A NEW ERA FOR AMERICA

Outdoor Advertising Association of America Image

By Tom Kuennen

In 1956, Interstate Construction Begins

The launch of the Interstate program in 1956 finally let states and their roadbuilding partners put their planned public works projects in motion, nearly all of which had been put off since the United States' entry into World War II in 1941. Roadbuilding was depressed through the war years, and barely increased in subsequent years, up to the launch of the system.

As a result, congestion began plaguing America's cities: Rural areas remained poorly accessible, and transportation-driven commerce suffered.

That all ended in 1956, as the Interstate system launched America into a new era. The Federal Aid Highway and Highway Revenue Acts of 1956 – which President Dwight D. Eisenhower signed on June 29, 1956 – authorized a 13-year construction period beginning July 1, 1956, to be financed mostly on a pay-as-you-go basis.

User taxes – both new and increased – were anticipated to bring in $14.8 billion [the equivalent of $102 billion in 2005] over those 13 years covered by the highway act. They would count toward $38.5 billion [the equivalent of $265.6 billion in 2005] in new and existing road taxes over 16 years provided by the revenue act. (Because projects continue for years after the funds are first obligated, the revenue acts always have exceeded the highway acts in duration.)

The 1956 legislation required a 90:10 federal/state share for the costs of Interstate construction, and a 50:50 share for primary, secondary, and urban projects. These revolutionary formulas took the place of the existing short-term federal aid to states on a 50:50 basis.

A recession later in the 1950s prompted another act, the Federal-Aid Highway Act of 1958, which boosted Interstate appropriations from $2 billion annually to $2.2 billion in 1959 and $2.5 billion in 1960.

Only one hour after Eisenhower signed the 1956 acts, a Certificate of Apportionment for the first year's authorization of $1.125 billion [equivalent of $7.76 billion in 2005] was signed by the secretary of commerce. Weeks later, on Aug. 1, 1956, to further accelerate the program, he made an additional apportionment of $2.55 billion [equivalent of $17.6 billion in 2005] for FY 1958.

More federal-aid highway funds were to be made available to the states in the first four years of the new program than in the previous four decades of federal aid combined, the Bureau of Public Roads said the next year. For the first time, long-range planning was being applied to the nation's highway needs.

Interstate construction was welcomed at first, and these salad days of the Interstate saw wonderful new dual-lane, high-speed

highways constructed in virtually every state of the union, connecting isolated rural areas, opening up congested cities, and shaping postwar America.

The program was so massive that new construction equipment like slipform pavers, grade trimmers, and portable asphalt plants were developed for the remarkable volume of construction. Then, as the counterculture generation of the late 1960s gained political clout in the 1970s, completion of the system slowed as costs rose and opposition gathered.

"No river or ravine, no gorge or gully, no urban or suburban land would stand in the way of the onrushing auto age," said Jane Holtz Kay in her unflattering tome *Asphalt Nation: How the Automobile Took Over America and How We Can Take It Back* (1997). "With Boston's Route 128 underway as the nation's first loop road, other cities followed to plunge 5,000 miles of freeways through town and countryside. Before this act, less than 500 miles of urban freeways had been built. After it, no city would be untouched. Urban America would empty out on the new arteries," Holtz Kay wrote.

Who Was First?

After the Federal-Aid Highway Act of 1956 was signed on June 29, 1956, work on the system began after five short weeks.

Popularly, Missouri was the first state to begin work, but that is disputed by Kansas and Pennsylvania, which measure the start of the system using other criteria.

"On Aug. 2, 1956, Missouri became the first state to award a contract with the new Interstate construction funding," said Richard Weingroff, information liaison specialist, Office of Infrastructure, Federal Highway Administration, and FHWA's unofficial historian. "The Missouri State Highway Commission worked on three contracts that day, but the first signed contract was for work on U.S. Route 66 – now I-44 – in Laclede County. As soon as that contract was signed, S.W. O'Brien, district engineer for the Bureau of Public Roads, called his headquarters in Washington, D.C., and confirmed that the contract was the first in the nation."

Also on Aug. 2, Missouri awarded a contract for work on U.S. 40/I-70 in St. Charles County just west of St. Louis, and on Aug. 13, this project became the first to be awarded and to start construction after the act.

"But Kansas also has a claim," Weingroff said. "On Aug. 31, the Kansas State Highway Commission awarded a contract for concrete paving of a two-lane section of U.S. 40 [I-70] a few miles west of Topeka. The construction was under way before the enactment of the Federal-Aid Highway Act of 1956, but paving under the new contract began on Sept. 26. Because this was the first paving to be initiated after the 1956 act, First District State Highway Commissioner Ivan Wassberg wrote '9-26-56' in the fresh cement to mark the historic day."

Then, on Nov. 14, Kansas Gov. Fred Hall participated in a ribbon-cutting ceremony to open the newly paved road, and a sign was posted, identifying this section of I-70 as the "first project in the United States completed under the provisions of the new Federal-Aid Highway Act of 1956."

Finally, the Pennsylvania Turnpike was opened on Oct. 1, 1940. Because the turnpike was the first genuine limited access, Interstate-type highway in the United States, it is reputed to be the "first Interstate." This has even more credence upon further examination because, as with Kansas, construction on some of the highways incorporated into the Interstate system began before 1956. Nonetheless, Missouri tends to get first nod.

Building the System

The program accelerated in the 1960s, to the point that the value of contracts awarded increased nearly twofold, from $3.8 billion in 1959 [equivalent of $27.4 billion in 2005], to $4.4 billion in 1963, to $5.5 billion in 1967, and $6.6 billion in 1969 [equivalent of $35.5 billion in 2000]. And while those sums – even when adjusted for inflation – are below today's allocations [$36.03 billion in obligation authority for the federal-aid highway program in FY

KANSAS DOT PHOTO

Opposite: Buy two cars – not just one – for your new suburban home, urged this Ford billboard from 1956, the year the Interstate highway program began. Above: A photo commemorates the completion of Kansas' newly paved U.S. 40 [I-70], the "first project in the United States completed" under the Federal Aid Highway Act.

URBAN LEGEND UNTRUE: ***The Eisenhower National System of Interstate and Defense Highways does NOT require that one mile in every five must be straight, ostensibly so these straight sections could be used as airstrips in times of war.***

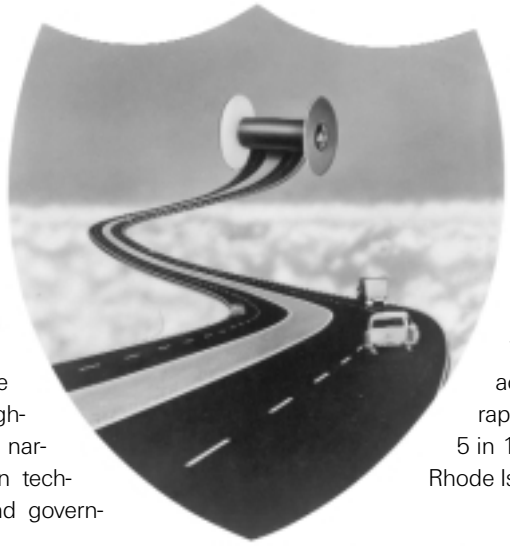
–Thanks to Richard F. Weingroff, Federal Highway Administration

ASPHALT INSTITUTE PHOTO

2006 beginning Oct. 1, 2005], the funds were "all highway construction," that is, with spending unencumbered by environmental, safety, and labor considerations that are obligatory today.

As construction ramped up in the 1960s, fresh pavements planned years in advance were cast from coast to coast, crossing wheat fields, traversing forests, plying through prairies, bridging estuaries and rivers, and carving through cities.

The constricted two-lane blacktops were displaced by gleaming concrete dual-lane highways. Steel and concrete bridges superseded narrow, flaking truss bridges. New construction techniques and materials became standard. And government agencies and contractors now had established, reliable, predictable budgets on which to plan for the future.



Asphalt and concrete vied to be the preferred paving medium for the new Interstate system.

"The activity and enthusiasm surrounding the Interstate program in the early 1960s seem to have a golden glow about them," wrote the American Association of State Highway & Transportation Officials (AASHTO) in its definitive history, "The States and the Interstates" (1991).

And that was reflected in the variety of projects across the nation, in city and country. By mid-1957, portions of the Congress Street Expressway and the Edens Expressway were open to traffic in Chicago. In the late 1950s, California began construction of I-5, which travels from one end of the state to another. Its final segment was completed in 1982.

As described in "America's Top Transportation Projects & Public Officials of the 20th Century," a retrospective by the American Road & Transportation Builders Association (ARTBA), the first full-depth, hot-mix asphalt (HMA) Interstate pavement in the country was placed in 1964 near Iowa City, Iowa. The Interstate also boasts the world's first welded aluminum girder-type highway bridge.

The Interstates also entered our lexicon. When political pundits refer to "inside the Beltway" types, they're talking about lobbyists and politicians in central Washington and Virginia and Maryland suburbs, who reside within the 64-mile Capital Beltway, the circumferential I-495, also completed in 1964.

In Wyoming, the state set a record when, in 1970, a 77-mile stretch of I-80 was placed in service. Begun in 1966, it was the longest single section of Interstate highway opened in one segment.

Construction on Mississippi's I-55, the longest in the state, was completed in 1973. In the meantime, Tennessee's state-long Interstate, the 451-mile I-40, was started in 1958 and finished in 1974. In nearby West Virginia, I-64 – one of seven Interstate routes in the Mountain State – was begun in 1957 and completed in 1988.

As early as 1970, Pennsylvania opened its longest east-west highway, I-80, complementing the Pennsylvania Turnpike (I-76), considered the first limited-access highway in the nation. Oregon worked rapidly, completing the 308-mile, north-south I-5 in 1966. And on the other side of the continent, Rhode Island's 45-mile I-95 was completed in 1972.

Interstate Spurs Contractors, Inventors

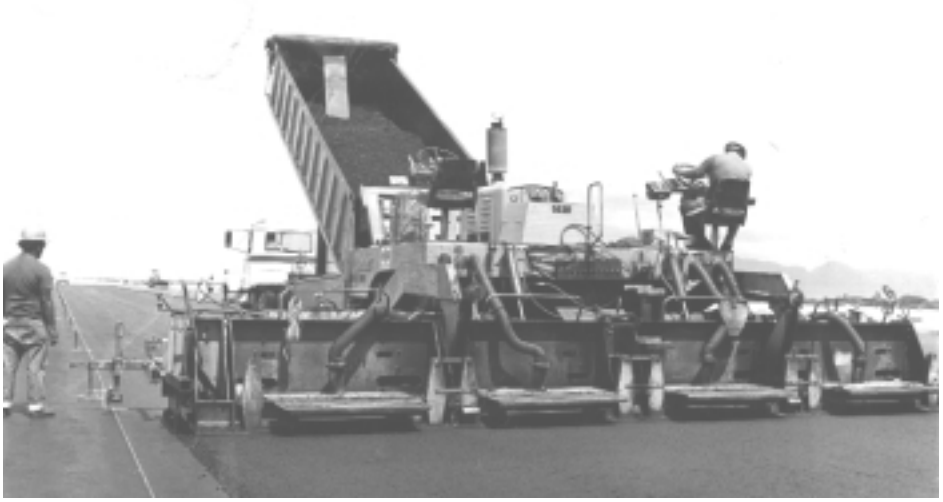
Along the way, small contractors grew large, and the Interstate program also spurred new products to meet the new methods of high-volume highway construction.

In the 1930s Thomas Palazzi formed Frank Palazzi and Sons Construction Company with other members of his family. The company was an early leader in Interstate highway construction, beginning with work on New Hampshire's F.E. Everett Turnpike, and constructing much of I-89, I-93, and I-91 in the Northeast. Palazzi and his firm rose to national prominence.

Another such beneficiary of the program was Bob Thompson, who in 1959 risked $3,500 to found Thompson-McCully Co., a Michigan asphalt paving company. The firm grew and benefited from the burgeoning Interstate system and the urban growth so that he was able to sell the firm in 1999 for $461 million. He then made world headlines by sharing $128 million of the proceeds with his employees, and began another career as a philanthropist by setting aside another $100 million to establish the Thompson-McCully Foundation for charitable giving, which has funded over 1,100 engineering and general scholarships and other educational projects.

Yet another was H.B. "Pat" Zachry's small company, founded in Laredo, Texas, in 1924. San Antonio-based H.B. Zachry Co. grew into one of the nation's largest construction firms, undertaking some of the largest Interstate transportation projects in Texas.

In Iowa, a contractor became a manufacturer in response to the Interstate system. Harold Godbersen started his own construction firm in Ida Grove, Iowa, in 1938. In the early 1960s, Godbersen



ASPHALT INSTITUTE PHOTO

Screened extensions permitted full-width Interstate highway asphalt paving in the 1970s.

developed a double oscillating concrete bridge deck screed finisher and, by the early 1960s, those machines were built by his construction firm and rented to Iowa contractors for concrete bridge deck finishing.

In 1965, he and his son Gary Godbersen founded GOMACO Corporation. Soon after, in 1967, GOMACO developed a cone drum or cylinder finisher for wider bridge decks. Other innovative products followed, including a fine grade trimmer, a curb and gutter trimmer/slipformer, and a three-track concrete slipform paver.

Similarly, Murray Rowe's Bid-Well Corporation, Canton, S.D., marketed a new kind of bridge deck concrete finishing machine that revolutionized concrete bridge deck construction in the Interstate era. Bid-Well was founded in 1962 when Rowe worked with another South Dakotan, bridge foreman Tex Bidwell, who had invented a new-design bridge deck finisher that rode on pipe rails on the outside falsework, but finished (smoothed) a bridge deck to meet state specs.

Contractors who slipformed long stretches of pavements also needed to prepare the grade beneath quickly, accurately, and in high-volume. So during the runup of the system in the early 1960s, William "Bill" Swisher and his CMI Corp., Oklahoma City, developed the Autograde machine, which would automatically cut final grade for Interstate highway projects, increasing productivity of grading contractors by as much as 500 percent. Success with the Autograde led to other innovations in paving technology, such as the automation of the complete concrete slipform paving process, from grading and placement to surface texturing and curing.

Interstates and the Cities

Interstates first were welcomed, then shunned, by the cities.

The challenge of building highways in the cities versus the country was succinctly put by New York City highway builder Robert Moses, who at the National Highway Users Conference in May 1964 said, "You can draw any kind of picture you like on a clean slate and indulge your every whim in the wilderness in laying out a New Delhi, Canberra, or Brasilia, but when you operate in an overbuilt metropolis, you have to hack your way with a meat ax."

Integration of Interstate highways with cities was more complicated than with the countryside, but unlike the urban legend that says Interstates were never intended to enter cities, it always was part of the plan. The wartime study, "Interregional Highways" (1943), which

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circumferential courses around the city, passing either through adjacent suburban areas or through the outer and less congested sections of the city proper. Generally, such routes can be so located as to serve both as arteries for the conveyance of through traffic around the city between various approach highways, and as distribution routes for the movement of traffic with local origins and destinations to and from the various quarters of the city."

But circumferential or bypass routes would not be enough to serve the metro areas, "Interregional Highways" warned. "[T]he common impression that provision of [circumferential, bypass] routes would constitute invariably a complete, or even a substantially adequate solution of the highway problem at cities is not well-founded. [O]n main highways at the approaches to any city, especially the larger ones, a very large part of the traffic originates in or is destined to the city itself. It cannot be bypassed." The solution would be Interstate highways in cities, the report said.

CAPITALS CONNECTED: ***All but five state capitals are directly served by the Interstate system. Those not directly served are Juneau, Alaska; Dover, Del.; Jefferson City, Mo.; Carson City, Nev.; and Pierre, S.D.***

Top: Slipform pavers were developed to speed placement of portland cement concrete Interstates. Bottom: An inspection party visits an urban freeway site in California, c. 1960.

outlined in detail a 39,147-mile Interstate-type system with a 20-year life expectancy, included a 16-page section on "Principles of Route Selection in Cities," and followed it with a four-page section on "Illustrations of Principles of Route Selection."

This document, which shaped the Interstate system, described how city circumferentials – and in-city expressways – should be engineered. "To serve ... traffic bound to or from points other than the center of the city, there is need of routes which avoid the business center," the study said. "Such routes should generally follow

"Interregional Highways" also anticipated today's post-Interstate, intermodal era when it urged that the future Interstate highways be deliberately linked with other transportation modes.

"Railway terminals, both passenger and freight, wharves and docks and airports, generate large volumes of street and highway traffic," the report said. "Location of the interregional routes at cities – both the city-penetrating main routes and the circumferential or distribution routes – should be so placed as to give convenient express service to these various major traffic-generating foci within and in the environs of the city ... especially, it is important that the location of interregional routes be so chosen as to permit and encourage a desirable coordination of highway transportation with rail, water, and air transportation."

To make Interstates more palatable to the cities, "Interregional Highways" maintained:

- Where elevation or depression was necessary to avoid intersections, "depression of the highway, if financially feasible, generally shall be preferred to elevation." Where the highway must be elevated, it shall be "by means of a structure of adequate and pleasing design."
- Service streets were to be provided, designed as one-way streets not less than 24 feet wide, at each side of the Interregional System [later, Interstate system] for the service of property.
- Design speed "shall be as high as practicable, consistent with the topography, proximity of urban improvements, and expected traffic volume." With those limits, a design speed higher than 50 miles per hour "will usually be impracticable."
- Sections that are expected to carry 20,000 vehicles or more a day should be designed for three lanes in each direction, each

lane 12 feet wide. Opposing traffic should be separated by a raised median strip at least 4 feet wide.

- Rights-of-way should be acquired in their entirety "by outright purchase or condemnation" to accommodate "the construction of pavements, median strips, areas for deceleration, acceleration, and maneuvering, standing areas, side slopes, ramps, retaining walls, barrier strips, and service streets, or such of these facilities as may be required at any point."
- Wherever feasible, the design "shall conserve desirable and irreplaceable landscape features, avoid needless damage to desirable trees and other growth and to lake and stream shores." Areas disturbed by construction "shall be appropriately recovered with suitable vegetative growth, and the additional landscaping shall be done where deemed necessary."
- All traffic control signs would be prohibited.

System Slows in the '70s

Originally a 13-year program with 1969 as the year of final appropriations for the Interstate system, the system by 1970 was nowhere near completion. In late 1972, of 42,500 miles of designated Interstate system at that time, only 33,736 had been completed.

The program was continued via surface transportation legislation of 1970, 1973, and 1976. During the '70s, the original legislation for two federal programs of today – the 3R program of highway resurfacing, rehabilitation, and restoration, and the federal bridge repair and replacement program – was brought center stage.

In 1975, Arkansas became the first state to complete its original allocation of 542 miles of Interstates. Today, while Arkansas' 655 miles of Interstate make up only 4 percent of the state's highways, it carries about 31 percent of all traffic.

Nonetheless, after 1971, following 15 years of expansion, the Interstate program was hobbled by persistent inflation and troublesome energy and material shortages like the Arab oil embargo of 1973, which caused gas shortages nationwide and shook national confidence. Equally troublesome were executive branch "impoundments" of federal highway funds, which were fought by Congress.

It culminated in dropping gas tax receipts into the Highway Trust Fund, the 55 mph National Speed Limit (NSL) to reduce fuel consumption, and a de-emphasis on highway construction, as it was viewed as encouraging wasteful fuel use.

"By the early 1970s, unquestioned support for large-scale highway construction had dissipated ... [s]tate highway engineers could count on neither broad public support for new projects nor the finances necessary to complete many projects," said AASHTO in *The States and the Interstates*.

Symbolic of this reversal in fortune was Helen Leavitt's 1970 attack on the industry, *Superhighway-Superhoax*. In her world-view, the industry is portrayed as an evil cabal that was forcing unneeded and undesired highways down America's throat, destroying city and countryside alike while ripping off taxpayers. "From sea to shining sea we are strangling in a concrete straitjacket that pollutes the environment and makes driving a nightmare," Leavitt wrote.

Industrial historian Mark H. Rose put the genesis of opposition to the Interstate system in the mid-1960s, when ramped-up construction brought it close to home for many citizens, and while the civil rights and antiwar movements encouraged citizens to challenge the government.

"Perhaps, opposition to construction of the Interstate system was essentially an extension of opposition to perceived patterns of injustice at home and overseas," Rose wrote in *Interstate: Express Highway Politics, 1939-1989*. "Growing opposition among central city residents to urban renewal might have played a part in galvanizing opposition against another intrusion into their neighborhoods. But much of the opposition to the Interstate system arose from tangible encounters with state and federal engineers and their plans for new roads."

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TAKE A BREAK: ***No one knows how many rest areas are situated along the Interstate system. However, a count in 1972 reported 1,214 rest areas in existence. The number still operational today is not expected to differ dramatically from the 1972 figure.***

As early as 1965, for example, opposition rose to the Vieux Carre Expressway, a 40-foot-high, 108-foot-wide elevated Interstate highway in front of Jackson Square in New Orleans. It was never built. At about the same time, opposition arose to the Crosstown Expressway in downtown Philadelphia; it was never built. Chicago's Crosstown Expressway, linking the Edens Expressway on the north of the Chicago Loop with the Eisenhower Expressway to the west, and Stevenson Expressway and Midway Airport to the south, was cancelled and funds shifted to mass transit.

Typical of how that rage continues are the writings of Kay. "The road is a potent invader as well as a lethal corridor," she wrote in *Asphalt Nation*, lending a living malevolency to the road. "It decreases environmental diversity. Already damaged lakes and ponds die; living creatures and plants weaken and diminish; aquifers for drinking water are destroyed." This is patently untrue, as we will see in a later article, but the public's anger at roadways was becoming all too real.

'Impoundments' Trouble Construction

Among the battles fought to keep the Interstate under construction in the '70s – through the Nixon, Ford, and Carter administrations – was against the unilateral "impoundment," or nonrelease, of highway funds by the executive branch of government.

Impoundment was a polite term for what was simply a money-grab by the U.S. Treasury of highway-user funds, done to cover deficit spending and control inflation, a major problem of the time.

Those three consecutive administrations said that increased spending on highways would inflate labor wages and raise raw material prices. Increased highway construction, it was alleged, also encouraged motorists to drive more, wasting scarce gasoline during the twin fuel crises of the 1970s, thus raising the price of gasoline. It was better, the presidents reasoned, to withhold highway funds, reduce the federal deficit, and quell inflation at the same time.

In 1972, in a closely watched case, *Missouri v. Volpe*, a U.S. District Court judge affirmed Missouri's contention that impoundment of highway funds caused "great and incalculable injury to Missouri because of continuing inflation of highway costs and interruption of efficient obligation of its highway money."

Then, in April 1973, a U.S. Court of Appeals ruled that federal-aid funds authorized to be apportioned by Congress "are not to be withheld from obligation for purposes totally unrelated to the highway program," upholding the Missouri ruling. Impoundment in this flagrant fashion came to an end with the Congressional Budget and Impoundment Control Act of 1974, signed by Nixon that year.

But the battle continued. The oil crisis gave new justification for impoundment of highway funds, and President Gerald Ford's Fiscal Year 1975 budget continued impoundment on a massive scale. By May 1974, the total highway funds impounded were about $8 billion, according to the American Road and Transportation Builders Association.

Year in and out, administrations would continue to support spending levels below authorization ceilings. It would not be until the Transportation Equity Act for the 21st Century (TEA-21, 1998) that full funding would be attained.

'80s Look to Post-Interstate Era

The Interstate construction era began winding down in the 1980s, and by 1986 some 97 percent of the original system had been completed.

Only a few sections remained to be completed, such as the Century Freeway (I-105) in Los Angeles, and the "Big Dig" Central Artery/Tunnel project, which is placing I-93 below grade in the very heart of Boston and extending I-90 through the Ted Williams Tunnel to Logan International Airport. The Big Dig is near completion in 2006 at enormous expense.

In 1985, the 1.5-mile, eight-lane Fort McHenry Tunnel carrying I-95 under Baltimore Harbor was opened. In 1990, a tunnel through downtown Phoenix was the final section of I-10 to be completed nationally. And following years of controversy, I-35 in Duluth, Minn., was completed in 1992, utilizing two spectacular tunnels along Lake Superior which have helped rejuvenate the city's lakeshore.

The ribbon-cutting for the last section of I-80 in Salt Lake City on Aug. 22, 1986, drew few VIPs, said Tom Lewis in his award-winning book on Interstate construction history, *Divided Highways* (1997). "The five miles signified the completion of the first transcontinental Interstate highway [the Lincoln Highway], 30 years and 55 days after Dwight Eisenhower had signed the bill that had made it possible," Lewis wrote. "Many compared it with another great feat in the history of transportation that had taken place 117 years earlier about 75 miles from Interstate 80, the driving of the Golden Spike at Promontory, Utah, to complete the nation's first transcontinental railroad. Curiously, though, few of any prominence wanted to celebrate this landmark of federal and state cooperation."

Lewis said the reason why VIPs skipped the ribbon-cutting was that attendance would not be "politically expedient" in a time in which expressway building was no longer fashionable.

Instead, the fact of the matter is that the VIPs who were completing the Interstate system were not celebrating the past, but were already looking ahead, toward the post-Interstate era, grappling with the challenge of maintaining a federal role in national highways when many maintained that the federal role should end with the completion of the system.

Early Interstate Construction Endured Political, Financial and Environmental Challenges

By Bob Bushmeyer

As America emerged from the Industrial Age and entered the Space Age, its highway system was rapidly becoming the most sophisticated national highway system ever constructed, and a key economic driver. For the last 50 years, America's highway system has been central to the most vibrant economy in the world – but its infancy was rife with political struggles and financial difficulties.

In its July 1960 issue, *Reader's Digest* published "Our Great Big Highway Bungle," which illustrated numerous organizational failings within the Interstate and federal highway program. Though the abuses identified in the article were minor within the context of the much larger, efficiently run program, the Bureau of Public Roads strengthened internal procedures, like unannounced sampling of materials nearly every month and the creation of an office of audits and investigations, headed by a former agent of the Federal Bureau of Investigation. A subsequent investigation by the U.S. House of Representatives' Committee on Public Works confirmed that, overall, the program was well-run.

Financial challenges dogged the early highway system. An initial cost estimate of the proposed 40,000-mile network was $27 billion, of which the federal government would pay $25 billion. Over the next several years, the size of the proposed system grew to 42,800 miles, driving up estimated costs as well. Increasing the federal gas tax to four cents per gallon was the first of many efforts intended to support the project's increasing costs.

By the 1960s, concerns about the environmental impacts of Interstate construction in rural as well as urban areas began to emerge, prompting the Bureau of Public Roads to modify policies on fish and wildlife areas. Congress passed several bills as well, including the National Environmental Policy Act of 1969, requiring formal environmental assessment of all federal-aid highway projects.

During this tumultuous period, the Bureau of Public Roads was reorganized and included in the new Federal Highway Administration, itself a part of a bigger organization – the new U.S. Department of Transportation. The highway system continued to grow, and a wave of consumer advocacy contributed to a growing priority placed on highway safety.

Improved road design, like the concept of a forgiving roadside, the shift of traffic from conventional roads to the Interstate system, and other safety initiatives helped to save innumerable lives. The efforts have been an unqualified success. Through the safety efforts pioneered a generation before, highways are safer now than ever. The highway fatality rate fell to 1.4 per 100 million vehicle miles in 2004 compared to 3.3 per 100 million vehicle miles in 1980.

Additional study, bringing to bear some of the best scientific minds, has contributed to better highway construction as well. After the collapse of the Silver Bridge between Point Pleasant, W.Va., and Gallipolis, Ohio, on Dec. 15, 1967, FHWA's National Bridge Inspection Standards were created to ensure that bridges are inspected regularly and that repairs are made before collapses occur.

Roadbuilding techniques developed in the United States have proven popular around the world. The role of the United States in building the Inter-American Highway – a highway connecting North, Central, and South America – as well as repairing roads damaged in war-torn nations, like the Phillippine Islands in 1946, have helped make America's highway system a template for motorists around the world.

Today, the Interstate system is essentially complete, though it will surely continue to grow as America's transportation needs do. Widespread efforts are being directed toward reducing traffic congestion in urban areas throughout the nation, safeguarding motorists and road crews alike in highway work zones, and improving road-surface durability, business planning, and innovative finance to ensure the long-term viability of one of the world's most impressive engineering feats.

Bob Bushmeyer is a long-time observer of the highway construction and maintenance industry.