

**The Rambler's Highway History IQ Test:  
The Seven Questions That Could Change Your Life – Or Not!  
Can You Make the Grade?**

(Editor's Note: The Rambler has been grumpy and disillusioned ever since The CW canceled "Smallville" after what he calls "a mere 10 seasons." He preferred to watch his DVDs of those 10 seasons instead of thinking about highway history. He was comparing Erica Durance with all the other actresses who have played Lois Lane, starting with Noel Neill, when we interrupted to give him a compilation of DC Comics' "Smallville Season 11" comic books, The Rambler finally snapped out of it. The Highway History Web site is "pleased" to present the result.)

Everyone knows the history of highways in the United States: from Indian trails to primitive roads chopped out of the woods followed by chartered turnpikes before the dark age of the railroad era in the last half of the 19th Century. Then came the dirt roads of the early automobile era so the Federal Government built the Lincoln Highway leading to America's love affair with the automobile. Finally, the modern superhighway arrived in 1956 when the powerful highway lobby tricked President Dwight D. Eisenhower into conceiving the Interstate System to evacuate cities if atomic bombs were ever headed our way and paid off Congress with alleged campaign donations to pass the Interstate Highway Act. Seems simple and straightforward enough. But is it? Some of the details of that progress, unfortunately, have been lost along the way.

The Rambler challenges readers' Highway History IQ with this simple test. Don't panic – these are not essay tests, or even multiple choice questions. They are simple true-or-false questions. (Rambler's Note: The Rambler found out too late that an agency may not conduct, sponsor, or request responses to a collection of information unless the agency displays a currently valid Office of Management and Budget (OMB) control number. The Rambler, of course, has not secured such a number so please don't take this survey. Thank you.)

Sorting out the true from the false gives the Rambler an opportunity to survey the history of roads in the United States, a temptation he rarely passes up even though it sends family and friends scurrying for the door. As for readers, don't expect a pat on the back from the Rambler if you took this test in violation of OMB rules and found that your Highway History IQ is high. A pat on the back would violate OMB rules. Your reward or punishment will be the pride or shame you experience, or some mixture of the two, as the case may be.

Okay, with that background, here's the first statement. Is it true or false?

1. \_\_\_ T \_\_\_ F – The National or Cumberland Road was the Federal Government's first road project.

Trying to figure out where to get money for road projects is not a new phenomenon. In the early years of the Republic, the central government didn't have the taxing power it has today and relied on tariffs on imported goods for much of its income. (If you ever read about 19th century American history, you will be astounded at how many battles Congress and Presidents fought over tariffs – should they be punitive to help American industry or simply high enough to provide the revenue the central government needed? The battles raged, very hard for a modern reader to make sense of.)

Our early political leaders had another quandary. Why should all States pay for improvements in some States? The States that weren't getting the improvement usually asked the question. Everyone conceded that the central government could pay for harbor and lighthouse repairs. After all, the tariff revenue depended on those improvements. But roads? No way!

As a result, our earliest Congresses had to rely on what today we would call innovative financing for its road improvements. In the case of the National Road, it employed a unique “user fee.”

The Enabling Act of 1802 on statehood for Ohio set aside 5 percent of the funds from the sale of public land in the new State for road construction, with 3 percent for roads in the State and 2 percent for roads to and through the State. This 2-percent was the source of funds for construction of the first phase of the National Road. In an era when rivers provided the best means of internal transportation, the absence of a river link between east and west was a hindrance to development of the west and its commerce with the east. George Washington had realized the importance of such a link while touring the Ohio country following the Revolutionary War. (He was trying to get squatters to pay rent on his property.) The Western States, he said, “Stand as it were upon a pivot” that could turn them to Spain on the South or to England on the North for commercial, political, and social ties.

In spite of sectional and commercial rivalries among the States, Congress authorized the road as a way of uniting the established eastern States with the western settlements on the other side of the Allegheny Mountain barrier. Opponents had raised constitutional issues to try to block passage. How could the central government build a road on land owned by the States and under their jurisdiction? Congress came up with a roundabout solution. The law required concurrence from the States through which it passed.

On March 29, 1806, President Thomas Jefferson signed the act calling for appointment of three commissioners to lay out and build a portage road from the head of navigation on the Potomac River at Cumberland, Maryland—the farthest point of maritime commerce—to the Ohio River at Wheeling (then in Virginia). The act appropriated \$30,000 from the sale of public lands in Ohio to finance the location of the road and start construction.

Securing State concurrence, particularly in Pennsylvania where a location dispute erupted, was among the reasons for the delay in construction. Pennsylvania agreed to the plan only after the commissioners agreed to build the road through the towns of Uniontown and Washington. The commissioners awarded contracts for construction, which began in May 1811 and the partially completed road was opened as far as Wheeling in 1818.

Using the same financing mechanism for Indiana, Illinois, and Missouri, Congress approved legislation to extend the National Road to Jefferson City, Missouri. The western extension, built mainly by the U.S. Army Corps of Engineers, was not completed to the standards of the eastern section. In Indiana and Illinois, the road was only cleared and graded on as straight a line as possible. Eventually, the road reached Vandalia, which was the capital of Illinois at the time.

Just as the start of construction was delayed by a location dispute, the end of construction was marked by a similar battle. A struggle between St. Louis, Missouri, and Alton, Illinois, for the Mississippi River crossing blocked construction west of Vandalia for 18 years. Before the dispute could be settled, Congress lost interest and funding came to an end as railroads began to dominate interstate transportation.

By the 1820s, the original section of the road was aging badly. Congress, the States, and the road’s users wanted it improved, but that meant finding money somewhere. Rather than once again open the battle among the States the road passed through and those it didn’t, Congress decided to let the users of the road pay for their use. Congress passed that law in 1822, but President James Monroe vetoed it on the grounds that the collection of tolls implied a power of sovereignty over State land that was not permitted by the Constitution.

Congress, recognizing the need, made occasional grudging, inadequate appropriations for road maintenance, before once again relying on the trick that allowed the road to be built in the first place: consent of the States. In the 1830s, Congress agreed to fund one last round of improvement for the aging road if the States agreed to assume ownership upon completion of the work. Then it would be their problem and Members of Congress could focus on more important matters, such as tariffs. The States could charge travelers for its use or not. Between 1831 and 1833, the States of Maryland, Ohio, Pennsylvania, and Virginia agreed to the terms. The central government spent nearly \$800,000 to repair the original section of the road east of the Ohio River, with the Corps supervising the work.

The States then began converting the National Road to the National Pike, with tolls charged to provide revenue for upkeep. By then, however, the 19th century turnpike era was fading before the spread of the railroad.

The last regular appropriation for the National Road in 1838 brought the total cost to \$6,824,919. With this funding, the Federal Government built what was the most important road of its day, carrying freight wagons, stagecoaches, horsemen, and droves of animals. As its advocates had claimed in urging passage of the 1806 law, the National Road helped bind the Nation together by fostering commercial, social, and political ties.

So, by now, you probably are pretty glad you checked off “T” for the first item stating that the National Road was the government's first post-Constitution involvement in roadbuilding. (Just a reminder: The Rambler hopes you didn't check it off in violation of OMB rules.) However, you would be wrong.

The central government was involved in earlier roadbuilding projects and again used the sort of creative financing that kept tax revenue from being involved.

The first activity began in March 1796, when Colonel Ebenezer Zane petitioned Congress for permission to build a post road from the Ohio River to Limestone (now Maysville), Kentucky. He argued that his road would be safer, cheaper, and more reliable than the winding Ohio River, which was the postal route of the day. In return for building the road, Colonel Zane wanted the right to use land warrants he had earned during the Revolution to acquire land where his road would cross the Muskingum, Hockhocking, and Scioto Rivers. Congress approved the arrangements in May 1796, with the stipulation that Zane establish ferries at the three crossings.

Originally, Zane's Trace was no more than a pack trail, but it served as a mail route from the beginning. It was widened enough by 1803 to become a wagon road that eventually reached Nashville, Tennessee. After 1825, the portion from Wheeling to Zanesville was incorporated into the National Road.

The trace is the first case of road subsidy by the Federal Government. The subsidy was in the form of public land, which was plentiful, instead of funding, which was not.

Another early Federal roadbuilding project involved the Natchez Trace from Natchez, Mississippi, to Nashville, Tennessee. Before the opening of the National Road and other roads to the west, the Mississippi River was one of the few ways for Ohio River Valley pioneers to get their produce to market. They floated it on flatboats for sale in New Orleans, usually stopping in Natchez. Because travelling north on the Mississippi River was an arduous, if not impossible, task, the crews sold their flatboats for the wood they contained and returned overland. They usually went on foot or horseback along an ancient footpath through Indian lands, the Natchez Trace. The trip took between 15 and 20 days.

In 1801, the government negotiated agreements with the Choctaws and the Chickasaws permitting improvement of the trace. Eight companies of infantry worked from the north, while six companies began their work from the south at Natchez. The army completed work on the Natchez Trace in 1803 and it remained an important road until about 1817. By then, steamboats could carry freight and passengers in both directions on the Mississippi River.

ANSWER: **FALSE**

Don't feel bad if you got that one wrong. It was a trick question! Keep reading, and good luck on the next one. (Note that under OMB rules, you won't need luck since you can't answer the questions since the lazy Rambler neglected to clear this survey.)

2.  T  F – The Lancaster Pike was the Nation's first toll road.

On April 9, 1792, the State of Pennsylvania chartered the Philadelphia and Lancaster Turnpike Company to construct a toll road between the coastal region and the farm area around Lancaster. In modern times, a company wishing to build a turnpike would enlist a bank to issue bonds that would be snapped up by savvy investors. In 1792, banks, bonds, and savvy investors were generally not around. Company officials went from town to town, letting people know their business and opening a book for subscribers to the company. Subscribers didn't necessarily commit cash, which very few people had, but cattle or other valuable merchandise. Stock in the company was oversubscribed; one witness commented that he had "never seen men so wet with sweat in the harvest field as some were in the crowd to-day who subscribed to the turnpike road."

According to Secretary of the Treasury Albert Gallatin's 1808 report on roads and canals, the Lancaster Pike corporation began with capital of \$360,000, but construction cost \$465,000. Tolls made up the difference. The 62-mile turnpike opened in 1794, although work continued through 1796. Gallatin indicated that annual tolls added up to less than \$25,000, while expenses amounted to \$13,000. That left a profit of \$12,000, with prospects for greater profits when the road was extended west. Later, the Lancaster Pike became part of the main road across the State to Pittsburgh, known as the Pennsylvania Road, and in the 20<sup>th</sup> century was included in the Lincoln Highway and U.S. 30.

Secretary Gallatin called the Lancaster Pike "the first extensive turnpike that was completed in the United States." Its financial success sparked the first great toll boom in the United States. John Luther Ringwalt, in his 1888 history of transportation development in the United States, explained that:

Experience seemed to indicate that the best if not the only practicable method for effecting important improvements was to enlist private capital by the hope that the revenue derived from tolls would render turnpikes . . . remunerative investments.

The Lancaster Turnpike flourished until 1834, when cross-State railroads and canals began cutting into the profits of the stagecoach and freight companies. During the last 20 years of the 19th Century, tolls were discontinued on sections of the turnpike. The Court of Common Pleas of Philadelphia County dissolved the turnpike road company on February 25, 1902.

Albert C. Rose, a U.S. Bureau of Public Roads official known for his research into the history of highways (he often published articles anonymously as "The Old Road Builder"), called the Lancaster Pike "the first long-distance stretch of broken-stone and gravel surface built in this country in accordance with plans and specifications." (The Rambler has often wondered if Rose's family and friends ran screaming into the night every time he said, "That reminds me of . . .")

So if you checked off “T” for this item, you would be . . . wait a second. The Rambler sees some qualifiers in there, such as Gallatin's assertion that the Lancaster Pike was “the first extensive turnpike” and Rose’s claim that it was the first long-distance stone-and-gravel stretch built according to plans. Those are the correct qualifiers because the Lancaster Pike was one of the earliest toll roads in the United States, but not the first.

In 1772, the Virginia Legislature authorized Augusta County to build a toll road between Jennings’s Gap and Warm Springs. Toll revenue was to be used for road upkeep and construction of housing “. . . for the reception of the poor sick resorting to the said springs.” The legislature also approved toll rights for a road in Nansemond County.

The first toll road legislation after formation of the United States was also enacted in Virginia. In October 1785, the Virginia General Assembly passed an act authorizing a private venture to collect tolls on the heavily traveled but badly deteriorated roads from Alexandria to Snicker’s Gap and Vestals’ Gap in the Blue Ridge Mountains. Receipts were to be applied to clearing and repairing the roads and the road between Georgetown and Alexandria.

One of these roads, known as the Little River Turnpike, is often cited as the Nation’s first turnpike. Toll charges between Alexandria and Little River in Aldie probably began in 1786, but receipts did not cover costs. After a company chartered in 1795 failed to raise enough revenue to reconstruct the turnpike, the State chartered a company in January 1802 that succeeded, partly because the State purchased some of the stock. The Little River Turnpike continued as a toll road until May 11, 1896, when the Fairfax County Board of Supervisors accepted the deed to the road. The road, now part of State Route 236, is still known as the Little River Turnpike.

Other early turnpikes were chartered in Maryland and Connecticut. These roads included a series of turnpikes authorized for Baltimore County, Maryland, in April 1787 and, in Connecticut, the Mohegan Road between New London and Norwich and the Old Boston Post Road in Greenwich. Both Connecticut turnpikes were made subject to toll in 1792.

ANSWER: **FALSE**

Again, sorry, that was another trick question. This answer reflects one lesson The Rambler has learned from history: anything or anyone can be “first” if you apply the appropriate qualifiers.

The Rambler knows that many long-suffering nitpickers are already writing e-mails in ALL CAPS to tell him about even earlier turnpikes that deserve to be called the “first.” They will all start, “YOU IDIOT!! My great-great-great etc. grandfather operated a turnpike in 187\_.....” Please don’t hit SEND.

3.  T  F – Turnpikes were a good investment in the 1800's.

Since the central government was so hesitant to fund roads and other internal improvements that required money, State and local governments had to pick up the slack. They didn’t want to employ tax revenue, either, so they relied on the private sector by issuing bonds or, more often, chartering companies to provide the needed facilities. Since the companies were organized to make a profit, and the free enterprise system is premised on that concept, turnpikes must have been a good investment.

Right?

Actually, turnpikes generally did not provide a good return on investment. Many did not provide any return; more often, they lost money. Aside from the competition from canals and railroads, several causes can be cited for what Professor Joseph A. Durrenberger called the "unprofitableness of turnpikes." Funds being inadequate, burdensome debts were created in completing the roads. Poorly organized and managed companies were too small to sustain the cost of maintenance and toll collection. Often, too, State laws required high standards of construction and maintenance, but kept toll charges low and exempted some road users from paying any toll. Eventually, with revenue insufficient for upkeep, the roads deteriorated until repair was beyond the financial ability of the proprietors.

Although turnpikes were not a good investment, Daniel Klein of New York University pointed out that the roads were a success as far as benefits to the public were concerned. Turnpike companies built far more roads than would have been possible if road construction were solely dependent on tax revenue. Historians often quote the statesman and internal improvements advocate, Senator Henry Clay of Kentucky:

I think it very possible that the capitalist who should invest his money in [turnpikes] might not be reimbursed three per cent annually upon it; and yet society in various forms, might actually reap fifteen or twenty per cent. The benefit resulting from a turnpike road made by private association is divided between the capitalist, who receives his toll, the land through which it passes and which is augmented in its value, and the commodities whose value is enhanced by the diminished expense of transportation.

ANSWER: **FALSE**

For those who missed the first three answers in spite of being warned not to take this Highway History IQ test, the Rambler suggests stopping here and doing something more productive, such as reading the excellent "Smallville Season 11" comic books. Proceed at your own risk.

4.  T  F – The Federal Government got out of the roadbuilding business from 1838, the year of the last appropriation for the National Road, until 1916.

The "internal improvements" debate—whether the Constitution granted authority to the Federal Government to build roads, river and harbor improvements, and other public works—was part of the political struggle almost from the beginning of our history.

The debate was never formally resolved. The debate went back and forth, with some Presidents favoring internal improvements while others considered it not only unconstitutional but bad policy. Some Presidents who favored internal improvements thought an amendment to the Constitution was needed to grant the authority. No act of Congress, no veto by a President, no interpretation by the courts determined, once and for all, that the Federal Government could or could not build roads.

As a practical matter, though, interest in roads declined through a change of public sentiment in favor of railroads, which were more practical for interstate travel and shipment. The Federal Government, therefore, stopped building roads in the States.

The Federal interest in roads did not, however, disappear. The government provided land grants to States and territories to help them raise funds for roads. The first significant land grant took place in February 1823. The Federal Government granted Ohio a 120-foot wide right-of-way for a public wagon road from the lower rapids of the Miami River of Lake Erie to the boundary of the Western Reserve (land in northeastern Ohio that Connecticut reserved in 1786 when it ceded claims to other western land; the State relinquished the reserve in 1800). All public lands for 1 mile on each side of the grant were also given to Ohio for sale to finance construction. Through 1869, the government made 10 grants of land for military wagon roads in Michigan, Oregon, and Wisconsin. In addition, an 1841 law granted 500,000 acres to the public lands States then in the Union and those to be admitted later. These grants were to finance roads, railways, river improvements, and other public works.

The second form of Federal support was more direct. The U.S. Army and the Department of the Interior built or improved hundreds of miles of military wagon roads in the western territories. During the era of expansion to the West Coast, the two Departments surveyed and improved established routes, such as the Oregon and Santa Fe Trails, and created short-cuts, cut-offs, and new roads as well.

Historian W. Turrentine Jackson summed up the importance of this work:

The federal engineers made a direct contribution to the location of the highways and railroads of the late nineteenth and twentieth centuries. As trained explorers and topographers, government surveyors succeeded in finding the natural passages for transportation routes along the river valleys, across the plains, or through the mountain passes. These were surveyed and mapped, and recommended for wagon travel. It was inevitable that modern communication lines should follow, to a large extent, the recommendations of those who first scientifically examined the terrain of the trans-Mississippi West.

The Federal Government's territorial road program was as controversial as earlier public works projects in the States. Many proposals prompted heated debate. In 1856, for example, during consideration of an appropriation for roads in the Oregon Territory, Representative George W. Jones of Tennessee summed up the attitude of those opposed to Federal wagon road programs: "I utterly deny the power of the government to make roads anywhere."

Nevertheless, the Federal Government opened migration roads, as well as military roads, during the covered wagon period. Many are part of the evolutionary line to today's highways and railroads. For example, Lieutenant Edward F. Beale's Wagon Road across northern New Mexico and Arizona is the ancestor of the Santa Fe Railroad, U.S. 66, and I-40). As the railroads spread, however, and the territories of the West became States, the wagon road program came to an end. Even so, some Federal road work continued on Federal land, such as National Parks. (In 1877, the first appropriation occurred for roads in a National Park, \$15,000 for Yellowstone National Park.)

Through the last half of the 19th Century, railroads dominated interstate travel. Outside of cities, roads were generally under the jurisdiction of county or municipal governments that had no interest in roads beyond their own borders and only limited interest in roads within those borders.

The bicycle craze of the 1880s and 1890s, and particularly the League of American Wheelmen (LAW), revived interest in roads. Much of the focus was on securing national or State support. The 1894 Agriculture Appropriation Act, approved March 3, 1893, appropriated \$10,000 for the Secretary of Agriculture's use in studying "road-making" and disseminating information on the subject. President Grover Cleveland's Secretary of Agriculture, J. Sterling Morton, selected General Roy Stone to head the Office of Road Inquiry. General Stone was a professional civil and mechanical engineer who had represented the LAW in pushing Congress for action on roads. When the Office of Road Inquiry began operations on October 3, 1893, General Stone's entire initial staff consisted of one clerk.

Secretary Morton, who had a dim view of Federal activities, explicitly prohibited General Stone from using any of his budget for road building. When President William McKinley took office in March 1897, he appointed James W. Wilson to be Secretary of Agriculture. Secretary Wilson took a more expansive view of the Office of Road Inquiry than Secretary Morton had.

With Secretary Wilson's consent, General Stone initiated the "object-lesson road program," under which an expert would visit a community and build a short stretch of good road while lecturing on how he did it. On the assumption that "seeing is believing," General Stone hoped that local officials, seeing the ease of movement on the good road, would extend it and build additional roads like it with their own resources.

Although the equipment for object-lesson roads was borrowed and labor and mules were donated, the Office incurred some expenses in this work. The first project improved 660 feet of Nichol Avenue in New Brunswick, New Jersey, leading to the entrance to the New Jersey Agricultural College and Experimental Station. Total cash outlay, \$321, was paid by the station. General Stone's successors, Martin Dodge and Logan W. Page, continued the object lesson road program in the 1910s

The Federal-aid concept received its first test in 1913. The Post Office Department Appropriation Act authorized \$500,000 for an experimental program to improve post roads. The Federal share would be one-third of the total cost. The Office of Public Roads (as the Federal road agency was then called) divided the funds equally among the 48 States, but only Alabama, Iowa, and Oregon expressed interest. As a result, the Office worked directly with county governments on the post road program. The first post road (14.5 miles from Florence to Waterloo, Alabama) opened in 1914 but the program dragged on until a project in Dubuque County, Iowa, became the last to open in 1918.

Although the post road program was not a success, the experience helped shape the Federal-aid highway program established in 1916. The difficulty of coordinating with the counties was particularly influential. It convinced Director Page that Federal-aid should be given to the 48 States, thereby avoiding the complexities of dealing with more than 3,000 counties. That concept remains the cornerstone of the Federal-aid highway program to this day.

Between 1913 and 1916, the debate among good roads advocates in and out of Congress centered on details of the expected permanent Federal role. Some advocates favored Federal construction of national roads, while others favored a Federal-aid approach to help States improve farm-to-market roads. Reconciling rival interests, such as farm and touring groups, heavily and lightly populated States, and big cities and counties, also delayed resolution. The debate ended when President Woodrow Wilson signed the Federal Aid Road of 1916, which authorized Federal-aid to the States at a 50-50 Federal/State participation ratio. No Federal-aid was to be apportioned to a State until its legislature had assented to the 1916 Act's provisions. Any State that had not already set up a highway agency would have to do so for full participation in the program.



On September 1, work began on the first Federal-aid project, a 20-foot concrete road in Contra Costa County, California (2.55 miles from Albany to Richmond). The project was completed on January 30, 1918, at a cost of \$53,939.85.

The results of the 1916 Act were not entirely satisfactory, partly because World War I intervened to delay many projects and partly because funds were not used for connected roadways. Nevertheless, the 1916 Act established the basic Federal/State partnership in road building that remains in effect.

ANSWER: **FALSE**

The Rambler is certain that many readers got that one since those who didn't know the answer probably left the test to track down copies of "Smallville Season 11." If you didn't get it, remember the old adage that we learn more from failure than success. Feeling smarter? On we go.

5.  T  F – U.S. 1 is the Nation's first Federal highway.

The U.S. numbered system, if measured against the goals of its creators, has been a total success. Its history, however, is one of the most misunderstood aspects of our highway network. For example, the introduction to George Cantor's excellent travel book, *Where the Old Roads Go: Driving the First Federal Highways of the Northeast*, tried to explain where the system came from:

[The U.S. routes] were created by the Federal Highway Act of 1921, which provided both for the expansion of a national highway system and for an orderly plan to number it.

This sentence is remarkable because almost every part of it is incorrect [except the part in brackets written by The Rambler]. The subtitle of this otherwise excellent book repeats another common fallacy, namely that the U.S. routes are Federal highways.

The U.S. numbered system was an attempt to end the confusion created by the proliferation of named trail associations following the success of the Lincoln Highway Association and the other early trail groups. E. W. James, who helped create the U.S. numbered system as a senior official of the U.S. Bureau of Public Roads (BPR, as the Federal agency was then known), acknowledged the virtues of many of the named trails and their backing organizations, but also saw the deficiency of allowing private groups to name public highways:

In some cases, the promotion of routes was done for the general purpose of furthering road building by arousing, developing and maintaining local public opinion. Some were promoted more or less directly for commercial purposes; many were organized and maintained to support some purely localized interest. Not infrequently, the routes selected were chosen to develop scenic beauties and had little thought of any other commercial value than that of leading tourists through particular sections of the country, and bringing to these sections the advantage of tourist trade . . . . In a great many cases the routes were the result of entirely selfish promotion to exploit good roads sentiment and provide salaries for paid officials of the various organizations.

James estimated that at least 250 marked trails existed, with sponsorship by at least 100 regularly organized associations supporting some kind of headquarters and issuing maps and other promotional material.

In view of the problems, the American Association of State Highway Officials (AASHO) approved a resolution on November 20, 1924, calling on the Secretary of Agriculture to name a board of Federal and State engineers to formulate a numbering and marking system for the Nation's principal highways. Secretary of Agriculture Howard M. Gore appointed 21 State highway engineers and 3 BPR officials to a Joint Board on Interstate Highways in February 1925. BPR Chief Thomas H. MacDonald was Chairman and James, Chief of the BPR's Division of Design, was Secretary.

The Joint Board's work consisted of identifying roads to be included, choosing a method of marking them, and designing uniform road signs. Working with the States on a regional basis, the Joint Board identified 75,884 miles of interstate highways to be included. The members also conceived a plan to help motorists find them. Predominately east-west routes would carry even numbers, while north-south routes would carry odd numbers. The major and transcontinental east-west routes were assigned two digit numbers ending in zero (U.S. 10, U.S. 40, etc., with U.S. 2 along the northern border in place of U.S. 0). The longest north-south routes were usually assigned a number ending in 1 (U.S. 11, 41, etc.), but because of the greater number of these routes, the Joint Board used numbers ending in 5 as well. Other numbers fit in the grid of main roads. Three-digit numbers were used for branch lines (U.S. 190, U.S. 290, etc.)

In a reminiscence written in 1967, James gave Frank F. Rogers, Michigan's Commissioner of Highways, credit for the basic design of the original U.S. route shield:

At a Board meeting [in April 1925], I was sitting at the side of Frank Rogers of Michigan. As we discussed a possible distinctive and unique marker for all the Federal Aid System, he doodled and produced a sort of shield. He handed it to me. I think I improved on his design by drawing a picture of our present shield. He took it back, presented it to the Board as just what was wanted, and that was that.

In addition to the shield, the Joint Board adopted uniform markers for SLOW, STOP, and other signs, each with a unique shape to help make their purpose clear to motorists who could not read.

The Joint Board completed its work on October 30, 1925, and transmitted a report to Secretary of Agriculture William Jardine (former Secretary Gore by then was Governor of West Virginia). Secretary Jardine approved the report on November 18, 1925, and transmitted it to AASHO with the recommendation that the association “. . . take such necessary steps as might be feasible under their respective State laws to put the plan into operation . . . .” As this recommendation implies, the Federal Government did not impose the system on the States; they adopted it voluntarily. No Federal law exists requiring the use of the U.S. numbered system. The recommendation also reflects the fact that the States, not the Federal Government, own and operate the roads; they are not Federal highways.

As soon as the plan was released, requests for changes began to come in to AASHO. Many were from trail associations seeking a single number for their entire route. The Joint Board had intentionally divided the named trails, to the extent possible, among several numbers. According to the Joint Board's final report:

. . . had the Board permitted itself to be placed in a position of selecting into certain predetermined routes, like the marked trails, because they existed in that particular status, and of similarly rejecting other marked routes, a difficult legal question might have been raised. The Government, at no time and through no agency, had ever officially recognized any system of marked trails or routes except the primary or interstate classification of the Federal-aid highway system, and no authority had ever been given to any governmental agency to such end. The Joint Board, therefore, felt it necessary, if not indeed imperative, that its task be so handled as to preclude any appearance of giving an official status to any predetermined route or combination of routes.

Like the other lengthy named roads, the Lincoln Highway and the National Old Trails Road were split among several numbers. Henry B. Joy, President of the Packard Motor Car Company and a founder and sometime-President of the Lincoln Highway Association, lamented:

The Lincoln Highway, a memorial to the martyred Lincoln, now known by the grace of God and the authority of the Government of the United States as Federal Route 1, Federal Route 30, Federal Route 30N, Federal Route 30S, Federal Route 530, Federal Route 40 and Federal Route 50.

(Because a large portion of the route from Philadelphia to Granger, Wyoming, was included in U.S. 30, a common misconception today is that the Lincoln Highway followed all of U.S. 30 from Atlantic City, New Jersey, to Astoria, Oregon. The Lincoln Highway's termini were New York City and San Francisco.)

Most of the eastern portion of the National Old Trails Road was included in U.S. 40, while most of the mileage in New Mexico, Arizona, and California became part of U.S. 66, the Chicago-to-Los Angeles interstate road.

In addition to objections from the associations, AASHO and BPR received complaints from State and local officials who wanted routes designated through favored areas. One of the most protracted controversies involved the transcontinental number "60." Officials in Virginia, West Virginia, and especially Kentucky who supported a transcontinental route beginning in Virginia clashed with Midwestern interests who had assigned "60" to the route from Chicago to Los Angeles. Kentucky took the lead in pointing out that "60" should have been assigned to the transcontinental route that fell between U.S. 50 and U.S. 70, not a route beginning in the Midwest and crossing the other transcontinental routes on its way to southern California. After months of debate, offers, and counteroffers, all parties agreed to a compromise. "60" was assigned to a route from Newport News, Virginia, to Springfield, Missouri, while the Chicago-Los Angeles route became U.S. 66, passing through Springfield.

In all, AASHO acted on 142 requests in 1926 and approved additions that boosted the total system mileage to 96,626. The State highway agencies approved this system on November 11, 1926. A Department of Agriculture press release announcing the system explained its purpose:

No special funds are to become available as the result of the designation of any road as a part of the system. The purpose has been to select a main system of highways for the nation, the unimproved sections of which will be given priority in improvement, and to eliminate confusion as to route designation, marking and safety signs. Practically all of the system is on the system of Federal-aid highways and is eligible to receive Federal aid.

In short, the U.S. numbered system was a way of marking highways to help motorists “navigate” around the country.

As Joy’s comment suggests, not everyone liked the idea. Travel writer Ernest McGaffey, for example, complained about “substituting arithmetic for history, mathematics for romance, ugliness for beauty, and mystification for Efficiency . . . .” A newspaper in Lexington, Kentucky, complained that, “The traveler may shed tears as he drives the Lincoln Highway or dream dreams as he speeds over the Jefferson Highway, but how can he get a ‘kick’ out of 46 or 55 or 33 or 21?”

Nevertheless, the public soon accepted the U.S. system. James summarized the results in 1933:

The development of that scheme has been successful. It was a simple matter but it solved an increasing difficulty and met a definite need . . . . The present scheme needs no defense, because it has the merits of being easily extensible to include any reasonable additions, has that impersonal aspect which resists all local favoritism, and has actually accomplished the purpose for which it was created; and whereas, the old system of naming a haphazard collection of highways was a source of complaint on the part of the traveling public, the present system has had and continues to receive public commendation.

Two other misconceptions about the U.S. numbered system are worth mentioning. The main East Coast route, U.S. 1 (Fort Kent to Key West, Florida), has sometimes been called the “first Federal highway.” All the original U.S. routes were designated at the same time, on November 11, 1926; U.S. 1 earned its number by being the first major north-south route on the East Coast. Similarly, the highest numbered original U.S. route designated on that date, U.S. 730 in Oregon and Washington, was not the last Federal highway.

Another misconception is that the U.S. numbering constitutes—or should constitute—a precise, uniform grid. Although the system is uniform overall, many inconsistencies were incorporated in the 1925 and 1926 versions, with more added since then. James explained the reason for the initial inconsistencies:

An unbroken numerical sequence was not possible unless lines of prevailing flow of traffic were to be entirely neglected. Such lines cross each other and demand that numerical order be sacrificed in a few cases. These are, however, so few and slight that the value of the numbering scheme is not diminished for practical purposes.

Since most motorists are not aware of the numbering pattern, they are not confused by inconsistencies in it.

The American Association of State Highway and Transportation Officials (AASHTO), as AASHO is now known, controls the numbering of the U.S. routes.

In the quote from *Where the Old Roads Go*, Cantor confused establishment of the Federal-aid system under provisions of the Federal Highway Act of 1921 with creation of the U.S. numbered system in 1925/1926. The 1921 Act was important because it settled the long debate over whether the Federal Government should build national highways for long-distance travel or provide aid to the States. The initial answer had come in 1916, when President Wilson signed the Federal Aid Road Act creating the Federal-aid highway program. The Federal Government would provide funds to help the State highway agencies with projects the States selected.

The program, however, was weak, partly because the States disbursed the funds without regard to connectivity. The deficiencies revived efforts to convert the program to one of Federal construction of long-distance national roads. Testifying on May 14, 1920, in favor of Federal construction, Judge J. M. Lowe of the National Old Trails Road Association told the Senate Committee on Post Offices and Post Roads that:

. . . this money went into a scattered, detached, unconnected system of roads, or rather no system at all, resulting in the building of short sections, so scattered over the country as to be of no general benefit. The longest single section of road built, up to March, 1919, was just nine miles . . . .

In 1921, BPR's MacDonald and AASHO officials developed a compromise under which funding would be restricted to a Federal-aid system consisting of no more than 7 percent of each State's roads, with three-sevenths of the selected roads required to be "interstate in character." The States could spend up to 60 percent of Federal-aid funds on the interstate roads. In this way, the interstate connectivity sought by Judge Lowe and other advocates of Federal construction was provided within the context of the existing Federal-State relationship. This was not, however, a construction program on the order of the Interstate Highway Program. The act simply called for a network of highways that would be eligible for Federal-aid to ensure interstate connectivity.

ANSWER: **FALSE**

The Rambler is certain that regular readers of his columns, and some of the other stuff on the Highway History Web site by that long-winded guy who never knows when enough is enough, are doing well on this Highway History IQ test. (The Rambler believes that guy's family and friends, if he still has any, dread his approach. "Oh, no, he's going to tell us about General freakin' Stone again!")

Just two questions to go. So put that highway history thinking cap back on and let's see how you do. (Except don't tell us since The Rambler wants to stay strictly in accordance with OMB requirements.)

6.  T  F – President Eisenhower conceived the Interstate System in 1956 as a way of evacuating our cities during an atomic attack.

Two of the most enduring ideas about the Interstate System are that President Eisenhower conceived it and that he did so because of military considerations. *The Christian Science Monitor*, for example, stated in its issue of December 26, 1989, that "President Eisenhower launched the Interstate system in 1956 to expedite the movement of U.S. troops anywhere in the country in an emergency." In 1990, syndicated columnist Richard Reeves repeated the idea the following month: "Eisenhower's Republicans sold the great roads . . . as national defense highways – the pitch being that the roads were needed to move troops and tanks if the Soviets came."

Considering how many times these ideas have been repeated over the years, they must be true, right? (According to OMB, that's a rhetorical question – don't answer it.)

Media repetition can make anything true, but The Rambler holds himself to a higher standard at least when it comes to highway history.

No one person conceived the Interstate System. It resulted from an evolutionary process, during which elements of several ideas were brought together. For example, dozens of bills were introduced in Congress during the first half of the 20th Century to develop a national highway network. Similarly, the design concept adopted for the Interstate System was based on earlier attempts at "controlled access" and "superhighway" designs. MacDonald traced control of access back to four streets constructed in the late 19th Century for the use of horse-drawn truck traffic crossing Central Park in New York City.

The evolution of efforts to meet growing traffic demands can be traced from Central Park through such other projects as the Lincoln Highway's "Ideal Section" in Lake County, Indiana (designed in 1920 and 1921), the Bronx River Parkway (conceived in 1907, opened in 1923) and other parkways in New York and elsewhere, the Italian *Autostrada* (1920s) and the German *Autobahn* network (1930s), visionary superhighway plans (1930s), Norman Bel Geddes' "Futurama" exhibit at the 1939/1940 World's Fair in New York City, and the Pennsylvania Turnpike (the first 160-mile segment opened on October 1, 1940).

During the 1930s, the idea of a limited network of toll superhighways intrigued President Franklin D. Roosevelt from the earliest days of his first term. Construction of a network of toll superhighways would help relieve unemployment. Throughout his Presidency, he believed this network could be financed on a self-liquidating basis (that is, pay for itself without cost to the Federal Government). In 1935, for example, he considered developing what *The Washington Post* called "smooth, arrow-straight four-lane thoroughfares." The idea was to build three "master roads" from coast-to-coast and two north-south routes, with job creation in the midst of the Depression among the main goals:

[In recent conferences on Capitol Hill, the] President emphasized the self-liquidating phase of the road program. He explained the Government could buy broad tracts flanking the highways and obtain the benefit from the increased property valuation . . . . When the plan was in an embryonic stage last fall . . . Secretary [of the Interior Harold L.] Ickes fixed the width at 1,000 feet and suggested the roads should be landscaped until they were the most beautiful in the world.

Numerous bills and resolutions were introduced in Congress in the 1930s on the superhighway concept. Most called for construction of self-liquidating toll roads by the Federal Government as a way of providing employment relief. Some visionary concepts incorporated airports and emergency airplane landing fields as well as room for railroads. Supporters, such as Representative Jennings Randolph of West Virginia and Senator Robert J. Bulkley of Ohio, cited the President's endorsement of such concepts.

In early 1938, Roosevelt called MacDonald in for a conference. The President drew (or had already drawn) a system of east-west and north-south routes on a map of the United States and asked MacDonald to study the possibility of building them as "Direct Route" toll highways. The roads would include excess condemnation of a wider right-of-way than needed, with sale or rental of the land helping to pay for construction.

MacDonald submitted the report, prepared mainly by the BPR's Herbert S. Fairbank, on April 16, 1938. It sustained the desirability of establishing a Federal Land Authority with the power of excess condemnation. The probable traffic, however, was not expected to be sufficient to liquidate acquisition and construction costs through tolls or right-of-way sales or rentals for an extensive system.

The report was for President Roosevelt's information, not public release. However, Section 13 of the Federal Aid Highway Act of 1938, which the President signed on June 8, called on the BPR Chief to submit a report on the cost and feasibility of building three north-south and three east-west "superhighways" (about 14,336 miles), including the feasibility of making them toll roads. In developing the report, MacDonald and his staff drew on the April report to the President, as well as highway planning surveys of road traffic conducted in cooperation with 46 of the State highway departments.

The President took a personal interest in the report. On February 18, 1939, as the report was in the final stages, he directed that until he returned from a cruise, Secretary of Agriculture Henry A. Wallace and MacDonald should do nothing about the transcontinental road report. Roosevelt wanted to see it to ensure his pet ideas were included. On April 24, he asked an aide to find out from MacDonald ". . . where in this report I can find anything about the excess condemnation principle . . . [and] is it given approval and put in the summary? If it is not in at all – why not?" BPR provided the page references.

President Roosevelt transmitted the report, *Toll Roads and Free Roads*, to Congress on April 27, 1938. BPR concluded that the 14,000-mile network would not be self-supporting as toll facilities. Due to low traffic volumes on most routes as revealed by the surveys, toll-paying traffic would not be sufficient to retire the construction bonds and pay interest on them. Instead, BPR advocated a 26,700-mile nontoll network of interregional express highways, with connections through and around cities. As for excess condemnation, BPR downplayed the idea, the President notwithstanding. Many States lacked the constitutional authority to acquire land for public works, yet alone excess right-of-way. The report suggested Congress approve a Federal Land Authority to purchase the right-of-way not only for the superhighways but for other Federal needs.

In a transmittal letter to Congress, Roosevelt emphasized that the report "indicates the broad outlines of what might be regarded as a master plan for the development of all of the highway and street facilities of the Nation." He called special attention to the idea of financing through excess taking of land:

I lay great emphasis on this because by adopting the principle of "excess-taking" of land, the ultimate cost to the Government of a great national system of highways will be greatly reduced.

Roosevelt appointed a National Interregional Highway Committee on April 14, 1941, with MacDonald as Chairman. The committee was to investigate the need for a limited system of national highways "and to advise [on] the desirable character of such improvement, and the possibility of utilizing some of the manpower and industrial capacity expected to be available at the end of the war."

The United States had not entered World War II, but was using its industrial might to aid its allies in Europe. The committee completed its work in late 1941 but with entry of the United States into the war, held the report. Although the proposed program was perceived as a job-creator, unemployment would not be a problem during the war.

In the Federal-Aid Highway Amendment of 1943, approved July 13, Congress called for a study along the lines the committee had investigated. President Roosevelt sent the report, *Interregional Highways*, to Congress on January 12, 1944. The report endorsed the concept of interregional highways (the pre-war surveys revealed that most traffic was intra-State and interregional, not transcontinental) and the President urged action:

Early action by the Congress in authorizing joint designation by the Federal Government and the several State highway departments of a national system of interregional highways is desirable, in order to facilitate the acquisition of land, the drawing of detailed project plans, and other preliminary work which must precede actual road construction.

He also summarized the reasons he backed the program:

. . . the program can serve not only to help meet the Nation's highway transportation needs, but also as a means of utilizing productively during the post-war readjustment period a substantial share of the manpower and industrial capacity then available. A program of highway construction will, in addition, encourage and support the many diverse economic activities dependent upon highway transportation.

As before, Roosevelt endorsed the idea of excess condemnation based on his “personal experience, as Governor of a State [New York] and as President . . . .” After citing an example of how a farmer was enriched by selling frontage lots along a new highway, Roosevelt asked:

After all, why should the hazard of engineering give one private citizen an enormous profit? If there is to be an unearned profit, why should it not accrue to the Government – State or Federal, or both?

Based on the report, Congress in the Federal-Aid Highway Act of 1944 called for designation of a 40,000-mile National System of Interstate Highways. The routes were to be:

. . . so located as to connect by routes, as direct as practicable, the principal metropolitan areas, cities, and industrial centers, to serve the national defense, and to connect at suitable border points with routes of continental importance . . . .

(Gluttons for punishment will find way more than any reasonable person needs to know about President Roosevelt’s role in the history of the Interstate System in that long-winded guy’s “A Vast System of Interconnected Highways,” at <http://www.fhwa.dot.gov/highwayhistory/vast.pdf> on the Highway History Web site. That guy must really be fun at parties.)

After extensive consultation with the States and the Department of War, MacDonald and Federal Works Administrator Philip B. Fleming approved the initial 37,700 miles on August 2, 1947. This mileage included rural sections and a single line through urban areas, with 2,200 miles reserved for connections through cities and circumferential routes around them.

In a press release the following day, BPR and the Federal Works Agency described the standards of design to be employed on the System:

Although the interstate system follows, in general, the principal routes in the present Federal-aid system, it may be necessary in many instances to relocate existing highways or build alternate routes for express traffic in order to meet essential standards of width, grade, alinement, and control of access . . . . Design standards for the system approved by the American Association of State Highway Officials on August 1, 1945, call for four-lane divided highways wherever the traffic volume is 800 motor vehicles in peak hours. For such highways in rural areas, a right-of-way of 250 feet is advocated as desirable. Traffic lanes 12 feet wide are recommended on all heavily traveled routes. Where traffic density exceeds 3,000 vehicles in peak hours, elimination of all cross traffic at grade is advocated. Control of access to the interstate routes, particularly in and near cities, is considered essential.



In many large cities depressed or elevated expressways will be built, making possible city travel at an average speed of 35 to 45 miles an hour, without stops for traffic signals and free of interference by cross-traffic. Depressed portions of expressways will be supplemented by parallel frontage roads for "local" traffic, and bridges will be constructed at intersections to serve cross-traffic.

Because Congress did not authorize special funds for the System, it remained primarily a network of black lines on a map. Most States were unwilling to divert regular Federal-aid funds from the needs of their own motorists to help interstate drivers from other States. Chief Engineer F. R. White of the Iowa State Highway Commission put it this way:

These roads must await their turn in the construction lineup, like all other parts of the primary road system . . . . Inclusion of any road in the national system of interstate highways does not give that road any priority of improvement over any other part of the primary road system.

Moreover, the postwar housing crisis diverted attention from road building. Turned out that all those soldiers returning from World War II wanted to start families and move into their own homes, not work on construction crews building highways. Far from returning to Depression unemployment levels, the country experienced a post-war economic boom that neither President Roosevelt nor the engineers planning the Interstate System foresaw. The boom took care of the jobs. And just when things were settling down, the Korean War diverted attention from the National System of Interstate Highways and delayed a decision on how to pay for it.

The Federal-Aid Highway Act of 1952, for the first time, authorized funds, a token \$50 million, for construction of the Interstate System, to be matched on the traditional 50-50 Federal-State cost sharing basis dating to 1916. The Federal-Aid Highway Act of 1954 authorized another \$175 million, with the Federal share increased to 60 percent. This funding was, however, far short of what was needed.

Some States, particularly in the heavily populated Northeast, decided that in the absence of Federal funding, toll roads could provide the needed service in high-traffic corridors. As a result, a network of toll roads evolved in the late 1940's and early 1950's on the Pennsylvania Turnpike model in some of the designated Interstate corridors.

That was the situation when President Eisenhower took office in January 1953. As best as the Rambler can determine, the new President was not aware of the history of the Interstate System before he took office. (He would not have done well in this test of Highway History IQ, which he could have taken in the days before OMB existed.) However, he was a long-time advocate of good roads who traced his support for the Interstate System to two events. In 1919, he had accompanied the first transcontinental army truck convoy across the country. Eisenhower, at the time a brevet Lieutenant-Colonel with the permanent rank of Captain, did not lead the expedition as is sometimes erroneously stated. Lieutenant-Colonel Charles W. McClure was in charge. Never heard of him? Don't worry – no one else has, either. Eisenhower, in his own words, decided ". . . to go along partly for a lark and partly to learn."

The convoy of trucks and other vehicles left the Ellipse south of the White House on July 7, 1919, and traveled to Gettysburg, Pennsylvania. Eisenhower missed the kickoff ceremony and joined the convoy on its way to Gettysburg, where he had been stationed during much of the war training soldiers in operation of a new weapon: tanks. In Gettysburg, the convoy reached the Lincoln Highway and followed it to San Francisco.

Eisenhower, in *At Ease: Stories I Tell to Friends*, was divided on what was worst: the roads and bridges or the speeches the convoy's participants had to put up with in every town before they reached San Francisco on September 6. Nevertheless, the experience shaped his thinking about roads:

The trip had been difficult, tiring, and fun. I think that every officer on the convoy had recommended in his report that efforts should be made to get our people interested in producing better roads.

The second important influence on Eisenhower's view of roads occurred during World War II. In his own words:

A third of a century [since the 1919 army convoy], after seeing the autobahns of modern Germany and knowing the asset those highways were to the Germans, I decided, as President, to put an emphasis on this kind of road building . . . . This [network of superhighways] was one of the things that I felt deeply about, and I made a personal and absolute decision to see that the nation would benefit by it. The old convoy had started me thinking about good, two-lane highways, but Germany had made me see the wisdom of broader ribbons across the land.

Eisenhower planned to announce his "Grand Plan" on July 12, 1954, during the 46th Annual Governor's Conference, which was held in Bolting Landing at Lake George, New York. However, after the death of his sister-in-law, Mrs. Milton S. Eisenhower, the President could not attend the conference. Vice President Richard M. Nixon addressed the Governors based on notes the President had prepared for the speech.

The Grand Plan was needed, Nixon said on Eisenhower's behalf, because “. . . our highway net is inadequate locally and obsolete as a national system.” He listed five "penalties" of bad highways:

An annual death toll comparable to the casualties of a bloody war, beyond calculation in dollar terms. It approaches 40,000 killed and exceeds 1.3 million injured annually.

The annual wastage of billions of hours lost in detours, traffic jams, and so forth, measurable by any traffic engineer and amounting to billions of dollars in productive time.

Of the civil suits that clog up our courts, some say that more than half have their origin in highways, roads and streets.

Nullification of efficiency in the production of goods by inefficiency in the transport of goods.

Appalling inadequacies to meet the demands of catastrophe or defense should atomic war come.

The 10-year, \$50 billion plan Vice President Nixon proposed on the President's behalf was not limited to the Interstate System, which the Grand Plan speech did not mention by name. The plan called for a properly articulated system of highways, one in which each level of government improved the roads under its jurisdiction. For the Federal program to improve roads of national interest, President Eisenhower wanted a cooperative Federal-State program with financing based on self-liquidation of cost “through tolls or the assured increase in gas tax revenue” and “on Federal help where the national interest demands it.”

The White House had not done any advance work before the speech. If they had, they would have known that the Governors expected him to talk about the wonders of State governance, the brilliance of Governors compared with Federal bureaucrats, and how happy he was to be in their midst far from hated Washington – not to propose a plan that was in direct contrast to their view that the Federal Government should abolish BPR, get out of the road building business, and yield the gas tax to the States.

As a result, the Governors' initial reaction to Eisenhower's surprise proposal was shock. With a Republican in the White House for the first time since 1933, the Republican Governors in particular had thought they finally had an ally who would dismantle what they perceived as overreaching Federal programs, with the Federal-aid highway program a leading example. Many Governors of both parties expected the conference to enact its annual resolution opposing a Federal role in roads. However, the Governors gradually and reluctantly calmed down and realized they had no choice but to work with the President as he shaped the new program.

Readers who were around in the 1950s, as *The Rambler* was, may recall that President Eisenhower was widely perceived as an aging, avuncular, popular President whose press conferences were filled with tongue-tied, awkward statements. They may recall he preferred playing golf to making policy. The contemporary political comedian Mort Sahl said of him, "Eisenhower proved that we don't need a President . . ." *The Rambler* is pleased to dispel this myth, at least for the Interstate System. From the Grand Plan speech until the end of his presidency, he worked hard to develop a program, get it through Congress, and keep the program moving forward.

(For more information on President Eisenhower's active role, see "The Man Who Changed America," a two-part article in *Public Roads* magazine by that guy who thinks anything that mere historians could describe in one part can be better described by a self-proclaimed "unofficial historian" in two or preferably more parts. See <http://www.fhwa.dot.gov/highwayhistory/interstate.cfm>.)

The President appointed an advisory committee headed by his associate, friend, and advisor, retired General Lucius D. Clay, to work with a committee of skeptical Governors to develop a plan they could live with. General Clay's ancestor, Henry Clay, was known as the Great Compromiser for his efforts to keep slave States, including his own Kentucky, in the Union. General Clay, who usually considered everyone who disagreed with him to be wrong, was nicknamed the Great Uncompromiser. Ignoring advice from anyone who knew anything on the subject, the Clay Committee recommended creation of a Federal corporation to issue \$20 billion of long-term bonds to be repaid over 32 years from the existing 2-cent Federal gas tax. (Congress, which approved the Federal gas tax in 1932 as a deficit reduction measure, had never linked the revenue to the Federal-aid highway program.)

President Eisenhower was skeptical because he had thought the new superhighways would be built as self-liquidating toll roads. General Clay assured the President that most of the roads would not have enough traffic to retire the bonds, with interest, needed to finance turnpike construction. President Eisenhower transmitted the Clay Committee's plan to Congress in February 1955.

As those whose advice General Clay ignored had told him, his financing plan had virtually no chance of approval. The question before Congress was not whether to build the Interstate System – everyone agreed on that. The main issue was who would pay for the new roads and how. With a few exceptions, Members of Congress rejected issuing bonds because bond financing meant that billions of dollars would go to wealthy bondholders, not road building, while tying up gas tax revenue for 32 years to retire the bonds. Future Congresses would have little flexibility if they wanted to use the revenue for another purpose.

Moreover, the chairman of the Senate Finance Committee, Senator Harry Flood Byrd of Virginia, was known to have what biographers have called an almost pathological hatred of debt, personal and public, that had characterized his career in the State legislature, as Governor, and as Senator. He criticized the plan based on General Clay's public statements in December 1954 even before President Eisenhower released it and never let up thereafter.

Even after the House Committee on Public Works rejected the plan, General Clay was convinced he could secure approval in the Senate. By then, he was one of the few people involved who didn't realize his concept for financing the Interstate System was dead. In 1955, Congress adjourned without finding a way to pay for the Interstate System, having rejected even plan, including President Eisenhower's Clay plan and one initiated by Representative George H. Fallon of Maryland, chairman of the Subcommittee on Roads, based on linking highway user tax revenue to the program.

Unlike General Clay, Eisenhower was flexible. As historian Mark Rose explained:

By January, 1956, according to a publicist for the AAA, motorists wanted "better highways now." President Eisenhower certainly saw things that way too. Initially, he had insisted upon the Clay plan. After losing that battle, however, Eisenhower was ready to sign any bill as long as it included a self-financing feature. In 1956, the president "just wanted the job done."

Highway leaders from AASHO and other groups worked with congressional leaders and the White House to agree on a financing plan involving highway user tax revenue. The solution emerged in a bill sponsored by Louisiana Representative Hale Boggs of the Ways and Means Committee and Chairman Fallon and approved by the House overwhelmingly on April 27, 1956. Among other important features, the bill proposed a Highway Trust Fund, based on the Social Security Trust Fund, as a way of keeping track of Federal highway user tax revenue that would be dedicated to the highway program. Senator Byrd added an amendment to ensure that if the Highway Trust Fund ran a deficit, highway funds would be reduced accordingly.

This was a self-liquidating plan that the President and other interests could accept. Instead of collecting all the funds upfront by issuing construction bonds, the new plan involved a pay-as-you-go method of gathering revenue during the life of the program.

In 1955, the Senate had approved a bill introduced by Senator Albert Gore of Tennessee that authorized the Interstate program but lacked a financing mechanism. Under the Constitution, the House of Representatives must initiate the tax legislation. After the Senate approved a modified version of the House Fallon-Boggs bill, House and Senate conferees developed a compromise bill on June 25. Both Houses passed the bill by overwhelmingly the next day. The legislation required establishment of location and design criteria, incorporated about 2,300 miles of toll facilities into the System instead of financing toll-free parallel routes, increased the Federal share for Interstate construction to 90 percent, and added "and defense" to the official name of the Interstate System ("National System of Interstate and Defense Highways").

On June 29, 1956, President Eisenhower signed the Federal-Aid Highway Act of 1956 into law in his room in Walter Reed Army Medical Hospital in Washington. He had been hospitalized 3 weeks earlier for an operation for ileitis, with June 29 as his last full day in the hospital. (The Rambler can assure all readers that no ceremony took place and no photograph of the event exists. The President was probably in his pajamas and a robe as he signed a stack of bills, including the roads bill he had fought for. Unfortunately, photos of him signing the Federal-Aid Highway Act of 1954, surrounded by happy Members of Congress, are sometimes used to illustrate the signing of the landmark 1956 Act. Don't be fooled!)

For his role, President Eisenhower is sometimes called the "Father of the Interstate System." Since there are no Federal specifications for designating "Fathers" of events, activities, or things, The Rambler is happy with bestowing that title on President Eisenhower. He certainly was proud of his role. Biographer Stephen E. Ambrose reported that, "Of all his domestic programs, Eisenhower's favorite by far was the Interstate System."

Military considerations have been a factor in highway development throughout the Nation's history. In the midst of the Cold War, former General Eisenhower was, of course, aware of the military value of highways. His "Grand Plan," however, was much broader based, as reflected in the items Vice President Nixon cited in his Grand Plan speech on behalf of President Eisenhower. Perhaps the President's views are best summarized in the message he sent to Congress on February 22, 1955, transmitting the Clay Committee's report:

Our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods. The ceaseless flow of information throughout the Republic is matched by individual and commercial movement over a vast system of interconnected highways crisscrossing the country and joining at our national borders with friendly neighbors to the north and south. Together, the united forces of our communication and transportation systems are dynamic elements in the very name we bear – United States. Without them, we would be a mere alliance of many separate parts.

The Rambler has numerous pet peeves that he nurtures as if they were actual pets. Here's one: *President Eisenhower signed something called the "Interstate Highway Act."* Surely, readers may think, today's writers and historians, with the advantage of FHWA's Highway History Web site, have abandoned that incorrect name. Afraid not!

The Rambler was reading a carefully researched 2014 book (that will not be named) about how intellectuals throughout the 20<sup>th</sup> century viewed cities as a dead end and tried to reshape the world in ways that everybody would love. (Intellectuals, as described in this book, never wondered if everyone else agreed with them about what constituted a good life. **SPOILER ALERT:** No one else agreed.) When the author gets to the 1950s, he tells readers that "the powerful highway lobby" achieved "an apotheosis with the 1956 Interstate Highway Act." (The Rambler is putting aside the reference to the "powerful highway lobby," which is a different pet peeve.) Just one paragraph later, the author quoted BPR Solicitor Clifford W. Enfield's reference to "the Federal Aid Highway Act of 1956," but ignores that expert, who surely knew the correct title, and quickly resumed referring to the Interstate Highway Act. (The author left out the hyphen in "Federal-Aid," but The Rambler doesn't want to be petty.)

Then there's a well-known historian who told readers of *The New York Times* in October 2014:

. . . one of the most important pieces of domestic legislation passed by Congress in the 1950s: the interstate highway act, which shunted proposed mass transit projects to the side and gave national-security priority to a cross-country network of expressways.

The Rambler needed a few minutes to get his blood pressure back to human level after the historian, whom the Rambler respects, combined three wrong ideas into that single statement: (1) name of the legislation (wrong), (2) shunted mass transportation projects aside (no, it didn't), and (3) 1956 Act a result of national security (guess again).

The Rambler has read about the "Interstate Highway Act" in countless books and articles, but it does not exist. No such bill was approved. President Eisenhower signed the Federal-Aid Highway Act of 1956. If anyone tells you otherwise, question their credibility.

ANSWER: **FALSE**

The Rambler has to admit he's just fooling with readers. All the answers so far were false. But even with that established pattern, The Rambler offers one more question for your consideration. Will he dare to make this one false, too?

7.  T  F – Work on the Interstate System is finished.

The Interstate construction program launched by the Federal-Aid Highway Act of 1956 has come to an end. As much of the designated 42,798-mile Interstate System – it has been extended several times since 1944 – is open as will ever be open. Congress authorized the last Interstate construction funds for FY 1996, mainly because of prior statutory commitments in 1987 to the Central Artery/Tunnel project in Boston.

This does not mean work on the Interstate System is completed. Segments of the Interstate System will need upkeep, as well as reconstruction to meet changing traffic needs, for as long as the System remains a vital part of the Nation's transportation network.

In addition, States are using funds from other categories of the Federal-aid highway program, State transportation funds, bonds, and other sources to build additional routes that FHWA has designated as part of the Interstate System. With these additions, the Interstate System is 47,432 miles long at this writing. In case you're wondering, motorists can't tell the difference between Interstate highways built with Interstate construction funds and those built with other funds. They all meet the same design standards.

In short, the Interstate System will not be finished until some as yet unknown invention comes along to permit movement of people and goods without motor vehicles.

ANSWER: **FALSE**

Yup, The Rambler did dare!

So, readers, how'd you do? (OMB does not want you to answer, so please don't.) The Rambler assumes his readers are all experts with very high IQs in general and extremely high IQs when it comes to highway history. If you're one of the very few readers who didn't score 100 percent, don't despair. Nobody has to know and, according to OMB, nobody can know.

## REFERENCES

The Rambler is shocked that his readers would expect references. Don't you trust him? Do you think he makes this stuff up? Do you think he has time to satisfy every obsessive highway history nitpicker who must double-check everything to be sure every hyphen is accurate?

Apparently one of those nitpickers is the guy who recruited The Rambler for occasional articles. He indicated that he prefers scholarly articles to The Rambler's usual "stream-of-semi-conscious approach" (his phrase) to highway history.

So, okay. Here are some references. You can demonstrate your trust in The Rambler's integrity by not reading them.

The Western States – Rose, Albert C., "The National Pike or Cumberland Road," *Road Builder News*, April 1938, page 8.

Using the same financing mechanism – *America's Highways 1776-1976*, Federal Highway Administration, U.S. Department of Transportation, Government Printing Office, 1976, pages 19-22.

The trace is the first case – *Ibid.*, page 16.

In 1801, the government – Rose, Albert C., "The Natchez Trace," *Mississippi Highways*, January 1939, page 13.

Pennsylvania's Lancaster Pike – Rose, Albert C. "1795 – The Philadelphia and Lancaster Turnpike Road," *Historic American Roads: From Frontier Trails to Superhighways*, Crown Inc., 1976, page 22.

Stock in the company was oversubscribed – Wood, Frederic J., *The Turnpikes of New England*, Marshall Jones Company, 1919, page 12.

Pawlett, Nathaniel Mason, *A Brief History of the Roads of Virginia 1607-1840*, Virginia Highway and Transportation Research Council, October 1977, page 15., and *The Most Convenient Ways . . . A Story of Roads in Virginia*, page 5.

On April 9, 1972, the State – Wood, pages 7-12.

[The Rambler: see how boring this reference section is?]

According to Secretary of the Treasury Albert Gallatin – Gallatin, Albert, *Roads and Canals*, State Paper No. 250, transmitted to the 10<sup>th</sup> Congress, 1st Session, on April 4, 1808, page 738.

John Luther Ringwalt, writing in 1888 – Ringwalt, John Luther, *Development of Transportation Systems in the United States*, Philadelphia, 1888, p. 29 (cited in Klein, Daniel, "Private Turnpike Companies of Early America: A Case Study of Moral Suasion and Public Goods Provision," revised draft written for projected Public Goods volume, Tyler Cowen, editor, Cato Institute, sponsor, July 1985, page 3.)

Thousands of miles of toll roads – Page, Logan Waller, "Progress and Present Status of the Good Roads Movement in the United States," *Yearbook of Department of Agriculture for 1910*, page 268.

The Lancaster Turnpike flourished – Wood, page 14.

the first long-distance stretch – Rose, Albert C., *Historic American Highways*, Crown Publishers, Inc., 1976, page 22.

unprofitableness of turnpikes – Durrenberger, Joseph A., *Turnpikes: A Study of the Toll Road Movement in the Middle Atlantic States and Maryland*, 1931, pages 96-116.

Historians . . . often quote Henry Clay – Quoted in Klein, page 6.

Federal toll collection – *America's Highways*, page 21.

The government provided land grants – *Ibid.*, page 24.

[The Rambler: Gets more tedious the longer it continues.]

Jackson described this work – Jackson, W. Turrentine, *Wagon Roads West: A Study of Federal Road Surveys in the Trans-Mississippi West, 1846-1869*, Yale University Press, 1964, page 328.

I utterly deny the power of the government – *Ibid.*, page 80.

In 1877, the first appropriation occurred – *America's Highways*, page 497.

Office of Road Inquiry – *America's Highways*, pages 43-44.

Object lesson roads – *Historic American Highways*, page 79, and *America's Highways*, page 45.

Although the post road program – *America's Highways*, pages 82-83.

Between 1913 and 1916 – For a discussion of the debates, see “The Drive for Federal-Aid” in *America's Highways*, pages 80-89, and “Federal Aid for Highways, 1911-16,” in Seely, Bruce E., *Building the American Highway System: Engineers as Policy Makers*, Temple University Press, 1987, pages 36-45.

The Federal Aid Road Act of 1916 – “Federal Road Co-operation with the States,” *Better Roads and Streets*, September 1916, page 3, and *America's Highways*, page 87.

First Federal-aid project – *Historic American Roads*, page 91.

The introduction to George Cantor – Cantor, George, *Where the Old Roads Go: Driving the First Federal Highways of the Northeast*, Harper and Row, Publishers, 1990, page 1. Although The Rambler is critical of one sentence in this book, he recommends it as a modern American Guide Series look at the States. Cantor published sequels for the Midwest and Southwest.

At least 250 marked trails – James, E. W., “Making and Unmaking a National System of Marked Routes,” *American Highways*, October 1933, p. 16.



At a board meeting – James, E. W., unpublished letter to BPR Design Engineer Frederic W. Cron, February 21, 1967, <http://www.fhwa.dot.gov/infrastructure/ewjames.cfm>. (Cron used the letter as a source for “Touring by Numbers – Why and How,” *Public Works*, February 1968). An article in the July 1956 issue of BPR’s *The News in Public Roads* suggested that Rogers may have seen a similar design, prepared at least a year earlier by Walter F. Brooks, a BPR engineer working in Michigan. Brooks proposed his shield to mark 11 Federal Aid Roads. His idea was circulated among members of the Mississippi Valley Conference in May 1924 and unanimously rejected “as officials felt that the State markers were adequate.” The article indicates that James did not recall seeing the earlier shield and summarized his recollection: “Frank Rogers ... sketched the outline of the shield now familiar to every driver and handed it to Mr. James. Mr. James filled in the State and route number. Thereafter T. L. Ainsworth, a master draftsman known to all oldtimers of the Bureau, developed the exact proportions of the markers.” “Origin of U.S. Route Markers,” *The News in Public Roads*, Bureau of Public Roads, July 1956, page 5. AASHO’s executive secretary during this period, William C. Markham added that “a southern delegate” had the idea of placing the State name on each shield as a way of reducing southern resistance to a “U.S.” number. The idea also helped overcome resistance from States that already had legislative authority to post State numbering signs. Markham, William C., *The Autobiography of William Colfax Markham* (Ransdell, Inc., 1946, page 154).

[The Rambler: Talk about nitpicking!]

Had the Board permitted itself – Letter to the Secretary of Agriculture, *Report of Joint Board on Interstate Highways*, October 26, 1925, page 10.

Henry B. Joy – Hokanson, Drake, *The Lincoln Highway: Main Street Across America*, University of Iowa Press, 1988, page 109.

One of the most protracted controversies – Kelly, Susan Croce and Scott, Quinta, *Route 66: The Highway and Its People*, University of Oklahoma Press, 1988, pages 13-17.

AASHO acted on 142 requests in 1926 – *America’s Highways*, page 110.

November 11, 1926 – *America’s Highways*, page 110.

[The Rambler: Wouldn’t you be better off doing something more productive than looking at this list?]

A Department of Agriculture press release – “Complete U.S. Highway System Now Designated and Approved,” Office of Information, U.S. Department of Agriculture, January 2, 1927, page 2.

Substituting arithmetic – McGaffey, Ernest, “Numbering the Highways of the United States,” *Highway Engineer and Contractor*, February 1928, page 31.

Newspaper in Lexington – *Lexington Herald* quoted in “Numbers for Names,” *Topics of the Times*,” *The New York Times*, June 18, 1927.

The development of that scheme – “Making and Unmaking,” page 27.

An unbroken numerical sequence – Letter to the Secretary of Agriculture, page 12.

Judge J. M. Lowe – “Good Roads,” Hearings on S. 3572 before the Committee on Post Offices and Post Roads, United States Senate, 1920, pages 195-196.

Developed a compromise, *America’s Highways*, page 108.

President Eisenhower Launched – Mouat, Lucia, “Highway System is Almost Done--or Is It?” *Christian Science Monitor*, December 26, 1989, page 7; Reeves, Richard, “A Rocky Road for U.S. Highways,” *The Philadelphia Inquirer*, January 18, 1990, page 19-A.

Crossing Central Park – MacDonald, Thomas H., “Interstate or Super Highways,” address to the 29th Annual Meeting of the North Carolina Society of Engineers, January 24, 1947, page 3.

The idea of a limited network of toll superhighways – Weingroff, Richard F., “President Roosevelt and the Interstate System,” *A Vast System of Interconnected Highways: Before the Interstates*, page 183 and following. <http://www.fhwa.dot.gov/highwayhistory/vast.pdf>

In early 1938, Roosevelt called MacDonald in – *A Vast System*, page 266.

MacDonald submitted the report – *A Vast System*, pages 299-307.

Prepared mainly by the BPR’s Herbert S. Fairbank – *America's Highways*, page 271.

The President took a personal interest – *A Vast System*, pages 313-316.

In a transmittal letter to Congress – Letter of Transmittal, *Toll Roads and Free Roads*, House Document No. 272, April 27, 1938, 76th Congress, 1st Session, p. VII.

Roosevelt endorsed the idea of excess condemnation – Message from the President, *Interregional Highways*, House Document No. 379, January 12, 1944, 78th Congress, 2d Session, pages III-V.

In a press release – Press notice for release August 3, 1947, Federal Works Agency, pages 1-2 (paragraphs printed in reverse order from different parts of notice).

These roads must wait – “National Interstate System Long-Range Goal,” *Mississippi Highways*, October 1947, page 18.

The Federal-Aid Highway Act of 1952 – *America's Highways*, page 469.

*At Ease* – Eisenhower, Dwight David, "Through Darkest America with Truck and Tank," *At Ease: Stories I Tell to Friends*, Doubleday and Company, Inc., 1967, page 157-167.

Grand Plan – Address of Vice President Richard Nixon to the Governors Conference, Lake George, New York, July 12, 1954. <http://www.fhwa.dot.gov/infrastructure/rw96m.cfm>

The Governors’ initial reaction – Rose, Mark H., *Interstate Express Highway Politics, 1941-1956*, Revised Edition, The University of Tennessee Press, 1990, p. 93-94 (the quote is from Eisenhower’s *Mandate for Change: The White House Years 1953-1956*, Doubleday and Company, Inc., 1963, page 548).

"Eisenhower proved that we don't need a President" – Gross, Ken, “Not Going Gentle Into That Good Night, Caustic Comic Mort Sahl Gears Up For a Broadway Comeback,” *People*, October 12, 1987, page 134.

The great uncompromiser – “Lucius Clay Dies; Led Berlin Airlift,” *The New York Times*, April 17, 1978, pages A1, D8.

An almost pathological hatred of debt – Hatch, Alden, *The Byrds of Virginia: An American Dynasty, 1670 to the Present*, Rinehart and Winston, 1969, page 402.

[The Rambler: The “great uncompromiser” and “pathological hatred of debt” are among The Rambler’s favorite highway history phrases.]

By January, 1956, according to a publicists – Rose, page 94.

June 29 as his last full day in the hospital – McGrory, Mary, “President Quits Hospital With Grin and Wave,” *The Evening Star*, June 30, 1956.

Eisenhower’s favorite by far – Ambrose, Stephen, *Eisenhower, Volume Two: The President*, Simon and Schuster, 1984, page 547.

Our unity as a nation –. President’s Message, *National Highway Program*, House Document 93, February 22, 1955, 84th Congress, 1st Session, page III.

Interstate Highway Act – The Rambler is withholding the names of the authors of these quotes to avoid angry e-mails from them. Readers will just have to trust The Rambler that the quotes are real.