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## The Impact of Cars on Cities

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Americans love their cars. By the end of the twentieth century, America had become a “car-crazy country” in which the automobile was indispensable.<sup>1</sup> However, the proliferation of automobiles and the mobility it gave the average American had a great impact on the development of America’s cities. The automobile rose through the conflict of competing for dominance of the city streets, changing the nature of the city street, and in turn changing the landscape of the American city—not always for the better. Increased automobile usage required changes to accommodate parking and impacted the environment. Increased mobility caused urban sprawl, exacerbated by the urban and interstate highway systems that led to the meteoric rise of the suburb, decimating urban population centers and the urban economy. Urban highways and the Interstate Highway System, although developed to help cities, actually hurt them.

Automobiles began as an oddity but quickly grew to dominate American transportation in the twentieth century. Even before 1900, Henry Ford began laying the foundation for mass production of automobiles. Mass production resulted in automobiles that were affordable. The automobile industry grew greatly during the early years of the century. The number of registered automobiles rose from 8,000 in 1900 to 458,000 by 1910. Employment in automobile factories was less than 10,000 in 1900, but rose to 37,000 in 1910 and over 200,000 in 1920. As automobiles became more and more popular, most Americans seemed to find them indispensable. By 1939, there were over 23 million automobiles registered in the United States. Production rose to over four million per year in the early 1940s. After World War II, production increased to over five million cars and one million other vehicles. By 1960, registrations had risen to 82 million. In 1980, the number of automobile registrations rose to 156 million and by 2000, there were 221 million. By the end of the century, 89 percent of Americans aged 16 and over were licensed drivers; of America’s 107 million households, more than 85 million owned one or more cars or trucks.<sup>2</sup> This explosion in the number of automobiles on the road greatly impacted the nature of the city in the early twentieth century. First, the automobile reshaped the landscape of the city, beginning with the city street.

Automobiles soon changed the usage of the city street. As automobiles

vied for space in the city, they competed with other traditional users of the city streets. Society had to decide on the role of the city street and who had the right of way. At the turn of the century, according to Peter D. Norton, in his article “Street Rivals: Jaywalking and the Invention of the Motor Age Street,”

Streets were shared by several sociotechnical systems. Private, horse-drawn vehicles and city services (such as streetcars, telephones, and water supply) depended upon them. Pedestrians, pushcart vendors, and children at play used them as well. The balance was always delicate and sometimes unstable, and crowds of automobiles soon disrupted it.<sup>3</sup>

Streets had long been used in many different ways. Pedestrians, vendors, horse-drawn vehicles, children at play, and others all shared the crowded city streets. Streets were thoroughfares for all. Cars had no right of way over these other users. This controversy was not solved easily.

Although automobile traffic increased rapidly in the first two decades of the twentieth century, the question of who owned the city street was still unanswered. The rivalry between cars and pedestrians was the most heated. Pedestrians forced from the street by automobiles blamed the problem on “joy riders,” and irritated drivers referred to pedestrians as “jaywalkers.”<sup>4</sup> This battle



Figure 1 A panoramic image capturing the corner of 5th and Spring Streets captured by C. C. Pierce & Co., Los Angeles. C. 1910

continued for the next decade, but by 1930, “in the new street equilibrium based on automobile supremacy . . . most agreed, readily or grudgingly, that streets were chiefly motor thoroughfares, open to others only under carefully defined restrictions.”<sup>5</sup> Pressured by new traffic regulations and safety measures, pedestrians “relinquished the streets.”<sup>6</sup> Once this social reconstruction of the city street occurred, cities needed to be physically reconstructed. For example, city planners needed to figure out where to put all of these vehicles.

One way that automobiles changed the landscape of cities was in the need for parking. In the first two decades of the twentieth century, curb parking was the norm. As the number of cars increased, not all could be curb parked and this caused a traffic control problem. The American Community Survey estimated that in 2009, over 95 percent of American workers drove private automobiles to work.<sup>7</sup> Employees had to keep their cars somewhere while they were at work and curbs would not suffice to solve the problem. Automobiles are parked 95 percent of the time, so parking became a burning question for most Americans; “parking, like driving, has been a fundamental part of our everyday life since the invention of the automobile.”<sup>8</sup> The cities had to deal with this. As a result of these changes, parking lots now take up over one-third of all land area in some U.S. cities. This has had a great impact on cities. These large, impervious surfaces increase runoff, impact watersheds, and increase heat; most are considered a necessary evil.<sup>9</sup> The increase in automobiles in the city resulted in other physical changes as well. The term “urban sprawl” reflects another major change in cities brought about by the proliferation of automobiles.

As more and more Americans owned automobiles, they gradually discovered that they had the ability to spread out. This resulted in urban sprawl, characterized by the population moving outwards from the city centers. One definition of sprawl is “a process of large-scale real estate development resulting in low-density, scattered, discontinuous car-dependent construction, usually on the peripheral of declining older suburbs and shrinking city centers.”<sup>10</sup> One historian stated, “[The] effect of the auto on the city is analogous to what astronomers call the big bang theory of the universe. . . . In the past, cities sucked inward. With the car, they exploded outward.”<sup>11</sup> In droves people moved out of the cities and into the suburbs.

Originally, only the wealthy and powerful lived in the suburbs. However, by the 1920s, “it had become a mass movement.”<sup>12</sup> Many working-class and middle-class families discovered they could only afford homes far from the city, as the land prices were lower. After World War II, the Veterans Administration and the Federal Housing Administration offered affordable loans that helped more

Americans buy a home. This promoted home ownership. Because of their rigid eligibility standards, these loans favored standardized subdivision designs, which burgeoning suburbs accommodated in the construction of new subdivisions.<sup>13</sup> Established centers, mixed-use neighborhoods, and narrow, versatile streets characterized traditional cities, which provided pedestrians with most necessary services within the range of a five-minute walk.<sup>14</sup> People now lived in suburban communities that did not contain mixed-use areas. There were residential areas, work areas, and shopping centers. All were separated; people could not walk to get what they needed. This perpetuated the need for cars. The working-class and middle-class families in the suburbs became more and more dependent upon cars to transport themselves. Demand increased, and automobiles became more readily available.

Cars had become more affordable. By 2001, 86 percent of low-income households in America owned at least one car.<sup>15</sup> Cities spread out. While most cities of the early twentieth century covered about one hundred square miles, “the new city routinely encompasses two to three thousand [square] miles.”<sup>16</sup> For example, “from 1970 to 1990, the population of metropolitan Los Angeles grew by 45 percent, but the land area of the Los Angeles metropolis sprawled by a whopping 300 percent beyond its former size.”<sup>17</sup> However, early in the twentieth century, moves to the suburbs were not considered a problem.

The spread of population to suburbia seemed to be a good thing to most Americans as they chased the American dream. At the First National Conference on City Planning in 1909, “suburbanization was seen at the time not as a problem, but as a strategy for allowing people in congested cities to escape to areas where they could enjoy higher quality housing, healthier lifestyles, and parks and open space.”<sup>18</sup> Still, most Americans felt that the cities were still important, that “a prosperous downtown was as vital to the well-being of a city as a strong heart was to the well-being of a person.”<sup>19</sup> Early planners wanted to incorporate transportation systems in a coordinated effort to help both people and cities. The explosion of mass-produced automobiles complicated these goals. Traffic laws and traffic control measures were swamped by the massive introduction of cars into the system. Because of their “love affair” with automobiles, Americans rebuilt their cities.<sup>20</sup> City planners decided that urban freeways would be the answer. They believed that easier access to city centers through freeways would help cities by easing access. “They saw roads, transit, and freeways as potential tools for urban renewal, particularly to revive flagging central business districts.”<sup>21</sup> However, these freeways further changed the face of the city and encouraged urban sprawl.

Transportation shaped cities. How people got around determined how they lived; transportation “determines the form of our places.”<sup>22</sup> Urban highways did this to the cities. The head of the Bureau of Public Roads at the time, Thomas H. McDonald, thought that a system of interregional highways “could ensure that historic centers of population would remain the centers of their metropolitan regions” and would “bring in people more conveniently.”<sup>23</sup> He also proposed circumferential highways (ring roads or beltways) to “allow trucks to bypass the urban core, relieving unnecessary congestion . . . in reality the system turned America’s cities inside out.”<sup>24</sup> Urban highways “invited more traffic, increased congestion, lengthened commutes, guaranteed the sprawl of a region far beyond the needs of its growing population.”<sup>25</sup> Much of this resulted from problems with planning.

Although early planners tried to plan for automobiles using a “holistic vision of transportation planning that recognized its symbiotic interaction with land use,” the results were far from this vision.<sup>26</sup> The reality was that these holistic plans were expensive, difficult to implement, and politically sensitive. Unfortunately, “politically expedient decisions about public finance have had unanticipated, but profound and long lasting effects on projects, travel and urban form.”<sup>27</sup> When the urban freeways were eventually built, they did not follow the lines that early planners had anticipated. This was due to money and politics and it caused more problems than it resolved.<sup>28</sup> These factors greatly impacted cities.

Finance and politics changed the way urban freeways were planned in the 1930s. American planners realized that they needed to redesign cities as they had not been built to accommodate cars. Many of America’s registered drivers lived, or at least worked, in urban areas and it was obvious change was necessary. However, the depression, and the resulting dropping property tax revenues, impacted the money that cities had to improve their street systems and local freeways. Nevertheless, automobile ownership and use continued to rise in the 1930s. To resolve this, funding began to come from state and government gas taxes. This shifted the control of developing urban highways from local leaders to federal and state officials, who had a different outlook and priorities when it came to highway development; they were more interested in rural development, for example, farm-to-market transportation, than they were in urban freeways. These officials were also more interested in a technical, traffic-focused vision that minimized costs rather than urban planning.<sup>29</sup> Planners did try to redesign cities, but “instead of designing a transportation system to get the most out of America’s cities, America redesigned its cities to get the most out of the automobile.”<sup>30</sup> Engineers built urban highways, “designed for automotive speeds and the nearly

exclusive use of motorists.”<sup>31</sup> The engineering vision that satisfied financial and political concerns ended up overriding the need for careful urban planning and benefitted rural areas to the detriment of cities. This just made it easier to live in the suburbs, exacerbating urban sprawl and greatly impacting city economies.

Urban sprawl had a devastating effect on city economies. Large industrial cities struggled as they lost “staggering numbers of industrial jobs as manufacturing companies . . . either closed their doors, moved operations to the suburbs, or departed the metropolitan area altogether.”<sup>32</sup> In the 1940s, the move to the suburbs was already “draining cities of industry, population, and retail trade.”<sup>33</sup> Instead of living in the cities, people wanted to live in the suburbs, causing the population of the city to “decant slowly into the countryside.”<sup>34</sup> Automobiles allowed people to escape “urban ills” such as “crime, race, and the declining quality of public services, particularly education.”<sup>35</sup> As population movement occurred and people vacated cities, property wasted away in the urban core, resulting in unused lots, high vacancies, low rents, and deteriorating values.<sup>36</sup> However, the suburbs thrived.

Shopping followed the movement of the population, leaving the urban core for outlying areas. When retailers realized that automobiles enabled shoppers to come to them, “completely independent from the place where people lived, new centers for shopping could go almost any place where roads brought people over inexpensive real estate.”<sup>37</sup> Retailers began to take advantage of the chain establishment concept.

From fast food to gasoline to motel rooms, regardless of the product, the marketing was the same. Familiar roadside architecture—cheap to build, easy to replicate, and easy to recognize from behind the wheel of a moving vehicle—catered to the mobile American, who demanded predictability in unfamiliar places.<sup>38</sup>

Downtown department stores and smaller retailers followed the crowd out of the city. This led to the disintegration of city community centers and the loss of jobs.

As people discovered they could live outside of the city, urban sprawl resulted in the loss of jobs in the city, and an increase in suburban jobs that also encouraged people to move to the suburbs. From 1973-1975, America lost five million blue-collar jobs but gained from 82 to 110 million jobs in the service industry.<sup>39</sup> Fewer people commuted into the city as stores and businesses moved to the suburbs, and they were able to find service jobs outside the city. The suburbs

became independent of the urban centers and became like independent cities. They became the preferred place to not only live, but also work, leaving little need to travel into the city. “The Suburb now dominates. It is where most people live and work. And so it has switched places with the urban environment, and the roles they serve have also reversed. It is the suburbs that are now the centers of commerce, industry, and business.”<sup>40</sup> Urban sprawl was also accelerated by the development of the Interstate Highway System.

America’s system of interstate highways has brought tremendous positive results. However, the benefits of the Interstate Highway System came at a great cost to cities and their residents.<sup>41</sup> The interstate system increased mobility, productivity, and prosperity. In a 1956 article in *The Saturday Evening Post*, Richard Thruelsen lauded the Federal-Aid Highway Act of 1956, which represented “one of the most astounding pieces of legislation in history . . . such a monumental conception of national public works that its accomplishment will literally dwarf any previous work of man.”<sup>42</sup> He spoke about how the “urban expressways” would “completely change the traffic pattern (and in many ways the growth pattern) of the city.”<sup>43</sup> Thruelsen was correct in this regard. He also stated that they were called freeways because of the free movement of traffic that would result; commuters could bisect the city and get from the center to the outer belt with “a few minutes of easy driving,” and that the projects would “profit every section of the urban community.”<sup>44</sup> The end result did not confirm this statement. In fact, some communities were destroyed.

The interstate system did change the pattern of the American city. The fact that the federal government was paying ninety percent of the costs for these highways had “state and city officials clamoring for the easy money, regardless of their traffic needs.”<sup>45</sup> Highway engineers tended to study traffic trends and build highways where they thought the traffic would be the worst instead of studying the urban region itself. These highways often divided neighborhoods, especially low-income neighborhoods, while wealthier neighborhoods got preferential treatment or were able to stop proposed projects altogether.<sup>46</sup> Not only neighborhoods, but parks, historic districts, and environmentally sensitive areas were demolished to make space for the highways.<sup>47</sup> In the words of one critic, “The desire of the car owner to take his car wherever he went no matter what the social cost drove the Interstate Highway System, with all the force and lethal effect of a dagger, into the heart of the American City.”<sup>48</sup> Robert Moses, head of the New York’s slum clearance committee, controlled the largest public works projects in America from 1924 to 1968.<sup>49</sup> He is estimated at having evicted up to a quarter million people and destroyed many communities and historic sections of the city to construct hundreds

of miles of parkways and highways.<sup>50</sup> By 1966, “of all the historical landmarks of local identity recorded in detail over the previous three decades by the National Park Service’s Historical American Buildings survey, nearly half had been demolished or mutilated beyond recognition.”<sup>51</sup> One critic said that “the time is approaching in many cities when there will be every facility for moving about the city and no possible reason for going there.”<sup>52</sup> Not until the mid-1960s did engineers begin to take the protection of social and environmental values into consideration.<sup>53</sup> By then, the cities had changed astronomically.

Historians have had many views on the impact of the car on the city. A focus on the issue of urban sprawl seems to be the most common lament about the automobile’s negative impact, especially in the past few decades. In a quick search for books on urban sprawl in the San Antonio Public Library database, twenty-one books came up, ranging in publication date from 1993 to 2013. In addition to the authors cited in previous paragraphs, many others decry urban sprawl and advocate rebuilding cities without the automobile as a primary focus. For example, Taras Gresco, in his book *Straphanger: Saving Our Cities and Ourselves from the Automobile*, says automobiles cause “never ending metropolitan sprawl, high carbon emissions, and global gridlock.”<sup>54</sup> He points out that the majority of the world’s population does without cars, even in large cities. “Half the population of New York, Toronto, and London do not own cars . . . done right, public transport can be faster, more comfortable, and cheaper than the private automobile.”<sup>55</sup> Jeff Speck, in his book *Walkable City: How Downtown Can Save America One Step at a Time*, states that due to the “sheer waste of suburban sprawl” and its propensity to make cars indispensable, “the inactivity-inducing convenience, often violent speed, and toxic exhaust of our cars” make it more likely that youth will live shorter lives than their parents.<sup>56</sup> Speck postulates that planning for cities with a focus on walking, rather than driving, will enhance “wealth, health, and sustainability.”<sup>57</sup> The examples are endless, but solutions to urban sprawl will be difficult.

The rise of the automobile greatly impacted cities during the twentieth century. Cars reshaped city landscapes, changed city residential patterns, and impacted city economies. The popularity of automobiles grew quickly, changing the nature of the city street in America from being pedestrian-dominated to being ruled by the automobile. Americans’ dependence on the car required parking, which also changed the landscape of the city, and caused damage to the environment. Automobile traffic also created pollution issues. Urban sprawl changed the nature of the city as people, businesses, and jobs moved from the cities to the suburbs, devastating city economies. Urban highways and the



national Interstate Highway System, instead of helping the city, only exacerbated the problems. The rise of suburbia became part of the American dream, but it contributed to the demise of the city. Automobile development had a huge impact on the development of the American city, and American society in general. By studying the history of this impact, Americans can learn to not repeat mistakes and to instead create a vibrant, clean urban structure that will improve city life.

## Notes

1. James T. Patterson, *Restless Giant: The United States from Watergate to Bush V. Gore* (New York: Oxford University Press, 2005), 5.
2. John Milton Cooper, Jr., *Pivotal Decades: the United States, 1900-1920* (New York: W. W. Norton & Company, 1990), 13, 133-134; Ben Joseph Eran, *Rethinking a Lot: the Design and Culture of Parking* (Cambridge MA: The MIT Press, 2012), 62; John B. Rae, *The American Automobile: A Brief History* (Chicago: University of Chicago Press, 1965), 145, 176, 223; Patterson, *Restless Giant: The United States from Watergate to Bush V. Gore*, 38, 357.
3. Peter D. Norton, "Street Rivals: Jaywalking and the Invention of the Motor Age Street," *Technology and Culture* (April 2007): 332.
4. Ibid.
5. Ibid., 332-333.
6. Ibid., 334.
7. Eran, *Rethinking a Lot: the Design and Culture of Parking*, 13.
8. Ibid., 3.
9. Ibid., ix.
10. Dolores Hayden, *A Field Guide to Sprawl* (New York: W. W. Norton & Company, 2004), 8.
11. Alex Marshall, *How Cities Work: Suburbs, Sprawl, and the Roads Not Taken* (Austin: The University of Texas Press, 1959), 44.
12. Robert Bruegmann, *Sprawl: A Compact History* (Chicago: University of Chicago Press, 2005), 33.
13. Richard Moe and Carter Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl* (New York: Henry Holt and Co. 1997), 49.
14. Anders Duany, Elizabeth Plater-Zyberk, and Jeff Speck, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream* (New York: North Point Press, 2000), 15-16.
15. Brian D. Taylor, "Putting a Price on Mobility: Cars and Contradictions in Planning," *Journal of the American Planning Association* 72, no. 3 (Summer 2006): 279-284.
16. Marshall, *How Cities Work: Suburbs, Sprawl, and the Roads Not Taken*, 44.
17. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 69.

18. Jeffrey R. Brown, Eric A. Morris, and Brian D. Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century," *Journal of the American Planning Association* 75, no. 2 (Spring 2009): 162.
19. Richard E. Foglesong, *Downtown: Its Rise and Fall, 1880-1950* (New Haven CT: Yale University Press, 2003).
20. Brown, Morris, and Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century," 162.
21. *Ibid.*, 167.
22. Marshall, *How Cities Work: Suburbs, Sprawl, and the Roads Not Taken*, 44.
23. Brown, Morris, and Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century," 162.
24. *Ibid.*
25. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 61.
26. Brown, Morris, and Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century," 162.
27. *Ibid.*, 161.
28. *Ibid.*, 161, 168.
29. *Ibid.*, 168, 170.
30. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 59.
31. Norton, "Street Rivals: Jaywalking and the Invention of the Motor Age Street." 333.
32. Bruegmann, *Sprawl: A Compact History*, 46.
33. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 60.
34. *Ibid.*
35. *Ibid.*, xi.
36. *Ibid.*
37. *Ibid.*, 65.
38. *Ibid.*
39. *Ibid.*, 69.
40. Marshall, *How Cities Work: Suburbs, Sprawl, and the Roads Not Taken*, xv.
41. Brown, Morris, and Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century," 162.
42. Thruelsen, Richard, "Coast to Coast Without a Stoplight: Our Amazing New Federal Highway Program Promises 41,000 Miles of Billboard-Free, Possible Toll-Free, Superroads. And it Will Cost Fifty Billion Dollars," *The Saturday Evening Post* (October 20, 1956): 23.

43. Ibid., 54.

44. Ibid.

45. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 62.

46. Brown, Morris, and Taylor, "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20<sup>th</sup> Century." 172.

47. Raymond A. Mohl, "The Interstates and the Cities: The U.S. Department of Transportation and the Freeway Revolt, 1966-1973," *The Journal of Political History* 20, no. 2 (2008), 193.

48. Ibid.

49. Moe and Wilkie, *Changing Places: Rebuilding Community in the Age of Sprawl*, 61.

50. Ibid.

51. Ibid., 66.

52. Ibid., 63.

53. Ibid.

54. Taras Grescoe, *Strap Hanger: Saving Our Cities and Ourselves from the Automobile* (New York: Henry Holt and Company, LLC, 2012), 14-15.

55. Ibid., 39.

56. Jeff Speck, *Walkable City: How Downtown Can Save America, One Step at a Time*. (New York: Farrar, Straus and Giroux, 2012), 1.

57. Ibid., 16.

## Bibliography

- Brown, Jeffrey R., Eric A. Morris, and Brian D. Taylor. "Planning for Cars in Cities: Planners, Engineers, and Freeways in the 20th Century." *Journal of the American Planning Association* 75, no. 2 (2009): 161-177.
- Bruegmann, Robert. *Sprawl: A Compact History*. Chicago: University of Chicago Press, 2005.
- Cooper, John Milton Jr. *Pivotal Decades: the United States, 1900-1920*. New York: W. W. Norton & Company, 1990.
- Duany, Anders, Elizabeth Plater-Zyberk, and Jeff Speck. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press, 2000.
- Eran, Ben Joseph. *Rethinking a Lot: the Design and Culture of Parking*. Cambridge MA: The MIT Press, 2012.
- Foglesong, Richard E. *Downtown: Its Rise and Fall, 1880-1950*. New Haven CT: Yale University Press, 2003.
- Grescoe, Taras. *Strap Hanger: Saving Our Cities and Ourselves from the Automobile*. New York: Henry Holt and Company, LLC, 2012.
- Hayden, Dolores. *A Field Guide to Sprawl*. New York: W. W. Norton & Company, 2004.
- Marshall, Alex. *How Cities Work: Suburbs, Sprawl, and the Roads Not Taken*. Austin: The University of Texas Press, 1959.
- Moe, Richard, and Carter Wilkie. *Changing Places: Rebuilding Community in the Age of Sprawl*. New York: Henry Holt and Co., 1997.
- Mohl, Raymond A. "The Interstates and the Cities: The U.S. Department of Transportation and the Freeway Revolt, 1966-1973." *The Journal of Political History* 20, no. 2 (2008): 193-226.
- Norton, Peter D. "Street Rivals: Jaywalking and the Invention of the Motor Age Street." *Technology and Culture* (2007): 331-359.
- Patterson, James T. *Restless Giant: The United States from Watergate to Bush V. Gore*. New York: Oxford University Press, 2005.
- Perez, Laura, Fred Lurmann, John Wilson, Manuel Pastor, Sylvia J. Brandt, Nino Kunzil, and Rob McConnell. "Near-Roadway Pollution and Childhood Asthma: Implications for Developing "Win-Win" Compact Urban

Development and Clean Vehicle Strategies.” *Environmental Health Perspectives* (2012): 1619-1626.

Rae, John B. *The American Automobile: A Brief History*. Chicago: University of Chicago Press, 1965.

Speck, Jeff. *Walkable City: How Downtown Can Save America, One Step at a Time*. New York: Farrar, Straus and Giroux, 2012.

Taylor, Brian D. “Putting a Price on Mobility: Cars and Contradictions in Planning.” *Journal of the American Planning Association* 72, no. 3 (2006): 279-284.

Thruelsen, Richard. “Coast to Coast Without a Stoplight: Our Amazing New Federal Highway Program Promises 41,000 Miles of Billboard-Free, Possible Toll-Free, Superroads. And it Will Cost Fifty Billion Dollars.” *The Saturday Evening Post* (October 20, 1956): 23-24, 54, 59, 61, 64-65.