

An Engineer's Thoughts on the Interstate System

Series: FHWA Highway History Website Articles

June 2017

The original format of this document was an active HTML page(s) located under <https://www.fhwa.dot.gov/infrastructure/history.cfm>. The Federal Highway Administration converted the HTML page(s) into an Adobe® Acrobat® PDF file to preserve and support reuse of the information it contained.

The intellectual content of this PDF is an authentic capture of the original HTML file. Hyperlinks and other functions of the HTML webpage may have been lost, and this version of the content may not fully work with screen reading software.

An Engineer's Thoughts on the Interstate System

by Seppo Sillan

In early 2000, the Federal Highway Administration received a letter from a middle school student in Kansas about the Interstate System. Seppo Sillan, who was acting Director of the Office of Program Administration, replied on February 16. He has since retired. Mr. Sillan's reply, which discussed his experiences and the value and impacts of the Interstate System, is reprinted in its entirety.

February 16, 2000

Refer to: HIPA

Dear

Thank you for your letter about your special history project on the Eisenhower Interstate Highway System. I hope you received the material we sent you on February 3 about the history of the Interstate System and other aspects of its development.

Here are my answers to your questions:

1. Do you remember the first time you traveled on an Interstate? Explain.

Yes, I do remember my first trip on an Interstate highway. It was during the summer of 1962. Three friends and I were traveling from south Florida to Los Angeles, California, for summer jobs. We were all Civil Engineering students at the University of Florida. We were given the opportunity to work for the California Highway Department (now called the California Department of Transportation) on big highway projects. The Interstate System had begun in 1956, but anyone traveling across country in 1962 would usually still have to use the old two-lane roads that crisscrossed the country. Most of our drive across the country was on regular two-lane roads except near Houston, Texas, where a section of new Interstate highway, Interstate Route 10 (I-10) had been completed.

I can well remember how much easier and how much safer it was to travel over that Interstate highway. My initial feelings, especially about safety, have been confirmed over the years. The Interstate highways are the safest highways we have in this country and even in the world. That is because they are designed and built to standards that promote safe operation of vehicles. Such standards include gentle curves, at least two lanes in each direction separated by a wide median strip or concrete or steel barriers, gentle slopes on sides and last but not least, there are no intersections. (One of the worst features of the old two-lane highways was that all businesses and residences alongside the roads had access to them, creating a safety and operational problem as vehicles slowed to turn off the road or as vehicles slowly entered the road.) All entrances and exits are at interchanges only and all other roads either cross over or under the Interstate road.

2. Did you have any role in the development of the Interstate Highway System?

Interestingly, when I traveled over that Interstate section in Houston in 1962, I did not think that I would eventually be involved in the design and construction of other parts of the Interstate highway system all over the country. While in school my major study was structural engineering. I wanted to design and build such things as off-shore oil drilling platforms or big buildings. However, when I graduated from the University of

Florida, the Federal Highway Administration (back then it was known as the Bureau of Public Roads) presented a great opportunity in the transportation area. It was a chance to participate in the greatest public works project ever: the design and construction of the Interstate System. It also provided an opportunity to work and live in many parts of this country.

The Interstate System, as you may know, was built by the State highway/transportation departments. The Federal Government provided 90 percent of the funds and made sure the highways were built properly, but the States actually built them. (In fact, the State transportation departments own and operate the Interstate highways.) Earlier in my career, therefore, I worked with many State highway officials to help them design Interstate projects properly. I also spent a lot of time inspecting projects to ensure they were being built according to the approved plans. (By the way, one of my favorite projects was I-24 in western Kentucky in the Land Between the Lakes area. I had a lot to say about its location. And it goes through some scenic areas, and looks good. Long after I worked on I-24, I have driven that road with a real sense of pride that I helped create it.)

Later, after I moved to our Washington Headquarters, I became involved, and I still am, in establishing national design standards for not only Interstate highways but many other kinds of highways. I have taken a special interest in the design on new interchanges where they are needed and in issues related to the rest areas that are an important safety feature of the Interstate System.

I have traveled to many countries all over the world, sometimes on vacation and sometimes as a representative of the United States to international transportation meetings. I have driven on highways in most of the countries I have visited, including the autobahn highway network in Germany, probably the closest any country comes to a highway network like the Interstate System. And although many countries have excellent highways, it is clear in my mind that the Eisenhower Interstate Highway System is the finest system in the world, bar none.

3. How do you feel the Interstate System impacted the U.S.?

President Dwight D. Eisenhower signed the legislation authorizing the Interstate Highway Program in 1956. A few years later, looking back on his accomplishments as President, he said:

More than any single action by the government since the end of the war, this one would change the face of America Its impact on the American economy, the jobs it would produce in manufacturing and construction, the rural areas it would open up, was beyond calculation.

Without any doubt, he was correct. The Interstate System has its supporters and its critics, but all agree: it not only changed the face of America, but its impacts are "beyond calculation." It has become so much a part of our lives that we can no longer imagine what life was like before the Interstate highways were built, or what life would be like today without them.

The most obvious impact is physical. Over more than 40 years, the program inspired innovations in highway design and construction to meet the physical challenges of the North American continent. The result is a legacy of civil engineering achievements in the form of classic roads (e.g., the I-70 Mountain Corridor in Colorado and H-3 in Hawaii), great bridges (such as the I-310 Hale Boggs Memorial Bridge in Louisiana and the I-275 Sunshine Skyway Bridge in Florida), and remarkable tunnels (including the I-95 Fort McHenry Tunnel in Maryland and the I-90 Mt. Baker Tunnel in Washington). The Interstate System has become a model in engineering, financing, and impact-for other countries that are in the process of building an infrastructure to match modern demands.

One of the benefits President Eisenhower and other early supporters foresaw was increased safety. Prior to the 1950's, the main highways were the U.S. numbered routes, such as U.S. Route 66, the historic highway from Chicago, Illinois, to Los Angeles, California, that went through Riverton. Route 66, which is remembered fondly today, was known as "Bloody 66" in the 1950's because its narrow, two-lane roadway was the scene of so

many crashes. By contrast, the Interstate System is the Nation's safest highway network. I have seen one estimate that the System has saved approximately 187,000 lives and avoided nearly 12 million injuries over its first 40 years. In addition, the safety lessons learned from Inter-state design contributed to a decline in traffic fatalities on all roads even as traffic volumes more than doubled-from as many as 55,761 fatalities in 1971 to 41,471 in 1998.

Beyond the engineering and safety accomplishments, the Interstate System's impact can be seen in the way we view ourselves, conduct business, and live our lives. In conjunction with other transportation modes, the Interstate System has given us a freedom of mobility that past societies could not have imagined; supported the most efficient, flexible, and productive economy in the world; and allowed for rapid military movements in response to national and world events.

The economic impacts cannot be overestimated. The Interstate System has been called the "conveyer belt" of our society because virtually every product in every American home, from your toothbrush to your favorite CD- has traveled on an Interstate highway at some point. The Interstate System has stimulated development around the country-homes, businesses, shopping malls, hotels, office complexes, and more. The suburban lifestyle that so many Americans enjoy is a result, in part, of the Interstate System.

Have all the impacts been positive? The Interstate System is controversial because it had some negative impacts. By providing a transportation network that supports suburban growth (sometimes referred to as "sprawl" by critics), the Interstate System encouraged a population trend away from our big cities, many of which have declined as a result. Construction of Interstate highways through our cities sometimes separated communities.

In short, as critics have pointed out, the benefits have not been distributed equally, but they have been distributed widely. So we cannot say the impacts were all positive, but we believe that all things considered, the impacts were much more positive than negative.

4. Do you feel that the building of the Interstate Highway System was a turning point in our nation's history? Why?

There is absolutely no question about it. We are a very different people today than we would have been without the Interstate System. That is not just our opinion. It is shared by virtually all commentators. The Interstate System is such an important part of our lives that many Americans take it for granted, as if it were a natural phenomenon, like the Mississippi River. But the Interstate System is a 20th century civil engineering achievement so visionary in purpose, so immense in challenge, so integral to modern society that it has enriched America beyond the imagination of President Eisenhower and the other leaders who made it possible.

I hope these responses will be helpful as you and your classmates complete your project.

Sincerely yours,

Seppo Sillan, Acting Director
Program Administration
