLANTA* (2000); Orlyn O. Lockhard, III, *Solving the “Tragedy”: Transportation, Pollution and Regionalism in Atlanta*, 19 VA. ENVTL. L. J. 161 (2000) (discussing Atlanta’s transportation imbalance).

planners have continued to forge ahead with a host of new roads.¹⁷¹ As a result, Atlanta has become a national focal point of efforts to define the limits and effectiveness of the largely untested framework of federal provisions linking transportation planning to air quality controls.¹⁷²

Since Atlanta is a serious ozone non-attainment area, the Clean Air Act and TEA-21 provisions linking transportation and air quality apply. The provisions require the Atlanta Regional Commission (“ARC”)¹⁷³ to develop transportation plans consistent with Georgia’s plan for attaining compliance with the ozone standard in order for the region to qualify for federal transportation funding.¹⁷⁴ As part of Georgia’s state implementation plan (“SIP”), a specific allowance is set for vehicle emissions—the motor vehicles emission “budget” or MVEB—and projected emissions for the region may not exceed that budget. Nevertheless, as the number of miles driven in Atlanta exploded and motor vehicle pollution rose, it became increasingly difficult for the region to satisfy this requirement.

By June 1996, Atlanta’s pollution was so bad that the ARC could not craft a new three-year transportation improvement program without exceeding the vehicle emissions budget. In 1997, the ARC failed to develop a conforming long-range transportation plan.¹⁷⁵ When the long-range plan and federal extensions of the previous short-term program expired in January 1998, federal funds were cut off for new roads and other transportation projects.¹⁷⁶

171. In the early 1990s, highway construction in Atlanta proceeded faster than in any other large urban area in the country, exacerbating air quality problems. See Lockard, *supra* note 170, at 176 n.116.

172. See, e.g., Glanton, *supra* note 151 (“Atlanta is justifiably a model to examine for a metro area that has . . . a lack of growth controls or strong planning legislation. . . .”); Lyndsey Layton & Katherine Shaver, *Region’s Ozone Lesson Lies South; Pollution Already Has Cost Atlanta Federal Funds for Roads*, WASH. POST, July 23, 2001, at A1; Jill Jordan Sieder, *Traffic Jam: In Atlanta, a Pitched Battle over Roads, Pollution, and Boundless Urban Sprawl*, U.S. NEWS & WORLD REP., Feb. 8, 1999, at 28. Since January 1999, the Southern Environmental Law Center has filed four lawsuits on behalf of various public interest groups, using the Clean Air Act and TEA-21 to challenge transportation and air quality plans and determinations. See S. Wesley Woolf, *Mitigating the Air Quality Impacts of Sprawl in Atlanta*, 15 NAT. RES. & ENV’T 232 (2001) for a more complete discussion of some of this litigation.

173. The Atlanta Regional Commission is the area’s metropolitan planning authority.

174. These conformity provisions are contained in 23 U.S.C. §§ 135(b), 135(f)(2)(C)(iii) (2001) and 42 U.S.C. § 7506(c) (2001).

175. See Lockhard, *supra* note 170, at 176-77; Woolf, *supra* note 172, at 234.

176. See Lockhard, *supra* note 170, at 176-77.

Rather than develop a new plan to bring the region into conformity with the ozone standard, the Georgia Department of Transportation ("GDOT") and the ARC accelerated road construction in an attempt to circumvent the impending funding cutoff.¹⁷⁷ They approved federal funding for sixty-one new road construction projects that would have led to further sprawl, increased vehicle use, and increased pollution from vehicle exhaust. GDOT and ARC argued that the funding cutoff did not apply to these projects, and that the projects were "grandfathered" under the Clean Air Act, since they had once been part of a conforming plan.¹⁷⁸ The sixty-one projects they approved would have permitted years of additional road-building without complying with the conformity requirement for a transportation plan that leads to attaining air quality standards.

The EPA objected, claiming that this use of its grandfathering provision was illegal and contrary to the purpose of the provision.¹⁷⁹ A lawsuit was filed in January 1999 that sought to enjoin further federal funding of these sixty-one road projects, claiming that this would violate the Clean Air Act's conformity requirements.¹⁸⁰ This was the first lawsuit in the country to challenge a specific grandfathering plan. Prior to this complaint, the Environmental Defense Fund filed a lawsuit challenging the grandfathering rule itself. In March 1999, the D.C. Court of Appeals overturned the rule, finding it contrary to the Clean Air Act's conformity requirement.¹⁸¹ Nonetheless, the U.S. DOT and GDOT initially

177. *See id.* at 176 n.116.

178. EPA regulations at the time did permit projects to be grandfathered and to continue receiving funding during a conformity lapse as long as they were part of a previously conforming plan; the NEPA review process had been completed; and they had not changed significantly in design or scope. 40 C.F.R. § 93.102(c)(1) (2002) (permitting a lapse only if project has taken major step in NEPA process within past three years). State and regional officials in Atlanta tried to extend this loophole further than any other locality.

179. Letter from John H. Hankinson, Jr., Regional Administrator, EPA Region 4, to Larry R. Dreihaup, Administrator, Georgia Division, FHWA (Jan. 16, 1998) (Attached are EPA COMMENTS ON DEC. 30, 1997 ATLANTA INTERIM TRANSPORTATION IMPROVEMENT PROGRAM, stating that "The 'grandfathering' provisions were not intended to allow areas to avoid the need to develop conforming plans and TIPs in the future.").

180. *Georgians for Transp. Alternatives v. Shackelford*, Civil Action No. 1 99-CV-0160-CC, (D.Ga. Jan. 20, 1999). This lawsuit was filed by the Southern Environmental Law Center on behalf of Georgians for Transportation Alternatives, The Georgia Conservancy, and the Sierra Club.

181. *Environmental Defense Fund v. EPA*, 167 F.3d 641, 649 (D.C. Cir. 1999). *See Yarne, supra* note 114, for an analysis of this decision.

wanted to apply this ruling in a way that would allow all sixty-one of the Atlanta road projects to go forward using federal funds.

Ultimately, a settlement was reached that halted federal funding of forty-four of the challenged roads; seventeen projects already under contract were allowed to proceed.¹⁸² As part of the settlement, the U.S. DOT issued national guidelines that extended the results of the D.C. Court of Appeals's ruling, stopping federal funding not only for project construction, but also for preliminary engineering and right-of-way acquisition during a conformity lapse. In addition to strengthening the links between federal transportation and air quality laws, the settlement resulted in over \$300 million of transportation funds being diverted from highways to alternative transportation investments that will result in less air pollution.¹⁸³ The settlement also helped advance more sustainable transportation and smarter growth by requiring a variety of studies and procedures to improve transportation, land use, and air quality planning in the Atlanta region.¹⁸⁴

The high-profile fight¹⁸⁵ over the effort to grandfather sixty-one new road projects also helped raise political and public awareness of Atlanta's mushrooming transportation, land use, and air quality problems, and highlighted the failure of current governmental entities and approaches to solve these problems. This in turn generated support for efforts already underway to promote smarter growth, such as the Chamber of Commerce's Metro Atlanta Transportation Initiative. The conflict particularly helped spur the creation of the Georgia Regional Transportation Authority ("GRTA"), a new state agency that must approve state and local transportation investments in areas of the state that do not meet air quality standards. Although many factors led to the establishment of GRTA, including strong efforts by business leaders to promote regional solutions to Atlanta's transportation and pollution problems, the enforcement of the transportation funding cutoff helped create the will to focus on the issue.¹⁸⁶

182. See David Goldberg, *Deal Kills Money for 44 Roads: But 17 Others Get Go Ahead as Environmentalists Drop Suit*, ATLANTA J.-CONST., June 21, 1999, at 1A.

183. Woolf, *supra* note 172, at 235.

184. *Id.*; see also David Goldberg, *Road Case Settled with 17 Projects Approved*, ATLANTA J.-CONST., June 22, 1999, at 1C.

185. See, e.g., Kelly Simmons, *Anti-Road Suit Goes to Court Today*, ATLANTA J.-CONST., June 5, 2001, at 1B; Goldberg, *supra* note 182.

186. See, e.g., Lockhard, *supra* note 170, at 176-77 (noting that GRTA was not established until after the well-publicized loss of \$900 million in highway funds annually due to Atlanta's ineligibility for the funds under the Clean Air Act). Transportation and growth issues were a primary focus of the 1998 governor's race in Georgia, and

GRTA is a potentially powerful body. The first entity of its kind in the nation, this transportation “super-agency” has been hailed as “one of the most promising efforts to address metropolitan sprawl in the nation.”¹⁸⁷ Among other things, GRTA can modify or veto transportation plans of GDOT and the ARC, build and operate public transportation systems, create or deny access to any part of a road or highway, issue debt, acquire or condemn property, or withhold transportation funds from large development projects.¹⁸⁸ It embodies many elements of the smart growth approach, such as using infrastructure funding to promote more sensible transportation and land use patterns.¹⁸⁹ GRTA can deny road access, withhold state and federal grants to a locality that “fails or refuses to plan, coordinate, and implement” regional transportation plans and projects, and review the impact of large projects needing either federal or state funds or road access.¹⁹⁰ In short, GRTA could provide a model for more sustainable transportation and for smarter growth by linking transportation, land use, and air quality planning at the regional level, by providing a broader range of transportation choices, and by using transportation funding to guide growth to areas where it will not generate significant sprawl, congestion, and pollution.¹⁹¹

C. Meaningful Change?

The creation of GRTA strikingly illustrates the shift from business as usual in the Atlanta region. However, there also is considerable evidence that policymakers are not committed to more significant measures needed to improve transportation, reduce sprawl, and clean up the air.

the winner, Roy Barnes, emphasized finding a regional solution to these problems. The notice of intent to sue in the grandfathering case was filed one week after Barnes was elected. Shortly after the grandfathering lawsuit was filed, Governor Barnes unveiled the legislation that led to GRTA’s creation.

187. THE BROOKINGS INST., *supra* note 170.

188. See GA. CODE ANN. §§ 50-32-11, 50-32-14 (2002); see also Alan Ehrenhalt, *The Czar of Gridlock*, GOVERNING May 1999, at 20; Leon Eplan, *Atlanta Airs Its Options*, PLANNING, Nov. 1999, at 16; Lockhard, *supra* note 170.

189. Eplan, *supra* note 188, at 16.

190. GA. CODE ANN. § 50-32-11.

191. Sprawling development, traffic congestion, and air quality problems tend to be regional in nature. Political jurisdictions rarely match the scope of these problems, and thus have difficulty addressing them effectively. The Atlanta region, for example, consists of over 100 local governments. This has led to a lack of a regional focus and to competition for jobs and tax base that has thwarted attempts to deal with the harmful consequences of growth.

Following the grandfathering litigation, state and regional agencies worked to craft new air quality and transportation plans in order to get federal highway funds flowing again. ARC developed a long range transportation plan and a three year transportation improvement program that contain some positive elements, including a significant commitment to transit and to transit-oriented land use development. However, many of the transit projects lack a firm financial commitment,¹⁹² and public interest groups have charged that the plan relies on outdated, inaccurate transportation data and unrealistic land use assumptions. As a result, the new transportation plan and program have been criticized for overstating the air quality improvements they would bring.

In order to get the plan approved, the Georgia Environmental Protection Division altered the State Implementation Plan for the Atlanta area to increase the motor vehicle emissions budget for nitrogen oxides and to extend the attainment deadline for the region.¹⁹³ In February 2000, EPA concluded that the new emissions budget was adequate to demonstrate conformity for 2003.¹⁹⁴ Two months later, a lawsuit challenging this determination was filed.¹⁹⁵ Among other things, petitioners argued that EPA's approval of conformity for 2003 was illegal, since the Clean Air Act requires serious non-attainment areas such as Atlanta to achieve attainment with the ozone standard by 1999.¹⁹⁶ On July 18, 2000, the Eleventh Circuit Court of Appeals granted petitioners' motion to stay EPA's adequacy determination pending the Court's ruling on the merits of the petition.¹⁹⁷ Georgia eventually withdrew the new emissions budget and EPA ultimately withdrew its adequacy determination.¹⁹⁸

192. See Maria Saporta, *State's Shown Us Studies, But Has Yet to Show Rail Money*, ATLANTA J.-CONST., June 11, 2001, at B3 (noting that the plan assumes commuter rail lines and a multimodal station "neither of which has received anywhere near the money to make it a reality").

193. See Woolf, *supra* note 172, at 235.

194. Adequacy Status of the Atlanta, Georgia Submitted Ozone Attainment State Implementation Plan for Transportation Conformity Purposes, 65 Fed. Reg. 10490 (Feb. 17, 2000).

195. Georgians for Transp. Alternatives v. United States EPA, Civil Appeal No. 00-12187A (11th Cir. Apr. 28, 2000).

196. 42 U.S.C. § 7511(a)(1) (2002).

197. See Kelly Simmons, *Court Halts Regional Transportation Plan*, ATLANTA J.-CONST., July 19, 2000, at A1.

198. Adequacy Status of the Atlanta, GA, Submitted Ozone Attainment State Implementation Plan for Transportation Conformity Purposes; Withdrawal of Adequacy Finding, 66 Fed. Reg. 7904 (Jan. 6, 2001); see Kelly Simmons, *Air Let Out of Lawsuit*, ATLANTA J.-CONST., Dec. 23, 2000, at 1D.

On July 25, 2000, one week after the Eleventh Circuit entered its stay, the U.S. Department of Transportation effectively sidestepped this ruling, finding that ARC's new long range transportation plan and three-year transportation improvement program were conforming because they met the old emissions budget Georgia submitted in 1996.¹⁹⁹ Again, public interest groups have charged that these documents overstate air quality benefits, using outdated data and questionable land use assumptions. Moreover, even if the data and assumptions are accurate, under this plan the 1996 motor vehicles emission budget will not be met until 2005. Pollution levels from the region's transportation system are projected to be greater than the 1996 vehicle emissions budget in each year of the three-year transportation improvement program. U.S. DOT nevertheless found the plan and program to be conforming, despite having written the ARC board that these documents presented "a significant litigation risk."²⁰⁰ Following U.S. DOT's approval, public interest groups filed notice of their intent to sue, and state agencies, the ARC, and the plaintiffs entered into negotiations to settle the dispute.²⁰¹

An agreement was reached in principle on a settlement that would have provided for major policy reforms and faster funding for items such as clean fuel buses in exchange for allowing federal funding for the highway projects in the plan to proceed; however, negotiations ultimately broke down over the enforceability of the agreement.²⁰² A lawsuit was then filed in January 2001, challenging U.S. DOT's conformity determination and seeking to again cut off federal highway funding until the region develops a meaningful plan to reduce tailpipe emissions and come into conformity.²⁰³

In addition, a lawsuit has been filed challenging EPA's most recent approval of a new motor vehicle emissions budget as adequate

199. Woolf, *supra* note 172, at 27 (discussing Letter from Larry R. Dreihaup, Division Administrator, Georgia Division, FHWA & Jerry Franklin, Regional Administrator, Region 4, FTA to Charles Krautler, Executive Director, ARC (July 25, 2000)).

200. Letter from Larry Dreihaup, Division Administrator, Georgia Division, FHWA & Susan E. Schruth, Regional Administrator, Region 4, FTA to Harry West, Executive Director, ARC (Mar. 21, 2000)).

201. Simmons, *supra* note 158.

202. *Id.*

203. *Sierra Club v. Atlanta Regional Commission, et al.*, Civil Action Number 1:01-CV-0428-BBM (D.Ga. Feb. 13, 2001). On January 18, 2002, the district court found in favor of defendants, ruling that EPA's regulation allows conformity to be determined in ten year increments. An appeal was pending in the Eleventh Circuit Court of Appeals at the time this Article was written. (Civil Appeal No. O2-11652-F).

to demonstrate conformity.²⁰⁴ As in 2000, petitioners have argued that EPA's approval of conformity was illegal, since the Clean Air Act requires serious non-attainment areas such as Atlanta to achieve attainment with the ozone standard by 1999.²⁰⁵ On April 18, 2002, the Eleventh Circuit Court of Appeals granted petitioners' motion to stay EPA's adequacy determination pending the Court's ruling on the merits of the petition.²⁰⁶

Regardless of the outcome of the current proceedings, the ARC's actions, which have been approved by GRTA, reflect a continued unwillingness to take the steps necessary to reduce pollution as much and as quickly as the Clean Air Act requires, and to reform transportation, land use, and air quality planning as federal law envisions. Instead, the primary goal of most policymakers and politicians seems to be to return to aggressive road-building—which will lead to further sprawl, vehicle miles traveled, and pollution—without taking the necessary actions to improve air quality. ARC and GRTA have continued to adopt transportation programs and plans that call for spending hundreds of millions of dollars to increase highway capacity in the short term, and billions of dollars on highway projects in the long term. These plans include funding the most notorious sprawl-inducing highway project proposed for the Atlanta region—the Northern Arc. This highway is a \$2.4 billion segment of what was originally proposed as a 210 to 235 mile, \$5 billion Outer Perimeter that would run over twenty miles beyond the existing beltway and has been ranked as the single most expensive and wasteful road project in the country.²⁰⁷ The Northern Arc would foster sprawling development in some of the area's last remaining rural communities, pollute miles of streams and rivers, increase driving, do little or nothing to relieve traffic congestion, and add to Atlanta's serious ozone pollution.²⁰⁸ Yet the most recent transportation program adopted by ARC and approved by

204. *Sierra Club v. U.S. EPA*, Civil Appeal No. 02-11188-F (11th Cir. March 7, 2002).

205. See *supra* notes 194-196 and accompanying text.

206. See Janet Frankston, *Court Reinstates Stricter Atlanta Air Standards*, ATLANTA J.-CONST., Apr. 19, 2002, at C1.

207. TAXPAYERS FOR COMMON SENSE AND FRIENDS OF THE EARTH, ROAD TO RUIN 2 (1997).

208. See, e.g., Editorial ATLANTA J.-CONST., *Northern Arc Would Do One Thing: Enable Sprawl*, Dec. 5, 2001, at 21A. In addition, at the state level, the Road and Tollway Authority has \$8.5 billion worth of bonding authority. Governor Barnes has announced plans to spend that much in as little as five years, more than doubling the state's investment in transportation. Joey Ledford, *State Finally Ready to Give \$8.5 Billion to Transit Projects*, ATLANTA J.-CONST., July 16, 2001, at 3C.

GRTA includes \$25 million for preliminary engineering of this project.²⁰⁹

Still, there are signs of progress. The current long range transportation plan does call for a more balanced approach to transportation, including devoting fifty-five percent of funds to transit (although the source of those funds is not evident) and \$525 million for bicycle and pedestrian projects.²¹⁰ In addition, the ARC has created some innovative smart growth projects, such as the Livable Centers Initiative, which funds local studies to develop land use plans supporting alternatives to driving, as well as projects such as mixed use developments close to transit.²¹¹ Further, GRTA continues to be an entity with enormous potential to promote smarter growth and a more balanced approach to transportation.²¹²

The experience in Atlanta illustrates the magnitude of the challenges facing efforts to alter patterns of road-building, automobile dependence, and sprawling development. However, it also illustrates the potential force of tools that promote more sustainable transportation and smarter growth, as well as the potential for strong advocacy efforts by business and public interest groups to promote meaningful change. Although significant obstacles to further reform remain, public awareness of transportation, sprawl, and air quality problems in Atlanta has increased dramatically, and has begun to stimulate smart growth policies and investments.

CONCLUSION

The dominant approaches to transportation and land use development in the United States are not sustainable. Significant changes are required to a complex web of laws, policies, and practices in order to create a more efficient, less environmentally de-

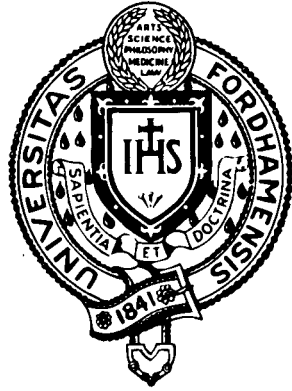
209. See Julie Hairston, *GRTA Enacts Funding Authority: \$4.6 Billion Regional Traffic Plan also OK'd*, ATLANTA J.-CONST., Nov. 15, 2001, at 1E.

210. ATLANTA REG'L COMM'N, ATLANTA REGIONAL TRANSPORTATION PLANNING FACT BOOK 2001 65 (2002).

211. Some funds have been released for planning and implementing projects. See Janet Frankston, *ARC Targets 16 Communities to Receive Smart-Growth Grants*, ATLANTA J.-CONST., Jan. 21, 2002, at 5B. However, questions have surfaced about ARC's commitment to follow through on funding for implementing the plans in a timely fashion. See *ARC's Livable Centers a Winner*, ATLANTA J.-CONST., Aug. 1, 2001, at 12A (editorial); John McCosh, *New Urgency on 'Smart Growth': Millions are Going to Metro Communities*, ATLANTA J.-CONST., May 21, 2001, at 1E.

212. Thus far, GRTA has been slow to develop guidelines and projects, and it has retreated from exercising its authority to deny road funds to large development projects. Julie B. Hairston, *GRTA Won't Deny Road Funds for Forsyth Project*, ATLANTA J.-CONST., Sept. 13, 2001, at 2D; Kelly Simmons, *GRTA at 2: Still Teething*, ATLANTA J.-CONST., June 4, 2001, at E1.

structive transportation system and more sensible growth patterns. Although there are considerable obstacles to such changes, the growing public support for change and the recent surge of initiatives promoting more sustainable transportation and smarter growth highlight the potential for progress toward these new paradigms.



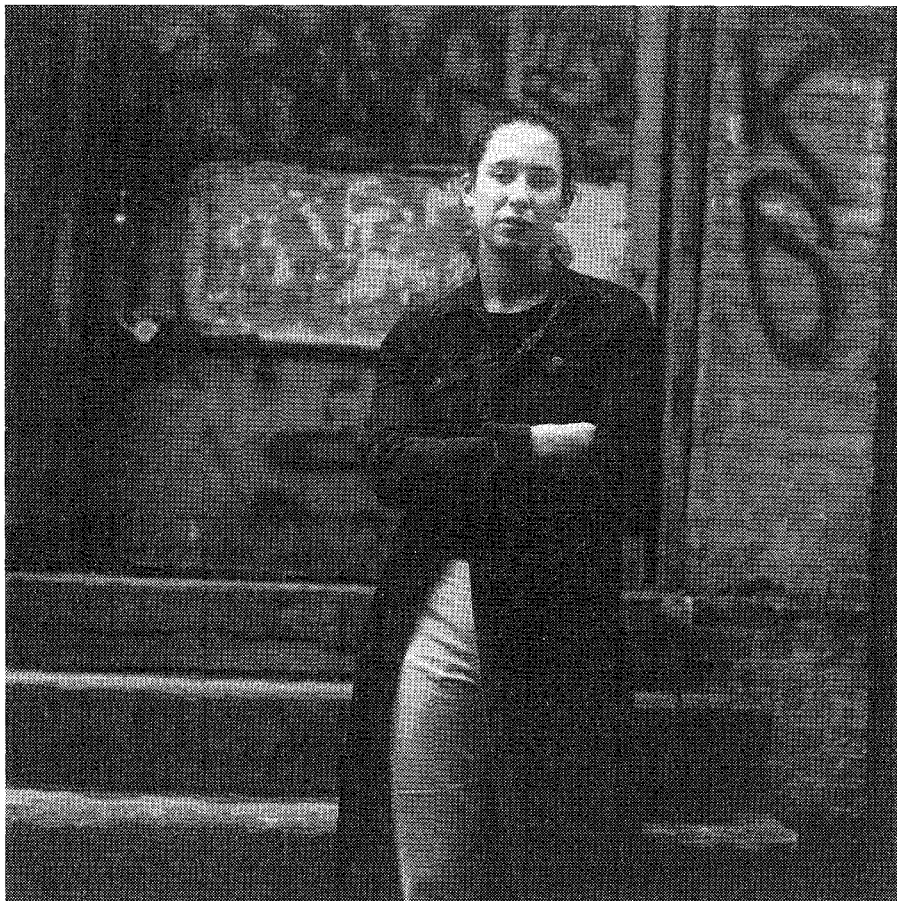
**THE FORDHAM URBAN LAW JOURNAL
THE COMMUNITY REINVESTMENT ACT:
TWENTY-FIVE YEAR ANNIVERSARY**

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Oasis employee Shara Perlman works in Brooklyn's DUMBO (Down Under the Manhattan Bridge Overpass) neighborhood, which has benefited from the Community Reinvestment Act. *Photo by Tracy Katz.*

