

# The Dwight D. Eisenhower National System of Interstate and Defense Highways: The Road to Success?

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JUST IMAGINE WHAT TRANSPORTATION WAS LIKE IN THIS COUNTRY ... BEFORE THE INTERSTATE HIGHWAY SYSTEM WAS BUILT. IT WAS A TANGLED MAZE OF POORLY MAINTAINED BACK ROADS ... FORTUNATELY, PRESIDENT EISENHOWER MADE AN INVESTMENT THAT REVOLUTIONIZED THE WAY WE TRAVEL—AN INVESTMENT THAT MADE OUR LIVES EASIER AND OUR ECONOMY GROW.

- President Barack Obama, October 27, 2009

THE DWIGHT D. EISENHOWER National System of Interstate and Defense Highways was an innovation that changed America. The highway system, the greatest public works project in American history, made travel faster, easier, and safer. However, there were serious negative effects of the highways; they hindered the growth of cities, destroyed neighborhoods, and hurt the environment. As historian Evan Bennett asked, were they “highways to heaven or roads to ruin?” (Bennett 451). The ground-breaking Interstate Highway System had elements of both.

After 1903, when Henry Ford put the automobile on the market, America needed new roads. In the early 1900s, the Office of Road Inquiry estimated that only 12% of roads in the United States were paved. The majority were dirt or mud, so cars rarely exceeded 25 miles per hour. Urged by lobbyists, state and local governments decided that a better road system was needed (Murphy 13-17).

President Woodrow Wilson signed the Federal-Aid Road Highway Act in 1916, creating the Bureau of Public Roads. The Act allotted \$75 million over the next five years to states that formed a highway department and used state funds to pay fifty percent of the cost. The act was slow to take effect. In 1919, Thomas H. MacDonald, a highway engineer, was appointed chief of the Bureau of Public Roads, and remained in that position for almost forty years. Between 1916 and 1919, the Bureau distributed merely half a million dollars, and only 12.5 miles of road were paved (Murphy 20-21).

In 1917, the United States entered World War I, and resources, materials, and experienced workers were diverted for military use (Lewis 11). Road projects were suspended and existing roads worsened as thousands of trucks traveled to east coast ports to unload supplies headed for Europe (Murphy 21).

President Franklin D. Roosevelt, eager to provide employment during the Depression, lobbied for passage of a construction bill that would support the building of a national highway system. After failing twice, he decided to campaign for a smaller project, the Pennsylvania Turnpike. This road, successfully completed in 1938, motivated Roosevelt to try to create more government financed road construction jobs. His vision was inspired by the wide roads called *autobahns* that Hitler had built for military transportation across Germany. But Roosevelt's ideas were met with political resistance, and he needed to devote his attention to the war in Europe, so he abandoned plans for a national highway system (Rohatyn 209-210).

When the United States entered World War II in 1941, factories made fewer cars as they began to manufacture guns and other military supplies. Truck drivers needed safer and wider roads for transport. By 1946, half of the roads in the United States had been paved, but most were narrow and unsafe (Whitman 68-69).

Post-war changes in America highlighted the inadequacy of the existing highways. The Servicemen's Readjustment Act of 1944 (the G.I. Bill) provided veterans with low-interest loans, allowing many families to move out of the cities. In the suburbs, cars were an essential part of daily life and culture. Drive-in businesses such as dry cleaners and movie theaters became common, and a driver's license "marked a passage to adulthood" (Whitman 71-73). The number of registered vehicles increased from 3.1 million in 1945 to 4.7 million in 1949 (Seely 6).

The existing highways were unsafe for the growing number of drivers. By 1955, data indicated that over 36,000 people were killed and more than 1 million were injured on roads annually (Eisenhower, Message 1955, Parsons 1). Furthermore, the Cold War increased fear of possible nuclear attacks on America, and highways were deemed inadequate for the evacuation of large cities (Eisenhower, Message 1955). Anxiety about the Cold War was an important factor in convincing the American public that new highways should be funded as a defense measure (Mumford 234, Whitman 70).

President Eisenhower supported the construction of a new highway system. Back in 1919, he had joined the first United States Army's Cross-Country Motor Transport Train, a convoy which set out to learn how motor vehicles could cross the country. (Rohatyn 199-200, D'Este 140-143). It traveled at approximately five miles per hour and experienced many breakdowns (Eisenhower, At Ease 159). In his memoirs, Eisenhower amplified the need for a new highway system in the United States, saying, "Even...where the roads were usually paved, sometimes with concrete, we were well supplied with trouble" (Eisenhower, At Ease 158). After World War II, he noted, "the old convoy had started me thinking about good, two-lane highways, but [*autobahns* in] Germany had made me see the wisdom of broader ribbons across the land" (Murphy 50). Shortly after his inauguration,

Eisenhower wrote a proposal to Congress about creating a transcontinental highway system (Murphy 50).

On June 26, 1956, Eisenhower signed the National Interstate and Defense Highway Act, and construction on the federal highway system began (Frissell 2, "National Interstate Act" 1956). For the first time, the federal government was to pay for 90% of highway construction, leaving only 10% to the states. The Highway Trust Fund Act of 1956 increased gasoline and tire taxes, and subsequent federal highway bills provided further financing ("Allocated" 51, Eisenhower, Statement 1959, Hughes 1959, Jones 1956, Rugaber A13). The original plan was to build 41,000 miles of road by 1969, but the final system was 46,876 miles long and took thirty-seven years to complete (Bigart 1, Faber 26, "Recognizing").

"Chief" MacDonald, head of the Federal Bureau of Public Roads, wanted the new highway system to be more uniform and organized than the old roads. Although states could choose the methods and materials for local use, MacDonald introduced certain standardized features still used today ("Interstate FAQ" 2006). For example, north-south interstates were assigned odd numbers and east-west routes even numbers (see Appendix Figure 1, "Interstate Anniversary TRB" 2006). Highways were designed to have limited access with specific entrance and exit points and no intersections or traffic signals (Murphy 30-31). Road signs were also standardized: exit signs had white writing on a green background; interstate route signs were red, white, and blue; and rest areas signs were white on blue (Frissell 2, Lewis 140, Murphy 75).

The standardization of highways made roads less dangerous, improving the quality of life. Commuting and long-distance travel were made easier and safer (Frissell 2, Rohatyn 218). The fatality rate on interstate highways was lower than on other roads (Siggerud 9-12). Over fifty years, the Road Information Project estimated that the interstates had saved about 234,000 lives (Copeland 7A).

As automobile travel became easier, other forms of transportation declined. In the 1920s, 70 percent of travel between cities was by railroads. By 1966, passenger travel between cities fell to less than two percent. Many railroad companies had to merge and some went out of business ("Railroads' Role").

Nevertheless, an immediate impact of the Interstate Highway System was growth in the economy ("Highways Change the Face of America"). By 1960, the average speed of cars on highways increased to 52.6 miles per hour. As a result, goods could be shipped longer distances, expanding market area for farms (Census 718). Manufacturing could be moved to cheaper locales, thus reducing costs and increasing profits. From 1956 to 2006, the trucking industry increased fifteen-fold. Data from 2006 indicate that \$8.4 trillion in goods were shipped via the interstates that year (Copeland 7A). Most of the goods used in daily life today have travelled the interstates ("Celebrating" 55-66). Overall, the Interstates contributed greatly to economic growth in the United States in the late twentieth century.

Another important effect of the interstate system was that it smoothed the progress of suburbanization. Suburbs had begun developing by the 1920s, but the highway system greatly increased the process of suburbanization (St. Clair 1-2). As the interstates developed, businesses grew along their routes, and more

job opportunities became available away from the cities (Rabin 22, Rohatyn 218, Weisbrod 18). Service industries and tourism thrived along the highways (Dunphy 20). In addition, shopping centers, office complexes, fast food chains, gas stations, and hotels grew in suburban areas (Murphy 115). A study that compared census and employment records between 1950 and 1970, indicated that counties with access to an interstate highway enjoyed economic and population growth (Lichter and Fuguitt 492-510). Highways also led to the growth of new regions in the United States. In the 1970s, people began to migrate away from the northern and eastern states to the “sunbelt” states, such as Arizona, Florida, Colorado, and Nevada (“Americans” 1-11, Stevens 68). Therefore, a long-term impact of the highway system was a change in the pattern of population in the United States. “Beltway” systems were designed to circumvent cities, but as businesses grew around the beltways, some cities began to decline (“The Automobile Age”).

Despite the successes of the highway system, there were various unforeseen consequences on cities, neighborhoods, and the environment. Historian/philosopher Lewis Mumford’s words, written in 1958, were prophetic of the problems that the new highway system was beginning to generate:

In many parts of the country, the building of a highway has about the same result upon vegetation and human structures as the passage of a tornado or the blast of an atom bomb ... Since the engineer regards his own work as more important than the other human functions it serves, he does not hesitate to lay waste to woods, streams, parks, and human neighborhoods in order to carry his roads straight to their supposed destination (Mumford 237).

Many cities were negatively affected as the highways spread. One issue was the extra congestion around construction sites. Far worse, neighborhoods were destroyed as the big roads slashed through them (Murphy 91-92, Rohatyn 218). When the government planned a highway in a residential neighborhood, negotiators pressured community leaders whose compliance would convince others to follow (“Uprooting” 1). Impoverished areas were most affected because the cost of exercising eminent domain was lower in slums, where property was less expensive (Bigart 1, “Consequences” 6, Deakin 16). A 1985 letter to the editor of the *New York Times* complained that the interstates were “indiscriminately plowing through downtowns” (Hoglund). In Miami, for example, one Interstate 95 interchange took up 40 blocks and destroyed 10,000 homes. In New York City, the Cross-Bronx Expressway, proposed by Robert Moses, a powerful New York official, dug a seven-mile ditch destroying thousands of apartment buildings and businesses (“Cross Bronx Expressway,” Mohl 196). Journalist Homer Bigart noted that the highways have, “sent great rivers of concrete creeping like lava through residential neighborhoods and commercial areas, dislocating families, schools, churches, and businesses” (Bigart 1).

People living near a highway were routinely bothered by the noise and lights of constant traffic (Fawcett 1-2). Theresa Pollio lived in a quiet neighborhood of Italian immigrants in East Haven, Connecticut. In the late 1940s, when construction of Interstate 95 began, her front yard and other yards in the neighborhood were taken by the government and turned into a loud exit ramp. As Mrs. Pollio’s

great-granddaughter, Mrs. Crowley, explained, “The character of the neighborhood was completely changed.” Mrs. Crowley recalled that when playing in the backyard of the house as children, she and her friends were always closely supervised by adults because the house was so close to the highway. In 1998, Mrs. Pollio received a letter from the Department of Transportation saying that her entire house would be taken by the government in order to expand Interstate 95. The house and the surrounding neighborhood have since been destroyed (Crowley 2009). The East Haven neighborhood was one of many across the United States that disappeared due to the highways.

Although some cities blossomed as more traffic passed through, those farther away from the highway often declined. A quintessential example was Starke, Florida. Initially, State Road 13 brought tourists to Starke. As more highways were built, however, fewer people passed through Starke because other cities became more accessible (Bennett 454-455). When, in 1957, the Interstate began to expand farther away from Starke, city leaders did not object because they thought that the charm of U.S. Highway 301, a scenic route, would continue to attract travelers. But tourists found it easier to travel on the new interstate roads and Starke was bypassed. By 1970, businesses in Starke failed, and many residents moved away (Bennett 463-467). A similar circumstance was captured in the 2005 song, “Route 22,” by the bluegrass band Chatham County Line, in which the lyricist recalls the decline of his father’s business:

Until the government came on the radio in late '55,  
Said the State’s gonna build a new highway.  
One that’s fast smooth and wide,  
That new highway, no one stops here anymore (Wilson 2005).

Highways also impacted the environment. Countless natural habitats were destroyed as the highways were built. President Johnson signed the Highway Beautification Act in 1965, recognizing that for every mile of highway built, fifty acres of land were destroyed (Rohatyn 218). The act limited the use of commercial billboards and sought to make the highways more visually appealing with the removal of litter (“Highway History” 2006). In the 1970s, Americans became aware that cars caused pollution and harmed the environment (Sullivan E17). The increase in the number of cars during the twentieth century also led to reliance on foreign fossil fuels, leading to conflicts with the Middle East because of oil disputes (Patchett 21).

The era during which the highway system was built was typified by protests about causes such as civil rights and the Vietnam War (White 53). Anti-interstate groups developed, attracting environmentalists, historic preservationists, and those whose neighborhoods and communities were being destroyed. By 1970, “freeway revolts” had broken out in twelve cities, sometimes preventing a highway from being built or changing its route (“Consequences” 7, Murphy 102, Parsons 3). In Phoenix, for example, citizens objected to the proposed building of Interstate 10 through the downtown area, and the highway was rerouted underground with a park over it (“On the Interstate”). African-American citizens living in Washington, D.C. believed that racism was a factor in choosing where a highway would go,

prompting artist Sammie Abbott to design a poster with the slogan, “White man’s road thru black man’s home!” (see Appendix Figure 2, Abbott c.1960). Such discontent illustrated that highways negatively impacted many people’s lives.

Although the Interstate Highway System had some negative impacts on individuals and cities, it was a major innovation in American history. The problems of early twentieth-century roads led to the construction of the Interstate Highway System, which made travel easier and revolutionized the economy. It drove our nation to success but doomed many of our cities to failure. The highways created a modern way of life that is dependent on cars and trucks, leading to unprecedented outcomes for future generations.

Appendix

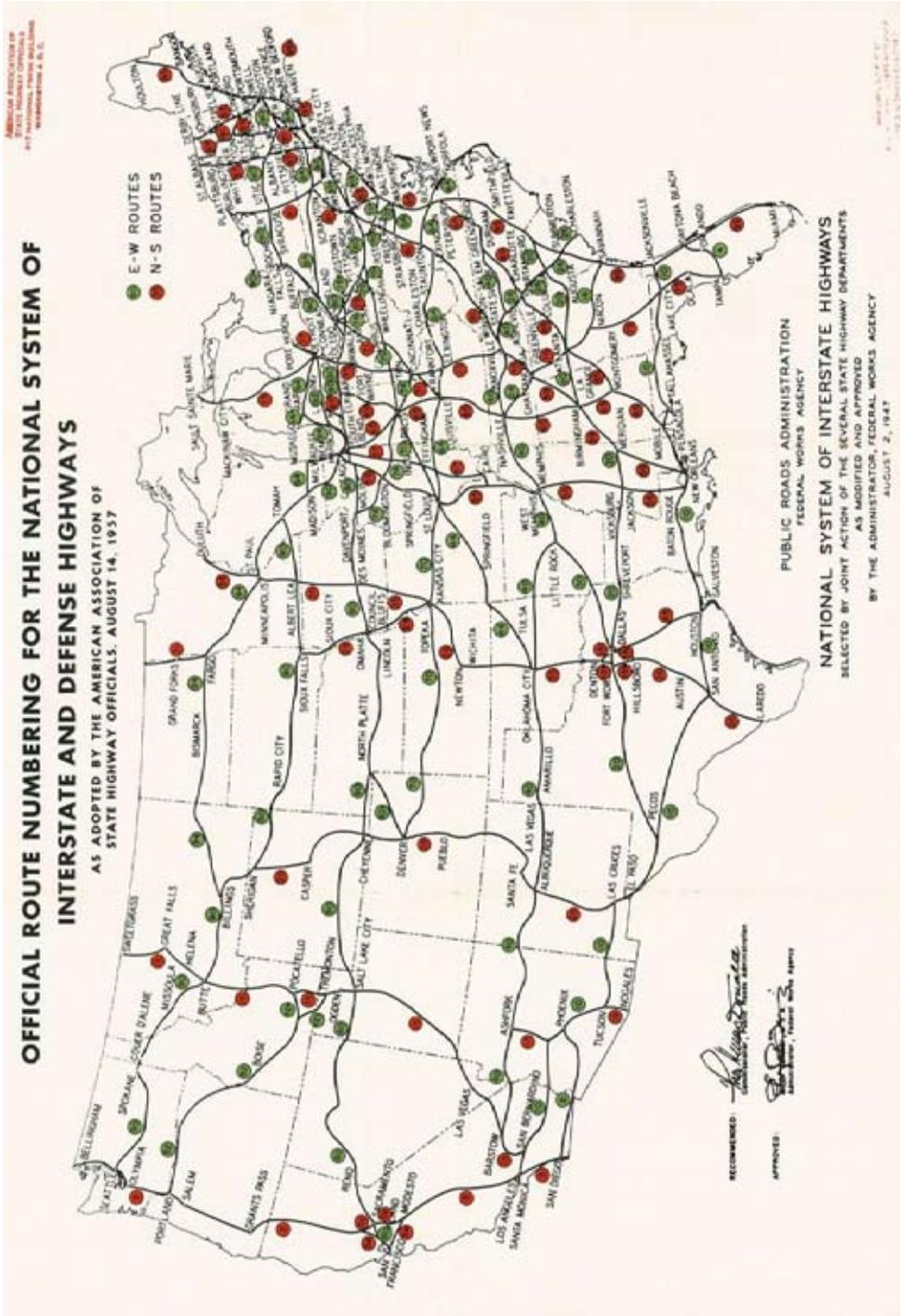
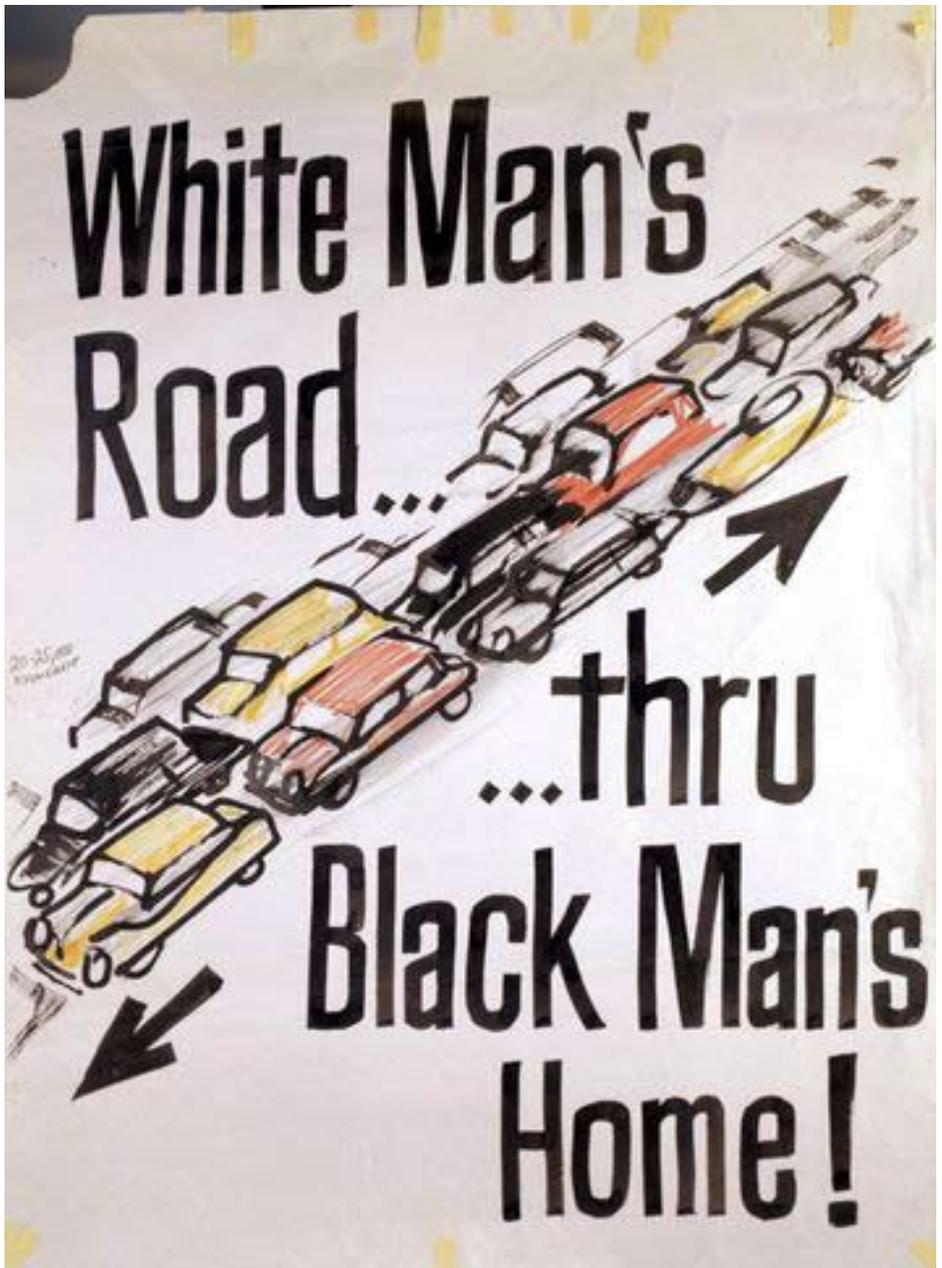


Figure 1: The routes and numbering system for the Interstate Highway System, originally adopted in 1957 (“Interstate Anniversary TRB” 2006).



*Figure 2: Poster protesting the building of a highway in a poor African American neighborhood in Washington, D.C. (Abbott c.1960)*

## Works Cited

### Primary Sources

100 Milestone Documents. "National Interstate and Defense Highway Act (1956)." *Ourdocuments.gov*. Our Documents, n.d. 28 Dec. 2009. <<http://www.ourdocuments.gov/doc.php?flash=false&doc=88#>>.

This website has a collection of 100 important documents in American history. It includes the transcript of the National Interstate and Defense Highways Act of 1956. Reading this document helped me understand how complicated and detailed the act was.

Abbott, Sammie. "Washington, D.C., Protest Poster. Late 1960s." *Smithsonian Source*. Smithsonian Center for Education and Museum Studies, 2007. 27 Dec. 2009. <<http://www.smithsoniansource.org/display/primarysource/viewdetails.aspx?PrimarySourceId=1147>>.

This website, sponsored by the Smithsonian Center for Education and Museum Studies, has many primary sources from the collection of the Smithsonian Institution. This poster was displayed at a 1960s demonstration against building a highway through an African American neighborhood in Washington, D.C. It showed me that some African-Americans believed racism was a factor in planning the Interstate Highway System.

"Americans on the Move." *Time Magazine* 15 Mar. 1976: 1-11. 28 Dec. 2009. <<http://www.time.com/time/magazine/article/0,9171,945561,00.html>>.

This article summarizes the new phenomenon of population moving to the "sunbelt" states in the 1970s. It contains interviews with people who moved from big cities in the Northeast to places such as Arizona and Florida. The highways enabled them to have successful lives in these new places.

Bigart, Homer. "U.S. Road Plans Periled By Rising Urban Hostility." *New York Times* 13 Nov. 1967: 1. 30 Dec. 2009. <<http://portal.bigchalk.com>>.

This newspaper article, written while the Interstate Highway system was being built, gave me a better understanding of how people felt about the growing system. Some people did not like the highway system because it went right through their cities and dislocated many people.

Eisenhower, Dwight D. *At Ease: Stories I Tell to Friends*. Garden City, New York: Doubleday & Company, 1967.

This book is a collection of autobiographical essays by President Dwight D. Eisenhower. I used this source to learn more about his firsthand experience during the 1919 transcontinental convoy.

———. "Message to the Congress Regarding Highways." 22 Feb. 1955. 29 Dec. 2009 <[http://eisenhower.archives.gov/Research/Digital\\_Documents/InterstateHighways/New%20PDFs/1955\\_02\\_22\\_Message\\_to\\_Congress.pdf](http://eisenhower.archives.gov/Research/Digital_Documents/InterstateHighways/New%20PDFs/1955_02_22_Message_to_Congress.pdf)>.

In this memorandum to Congress, Eisenhower highlighted the need for a new highway system by explaining what was wrong with the existing roads.

———. "Statement by the President." 21 Sept. 1959. 29 Dec. 2009. <[http://eisenhower.archives.gov/Research/Digital\\_Documents/InterstateHighways/New%20PDFs/1959\\_09\\_21\\_Statement.pdf](http://eisenhower.archives.gov/Research/Digital_Documents/InterstateHighways/New%20PDFs/1959_09_21_Statement.pdf)>.

This is a statement made by Eisenhower after he approved the 1959 highway Act. This explained to me how more money was needed to continue building the interstate highways.

Faber, Harold. "85% of Interstate Roads in State Complete at a Cost of \$2.5 Billion." *New York Times* 30 Sept. 1973: 26. 29 Dec. 2009. <<http://portal.bigchalk.com>>.

This article was written when the planned construction of the Interstate System was almost complete, but behind schedule. It explained to me that the government's original estimate of how long it would take to build the interstate turned out to be very far off.

Fawcett, Dennis. "Muffling the Interstates by Walling In Their Noise." *New York Times* 4 June 1989: 1+. 10 Jan. 2010. <<http://portal.bigchalk.com>>.

This article gave me a better perspective of what it must have been like to live along one of the interstate roads. Many people were angry because of the noise and light that came from cars on the roads, and they wanted the state officials to put up walls to keep the sound and light out. However, others preferred to live with the noise and keep the beautiful view of the countryside rather than walls.

"Highways: The Great Uprooting." *Time Magazine* 24 Mar. 1958: 1-2. 10 Jan. 2010. <<http://www.time.com/time/magazine/article/0,9171,868315,00.html>>.

This article was written during the first years of the building of the Interstate Highway System. It interviews people who were required to sell their houses and businesses to make way for the highways.

Hoglund, H. Alan. "Past Holds Key to Highways of Future. Letter." *New York Times* 30 May 1985: n. pag. 10 Jan. 2010. <<http://portal.bigchalk.com>>.

This letter to the editor of the *New York Times* was written in 1985 and showed me how an individual citizen felt about the Interstate Highway System. He disagreed with the fact that they were cutting directly through cities instead of bypassing them.

Hughes, Phillip S. "Last Day for Action." Letter to Dwight D. Eisenhower. 17 Sept. 1959. 13 Jan. 2010. <[http://eisenhower.archives.gov/Research/Digital\\_Documents/Interstate-Highways/New\\_PDFs/1959\\_09\\_17\\_Hughes\\_to\\_DDE.pdf](http://eisenhower.archives.gov/Research/Digital_Documents/Interstate-Highways/New_PDFs/1959_09_17_Hughes_to_DDE.pdf)>.

Phillip S. Hughes, the Assistant Director for Legislative Reference, wrote to President Eisenhower to inform him about the Federal-aid Highway Act of 1959. This explained to me how additional acts were needed to continue to build the system after 1956.

"Interstate Highway System Allocated 1,472 More Miles." *New York Times* 14 Dec. 1969: 51. 10 Jan. 2010. <<http://portal.bigchalk.com>>.

This article gave me a better understanding of how much it cost the federal and state governments to build the interstates.

Jones, Roger W. "To Amend and Supplement." Letter to Dwight D. Eisenhower. 28 June 1956. 13 Jan. 2010. <[http://eisenhower.archives.gov/Research/Digital\\_Documents/InterstateHighways/New%20PDFs/1956\\_06\\_28\\_Jones\\_to\\_DDE.pdf](http://eisenhower.archives.gov/Research/Digital_Documents/InterstateHighways/New%20PDFs/1956_06_28_Jones_to_DDE.pdf)>.

Roger Jones was the Assistant Director for Legislative Reference under President Eisenhower in 1956. In his letter, he described for the President the National Interstate and Defense Highway Act. This was a summary of the Act that Eisenhower was going to sign into law.

Patchett, Ann. "The Long Drive Home." *The New York Times Magazine* 25 Nov. 2001: 21.

This first-person account was written after the September 11, 2001 attacks. It describes how there was an increase in auto travel because many Americans were too scared to travel by air. It also discussed America's need for oil due to the popularity of driving.

Rugaber, Walter. "Inflation Widens the Gaps in the Interstate Highway System." *New York Times* 2 Feb. 1975: A13. 10 Jan. 2010. <<http://portal.bigchalk.com>>.

This article was written in 1975, when inflation was a significant problem in the United States. It discussed how the interstates were funded, why the highway system so expensive, and the effects of inflation on the costs.

Siggerud, Katherine. "Highway Infrastructure: Physical Conditions of the Interstate Highway System Have Improved, but Congestion and Other Pressures Continue." Subcommittee on Highways and Transit, Committee on Transportation and Infrastructure, House of Representatives. Washington, D.C. 26 Sept. 2002. 09 Dec. 2009. <<http://www.gao.gov/new.items/d021128t.pdf>>.

In her testimony before a subcommittee of the House of Representatives, Katherine Siggerud, of the Federal Highway Administration, discussed the conditions of the Interstate Highway System. She reviewed the condition of the pavement and bridges, as well as congestion between 1990 and 2000. In her opinion, the highways were generally in good condition.

U.S. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2*. Washington, D.C.: U.S. Department of Commerce, 1975. 30 Dec. 2009. <<http://www.gao.gov/new.items/d02571.pdf>>.

This source, from the U.S. Bureau of the Census, provided me with tables of statistics about American travel and transportation.

## Secondary Sources

American Association of State Highway and Transportation Officials. "Interstate Anniversary TRB Booth Presentation." *The Interstate Is 50*. 2006 Transportation Research Board Annual Meeting, June 2006. 31 Jan. 2010. <[http://www.interstate50th.org/docs/TRB\\_Booth.pdf](http://www.interstate50th.org/docs/TRB_Booth.pdf)>.

This website was created by the American Association of State Highway and Transportation Officials (AASHTO) to honor the fiftieth anniversary of the Interstate Highway System. AASHTO is a group that sets the standards for highways and other transportation in the United States. The fiftieth anniversary website includes many AASHTO documents about the history of highways. This slide show was presented at the 2006 Transportation Research Board Annual Meeting to commemorate the fiftieth anniversary of the Interstate Highway System. It provided photographs and maps of highways throughout American history.

Bennett, Evan P. "Highways to Heaven or Roads to Ruin? The Interstate Highway System and the Fate of Starke, Florida." *The Florida Historical Quarterly* 78.4 (Spring, 2000): 451-467.

This paper focuses on one small city in Florida and discusses how it was impacted by the Interstate Highway System. Because of the new highways, some cities were

ignored because people just passed through while traveling on the highways. This hurt businesses and led to the decline of some cities.

“Celebrating 50 Years: The Eisenhower Interstate Highway System.” *Congressional Record* 27 June 2006: 44-56. 30 Dec. 2009. <<http://frwebgate6.access.gpo.gov/cgi-bin/TEXTgate.cgi?WAISdocID=140452149463+0+1+0&WAISaction=retrieve>>.

This document records the hearing before the Subcommittee on Transportation and Infrastructure of the House of Representatives that was a celebration of the fiftieth anniversary of the Interstate Highway System. Because it was part of an anniversary celebration, it mainly focused on the benefits of the Interstate System on the nation. It discussed the positive aspects of the Interstate Highway System and outlined the reasons it should be commemorated.

“Consequences of the Development of the Interstate Highway System for Transit.” *Transit Cooperative Research Program: Research Results Digest* Aug. 1997: 1-22.

This research report was sponsored by the Federal Transit Administration. It gave me a better understanding of the impacts that the new highways had on the nation. Also, it taught me about what was happening in the country that led to the building of the interstates.

Copeland, Larry. “U.S. Interstate System Marks 50 Years Today.” *USA Today* 29 June 2006: 7A.

This article was written in honor of the fiftieth anniversary of the signing of the Interstate Highway Act of 1956. It summarizes many of the impacts that the highways have on the nation today.

“Cross-Bronx Expressway: Historic Overview.” *NYC Roads*. Eastern Roads, 2010. Web. 24 Mar. 2010. <<http://www.nycroads.com/roads/cross-bronx/>>.

This website provided a detailed history of the design and building of the Cross-Bronx Expressway. It also discussed the role of Robert Moses in designing highway transportation in New York City.

Crowley, Elizabeth. Telephone interview. 30 Dec. 2009.

I conducted a telephone interview with Mrs. Crowley, whose family was affected by the building of Interstate 95 in East Haven, Connecticut. She discussed how her family’s home was taken by the government in order to build the highway and how her great-grandmother’s neighborhood was changed. This is a primary source because Mrs. Crowley recalls some of her own experiences, but I classified this as a secondary source since she heard most of the stories from other members of her family.

Deakin, Elizabeth A. “The Social Impacts of the Interstate Highway System: What Are the Repercussions?” *TR News* May-June 2006: 16-17. 9 Jan. 2010. <<http://onlinepubs.trb.org/onlinepubs/trnews/trnews244.pdf>>.

This article gave me a better understanding of the impacts of the highway system on people, neighborhoods, and the way communities were affected.

D’Este, Carol. *Eisenhower: A Soldier’s Life*. New York: Henry Holt and Company, 2002.

This is a biography of President Dwight D. Eisenhower. The section on the 1919 transcontinental convoy helped me understand why he promoted the Interstate Highway

Act of 1956 later in his life.

Dunphy, Robert T. "Edge City, Just off the Interstate: Boon or Bane?" *TR News* May-June 2006: 20-21. 9 Jan. 2010. <<http://onlinepubs.trb.org/onlinepubs/trnews/trnews244.pdf>>.

This article discusses the growth of new businesses when the Interstate Highway System was built.

Federal Highway Administration. "Interstate FAQ." *Celebrating the Eisenhower Interstate Highway System*. US Department of Transportation, 2006. Web. 28 Dec. 2009. <<http://www.fhwa.dot.gov/interstate/faq.htm>>.

This website was created in honor of the fiftieth anniversary of the Eisenhower Interstate Highway System. It provided me with answers to many of my questions about the basic logistics of the highways.

Federal Highway Administration. "Highway History." *How the Highway Beautification Act Became a Law*. US Department of Transportation, 2006. Web. 29 Dec. 2009. <<http://www.fhwa.dot.gov/infrastructure/beauty.cfm>>.

This website was created by the Federal Highway Administration. It discussed the Highway Beautification Act, a law issued in 1965 by President Johnson and recognized the environmental dangers of building the highways.

Frissell, Susan. "Driving Took a Major Turn with Interstate Highways." *Daily Herald* [Arlington Heights, IL] 24 June 2006: 2. *Custom Newspapers*. 9 Dec. 2009. <[http://find.gale.com/gps/start.do?prodId=IPS&userGroupName=nysl\\_me\\_ramazus](http://find.gale.com/gps/start.do?prodId=IPS&userGroupName=nysl_me_ramazus)>.

This article, which was written to mark the fiftieth anniversary of the Interstate Highway System, gave me information about how the highways changed driving in America.

"Highways Change the Face of America." *Highway System at Fifty*. Natl. Public Radio. WNPR, New York, New York, 29 June 2006. 01 Jan. 2010. <<http://www.npr.org/templates/story/story.php?storyId=5520404>>.

This radio broadcast, part of a series to commemorate the fiftieth anniversary of the Interstate Highway System, gave me a broader knowledge of the impact that the system had on American life.

Lewis, Tom. *Divided Highways: Building the Interstate Highways, Transforming American Life*. New York: Viking Penguin, 1997.

This book provided me with a deep understanding of the engineering that went into building the Interstate Highway System. It also discussed the political and social impacts of the highways.

Lichter, Daniel T., and Glenn V. Fuguitt. "Demographic Response to Transportation Innovation: The Case of the Interstate Highway." *Social Force* 59.2 (1980): 492-512. 29 Dec. 2009. <<http://www.jstor.org>>.

In this journal article, the authors report on a study that they conducted about population changes in the United States due to the Interstate Highway System. They looked at census data and the Rand McNally Road Atlases for 1960 and 1970 and compared the population of places that were near or far from the interstates. This helped me get a better understanding of how the population was affected.

Mohl, Raymond A. "The Interstates and the Cities: The U.S. Department of Transportation and the Freeway Revolt, 1966-1973." *Journal of Policy History* 20.2 (2008): 193-226. 29 Dec. 2009. <<http://www.jstor.org>>.

This article focused on the Freeway Revolts, and also provided me with information on how the Interstate System destroyed neighborhoods.

Mumford, Lewis. *The Highway and the City*. New York: Harcourt, 1963.

This collection of essays criticized the highways and predicted that cities would be ruined because of roads and the growth of the automobile.

Murphy, John. *The Eisenhower Interstate System*. New York: Chelsea House, 2009.

This recently published book supplied me with a great amount of information on the building of the Interstate Highways and the impact that it had on the country. Also, it had information on what was happening in the United States at the time of the construction of the Interstate.

Obama, Barack H. "Remarks on 'Smart-Grid' Project." DeSoto Next Generation Solar Energy Center, Florida. 27 Oct. 2009. *New York Times*. 29 Oct. 2009. <[http://www.nytimes.com/2009/10/28/us/politics/28obama.text.html?\\_r=2](http://www.nytimes.com/2009/10/28/us/politics/28obama.text.html?_r=2)>.

In his remarks at an energy conference, President Obama addressed the issue of energy storage. He praised the Florida Power and Light company, which had just completed a solar power plant. He praised the Interstate Highway System as a successful project that helped our economy, and wanted to create an economy-boosting "energy superhighway."

"On the Interstate." *National Museum of American History*. Smithsonian Inst., 2008. 27 Dec. 2009. <[http://americanhistory.si.edu/onthemove/exhibition/exhibition\\_16\\_3.html](http://americanhistory.si.edu/onthemove/exhibition/exhibition_16_3.html)>.

This website displays an exhibition at the National Museum of American History about the role of transportation. It summarizes important points about the building of the Interstate Highway System.

Parsons Brinckerhoff Quade & Douglas, Inc. *Consequences of the Interstate Highway System for Transit: Summary of Findings*. Washington, D.C.: National Academy, 1998. 30 Nov. 2009. <[http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rrd\\_21.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rrd_21.pdf)>.

This is a summary of a research report that was sponsored by the Federal Transit Administration and conducted by a company that designs and engineers large transportation projects. It summarizes positive and negative environmental and social impacts that the highway system had on the United States.

Rabin, Yale. "Federal Urban Transportation Policy and the Highway Planning Process in Metropolitan Areas." *Annals of the American Academy of Political and Social Science* 451 (Sept. 1980): 21-35. <<http://www.jstor.org>>.

This essay provided me with facts about the Interstate Highway System's effect on the country. It also related the timing of the building of the highway system to post World War II.

"Railroads' Role, 1950-2000." *America on the Move*. National Museum of American History, Smithsonian Inst., 2009. Web. 11 May 2010. <[http://americanhistory.si.edu///\\_42\\_6.html](http://americanhistory.si.edu///_42_6.html)>.

This website is a supplement to an exhibition at the Smithsonian Institution about

transportation in America. It contains photographs and information about the highway system and other modes of transportation. I used this website to learn how railroads declined as highways became more popular.

Recognizing the Fiftieth Anniversary of the Interstate Highway System.” *109th Congress 2d Session* 13 June 2006: n. pag. 28 Dec. 2010. <<http://ftp.resource.org/gpo.gov/bills/109/hc372rh.txt.pdf>>.

The Committee on Transportation and Infrastructure introduced a resolution to Congress recognizing the fiftieth anniversary of the signing of The National Interstate and Defense Highway Act of 1956. This report summarized the history of the system, and listed the positive impacts of the Interstate Highway System.

Rohatyn, Felix. *Bold Endeavors: How Our Government Built America, and Why It Must Rebuild Now*. New York: Simon & Schuster, 2009.

This book discusses ten important events that were vital to building the infrastructure of America. One chapter details the history of the Interstate Highway System.

Seely, Bruce E. *How the Interstate System Came to be: Tracing the Historical Process*. *TR News* May- June 2006: 18-19. 9 Jan. 2010. <<http://onlinepubs.trb.org/onlinepubs/trnews/trnews244.pdf>>.

This article, which was part of a special issue of Transportation Research News, discusses the history of the highway system. It provided me with information about the history of state and federal highway laws and funding.

St. Clair, David J. *The Motorization of American Cities*. New York: Praeger, 1986.

This book on the Interstate System focuses on the history of cars and highways. It also discussed the impact that it has on the United States cities and environment.

Stevens, William K. “Superhighway System, in 20 Years, Has Tied a Vast Nation Together.” *New York Times* 14 Nov. 1976: 1. 10 Jan. 2010. <<http://portal.bigchalk.com>>.

This article marked the twentieth anniversary of the beginning of the construction of the Interstate Highway System in Topeka, Kansas. It provided me with information on the impacts that the system had on the environment, little towns, and people in general over the first 20 years.

Sullivan, Robert. “A Slow Road Movement?: The 50th Anniversary of the Interstate System Offers a Chance to Reconsider the Design of Our Highways.” *New York Times* 25 June 2006: E17. 20 Oct. 2009. <[http://www.nytimes.com/2006/06/25/magazine/25wwln\\_idea.html?\\_r=1&scp=1&sq=A%20Slow%20Road%20Movement?:&st=cse](http://www.nytimes.com/2006/06/25/magazine/25wwln_idea.html?_r=1&scp=1&sq=A%20Slow%20Road%20Movement?:&st=cse)>.

This article was written to mark the fiftieth anniversary of the Interstate Highway System. It supplied me with information on the impact that the system had on the United States.

“Weisbrod, Glen. “Industries on the Interstates: What Is the Best Location?” *TR News* May- June 2006: 18-19. 9 Jan. 2010. <<http://onlinepubs.trb.org/onlinepubs/trnews/trnews244.pdf>>.

This article, which was part of a special issue of Transportation Research News, discussed the growth of businesses due to the Interstate Highway System.

White, Leland J. “Dividing Highways: Citizen Activism and Interstate 66 in Arlington,

Virginia.” *Washington History* 13.1 (Spring/Summer 2001): 52-67. <<http://www.jstor.org>>.

This essay provided me with a detailed description of citizen protests to the construction of highways. It explained how civilians of towns and cities throughout the United States were affected by the building of highways because the roads went right through where they lived.

Whitman, Sylvia. *Get Up and Go: The History of American Travel*. Minneapolis: Lerner Publications Company, 1996.

This book provided me with a summary of travel through America throughout history. It also gave me a review of the United States highway system.

Wilson, Dave. *Chatham County Line-Route 23*. Youtube. n.p., 31 Aug. 2006. 24 Jan. 2010. <<http://www.youtube.com/watch?v=YaedjXB4Foo>>.

This video provided me with a song, based on a true story, performed by the group Chatham County Line, a bluegrass group. It discusses how, when Route 23 was built, drivers no longer stopped in some cities. The songwriter’s father had a small business along Route 23, but after the construction of the interstate highway, few people drove on Route 23 and the business failed.

Woodrow Wilson International Center for Scholars. “The Automobile Age.” *The Wilson Quarterly* 10.5 (1986): 64-79. <<http://www.jstor.org>>.

This article summarized the impact of the automobile, highlighting the effect on mass transportation and the development of suburbs. I used this source to gather information about beltways and the decline of railroads.



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