

1-1-2007

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Recommended Citation

Mandy B. Seuffert, *Caught in a Cement Spider Web: Proposed Suburban Transportation Policies to Architecting less Automobile Reliant Communities*, 15 Penn St. Envtl. L. Rev. (2007).

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Caught in a Cement Spider Web: Proposed Suburban Transportation Policies to Architecting Less Automobile Reliant Communities

Mandy B. Seuffert*

I. Introduction

New York City is the quintessential pedestrian town. There is no sensation like being able to walk to work in a cement forest. The city gives pedestrians a firm sense of belonging and defined personal space. Conversely, Pike County, Pennsylvania—it's the archetypal suburban town. There is no convenience like driving home in a cement spider web. The suburbs give drivers a firm sense of belonging. For persons who work in New York City and reside in Pike County, the two can feel like different worlds. For those same persons who commute 175 miles a day to and from work,¹ the two are worlds apart. The commute is an outrageous one, but there are people who surprisingly make ones like this part of their daily lives. Fewer Americans, however, are making the commute from the suburbs to major cities. Today, many people are commuting between suburbs and exurbs. Unlike those regions on the outskirts of New York City, like Pike County, suburban growth is moving in the directions of the interstate. This is creating a heavy reliance on the automobile, only exasperating the already numerous problems associated with driving, like greenhouse gas emissions and traffic congestion.

This article focuses on defining both the mobility problems associated with suburban sprawl and the policy reasons in support of suburban transportation planning. More importantly, this article

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1. *U.S. Population Shift*, VOICE OF AMERICA, July 8, 2005 (stating that the distance between Pike County and NYC is 140 kilometers).

discusses how current population and development trends demand suburban planners to plan transportation systems in and between communities. The article closely examines the past and the present effects the economy and transportation have on development patterns. The first section analyzes the history of suburban development and transportation. This part discusses the early opportunities that Levittowns, automobiles, rapids and interstates gave Americans. The regulatory forces that participate and influence transportation planning and development are discussed in the second section. These forces include the departments and the regulations that plan and engineer transportation systems, coordinate safe and speedy travel, and enforce environmental compliance and quality. The healthcare, environmental and political problems posed by continued suburban, automobile commutes is spotlighted in the third section. The increasing problems associated with suburb to exurb commuting are outlined in the fourth section. These problems vary from reliance on automobiles, increased roadway congestion to commercial complex abandonment. The final section proposes governmental initiatives and campaigns that will alleviate these problems. Models and possible solutions mentioned include de-vehicularization, supervised development and redeveloping activity centers around modes of transportation to better connect regions.

II. Histories of Transportation and its Effects on Suburban Sprawl

A. *Early Suburban Development*

Bill Levitt became the bellwether of the building trade when his wartime bug for volume laid the groundwork for suburban growth.² The housing industry was forever revolutionized when Levitt answered veterans' demand for new housing after World War II and built an astounding 17,000 four-room bungalows in a housing division outside New York City.³ Small contractors were only building about five houses a year while Levitt built thirty six units a day in communities landscaped with parks, pools, shopping centers, schools and churches.⁴ Levitt's massive housing project, called "Levittown," changed housing development patterns in this country. Levitt's influence spawned the

2. ERICK BRUUN ET AL, *OUR NATION'S ARCHIVE: THE HISTORY OF THE UNITED STATES IN DOCUMENTS* 792 (Tess Press 1999). Levittown was first written about in a *Harper's Magazine* article titled, "The Six Thousand Houses that Levitt Built" by Eric Lerrabee. *Id.*

3. *Id.* (stating that Levitt built 2,350 units for the Navy during WWII and used the same techniques to create massive housing divisions after the war. Levitt built new homes for veterans who could afford them because of the G.I. Bill).

4. *Id.*

growth of similar subdivisions and by 1955, 75% of housing development occurred at the outskirts of cities.⁵

Strangely the rise of the automobile contributed in several ways to Levitt's success and to the growth of the suburb. First, Levitt's mass production techniques were borrowed heavily from Henry Ford's.⁶ The housing industry, once limited in construction, became a large-scale operation. Secondly, Americans enjoyed greater prosperity with the improving economy. Low-priced auto manufacturers made it possible for many Americans to spend their new wealth on automobiles. Automobiles offered Americans greater mobility and with it the opportunity to reside in the suburbs. Thirdly, automobiles became America's dominant mode of transportation because a growing number of people owned them. Increased traffic required more modern and convenient highways. In the 1950s, Congress responded to the country's need to reconstruct its highway infrastructure and passed the National Highway Act of 1956. Over 40,000 miles of highway were built. As a result, development patterns changed and communities were built to meet the needs of the automobile.⁷

B. Present Suburban Development

One reason the early suburban housing boom became so widespread is because of the mobility automobiles offered blue-collar workers.⁸ Before World War II, mostly white-collar workers would reside in upper-middle class neighborhoods along commuter transit lines. The commuter lines ran to and from these neighborhoods to the city center. Wealthy, white-collar workers could walk a short distance to the station and ride the trolley or commuter line to their office in the city. Developers built these neighborhoods close to bus stops and train stations because the convenience often became a principal selling point of the new communities.⁹ The same commuter lines did not stop at the factories or construction sites where the blue-collar worked. When the country turned into an automobile-centered society after World War II,

5. *Id.*

6. *Id.* (stating that Levitt built 6,000 houses in his first housing division).

7. PETER CALTHORPE, *THE NEXT AMERICAN METROPOLIS: ECOLOGY, COMMUNITY, AND THE AMERICAN DREAM*, 27 (Princeton Architectural Press 1994) (stating that the automobile is the defining technology of our built environment, and that it sets the form of cities and towns, dictates the scale of streets, the relationships between buildings, the need for vast parking and the speed at which Americans experience their environment).

8. TOM LEWIS, *DIVIDED HIGHWAYS: BUILDING THE INTERSTATE HIGHWAYS, TRANSFORMING AMERICAN LIFE* 80 (Viking Penguin 1997).

9. *Id.* at 81 (explaining that the number of minutes it took to walk from the home to a station made a house more attractive to buyers, and that developers were most concerned about locations near stops and stations).

developers became less concerned about locating suburban houses near commuter lines and were able to expand their development to the fields and less expensive areas away from the lines with little impact on their employers.¹⁰ At the same time, automobiles were so inexpensive that people who could afford to own a house could also afford to own an automobile.¹¹ The opportunities to own both finally made it possible for blue-collar workers to reside in the suburbs and drive to work.

One reason present day suburban development continues to be so widespread is because there has been a shift in the country's economy from a heavy, blue-collar manufacturing base to a growing, white-collar service and information base. By the end of World War II,¹² one third of this country's jobs were in manufacturing - more than any period after World War II.¹³ Most manufacturing firms were located near rail spurs and water ports because of their proximity to raw materials and goods. Since the early 1980s, advanced technologies have become the fastest growing industries.¹⁴ As a result, the fastest growing employment sector is office-based occupation, which has spurred a drastic change in office employment and office development. The share of regional jobs has risen outside of the nation's central cities, since companies prefer to build sprawling, low-rise office developments in the outskirts.¹⁵ The suburb is undergoing a "second-wave" of in-migration, and present suburban development is a result of growing white-collar professions.¹⁶ The older, close-in bedroom communities that the blue-collar workers moved their families into in the late 1940s and early 1950s are today no longer distinguishable from their central city neighbors. Newer suburbs built in outlying locations have become little cities in themselves and increased suburb to exurb commuting is presenting new challenges for workers.

10. *Id.* (explaining that developers thought more about the locations of driveways than stops and stations).

11. *Id.* (explaining that in 1953 the federal government lifted the production restrictions it imposed on automobile manufacturers for the Korean War. Automobiles were cheaper and better than ever before and resulted in increases in suburban living, the number of families owning vehicles and the number of vehicles families owned).

12. ROBERT CERVERO, *SUBURBAN GRIDLOCK* 8 (Transaction Publishers 1986) (stating that the number of jobs in manufacturing decreased from 32% of jobs after WWII to 24% in the 1980's).

13. *Id.* at 12.

14. *Id.* Present economy is one devoted to the production of ideas and information (s.a. data processing and research firms). *Id.*

15. *Id.* at 27.

16. *Id.* at 25. Center for Urban Policy Research published series of articles exploring the scope of mobility and congestion problems posed by business growth in the suburbs. Article titled, *America's Growth Regions: Demographic, Economic and Commuting Trends*, explains the demography of the suburbs and the geography of suburban commuting. *Id.*

C. *History of Rapid Development*

The economy, transportation and development have always been closely associated with one another. The relationships between the economy and the modes of transportation available to workers have historically played significant roles in either city or suburban development. The same way that the automobile contributed greatly to early suburban development in this country, the railway contributed significantly to early suburban development in London. In the early nineteenth century, railways were first used to haul the products of mines to industrial towns. Strangely, railways were blamed to be the first cause of city congestion. Manufacturing lured many workers into the cities and they crowded into the surrounding areas. Industrialism produced a “degraded urban environment”¹⁷ in which these areas were quickly turned into congested and polluted factory slums.

The first eloquent advocate to spotlight the humanitarian issues associated with working and living in the slums was Charles Pearson.¹⁸ Known as the “Father of the Subway,” Pearson strongly advocated for a passenger railroad. He believed that a city railway was a matter of civic interest, as poor factory workers were trapped in the city’s slums and industrial settlements. They were afforded no rapid and inexpensive means to travel to desired country residences. In fact, they couldn’t even walk out of the slums they worked in. In the mid-1840s, proposals for building railway lines in the heart of London were considered by the newly established Royal Commission on Metropolitan Termini. The commission considered building main-line stations at sites aspired to be the centers of commerce.¹⁹ The proposals were received with hostility at first, but Pearson’s continued campaigning prevailed. The Metropolitan Railway opened to the public in 1863.²⁰ Clerks and laborers were invited to ride the “Workmen’s Train” for reduced rates in the early morning and evening.²¹ In the hours between, the Metropolitan and connecting trains were scheduled to stop every fifteen minutes.²²

Paris and Glasgow respectively built the Metro and a rapid transit tube thereafter. Boston then became the first North American city to

17. BENSON BOBRICK, *LABYRINTH OF IRON: HISTORY OF THE WORLD’S SUBWAYS*, 84 (Newsweek Books 1981) (stating that people lived in a semi-permanent pall of gas, smoke and fumes).

18. *Id.* at 91 (explaining that in 1839, the London City Solicitor made numerous contributions to the moral and financial health of London).

19. *Id.* at 90. Planned sites included London Bridge, Fenchurch, Shoreditch, Euston, Paddington and King’s Cross. *Id.*

20. *Id.* at 101.

21. *Id.* at 102.

22. *Id.* at 103.

build a rapid transit system in the 1870s, so as to ease its heavy road network traffic.²³ Around the same time, proposals for a rapid transit were made in New York City as a means of alleviating the similar social problems that London faced. Its first subway opened in 1904, but it wasn't until 1913 when New York City decided that it would build the world's largest subway system to stand alongside London and Paris.²⁴

Despite New York City's dominance at the turn of the century as the nation's leading financial center, the nation's premier port and headquarters for its largest companies, it was also the nation's largest manufacturing center.²⁵ Manhattan housed the largest concentration of manufacturing in the United States, and three quarters of New York City's population were crowded into Manhattan's tenement neighborhood. Although New York was the world's second most populated city, it was the world's most crowded.²⁶ Poor and unskilled immigrants were forced to work in densely packed factories that were close to and mixed in with the bleak and crowded neighborhoods they lived in.

Although the "greatest evil" for many of these tenants was the lack of light and air, high rates of disease, crime and social dislocation threatened them and the city as a whole.²⁷ The New York City Health Department was created in 1865 to propose public health measures to alleviate the social and health problems associated with overcrowding in Manhattan.²⁸ Around the same time, a commuter railway service was proposed to alleviate the population problems. It was proposed that workers move to residential areas north of Manhattan and travel to work on trains that would offer inexpensive fares and frequent service. It wasn't until 1910 when the city awakened itself to the dangers posed by overcrowding in dense manufacturing areas and realized the benefits that a commuter railway service offered. Mass rapid transportation finally

23. Stan Fischler, *Subways of the World*, 53, (MBI Publishing Co. 2000) (explaining that Boston is the birthplace of American mass transportation, with the oldest system in the nation. Boston was progressive in many forms of mass transportation: ferries, horse cars, cable cars and subways).

24. Peter Derrick, *Tunneling to the Future: The Story of the Great Subway Expansion that Saved New York*, 1, N.Y. UNIV. PRESS (2001).

25. *Id.* at 93-94 (the year discussed is 1910).

26. *Id.* at 92 (stating that London was the world's most populated city).

27. *Id.* at 100-102 (explaining that lack of proper light, ventilation and sanitation led to "prevalence of disease, high rates of mortality, [and] high death rates among children." Lack of privacy led to "moral deterioration," as revealed in the "gradual breaking down of family ties, in the increase and prevalence of crime and delinquency in the congested districts, and, not least, in the extensive moral looseness and virulence of prostitution in densely populated districts.").

28. *Id.* at 20. Social evils and disorders follow overcrowding, as well as the prevalence of disease and crime. *Id.*

became New York City's most popular and supported proposal. The city discovered that workers needed access to inexpensive and efficient rapid transits that would enable them to move to suburban areas but continue working in the central city.²⁹

The New York Subway was hence built and the "subway suburbs" were born.³⁰ Between the years 1910 and 1940, ninety percent of New York City's population increases occurred in the newly developed outer boroughs.³¹ After World War I, many families were able to move to neighborhoods more suburban in character. The mix of housing, parks and trees improved their quality of life while the public transit enabled them to get to and from the city with ease. A study on the movement of population conducted at the time concluded that "the direction and growth of the city ha[d] been dominated by the direction and growth of the city's transit facilities."³²

Most residential development in the boroughs was a mix of apartment style housing, row housing and detached homes.³³ Development in these subway suburbs peaked around 1940. Beginning in the early 1950s, families began to move out of these subway suburbs and into the Levittowns and new housing developments built on the outskirts of the city.³⁴ The automobile, new highways and single-family homes made the move an attractive one.

Other North American cities experienced a similar chain of events. Transportation, expanding highways, and better homes contributed and continue to contribute significantly to suburban sprawl. Economist Charles Cooley theorized, "[t]ransportation underlies social development and at the same time determines that development."³⁵ For example, there is dramatic growth in America's southern and western regions. Highways were first built in these once desolate regions, and then communities were subsequently built around the highways to meet the needs of the automobile. Cooley noted that concentration accompanies progress, but it also brings on new social problems. Manufacturing had concentrated in dense urban areas and it brought an onslaught of social

29. *Id.* at 108.

30. *Id.* at 231.

31. *Id.* at 245. Subway served as a catalyst for new residential areas in the Bronx, Brooklyn and Queens. *Id.*

32. *Id.* at 248.

33. *Id.* at 253. Only 2% of residential buildings were single or two family homes in Manhattan. Less than 40% of homes in Brooklyn and the Bronx were single or two family homes. *Id.*

34. *Id.* at 259. As the older population moved out of the suburb subways, new groups moved in (namely immigrants and African Americans). The subway suburbs remained largely in place and didn't experience the decline and severe problems other older neighborhoods experienced. *Id.*

35. *Id.* at 107.

problems. Similarly, the service professions are presently concentrating in expanding suburban areas and new problems accompany the expansion. The new evils that the people who work and reside in the suburbs face aren't the lack of light, air or green space; it is the exhausting and frustrating commutes. Suburban sprawl offers many people the opportunity to achieve the American dream, but there are consequences to continued development. There are new problems associated with working and living in the suburbs and some of the most significant ones are related to suburban commuting.

III. The Effects of Suburban Automobile Commuting

A. *Healthcare Effects*

Forty-three thousand people lose their lives to automobile collisions every year while another two million suffer disabling injuries.³⁶ These numbers are both staggering and tragic, yet there are many other health related risks associated with driving besides the common hazards of accident related injury or death. Driving is one of the leading causes of stress in America,³⁷ and the stress it causes can lead to high blood pressure, stroke and heart attack.³⁸ Studies indicate that drivers suffer from physical symptoms of stress that include lower back pain, headaches and higher incidences of colds and flu due to decreased immune response.³⁹ Driving related stress affects one's emotional health as well. Oftentimes, the stress a person experiences while commuting lingers for the rest of the day. People become short with colleagues at work, provoke family members at home and unexpectedly explode into fits of anger over small matters.⁴⁰

36. JANE HOLTZ KAY, *ASPHALT NATION: HOW THE AUTOMOBILE TOOK OVER AMERICA AND HOW WE CAN TAKE IT BACK* 102 (1997).

37. Roger William, *Running Errands, Chauffeuring the Kids, Commuting Too Much May Wrack Your Nerves. Here's what you can do to cope*, WOMAN'S DAY, Apr. 30, 1985. Driving is the leading cause of stress among suburban women according Georgia Illiams, Ph.D. Women interviewed by Dr. Witkin-Lanoil stated that driving is stressful because the driver has little control over the weather, the road conditions, the mechanics of the car and the passengers. *Id.*

38. Joseph D. Younger, *Stress in the City: How to rid yourself of the "white-knuckle" syndrome once and for all*, BUSINESS WEEK ONLINE, Mar. 3, 2006, http://www.businessweek.com/autos/content/mar2006/bw20060303_716297.htm?chan=auto+index+page_news. Researchers at the University of California at Irvine studied driving related stress and its effects on a driver's physical health, work and family life. *Id.*

39. *Id.*

40. *Id.* Dr. Ernesto Randolph, chair of the Department of Health and Human Performance at Montana State University believes that driving stress can lead to an ugly and unproductive atmosphere at both ends of a commute. *Id.*

Incidents of violent outbursts on the road are also on the rise in the United States.⁴¹ Road rage is becoming a serious public health issue because the stress caused by long commutes, poor driving and congested roadways only makes drivers more resentful and angry.⁴² Stress and anger cause serious health problems. A frustrated driver who suffers from minor headaches, backaches, neck aches, shoulder aches or stomachaches is nine times more at risk for developing high blood pressure and three and a half times more at risk for developing heart disease.⁴³

There are other hidden health costs associated with driving as well. For example, many drivers develop poor posture framed by the shape of a car seat.⁴⁴ Poor posture places pressure on the internal organs and it can injure joints in the spine, ligaments and back muscles.⁴⁵ Similar to stress, poor posture will also cause backaches and headaches.

Researchers who study the related public health impacts of long commutes also cite higher rates of obesity.⁴⁶ Other examples of hidden health costs include those that are attributed to gasoline-related pollution and the unfit air caused by smog. There are already 100 million Americans residing in areas like Los Angeles, California, where smog alerts are regularly posted or the ground level ozone concentrations frequently exceed federal guidelines.⁴⁷ The health costs associated with smog and gasoline-related pollution includes medical costs, sick leave, respiratory illness and premature death due to respiratory illness.⁴⁸

An energy cost accountant named Joan Ogden catalogued the pollution a gasoline-burning automobile is responsible for.⁴⁹ Ogden concluded that one automobile causes \$1,162 in health related damage

41. Deborah Block, *Road Rage Becoming Serious Public Health Issue*, U.S. FED. NEWS, Jun. 8, 2006, available at <http://www.voanews.com/english/archive/2006-06/2006-06-08-voa51.cfm>. Incidents of road rage increased 7% in recent years according to the American Automobile Association. *Id.*

42. *Id.*

43. *Id.* Dr. Steven Stonsy, an anger management therapist, states that road rage can adversely affect one's health. *Id.*

44. A Perfect Posture Guide, http://www.idealspine.com/pages/a_perfect_posture_guide.htm (last visited Apr. 5, 2007).

45. *Boning Up on Health; It's Not Difficult to Stay Active and Supple. Just Follow a Few Simple Rules and You Can Get in Great Shape*, DAILY RECORD, August 22, 2006, available at http://www.dailyrecord.co.uk/news/tm_objectid=17600894&method=full&siteid=66633&headline=boning-upon-health—name_page.html.

46. William S. Saunders, *Sprawl and Suburbia* 63 (Univ. of Minn. Press 2005).

47. KAY, *supra* note 36, at 111.

48. PAUL ROBERTS, *THE END OF OIL* 274 (Houghton Mifflin 2004).

49. *Id.* Ogden is a researcher at the University of California, Davis. She calculated the amount of pollution each gallon of gasoline is responsible for "from the time oil is produced and refined to the moment it is burned in the engine." *Id.*

over its lifetime.⁵⁰ Multiply that by the nearly 243 million vehicles⁵¹ in this country and the costs becomes a major public health concern. The effects of pollution on one's health are great, but the climate-related effects of pollution on the environment are even greater.

B. *Environmental Effects*

Automobiles are responsible for releasing many pollutants in the atmosphere that affect the ozone. They release more carbon monoxide, reactive hydrocarbons and nitrogen oxides than any other urban or industrial source.⁵² Although all of these greenhouse gases contribute to the rise in global temperatures, carbon dioxide is the most pervasive.⁵³ Automobiles are responsible for one third of all CO₂ emissions.⁵⁴ Each year since 1950, there has been an average 3.3% increase in carbon emissions.⁵⁵ This increase reconciles with the rise in automobile use and suburban commutes that began around the same period.

The long-term costs associated with climate change are great. Although estimates are speculative, studies indicate that a four degrees increase in temperature will cost \$265 billion per year worldwide.⁵⁶ Crop failure, soil erosion, desertification and flooding will cost billions in agricultural losses. Rising sea levels will affect fresh drinking water supplies and cost an estimated \$300 billion a year. Human health costs will also climb as a result of both the spread of disease and natural disaster. For example, a five-degree increase in temperature is believed to give rise to 80 million new cases of malaria each year.⁵⁷ Thousands more will perish in more frequent heat waves and deadlier storms. In fact, it is believed that monsoon patterns will be altered if the temperature increases only one half-degree. For countries already plagued with poverty, increased rainfall brought on by monsoons can

50. *Id.* By comparison, a fuel cell automobile ran on hydrogen made from natural gas is responsible for \$736 of pollution and climate damage over its lifetime or \$225 if the hydrogen is sequestered from the natural gas. *Id.*

51. Passenger vehicles in the United States, http://en.wikipedia.org/wiki/Passenger_vehicles_in_the_United_States (last visited April 9, 2007). According to the U.S. Bureau of Transit Statistics, there are 243,023,485 registered passenger vehicles in this country. There are 136,430,651 cars (56.13%), 91,845,327 SUVs and pickup trucks (37.79%), 6,161,028 trucks and 5,780,870 motor cycles. *Id.*

52. KAY, *supra* note 36. Automobiles powered by the internal combustion engine. *Id.*

53. ROBERTS, *supra* note 48, at 179.

54. *Id.* at 130.

55. ALAN S. MANNE ET AL, BUYING GREENHOUSE INSURANCE: THE ECONOMIC COSTS OF CO₂ EMISSION LIMITS 90 (1992).

56. ROBERTS, *supra* note 48, at 121.

57. *Id.* Insects, bacteria and viruses confined in the tropics would spread to the United States, Australia and Southern Europe. *Id.*

reduce crop yields and displace millions.⁵⁸ It will cost the United States and northern European countries trillions in clean-up costs.⁵⁹

The reader may be skeptical because these effects seem so unlikely and tragic, especially since any real changes will not occur until many years into the future. This is not an environmental conspiracy. Seven of the warmest years ever recorded recently occurred in the 1990s.⁶⁰ Global temperatures have increased three degrees in the last century and they are expected to climb as much as seven degrees by 2050.⁶¹ Because the recent temperature increases are caused by man-made greenhouse gases, climate researchers stress that policy makers take initiatives to dramatically lower CO₂ emissions in the next couple decades.

Land pollutants are another environmental issue that policy makers must focus on. Anti-freeze, oils, refrigerants, salt and other forms of lethal runoff from automobiles seep into the ground each year and contaminate drinking waters.⁶² Some contaminants, such as petroleum, permanently affect millions of gallons of drinking water.⁶³ From the 10.8 billion barrels of oil used each year for U.S. transportation, 240 million gallons are released into the environment.⁶⁴ The millions of gallons of oil consumed and lost each day are shocking. If the United States continues to use this much oil to sustain its transportation needs, the severe environmental affects will continue to be only second priority for Congress. Experts predict that supplies of oil and gasoline will likely be depleted in the next 100 years.⁶⁵ The Bush administration has responded to these predictions and made it one of the nation's top priorities to secure and manage the world's largest oil supplies.

C. Political Effects

Emerging political instability is causing additional concerns in Washington besides the health and environmental ones associated with driving.⁶⁶ The volatility of oil prices is posing a great threat to the country's economic growth and power.⁶⁷ Although the world's oil supplies don't appear to be secure, the United State's campaign to

58. *Id.* at 121. Africa, Asia and tiny island nations will most severely feel the effects of rising sea levels, floods and crop failure. An expected 26 million Bangladeshis, 12 million Egyptians and 20 million Indians would be displaced. *Id.*

59. *Id.*

60. *Id.* at 120.

61. *Id.* The last ice age was triggered by a temperature increase of three degrees. *Id.*

62. KAY, *supra* note 36, at 84.

63. *Id.* at 95.

64. *Id.*

65. MANNE, *supra* note 55, at 14.

66. See ROBERTS, *supra* note 48, at 108.

67. *Id.* at 110 (according to U.S. Neoconservatives).

reassert its control over the world's second-largest oil reserves is highly controversial. Since World War II, there have been six major oil price spikes.⁶⁸ Each increase caused global economic activity to fall within six months.⁶⁹ The "asymmetrical" effects of each spike also caused economies to regain only one tenth of what they lost when the prices fell back down.⁷⁰ It is estimated that these oil spikes have cost the economy 15 percent in growth and over \$1.2 trillion in direct losses.⁷¹

The recent spikes in oil prices across this country are no doubted felt by most Americans at the gasoline pump. Consumer spending has been affected by the increased oil prices as well as the stock and bond markets.⁷² The Federal Reserve also increased interest-rates to curb the inflation.⁷³ The United States is attempting to stabilize oil prices in Iraq; however, current energy polices are slated too much towards oil.⁷⁴ Policy makers need to concentrate their efforts on moving this country away from its dependence on oil, and steering the nation in the direction of renewable energy sources. The government could either take steps to significantly decrease the number of gasoline consuming automobiles on the road or promote public transportation alternatives.

IV. Regulatory Framework

Since the advent of the automobile, there have been countless efforts made at all levels of government to fund, plan and engineer transportation planning and construction. Most of these efforts were made towards expanding America's highway systems or reconciling automobile usage with urban development. While the government's participation in highway development spans almost a century now, considerably less has been done to promote rapid transportation alternatives during the same period. The following historical overview only touches upon the early years and governmental initiatives in urban transportation planning in the United States.

The Federal Aid Highway Act of 1934 was the first act to apportion monies towards statewide highway planning.⁷⁵ This act only provided highway departments with the means to focus on planning and

68. *Id.* at 108.

69. *Id.* ("[E]very five-dollar increase in oil prices brought a .5 percent decline in economic growth.").

70. *Id.*

71. *Id.*

72. Ann Davis & Brushan Bahree, *Oil's Price Drop Reignites Debate on Turning Point*, WALL ST. J., Aug. 21, 2006, at C1.

73. *Id.*

74. ROBERTS, *supra* note 48, at 112.

75. EDWARD WEINER, *URBAN TRANSPORTATION PLANNING IN THE UNITED STATES: AN HISTORICAL OVERVIEW* 5 (Praeger 1987).

constructing arterial roads. No federal assistance was diverted to city transit systems.⁷⁶ As a result, city congestion continued to worsen over the next several decades. To assist cities in better transportation planning, the National Committee on Urban Transportation was created in 1954.⁷⁷ The Committee's urban transportation studies set the basis for government guidelines, most importantly those adopted in the Federal Highway Act of 1956.⁷⁸

The Federal Highway Act of 1956 created the U.S. Interstate system and still remains the country's largest and most expensive public works project. Although President Eisenhower signed the Act to establish a "National System of Defense and Interstate Highways," the heights of the overpasses built were too low for many weapons to pass through.⁷⁹ In actuality, over 200 lobbyists pushed the piece of legislation to advance petroleum and trucking interests.⁸⁰ The federal government funded 90% of the project while state highway departments built the 42,500 miles of highway.⁸¹ The states' highway departments implemented gasoline taxes used to also fund the project. Its completion has caused many city neighborhoods to be demolished and has caused the destruction of many rural areas. Planned in the 1950s, the Interstate highway system immediately tied American's mobility to the automobile.

It is no wonder that commuter rail services began to experience mounting financial difficulties in the 1960s. Consequently, the federal government passed the Housing Act of 1961. The act created a program that made it possible for transit systems to borrow low-interest loans to be used towards acquisitions and improvements. The first act to essentially provide federal funds to transit projects that were initiated locally was the Urban Mass Transportation Act of 1964.⁸² A decade later, the National Mass Transportation Assistance Act of 1974 was passed and became the first act to provide federal assistance to transit operators.⁸³ By the mid-1980s, there had been a resurgence of light rail

76. *Id.* at 9 (explaining that transit authorities were created to take over and operate the systems in cities like Chicago, New York and San Francisco Bay due to little federal interest in transit).

77. *Id.* at 11.

78. *Id.* at 14.

79. DOLORES HAYDEN, A FIELD GUIDE TO SPRAWL 52 (W.W. Norton & Co. 2004).

80. *Id.*

81. *Id.*

82. *Id.* at 24. The act gave federal capital grants to public agencies for up to two-thirds the cost of construction of mass transportation facilities and equipment. *Id.*

83. *Id.* at 50-51. Act authorized \$11.8 billion over 6-years to be allocated to urban areas based on population and density. Transit projects must meet same planning statute as § 134 of highway act and must require transit systems to charge elderly and handicapped reduced fares. *Id.*

transits in the U.S.⁸⁴

The reason the government began to provide assistance to transit transportation likely stems from leadership within the Department of Transportation ("DOT"). Created in 1966, the DOT's objective was to recommend programs to better coordinate speedy, safe and efficient transportation systems and services.⁸⁵ Following the DOT's recommendations, many cities began to adopt techniques to promote alternatives to automobile travels. One technique, popular in the 1970s, was to encourage commuters to travel by bus. To make bus travel a competitive alternative to driving, federal aid highway funds were made available for express bus travel projects, including reserved bus lanes, traffic signal preemption and "park-n-ride" terminals.

At the same time, public attention and concern over environmental issues caused by automobile driving began to increase. The pollution to air and water, the dislocation of homes and the preservation of parklands caused the federal government to pass both the National Environmental Policy Act of 1969 and its companion act, the Environmental Quality Improvement Act of 1970. These acts enforced the federal government's position to make decisions regarding environmental quality. Another environmental initiative, the Clean Air Act Amendments of 1970, required reduced emissions in new automobiles. The Clean Air Act ("CAA") also created the Environmental Protection Agency ("EPA") to achieve and maintain air quality standards. All of these acts enunciated the federal government's policy to prevent environmental damage.

The government has implemented other regulatory actions over the years that were not always directly related to, but still affected automobile transportation. For example, the National Energy Act of 1978 required states to undertake conservation efforts. This act was passed in response to Iran's cutting off crude oil shipments in the late 1970s. The National Energy Conservation Policy Act of 1978 also required states to promote car pools. Many more programs have been realized over the last 25 years, one example being the Urban Initiatives Program, which authorizes federal funds to be used towards transit improvements compatible with land use patterns.⁸⁶ In recent years, states have also passed laws that reserve express lanes for hybrid vehicles. Other regulations require three passenger minimums for vehicles to occupy express lanes. These regulatory actions have been successful for the most part, but exurban flight is a trend that demands new programs and initiatives because different problems exist off the highway.

84. *Id.* at 60.

85. *Id.* at 26-27.

86. *Id.* at 73.

V. Problems Associated with Suburbanization and Automobile Commuting

By the year 2001, over \$370 billion has been spent on 46,675 miles of interstate highway.⁸⁷ For the most part, the interstate is complete and effective, and the problems that today exist within localities occur because their roads carry heavy traffic. Although many states are widening local roads to ease the passage of traffic, some architects believe the road-widening programs are ineffective. These architects draw the following comparison: “[t]rying to cure traffic congestion by adding more capacity is like trying to cure obesity by loosening your belt.”⁸⁸ Drivers become more confused by complex and wider intersections. Wider roads only induce traffic because the routes become more inviting for drivers.

The problem with most State Departments of Transportation is that they mistake mobility with accessibility.⁸⁹ Although transportation planners commission new roadways to relieve congestion, their efforts only make traffic worse by dispersing the population. Critics argue that DOTs ignore the interrelationship between transportation and land use patterns.⁹⁰ The viability of complexes is undermined when DOTs narrowly focus on moving traffic. Regional planners and transportation planners need to combine their efforts if they hope to control sprawl.

Another reason there is heavy traffic within localities is because it is almost impossible to conduct necessary everyday business and personal errands without an automobile. The opportunity for land to be developed in the “remote hinterlands of big cities” was attractive to developers in the 1950s because of the ease of access created by the highway.⁹¹ Since then, the sense of community has been lost to the automobile. Cities and commercial centers were built too far apart for walking and the automobile became the only means to link them.

Before World War I, each mode of transportation had its place: trolleys carried workers, trains moved freight, stores delivered goods or shoppers simply walked from one store to another.⁹² People walked to the marketplace because almost all commercial activity was situated in a downtown region. Shops, offices, services and apartments were densely

87. *Id.* at 52.

88. *Id.* Statement made by architects Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck. *Id.*

89. ANDRES DUANY ET AL., *SUBURBAN NATION: THE RISE OF SPRAWL AND THE DECLINE OF THE AMERICAN DREAM* 230 (North Point Press, NY 2000).

90. *Id.*

91. JAMES HOWARD KUNSTLER, *THE GEOGRAPHY OF NOWHERE: THE RISE AND DECLINE OF AMERICA'S MAN-MADE LANDSCAPE* 107 (Simon & Schuster 1994).

92. *Id.* at 179.

packed within a cluster of buildings located at a major crossroad, usually near a trolley or rapid station.⁹³ After World War II, Americans enjoyed greater prosperity; they escaped their crowded apartments in the downtown regions and moved to newly developed suburbs.⁹⁴

To protect residential property values in these new suburbs, zoning codes first sought to place industry in a separate part of town.⁹⁵ Commerce was also zoned away from residential neighborhoods to protect residents from the noise and fumes caused by automobiles.⁹⁶ As a result, shopping has become more like a mechanized activity—daily activities are no longer conducted by walking into the town center, but rather by getting in the car and driving to the strip malls, and chain stores.⁹⁷

Inexpensive sites at the outskirts of town were the most popular locations for commercial development because they were large enough to accommodate parking. Freestanding groceries were the first stores to build at these sites. Shopping centers followed along the major collector streets, which later came to be known as the miracle miles of development.⁹⁸ Although these shopping locations are convenient and quickly recognizable, the amount of driving necessary to make stops at different locations is “stupendous and fantastically expensive.”⁹⁹

Nevertheless, there is continuous development in obscure locations. Over six million acres of agricultural land was lost to Greenfield projects between the years 1992 and 1997.¹⁰⁰ Two million acres continue to be lost each year. Since the 1950s, urban populations have quadrupled their use of land area.¹⁰¹ It appears to be more profitable to develop larger areas outside of cities because there are fewer planning restrictions; however, local taxpayers bear the financial strain for these development projects. These taxpayers have to provide the funding for new

93. KENNETH B. HALL ET AL, *COMMUNITY BY DESIGN: NEW URBANISM FOR SUBURBS AND SMALL COMMUNITIES* (McGraw-Hill 2001).

94. *Id.* Economic boom of WWII was spawned by reconstruction efforts directed toward war torn Europe, which created unprecedented opportunities for growth and prosperity for returning GIs. *Id.*

95. KUNSTLER, *supra* note 91, at 117.

96. *Id.*

97. *Id.*

98. HALL, *supra* note 93, at 168. Miracle mile of development is the commercial area in what are now older sections of town with their chaotic variety of building shapes, sizes, and uses. *Id.*

99. *Id.* at 118. Time squandered by commutes is time that can't be spent with kids or on other spiritually nourishing activities. Money is also spent on building/maintaining roads, courts, accidents, and insurance. *Id.*

100. HAYDEN, *supra* note 79, at 42. According to estimates by American Farmland Trust. Greenfield is a project constructed on raw land, usually agricultural. *Id.*

101. SAUNDERS, *supra* note 46, at 52. Land area used in LA increased by factor of seven. *Id.*

infrastructure to serve the projects.¹⁰² In areas with single-use planning restrictions, extended commutes cost drivers more money in automobile maintenance and gasoline.

Long distances between housing, commercial services and workplaces also have its opportunity costs. Despite the environmental controls, ozone-alerts in sprawled metropolis have been rising for decades.¹⁰³ Time is also squandered in frustrating commutes. In some areas, gridlock can stretch commutes to two hours in one direction.¹⁰⁴ The number of registered vehicles in the United States outnumbers the number of licensed drivers.¹⁰⁵ Because most commuters drive alone, heavy traffic locks up intersections and roads. Estimated billions of dollars are lost every year to the costs of time and fuel wasted in traffic.

The problems continue to fester. The United States invests \$25 billion a year on projects that promote transportation by automobile.¹⁰⁶ One automobile costs its driver \$600 a year and \$3000 to society.¹⁰⁷ People flee to the exurbs because of their passion for space and free parking. They do not realize all the costs associated with exurban flight. Urban transportation planning in the United States has come a long way in cities since the automobile. Its success should prompt governmental efforts to develop policies for suburban transportation planning.

VI. Solution—Suburban Transportation Planning: Mass Transit Links Between Suburbs

Although downtown renovation projects attracted new residents in the 1990s, the populations of America's largest cities have shrunk steadily since 2000. According to experts, three forces have caused the population shift from cities to suburbs: the once booming high-tech industry went bust; the terrorist attacks on 9/11; and, the American desire for space.¹⁰⁸

First, the high-tech industry that helped cities thrive in the 1990s has caused a downturn in city jobs this century. Although employment opportunities have decreased, the costs of living in the major cities that

102. *Id.* at 42.

103. *Id.* at 52.

104. HAYDEN, *supra* note 79, at 44. Gridlock is heavy traffic locking up intersections and applies to traffic jams many miles long on crowded freeways. Gridlock commutes can stretch two hours each way in northern Virginia. *Id.*

105. Passenger vehicles in the United States, *supra* note 51. Statistic since 1972. *Id.*

106. KAY, *supra* note 36, at 346.

107. *Id.* at 347.

108. BRUUN, *supra* note 2. William Frey is a demographic scholar at the Brookings Institution. Population surveys from the U.S. Census Bureau used in Frey's research to discover trends. *Id.*

hosted a lot of the high-tech companies remain high.¹⁰⁹ These city residents are forced to move to the suburbs. Secondly, many people choose not to reside in large cities like New York, Washington, Chicago and Atlanta because of the anxiety caused by terrorist threats and alerts. Thirdly and more likely, Americans are an outdoorsy type. Americans sprawl to the countryside because they can reside in less cramped spaces.¹¹⁰ The suburban trend today is to move to exurbs, areas extremely far out from central cities.

At the same time, there is a suburban office boom in this country. Professional and white-collar companies are relocating offices from downtown regions to suburbs. Development is feverish in outlying regions since there is an explosion of new commercial construction to accommodate these offices. This is causing extreme congestion on throughways, not to mention the increased risks for health and environmental damage caused by automobile commutes.

As long as the trend to develop in suburban and exurban areas continues, there will be problems with automobile commuting. Policy-makers need to create legislation that will put a number of forces in place that promote suburban transportation planning. Now is the time to implement new plans and programs, so that they can be refined and perfected before more outlying regions are developed. A suburban mass transportation system needs to be put in place to carry commuters between work, home and adjacent suburbs. Some large cities have already recently considered the benefits of expanding public transportation options to suburban communities. The initiatives Portland and Atlanta have taken to create mass transit links to and between suburbs, which are described in the following sections, serve as great starting points.

A. Portland Model

The City of Portland, Oregon is progressive in its movement towards promoting mass transportation. Its urban transportation initiatives can serve as models for suburban transportation planners and policy makers. Portland urban planners first considered the long-term consequences of unnecessary commutes in the 1970s. Oregon's environmental movement spurred a revolution in land-use policy. During this time, the federal government offered many American cities

109. *Id.* Boston, San Francisco, Minneapolis were cities with a lot of high-tech industry that have suffered. *Id.*

110. *Id.* Suburbs are not sterile, monochromatic areas. They have culture and are diverse. *Id.*

subsidies to build highways along their waterfronts.¹¹¹ As part of its environmental movement, Oregon instead opted to tare down a four-lane expressway adjoining the Portland waterfront to reconnect it with the city.¹¹² Oregon also enacted the Urban Growth Boundary to curtail runaway development. The law forbade commercial and residential development beyond certain city lines.¹¹³

Recently, Portland has placed parking lids on the number of spaces available in its downtown region.¹¹⁴ The city offers commuters frequent bus service as an alternative to parking at no charge.¹¹⁵ The city has also revived the streetcar to take pressure off of its Banfield Freeway. When the Freeway became a horrible commuter bottleneck, the city built an electrically powered "light rail" from its downtown region to an eastern suburb 15 miles away.¹¹⁶ The line is intelligently built above ground, with the first half of the leg is built adjacent to the freeway along the same right of way.¹¹⁷ The second half of the leg is built along the center of a wide commercial highway.¹¹⁸ The light rail was such a success in Portland that voters approved bond issues to build east-west and north-south light-rail lines.¹¹⁹

B. Atlanta Model

While Oregon is progressive in its mass transportation trends for urban areas, Atlanta may be considered progressive in its mass transportation trends for suburban areas. Atlanta is another city whose rapid transit initiatives can serve as models for suburban transit development. Unlike Portland, Atlanta did not promote rapid transportation as a means to alleviate the projected future effects of commuting. Instead, Atlanta's rapid transportation initiatives were recently proposed as means to mitigate the present effects of commuting.

Atlanta has been the American poster child for suburban sprawl

111. KUNSTLER, *supra* note 91, at 204.

112. *Id.*

113. *Id.* at 209. In the 1980s, the city created exception areas for the following reasons: (1) the city predicted that there would be ½ million new residents by 2010, and (2) Nike, software companies, and other large companies headquartered there. *Id.*

114. *Id.* at 203. City of Portland wants to limit the number of automobiles pouring into it and also stifle the incentive of developers to replace existing buildings with easy-profit parking. *Id.*

115. *Id.* at 203. To mitigate the inconvenience of limited parking, the city offers free bus service in a 300-block area downtown. *Id.*

116. KUNSTLER, *supra* note 91, at 203.

117. *Id.*

118. *Id.*

119. R. Gregory Nokes and Gail Kinsey Hill, *The Faster the Growth, The Faster the Tab Mounts growing Pains Paying the Tab* (3rd of 4 Parts), THE OREGONIAN (Portland, Oregon) Oct. 24, 1995.

since the 1990s. During that time, it surpassed Chicago and became home to the country's third largest collection of Fortune Five Hundred Companies.¹²⁰ These companies have brought with them a number of transient families who reside in Atlanta's twenty-nine county regions.¹²¹ Initially, Atlanta built additional lanes on its highways and arterial roads to accommodate the increased traffic brought about by the growing population.¹²² Although it built the second greatest number of highway lanes (per one thousand residents) in the country, congestion continued to be a problem on the suburban arterials. Before Atlanta's transportation plan was proposed, commuters traveled a lengthened seventy miles a day to and from work.¹²³ The severity of the commute was evidenced by the high fatality rate among automobile riders. Atlanta experienced the highest automobile fatality rate in the country.¹²⁴

Besides the lengthened commutes, traffic and congestion have increased smog levels in the city since the late 1970s.¹²⁵ The Environmental Protection Agency insisted Atlanta take steps to reduce its high ozone and smog levels in 1996.¹²⁶ The EPA cautioned that it would use its powers under the CAA Amendments to block federal funding for highway construction unless the Atlanta regions complied.¹²⁷ The Atlanta regions subsequently lost \$700 million towards transportation funding in 2005 when they failed to bring the air quality into compliance.¹²⁸

The Georgia Regional Transportation Authority ("GRTA") was created in 1999 to coordinate transportation funding and planning throughout the region. The GRTA designated \$40 billion towards meeting Atlanta objectives to reduce harmful emissions and increase mobility.¹²⁹ The transportation plan steers local planning in accordance with a regional plan that stretches ten counties. First, the plan promotes

120. KUNSTLER, *supra* note 91, at 68 (citing n.13 of Ellen Dunham-Jones, *Smart Growth in Atlanta: A Response to Kreiger and Kiefer*).

121. *Id.* at 62. Region stretches 100 miles in diameter. *Id.*

122. *Id.* at 82-96. More miles built than three largest metropolitan areas combined. Highway built 16% faster than population. Region also has more miles of freeway lanes per 1000 residents than any place but Dallas. *Id.* (citing n.16, David Goldberg, *Study Certifies It: Atlanta Traffic Stinks*, ATLANTA JOURNAL AND ATLANTA CONSTITUTION, November 18, 1998, A1, referring to the Texas Transportation Institute's Annual report on urban mobility.).

123. *Id.* at 62 (citing Ellen Dunham-Jones, *Smart Growth in Atlanta: A Response to Kreiger and Kiefer*). Statistics in 1999. *Id.*

124. *Id.* Statistics in 1998. *Id.*

125. *Id.* Metro Atlanta first failed to meet ozone standards in 1978. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.* \$40 billion designated toward two thousand transportation projects and programs, including transit projects, sidewalks and bike paths. *Id.*

future development around already existing activity centers. Secondly, it proposes rapid stations and transit stops along proposed lines to better connect the region. The GRTA hopes to accomplish these goals by the year 2025.¹³⁰ The EPA has eased some of its restrictions on federal transportation funds based on this commitment.

Regional planning agencies have made efforts to expand these initiatives to the Atlanta suburbs. For example, an express bus service was launched to take riders between Atlanta and several suburban counties. The agencies also encourage businesses to become transit-oriented. Prior to 1999, BellSouth employees occupied 75 offices throughout the Atlanta region.¹³¹ It has since moved all thirteen thousand of its employees to three complexes near rapid transit stops.¹³² Other efforts include infrastructure redevelopment of vacant and suburban transit stops. The redevelopment plans for these transit stops include building several urban blocks of continuous ground-floor retail around each stop. The retail buildings are designed to front a Main Street and line taller commercial and residential structures. One final effort is to develop suburban office parks that include housing.

C. Proposed Models

There are many other ways that policy makers can participate in suburban planning. These policies include making changes to zoning laws or encouraging companies to participate in programs that promote public transportation alternatives. Suburban planners can use both Portland's and Atlanta's initiatives as starting models to promote either a trolley or rapid transit within their respective suburb.

1. Zoning

Policy-makers and planners need to take steps to de-vehicularize cities and suburbs. De-vehicularization is a movement that was started in European cities to retrieve downtown streets from "auto strangulation".¹³³ Oregon de-vehicularized the Portland waterfront when it tore down the expressway to create a walkway. Policy makers can require suburban planners to architect streets that favor human mobility. Narrowing streets and widening pedestrian crossings and walkways will calm traffic.¹³⁴ Suburban planners need to design and plan in ways that promote transit-oriented developments too. There are a number of

130. *Id.*

131. *Id.* at 64.

132. *Id.* at 64. Rapid Transit in Atlanta is the MARTA. *Id.*

133. KAY, *supra* note 33, at 336.

134. HAYDEN, *supra* note 79, at 52.

zoning requirements that local governments can pass to encourage this. For example, suburban planners can limit the spaces available for parking. Too much land is wasted on underused cement lots. Portland placed a cap on parking in the city. Suburban communities can regulate the number of spaces available to shopping plazas and businesses the same way that states certify the number of bed spaces available to hospitals. The numbers are based on needs. Even if there is unlimited space in the suburbs, complexes will not be permitted to cement over valuable land to create underutilized lots. Companies and shopping plazas won't be limited to a number of spaces if they build attractive multi-level parking facilities that blend with the facade. Maybe the shopping centers can make themselves favorable stops for public transportation by building stations in their complex or garage. In the alternative, several transportation routes should be made to the same destination.¹³⁵

Communities need to supervise development and zone in ways that require commercial services be closely located to transit services. Structures that are ill-conceived and built in obscure locations lead to abandonment.¹³⁶ New development has already resulted in the abandonment of over twenty percent of the country's shopping venues.¹³⁷ There were over 440 regional indoor-malls that were declared empty or vacant only five years ago.¹³⁸ Themed environments, restaurants and entertainment incorporated in newly developed malls have squeezed regional malls out of the marketplace.¹³⁹ In addition to high-luxury malls, newly built super-centers offer shoppers easier access to non-luxury items. These super-centers are attractive to shoppers because they carry higher volumes, offer abundant parking and develop road infrastructure.¹⁴⁰ Super-centers have closed more than 700 regional and small retail malls in the last 5 years, malls that were once considered anchors in the community, are no longer present.¹⁴¹

Structures that are properly planned will be reused. Stadiums, bakeries, coffee houses and dry-cleaning should all be placed at public transportation stations. Some states already stipulate that there must be a

135. HALL, *supra* note 93, at 106.

136. *Id.* at 247.

137. ALAN BERGER, DROSSCAPE: WASTING LAND IN URBAN AMERICA 204-5 (Princeton Architectural Press, NY) (2006) (stating that "de-malling" or the vacancy rate of older shopping centers is increasing in US).

138. *Id.* (explaining that after years of consolidation, the ten largest mall REITs control more than 47% of all malls and all of the 200 high performing malls).

139. *Id.*

140. *Id.*

141. *Id.* Montgomery Ward, JC Penney, Stern's, Kmart, Sears, among others, were closed as part of bankruptcies, restructurings or market positing. *Id.*

balance between transportation capacity and growth.¹⁴² Other states require public complexes be built around nodes of transportation. Most importantly, cities and states need to create and enforce policies that restrict development on far-flung fringes.

Suburban and exurban sprawl is land consumptive and spreads people. Land should be zoned in a way to ensure density. The average person will not walk more than ten minutes to a rapid or bus station.¹⁴³ Public transportation is successful in downtown regions because of the masses of people and retail that make it effective. In most cities, a bus will visit a residential neighborhood every hour if there is one house per quarter acre. Busses will visit the same neighborhood every fifteen minutes if there are fifteen residences per acre.¹⁴⁴

Policy makers in recently developed suburbs and exurbs may hesitate to zone residences so close to one another because residents want large yards. These communities can make smaller transit oriented gestures. For example, they can zone in ways to preserve open space and channel growth into regions that support transit and trolley systems. Eight states have already revamped suburban planning to preserve green carpets.¹⁴⁵ Suburban communities can also either set land aside to provide easements for rapid transportation development or fund a complimentary public transportation system. There is an abundance of old railroad tracks no longer in use in this country. Adjacent communities can independently restore the unused tracks between them to offer light rail services to and from one another.

Every suburb in this country should offer a service that takes riders to different regions of the community and to adjacent communities, but sadly few suburbs have any system in place. These communities offer large vans or small buses to senior and disabled riders. To increase ridership to all residents, communities can reinvent the trolley or streetcar and create an efficient, but chic, way to travel in and between suburbs. It would take many nostalgic riders to a time when Big Red Cars and grand rapid systems laced the nation.¹⁴⁶ Streetcars will certainly add to, and not take away from, a suburb's charm and historical appeal.

142. KAY, *supra* note 36, at 321. Currency legislation in FL, WA, OR and GA stipulates builders strike balance b/w transportation capacity and growth. *Id.*

143. *Id.* at 304. Headline from daily news says you need masses "For Mass transit needs mass." Success = average rider will walk no more than 8-10 minutes. *Id.*

144. *Id.* Bus stops every 20 minutes if there are seven residences per acre. *Id.*

145. *Id.* at 320. Eight states—Urban growth boundaries restrict building and reserve green space. Vermont, Maine, Rhode Island, New Jersey, Minnesota, Florida, Georgia and Washington revamped planning and zoning laws to preserve green carpets of open space to channel new growth into cities and towns that support trolley systems. *Id.*

146. *Id.* at 303.

Suburban policy-makers should also encourage the rapid transit authority in the nearest metropolis to launch an extended line to their community. Despite how daunting it sounds, many transit authorities will be interested in extending the lines if it increases ridership. Most lines will only extend two miles from the city since 53% of the country's population resides in this region.¹⁴⁷ Commuters who live at farther distances can park-and-ride if there is a high-tech super-speed rapid system. Some critics believe that riders don't need to be razzle-dazzled,¹⁴⁸ rather they only want a seamless system.¹⁴⁹ More specifically, rapid transit authorities need to strive for bullet trains like those abroad.

People are attracted to new, better and faster. Riders too will be attracted to rapid stations that offer cleaner, better accommodations and connections. Amtrak has recently made successful efforts to increase ridership by remodeling their stations to be more elegant and polished, as well as creating newer and faster results.¹⁵⁰ Stations should be landscaped with amenities and offer retail to riders like those ones proposed in Atlanta. If the trains are sleek and stations are inviting, commuters will opt to ride a transit verses drive a vehicle. Zoning is the first step the government can take to reduce the number of automobiles on the road.

2. Company Participation

The second step the government can take to reduce automobile usage is promoting company participation. There are national campaigns launched every year dedicated to keeping employees safe on the roadway. The Drive Safely Work Week ("DSWW") is a campaign launched by the Network of Employers for Traffic Safety.¹⁵¹ The following stunning statistics were presented at the DSWW national media launch in 2004: an automobile collision occurs every five seconds, a collision that causes property damage occurs every seven seconds; a collision that causes personal injury occurs every ten seconds; and, a collision that causes fatalities occurs every twelve seconds.¹⁵² As

147. *Id.* at 315.

148. KAY, *supra* note 36, at 319. Rail services need to enhance the ravel environment and offer a civilized commute. This includes little waiting, updates on train arrivals, safety in door-to-door connections, smooth rail beds, and good seats. *Id.*

149. *Id.* at 317. "A station in every backyard" is the motto of Auto-Free New York. Phrase is used to describe access to public transportation. *Id.*

150. *Id.* at 310-11.

151. *Drive Safely Work Week Campaign Keeps Employees Safe on the Road; Congestion Makes Driving Risky, Drives Up Employer Costs*, U.S. NEWSWIRE, Oct. 4, 2004, available at www.highbeam.com, Doc. No. 1G1-12277236.

152. *Id.*

these statistics relate to companies, fatalities caused by work-related collisions are the leading cause of death for employees and cost their employers \$504,400 a year.¹⁵³

Increased congestion raises employers' costs because the risks of accidents are greater. In Atlanta, companies like BellSouth moved their complexes near transit stations. Other companies can take initiatives to decrease their costs and promote safer commuting as well. For example, companies who choose to build their complexes in the suburbs can subsidize the costs of commuting there by offering employees complimentary or reduced rate passes for public transportation. Companies can also offer their employees flexible hours so that they can schedule their workday around service stops. The problem with following the above campaigns is that no public transportation exists in the regions where a lot of companies choose to reside. These companies cannot participate in public transportation programs unless policy-makers take the steps needed to make the programs possible.

Policy makers must offer businesses incentives. For example, the government can offer companies tax incentives to choose to build complexes near existing stations instead of outlying region, or perhaps even the government can also provide federal transportation funds to express bus services that travel directly to company doors. Although companies should independently campaign for this program, only 16% of suburban office complexes sponsor a car or van-pooling system to connect their employees to public transportation stations.¹⁵⁴ Companies that require employees spend time on the roads for work-related purposes should contribute fiscally to government programs as well. Their participation will decrease the number of automobiles on the road, thus decreasing the risks that their own employees are involved in collisions. The government should also require companies with large numbers of employees, built at certain distances away from service stops, contribute to a general transportation fund.

The basis for the fund would be that the government could save and redirect large amounts of its own spending if the number of automobiles on the roads were drastically reduced. There are nearly 48 million uninsured residents in the United States.¹⁵⁵ The number of uninsured Americans is expected to reach 53 million by 2010.¹⁵⁶ The uninsured will cause an estimated \$43 billion in unpaid health care costs this

153. *Id.* The average work-related collision costs employers \$16,500. *Id.*

154. *Supra* note 17, at 100.

155. Marguerite Higgins, *Nation's uninsured cause higher rates, report says; Families to pay \$922 extra for coverage this year*, THE WASHINGTON TIMES, Jun. 9, 2005 (expected statistic for 2006). *Id.*

156. *Id.*

year.¹⁵⁷ The figure is expected to increase to \$60 billion in four years.¹⁵⁸ Federal and state governments reimburse health care providers one-third of those costs.¹⁵⁹ While not all health care provided to the uninsured is related to automobile driving, a large amount is likely contributed to it. As already discussed, collisions are the leading cause of death and injury to commuters and employees in this country. The previously mentioned health related costs associated with driving are also great.

According to a report made by both the Agency for Healthcare Research and Quality and the National Center for Health Statistics, “the majority of the uninsured population is employees, or family members of workers, at companies that do not offer health insurance.”¹⁶⁰ Insured consumers and companies feel the impact of this statistic with higher rates. For this reason, federal, state, and even local governments can redirect spending if they implement policies that require companies contribute to and participate in transportation funding programs. Only then will the government be able to redirect the monies that it currently spends on unpaid healthcare to the planning, building and expanding of suburban transportation systems.

VII. Conclusion

There will be continued development in outlying regions as long as there is enough space to crawl out.¹⁶¹ Extensive transportation systems should be built along with new suburbs and exurbs. Perhaps, some of the country’s most famous vacation destinations can influence the way suburban-planners architect new communities. Disney World is a utopia in itself and it can be used as the perfect example of a model community. The Magic Kingdom offers buses, monorails and boats for vacationers to travel from one destination to another.¹⁶² Las Vegas also has a light-rail system that pulls into the city’s premiere hotels. Vacationers successfully visit all the tourist sites using these transportation systems because the regions don’t require they travel with a vehicle to get around. Suburban planners should also architect communities in ways that don’t require automobile ownership.

A light rail system that pulls into each suburban city center would be convenient and should be ideally located close to commercial centers.

157. *Id.*

158. *Id.*

159. *Id.* Governments reimburse providers through programs like Medicaid. Insured consumers carry the rest of the costs. *Id.*

160. Higgins, *supra* note 155.

161. BRUUN, *supra* note 2.

162. *Check out what’s new at Disney World*, CHICAGO DAILY HERALD, Jun. 11, 2006 Sunday Correction Appended.

The rapid system must be designed properly because its success or failure will be closely associated with its location to commercial services.¹⁶³ Groceries, banks and post offices should all be placed near suburban transit systems to accommodate riders who use the system to travel between work and home. There should also be a trolley or transit system in place circulating the suburb. The system should be designed around shopping. Its service should run along major collector streets.¹⁶⁴ The transits and trolleys should travel to the adjacent suburbs with larger shopping complexes as well. There needs to be a public transportation system in the suburbs for increasing number of Americans who do not work or reside in major cities. The health and environmental costs associated with automobile driving is too great to continue the trend to commute by automobile. Companies, campaigning independently, and all levels of government, need to implement policies to promote alternative modes of suburban transportation. An “umbilical cord” or good transit built to connect Levittowns to large cities has prospered in the past.¹⁶⁵ There are the masses of people in the suburbs needed to make transit work. There is no reason to suggest why a transit system that connects the newer suburbs to adjacent ones wouldn’t prosper today.

163. HALL, *supra* note 93, at 173.

164. *Id.*

165. KAY, *supra* note 36, at 306. Policies that nestle shops, services and provide density around density thrive today. The Metro is one example of a system that thrives. *Id.*

