

# The Pennsylvania Turnpike Turns 75

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## Public Roads - September/October 2015

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## The Pennsylvania Turnpike Turns 75

by Richard F. Weingroff

*On this diamond jubilee, it's easy to lose sight of just how revolutionary the Nation's first superhighway really was.*



Pennsylvania Turnpike Commission

The Pennsylvania Turnpike, shown here near milepost 83.6 eastbound between the New Stanton and Donegal interchanges, opened to traffic 75 years ago this fall.



**The original Pennsylvania Turnpike stretched from U.S. 11 at Carlisle to U.S. 30 at Irwin, as shown on this map.**

Toll advocates will probably never let the Federal Highway Administration forget one of the most embarrassing mistakes in its 122-year history.

In a landmark 1939 report to Congress, *Toll Roads and Free Roads*, the Bureau of Public Roads--FHWA's predecessor--explained that based on origin-and-destination surveys conducted around the country, plus the availability of free routes, most corridors would not generate enough revenue from tolls to retire the bonds that financed construction.

For example, a roadway under construction from Pittsburgh to Carlisle, PA, was expected to carry only 715 vehicles per day. Most of this corridor would eventually make up the first section of what became the Pennsylvania Turnpike. The forecast for the Pittsburgh-Carlisle segment, low as the number was, represented the 19th highest traffic volume of all the potential toll superhighways studied at the request of Congress.

Historian Dan Cupper has pointed out that the Pennsylvania Turnpike, when it opened, “completely defied the pessimistic predictions.” And that’s putting it mildly.

*Toll Roads and Free Roads*, which President Franklin D. Roosevelt sent to Congress on April 27, 1939, a year and a half before the turnpike opened, also contained a “master plan” for what became the Dwight D. Eisenhower National System of Interstate and Defense Highways, so it wasn’t a total loss.

## **The Granddaddy of The Interstate System**

In July 1940, the trade magazine *Better Roads* referred to the Pennsylvania Turnpike as a “modern experiment in long-distance toll highways” whose outcome was uncertain. As the country considered how to build a superhighway network, the magazine said, the turnpike “may serve to a certain extent as a test of the feasibility of toll financing.”

What nobody knew on October 1, 1940, the day the Pennsylvania Turnpike opened, was that it would not only be financially successful, but also serve as a model that many States continue to follow to this day. The Pennsylvania Turnpike method of bond financing for the construction of expressways, with repayment through toll collection, would become a template that more than a dozen States followed before 1956, and it has been duplicated in multiple variations ever since.

The turnpike also provided a design model that would be repeated, with upgrades, for the interstate system, minus the turnpike’s commercial service plazas. For that reason, turnpike officials have referred to it as the “granddaddy” of the interstate system.

For most motorists at the time, it was the first superhighway they could travel safely at high speeds in their own cars. Terms such as “dream road” and “magic carpet ride” were used in the turnpike’s early years to describe a driving experience that is now so routine that motorists barely notice it as they make time on the country’s toll and nontoll interstate highways.

Today, the original Pennsylvania Turnpike has been extended to 360 miles (579 kilometers), reaching from the Ohio Turnpike (opened in 1955) to the New Jersey line at the Delaware River-Turnpike Toll Bridge (opened in 1956). In addition, the Pennsylvania Turnpike Commission (PTC) operates the Beaver Valley Expressway, the Mon/Fayette Expressway, the Amos K. Hutchinson Bypass (also called the Greensburg Bypass), and the Southern Beltway, for a total length of 552 miles (888 kilometers) of toll facilities in Pennsylvania. Those additional miles were built on a proven model, but the innovative first 160-

mile (257-kilometer) section was made possible by the failed business ventures of two 19th-century railroad empires determined to destroy each other.

## **The Folly That Made The Turnpike Possible**

On one side was William Henry Vanderbilt, the eldest son of Commodore Cornelius Vanderbilt, who built a multimillion-dollar steamboat and railroad empire that William inherited. William Vanderbilt is best known today for his response to a reporter's question in 1882 about whether he should retain an unprofitable New York-to-Chicago train to serve the public. He replied, "The public be damned!" (Historians differ on the context and precise wording. He may have added, "I am working for my stockholders! If the public want the train why don't they pay for it?")

On the other side was George B. Roberts, a civil engineer who became president of the Pennsylvania Railroad (Pennsy) in 1880 and whose New York-to-Chicago line was the main reason Vanderbilt was running his line at a loss.

The railroad industry as a whole was engaged in ruthless competition involving such practices as undercutting rates, redirecting service to gain greater shares in the same markets, and manipulating stocks. Vanderbilt was determined to undermine the Pennsy after it gained control of a line along the west bank of the Hudson River that would rival Vanderbilt's line on the east bank. With financial help from Andrew Carnegie and other wealthy associates, Vanderbilt began building the South Pennsylvania Railroad parallel to the Pennsy line in western Pennsylvania. In response to this attempt to undermine the Pennsy, Roberts announced that he would "smash the South Penn like a bubble!"

In 1884, Vanderbilt's crews began work on nine tunnels through mountainous terrain, a bridge across the Susquehanna River, and grading for the double-track line between the State capital at Harrisburg and Pittsburgh. According to author William H. Shank, "By

September of 1885, the railroad was 60 per cent finished, . . . [nine] tunnels had been excavated, and more than five million cubic yards [four million cubic meters] of grading had been completed.” Vanderbilt had invested \$10 million in the line, which cost 27 workers their lives, “mainly in the dangerous work in the tunnels, with blasting powder, pick and shovel, and occasional cave-ins.”



Pennsylvania Turnpike Commission

**On October 27, 1938, Walter Adelbert Jones, chairman of the PTC, put foot to shovel for the groundbreaking ceremony in Cumberland County to begin construction of the turnpike. Shown left to right: contractor L. M. Hutchinson, PTC Commissioner Charles T. Carpenter, Chief Engineer Samuel Marshall, Associate Regional Director G. Douglas Andrews of the Pennsylvania office of the Public Works Administration, PTC Chairman Jones, the Public Works Administration’s State Director Edward N. Jones, PTC Commissioner Frank Bebout, and Colonel F. E. Lamphere of the Reconstruction Finance Administration.**

Financier J. Pierpont Morgan was concerned that competitive overbuilding of railroads was weakening the railroads and the national economy, with the battle between the two Pennsylvania rail lines as exhibit A. Considering Vanderbilt’s and Roberts’ determination to



crush each other's line, getting them to consider a truce wasn't easy. However, in July 1885, Morgan managed to get them and their associates onto his yacht, Corsair, to broker an end to their dispute.

Under the deal, Roberts agreed that the Pennsy would buy the southern line while Vanderbilt acquired the West Shore railroad. As a result, historian Cupper wrote, "On September 12, [1885] . . . work was halted so abruptly that laborers left their tools where they lay."

The battle between the two big railroad companies has become known as "Vanderbilt's Folly," but the battle left behind a construction legacy that a half century later made the Pennsylvania Turnpike possible.

## **"Come Tour the Future"**

During the Great Depression, promoters conceived grandiose superhighway concepts that had several common themes, as illustrated by a plan that Senator Robert J. Bulkley (D-OH) proposed in the late 1930s. Under his plan, a U.S. highway corporation would build three transcontinental and seven north-south superhighways, each straight as an arrow, on 300-foot (91-meter) right-of-way, linked by spurs and connectors. It would accommodate trucks, railroads, even airplanes. His superhighway system would be financed by tolls and by leasing or selling the excess land. Like other visionary promoters, Senator Bulkley underestimated the cost and overestimated ridership, so it appeared that the financing plan would work without requiring tax dollars.

His proposal was similar to many others, but it was unusual in the amount of publicity it received, partly because President Franklin D. Roosevelt endorsed it. On February 2, 1938, Senator Bulkley discussed the plan with President Roosevelt, a long-time road booster who wanted to help the Senator's reelection bid. According to *The New York Times*, "The President was reported to have told the Senator that he had been thinking of a similar plan for some time, and to have told him to draft a bill."

Despite the President's interest, the Bulkley plan was not enacted (and the Senator lost his reelection bid). Nor were any of the other similar superhighway schemes that offered such promise to U.S. motorists.

A year after the Bulkley plan failed, however, the most popular exhibit at the 1939 New York World's Fair was General Motors Company's Futurama, a 35,000-square-foot (3,252-square-meter) model of transcontinental surface transportation in the world of 1960. It was as if all of those visionary schemes were displayed in miniature reality. Visitors in armchairs were transported around the exhibit for what a brochure called "a magic Aladdin-like flight through time and space" while speakers built into the seats provided the narrative. Futurama depicted interstate travel on single-direction, seven-lane highways, divided to accommodate designated speeds of 50, 75, and 100 miles per hour (mi/h) (80, 121, and 161 kilometers per hour [km/h]). Ten thousand scale model cars moved through the countryside. Experts in traffic control towers would use radio signals to let drivers know when to move from one lane to another. Radio beams on each end of the car would keep spacing even. Cloverleaf interchanges would allow motorists to move among roadways without reducing their speeds.

Thomas H. MacDonald, commissioner of the Public Roads Administration (another name for FHWA's predecessor agency), was not a fan of the superhighway schemes or Futurama. In a January 1940 speech, he lamented that the master plan for a toll-free express highway system in *Toll Roads and Free Roads* had not prevented the fracturing of interests among highway advocates, especially those glorifying transcontinental superhighway networks. As far as he was concerned, only "downright selfishness" would cause rejection of the master plan that depicted "fair and honestly balanced programs in the use of highway revenues."

In contrast to the Bureau of Public Road's data and page after page of text in support of MacDonald's point, the Futurama brochure urged visitors to "Come Tour the Future." MacDonald's master plan, for now,

would have to wait.

## Pennsylvania Gets Started

While dreaming of superhighways, motorists had to drive on the network of U.S. numbered highways. The network consisted of many paved, mostly two-lane highways such as U.S. 30, a transcontinental route from Atlantic City, NJ, to Astoria, OR. On November 5, 1935, U.S. 30 became the first transcontinental highway paved from end to end. President Roosevelt sent a congratulatory telegram. "The perilous trail of the pioneers is at last transformed, by joint efforts of the Federal and State Governments, into a coast to coast highway."

In Pennsylvania, U.S. 30 (the Lincoln Highway west of Philadelphia) was paved, but as Professor Tom Lewis explained in *Divided Highways*, the road was inadequate for the traffic using it. According to Lewis, the road was "narrow, steep, icy in winter, and often clogged with interstate truck traffic." Under the best conditions, a trip across the State on U.S. 30 took 10 hours; but under bad conditions, the trip became "an even longer and more arduous ordeal" of 12, 13, 14 hours.



This photograph from the opening day brochure contained the following caption: "Slashing a 73-foot [22-meter] gash through high Negro Mountain, the Pennsylvania Turnpike by this cut avoids use of a half-finished tunnel hidden by trees at the left. This engineering triumph saves money."

Given these deficiencies, Pennsylvania officials began thinking about an “all-weather” toll superhighway from Irwin, near Pittsburgh, to Carlisle, near Harrisburg. With the country in the grip of the Depression, paying for it was the challenge. The key proved to be Vanderbilt’s Folly.

On April 23, 1935, State Representative Cliff S. Patterson of Monongahela introduced House Resolution 138 to authorize a feasibility study regarding turning the abandoned roadbed and tunnels into a turnpike. Victor Lecoq of the State Planning Board and William Sutherland of the Pennsylvania Motor Truck Association had suggested the idea as a way of reducing the cost of the turnpike, thus making the project slightly less impossible to finance. The resolution called for funds from the Works Progress Administration (WPA) to pay for the study. With State legislators eager to go home as the session ended, they quickly approved the resolution which, after all, did not involve an expenditure of scarce State funds.

WPA’s State Administrator Edward N. Jones and State Secretary of Highways Warren Van Dyke turned to WPA’s chief Harry L. Hopkins, who had advocated express highway projects as job creators during Roosevelt administration internal discussions. Hopkins provided a WPA grant for the study, which got underway in January 1936.



Pennsylvania Turnpike Commission

**Construction of the East Kittatiny Tunnel was delayed when workers “struck a watery seam of sand, releasing 500 to 1,000 cubic yards [382 to 765 cubic meters] of red, green, and black sand into the tunnel,” according to historian Dan Cupper. Tunnel walls had to be redesigned as a result.**

With favorable results in hand, Patterson introduced Act 211, the Patterson Turnpike Act, on March 9, 1937. The law authorized creation of the PTC to build, without a cent of State funds, a turnpike from U.S. 11 near Harrisburg to U.S. 30 near Pittsburgh. The State legislature approved Patterson’s bill, which Governor George H. Earle signed on May 21, 1937.

Passing a law to build a turnpike that would not cost the State a penny was the easy part. Now, the PTC would have to find a source of funds to pay for the job.

## **Tracing the Money Trail**

To chair the commission, Governor Earle appointed



Walter Adelbert Jones, a millionaire businessman who knew nothing about roads but had supported the Governor's election in 1934.

Critics questioned the Governor's choice of Jones, but he proved invaluable in launching the turnpike. His contributions to national political campaigns, initially to the Republicans in power in the 1920s, now to the Democrats in power in the 1930s, gave him connections within the Roosevelt administration that enabled him to find the needed money.



**On August 6, 1940, before the turnpike opened, the National Guard's 108th Field Artillery battalion used the turnpike for summer maneuvers. Shown here are local residents watching as the military caravan rode the turnpike to "save" the town of Bedford from invasion.**

One of the first orders of business was acquiring the former South Pennsylvania Railroad right-of-way, then owned by subsidiaries of the Pennsy and the Baltimore and Ohio railroads. The subsidiaries didn't take the turnpike project seriously; they agreed on a sale for \$1 million. When they realized the turnpike was actually going to be built, they boosted the price to \$6 million. Eventually, with the help of the Reconstruction Finance Corporation, negotiations brought the price down. For \$1million to each of the subsidiaries, the PTC bought Vanderbilt's Folly.

As construction neared in 1938, PTC officials found that bankers were hesitant to buy the bonds for the

project. Bankers had supported bonds for bridges such as the San Francisco-Oakland Bay Bridge (opened November 12, 1936) and the Golden Gate Bridge (May 27, 1937), where motorists had little choice but to pay the toll. Bonds for a 160-mile (257-kilometer) toll highway, lacking the full faith and credit of the State and parallel to a toll-free highway just a few miles to the south, did not appear to be the same type of safe investment. The PTC had to withdraw its initial \$60 million bond offering.

Jones turned to President Roosevelt, who directed the Reconstruction Finance Corporation to buy \$35 million in turnpike bonds (later increased to \$40.8 million). The corporation conditioned the purchase on the PTC securing a grant from the Public Works Administration to cover 45 percent of the construction cost. Much to the commission's disappointment, the President approved only \$20 million in Public Works Administration funds, leaving the PTC short of the Reconstruction Finance Corporation's condition. Hearing of this disappointing figure, Chairman Jones recalled, "our hopes seemed about to be dashed."



**This Blue Mountain facility was 1 of 10 service plazas where motorists could get food or gasoline without leaving the turnpike.**

The President was in San Francisco on his way to San Diego, where he would board the USS Houston for a fishing expedition off the Galapagos Islands. Hoping to catch him before the ship departed, Chairman Jones sent a telegram to the President about the predicament. President Roosevelt replied, "I'll let you

have \$25 million.”

With an additional million from the U.S. Department of the Interior, the PTC was ready for construction, which began on October 27, 1938, with a ceremonial turning of earth on a farm in Cumberland County.

## **From Vision to Reality**

In contrast with the Bulkley and many other superhighway schemes of the day, the PTC created a design for the Pennsylvania Turnpike that pulled reality out of the visionary clutter. The commission acquired a 200-foot (61-meter) right-of-way for the four-lane divided turnpike. Traffic lanes, paved in concrete, were 12 feet (3.7 meters) wide with a 10-foot (3-meter) median and 10-foot (3-meter) shoulders, for a total width of 78feet (24meters). Engineers settled on maximum 3-percent grades and 6-degree curvature, with substantial superelevation, or banking, on curves. The design eliminated all at-grade crossings and included 11 interchanges.

The turnpike incorporated six of the South Pennsylvania tunnels, with a seventh built for the turnpike. The old tunnels presented challenges for 20th-century engineers. In the 1880s, workers had built the tunnels from both ends but had not bored through the center. Further, the tunnels had been designed for two tracks, but ultimately were built wide enough only for a single track. The result, as Cupper pointed out, was that “turnpike engineers found the tunnels with wide portals or entrances, but narrower in their deepest reaches.” Within the tight contract deadlines, turnpike contractors, working round-the-clock, completed widening the bores to create a roadway of 23 feet (7meters) to carry two lanes of traffic moving in opposite directions.

Cupper quotes engineer Charles Noble about another key feature--uniformity of design: “Unlike the existing highway system of the United States, in which design standards fluctuate every few miles, depending on the date of construction, the turnpike will have the same design characteristics throughout its 160-mile [257-



kilometer] length. Every effort has been directed toward securing uniform and consistent operating conditions for the motorist.”

The turnpike included 10 commercial service plazas where motorists could stop for food and fuel. The Standard Oil Company, which secured the concession, built Esso service stations in each plaza and subcontracted with the Howard Johnson chain to provide restaurants. Motorists would not have to leave the turnpike--and pay additional tolls--for these services.



Pennsylvania Turnpike Commission



Pennsylvania Turnpike Commission

**During World War II, the turnpike’s service plazas employed women to check the oil and pump gas—jobs usually performed by men who had left for military service.**

MacDonald, while skeptical of the toll aspect of the turnpike, “kept a wary eye on the events in Pennsylvania,” as Professor Lewis recounted. MacDonald’s respect “for the turnpike’s chief engineer,

Samuel Marshall, and the staff he assembled to complete the project far outweighed the differences MacDonald had with Walter Adelbert Jones about the efficacy of a toll road.” Marshall and MacDonald exchanged information and ideas on design issues such as “drainage, width of the median strip, composition of the roadbed, and thickness of the concrete.” MacDonald’s staff kept files of press reports, PTC public relations brochures, and PTC officials’ speeches.

## **The Grand Preview**

As contractors raced to finish the turnpike, the opening date kept slipping beyond July 4, 1940. The PTC did not finalize the toll fees until September 11. The delay was partly because the Pennsylvania Motor Truck Association, which had worked hard to gain public and political support for the turnpike, complained about the tolls that truckers would have to pay. The initial rates approved in September were \$1.50 for passenger vehicles, \$2.25 for a round trip. Truck rates ran according to weight and vehicle class (\$3 to \$10).

On August 26, 1940, the PTC previewed the road for more than 160 dignitaries, including Members of Congress, reporters, MacDonald, and other Washington officials. During a dinner for the group at the Hotel Hershey near Harrisburg the night before, MacDonald called the turnpike “a magnificent accomplishment that will be a monument to the foresight of its builders.” He said, “This highway represents the best in American practice.” Referring to the turnpike as “a strategic military route,” he said it was “very necessary to extend this road to Philadelphia.”

*The New York Times* described the tour: “Not a word of dissent was heard as the fifty-car motorcade roared over the 160-mile [257-kilometer] concrete turnpike, built for speeds up to 120 miles an hour [193 km/h]. Rain fell during the entire tour of inspection, but it was no deterrent to the drivers, who sped along without interference from traffic lights and grade crossings.”

The *Times* described the toll plazas as “modernistic in design and finished in blue glass” and said the two-lane tunnels were “well lighted and specially ventilated.” East of Bedford, the motorcade stopped at the Midway service plaza for lunch.

That evening, Jones sponsored a dinner at the Duquesne Club in Pittsburgh. Due to illness, Jones was unable to attend, but he telephoned a message to the previewers. “Imagine a great road stretching from New Orleans to Boston and bypassing all small towns. . . . Pennsylvania has shown the way with this great new road.”

According to the *Times*, Representative Wilburn Cartwright (D-OK), chairman of the U.S. House Committee on Public Works and a strong proponent of superhighways, was one of the “most enthusiastic ‘previewers.’” “This road is absolutely extraordinary,” he said. “I think we should have roads leading to and from it from other eastern cities.” He said it was “better than anything Germany can build,” and “we’re going to have to build more of them as traffic demands.” He declared the Pennsylvania Turnpike “the mother of them all.”

General Jacob L. Devers, representing Secretary of War Henry L. Stimson, predicted that the turnpike would be beneficial “in war as well as peacetime.” He said, “The importance of the road for the transport of Army supplies cannot be minimized, particularly as it leads to one of the most vital cities [Pittsburgh] in the Nation’s defense.”

## The Open Road

The turnpike opened at 12:01 a.m. on Tuesday, October 1, 1940, without ceremony but with a long line of vehicles at both ends eager to test the new road. One of PTC’s engineers, Harry Lundy, recalled, “Nobody had ever seen a road without stoplights, intersections, steep hills, and sharp curves.”

Initially, because the engineers thought that they had eliminated 95 percent of the causes of crashes, the

turnpike also had no speed limit. Before the turnpike opened, Governor Arthur James announced that a speed limit of 50 mi/h (80km/h) would be in effect, but the ruling was “flatly ignored by both the motoring public and the Turnpike detail of troopers,” according to Cupper. According to the Ford Motor Company, “the closest the average American comes to breaching the sonic barrier is when he eases himself behind the wheel of the family car and has a go at the Pennsylvania Turnpike.” This opportunity would not last long, however. Governor James signed Act 10 on April 15, 1941, setting a speed limit of 70 mi/h (113 km/h) for cars, with a variable limit of 50 to 60 mi/h (80 to 97 km/h) for trucks based on size and weight.

During the first 4 days of operation, the “magic motorway” carried 24,000 vehicles. On the first Sunday of operation, Chief Engineer Marshall estimated that 27,000 vehicles used the turnpike, jamming the exits during peak periods and bringing traffic to a standstill for miles. A week after the opening, *Engineering News-Record* reported that the PTC had “decided that the exits on the superhighway are inadequate.”



**This photograph shows the tollbooth at the Irwin interchange shortly after opening in 1940.**

Despite the trouble at the exits, the road continued to receive rave reviews. *The New York Times* described the “Dream Road” for readers who might not understand the full scope of the project. Such a

highway “has been seen hitherto only in miniature at the Futurama at the World’s Fair.” It was a “superspeed, supersafe route, the longest of homogeneous design in the country.” It featured “great tunnels” and “amazingly deep cuts where, from the approaching car, it looks as if some super-Paul Bunyan had gouged a great, blunt-ended, pie-shaped segment out of the surface of the brown earth.” After summarizing the design features, the *Times* wrote, “The result of these combined characteristics of the new road is to work a sort of driving magic.”

By the end of 1940, the turnpike had carried 514,231 cars, 48,170 trucks, and 2,409 buses. Revenue from tolls reached \$562,464. By October 1941, the turnpike had carried 2.4 million vehicles, far ahead of the projected 1.3 million.

Motorists no longer had to plan a trip to Germany’s autobahn superhighways to see such roads--they had only to drive to Pennsylvania. According to *Fortune* magazine, “The Turnpike is the first American highway that is better than the American car. . . . It is proof against every road hazard except a fool and his car.” A future FHWA official, W.Lee Mertz, recalled his first venture onto the turnpike in 1943, while still in the service. “I felt that I had just entered a different world, like Dorothy in the *Wizard of Oz*, and I was on the Yellow Brick Road.” He added, “I had never seen anything like it.”



**On August 26, 1940, members of the Pennsylvania Turnpike Commission and other dignitaries previewed**

the turnpike. They are shown here clustered around their cars in front of Blue Mountain tunnel. According to *The New York Times*, the previewers gave their “emphatic approval” to the turnpike.

their “emphatic approval” to the turnpike.

## Expanding the Model

The turnpike resolved questions about the nature of a superhighway. The Bulkley, Futurama, and other visionary superhighway concepts seemed to be from a future that America could not afford in the present. The Pennsylvania Turnpike was a real-life example of what a superhighway, built within current budgets and using current engineering skills, could be, with or without tolls. The turnpike was, in short, an object lesson for those planning the next generation of highways.

FHWA’s bicentennial history, *America’s Highways 1776–1976*, says of the turnpike: “The Pennsylvania Turnpike was the prototype of the modern high-speed heavy-duty Interstate highway. It incorporated the most advanced practice of German and American design engineers on highway grades and curvature and was hailed by many as the safest highway in the world.”

The immediate financial success of the Pennsylvania Turnpike also proved enticing to officials from other States. “By 1941,” historian Bruce Seely wrote in *Building the American Highway System*, “five States--New York, Maryland, Maine, Florida, and Illinois--had created toll road commissions.” However, the Nation’s entry into World War II in December 1941 delayed their plans.





**The four-lane turnpike narrowed to two lanes at the Allegheny Mountain tunnel and other tunnels inherited from the South Pennsylvania Railway. The reduction in lanes created a bottleneck whenever traffic was heavy.**

After the war, the PTC began the extensions. The extension to Valley Forge opened on November 20, 1950, and to the western border on December 26, 1951. Additional extensions increased the turnpike to its present 360 miles (579 kilometers).

The PTC also had to address deficiencies on the original segment. Experience had overtaken the “dream highway.” On the original segment, the road and the median were too narrow, some of the curves too sharp, and the facility no longer met evolving design standards. The two-lane tunnels that made the financing possible were a traffic hindrance. The PTC began improving the turnpike in the 1960s, including the addition of tunnels or bypasses to expand the two-lane tunnel sections to four lanes.



Pennsylvania Turnpike Commission



Pennsylvania Turnpike Commission

**These two photographs of the Pennsylvania Turnpike exit at Valley Forge from circa 1954 (top) and 2015 (bottom) show how development grew around the interchange.**

Elsewhere, States from Maine to Texas adapted the PTC model to build their own turnpikes to meet growing demand. By January 1955, the States had opened 1,239 miles (1,994 kilometers) of turnpikes at an investment of \$1.55 billion. In addition, 1,382 miles (2,224 kilometers) of toll roads were under construction (\$2.3 billion), while plans or studies were underway for an additional 3,314 miles (5,333 kilometers) (\$3.75 billion).

Because most of the turnpikes were in corridors identified for interstate highways, Congress had to decide what to do about them before passing the Federal-Aid Highway Act of 1956 to launch the toll-free interstate system that had begun so humbly in that 1939 report to Congress. Congress decided to



incorporate the turnpikes and let them carry interstate numbers and shields. That option was preferable to spending billions of dollars to retire the bonds so the roads could become toll-free or to build parallel toll-free interstate highways. (The historic section of the Pennsylvania Turnpike became part of I-80 South, but was renumbered I-76.)

Enactment of the Federal-Aid Highway Act of 1956 on June 29 brought the toll boom to an end. Some new turnpikes would be built, but States now had an option for financing needed expressways, namely interstate construction funds on a 90-10 Federal-State matching ratio. The new Federal commitment was too good to ignore.

As interstate construction funds came to an end in the 1990s, States again began turning to the toll option to finance major roads, bridges, and tunnels. Many of these new toll facilities met full interstate design standards and were added to the interstate system, at State request. Today, the interstate system includes about 2,900 miles (4,667 kilometers) of turnpikes out of a total of 46,876 miles (75,440 kilometers).

## **The Next Step in America's Progress**

In a brochure issued with the opening of the Pennsylvania Turnpike, Walter Jones predicted: "Super-highways are the next step in America's progress." Citing "far-reaching contributions . . . to our economic and industrial wealth," he wrote, "With great benefits accruing from just one such superhighway, consider what it would mean to the Nation at large if the government undertook a vast program of construction of super-highways, linking heavily populated regions."

Because of World War II and other factors, the national superhighway program he imagined was delayed until the 1950s. When the idea began moving to reality, the toll element was dropped, as it had been in 1939, because corridors in less populated areas would not generate enough traffic to retire bonds with toll revenue.

Once launched, what is now called the Dwight D. Eisenhower National System of Interstate and Defense Highways proved just as beneficial as Jones had predicted. It also encountered more controversy than anyone expected, but it’s worth recalling Jones’ words from 1940: “Many, undoubtedly, will decry any proposed network as being too ambitious and impractical for our day. History will answer such doubts with this admonition: ‘You can’t stand in the way of progress.’”

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**Richard F. Weingroff** is the information liaison specialist in FHWA’s Office of Infrastructure. He also oversees the office’s “Highway History” Web site.

*For more information on the history of FHWA and transportation, see*  
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TaMara McCrae  
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