The Adobe Tower
by Jerry Hall and Loretta Hall

A Decade of Development

Construction of the Interstate System began in 1956, with a goal of completing the system by 1975. While that ambitious time frame ultimately proved unattainable, construction during the first decade proceeded at the desired pace. By the end of 1965, the 22,141 miles of Interstate highways open to traffic represented 54 percent of the initially authorized 41,000 miles. Another 6,382 miles were under construction, and engineering and right-of-way acquisition were under way on an additional 10,544 miles.

That frenetic pace of construction produced widespread economic benefits. From 1956 through 1965, the federal government pumped more than $18 billion into Interstate highway projects, supporting employment in engineering, administration, construction, and industries that manufactured and delivered the needed supplies and equipment. With federal funds paying 90 percent of the cost of Interstate highways, relatively poor southern states were able to build a road system that attracted industry; per capita income in Tennessee, for example, rose 94 percent compared with the national average of 80 percent. The new freeways reduced travel times, which contributed to a shift in delivering freight from rail to trucking; vehicle-miles of travel by trucks increased 50 percent.

Safety was a primary reason for creating the Interstate System. While advocating for the program, Eisenhower compared the annual death and injury toll on the nation's highways to the "casualties of a bloody war," noting that nearly 40,000 people were killed and more than 1.3 million were injured annually. In 1956, the nation's fatality rate stood at 6.05 deaths per 100 million vehicle miles. By 1966, the nation's fatality rate had fallen to 5.55, but on Interstate highways, the rate was only 3.08. The Interstate highway's higher safety was due to the separation of opposing directions of travel, the removal of intersections (including rail-highway grade crossings), the lack of pedestrians, and the more favorable geometric and roadside design features.

In the mid-1940s, federal highway authorities cooperated with AASHO (now AASHTO, the American Association of State Highway and Transportation Officials) on developing design standards for the Interstate System (see Adobe Tower, WesternITE May/June 2007). In addition to geometric and pavement design issues, the Interstate System prompted the need for refining traffic control device design. Design uniformity became more important with increasing popularity of long-distance travel, but the roadway designs themselves presented new challenges to motorists. Multilane divided highways require clear lane markings that distinguished between same-direction and opposite-direction lanes. With high speeds and limited exit locations, motorists need clear, easy-to-read guide signs. Particularly at diamond interchanges, clear directional signing is essential, including WRONG WAY and DO NOT ENTER warnings to prevent drivers from entering the highway via an exit ramp. The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) had been in use since 1935, but in the Interstate era, a specialized manual was adopted and published in 1958. The *Manual for Signing and Pavement Marking of the National System of Interstate and Defense Highways* emphasized

guide signs, pavement markings, and delineators. The 1961 MUTCD included more freeway signing material than previous editions; for the first time, states had to comply with the MUTCD to be eligible for federal highway funds.

Development of new or improved signs was undertaken thoughtfully, and alternative designs were tested to determine the most effective colors and legends. In August 1957, for example, an about-to-be-opened section of the I-495 Capital Beltway near Greenbelt, Maryland, was used to evaluate proposed color combinations for Interstate highway guide signs. Hundreds of drivers drove the test section over a two-week period, in a variety of weather and lighting conditions. The clear majority preferred white capital-and-lower-case lettering on a green, reflective background. Selecting the design of Interstate route number signs involved a similar test. States had submitted dozens of design suggestions, and an AASHO committee selected four of them for further evaluation. During an August 1957 meeting of the organization's Committee on Administration, full-size models of the four sign finalists were installed on a road near the meeting site in Illinois. Committee members viewed the signs in various weather and light conditions, and settled on a design that combined features of two of the contenders: a distinctive shield shape with blue and red background sections with white lettering.

Although it is not possible to determine a causal relationship, the first decade of Interstate construction coincided with significant changes in America's demographics and driving patterns, as illustrated in the following table (all values in millions):

	1956	1965	% change
Population	169	194	+15
Licensed Drivers	77.6	99.0	+28
Motor Vehicle Registrations	65.1	90.4	+39
Vehicle-Miles of Travel	627,843	887,640	+41
Rural Vehicle-Miles of Travel	352,379	463,787	+32
Urban Vehicle-Miles of Travel	275,464	423,853	+54

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This is the twelfth in a series of articles tracing the development of the Interstate Highway System.