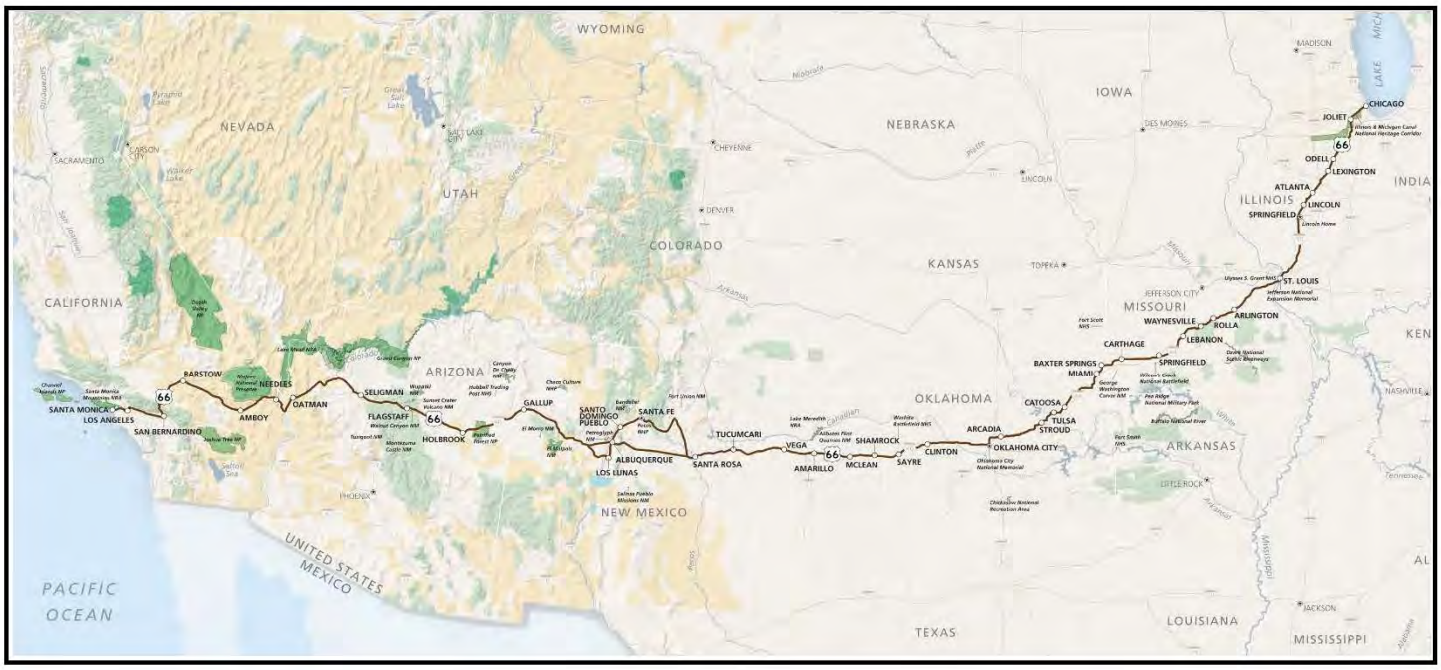
Nomination of Route 66
as an ASCE National Historic Civil Engineering Landmark



Map source: National Park Service at: https://www.nps.gov/orgs/1453/rosi-maps.htm

Approved by ASCE History and Heritage Committee
Approved by ASCE Board of Direction July 10, 2025

NOMINATION SUMMARY

Submittal date: June 30, 2024; revised April 21, 2025

Submitting ASCE Sections: This is a joint submittal by the following 10 ASCE Sections:

Illinois Section
Central Illinois Section
St. Louis Section
Kansas City Section
Kansas Section
Oklahoma Section
Texas Section
New Mexico Section
Arizona Section
Los Angeles Section

Requested Designation: National Historic Civil Engineering Landmark

Proposed Name of the Landmark: Route 66

Existing Designations as a State or Local ASCE Historic Civil Engineering Landmark:
As more thoroughly described later in this nomination package, this nomination is to commemorate the Route 66 corridor from Chicago, Illinois to Santa Monica, California. Within that corridor this nomination has identified 15 select civil engineering features, or elements, of historical significance to be included as part of the Route 66 National HCEL designation. Two of these elements are currently National or State ASCE Historic Civil Engineering Landmarks. They are:

Arroyo Seco Parkway, a National Historic Civil Engineering Landmark, in Los Angeles, CA
Colorado Street Bridge, a State Historic Civil Engineering Landmark, in Pasadena, CA

Owner of the proposed Landmark:
Route 66 existed as a numbered route and signed U.S. Highway from 1926 to 1985. During this time period the route followed by Route 66 in local areas often changed. Thus, the roadway may have had many different alignments, even within a small geographic area. When an alignment was abandoned, the roadway ownership in some cases changed to a different jurisdiction. Similarly, as time has passed subsequent to 1985, many roadway segments have had changes in ownership. Many segments of the route that were originally state-owned have been relinquished to the cities and counties through which Route 66 passed. The roadway ownership of some segments has been retained by the respective states. There are literally hundreds of jurisdictions that now own segments of what was, at one time, a portion of Route 66.

As noted above, this nomination has identified 15 select civil engineering features, or elements, of historical significance to be included as part of the Route 66 National HCEL designation. Those select features, and their ownership, is as follows. For most of these features, ownership is shown at the time National Register of Historic Places designation was granted, and may have subsequently changed.

Feature	Ownership
Chain of Rocks Bridge (crossing Mississippi River, Illinois and Missouri)	City of Madison, Illinois
Meramec River Bridge (Missouri)	Missouri State Parks
Brush Creek Bridge (Kansas)	Cherokee County
11th Street Arkansas River Bridge (Oklahoma)	City of Tulsa
Bridge # 18 at Rock Creek (Oklahoma)	Creek County
Bridgeport Bridge (Oklahoma)	Oklahoma Dept of Transportation
Bridge over the Chicago, Rock Island, and Gulf Railroad (Texas)	Wheeler County
Route 66, SH 207 to Interstate 40 Conway, Texas (Texas)	Carson County Highway Dept
Realignment of Route 66 in central New Mexico	various ownership
Rio Puerco Bridge (New Mexico)	New Mexico Dept of Transportation
Querino Canyon Bridge (Arizona)	Apache County
Route 66 in Mohave County (Arizona)	Mohave County
Old Trails Bridge at Topock (crossing Colorado River, Arizona, California)	El Paso Natural Gas Company
Colorado Street Bridge, Pasadena (California)	City of Pasadena
Arroyo Seco Parkway, Los Angeles (California)	California Dept of Transportation

Location: This is a "linear project" from Chicago, Illinois to Santa Monica, California, approximately 2,448 miles in length.

Starting point in Chicago, Illinois: 41 52 46.5 N 87 37 28.2 W (the intersection of Michigan Avenue and Adams Street)

Ending point in Santa Monica, California: 34 00 54.9 N 118 29 10.8 W (the intersection of Lincoln Boulevard and Olympic Boulevard)

Local and vicinity maps: The location of the Route 66 alignment is shown on the cover page.

Nominating Team

Illinois Section	Brian Pawula, P.E.
Central Illinois Section	Christopher Gutkowski, P.E.
St. Louis Section	Jeffrey Fouse, P.E.
Kansas City Section	Tony Kulesa, P.E.
Kansas Section	Ben Ware, P.E.
Oklahoma Section	Josh Johnston, P.E.
Texas Section	Melinda Luna, P.E.
New Mexico Section	Roger Zimmerman, P.E., PhD
Arizona Section	Mark Lamer, P.E.
Los Angeles Section	Bill Lawson, P.E.
Route 66 NHCEL Nominating Team Lead	Andrew Machen. P.E.
Liaison to national History and Heritage Committee	Jonathan Upchurch, P.E.

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NOMINATION DISCUSSION

Unlike nearly all other designated ASCE Historic Civil Engineering Landmarks, Route 66 was not constructed as a single project with an identifiable construction start date and construction end date. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that created what eventually became a continuous numbered highway from Chicago, Illinois to Santa Monica, California.

1. **Historic Significance:** Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. While many individual segments of Route 66 may not have historic civil engineering significance, may not have contributed particularly to civil engineering or regional development, and are not otherwise unique, there were many notable civil engineering features constructed and achievements accomplished at many locations along the Route 66 alignment during its development. As the first continuous numbered cross-country route connecting the Midwest (Chicago) with the Pacific Coast (Los Angeles and Santa Monica) Route 66 is historically significant for its effect on regional and national economic, social, and political development. Collectively, many worthy elements combine to make Route 66 credible for designation as a National Historic Civil Engineering Landmark.

2. **Contributions:** The two following paragraphs are from Oxford Research Encyclopedia, "The History of Route 66", Stephen Mandrgoc[1] and David Dunaway[2]

> During its existence from 1926 to its formal decommissioning in 1985, US Highway 66, or Route 66, came to occupy a special place in the American imagination. For a half-century and more, it symbolized American individualism, travel, and the freedom of the open road with the transformative rise of America's automobile culture. Route 66 was an essential connection between the Midwest and the West for American commercial, military, and civilian transportation. It chained together small towns and cities across the nation as America's "Main Street." Following the path of older trails and railroads, Route 66 hosted travelers in many different eras: the adventurous motorist in his Ford Model A in the 1920s, the Arkies and Okies desperate for a new start in California in the 1930s, trucks carrying wartime soldiers and supplies in the 1940s, and postwar tourists and travelers from the 1950s onward. By its nature, it brought together diverse cultures of different regions, introducing Americans to the "others" that were their regional neighbors, and exposing travelers to new arts, music, foods, and traditions. It became firmly embedded in pop culture through songs, books, television, and advertisements for its attractions as America's most famous road.
>
> Travel on Highway 66 steadily declined with the development of controlled-access interstate highways in the 1960s and 1970s. The towns and cities it connected and the many businesses and attractions dependent on its traffic and tourism protested the

[1] Stephen Mandrgoc: University of New Mexico - Albuquerque, Center for Southwest Research
[2] David Dunaway: University of New Mexico - Albuquerque, Department of English

removal of the highway designation by the US Transportation Department in 1985, but their efforts failed. Nonetheless, revivalists who treasured the old road worked to preserve the road sections and attractions that remained, as well as founding a wide variety of organizations and donating to museums and libraries to preserve Route 66 ephemera. In the early 21st century, Route 66 is an international icon of America, traveled by fans from all over the world.

3. **Uniqueness:** Route 66 is different from each of the 12 existing National Historic Civil Engineering Landmarks that are roads. Those roadways, their locations, dates of completion, and short descriptions are listed chronologically below. In terms of date of construction, period of use, purpose, and function, Route 66 is clearly distinctly different from the existing Historic Civil Engineering Landmarks as noted in parentheses.

   El Camino Real (1) – New Mexico and Mexico, 1500's. The oldest and longest historical trail in the Western Hemisphere, extending from Mexico City to Santa Fe. (Much earlier period of use)

   El Camino Real (2) – Louisiana, Texas and Mexico, 1500's. Running from Mexico to Louisiana, the El Camino Real-Eastern Branch was a major Spanish pioneer transportation artery that provided support, defense and political stability for early colonists. (Much earlier period of use)

   King's Road -- Florida and Georgia, 1775. The principal overland transportation link between the former British Colony of St. Augustine and the 13 Colonies, the King's Road was originally 126 miles long. (Much earlier period of use)

   National Road -- Cumberland, MD to Vandalia, IL, 1811-1839. The first U.S. roadway to be financed with federal money. (Much earlier period of use)

   Mullan Road -- Montana to Washington, 1860. The first major engineered highway in the Pacific Northwest, the Mullan Road was designed to facilitate the movement of troops and supplies across the Rocky Mountains between the Missouri River basin in the Great Plains and the Columbia River Basin. (Much earlier period of use)

   Old Columbia River Scenic Highway -- Oregon, 1913 – 1922. The roadway design blended 74 miles of roadways, tunnels, viaducts, and overlooks into the natural environment harmoniously. (designed as a scenic highway)

   Going-to-the-Sun Road -- Glacier National Park, Montana, 1932. The first major trans-mountain scenic highway in the United States. (designed as a scenic highway)

   Blue Ridge Parkway – Virginia and North Carolina, 1936 – 1987. A 469-mile long parkway designed to emphasize the natural environment. (designed as a scenic highway)

   Pennsylvania Turnpike -- Pennsylvania, 1940. The first limited access long-distance highway in the United States. (designed as a limited-access facility)

   Arroyo Seco Parkway – Los Angeles, 1940. The first urban freeway to be built in the United States west of the Mississippi River. (designed as a limited-access facility to serve an urban area)

   Alaska Highway – British Columbia, Yukon, Alaska, 1942. Constructed as a military supply route in a very remote area during World War II. (purpose was a military supply route)

   Maine Turnpike -- Maine, 1947. The first major modern limited access highway to be built without any state or federal funding. (designed as a limited-access facility)

Although there were many other “highways” contemporaneous with Route 66 in their development and use, none has captured the American imagination or enjoyed the degree of name recognition.

Two other “highways” that were created in the early 1900’s were the Lincoln Highway and the Dixie Highway.

The Lincoln Highway

The following paragraph is from Wikipedia:

> The Lincoln Highway is the first transcontinental highway in the United States and one of the first highways designed expressly for automobiles. Conceived in 1912 by Indiana entrepreneur Carl G. Fisher, and formally dedicated October 31, 1913, the Lincoln Highway runs coast-to-coast from Times Square in New York City west to Lincoln Park in San Francisco, originally through 13 states: New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Iowa, Nebraska, Colorado, Wyoming, Utah, Nevada, and California. In 1915, the "Colorado Loop" was removed, and in 1928, a realignment relocated the Lincoln Highway through the northern tip of West Virginia. Thus, there are 14 states, 128 counties, and more than 700 cities, towns and villages through which the highway passed at some time in its history.

Dixie Highway

The two following paragraphs are from Wikipedia:

> Dixie Highway was a United States auto trail first planned in 1914 to connect the Midwest with the South. It was part of a system and was expanded from an earlier Miami to Montreal highway. The final system is better understood as a network of connected paved roads, rather than one single highway. It was constructed and expanded from 1915 to 1929.
>
> The Dixie Highway was inspired by the example of the slightly earlier Lincoln Highway, the first road across the United States. The prime booster of both projects was promoter and businessman Carl G. Fisher. It was overseen by the Dixie Highway Association and funded by a group of individuals, businesses, local governments, and states. In the early years, the U.S. federal government played little role, but from the early 1920s on it provided increasing funding until 1927. That year the Dixie Highway Association was disbanded and the highway was taken over by the federal government as part of the U.S. Route system, with some portions becoming state roads.

Compared with Route 66, the Lincoln Highway was dedicated 14 years before a route numbering system was adopted for U.S. numbered routes. Like Route 66, the Lincoln Highway was the collection of many individual efforts at the state, county and local level. Compared to both the earlier Lincoln and Dixie Highways, Route 66 benefitted from a greater federal role in funding of highway construction.

4. **Date of original construction, and other significant dates:** The Route 66 route number was assigned in 1926 for a route linking Chicago, Illinois with Santa Monica, California. The Route 66 route number was officially discontinued in 1985. Dates of construction are given in each of the descriptions of the 15 civil engineering features.

5. **Names of key engineers**: Names of key engineers are given in each of the descriptions of the 15 civil engineering features

6. **Photographs:** Photographs are included in each of the descriptions of the 15 civil engineering features.

7. **Additional documentation:** Additional documentation is included in each of the descriptions of the 15 civil engineering features.

8. **References:** The following references relate to Route 66 as a whole. Additional references are included in each of the descriptions of the 15 civil engineering features.

The History of Route 66 - Stephen Mandrgoc and David Dunaway
Building The Highways - Linda Hall Library
Route 66: Departments of Transportation - National Park Service
Route 66: Associations and Organizations - National Park Service
H.R. 801 Route 66 National Historic Trail Designation Act - U.S. Department of the Interior, Office of Congressional and Legislative Affairs
Travel Route 66 - National Park Service
Route 66 1926 - 1945 - National Park Service
Route "66" The Mother Road - Federal Highway Administration
Creation of a Landmark: The Federal Aid Road Act of 1916 - Federal Highway Administration
Highway History Bibliography: U.S. Route 66 - Federal Highway Administration
U.S. Route 66 - Wikipedia
National Old Trails Maps - Automobile Club of Southern California
Bridges of Route 66 - Jim Ross

PhD Theses and Other Publications

Huddleston, John David, Good Roads for Texas: A History of the Texas Highway Department, 1917-1947, Texas A&M University, August 1981
Corbett, William Paul, Oklahoma's Highways: Indian Trails to Urban Expressways, Oklahoma State University, 1982
Mason, Phillip, The League of American Wheelmen and the Good Roads Movement 1890-1905, M.A. Thesis, The American University, 1957

IMPLEMENTATION

9. **Text for ASCE website:** A draft of the proposed text which will appear on the ASCE website (maximum 500 words)

Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Route 66 was not constructed as a single project with an identifiable construction start date and construction end date. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago, Illinois to Santa Monica, California, approximately 2,448 miles in length.

There were many notable civil engineering features constructed and achievements accomplished at many locations along the Route 66 alignment during its development. As the first continuous numbered cross-country route connecting the Midwest (Chicago) with the Pacific Coast (Los Angeles and Santa Monica) Route 66 is historically significant for its effect on regional and national economic, social, and political development.

This National Historic Civil Engineering Landmark commemorates the Route 66 corridor from Chicago, Illinois to Santa Monica, California. Within that corridor are 15 select civil engineering features, or elements, of historical significance. Fourteen are listed on the National Register of Historic Places. They 15 include:

- The Chain of Rocks Bridge, over the Mississippi River north of St. Louis: Piers were located to align with water intake towers downstream. To locate all piers on sound bedrock, the design featured a thirty-degree bend in the road at a pier in mid-river.
- Brush Creek Bridge, north of Baxter Springs, Kansas: The Marsh Rainbow Arch bridge design is constructed of concrete and steel.
- 11th Street Arkansas River Bridge in Tulsa, Oklahoma: Built in 1916-1917, it was the first major multi-span concrete bridge in Oklahoma with 18 spans and 1,470 feet long.
- Bridgeport Bridge over the Canadian River hear Bridgeport, Oklahoma: A 40 span, 3,945 foot long truss structure.
- Santa Rosa Cutoff and Laguna Cutoff in New Mexico: The two realignments improved roadway geometrics and shortened the travel distance by 107 miles.
- Route 66 in Mohave County, Arizona: The Oatman Highway through the Black Mountains dealt with the most challenging topography along the 2,448 mile long Route 66 and had the steepest grades and most curving alignment.
- Old Trails Bridge over Colorado River at Topock, Arizona: A 600-foot steel arch constructed in 1914.
- Colorado Street Bridge in Pasadena, California: The highest concrete bridge in the world upon completion in 1913.
- Arroyo Seco Parkway in Los Angeles: Upon completion in 1940, was the first "freeway" in the western United States.

Route 66 was established as a numbered route in April, 1926 but it was several years until 1938 when the last unpaved segment was paved. The Route 66 route number was decommissioned in 1985. During Route 66's 59-year life there were many changes in local alignment resulting from highway improvements and relocations. Yet, today, many civil engineering features of historic significance continue to remain.

10. **Text for Landmark plaque:** A draft of proposed text that will appear on the Landmark plaque that describes the Landmark and why it is worthy of recognition from a historic civil engineering point of view. (maximum of 100 words)

    The following is proposed text for a "generic" Landmark plaque such as might be placed at each end of Route 66. This text could also be used at other locations.

    Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago to Santa Monica. Notable civil engineering features and achievements occurred at many locations along the Route 66 alignment during its development. Route 66 is historically significant for its effect on regional and national economic, social and political development. [85 words]

    The following is proposed text that could be used by ASCE Sections for site-specific use. The text is the same as above, except that the final sentence has been deleted, leaving space for about 32 words to describe the local feature.

    Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago to Santa Monica. Notable civil engineering features and achievements occurred at many locations along the Route 66 alignment during its development. [Description of local feature to be inserted here. As an example: The Chain of Rocks Bridge was designed to align its piers with downstream water intake towers, thus minimizing hazards to river navigation. The 30-degree bend in the bridge at mid-river was necessary to place bridge piers on stable bedrock.]

11. **Proposed Landmark plaque location:** Ten Sections have participated in preparing this nomination of the Route 66 corridor and there are 15 features of historical significance identified in this nomination. Typically, ASCE at the national level will pay for one Landmark plaque for a Historic Landmark. There has been a suggestion from one member of the History and Heritage Committee that perhaps two Landmark plaques could be funded, one at each end of Route 66. Individual Sections may wish to pay for additional plaques to be located at other locations. For example, the St. Louis Section would like a plaque installed at Route 66 State Park in Missouri. This nomination package proposes that the decision on Landmark plaque locations be made after the History and Heritage Committee recommends designation as a NHCEL and after Board approval.

COMMITMENTS

12. **Owner commitment:** This nomination is unlike the typical Historic Civil Engineering Landmark nomination, which involves a single owner. As noted earlier in this nomination package, there are literally hundreds of jurisdictions that now own segments of what was, at one time, a portion of Route 66. It is not practical to seek and obtain statements of owner commitment for all the individual "pieces" of the former Route 66.

    There are 15 features of historical significance identified in this nomination. This nomination proposes that owner commitments be sought only at those locations where a Landmark plaque will be installed. At the time of this nomination submittal, the nominators have not requested letters of support from the owners of the 15 features.

13. **Property owner commitment for installation of Landmark plaque:** As suggested in the two preceding numbered items 11 and 12, it is proposed that property owner commitments be sought in conjunction with the selection of Landmark plaque locations. Because potential Landmark plaque locations are unknown at this time, the nominators have not requested letters of commitment for Landmark plaque installation.

14. **Section commitment**: Resolutions have been received from the 10 Sections and are included in Appendix A. Those resolutions support the nomination as a National HCEL. In concept, there could be many dedication ceremonies held by many Sections for this National HCEL. Some of these ceremonies might include unveiling of Landmark plaques, while other ceremonies might not. It is proposed that, after Board approval of this NHCEL, commitments to conduct dedication ceremonies and to provide continuing Landmark plaque maintenance be sought from each Section interested in installing a Landmark plaque.

The next section of this nomination package provides descriptions of 15 civil engineering features of historical significance to be included as part of the Route 66 National HCEL designation. Additional supporting information then follows in Appendices.

DESCRIPTIONS OF 15 CIVIL ENGINEERING FEATURES

The 15 civil engineering features that comprise this nomination package are discussed in this section of the nomination package. They are organized geographically by state and listed from east to west along Route 66.

Illinois and Missouri

Chain of Rocks Bridge (crossing Mississippi River)
The Chain of Rocks Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is:
https://www.nps.gov/places/chain-of-rocks-bridge.htm#:~:text=The%20Chain%20of%20Rocks%20Bridge%20was%20listed%20in,MO%20and%20Illinois%203%20in%20Madison%20County%2C%20IL

NPS Photo courtesy of Rhys Martin

Overview of Chain of Rocks Bridge

Chain of Rocks Bridge is one of the more interesting bridges in America. It's hard to forget a 30-degree turn midway across a mile-long bridge more than 60 feet above the mighty Mississippi. For more than three decades, the bridge was a significant landmark for travelers driving Route 66.

The bridge's colorful name came from a 17-mile shoal, or series of rocky rapids, called the Chain of Rocks beginning just north of St. Louis. Multiple rock ledges just under the surface made this stretch of the Mississippi River extremely dangerous to navigate. In the 1960s, the Corps of Engineers built a low-water dam covering the Chain of Rocks. That's why you can't see them today. Back in 1929, at the time of the construction of the bridge, the Chain was a serious concern for boatmen.

A massive undertaking in its day, the Chain of Rocks Bridge had a projected cost of $1,250,000. The bridge was to be a straight, 40-foot wide roadway with five trusses forming 10 spans. Massive concrete piers standing 55 feet above the high-water mark were to support the structure. Plans called for a four-mile fill along the road leading to the bridge's north end.

All that proved true except for one major change--in direction. Riverboat men protested the planned bridge because it was to run near two water intake towers for the Chain of Rocks pumping station. Navigating the bridge piers and the towers at the same time, the river captains argued, would be extremely treacherous for vessels and barges. Besides, the initial straight line would have put the bridge over a section of the river where the bedrock was insufficient to support the weight of the piers. Either way, the bridge had to bend.

Construction started on both sides of the river simultaneously in 1927, and the piers were complete by August of 1928. A grand opening was planned for New Year's Day 1929. The Mississippi River had other plans. Floods and ice slowed the work, and the Chain of Rocks Bridge finally opened to traffic in July of 1929.

Then, as now, actual expenditures for construction often exceed projected costs. Chain of Rocks Bridge cost just over $2.5 million--twice its original estimate. Fortunately, the public got its money's worth. The bridge

had beautifully landscaped approaches. A park-like setting around a pool and a large, ornate toll booth anchored the Missouri end. On the Illinois side, 400 elm trees lined the approach. The bridge brought travelers into St. Louis by way of the picturesque Chain of Rocks amusement park on the Missouri hills overlooking the river. On a clear day, crossing the Chain of Rocks Bridge was a real pleasure. That pleasure became an official part of the Route 66 experience in 1936, when the highway was rerouted over the bridge.

During World War II, Chain of Rock's colorful red sections had to be painted green to make the bridge less visible from the air. At the same time, wartime gas rationing reduced traffic. To offset these costs, the City of Madison increased bridge tolls to 35 cents per car, with an additional five cents per passenger—a fee structure that sets on its head today's system of special high-speed lanes reserved for cars carrying more, not fewer, people.

In 1967, the New Chain of Rocks Bridge carrying Interstate 270 opened just 2,000 feet upstream of the old bridge, which closed in 1968. The bridge deteriorated, and during the 1970s, Army demolition teams considered blowing it up just for practice. In 1975, demolition seemed imminent. Fortunately for the bridge, a bad market saved the day. The value of scrap steel plummeted, making demolition no longer profitable. At that point, the Chain of Rocks Bridge entered 20 years of bridge limbo--too expensive to tear down, too narrow and outdated to carry modern vehicles. In 1980, film director John Carpenter used the gritty, rusting bridge as a site for his science fiction film, Escape from New York. Otherwise, the bridge was abandoned.

Today you might say that the Chain of Rocks Bridge has completed a historic cycle. Built at the beginning of America's love affair with the automobile, it is now a reflection of America's desire not to ride in cars so often. During the 1980s, greenways and pedestrian corridors became increasingly popular, and a group called Trailnet began cleanup and restoration of the bridge. Linked to more than 300 miles of trails on both sides of the river, the old Chain of Rocks Bridge reopened to the public as part of the Route 66 Bikeway in 1999.

Because the bridge has not been significantly altered over the years, a visit there today conveys a strong sense of time and place, an appreciation for early-20th-century bridge construction, and outstanding views of the wide Mississippi River. The Chain of Rocks Bridge was listed in the National Register of Historic Places in 2006.

1. **Historic Significance:** Chain of Rocks Bridge is listed on the National Register of Historic Places and has significance under National Register criteria A and C. Criterion A is that: Property is associated with events that have made a significant contribution to the broad patterns of our history. Criterion C is that: Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity who's components lack individual distinction.
   The Statement of Significance in the National Register Registration Form includes the following. The Chain of Rocks Bridge, which crosses the Mississippi River and connects St. Louis, Missouri, with Madison County, Illinois, is eligible for the National Register under Criteria A and C for its significance in transportation and engineering. Under Criterion A the Chain of Rocks Bridge reflects an important era in the nation's transportation history as a notable link in the US Route 66 corridor. Revered as the "Main Street of America," Route 66 is distinct in the American interstate system of the early twentieth century as one of the most well-traveled roads to the West.

The history of Route 66 reflects the country's social, economic, and cultural development during this era. The Chain of Rocks Bridge played a pivotal role in the highway's history. The bridge served as the widest river crossing along the route, and provided access to the largest city between the route's two termini. The Chain of Rocks Bridge continued to carry Route 66 traffic until the late 1960s. After a period of non-use, the bridge now serves as a pedestrian and bicycle corridor.

The Chain of Rocks Bridge is also eligible under Criterion C for its significance in engineering. The bridge's steel truss design is notable for its graceful, long-span trusses, which are cantilevered over tapered concrete piers. Over one mile in length, it is one of the longest bridges of this type in the country. The thirty degree bend in the middle of the structure also makes it quite distinctive. The original design of the bridge was altered to include this bend in an effort to better accommodate river navigation and to adequately maneuver the river's problematic geological formations. The Chain of Rocks Bridge is an excellent example of early highway design and construction. Its size, scale, and unique configuration make it an important resource of American transportation history. The Chain of Rocks Bridge is nationally significant and its period of significance extends from its construction date of 1929 to the fifty-year milestone of 1956 [50 years before National Register listing].

2. **Contributions:** The Chain of Rocks Bridge contributed to the development of the St. Louis region as described in the National Register Registration Form: 'In 1936, the Chain of Rocks bridge was designated part of US Route 66. In the St. Louis area, Route 66 was originally routed across the Mississippi and into the city over the McKinley Bridge. In 1934, the route was changed to the MacArthur Bridge. Each of these corridors channeled traffic into St. Louis's warehouse district. Both options resulted in congested downtown traffic, so the highway was rerouted a third time in 1936 to cross over the Chain of Rocks Bridge. This was a much preferred course as it brought travelers into the city from the north."

3. **Uniqueness:** The Statement of Significance in the National Register Registration Form includes the following. The Chain of Rocks Bridge was constructed in the late 1920s to help alleviate the rising traffic congestion across the Mississippi River. The sixth vehicular bridge to be built over the Mississippi River in the area, the Chain of Rocks structure connected Madison County, Illinois, and northem St. Louis, Missouri. The bridge takes its name from a rocky area that extends across the river. Known as the Chain of Rocks, this natural formation often made river navigation troublesome. St. Louis engineer Baxter L. Brown designed the structure, which was to cost $1.25 million. Brown's design called for a straight roadway with five continuous, rigid-connected trusses forming ten spans. Massive concrete piers supported the structure and stood approximately fifty-five feet above the high water mark. Approaches on both ends were to consist of simple trusses with the north end having a four-mile long fill.

   Brown's design for the bridge had to be slightly altered, however, due to the surrounding terrain and issues with existing structures. The bridge was to be built near the Chain of Rocks water pumping station, and its proposed location was upstream from two existing water intake towers associated with the station. Navigating around both the bridge and the tower would make river travel through the area difficult, and after riverboatmen strongly protested the plan, the War Department ordered the configuration of the bridge to be changed. Piers were repositioned to align with the water intake towers, thus easing navigation of barges and other vessels through the river's shoal area. In addition, the initial straight alignment would have put the bridge in a location where there was not sufficient bedrock to support it. The new design featured a thirty-degree bend in the road at a pier in mid-river [as shown in the photo at the beginning of this Chain of Rocks Bridge description].

4. **Date of original construction:** Constructed 1927 to 1929
   1936 – Route 66 routed over the bridge
   1968 – closed to vehicular traffic
   1999 – reopened to pedestrian and bicycle traffic
5. **Names of key engineers**: Designed by Baxter L. Brown.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/28891353
8. **References:**

Cassity, Michael. "Route 66 Corridor, National Historic Context Study." Route 66 Corridor Preservation Program, National Trails System Office-Intermountain Region, National Park Service, Santa Fe, New Mexico, 2004.

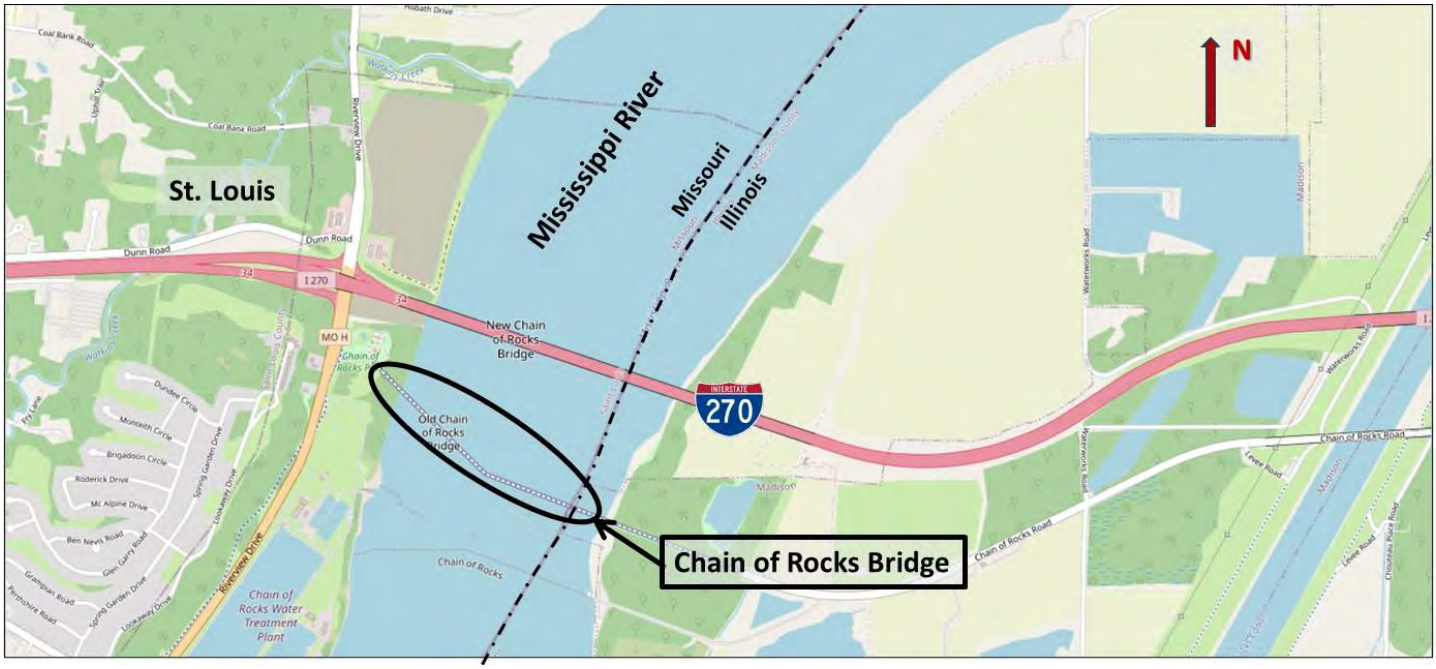
Fraser, Clayton B. "Chain of Rocks Bridge." Historic American Engineering Record Inventory, Missouri Historic Bridge Inventory, Missouri Highway and Transportation Department, August 1994.

"The Old Chain of Rocks Bridge" Trailnet Brochure.

Seratt, Dorothy and Terri Rybum-Lamont, Route 66 Association of Illinois. Multiple Property Documentation Form, "Historic and Architectural Resources of Route 66 Through Illinois." 1997.

Location: 10820 Riverview Drive, St. Louis, MO 63137 38 45 51.8 N 90 10 52.9 W
Chain of Rocks Bridge parallels Interstate 270 along Chain of Rocks Rd. between Riverview Dr. in St. Louis, MO and Illinois Route 3 in Madison County, IL. Free parking is available in Illinois at the bridge entrance on Chain of Rocks Road and at Chain of Rocks Park, south of the bridge on Riverview Drive on the St. Louis side.

Local and vicinity maps:



Missouri

Meramec River Bridge

The Meramec River Bridge is listed on the National Register of Historic Places.
Source of the following photo and Overview is: https://www.nps.gov/places/meramec-river-us-66-bridge.htm

Photo source: National Park Service

Overview of Meramec River Bridge

After its designation in 1926, the course Route 66 took from Illinois to California did not remain static. As practical and political concerns arose, authorities rerouted it to meet them. Meramec River U.S. 66 Bridge resulted from this rerouting. The bridge and the road it supported helped to transform the surrounding area from a wealthy retreat center to a working-class town. More recently, the bridge has become a centerpiece of a state park devoted to Route 66.

Local government mostly funded and maintained highways and bridges before the late 19th century. Boats and trains were the preferred means of transportation before that time, and roads were expensive. In the late-19th and early-20th centuries, bicycle and automobile enthusiasts began establishing good roads associations to lobby for highway infrastructure, and the States and Federal government responded with funding for transportation.

A combination of state and federal actions developed Missouri's 20th-century road system. In response to good roads pressure, Missouri established a state highway system in 1909 and an inter-county network road system in 1913. In 1916, the United States passed the Federal Highways Act to begin funding interstate roads. Missouri responded in 1917 by creating a state road fund, State Highway Board, and State Highway Engineer to supplement federal funding. The most far-reaching state legislation occurred in 1921, when the Centennial Road Law made the state solely responsible for road building. Missouri established a Bureau of Bridges the same year to deal solely with the issue of crossings.

Bridge building increased dramatically in Missouri during the 1920s. In 1918, the state funded a mere 35 new bridges. By 1931, the Bureau of Bridges had prepared designs for 2,465 additional bridges. When the United States designated Route 66 as a federal highway in 1926, Missouri's existing infrastructure enabled its routing across the state.

Route 66 initially bypassed the lower Meramec River, which late 19th-century hotel and railroad operators had made a destination for well-off area residents. The grandest resort was the Meramec Highlands, established in 1895 ten miles upriver from the eventual bridge site. The 1904 World's Fair in St. Louis introduced a new audience to the area as well. In 1925, a working-class resort called Times Beach opened there.

Route 66 was rerouted from Gravois Road to Chippewa in southern St. Louis in 1931, requiring a Meramec River crossing. The Meramec River U.S. 66 Bridge that resulted is a 1009-foot-long 30-foot-wide steel structure, and the Bureau of Bridge engineers employed a Warren deck truss type in its design. Truss bridges use a triangular placement of beams to stiffen and strengthen the roadbed.

Horizontal "chords" at the top and bottom of the bridge's sides are connected by vertical posts and diagonals. Abutments are used to provide additional support. Truss patterns work very well with metal materials, and the type became popular in the middle of the 1800s, when iron was commonly used in bridge construction. James Warren and Theobald Manzani patented the Warren truss, defined by its placement of the chords to create equilateral triangles, in 1848. The bridge's type [rigid-connected Warren deck truss] makes it a rarity in Missouri, whose flat rivers often provide insufficient clearance for this type of structure. Most of Missouri's few deck truss bridges were constructed in the 1920s and 1930s and all were designed by the state highway department. Only four rigid-connected Warren deck truss bridges remain in the state, including the Meramec River U.S. 66 Bridge, which builders completed in 1932.

The bridge supported subsequent development of the area. During the Depression, Times Beach transitioned into a permanent community because of the relative affordability of its small homes. In the 1940s, as commuting supported by the bridge became a popular option and river-based recreation developed further, more people moved to this section of shoreline. Times Beach incorporated in 1954, and the state added an auxiliary bridge for eastbound traffic two years later. By the late 1960s, construction of Interstate 44 had begun and traffic was permanently rerouted to the 1956 bridge relegating the Meramec River U.S. 66 Bridge to local traffic. By 1985 Route 66 was entirely decommissioned in the state. Interest in the road remained, however, and sparked Missouri's 1999 creation of the Route 66 State Park. The 419-acre park interprets and showcases the surrounding environment and portions of Route 66 within its boundary, including the Meramec River U.S. 66 Bridge. Although listed on the National Register of Historic Places in

2009. That same year, the bridge was closed to all traffic by the Missouri Department of Transportation (MoDOT). In 2010, the bridge decking was removed to preserve the support structure by taking the weight off the aging truss. MoDOT) had plans to demolish the remaining bridge structure if a viable redevelopment plan was not in place by the end of 2016. Thanks to a collaborative effort and financial gifts from donors, Landmarks Association and Philip and Judith Stupp, fundraising efforts are underway to explore options to rehabilitate the bridge. Missouri State Parks is now the owner of the bridge.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** Only four rigid-connected Warren deck truss bridges remain in the state of Missouri; the Meramec River Bridge is one of them.
4. **Date of original construction:** Construction completed in 1932.
   2009 – bridge closed to all traffic
   2010 - decking removed
5. **Names of key engineers**: Designed by the Bureau of Bridges under the State Highway Commission. Constructed Frazier-Davis Construction Company. Adrian W. Frazier completed a civil engineering degree from Washington University in 1909.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/63817983
8. **References:**

American Institute of Steel Construction, Inc. Prize Bridges, 1928 - 1936. New York: Selfpublished, (1937).

Bensman, David and Mark R. Wilson, "Iron and Steel," Online Encyclopedia of Chicago at: http://www.encvclopedia.chicagohistorv.or&-pages/653.html.

Brown, David J. Bridges. New York: MacMillan Publishing Company, 1993.

Federal Works Agency. Narrative Report of the Fiscal Study by the Missouri State-Wide Highway Planning Survey. (Washington, D.C): Public Roads Administration, 1940.

Fraser, Clayton B. "HAER Inventory: Missouri Historic Bridge Inventory, Meramec River Bridge, MHTD: J 421." 4 August 1994.

FRASERdesign. "Missouri Historic Bridge Inventory," April 1996. Unpublished bridge survey. On file with Missouri Department of Transportation and Missouri Department of Natural Resources, Jefferson City, MO.

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"A History of Times Beach," Show Me Route 66, April 2000 (pages not numbered). Volume 12:1.

Missouri Department of Natural Resources, Division of State Parks. Route 66 State Park. (Jefferson City, MO): Self-published, (2005).

State Highway Commission of Missouri. Eighth Biennial Report. (Jefferson City, MO): Selfpublished, 1931.

State Highway Commission of Missouri. Seventh Biennial Report. (Jefferson City, MO): Selfpublished, 1930.

Workers of the Writers' Program of the Works Progress Administration. Missouri - The WPA Guide to the "ShowMe" State. St. Louis: Missouri Historical Society Press, 1998 (reprint; original edition 1941).

Location: The Meramec River U.S. 66 Bridge is located approximately two miles east of Eureka, MO, within the Route 66 State Park along the historic alignment of Route 66. The Meramec River separates the visitor center and east side of the bridge from the bulk of the park and the west side of the bridge. To access the east side of the bridge, take Interstate 44 exit 266/Lewis Rd. and follow the signs to the park. To access the west side of the bridge, take Interstate 44 exit 265/Williams Rd. and follow signs to the park. Exit 265 is accessible only to eastbound traffic, so cars traveling west will need to first take exit 264 to reverse direction.

The east end of the bridge is located at: 38 30 21.2 N 90 35 29.0 W

Local and vicinity maps:

Kansas

Brush Creek Bridge

The Brush Creek Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is:
https://www.nps.gov/places/brush-creek-bridge.htm#:~:text=Built%20in%201923%2C%20the%20130-foot%20bridge%20carried%20Route,the%20National%20Register%20of%20Historic%20Places%20in%201983

NPS Photo courtesy of Rhys Martin

Overview of Brush Creek Bridge

Three and a half miles north of Baxter Springs, Kansas stands the elegant Brush Creek Bridge, the only remaining example of a fixed Marsh Rainbow Arch bridge left on Kansas Route 66. Two other examples, the Spring River and Willow Creek bridges, were dismantled in the early 1990s.

The Brush Creek Bridge, also known as the Rainbow Bridge, was part of a project in the early 1920s to connect the mining communities of Galena, Riverton, and Baxter Springs with a concrete road. The unique and graceful Rainbow Arch design was the brainchild of James Barney Marsh, a bridge designer from Iowa, who patented the concrete and steel truss design in 1912. Marsh spent the next two decades erecting approximately 70 of his Rainbow Arch bridges throughout the Midwest, most of them in Kansas, where approximately 35 still remain.

The bridge consists of a pair of arches disposed between two abutments, with concrete banister railings aligned…[with the edges of] the bridge deck. The original patents called for slidable wear plates, molded into the concrete where the bridge deck came into contact with the…abutments. This is important, as one of the main benefits of this design was to allow for the expansion and contraction of the reinforced concrete bridge under varying conditions of temperature and moisture. Built in 1923, the 130-foot bridge carried Route 66 motorists over Brush Creek until it was bypassed by the interstate in the 1960s.

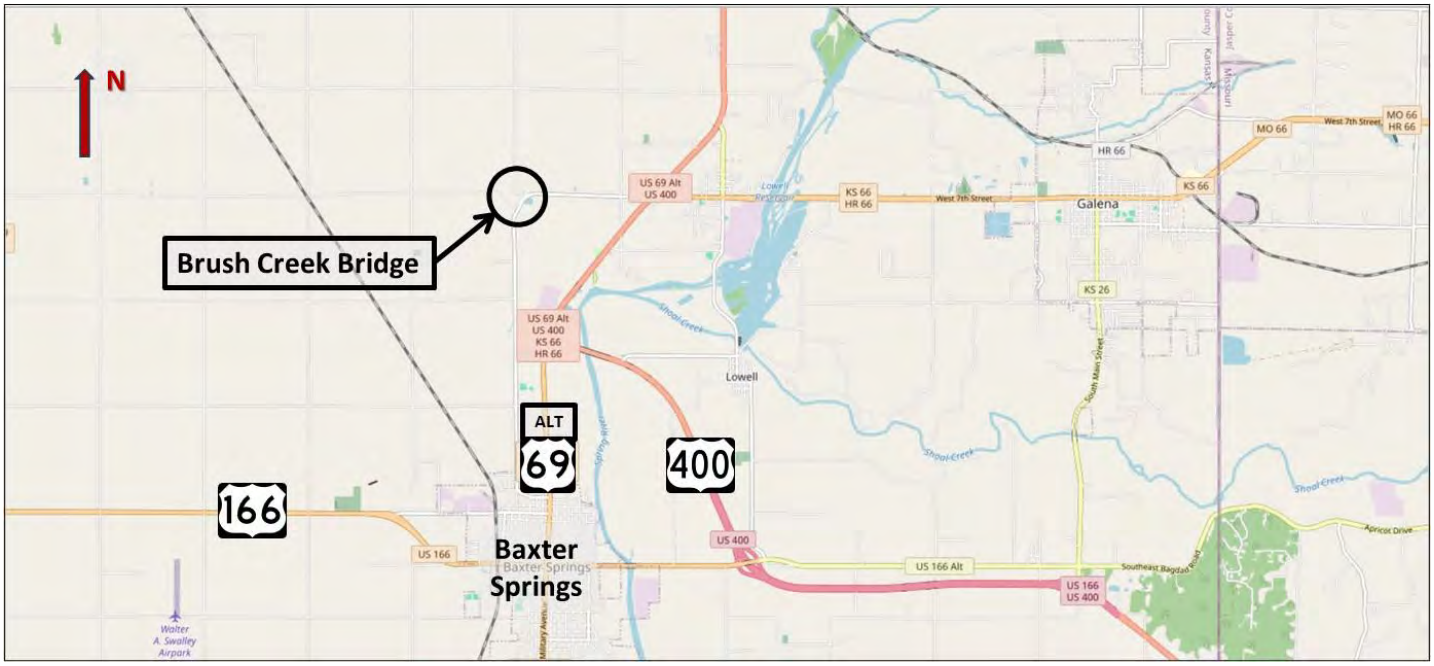
The Brush Creek Bridge was listed in the National Register of Historic Places in 1983. In 1992, upon seeing two other Marsh Arch bridges on the short stretch of Route 66 through Kansas dismantled, the Kansas Historic Route 66 Association worked successfully to save the Brush Creek Bridge. At this time, a new bridge was built just to the east of the Brush Creek Bridge to redirect and accommodate the increasing needs of local traffic. Two years later, the Association and the Cherokee County Commission combined efforts to make important repairs to the Brush Creek Bridge. In 2005, the National Park Service Route 66 Corridor Preservation Program provided additional Cost-Share Grant funds to assist with repairs to the concrete superstructure.

The Brush Creek Bridge can be reached by driving north on N. Willow Ave. (Southeast 50th) approximately 3.5 miles out of Baxter Springs, KS. Although local traffic has been rerouted around the bridge, it is still possible to walk or drive across the bridge.

1. **Historic Significance:** Served as an element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1923 to 1924.
   1926 – newly designated Route 66 routed over the bridge
   Circa 1992 – replacement bridge built nearby
5. **Names of key engineers**: Bridge designed by engineer James B. Marsh.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Inventory – Nomination Form. Available at: https://www.kshs.org/resource/national_register/nominationsNRDB/Cherokee_BrushCreekBridgeNR.pdf

Location: 37 04 24.5 N 94 44 27.0 W

Local and vicinity maps: The Brush Creek Bridge can be reached by driving north on N. Willow Ave. (Southeast 50th) approximately 3.5 miles out of Baxter Springs, KS. Although local traffic has been rerouted around the bridge, it is still possible to walk or drive across the bridge.



Oklahoma

11th Street Arkansas River Bridge

The 11th Street Arkansas River Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/11th-street-arkansas-river-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of 11th Street Arkansas River Bridge

Built in 1916-1917 over the Arkansas River in Tulsa, the 11th Street Arkansas River Bridge is significant as the first major multi-span concrete bridge in Oklahoma. The bridge became a critical link between downtown Tulsa and the oil fields to the west. The mid-1910s was a period of great activity for Tulsa because of the booming oil economy. Across the Arkansas River, West Tulsa expanded rapidly to become a busy area for refining oil. The increase in traffic and trucking associated with the oil business made replacing the earlier wooden bridge a necessity.

Built by the Missouri Valley Bridge and Iron Company for $180,000, the 11th Street Arkansas River Bridge is a multi-span concrete arch bridge with 18 spans set on piers sunk into bedrock. Harrington, Howard and Ash of Kansas City, a firm that designed many bridges in the Midwest, engineered the bridge. Completed in 1917 and regarded as an architectural beauty with all modern features, the bridge, at 1,470 feet long and 34 feet wide, was one of the longest concrete structures in the Midwest. It supported a railroad track in the center and single lane of vehicular traffic on each side with sidewalks adjacent to the exterior lanes. The original

design included a classical balustrade and Victorian-era lighting. In 1929, the installation of new Art Deco style guardrails and lighting fixtures updated the bridge. These lights are no longer extant.

Tulsan Cyrus Avery served as County Commissioner from 1913 to 1916, and was involved with construction of the bridge. In 1924, the Federal Government appointed Avery as a consulting highway specialist and assigned him the task of creating a U.S. highway system. Recognizing the economic impacts of these highways, Avery became a strong proponent of a route from Chicago to Los Angeles [eventually to be designated as Route 66] that would pass through his hometown of Tulsa. Already in existence as the primary crossing over the Arkansas River, the 11th Street Bridge became a major determining factor in defining the path of Route 66 to and through Tulsa.

A project in 1934 widened the bridge to its present width of 52 feet 8 inches and included construction of a second arch structure downstream of the 1916 structure and the connection of the new and old bridges with a single deck. New sidewalks were also built on both sides of the bridge. After completion of the project, the new 40-feet curb-to-curb width allowed the bridge to accommodate four lanes of traffic. The bridge remained in service until 1980, when it closed to traffic. In 1996, the bridge was listed in the National Register of Historic Places.

In 2003, the voters of Tulsa County approved a series of projects as part of the Vision 2025 initiative, one of which involves promoting and enhancing Route 66 in Tulsa. Plans are underway to implement the Vision 2025 projects with repairs to the 11th Street Bridge and the opening of a visitor center at the site. In 2004, the bridge officially received a new name, the "Cyrus Avery Route 66 Memorial Bridge," in honor of the man responsible for bringing Route 66 through Tulsa. The Cyrus Avery Memorial Plaza is located at the north end of the bridge.

1. **Historic Significance: T**he first major multi-span concrete bridge in Oklahoma.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** At the time of its construction in 1917 the bridge was one of the longest concrete structures in the Midwest. It supported a railroad track in the center and single lane of vehicular traffic on each side with sidewalks adjacent to the exterior lanes.
4. **Date of original construction:** Constructed 1916 to 1917
   In 1934 a project widened the bridge to its present width of 52 feet 8 inches and included construction of a second arch structure downstream of the 1916 structure and the connection of the new and old bridges with a single deck. New sidewalks were also built on both sides of the bridge.
   1980 – Closed to traffic
5. **Names of key engineers**: Designed by the firm of Harrington, Howard and Ash of Kansas City.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86510535
8. **References:**

Black, Archibald. The Story of Bridges. New York: McGraw-Hill, Inc., n.d.
Butler, William. Tulsa 75: A History of Tulsa. Tulsa: Metropolitan Tulsa Chamber of Commerce, 1974.

Harrington, Howard and Ash, Consulting Engineers. "Plans and Drawings of 11th Street Arkansas River Bridge." 1916.

Spans of Time: Oklahoma Historic Highway Bridges. Oklahoma City: Planning Division, Oklahoma Department of Transportation, 1993.

Teague, Tom. Searching for 66. Springfield, Illinois: Samizdat House, 1991.

"The Arkansas: A River to Cross." Tulsa: Thomas Gilcrease Institute of American History and Art. Historical Leaflet No. 6, 1965.

Wallis, Michael. Route 66: The Mother Road. New York: St. Martin's Press, 1990.

Works Progress Administration, Federal Writers' Project. American Guide Series. Tulsa: A Guide to the Oil Capital. Tulsa: The Mid-West Printing Company, 1938.

Location: 36 08 39.7 N 96 00 11.8 W

Local and vicinity maps: The 11th Street Arkansas River Bridge spans the Arkansas River on historic Route 66 between the Southwest Boulevard Bridge and Interstate 244 Bridge in Tulsa, OK. The bridge is closed to vehicle and pedestrian traffic.

Bridge # 18 at Rock Creek

Bridge # 18 at Rock Creek is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/bridge-18-rock-creek.htm

NPS Photo courtesy of Rhys Martin

Overview of Bridge # 18 at Rock Creek

Of the great number of bridges built on Route 66, Bridge #18 at Rock Creek is one of the better examples of the remaining steel-truss bridges in Oklahoma. Truss bridges were developed in the mid-1800s and used extensively until World War II, when technology changed and more standardized concrete designs were developed.

In terms of lineage, the ancestor of the steel-truss bridge is the beam bridge, usually built of wood and limited in the amount of weight it could support. As a result, early roads generally followed old trails where rivers and creeks were shallow. Even bridges that were quite long were located at shallow crossings.

One of the oldest types of modern bridges, truss bridges were altogether something new. Bridge #18 at Rock Creek is composed of connected elements, in this case steel beams, which stressed by tension and compression (or sometimes both) in response to dynamic and heavier loads. Because of truss bridges, deeper water could be safely crossed. Roadways no longer had to meander from one low-water crossing to another. Instead they could be built along the shortest route. Bridge #18 is a Parker through truss bridge. Its

ancestor is the beam bridge, while its descendants are today's cantilever, truss-arch, and lattice bridges. Unusual for a steel truss bridge, #18 has brick decking.

Bridge #18 is an illustration of the bridges of its era. Route 66 travelers who crossed Rock Creek near Sapulpa during the late 1920s would have thought the bridge the most dynamic design of its time, and it was. Constructed in 1924, #18 served as part of the old Ozark Trail, one of the few marked U. S. roads at the time. It became part of Route 66 in 1926. Just over a decade later the State's entire section of Route 66 was paved. The bridge served Route 66 until the construction of a new alignment in 1952. The bridge was listed in the National Register of Historic Places in 1995.

1. **Historic Significance:** Bridge No. 18 is listed on the National Register of Historic Places and has significance under National Register criteria A and C. Criterion A is that: Property is associated with events that have made a significant contribution to the broad patterns of our history. Criterion C is that: Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity who's components lack individual distinction. As stated in the National Register of Historic Places form, Bridge No. 18 at Rock Creek, constructed in 1924 southwest of Sapulpa, is significant as an excellent example of a Parker Through Truss bridge on Route 66 in Oklahoma. The Parker Through Truss is a Pratt Truss with a polygonal top chord. This type of bridge design was used extensively along Route 66 during the first quarter of the twentieth century for large bridges. The Pratt Truss was developed in 1844 and was used extensively until the beginning of World War II when bridge technology changed and new and better designs were developed.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** Bridge No. 18 has brick decking on a steel Parker Through Truss.
4. **Date of original construction:** Constructed in 1924. Likely closed in 1952.
5. **Names of key engineers**: Designer unknown. Constructed by the Concrete and Steel Construction Company, a New York company with an office in Joplin, Missouri.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86510015
8. **References:**
   County Commissioners Report, November 16, 1921, p.l25.
   Snyder, Tom. The Route 66 Traveler's Guide and Roadside Companion. New York: St. Martin's Press, 1990.
   State of Oklahoma Department of Highways. "Plans and Profile of Proposed State Highway including Bridge No. 18 over Rock Creek," 1924-1925.

Location: West Ozark Trail, Sapulpa, OK 35 59 37.2 N 96 08 10.2 W

Local and vicinity maps: (following page)


N
44
Sapulpa
ALT
75
Rock Creek
Bridge #18 at Rock Creek
Sapulpa City Golf Course
West Line Street
West Taft Avenue
East Taft Avenue
OK 97
OK 66
OK 117
Sooner Subdivision
Roy Joseph Turner Turnpike
Governor Roy Joseph Turner Turnpike
West Bryan Avenue
East Bryan Avenue
Oknoname 037068 Dam
Kelly Lane Park

Bridgeport Bridge

The Bridgeport Bridge is listed on the National Register of Historic Places.

Photo credit: Oklahoma Department of Transportation

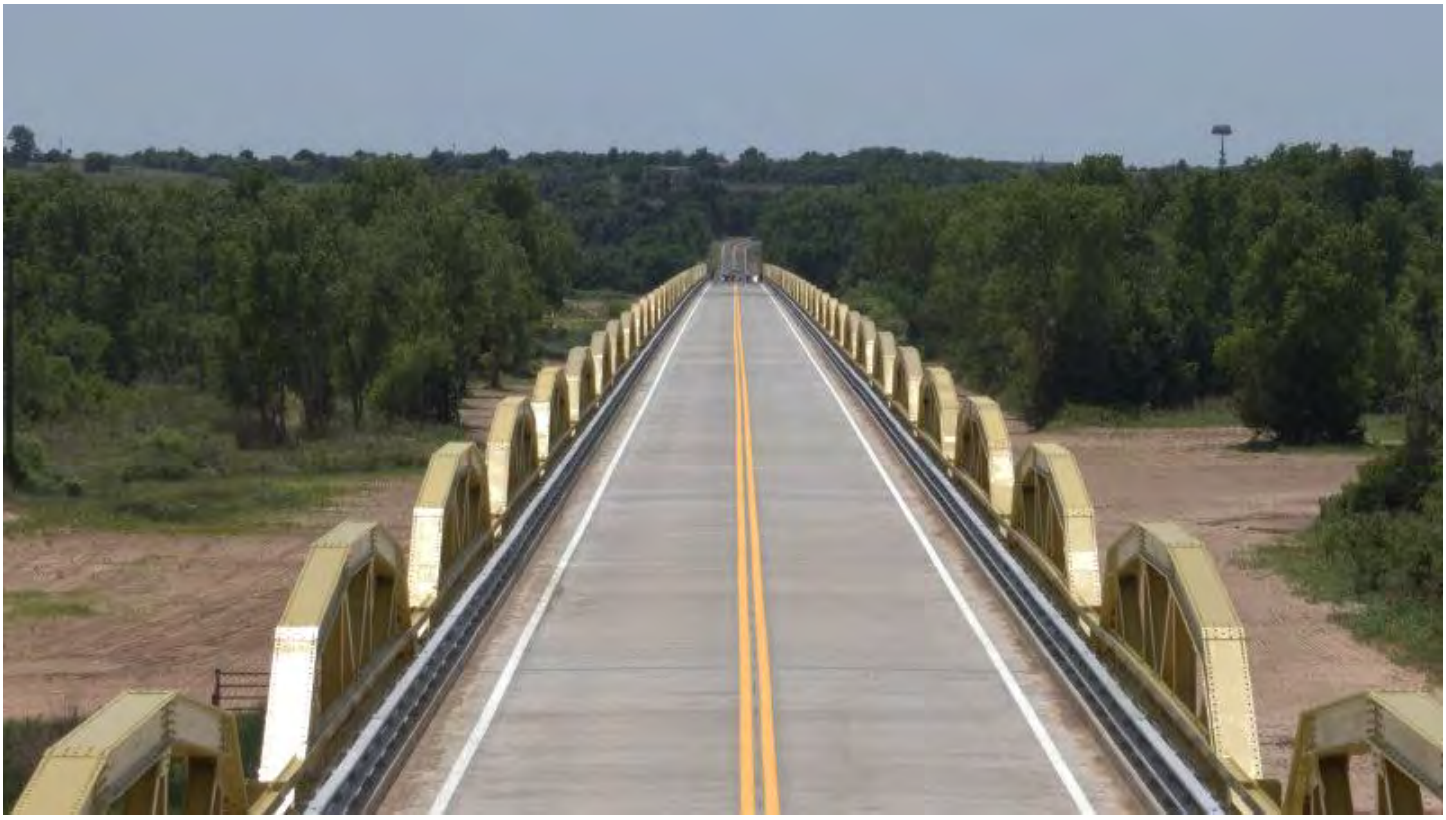


Photo credit: Oklahoma Department of Transportation

Photo credit: Oklahoma Department of Transportation

Overview of Bridgeport Bridge (also known as the William H. Murray Bridge)

The two following paragraphs are from a FY2020 BUILD grant application.

> The existing bridge was constructed in 1933 as part of the original Route 66 corridor. The approximately 3,945-foot long Warren[3] pony truss[4] structure consists of thirty-eight 100-foot long "camelback" pony truss spans, with two 36-foot long multi-beam approach spans at either end.
>
> The project proposed in this application will reconstruct the bridge on its current alignment with a 28-foot width. The reconstruction of the bridge will include replacing the substructure, deck and entire superstructure. The historic pony trusses will be re-attached to maintain the historic integrity of the original bridge. The bridge will also be repainted and restored to its original look. Maintaining the bridge's original look and feel, as well as the majority of its original truss members, will preserve the historic context for years to come. [Note: Reconstruction has now been completed.]

The two following paragraphs are from the National Register Registration Form

[3] Although the two reference sources cited here both refer to Warren trusses, members of the ASCE History and Heritage Committee believe that they would more properly be described as Pratt trusses with counter diagonals in the middle panel and with a polygonal top chord.

[4] A pony truss is a truss bridge which allows traffic to travel between parallel trusses, but the tops of the trusses are not joined together with cross braces.

The William H. Murray Bridge, also known locally as The Pony Bridge because of the truss system it uses, is one of the most prominent road features on Route 66 in Oklahoma because of the enormous length of the bridge. About three-fourths of a mile long, the bridge is made of thirty-eight spans with Warren pony trusses, each a hundred feet long. In addition to being the longest bridge on Route 66 in Oklahoma, it is also the second longest extant bridge in the state. While the normal road width is twenty feet, the bridge roadway widens slightly to twenty-five feet. The bridge was constructed in 1932-1933 and put into use in 1934 when the road to the west was completed. The approaches to each end of the bridge are protected with four sections of concrete guardrails. Plaques commemorating the construction of the bridge, and the public and private officials responsible, are located on concrete panels adjacent to the guardrails. The plaques also honor the company responsible for its construction; the Kansas City Bridge Company.

Still an awesome bridge when encountered by the modem traveler, it was even more so in the 1930s when the nation's traveling public crossed the continent on Route 66. The reason for its vast length, of course, is the wide flood plain of the South Canadian River. Concrete piers rise from that sandy stretch to support the junction of the separate spans, with each pier consisting of two columns joined by a concrete panel. The trusses themselves are characteristic Warren Pony trusses. Each one has the W pattern of diagonal braces connecting with the upper chord at each of its five angles, further braced by vertical steel members rising from the lower chord and intersecting the upper chord at each of the five angles, and with an X brace in the center. With such attention to the detail of each truss, the strength and endurance of the bridge is immediately apparent. In fact, the standard reference on bridges in Oklahoma[5] refers to this bridge as "a powerful demonstration of the strength and versatility of the standard-design camelback pony" configuration. That description holds for each span of the bridge. When multiplied times thirty-eight, the power, the strength, and the sheer force of this structure become obvious.

William H. Murray served as a U.S. Congressman from Oklahoma and Governor of Oklahoma.

1. **Historic Significance:** (From a FY2020 BUILD grant application) This bridge was suggested by Oklahoma Department of Transportation to be the most historically significant bridge in the state. Oklahoma does not have the notable old 19th century cast and wrought iron truss bridges of states in the eastern United States. However, it has two unusual truss bridge forms that are unique to the state. The state is also noted for its extremely long [bridges made of] simple-span truss[es]…, most of which are created from state-standard pony truss spans. Of those ultra-long…bridges [with pony truss spans], this bridge is by far the longest [3,945 feet] example and the best example. It has been reported to be the longest bridge of any kind in Oklahoma.
   The Bridgeport Bridge is widely considered Oklahoma's most significant historic bridge. The bridge is significant as a contributing element to the NRHP listed segment of Route 66 from Bridgeport Hill-Hydro, which is also part of the Route 66 National Scenic Byway.

   (from National Register Registration Form) While all the bridges in this section of Route 66 meet the requirements [for historic significance] under Criterion A, one bridge also fulfills the requirements [for historic significance] under Criterion C. The William H. Murray Bridge over the South Canadian River is an exceptional feature by any standard. This is, first of all, an excellent example of a camelback pony truss bridge with its characteristic feature of exactly five angles in the upper chord of each span, which, according to the standard

[5] Joseph E. King, Spans of Time: Oklahoma Historic Highway Bridges (Oklahoma City: Oklahoma Department of Transportation, 1993)

reference on Oklahoma's historic bridges[6], "permitted greater standardization and better predictability on how the structure would behave in service." Indeed, that reference uses this particular bridge as "a powerful demonstration of the strength and versatility of the standard-design camelback pony." Secondly, this was an engineering accomplishment in its own right, aside from the particular design of the bridge. The state highway department proudly called it at the time it was under construction, "the most pretentious bridge engineering project ever undertaken by the Oklahoma Highway Commission"[7]. It noted, further, that "when completed it will be the longest bridge in Oklahoma, and one of the longest in the entire Southwest." This bridge, moreover, proved to be the defining feature of the route taken by the El Reno Cutoff of Route 66 and provided an efficient, reliable way for travelers to cross the South Canadian River.

It should not be forgotten that when the bridge was completed and dedicated, allowing the opening of new, important segment of Route 66, the William H. Murray Bridge was both an engineering accomplishment in its own right and also a symbol of the triumph of the organization of the resources of society to facilitate a transformation in life not just locally but along the full length of Route 66.

2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** It is significant for its scale and length, as the second longest bridge in Oklahoma and the longest Route 66 bridge west of the Mississippi River. It is also significant for its repeating camelback truss configuration.
4. **Date of original construction:** Constructed in 1933
   Circa 2020 - closed to traffic
   2022 to 2024 – reconstructed while maintaining its historic appearance
   2024 – bridge reopened to traffic
5. **Names of key engineers**: Designer unknown. Constructed by Kansas City Bridge Company. **Photographs:** Included above.
6. **Photographs: Included above.**
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86509959
8. **References:**

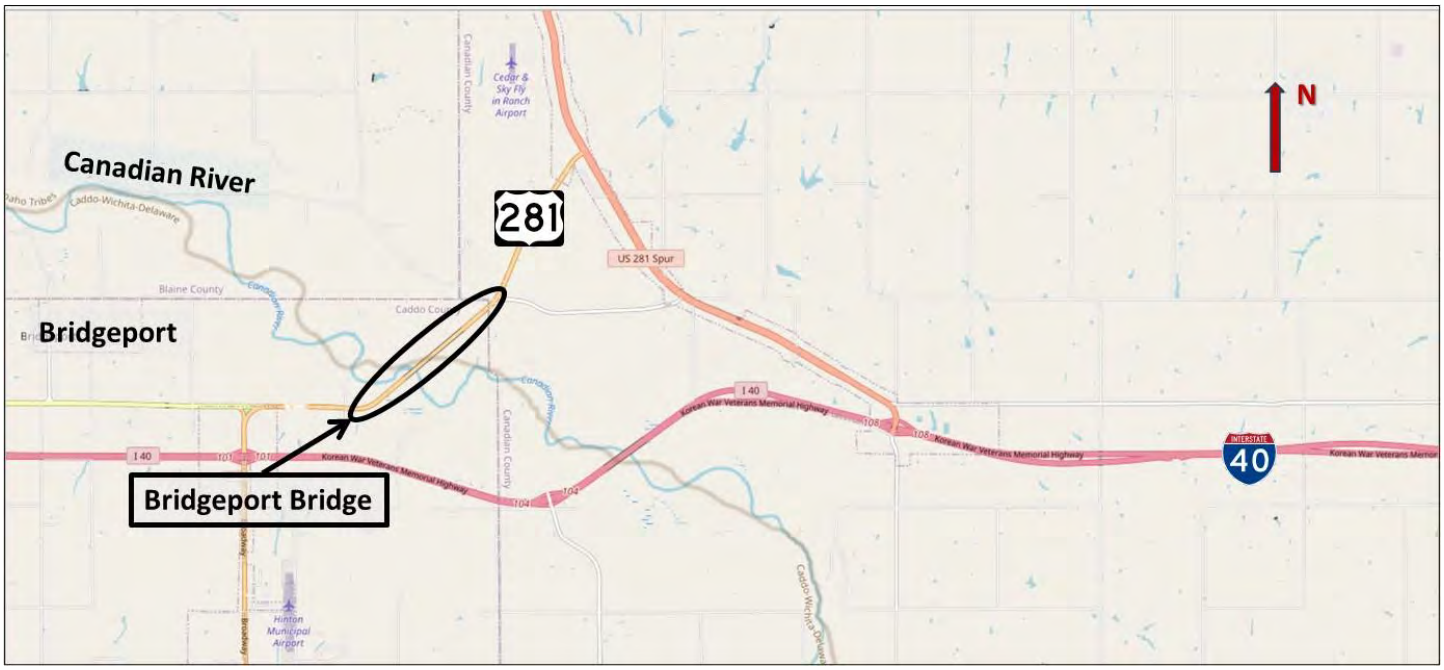
El Reno Daily Tribune, July 14,21,29, August 2, 3,4,7, 9,29, September 11, October 7,13, November 21,1932.
Hinton Quest Club, "History of Bridgeport, Oklahoma," unpublished manuscript in files of Oklahoma Historical Society, Oklahoma City.
King, Joseph E., Spans of Time: Oklahoma Historic Highway Bridges (Oklahoma City: Oklahoma Department of Transportation, 1993), 42.
Little, Leon "These Were my Kicks on Route 66," in Oklahoma Route 66 Association, Memories on Route 66 (Bethany, Oklahoma: Oklahoma Route 66 Association, 1991).
Oklahoma Department of Transportation, Files of Plans and Designs of Oklahoma Roads, Federal Aid Projects 164, 204.
Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1929-1930 Inclusive, (Oklahoma City, 1931),
Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1931-1932 Inclusive, (Oklahoma City, 1933).

[6] Ibid.
[7] Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1931-1932 Inclusive, 49

Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1933-1934 inciusive, (Oklahoma City, 1935).
Oklahoma Route 66 Association, Memories on Route 66 (Bethany, Oklahoma; Oklahoma Route 66 Association, 1991),
Rittenhouse, Jack D., A Guide Book to Highway 66 (Los Angeles: privately published, 1946; reprint, Albuquerque: University of New Mexico Press, 1989,2000).
Ross, Jim, Oklahoma Route 66 (Arcadia, Oklahoma: Ghost Town Press, 2001).
Scott, Quinta, and Susan C. Kelly, Route 66: The Highway and its People (Norman: University of Oklahoma Press, 1988).
Joseph B. Thoburn, "The Roads of the Fore-Runners," Biennial Report of State Highway Commission, 1925 to 1926 Inclusive (Oklahoma City, 1927).

Location: Northeast end: 35 32 50.1 N 98 18 45.4 W
Southwest end: 35 32 24.5 N 98 19 22.8 W

Local and vicinity maps:



Texas

Bridge over the Chicago, Rock Island, and Gulf Railroad

The Bridge over the Chicago, Rock Island, and Gulf Railroad is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/route-66-bridge-over-chicago-rock-island-and-gulf-railroad.htm#:~:text=It%20was%20listed%20in%20the%20National%20Register%20of,part%20of%20a%20frontage%20road%20for%20Interstate%2040

NPS Photo by Judson McCranie

Overview of Bridge over the Chicago, Rock Island, and Gulf Railroad

The Route 66 Bridge over the former Chicago, Rock Island, and Gulf Railroad right-of-way is a Route 66 landmark that travelers might miss if they're not looking for it. The bridge stands in the arid plains eight miles east of Shamrock, five-and-a-half miles west of the Oklahoma State line, and 12 miles southeast of Wheeler.

The Kiowa and Comanche Indians once lived in the area, hunting great herds of buffalo. Anglos arrived in the late 1800s, replacing the buffalo with crops, sheep, and Hereford cattle. During the 1920s, agriculture in the Texas Panhandle boomed. The oil industry emerged, generating substantial growth in Amarillo, which became a commercial and corporate center of the region. Highways had to be built to connect the relatively isolated Panhandle to the rest of the country.

Paved in 1932, Route 66 was the primary road in this development. The highway passed through numerous small towns, most of which had fewer than 500 residents. The high plains of the Panhandle are relatively flat, so the area didn't require many bridges, which makes the bridge in Wheeler County somewhat unusual. The bridge passed over the railroad tracks for the Chicago, Rock Island, and Gulf Railroad running 25 feet below the roadbed of Route 66.

The bridge designer was concerned that steel I-beams supporting the bridge deck above the railroad track would be exposed to blasts of coal smoke and water vapor from steam engines passing below. To address this problem, the designers did something a little unusual for 1932. They encased the steel beams in concrete. The result is a five span, 126-foot bridge with a main span of concrete-encased beams. Other spans are made of reinforced concrete girder units resting on reinforced concrete pile bents. Encasing the steel beams in concrete helped to protect the structure from harsh weather and blast from the locomotives which passed beneath it. [This paragraph has been revised to better explain the purpose of concrete-encased beams.]

The Route 66 Bridge in Wheeler County has not been altered since its construction, allowing visitors a good look at the design, workmanship, and materials of its era. It was listed in the National Register of Historic Places in 2007.

The Route 66 Bridge over the Chicago, Rock Island, and Gulf Railroad crosses the Chicago, Rock Island, and Gulf Railroad eight miles east of Shamrock, TX, and remains in use as part of a frontage road for Interstate 40.

1. **Historic Significance:** The Statement of Significance in the National Register nomination reads, "The Route 66 Bridge over the Chicago, Rock Island and Gulf Railroad near Shamrock, Wheeler County, Texas, is nominated to the National Register under Criteria A and C at the state level of significance for its historical and engineering significance. As part of Route 66, the bridge reflects the development and history of the national highway, which served as the main corridor from the Midwest to the West during the early to mid-twentieth century. The bridge's concrete encased steel I-beam design is noteworthy and is one of the few examples of this bridge type in Texas, and is the last vehicular bridge in Texas directly associated with Route 66."
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** The steel beams of the main span are encased in concrete. The result is a 126-foot long bridge with a main span of concrete-encased beams.
4. **Date of original construction**: Constructed in 1932.
   1960 - Interstate 40 completed immediately to the north and served as a replacement to Route 66. The bridge became part of the I-40 frontage road.
5. **Names of key engineers**: Designed by Engineer M. L. Grady, an employee of the Texas State Highway Department's Bridge Division.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/40970769

8. **References:** Cassity, Michael. "Route 66 Corridor National Historic Context Study." Route 66 Corridor Preservation Program, National Trails System Office - Intermountain Region, National Park Service, Santa Fe, New Mexico, December 15, 2004.

"Route 66: Across 1930s Texas," in Texas: A Guide to the Lone Star State. Federal Writers' Project of the Works Projects Administration for the State of Texas, 1940.

Texas Department of Transportation. Historic Bridge Inventory, Structure 25 242 0275-23-001. August 31, 1999.

Texas Highway Department, Texas Highway Map, 1939.

Young, Nancy Beck. "Chicago, Rock Island and Gulf Railway," The Handbook of Texas Online, https://www.tshaonline.org/handbook/entries/chicago-rock-island-and-gulf-railway

Location: 35 13 35.1 N 100 06 20.1 W

Local and vicinity maps: The Route 66 Bridge over the former right-of-way of the Chicago, Rock Island, and Gulf (CRI&G) Railroad is located on the Interstate 40 Frontage Road on the south side of I-40 approximately eight miles east of the town of Shamrock, Texas. The bridge is approximately 5.5 miles west of the Oklahoma state line.

Route 66, SH 207 to Interstate 40 Conway, Texas

Route 66, SH 207 to Interstate 40 Conway, Texas is listed on the National Register of Historic Places.

Source of the following photo and the first six paragraphs of the Overview is: https://www.nps.gov/places/route-66-texas-sh-207-to-interstate-40.htm

NPS Photo courtesy of Rhys Martin

Overview of Route 66, SH 207 to Interstate 40 Conway, Texas

The segment of Route 66 between State Highway 207 and Interstate 40 is the longest and best preserved section of Route 66 in Texas. Turn off your cell phone, and you won't need the GPS. Put on your Ray Bans. Open a Coca Cola, the kind that comes in a sweating green glass bottle. Put some Sinatra on the player, and roll down the windows. It's time to drive the 7.2 miles of Route 66 west of Conway, Texas.

Motorists on the two-lane road will pass a windmill after a mile or so. Driving a little farther, they will see concrete agricultural buildings on the south side of the road, important reminders of the regional economy. As the road intersects County Road L (dirt) and, a little later, County Road K (also dirt) stop to look around, because with the exception of a single windmill way off in the distance, visitors can see not a single modern intrusion, only wide open range. The abandoned railroad bed beside this stretch of Route 66 serves as a reminder of how expansive the landscape is, and how quiet.

Early in the 1900s, this roadway was little more than a dirt path. In 1930, the path was paved, and by 1940, it was a bustling highway. An aerial view today looks much the same as it did then, a straight line of highway framed on both sides by square agricultural fields in various shades of brown, yellow, and green.

Between 1930 and the mid 1960s, travelers along this stretch of Route 66 experienced much of what you see today. From here to Carson County (where travelers can get back on I-40) you will experience only old Route 66, fences, dirt farm roads, grain elevators, and more windmills.

When Interstate 40 was completed through Carson County, this section of Route 66 became Texas Farm Road 2161, part of the county's highway system. Today it is the longest and best preserved section of Route 66 in Texas, carrying local traffic and travelers out to capture the distinctly American ambiance of old Route 66. It was listed in the National Register of Historic Places in 2007.

This section of Route 66 is in the vicinity of Conway, TX and is labeled locally as Texas Farm Rd. 2161. Access from the east is from State Highway 207/County Rd. N and from the west is from Interstate 40 exit 89.

The following paragraphs are from the National Register of Historic Places Registration Form.

This property is a 7.2 mile section of Route 66 between Conway and Interstate 40 in Carson County, Texas. Conway is located in the Texas Panhandle, twenty miles east of Amarillo. This section of roadbed was designated as Route 66 in 1930 and was paved later that year. It served as the roadbed for Route 66 from 1930 until ca. 1965 when Interstate 40 was completed 1.3 miles to the north. After the completion of Interstate 40, this section of Route 66 was incorporated into the Carson County highway system and is now known as Texas Farm Road 2161. From Conway to Interstate 40, the historic roadbed of Route 66 extends through open rangeland and farmland. There are few modern intrusions along the roadbed and it retains much of its mid-20"' century integrity and design.

Roads in this section of Texas were little more than dirt paths in the early twentieth century. The trip from Amarillo to Tucumcari, New Mexico, a journey of approximately 110 miles, averaged a full day. But as the oil industry prospered in the 1920s, activity in the region called for improved roads, and by 1928 this same trip required only three hours. The establishment of Route 66 through the Texas panhandle was a key event in the region's road development. Route 66 extended in a rather direct east-west alignment across the panhandle passing through a series of small towns most of which had fewer than five hundred residents. These included Shamrock, McLean, Alanreed, and Groom in eastern Texas, and Vega, Adrian, Landergin, and Wildorado in the western part of the state. Centrally located Amarillo in Potter County was the only sizeable city through which the road passed.

When US Highway 66 was planned through Texas in the 1920s, various routes were recommended. There was also an extensive push across the panhandle to have the highway fully paved. In 1928, E.W. Bowen, a prominent highway booster from Tucumcari spoke to a group of Amarillo businessmen about the benefits of having a paved roadbed between their towns, citing ease of traffic and quicker travel as key advantages. Bowen encouraged Amarillians to attend a meeting between the governors of Texas and New Mexico and officials from both state highway departments regarding interstate highway improvements, which was scheduled to take place the following month. Bowen also boasted of a new paving process that had been used in his state. The new pavement material was of "sand and oil mixed on the road by machinery," and

provided a layer about four inches thick that could be sloped for drainage. The process "made it possible to surface a road after it had been graded and culverts and bridges installed." Other benefits of the pavement were its dust proof quality and low cost, which averaged around $1,000 per mile. It does not appear that this type of paving was utilized on the section of roadbed west of Conway.

Although Route 66 was designated in 1926, its route through Texas remained in dispute for several years in Carson and Potter Counties east of Amarillo. Carson County officials including a local judge traveled to Austin in support of the road and helped to secure its location. The route through Carson County was finalized by August 24, 1930, when an article in the Amarillo Daily New.-; declared the "U.S. 66 Highway Tangle Solved." The paper stated that state and federal officials had approved relocation of the highway between the town of Conway to the Potter County line along a route north of the Chicago, Rock Island & Pacific Railroad. Local residents were jubilant over the announcement as the dispute over its location had delayed the paving of a ten-mile section of roadbed for over a year. Following this announcement, Carson County officials announced "We will start work at once on plans for the unpaved strip of the road" . . . "and we believe it possible to let a contract for grading and drainage structures when the state highway commission meets in September."^ The road west of Conway was paved with concrete in 1930 and this hard surfaced road was opened to Amarillo.

From 1930 to the mid-1960s, this two-lane roadbed served as the alignment for Route 66 west of Conway. This roadbed extended through open range land and farm land and paralleled the Chicago, Rock Island & Pacific Railroad for several miles. A 1956 highway map of Carson County shows the roadbed as Route 66 and with few houses or other buildings along this alignment.' When Interstate 40 was completed through Carson County, federal management of Route 66 ended and it was incorporated into the county's highway system as Texas Farm Road 2161. The highway continues to be used for local traffic south of the interstate as well as providing a sense of time and place for Route 66 travelers.

Throughout Texas, Route 66 is primarily an access frontage road for 1-40 for much of its length. The 7.2 mile section Cl Route i)6 -between Conway and 1-40 continues to be used as a state highway and possesses the highest degree of integrity of any rural section of Route 66 in Texas. The nominated property retains integrity of location, setting, feeling and association not only because of the preservation of the original roadbed, but also because of the largely unaltered farmland and rangeland through which it extends.

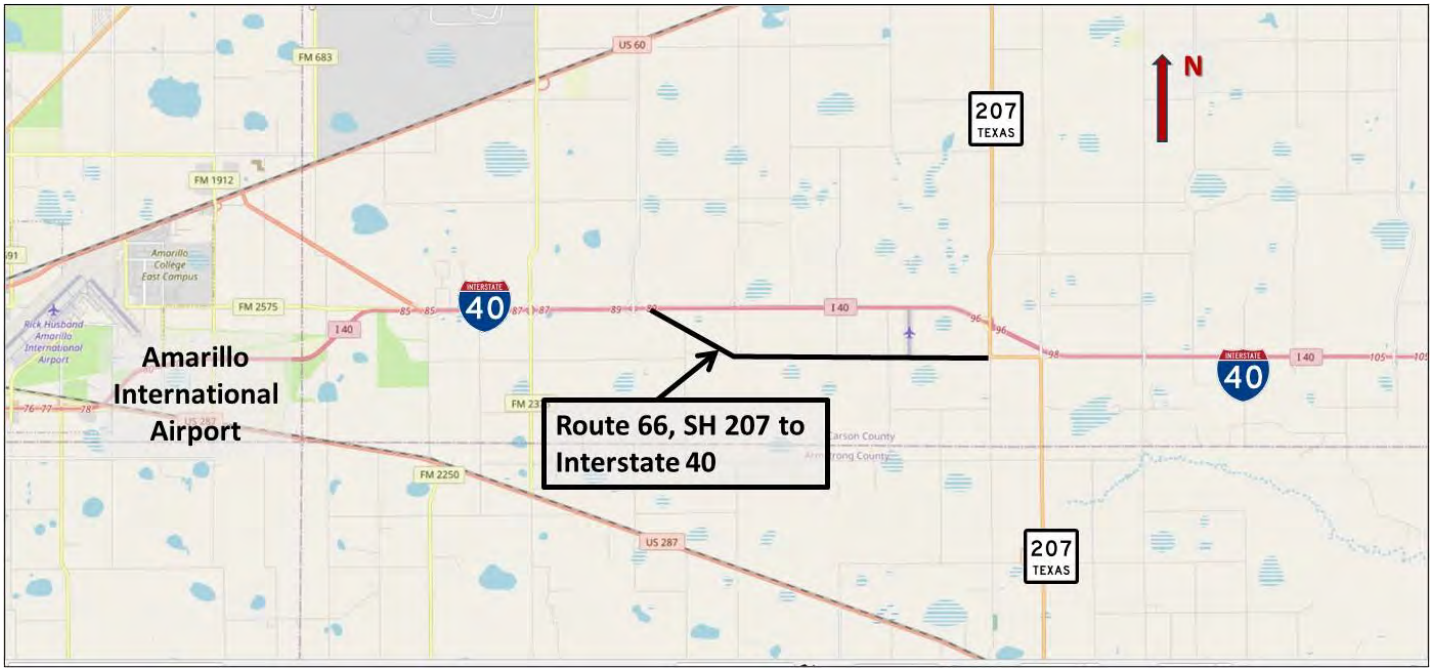
1. **Historic Significance:** (from National Register of Historic Places Registration Form) This segment of original Route 66 roadbed west of Conway in Carson County, Texas is nominated to the National Register under Criteria A and C at the state level of significance, in the areas of Engineering and Transportation. Route 66 was one of the nation's leading highways during the early to mid-twentieth century, and served as the primary corridor between Chicago and California. The road reflects the history of transportation from this era and both the forces which brought it into being and those that diminished its use. Under Criterion C, this segment of Route 66 is significant as a representative example of roadbed construction and engineering of the 1930s. The road retains much of its original form, design, materials and the surrounding setting has changed little since the road's construction. The roadbed segment conveys a strong sense of its historic time and place and is one of the longest and best preserved sections of Route 66 in Texas.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.

4. **Date of original construction:** Paved in 1930.
5. **Names of key engineers**: Designer unknown.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/40968509
8. **References:**

Amarillo Daily News, 13 July 1928 and 24 August 1930.
Carson County Highway Map, Texas State Highway Department, 1956.
Cassity, Michael. "Route 66 Corridor National Historic Context Study." Rute 66 Corridor Preservation Program, National Trails System Office, Intermountain Region, National Park Service, Santa Fe, New Mexico, 2004.
Randel, Mrs. Ralph E. ed. A Time to Purpose, A Chronicle of Carson County. Panhandle, Texas: Carson County Historical Survey Committee, 1966.

Location: East terminus in Conway, Texas: 35 12 27.3 N 101 22 56.8 W
West terminus: 35 13 15.8 N 101 30 4.4 W

Local and vicinity maps:



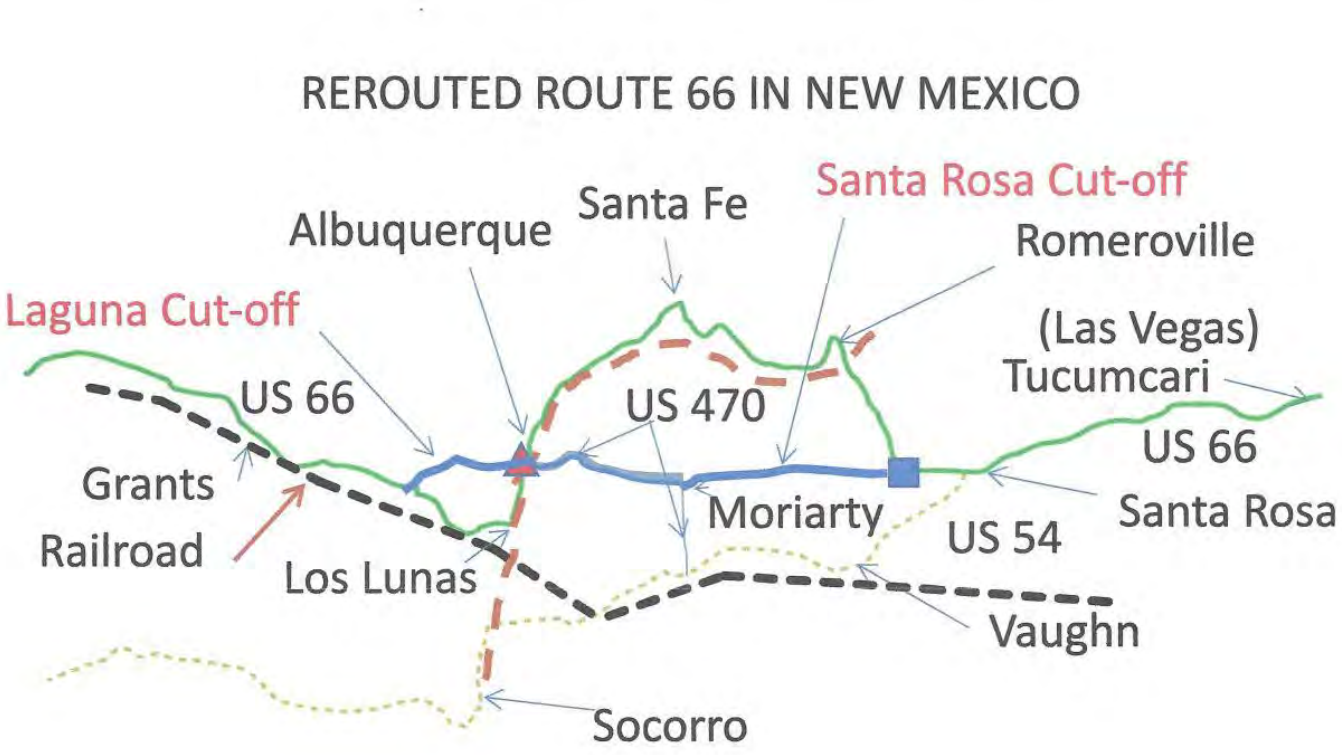
New Mexico

Realignment of Route 66 in central New Mexico: Santa Rosa Cutoff and Laguna Cutoff

Throughout its length from Chicago, Illinois to Santa Monica, California the alignment of Route 66 changed as the years passed. Changes were made to shorten the mileage, improve roadway geometrics, and to serve different cities and towns. Re-alignments (re-routings) were not unusual. The most significant re-alignments in terms of mileage reduction and geographical change were the Santa Rosa Cutoff and the Laguna Cutoff in New Mexico.

(this paragraph is from Wikipedia)

> From west of Santa Rosa, New Mexico, to north of Los Lunas, New Mexico, the original route of Route 66 turned north from current I-40 along much of what is now US 84 to near Las Vegas, New Mexico, then followed (roughly) I-25—then US 85 through Santa Fe and Albuquerque -- to Los Lunas, and then turned northwest along the present New Mexico State Road 6 (NM 6) alignment to a point near Laguna. In 1937, a straight-line route was completed from west of Santa Rosa through Moriarty and east–west through Albuquerque and west to Laguna. This newer routing saved travelers as much as four hours of travel through New Mexico.



Route 66 alignment from 1926 to 1937 shown in green
Shown in blue are the Santa Rosa Cutoff and Laguna Cutoff that formed the post-1937 alignment

Both the original Route 66 alignment and the Santa Rosa and Laguna Cutoffs are shown on the National Park Service map of Route 66 on the cover page of this nomination package.

(the remaining paragraphs authored by Roger Zimmerman)

When Route 66 in New Mexico was designated in August of 1926, it was a 506-mile alignment of existing dust or gravel covered roadways going from Glenrio, a small town located astraddle the Texas/New Mexico border, to the Navajo Indian Reservation located on the Arizona state border to the west of Gallup. This route crossed the Pecos River three times, the Rio Grande, from one to three times depending on local traffic needs, and the Rio Puerco in two locations. The Rio Puerco flows from Northern New Mexico into the Rio Grande south of Albuquerque.

The first fully paved alignment of Route 66 across New Mexico came 11 years later and it was only 399 miles long. Politicians, government agencies, technicians, and civil engineers had made their contributions to the shortening of this historical highway.

The shorter route bypassed Santa Fe, Bernalillo, Los Lunas, and some Native American Pueblos, much to the disappointment of small businesses in those locations. The new alignment went east-west along Central Avenue through Albuquerque and this rerouting transformed the city from being a linear city with a north south major axis to a cruciform shaped city with north-south and east-west axes. Central Avenue , which was 20 feet wider than other downtown streets was the logical street for handling the significant amount of transcontinental traffic that would eventually swamp the downtown area.

The savings in length over these 11 years was accomplished with two cut offs: the Santa Rosa Cutoff and the Laguna Cutoff. The Santa Rosa Cutoff went from a point 7 miles west of Santa Rosa directly west toward Moriarty, which was a distance of 69 miles. Most of this distance was ranch land in 1926 when the new roadway was first cleared and graded. From Moriarty, the cutoff joined US 470 and went another 45 miles into Albuquerque, terminating at the intersection of Central Avenue and 4th Street. This cut off saved 90 miles of travel for Route 66 travelers. The Laguna Cutoff went from 4th Street and Central, along Central Avenue and across the Rio Grande to a point west of Atrisco, where it was aligned up Nine Mile Hill to eventually join the original Route 66 alignment near the village of Correo, some 32 miles westward towards Laguna. By bypassing Los Lunas, the Laguna Cutoff saved 17 more miles for Route 66 travelers.

Re-routing Route 66 via these cutoffs was not just simple roadway construction on new alignments. Implementing the cutoffs included three significant engineering projects. They were the Rio Puerco Bridge, a new Central Avenue bridge over Rio Grande River in Albuquerque, and a new Central Avenue underpass under the Santa Fe Railroad in Albuquerque.

The shortened alignment of Route 66 crossed each of the Pecos, Rio Grande, and Rio Puerco waterways only one once, but with differing degrees of difficulty. The Pecos had its headwaters in Northern New Mexico and the watershed was not large. It did not provide abnormal challenges to bridge designers. The Rio Puerco also had headwaters in Northern New Mexico . The Rio Puerco had large sand deposits where the Route 66 alignment was planned and this provided a challenge to bridge designers. The solution – the first significant engineering project - was a 250-foot long Parker through truss bridge that was designed and constructed in 1933. The Rio Puerco Bridge is further described in a following section of this nomination package.

The Rio Grande provided a much greater engineering challenge. The Rio Grande comes from the mountains of Colorado and has a large drainage area. Until 1973, no dams had been constructed between the headwaters and Albuquerque. To make things worse, downtown Albuquerque is located in a flood plain of the river. The second significant engineering project was to bridge the Rio Grande. To cross the Rio Grande,

a new 1350 long Central Avenue bridge with fifty-four 25 ft. spans having a 20 ft. wide road way and 6 ft. sidewalk was successfully built and finished in 1930, composed of a concrete deck, steel girders, and timber piles.

The third significant engineering project – the last hurdle to be addressed – to complete the shortcut, was the separation of the Atchison, Topeka & Santa Fe Railway (AT&SF) from the east-west Route 66 traffic in Albuquerque. This was accomplished by the Works Progress Administration (WPA) providing the funds, AT&SF engineers designing the structure, and the New Mexico Highway Department supervising the construction. The underpass was completed in 1937 and was the final structure that was needed to make the Santa Rosa and Laguna shortcuts fully functional. It should be noted that the AT&SF engineers raised the tracks 7 feet to provide underpass dimensions that facilitated east-west Route 66 traffic through downtown Albuquerque.

The Laguna Cutoff, New Mexico Route 6 really got going in 1930 when the Central Avenue Bridge was completed and travelers could get through downtown Albuquerque and across the bridge. It took until 1931 for the federal government to decide to make the Santa Rosa and Laguna Cutoffs a federal highway and bypass the original route through Santa Fe. When this happened, the final alignment was decided and Federally sponsored construction monies were devoted to making the shortcut a part of Route 66. With the completion of the Rio Puerco Bridge in 1933, transcontinental travelers could take the full shortcut across the state on an all-weather basis, and this became a popular route even though it wasn't completely paved until 1937.

Rio Puerco Bridge

The Rio Puerco Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/rio-puerco-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Rio Puerco Bridge

Heading west out of Albuquerque on Route 66, travelers can enjoy a scenic descent from Nine Mile Hill into the Rio Puerco Valley, where a Parker through truss bridge crosses the steeply eroded banks of the Rio Puerco River. The valley is the site of Laguna Pueblo, the home of Puebloans since the 1300s. Because the Rio Puerco is known for its violent flooding and severe erosion, the State Highway Department specifically chose a Parker through truss bridge design for the Rio Puerco Bridge to eliminate the need for a center pier and prevent washouts.

The Federal Government funded the bridge in 1933 as part of President Roosevelt's effort to use emergency monies for highway construction. Completed within a year, the bridge opened the Laguna Cutoff to transcontinental traffic. In 1937, the alignment officially became U.S. Route 66. The Kansas City Structural Steel Company conceived the structure, and F.D. Shufflebarger was in charge of constructing the bridge. The Rio Puerco Bridge has a 250 foot long span and is one of the longest single span steel truss bridges built in New Mexico.

The bridge consists of 10 panels measuring 25 feet in length, each with its top cord at a different angle, as is characteristic of Parker truss design bridges. The 25-foot wide deck is concrete with an asphalt surface and rests on steel stringers. This design was selected partially because it was commonly used during the late-1920s and 30s, but also because it was particularly suitable for this bridge, which needed to withstand a river capable of massive flooding that had washed away previous bridges along the Rio Puerco.

In 1957, the truss was remodeled, and the lower portal struts were removed and replaced by lighter struts that were inserted above to create a higher clearance. Metal guardrails were added to protect the truss members. This bridge served motorists on Route 66 for many years, and when I-40 was completed, the Rio Puerco Bridge became part of a frontage road across the Rio Puerco.

The structure was listed in the National Register of Historic Places in 1997. In 1999, the New Mexico State Highway and Transportation Department replaced it but preserved the historic bridge. Though currently closed to car traffic, the old bridge is open for people to walk across, allowing visitors a glimpse of the old Highway 66 slowly curving and dipping as it disappears into the vast New Mexico desert.

1. **Historic Significance:** The Statement of Significance in the National Register nomination reads: "Serving local traffic as a frontage road for 1-40 across the Rio Puerco, the former U.S. 66 bridge across the Rio Puerco is significant for its long association with highway transportation in New Mexico dating to the early 1930s. The longest single-span Parker through truss design bridge in New Mexico, it is also significant for embodying the design, materials and methods of construction associated with that bridge sub-type.

   When federal highways first received a systematic numbering in 1926, many of the roads included in the system in the western states were simply local roads spliced together to create a makeshift network of federal highways. Only in the late 1920s and 1930s did engineers have the resources to plan and construct more efficient, safer alignments. In New Mexico, the original alignment of U.S. 66 used local roads, following a circuitous alignment west of the Rio Grande. In the late 1920s, Albuquerque boosters advocated straightening

the alignment, shifting it to run due west from the city. In order to achieve this goal they succeeded in building a bridge across the Rio Grande at Old Town (1931) but still required a bridge at the Rio Puerco. After several years of lobbying the State Highway Commission, by the early 1930s they succeeded in their petition to have the so-called Laguna Cutoff placed on the federal road system and, thus the cutoff become eligible for federal matching funds. The Rio Puerco Bridge was included in federal funding in 1933 as part of the Roosevelt Administration's effort to use emergency monies for highway construction. The bridge was completed within the year, opening the Laguna Cutoff for transcontinental traffic. In 1937, the alignment officially became U.S. 66.

Although the waterflow in the Rio Puerco is often minimal, the river is capable of torrential flooding, a fact underscored by its severely eroded floodplain and river banks. In the early decades of the twentieth century prior to efforts at stabilizing rangelands within the river's drainage area, the river posed a major challenge to highway engineers, earning the reputation of being an “outlaw" river capable of "cloudburst” flooding that threatened bridges and roads. In the fall of 1929 the river inflicted its worst damage, washing away several bridges, including the bridge several miles downstream that then served U.S. 66. As a result, engineers determined to construct bridges that would withstand future floods.

The selection of the Parker through truss design at what four years later, would become the U.S. 66 crossing reflected the highway department's partiality to that design in many of its major projects of the late 1920s and 1930s. In order to compensate for the eroding floodplain and its unstable river banks susceptible to scouring during flooding, engineers designed a bridge employing unusually massive abutments built on deeply driven pilings. They then constructed a single 250-foot span capable of clearing the entire floodplain of the river. The BPR considered the bridge the longest single-span Parker through truss bridge in the Southwest. With its heavy steel members, the bridge appeared especially suited to handle the increasingly [sic] traffic flow along what was becoming a major east-west highway.

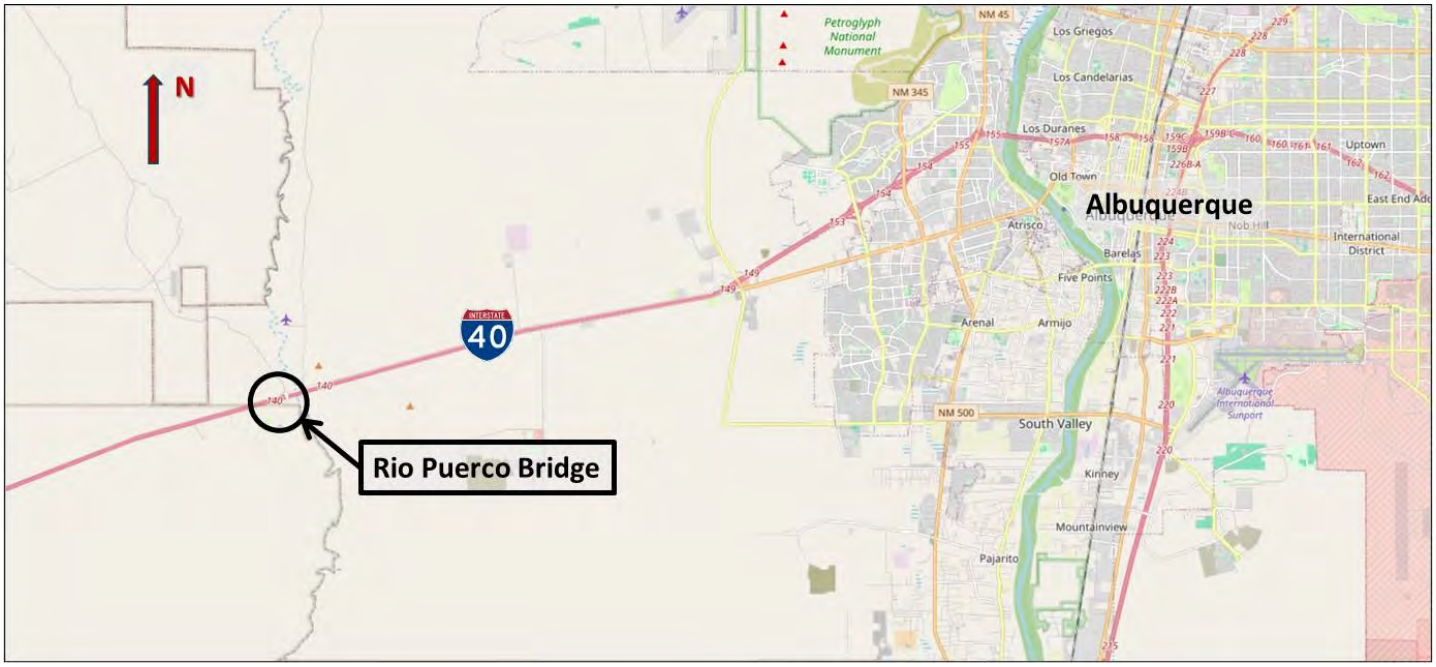
The setting of the bridge over the deep, eroded course of the Rio Puerco conveys a strong feeling of how truss bridges appeared along New Mexican highways prior to World War II. The polygonal upper chords of its superstructure appear in marked relief to the newer twin steel beam bridges of 1-40 which parallel it. When the section of the interstate at Rio Puerco was completed in the 1960s, the bridge and the former Route 66 alignment to the east became a part of the frontage road.

2. **Contributions:** Supported Route 66’s role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1933 to 1934
   In 1957 the truss was remodeled
   1999 – bridge closed to traffic
5. **Names of key engineers:** Designed by Kansas City Structural Steel Company.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/77845957
8. **References:**

"Long Steel Truss Bridge Being constructed in New Mexico." New Mexico, Vol. 11, No. 5 (May, 1933), p. 40.
Macy, G.D., State Highway Engineer, "New Mexico's Recovery Road Program." New Mexico, Vol 11, No. 7 (July, 1933), pp. 14-15, 44.
New Mexico State Highway Department. "Bridge Department Structure Report, Bridge No. 2530," April 1, 1940.

Location: 35 02 01.0 N 106 56 29.7 W

Local and vicinity maps: The Rio Puerco Bridge is located off of and parallel to Interstate 40 at exit 140 west of Albuquerque, NM. Visitors can walk across the bridge.



Arizona

Querino Canyon Bridge

The Querino Canyon Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/querino-canyon-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Querino Canyon Bridge

The Querino Canyon Bridge is picturesquely situated over a rugged and beautiful canyon just outside Houck, Arizona. Designed by the Arizona Highway Department, the bridge is a representative example of early highway truss design. There are three concrete-decked steel Warren trusses with sub-verticals supported by steel piers. Each truss is about 77 feet long and 20 feet wide. Concrete abutments support the bridge from below and steel lattice guardrails typical of the period line the roadway. [This paragraph adapted from the National Park Service description to provide a more technically correct explanation.]

The State built the bridge in 1929 as part of a grand rehabilitation and relocation of Route 66 across northern Arizona. The project included several bridges, drainage construction, and at least 25 miles of roadway. The largest of these multiple efforts, the bridge over Querino Canyon formed an integral link on one of America's primary arteries.

This section of the highway became a county road during the 1960s after construction of Interstate 40. The Querino Canyon Bridge remains intact, carrying local traffic on Navajo Nation land. It was listed in the National Register of Historic Places in 1988.

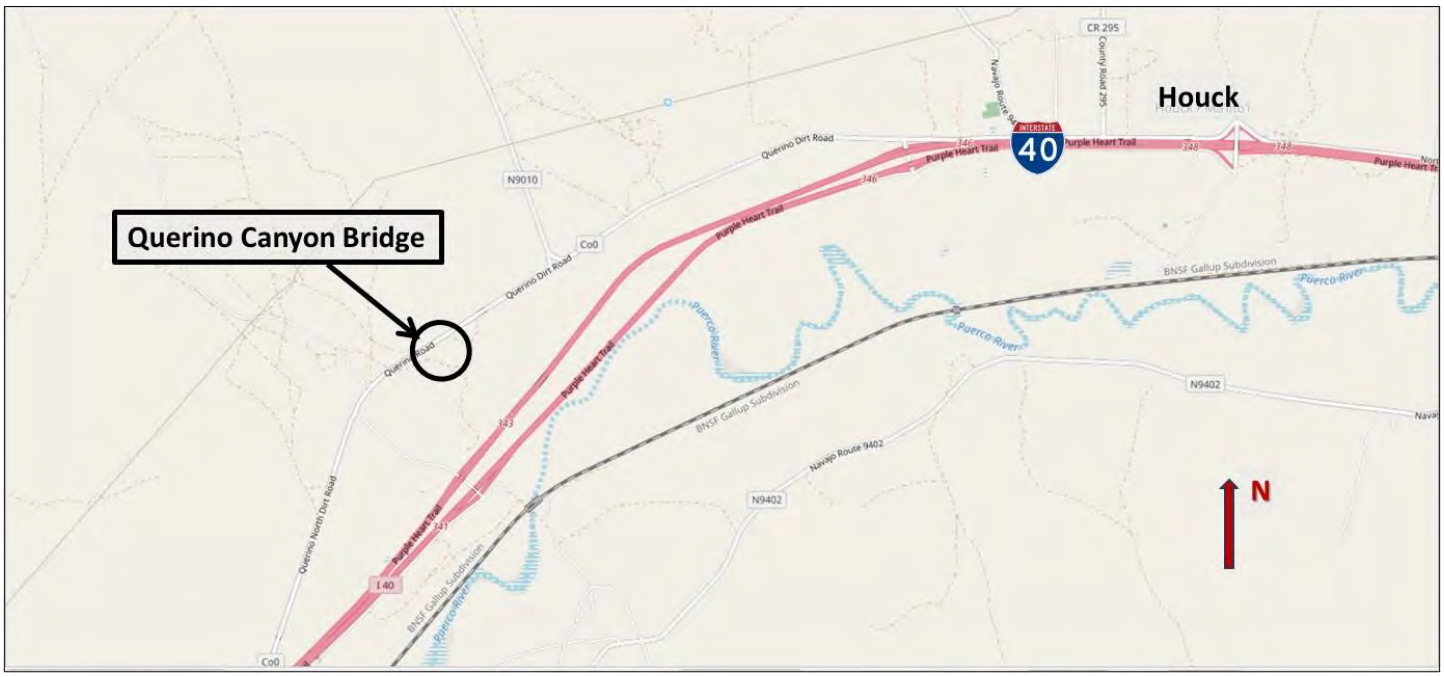
An important crossing of rerouted U.S. 66, the Querino Canyon Bridge formed an integral link on one of America's primary transcontinental routes. Picturesquely sited over the rugged canyon, the Querino Bridge is a typically configured example of early highway truss design.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1929
5. **Names of key engineers:** Designed by the Arizona Highway Department.
6. **Photographs:** Included above.
7. **Additional documentation**: HABS / HAER Inventory. Available at: https://catalog.archives.gov/id/75607912
8. **References:**
   Bridge Record, Arizona City Streets and County Roads: 8071: Structures Section,' Arizona Department of Transportation.
   "Department Closed Brilliant Construction Year," Arizona Highways. 7-1931-3

Location: 35 16 15.9 N 109 16 37.4 W

Local and vicinity maps: The Querino Canyon Bridge crosses Querino Canyon 3.8 miles southwest of Houck, AZ as part of Old Highway 66.

Vicinity map on following page.


Querino Canyon Bridge
Houck
CR 295
County Road 295
Navajo Route 9402
INTERSTATE
40
Purple Heart Trail
Querino Dirt Road
N9010
Co0
Querino Road
Querino North Dirt Road
I 40
BNSF Gallup Subdivision
Puerco River
N9402
N

Route 66 in Mohave County

In February 2020 the Arizona Section submitted a nomination package to nominate the segment of Route 66 in Mohave County, Arizona as a National Historic Civil Engineering Landmark. Because of its length (42 pages), a copy of the nomination package is provided in Appendix B.

Arizona and California

Old Trails Bridge at Topock (crossing Colorado River)

The Old Trails Bridge is listed on the National Register of Historic Places.

Source of the following Overview is: https://www.nps.gov/places/old-trails-bridge.htm

Overview of Old Trails Bridge at Topock

> The steel arch of the Old Trails Bridge simply soars. An innovative piece of engineering, one enormous span of 600 feet supports the 800-foot bridge that crosses the Colorado River in Topock, halfway between Yuma and the Utah border. The bridge carried automobile traffic over the Colorado River from 1916 until 1948.
>
> Builders constructed the Old Trails Bridge in 1914 partly to compete with the Ocean-to-Ocean Bridge being built in Yuma, south of Topock. To entice traffic farther north, the States of Arizona and California and the Bureau of Indian Affairs decided to erect another substantial span over the Colorado River. The new bridge would be part of the National Old Trails Road, an early transcontinental route well underway to connecting St. Louis to Los Angeles by 1914. In the process, the designers created a landmark of American civil engineering.
>
> The Old Trails Bridge carried traffic until 1948 when cars and trucks began moving onto interstate systems. In 1948, the deck was removed so the bridge could accommodate a natural gas pipeline, which it still carries. The bridge was listed in the National Register of Historic Places in 1988.

1. **Historic Significance:** The HABS / HAER Inventory document states: "The Topock Bridge is historically significant in the Southwest as a pivotal crossing on the transcontinental Old Trails Highway. Technologically, the structure is nationally significant as an outstanding example of steel arch construction, called by the Engineering Record, "exceptionally daring and successful for work of such magnitude". Taking a cue from the difficulties experienced at Yuma, engineers for Kansas City Steel erected this bridge using a novel cantilever system, in which the bridge

halves were assembled on their sides on the ground and hoisted into place using a unique ball-and-socket center hinge. At its completion the longest arch bridge in America, the 360-ton Topock Bridge was also distinguished as the lightest and longest three-hinged arch. The removal of the deck has done little to compromise the bridge, and it remains a landmark in American civil engineering."

The National Park Service site at: https://www.nps.gov/places/old-trails-bridge.htm adds the following. "The engineers for the Old Trails Bridge had studied the problems builders and engineers encountered while constructing the Ocean-to-Ocean Bridge in Yuma, Arizona. They knew the engineers there had found constructing and securing a large span over the deep Colorado gorge difficult, so they tried the task a different way."

"In Topock, engineers used a unique cantilever method of construction assembling bridge halves on their sides on the ground and hoisting them into place using a ball-and-socket center hinge. This meant that the structure was not supported by traditional spans from the ground up as it was being built. The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was the lightest and longest bridge of its kind. From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first on the transcontinental National Old Trails Road and, by 1926, on Route 66."

2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** The bridge was erected using a novel cantilever system, in which the bridge halves were assembled on their sides on the ground and hoisted into place using a unique ball-and-socket center hinge.
4. **Date of original construction:** Constructed in 1915 to 1916
   In 1948 roadway deck was removed and replaced with a pipeline
5. **Names of key engineers**: Designed by S. A. Sourwine. Constructed by Kansas City Structural Steel Company.
6. **Photographs:** Included above.
7. **Additional documentation**: HABS / HAER Inventory. Available at: https://catalog.archives.gov/id/75608784
8. **References:** David Plowden, Bridges: The Spans of North America. (New York: The Viking Press, 1974), page 178.

Location: 34 42 54.8 N 114 29 05.1 W

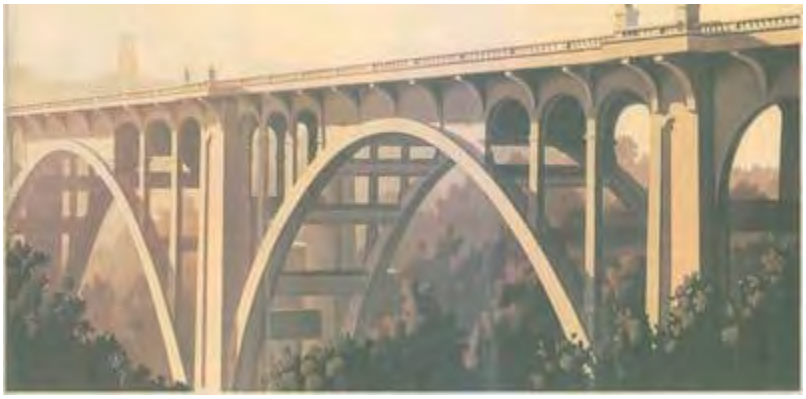
Local and vicinity maps: The Old Trails Bridge is several hundred feet south of Interstate 40 where it crosses the Colorado River at Topock, AZ. To park and view the bridge, take the Interstate 40 exit for Park Moabi, the last California exit from the west and the first from the east. Signs direct visitors to the park. Follow the Park Moabi Entrance Rd. north to its intersection with the National Trails Highway/Park Moabi Rd. then turn right. The first vantage point is from an old brick bridge nearly a mile from the intersection. Visitors can park on the side of the road and walk down the bridge top. The second vantage point is nearly two miles from the intersection. Visitors should continue along the National Trails Highway/Park Moabi Rd. past the first vantage point and intersection with Interstate 40; then look for a historic concrete billboard and adjacent pullout pad. This location provides the best view of the bridge.


Colorado River
N
Topock
Arizona
California
Old Trails Bridge
Purple Heart Trail
Needles Freeway
Moabi Regional Park
BNSF Seligman Subdivision
CR 10
US 66 Hist
INTERSTATE
40

California

Colorado Street Bridge

The Colorado Street Bridge is listed on the National Register of Historic Places and was designated as a Local Historic Civil Engineering Landmark in 1975. It is an eleven-arched reinforced concrete structure, the longest and highest bridge of its time. Through its design and construction, the bridge represents the advancing concrete technology of the early twentieth century and the ornamental aesthetic of the late nineteenth century.



Source of the following photo and Overview is: https://www.nps.gov/places/colorado-street-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Colorado Street Bridge

With its majestic arches rising 150 feet above the deeply cut Arroyo Seco, the Colorado Street Bridge was proclaimed the highest concrete bridge in the world upon completion in 1913. The bridge impressed

travelers from the day it opened. Until then, the crossing of the Arroyo Seco required horses and wagons to descend the steep eastern slope, cross a small bridge over the stream, and then climb the west bank through Eagle Rock Pass. Given this harsh topography, the Colorado Street Bridge proved a challenge to design and build. Solid footing eluded engineers in the seasonally wet arroyo bed.

These engineering challenges were solved when contractor John Drake Mercereau conceived the idea of curving the bridge 50 degrees to the south. This solution coupled with a graceful design of soaring arches and a curved deck created a work of art that received Historic Civil Engineering Landmark designation and listing in the National Register of Historic Places. Mercereau chose to support the bridge's 28-foot-wide roadway and five-foot-wide sidewalks using spandrel construction. In this system, support columns rest on the expansive arched ribs of the bridge. Mercereau's design also included classical balusters and ornate cast-iron lamp posts supporting multi-globed lamps.

Construction took 18 months. Horse carts brought materials down the steep sides of the gorge. Records show that some 11,000 cubic yards of concrete and 600 tons of steel reinforcing went into the bridge. The company's single concrete mixer poured concrete half a yard at a time into the bridge's hundreds of wooden forms that, when removed, revealed the bridge's arches, girders, spandrels, and decorative details. The bridge cost one quarter of a million dollars to build. Thousands of Pasadena citizens came to celebrate its opening.

[The new bridge connection to Los Angeles generated substantial growth in Pasadena.] Traffic on the new bridge was heavy. Only two lanes wide, the bridge was considered inadequate as early as the 1930s. The bridge remained part of Route 66 until the 1940 completion of the Arroyo Seco Parkway.

The historic bridge was listed in the National Register of Historic Places in 1981, but by that time, it was in disrepair. Chunks of concrete sometimes fell from its ornate arches and railings. After the Loma Prieta earthquake in 1989, the bridge closed as a precautionary measure. Eventually Federal, State, and local funds provided 27 million dollars in renovation costs. The bridge reopened in 1993, complete with all of its original ornate detail.

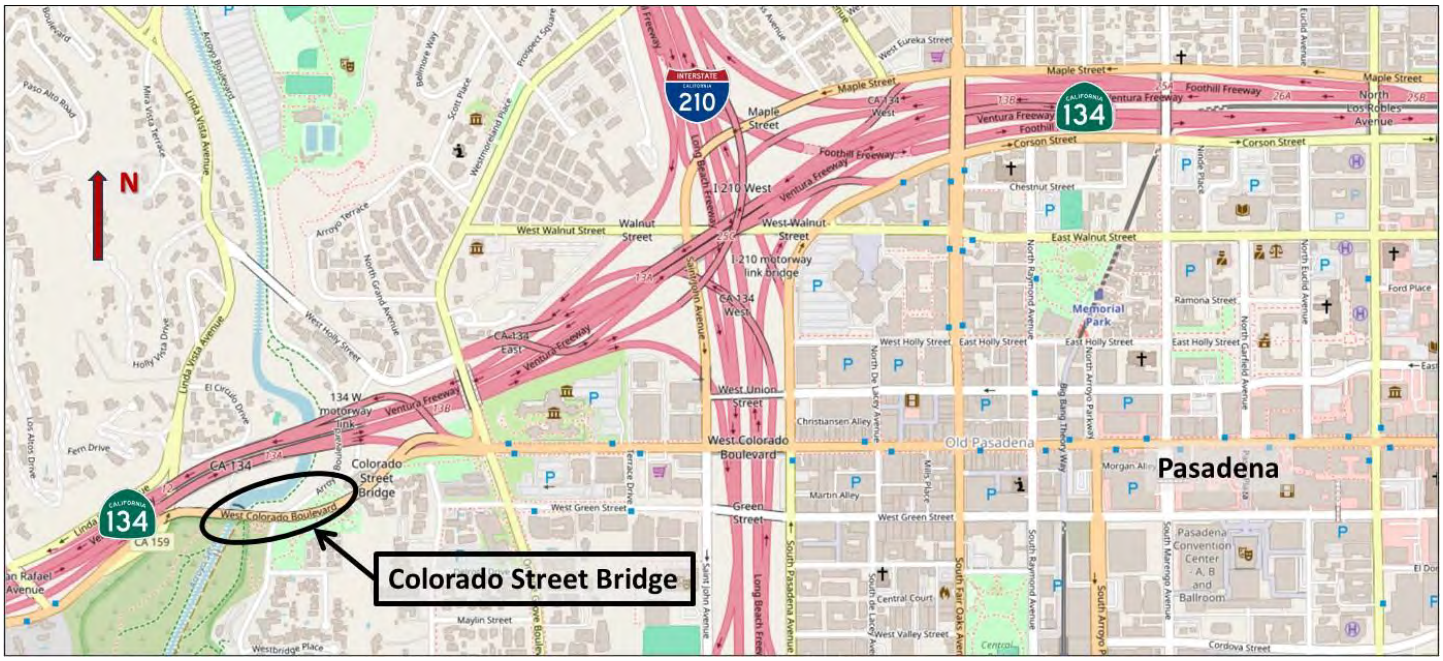
The Colorado Street Bridge spans the Arroyo Seco as part of Colorado Blvd. just south of the Ventura Freeway and between North San Rafael Ave. and North Orange Grove Blvd. in Pasadena, CA. To view the bridge from below, take West Holly St. west from North Orange Grove Blvd. and then turn left on Arroyo Dr., which joins with North Arroyo Blvd. to pass below the bridge.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth and, in particular, to the growth of Los Angeles and Pasadena.
3. **Uniqueness:** The highest concrete bridge in the world upon completion in 1913.
4. **Date of original construction**: Constructed in 1912 to 1913.
   Closed after Loma Prieta Earthquake in 1989.
   Reopened in 1993 after renovation.

5. **Names of key engineers**: Engineer C. K. Allin [Allen], contractor John Drake Mercereau, John Alexander Low Waddell of the engineering firm of Waddell and Harington of Kansas City.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Inventory – Nomination Form. Available at: https://catalog.archives.gov/id/123859043
8. **References:**
City Facts, "Colorado Street Bridge One of City Wonders," vol. 1. No. 4, December 1923. ‘
Hool, George A., Bridges and Culverts. New York: McGraw-Hill Book Co., 1916 •
Howard, E.E. "Colorado Street Bridge Over Arroyo Seco," Engineering Record, vol. 67, no. 21, May 24, 1913.

Location: 34 08 43.0 N 118 09 47.0 W

Local and vicinity maps: The Colorado Street Bridge spans the Arroyo Seco as part of Colorado Blvd. just south of the Ventura Freeway and between North San Rafael Ave. and North Orange Grove Blvd. in Pasadena, CA. To view the bridge from below, take West Holly St. west from North Orange Grove Blvd. and then turn left on Arroyo Dr., which joins with North Arroyo Blvd. to pass below the bridge.



Arroyo Seco Parkway

The Arroyo Seco Parkway is listed on the National Register of Historic Places and was designated by ASCE as a National Historic Civil Engineering Landmark in 1999.

Source of the following photo and Overview is: https://www.nps.gov/places/arroyo-seco-parkway.htm

Photo by Brian Grogan, Library of Congress, https://www.loc.gov/resource/hhh.ca2777.photos/?sp=1

Overview of Arroyo Seco Parkway

A drive through the Arroyo Seco is a ride through history. Some call the Arroyo Seco Parkway the starting point for Los Angeles car culture. It was the first "freeway" in the West and an engineering marvel of its time. Add to that the distinction and imprint of historic Route 66 and you have the makings for the perfect adventure by car.

By 1920, Los Angeles was already under the spell of the automobile. Although well-developed interurban trolley lines were enabling the city's sprawling character, the automobile was widely recognized as the future. Anyone caught in the 5 o'clock crush downtown would say the future had already arrived, as thousands of gridlocked cars kept the trolleys from running on time. Traffic congestion was a problem with which city planners were already engaged. Since the city was a nascent metropolis at the dawn of the automobile age, it was better positioned than any other city in the nation at that time to plan future development around the car.

It did so only gradually, however. Various regional plans, beginning as early as 1907, called for first an overarching grid of Parisian-style boulevards, then a network of landscaped parkways, and finally, as the

Second World War approached, a region-wide system of limited-access highways that, for better or worse, became a model for the rest of the nation and indeed the world.

The first link in this system would be a 6.2-mile stretch of highway called the Arroyo Seco Parkway, which straddled the design line between parkway and freeway. It ran primarily along the water course of the Arroyo Seco, a tributary of the Los Angeles River that snaked southward from the San Gabriel Mountains north of Pasadena's Rose Bowl through the Arroyo Seco canyon and into downtown Los Angeles.

Upon its completion in 1940, it was designated an alignment of Route 66 becoming the first stretch of the Mother Road to run over a modern, limited-access highway in the nation. If the spread of the freeway concept, eventually embodied by the national Interstate Highway System, spelled the beginning of the end for Route 66, the Arroyo Seco Parkway still stands as a remarkable piece of urban transportation history and holds a unique place in the story of Route 66.

The final form of the Arroyo Seco Parkway proved to be a hybrid of the scenic parkway aesthetic and the then-developing idea of a high-speed, limited-access freeway. Grade-separated overcrossings for existing streets, combined with on- and off-ramps (woefully short by modern standards) placed it squarely in the freeway camp. But the fact that it was heavily landscaped with native plants, and that it ran through dedicated parkland for much of the route in Los Angeles, including going through Elysian Park near downtown via a series of four tunnels, gave it much of the character of a parkway. These are the only known tunnels along the entire route of Route 66. To the contemporary observer, it feels much more like a parkway, despite many compromises to the landscaping for safety purposes over the years.

As you travel the route, pay particular attention to the many bridges under which the Parkway passes, including the graceful 750-foot long steel historic Santa Fe's Arroyo Seco Railroad Bridge (now the Metro Gold line) that spans across the entire Arroyo Seco and passes 100 feet overhead. Most of these bridges maintain their historic integrity, and their varied construction styles present a very different design aesthetic than more contemporary freeway architecture. This is even more the case for the four Figueroa Street tunnels that carry northbound traffic through Elysian Park. The Art Deco design of the tunnels marks them unmistakably as from another era, and you will immediately recognize them from countless film and television productions. There is a gateway sign welcoming a northbound traveler to South Pasadena constructed of arroyo stones taken from the watercourse that fits the region's importance to the Arts & Crafts Movement.

Travel along Route 66 during World War II, which the U.S. entered just a year after the Parkway was completed, was light, and the bulk of the traffic along the new alignment would have been local. But as travel boomed after the war and the Route 66 experience began to grab the national imagination ever more tightly, those who sojourned along it to the Pacific experienced the Arroyo Seco Parkway as a shining new example of the future of highway travel in America. Speed and convenience, the driving forces behind the automobile's rise earlier in the century, were now reflected in highway design. If this had the ultimate effect, as many would argue, of disconnecting highways from their local context, few stretches of road can make you feel more rooted in a place than does the Arroyo Seco Parkway.

The Arroyo Seco Parkway (California State Route 110) runs northeasterly from the Four-Level Interchange with U.S. 101 just outside downtown Los Angeles (mile post 23.69) to East Glenarm St. in Pasadena (mile post 31.89), CA. It is a National Civil Engineering Landmark, a National Scenic Byway, and the first of just two California Historic Parkways (the other being S.R. 163 through Balboa Park in San Diego). In 2011, the Parkway and associated features were listed in the National Register of Historic Places as the Arroyo Seco Parkway Historic District.

Excerpt from 1997 NHCEL nomination package: A two-page excerpt from the nomination package is reproduced on the following pages and provides basic information on the Landmark. Because the Arroyo Seco Parkway was designated as a National Historic Civil Engineering Landmark in 1999, additional details are not presented in this Route 66 nomination package. The entire 1997 nomination package for the Arroyo Seco Parkway is available on the History and Heritage Committee Teams site.

AMERICAN SOCIETY OF CIVIL ENGINEERS
HISTORIC CIVIL ENGINEERING LANDMARK NOMINATION FORM

To: Committee on History and Heritage
American Society of Civil Engineers
1015 Fifteenth Street, NW, Suite 600
Washington, DC 20005

Date: APR 30 1997

From: Los Angeles Section

This is to nominate the following for designation as a National Historic Civil Engineering Landmark:

ARROYO SECO PARKWAY (Pasadena Freeway since 1954)

Located at: CALIFORNIA STATE HIGHWAY #110 from the I-5 interchange in Los Angeles to Glenarm Street in the City of Pasadena (postmile 25.48 to postmile 31.91). See Attachment A, part of Automobile Club Map.

County: LOS ANGELES State: CALIFORNIA

Please furnish below the latitude and longitude to the nearest minute or UTM coordinates:

Lat. 34°06'N, Long. 118°12'W
(See Attachment B, part of USGS Los Angeles Quadrangle.)

The Proposed Landmark's Owner:

CALIFORNIA DEPARTMENT OF TRANSPORTATION

In support of this nomination the following information is provided:

1. Dates of Construction: January, 1938 - December, 1940 (See Attachment C)

2. Names of key professionals associated with the project: Spencer Y. Cortelyou, Fred J. Grumm, and Lloyd Aldrich (See also Attachments D, G, H, and I.)

3. Historic national significance of this landmark: First fully grade-separated, limited-access landscaped freeway that was built as a non-toll state highway, direct ancestor of urban freeways in the U.S. (See Attachments E, F, G, H, I, and J.) Initial link in California's statewide freeway system of grade-separated, limited-access urban State Highways. (See Attachments E, F, G, H, I, and J.)

4. Comparable or similar projects, both in the Unites States and other countries:

   Various east-coast parkways, the initial segment of what was to become the Hollywood Freeway, the Terminal Island Freeway in Long Beach, and other early limited access highways. See Attachment J for a detailed list.

5. Unique features or characteristics which set this proposed landmark apart from other civil engineering projects, including those in 4 above:

   The Arroyo Seco Parkway was the first limited access highway to be adopted by the State and built through an already-urban environment. Additionally, as a comparison test of asphalt and portland cement concrete pavements, one traffic lane of each of the three-lane roadways had asphalt concrete pavement while the other two lanes of each roadway had portland cement concrete pavement. Construction was marked by unusually good inter-agency collaboration among the three cities, the Division of Highways, the U. S. Army Corps of Engineers, and the Works Progress Administration.

6. Contribution which this structure or project made toward the development of: (1) The civil engineering profession; (2) the nation or a large region thereof.

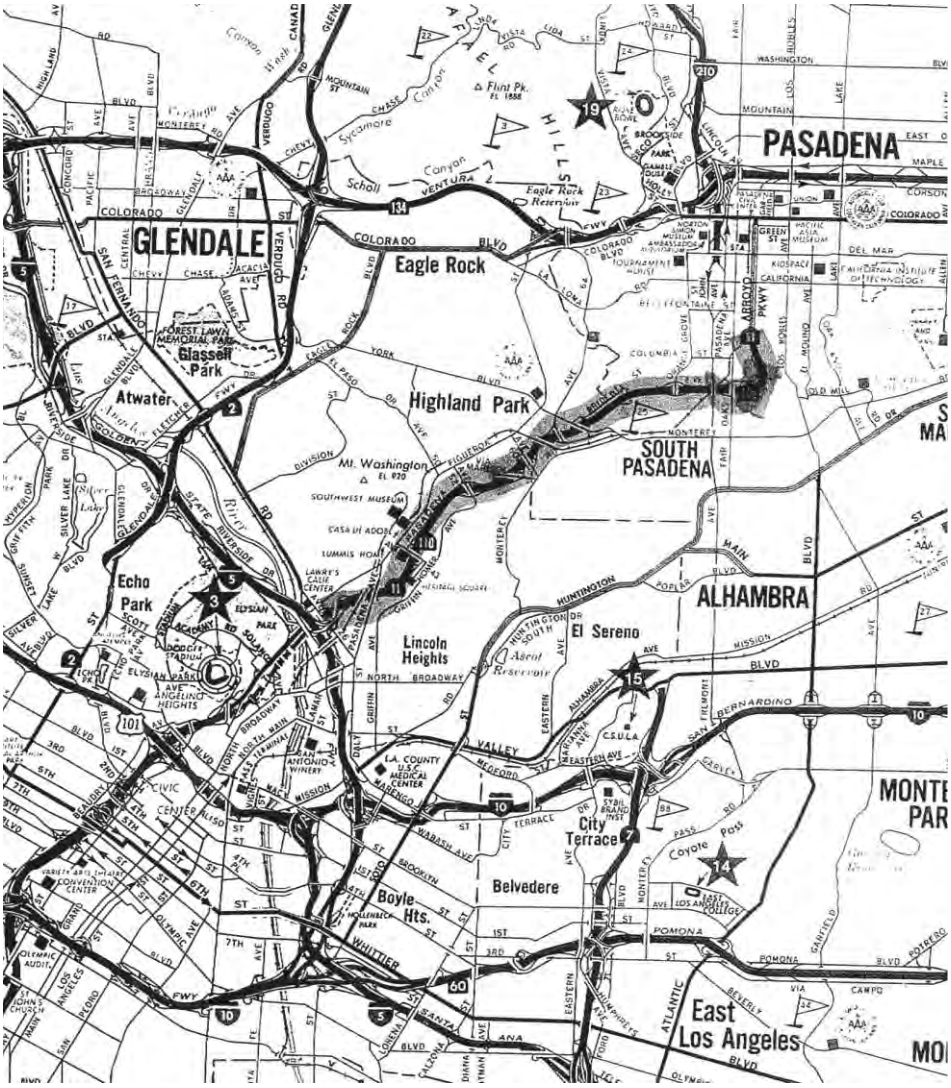
   (1) The Profession: The Arroyo Seco Parkway proved to highway engineers nationwide that a fully grade-separated highway in an urban area was feasible, that such a highway would be popular with motorists, and that substantial user benefits could be realized from such a highway.

   Additionally, traffic operations experience on the Arroyo Seco Parkway established the value of speed-change lanes at the access points on limited-access urban highways and the minimum practical width for a planted median.

   (2) The Region and the Nation: The pioneering Arroyo Seco Parkway was followed by State Route 163 in San Diego (1942), the Terminal Island Freeway (1943), the Downtown Extension of the Hollywood Parkway (1946-1948), the San Bernardino Freeway (1950), and the Santa Ana Parkway (1949-52). These wartime and early postwar projects were designed for general traffic use and were later renamed as "Freeways". The Arroyo Seco Parkway itself was extended after World War II to connect (in 1953) with the Hollywood and Santa Ana Parkways at the Four-level Interchange in Downtown Los Angeles and in 1954 was redesignated as the "Pasadena Freeway".

   The Arroyo Seco Parkway established the practice of building state highways in urban areas as freeways in landscaped strips. Subsequent to the Highway Act of 1943, which established the Federal-Aid Urban classification, and following the model of the pioneering California freeways, roughly 15,000 miles of limited-access highway have been constructed within urban areas in the United States. Over 400 route-miles of freeway have been built in Los Angeles County alone. These urban freeways have had nationwide effects on land use, personal travel habits, social structure, public policies, and the economies of urban areas.

Local and vicinity maps:



Appendix A

Resolutions from ASCE Sections

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN ILLINOIS

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas**, the centennial is an opportunity to celebrate the important history of Route 66 in Illinois through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Illinois Section Board of Directors of ASCE on behalf of their members in northern Illinois:

1. Recommends approval of the entirety of Route 66 in Illinois as a National Historic Civil Engineering Landmark;

2. Supports the following Illinois appointments by the President of the United States to the Route 66 Centennial Commission: (1) Cinnamon Catlin-Legutko – Director of the Illinois State Museum and (2) William M. Thomas – Chairman of the Route 66 Road Ahead Partnership and Director of Economic Development of Logan County, Illinois.

Sandra Homola

Sandra Homola, P.E., CFM
President, Illinois Section ASCE
Date: January 10, 2023

RESOLUTION IN SUPPORT OF ROUTE 66 IN ILLINOIS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Illinois through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Central Illinois Section Board of Directors of ASCE on behalf of their members in Central Illinois:

1. Recommends approval of the entirety of Route 66 in Illinois as a National Historic Civil Engineering Landmark.

2. Supports the ASCE Illinois Section appointments to the President of the United States to the Route 66 Centennial Commission.

Grant Hischke, P.E., M. ASCE
President, Central Illinois Section ASCE
Date: 2/28/25

DUCZYNSKI.MICHAEL.PETER.1556005849 Digitally signed by DUCZYNSKI.MICHAEL.PETER.1556005849 Date: 2025.02.28 13:42:07 -06'00'

Michael Duczynski, A.M. ASCE
Secretary, Central Illinois Section
Date: _____

AMERICAN SOCIETY OF CIVIL ENGINEERS ST. LOUIS SECTION
RESOLUTION IN SUPPORT OF HISTORIC ROUTE 66 AS AN ASCE NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **WHEREAS,** Route 66 was opened in November 1926 as the first all-weather highway in the United States connecting Chicago, Illinois to Santa Monica, California and played a major role in the history and development of the United States;

2. **WHEREAS,** the original Route 66 spanned about 240 miles through the St. Louis Section, from Madison County, just south of Staunton, Illinois, through St. Louis, and to Conway, Missouri in Laclede County;

3. **WHEREAS,** Route 66 was key in the development of six major bridges over the Mississippi River at St. Louis, beginning with the McKinley Bridge, followed by the MacArthur (originally Municipal) Bridge, the Martin Luther King (Veterans Memorial) Bridge, the Chain-of-Rocks Bridge, Poplar Street Bridge, and the I-270 Chain of Rocks Bridge, which have each been a major civil engineering achievement;

4. **WHEREAS,** Route 66 was key in the development of many communities in the St. Louis region, across Missouri, and in the United States, as a "road to opportunity";

5. **WHEREAS,** the U.S. Congress established the "Route 66 Centennial Commission" for planning and promoting activities fitting and proper for the commemoration of Route 66;

6. **WHEREAS,** the Missouri Legislature has established the Missouri Route 66 Centennial Commission to plan, promote and sponsor official Route 66 centennial events, programs, activities designed to involve all Missouri citizens;

7. **WHEREAS,** the Missouri Department of Parks has established the Route 66 State Park in Eureka at the former Meramec River Bridge to commemorate the history of Route 66 in Missouri;

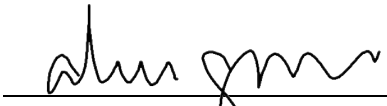
RESOLVED, that the ASCE St. Louis Section Board of Directors, on behalf of its members:

1. **RECOMMENDS** approval of the entirety of Route 66 in Missouri as a National Historic Civil Engineering Landmark (NHCEL);

2. **RECOMMENDS** seeking to place a NHCEL plaque in the Route 66 State Park;

3. **RECOMMENDS** that Governor Mike Parson in consultation with the Missouri Route 66 Centennial Commission recommend to the President the appointment of representatives from Missouri to the Congressional Route 66 Centennial Commission.

Approved by the St. Louis Section Board of Directors at a regular meeting on February 7, 2023.



Alison Graves, P.E.
President, St. Louis Section

RESOLUTION IN SUPPORT OF ROUTE 66 IN KANSAS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Kansas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Kansas City Section Board of Directors of ASCE on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Kansas as a National Historic Civil Engineering Landmark;

2. Supports the appointment by the President of the United States to the Route 66 Centennial Commission of Dale A. Oglesby of Galena, Kansas

Anthony T. Kulesa — 1/9/24
President, Kansas City Section ASCE — Date

Anthony Omer — 1/9/24
Secretary, Kansas City Section — Date

RESOLUTION IN SUPPORT OF ROUTE 66 IN KANSAS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Kansas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Kansas Section Board of Directors of ASCE on behalf of their members:

Recommends approval of the entirety of Route 66 in Kansas as a National Historic Civil Engineering Landmark;

	February 28, 2025	Ryan Bowman	2-28-2025
President, Kansas Section ASCE	Date	Secretary, Kansas Section	Date

Resolution in Support of Nomination of Route 66 in Oklahoma as a National Historic Civil Engineering Landmark

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Oklahoma through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Oklahoma Section Board of Directors, the Oklahoma City Branch, and the Tulsa Branch on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Oklahoma as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of Oklahoma to recommend to the President of the United States the appointment of Josh Johnston, P.E. as Oklahoma's representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Oklahoma Section, the Oklahoma City Branch, and the Tulsa Branch;

Sean Kavanagh, P.E. President, Oklahoma Section Date: _____	Brad Folks, P.E. President, Oklahoma City Branch Date: 10/11/2022	Aaron Beats P.E. President, Tulsa Branch Date: 9/30/2022

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN TEXAS

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner the appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas**, the centennial is an opportunity to celebrate the important history of Route 66 in Texas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Texas Section and the High Plains Branch Boards of Direction on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Texas as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of Texas to recommend to the President of the United States the appointment of (insert name) as the Texas representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Texas Section and the High Plains Branch;

Patrick M. Beecher, P.E.
President, Texas Section ASCE
Date: 9/16/22

Hunter J. Streun Digitally signed by Hunter J. Streun Date: 2022.10.24 10:01:04 -05'00'

Hunter Streun, EIT
President, High Plains Branch ASCE
Date:_____

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN NEW MEXICO AS A NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner the appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in New Mexico through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE New Mexico Section and the Northern Branch Boards of Direction on behalf of their members:

1. Recommends approval of the entirety of Route 66 in New Mexico as a National Historic Civil Engineering Landmark;

2.. Supports the Governor of New Mexico's selection of Jen Paul Schroer as New Mexico's representative to the Route 66 Commission.

Approved by the Boards of Directors of the New Mexico Section and the Northern Branch;

Logan Brandenburg, P.E., M. ASCE
President, New Mexico Section ASCE
Date: 03/21/2023

Summer Herrera, P. E., M. ASCE
President, Northern Branch
Date: 3/21/2023

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN ARIZONA

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Arizona through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Arizona Section Board of Directors of ASCE and the Board of Directors of the Northern Arizona Branch of ASCE;

1. Recommends approval of the entirety of Route 66 in Arizona as a National Historic Civil Engineering Landmark;

2. Supports the appointment by the President of the United States of Debbie Johnson, Miles Partnership, to the U.S. Route 66 Centennial Commission.

Larry Hanson

Larry Hanson, P.E., President
Arizona Section ASCE
Date 4/26/24

Sabrina M. Gibson

Sabrina Gibson, P.E., President
Northern Arizona Branch ASCE
Date 4/25/2024

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN CALIFORNIA AS A NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in California through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Los Angeles Section, Metropolitan Los Angeles Branch, and the San Bernardino Branch Boards of Directors, on behalf of their members:

1. Recommends approval of the entirety of Route 66 in California as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of California to recommend to the President of the United States the appointment of Congresswoman Grace Napolitano as California's representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Los Angeles Section, the Metropolitan Los Angeles Branch (MLAB), and the San Bernardino-Riverside Branch (SBD-RIV) of ASCE;

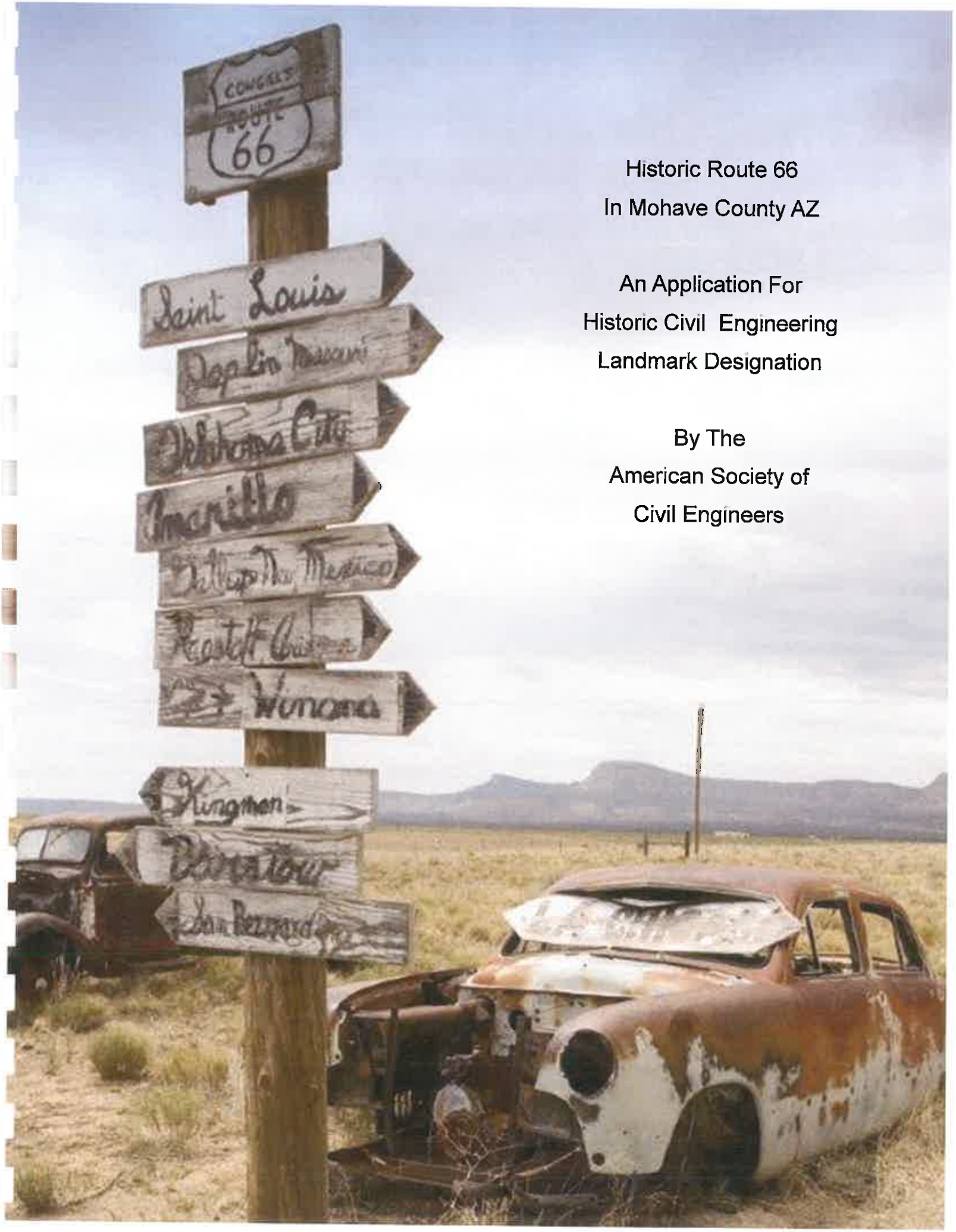
Melissa T. Barbosa, P.E.
President, Los Angeles Section
Date: 12/15/2022

Ben Baker
Ben Baker, M.S.
President, MLAB
Date: 1/20/2023

Emily Sipes, M.S.
President, SBD-RIV Branch
Date: 1/30/2023

Appendix B

Nomination Package from Arizona Section to nominate Mohave County segment of Route 66



Historic Route 66
In Mohave County AZ

An Application For
Historic Civil Engineering
Landmark Designation

By The
American Society of
Civil Engineers

Historic Civil Engineering Landmark Nomination

This form may be printed. Please submit one copy for each committee member of all materials relating to the nomination. If more space is required to provide full response, please include additional documentation.

To: History & Heritage Committee
ATTN: Jennifer Lawrence
1801 Alexander Bell Drive Reston, VA 20191-4400

Date: **February 21, 2020** ASCE Section: **Arizona**

This is to nominate the following for designation as a Historic Landmark: **National** –

Historic Route 66 in Mohave County, Arizona

Previously nominated for National: **No**

Located at: **See vicinity maps Exhibits A and B**

County: **Mohave**

State: **Arizona**

The proposed landmark's owner: **Mohave County, Arizona.**

The latitude and longitude to the nearest minute (or U.T.M. coordinates). Attach detailed local and vicinity maps that show access from a major city or the interstate:

Length of this segment is 48 miles.

The Topock end of the route is Latitude 34.715491 degrees north, Longitude 114.484759 degrees west.

The McConnico end is Latitude 35.139779 degrees north, Longitude 114.107544 degrees west.

In support of this nomination the following information must be provided:

1. **Date of construction (and other significant dates):**

Route 66 embodies a complex, rich history that goes well beyond any chronicle of the road itself. An artery of transportation, an agent of social transformation, and a remnant of America's past, it once stretched 2,448 miles from Chicago to Santa Monica.

This 48-mile segment is part of the longest remaining stretch of Route 66 in all of the eight Route 66 states.

Earliest Beginnings

The expansion of U.S. territory to include California and the Southwest, along with the gold rush to California, created an urgent need to improve communication and transportation links between the west and the rest of the nation. In 1853 Congress appropriated $150,000 for six surveys of potential routes to the Pacific Ocean that would be carried out by Army topographical engineers. Routes attempting to follow the 35th parallel were explored by Sitgreaves in 1851 and by Whipple in 1853, but the most notable is that taken by Edward Beale.

War Department Survey Crew southeast of Oatman before any roads existed

In 1857 Congress ordered the War Department to construct a northern army wagon road across New Mexico Territory (containing present-day Arizona). Beale began construction 1857 and took five months to complete his road, at a cost of $50,000.

After completion, the "Beale Wagon Road" was touted as being suitable for six-mule teams pulling wagon loads as heavy as 3,500 pounds!

The building of Beale's wagon road was the Southwest's first Federal road construction project.

Crossing the Colorado

As interstate commerce began to drive the need for infrastructure, crossing the Colorado River quickly proved to be a significant challenge. In 1890, the Needles Ferry began moving travelers across the Colorado River at Topock (the Mohave Indian term for "water crossing"), at a then-astronomical fee of $3.50 per passenger. The National Old Trails Highway system also used the ferry until a flood took it out of service in 1915.

The Needles Ferry over the Colorado River

To relieve this burden on travelers and to compete with the "Ocean-to-Ocean Road" bridge being built in Yuma, the Old Trails Bridge was constructed from 1915 to1916 through a joint effort between Arizona, California, the Bureau of Indian Affairs, and Mohave County.

The Old Trails Arch Bridge under Construction, 1915

A landmark of American civil engineering in its own right, the structure is nationally significant as an outstanding example of steel arch construction.

The bridge's engineers had studied difficulties experienced by the Ocean-to-Ocean bridge project, and settled on a unique cantilever method of construction. They assembled the bridge halves on their sides on the ground and hoisted them into place using a ball-and-socket center hinge.

The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was also the lightest bridge of its kind.

From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first for the transcontinental National Old Trails Highway, and later for Route 66.

When vehicle traffic was moved to Interstate 40 just a few yards away, the bridge was re-purposed to carry an interstate natural gas pipeline, and still serves today.

The Old Trails Bridge was listed in the National Register of Historic Places in 1988.

The Old Trails Highway and the Good Roads Effort

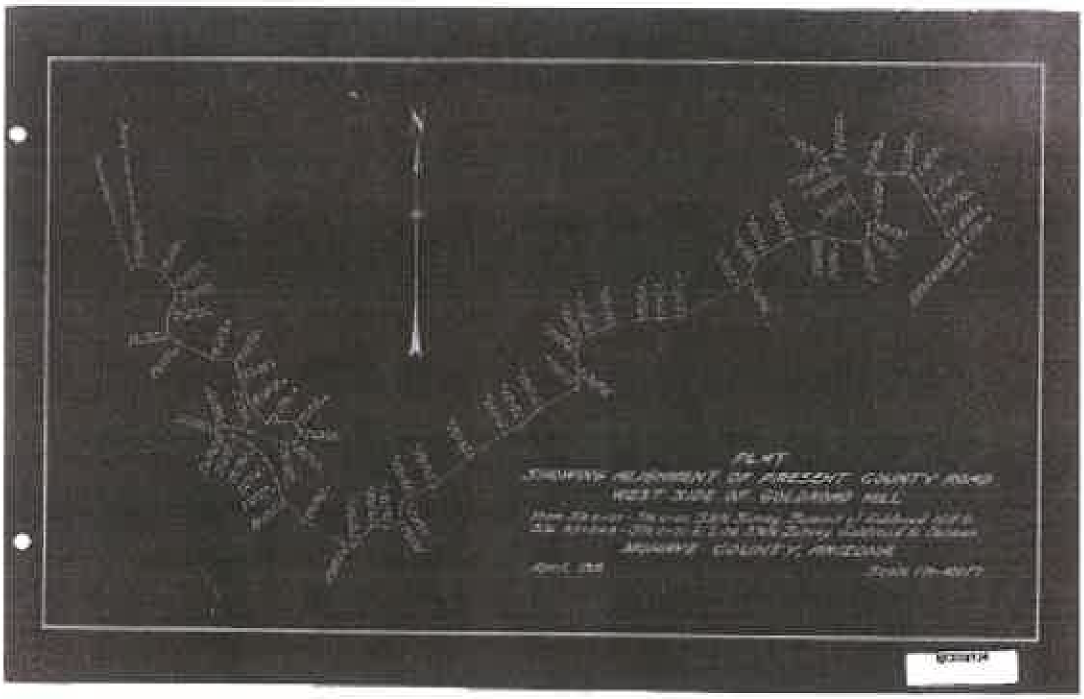
Prior to the creation of Federal highway agencies and funding, many transcontinental road efforts were championed by local governments, automobile enthusiast organizations, and various "Good Roads" organizations. Throughout the early 1900s there was in fact a fierce debate as to whether the national government even had an appropriate role in road building.

The National Old Trails Highway, part of which would eventually become a part of Route 66, was begun in 1911 as a project of the Missouri chapter of the Daughters of the American Revolution. In 1913 the National Old Trails Highway Association announced the road's route through Arizona, including the historical alignment in Mohave County following Edward Beale's army wagon road.

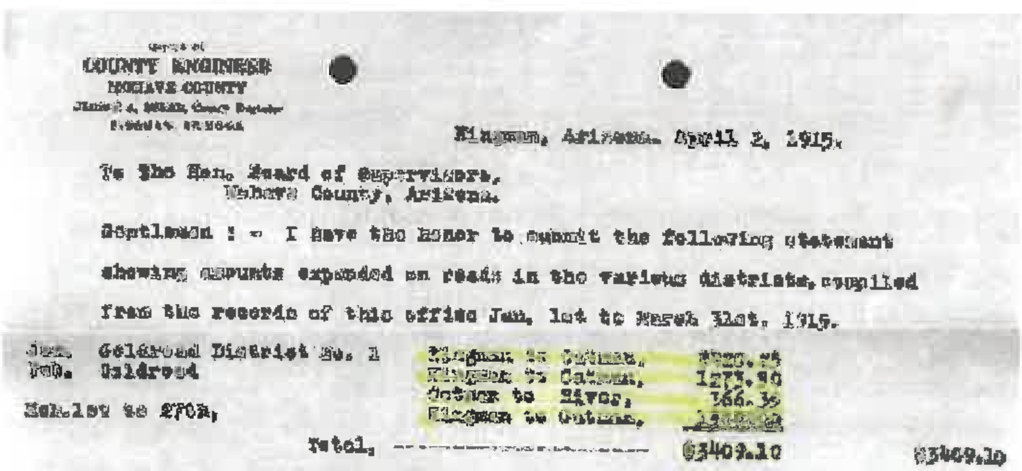
Under Arizona's 1909 Territorial Road Law (Arizona did not become a state until 1912), 75% of road tax collections went to the counties and 25% was retained for Territorial roads. As a result, far more road work was undertaken by the Counties than by the Territory.

As was typical for the time, most of the original design and construction of the Old Trails Highway was performed by County forces.

A 1918 alignment map for the Goldroad-Oatman section was designed by Mohave County Engineer J. B. Wright, and is appended as Exhibit G.



Engineer Wright's April, 1915 report to the Mohave County Board of Supervisors itemized an expenditure of $3,409.10 on the Kingman-Oatman-River road for the first quarter of that year.



Office of
COUNTY ENGINEER
MOHAVE COUNTY
[illegible]
[illegible]

Kingman, Arizona. April 2, 1915.

To The Hon. Board of Supervisors,
Mohave County, Arizona.

Gentlemen : - I have the honor to submit the following statement showing amounts expended on roads in the various districts, compiled from the records of this office Jan. 1st to March 31st, 1915.

Jan. Feb.	Goldroad District No. 1 Goldroad	Kingman to Oatman,	[illegible]
		Kingman to Oatman,	1273.90
		Oatman to River,	366.35
Mch. 1st to 27th,		Kingman to Oatman,	[illegible]
	Total,		$3409.10

$3409.10

Oatman

Mountain man and prospector Johnny Moss discovered gold in the Black Mountains near Beale's survey line in 1853.

Oatman, Arizona was founded astride the wagon road circa 1902 - 1908. Built in 1902, the Oatman Hotel is the oldest two-story adobe structure in Arizona, and is especially famous as the honeymoon stop of Clark Gable and Carole Lombard.

From about 1900 to 1920, Oatman was a typical western gold rush town, and was one of the largest gold producers in the American west. By 1931, area gold mines had produced over 1.8 million ounces of gold with a present day value of nearly $700 billion.

22 Mule Team rounding the turn at Goldroad Summit (Sitgreaves Pass) to Oatman

Gold was deemed "non-essential to the war effort" and the gold mines were shut down in 1941. Oatman was fortunate in that it was located on busy U.S. Route 66 and was able to cater to travelers driving between Kingman, Arizona and Needles, California.

Oatman circa 1925

Yet even that advantage was short-lived, as the town was completely bypassed in 1953 when a new route between Kingman and Needles was built. By the 1960s, Oatman was all but abandoned.

A revitalized interest in Historic Route 66 saved Oatman from demise, and while it may not be thriving, it has much to offer visitors looking for that kitschy slice of Americana.

Naturally Hollywood has been drawn to the unique patina of Oatman. Film producers have used Oatman as a location for many films, including *How the West was Won* and *Edge of Eternity*.

Oatman is often described as a ghost town, but that is not quite accurate. The current human population is 128. The burro population is close to 2,000.

Present-day Route 66 in Oatman, Arizona

Federalization

The Federal Aid Road Act of 1916 was among the most important pieces of public works legislation in American history. It established the model for federal participation in highway development for the remainder of the century.

With Federal funding came the transfer of the largely county-owned Old Trails Highway into the Arizona Highway System. In 1925 the Arizona Highway Department (now ADOT) assigned each of Arizona's highways a unique number with east-west routes receiving even numbers.

The National Old Trails Highway, running across Arizona from Lupton to Topock, was initially designated U.S. Route 60. Soon thereafter it was renumbered U. S. Route 66.

Under that number, as the celebrated Route 66 connecting Chicago with Los Angeles, it would become America's most famous roadway.

De-commissioning

Alas, progress inevitably marches on. In 1953, the Oatman Highway through the Black Mountains was completely bypassed by a new route between Kingman, Arizona, and Needles, California near the present Interstate 40 alignment.

Prior to this shift, Route 66 was the most heavily travelled highway in Arizona.

With various re-routings of Route 66 in the 1950s and 1960s, ownership and maintenance responsibility for this reach was transferred from the Arizona Highway Department back to Mohave County.

By 1985, all of U.S. Route 66 in America had been removed from the Federal highway system.

2. Names of key civil engineers and other professionals associated with project:

Among others, this list would include:

• J. B. Girand	Territorial Engineer, 1909-1912
• Lamar Cobb	First State Engineer, 1912-1916
• Thomas Maddock	State Engineer, 1917-1922
• F. R, Goodwin	State Engineer, 1923-1924
• W. C. Lefebre	State Engineer, 1925-1927
• J. B. Wright	Mohave County Engineer, circa 1915
• O. K. Parker	Engineer for the Automobile Club of Southern California, circa 1912
• J. A. Sourwine	Designed the Old Trails Arch Bridge
• J. P. Kemmerer	Supervised construction of the Old Trails Arch Bridge
• E. Ross Householder	Mohave County Engineer circa 1925-1960

3. **Historic (national or local) significance of this landmark:**

No highway is as famous as Route 66.

The Beale Wagon Road was the first Federal highway project in Arizona.

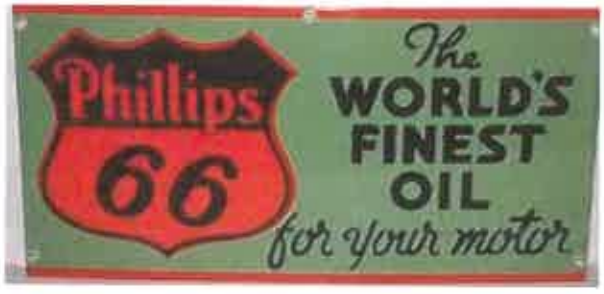
Route 66 has become the focus of a nostalgia industry based on the "Open Road" of 20th-century America. On the Route 66 of legend, endless prairies and desert vistas are punctuated by odd, individualistic cafes, motels, and roadside attractions, the whole effort symbolizing something essential about America.

Travel and Leisure magazine has named Route 66 as one of America's 29 "Most Iconic Drives".

Arizona drivers can display their support and enthusiasm with a special Route 66 license plate:

Shortly after the route was stitched together out of shorter, less ambitious roads, a cross-country foot race in 1928 publicized the new "Main Street of America".

The Tulsa-based Phillips Petroleum Company helped imprint the number on the national consciousness by adopting the name "Phillips 66" for its gasoline and service stations, shown in a highway-shield type logo.



The cultural product that made 66 a household number was John Steinbeck's novel of dust bowl flight *The Grapes of Wrath*. Steinbeck first called Route 66 "the mother road"

and chronicled its importance and impact on American westward migration.

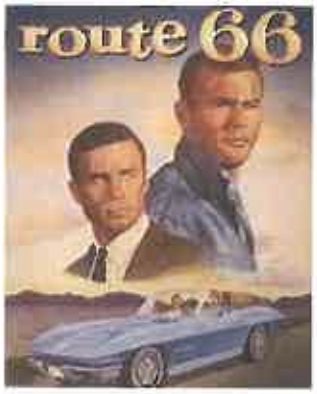
In 1940 John Ford adapted Steinbeck's novel into a movie of the same name. The opening scene features a young Henry Fonda with the Old Trails Arch Bridge as the backdrop.

Screen Shot from *The Grapes of Wrath* (Old Trails Bridge)

In the postwar era, even as Route 66 was about to be replaced by Interstate 40, the road came to symbolize the restless spirit of long-distance highway travel. In 1960 a television show, "Route 66", portrayed two young men who roam the country in a Corvette convertible.

If Steinbeck's scenes of the hardscrabble poor invoked memories of families crossing the

continent in a covered wagon, "Route 66" recalled the roving cowpokes and gamblers of movie and TV westerns.



Route 66 also inspired two pieces of music that are entwined in American culture: the Nelson Riddle theme song for the TV show and "Get Your Kicks on Route 66", written in 1946 by Bobby Troupe after he and his wife drove the road to Los Angeles.

Troup had hoped to make a career as a songwriter and musician, and his career plan soon worked better than he had dreamed. Upon arriving in Los Angeles, he almost immediately sold the song, which was recorded by Nat King Cole.

4. **Comparable or similar projects, both in the United States and other countries.(Provide name, location, dates, short description of each project)**

- The Lincoln Highway: A transcontinental route conceived in 1912 running from New York to San Francisco. A young Army Major named Dwight Eisenhower was part of a convoy across the length of the Lincoln Highway; the difficulties encountered eventually contributed to Eisenhower's support for the Interstate Highway System.
- Britain's A-5 links London to Dublin (with a ferry segment). It follows many segments originally constructed by the Romans and is signed as "The Roman Road".
- The Pacific Coast Highway from Dana Point to Leggett, California, and including the Golden Gate Bridge, was constructed from 1911 to 1960, and is designated an All American Road.

5. **Unique features or characteristics which set this proposed landmark apart from other civil engineering projects, including those in #4 above.**

<u>The Old Trails Arch Bridge</u>

The Old Trails Bridge was constructed 1915-1916 through a joint effort between Arizona, California, the Bureau of Indian Affairs, and Mohave County. A landmark of American civil engineering in its own right, the structure is nationally significant as an outstanding example of steel arch construction. The engineers had studied difficulties experienced by the Ocean-to-Ocean bridge project, and settled on a unique cantilever method of construction assembling the bridge halves on their sides on the ground and hoisting them into place using a ball-and-socket center hinge.

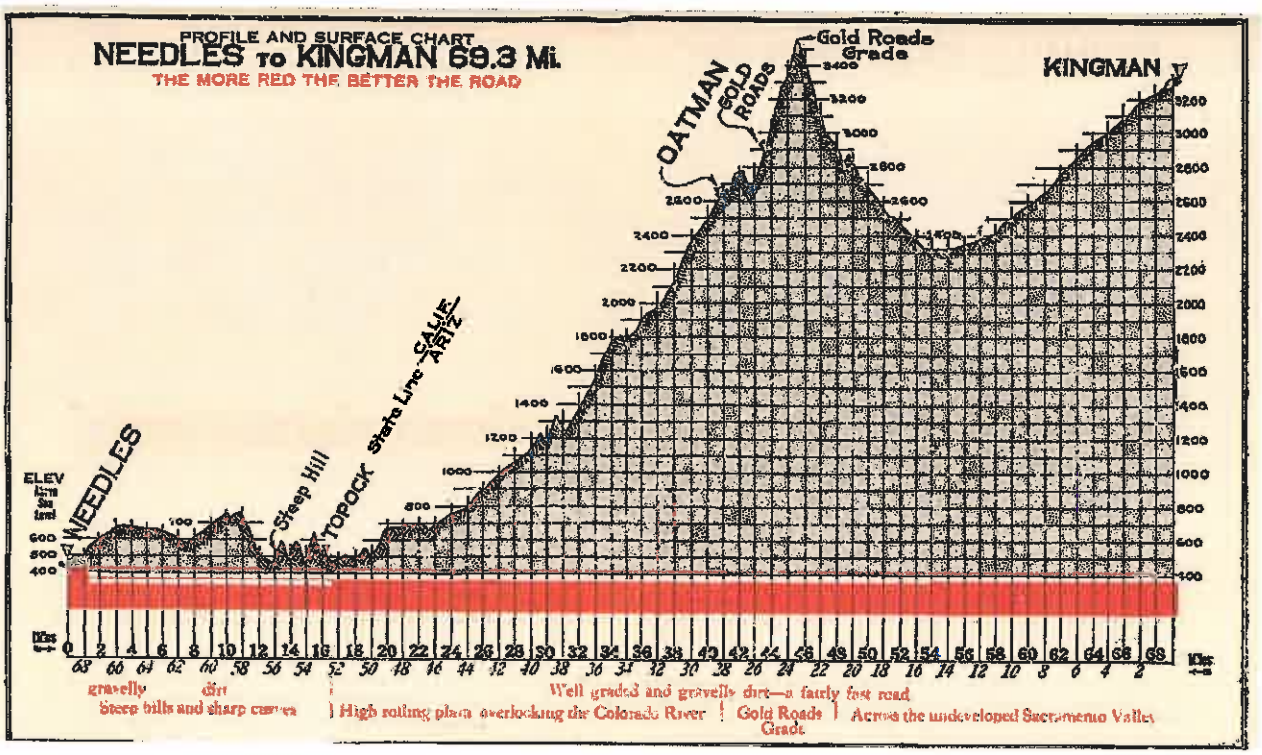
The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was also the lightest bridge of its kind. From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first on the transcontinental National Old Trails Highway, and later on Route 66.

Working with Nature

Geometrics that are primitive by today's standards reflect a time when roads were designed to coexist with the surrounding landscape rather than dominate and conquer it.

The "design" vehicles for Route 66 were mule-drawn wagons, Ford Model As, and Model Ts; speeds were low and airbags did not exist. Anti-lock braking systems and even seat belts were decades in the future.

This section of Route 66 was the steepest along the entire 2,448-mile length, and motorists were advised to climb the grade in reverse so that fuel could get to their engine.



1925 *Hobbs Road Guide* Excerpt

This reach was so fraught with hairpin turns that local guides were available to assist.

Even today, the geometrics dictate a 40-foot maximum allowable vehicle length.

Use of Native Materials

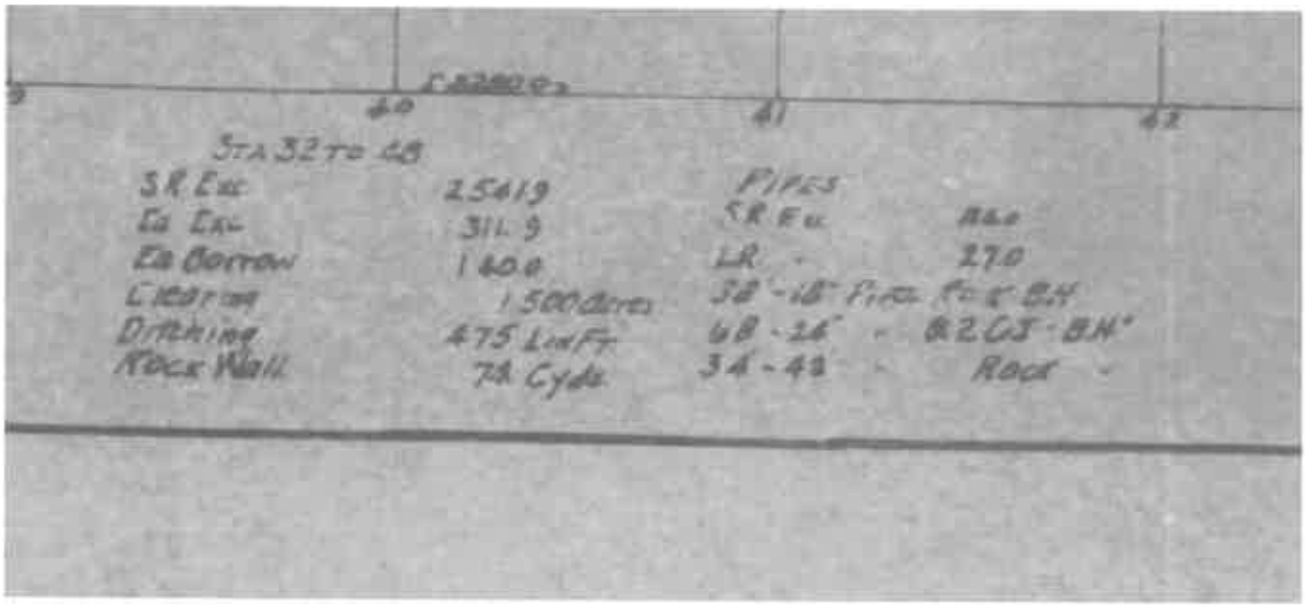
In promoting the construction of the roadway, Engineer O. K. Parker "...described the road building methods that could be more advantageously used. A telling point in this lecture was Mr. Parker's statement that, in addition to the scenic and topographical advantages of the route, it was further favored by *the unlimited amount of natural good road material that exists throughout Arizona* and assures the construction of a high-class road at a moderate cost."

Many of the native rock, hand-built retaining walls and "guardrail walls" are still readily visible along the route, illustrating different construction approaches from a bygone era.

Design Standards

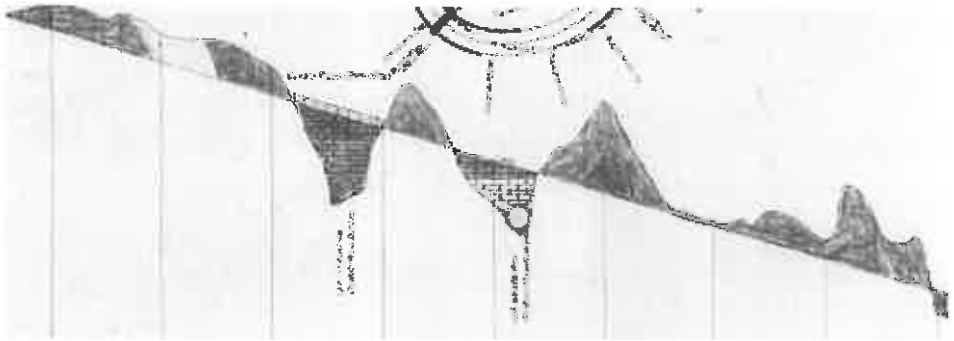
Little documentation has survived of the actual design effort other than the plans themselves, although both Wright's 1915 plans and the Arizona Highway Department's 1921 plans for "Federal Aid Project No. 5" allow interpretation as to how they were engineered.

In a time without calculators, much less computers and Excel spreadsheets, all curves, grades, bearings, flows, cuts, fills, and quantities were laboriously calculated, checked, and re-checked by hand. CAD was decades in the future; drawings were made by hand on linen.

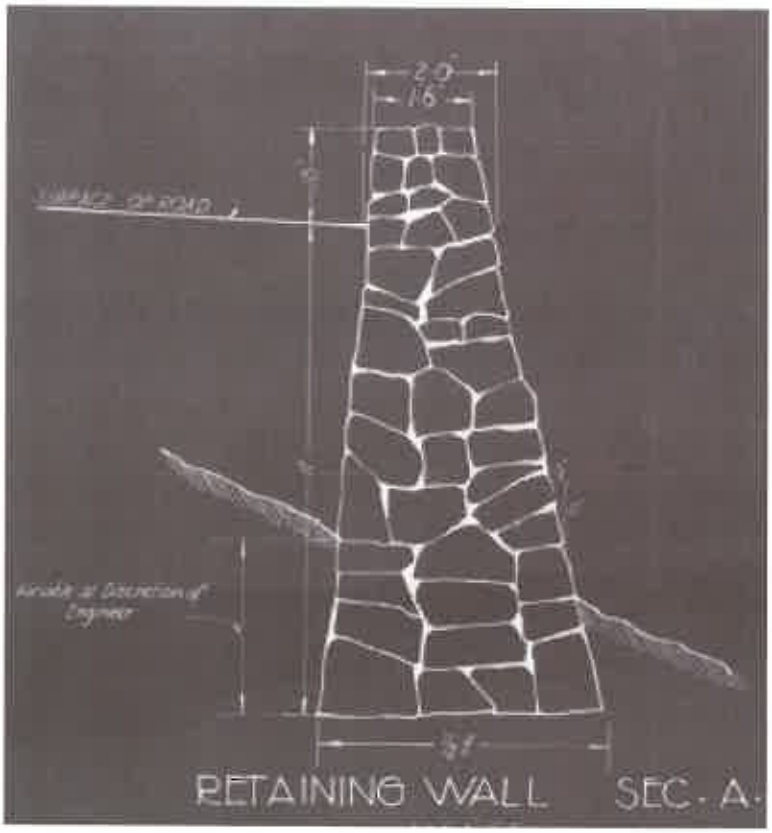


Surveying was not performed with GPS or even photogrammetry, but relied on transits, spirit levels, and 100-foot steel chains in steep mountain terrain in severe heat and cold.

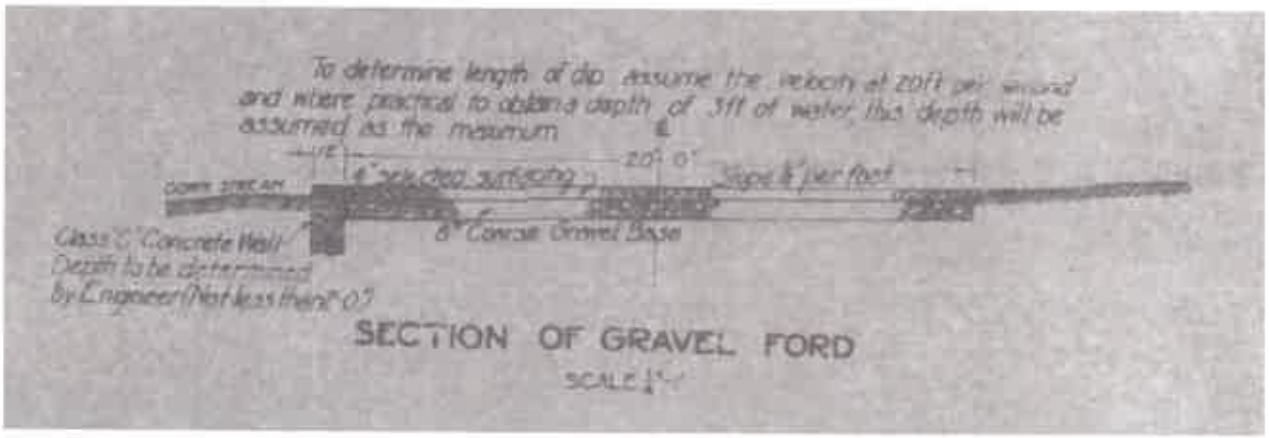
Earthwork calculations were made by plotting existing and design profiles and measuring the area of cuts and fills with a planimiter.



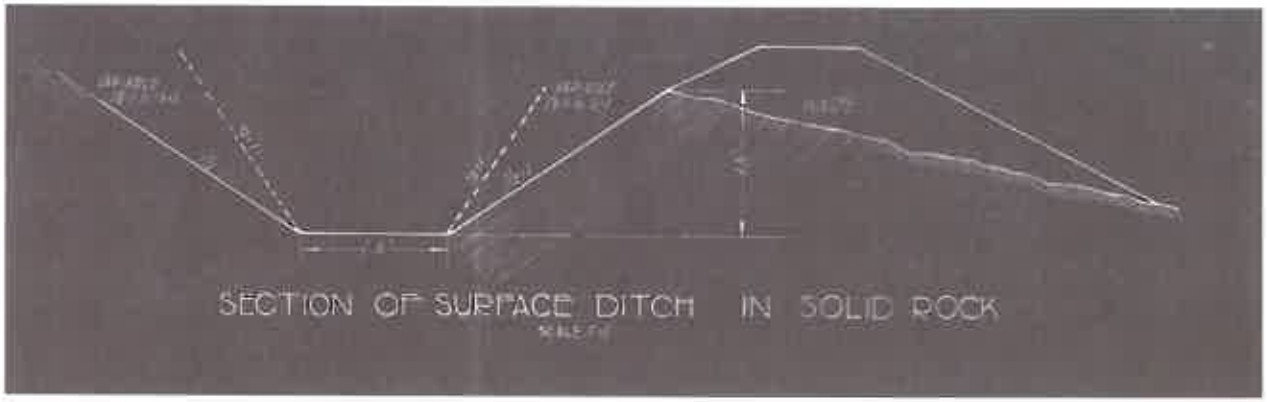
Greater reliance was placed on hand craftsmanship and utilizing local materials, and is illustrated in details such as this one for unreinforced grouted rock retaining walls with an embedment depth "variable at discretion of Engineer".



Also reflecting different times, 1921 design standards called for storm flow overtopping at ford crossings allowable to a depth of three (3) feet!



And, as a reminder of the nature of the route's geology, a separate detail was made to illustrate the geometrics of surface channels to be carved out of solid rock.



Construction

In April 1857, the United States Secretary of War John B. Floyd instructed Lieutenant Edward Fitzgerald Beale to construct a wagon road close to the 35th parallel between Fort Defiance in what is now Apache County, Arizona and the Colorado River in the west.

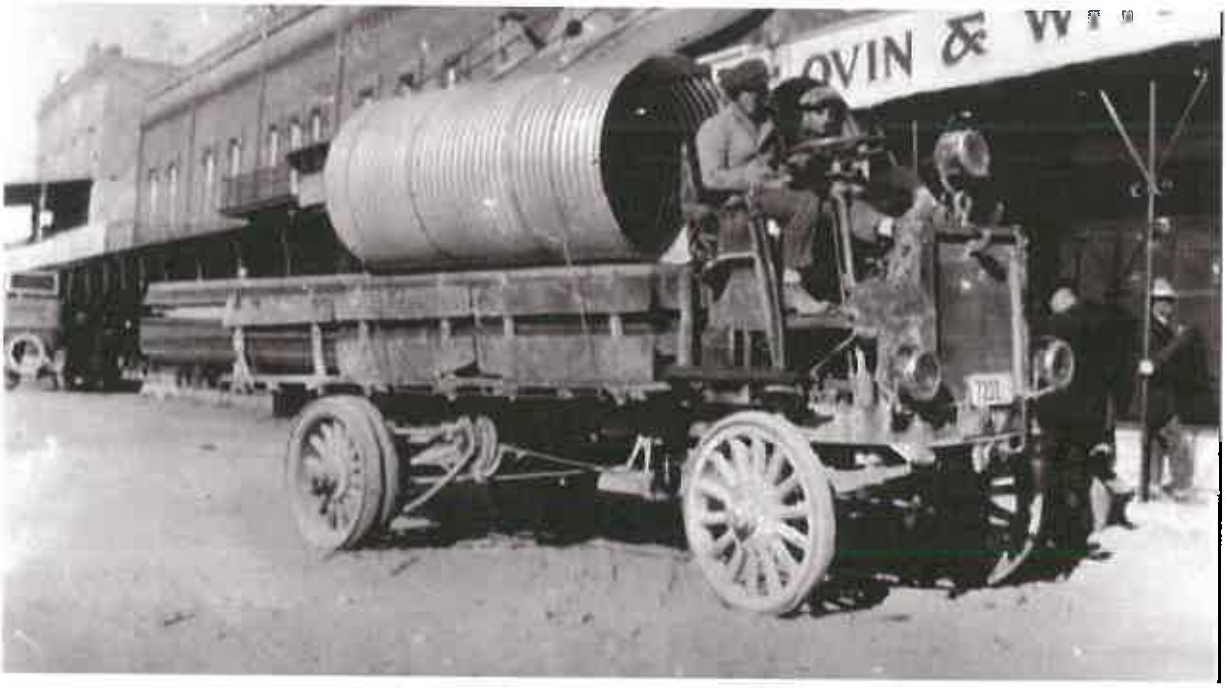
Lieutenant Beale, along with a crew of 100 men and 22 camels built the first Federal highway in the southwest without electricity or internal combustion engines, using only human- and animal-powered tools and implements.

Construction began 1857 and took five months to complete, at a cost of $50,000.

The Old Trails Highway and Route 66 construction projects of 1915-1930 were able to take advantage of radical new construction techniques employing steam, compressed air, and internal combustion engines:

Rock Cut, 1926 Route 66 Construction

Placing Base on Route 66, 1926



Downtown Kingman, circa 1920

6. **Contribution which this structure or project made toward the development of: (1) the civil engineering profession; (2) the nation or a large region thereof (part 2 is necessary for an NHCEL).**

The story of Historic Route 66 in Mohave County is a timeline of both development of the American Southwest and the development of our 20th century transportation system:

- Military surveys of the largely-unexplored Southwest
- Building of Army roads to access and protect the California gold rush
- Ferry crossing replaced by a state of the art arched bridge
- Grassroots "Good Roads" boosterism
- The National Old Trails Highway System
- Territorial road funding mechanisms
- Creation of the Federal Highway System
- Arizona's gold rush boom and bust
- America's dust bowl and depression-era westward migration
- Local roadways eclipsed by the Interstate Highway System
- Development of a nostalgia/tourism industry

The appearance of Route 66 on the American scene coincided with unparalleled economic strife and global instability, yet it hastened the most comprehensive westward movement and economic growth in the Unites States history.

The cultural product which made Route 66 a household number was John Steinbeck's 1939 novel of dust bowl migrants, *The Grapes of Wrath.* As every reference source reminds the reader, Steinbeck declared Route 66 the "mother road, the road of flight".

Route 66 allowed an estimated 500,000 Depression and Dust Bowl refugees to chase their American Dream west, mirroring the covered wagons of a few generations earlier.

Both migrations were major contributors to the development of the Union.

With full paving completed in 1938 on the eve of World War II, Route 66 was also particularly significant to the nation's war effort, allowing rapid mobilization to and from training bases in the west.

It acted as a military transport corridor moving troops and supplies from one military reservation to another.

Mohave County Historic Route 66 Importance

- ✓ Punctuates Historic Route 66 as the foremost example of lasting civil engineering impact on American culture and lifestyle and a forerunner to the modern interstate highway system.
- ✓ Exemplifies the evolution of water and rail to accessible, reliable highway transportation.
- ✓ Revels in its worldwide prominence as leading transportation attraction.

7. List of published references concerning this nomination.

- *Arizona Transportation History*, FHWA Report Number FHWA-AZ-11-660, December, 2011.
- *The National Old Trails Road* https://www.fhwa.dot.gov/infrastructure/trails.cfm
- https://www.historic66.com/
- https://en.wikipedia.org/wiki/U.S._Route_66
- https://en.wikipedia.org/wiki/Beale%27s_Wagon_Road
- https://www.amazon.com/Wagon-Road-Defiance-Colorado-River/dp/1376320835
- https://www.amazon.com/Route-66-Encyclopedia-Jim-Hinckley/dp/0760349487
- https://www.legendsofamerica.com/
- https://www.amazon.com/s?k=the+great+american+foot+race&hvadid=77859279487848&hvbmt=be&hvdev=c&hvqmt=e&tag=mh0b-20&ref=pd_sl_5u3vo3bc85_e
- https://www.roadtripusa.com/route-66/arizona/old-route-66-oatman/
- http://www.route66world.com/
- https://www.route66news.com/
- https://en.wikipedia.org/wiki/(Get_Your_Kicks_on)_Route_66
- https://en.wikipedia.org/wiki/Lincoln_Highway
- https://en.wikipedia.org/wiki/A5_road_(Great_Britain)
- https://en.wikipedia.org/wiki/California_State_Route_1
- https://www.fhwa.dot.gov/byways/byways/2489
- https://www.travelandleisure.com/slideshows/americas-most-iconic-drives?slide=113745#113745
- https://localwiki.org/kingman/Beale%27s_Wagon_Road

8. **A list of additional documentation in support of this nomination. (Please list all enclosed documents, publications, photographs and supporting historical evidence. Digital images and one 5" x 7" black and white glossy photo are required for publicity and presentation purposes.)**

- Exhibits A and B – Vicinity maps
- Exhibit C – A December 27, 1912 letter from Governor Hunt to Mohave County expressing support for the work of the Arizona Good Roads association
- Exhibit D – An April 19, 1912 letter to the Mohave County Board of Supervisors from the Prescott Auto Club supporting and urging construction of a Prescott-Kingman-Colorado River road
- Exhibit E – A January 30, 1914 letter from Lamar Cobb, the first State Engineer, to the Mohave County Board of Supervisors giving two steel road drags to the County "for use on the State road…"
- Exhibit F – An April 2, 1915 Budget Report by the Mohave County Engineer showing quarterly expenditure of $3,409.10 on this roadway segment
- Exhibit G – A Plat Map showing the alignment of this segment dated April, 1918
- Exhibit H – A map from Mohave County's 1920 Capital Roadway Plan showing this roadway segment (highlighted in yellow)
- Exhibit I – Mohave County Board of Supervisors Resolution 2020-023
- Exhibits J-N – Numerous photographs of this segment of Route 66

9. **The recommended citation for HHC consideration.**

Established on November 11, 1926, U.S. Route 66 once ran from Chicago, Illinois to Santa Monica, California. Route 66 was a primary route for the westward migration of hundreds of thousands of people during the Great Depression and Dust Bowl of the 1930s, as memorialized in song, literature, and film in "The Grapes of Wrath". Despite this period of great economic strife, Route 66 hastened the most comprehensive westward movement and economic growth in United States history.

The Mohave County stretch of Route 66 from Topock to McConnico was the steepest and most curving along the entire 2,448-mile length, and is also part of the longest remaining segment of Historic Route 66 still in use in its original configuration.

11. A statement of the owner's support of the nomination.

The Mohave County Board of Supervisors approved the enclosed Resolution 2020-023 (Exhibit I) in support of Historic Civil Engineering Landmark designation for this roadway.

If this nomination is approved for designation as a National Historic Civil Engineering Landmark by the Board of Direction of ASCE, we understand that the Section will have the major responsibility for the public presentation ceremony of the plaque and for plaque maintenance.

Chairman, Section History & Heritage Committee:

Julian Dresang

Section Secretary:

Jeff Swan

Section President:

Breanna Connelly

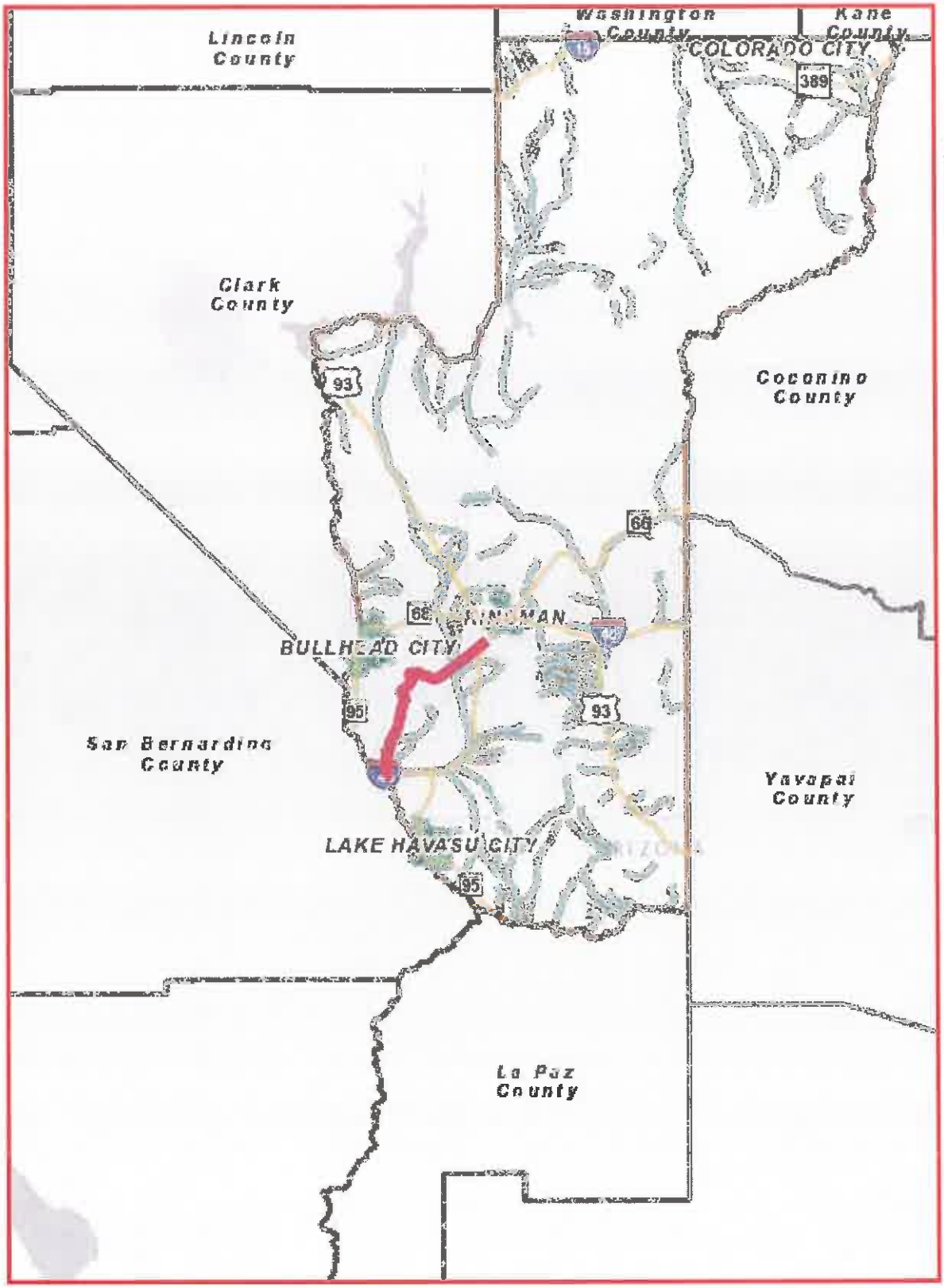
*Note: For State Historic Civil Engineering Landmark designation, the other Section presidents from the state should sign the nomination form or concur with the nomination in writing. If all Sections affected by the nomination agree on dedicating this landmark, the nominating Section should inform the HHC of their decision and send one (1) copy of the nomination package to the staff contact for the HHC.

Note: Designation by ASCE as a National Historic Civil Engineering Landmark carries no legal commitment on the part of ASCE, the owner or the governmental jurisdiction in which it is located.

EXHIBITS A-G

gis.mohavecounty.us

Mohave County Public Works



Legend

- City Limits
- Township/Range
- Named Washes

Exhibit A

1: 2,541,484

N W E S

0 211,790. 423,580. Feet

(approximate scale)

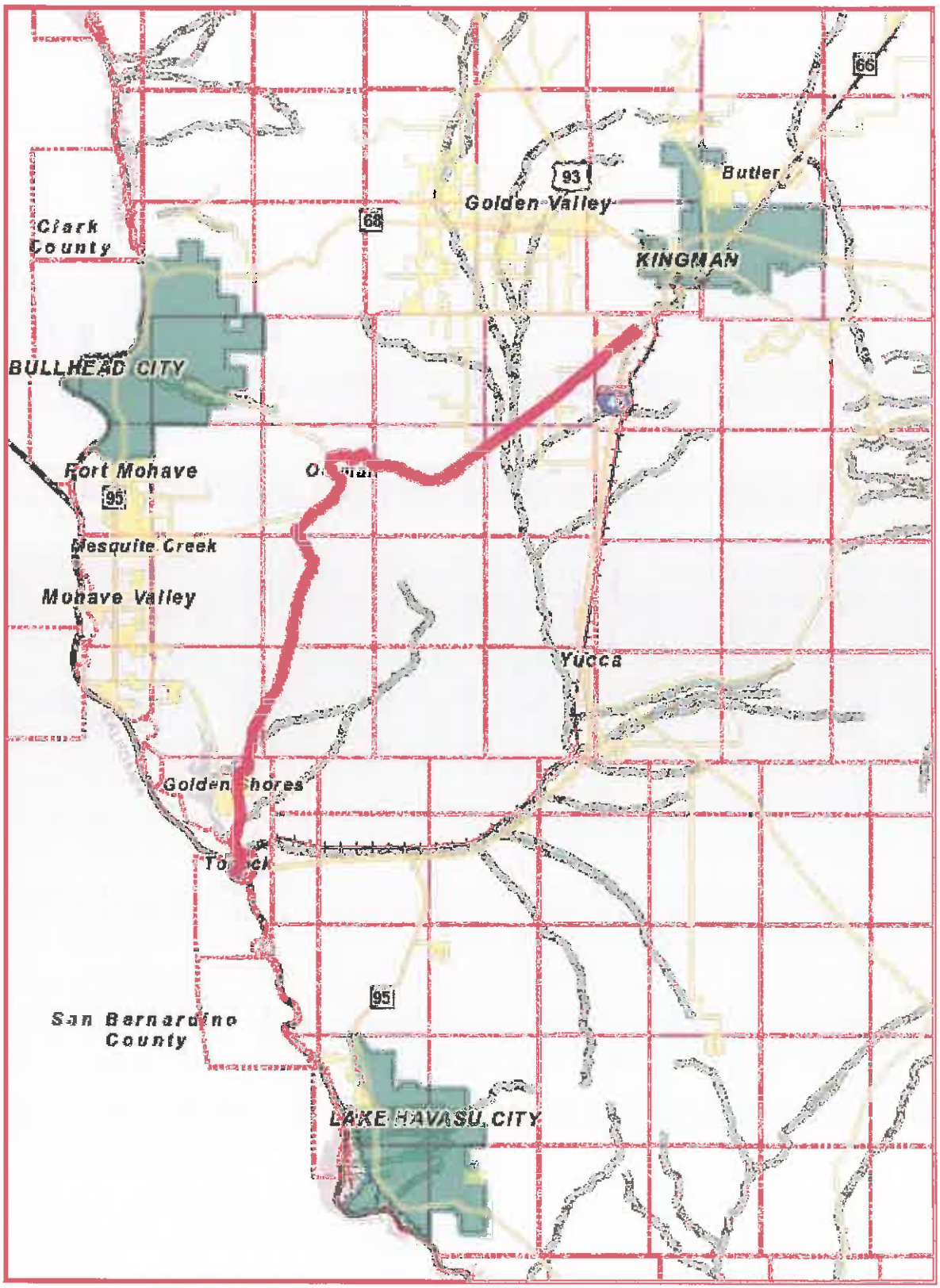
Map Created: 1/22/2020

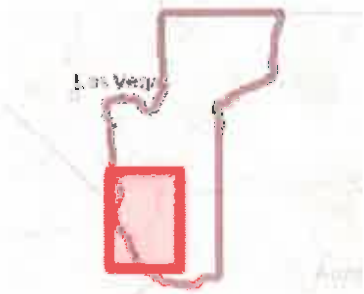
Notes:

HISTORIC ROUTE 66 IN MOHAVE COUNTY, ARIZONA

gis.mohavecounty.us

Mohave County Public Works





Legend

- Collectors
- Railroad
- City Limits
- Township/Range
- Named Washes

Exhibit B

1: 635,371

N W E S

0 52,947.5 105,895. Feet

(approximate scale)

Map Created: 1/22/2020

Notes:

HISTORIC ROUTE 66 IN MOHAVE COUNTY, ARIZONA

Exhibit C

The Governor's Office

STATE HOUSE

PHOENIX

December 27, 1912.

My dear Mr. Morgan:

The Arizona Good Roads Association has arranged for a series of lectures by a government engineer in all the counties of the State, during January, on the subject of "Roads in Arizona."

I regard this as a most practical idea, and one which will result in material benefit. The suggestion that each county set aside $50 for expenses in connection has my approval. I am sure that co-operation of your Board of Supervisors with the Association will greatly advance the cause of good road building.

Sincerely yours,

Geo. W. P. Hunt

Governor of Arizona.

Mr. J. W. Morgan, Clerk,

Board of Supervisors,

Kingman, Arizona.

OFFICE OF THE

BOARD OF SUPERVISORS OF MOHAVE COUNTY

STATE OF ARIZONA

JOHN C. POTTS, CHAIRMAN
Kingman, Arizona
W. K. RIDENOUR, Oatman, Arizona
J. S. WITHERS, Kingman, Arizona

Exhibit D

C O P Y

Prescott, Arizona, [illegible] 1912
Kingman, Arizona, 19

To the Honorable

The Board of Supervisors,

Mohave County, Arizona.

Gentlemen:

At a meeting of the Prescott Auto Club held on the [illegible],inst., a resolution was adopted most strongly favoring the early construction of the proposed road between Prescott and Kingman, this Club believing that such a road would not only prove of great and immediate benefit to Mohave and Yavapai Counties, but that its construction will practically compel the Trans-continental Highway to accept the northern route across Arizona, and to adopt this road as a part of it. This is so because of the many advantages this route enjoys over any possible southern route. Many automobilists and others who have tried both routes concur in this view, notably Mr. Wilby, field representative of the American Automobile Association, and Mr. H.L.Groves, the Pacific Coast representative of the Ford Motor Company. But in any event it will greatly stimulate the influx of tourists and sight seers. So that, aside from the substantial benefit of our local road patrons, much money may reasonably be expected to be spent in both Counties by visitors who will be attracted here on account of the good roads.

It is understood by this Club that the Supervisors of Mohave and Yavapai Counties have already practically agreed to build this road, to a common point on the boundary line. The Board of Yavapai County proposes, as we understand it, to commence at a point on the Prescott-Ash Fork road near [illegible]'s ranch, thence westerly to

OFFICE OF THE

BOARD OF SUPERVISORS OF MOHAVE COUNTY

STATE OF ARIZONA

JOHN C. POTTS, CHAIRMAN
Kingman, Arizona
W. K. RIDENOUR, Oatman, Arizona
J. S. WITHERS, Kingman, Arizona

Kingman, Arizona, ... 19

Seligman, thence south of the railroad to the Mohave line through an easy country for road work. We understand that Mohave County proposes to build from this point to Kingman via Hackberry, and that the road can easily be laid out so that both counties will avoid expense of building through Truxton Canyon. The Club also understands that Mohave County proposes to extend this road beyond Kingman to some convenient crossing on the Colorado River.

This road is certain to become at once one of the most important and valuable in the west. It gives Mohave County an outlet to all eastern points, and, through Prescott, to Phoenix and the south. It gives Prescott an outlet through Kingman to California and to the mining districts of Mohave County.

As this Club is advised, this road could be built very cheaply, and considering how greatly it will benefit the citizens of both counties, and especially Kingman and Prescott, this Club feels warranted in assuming to recommend to the Supervisors of both counties its early construction, and pledge its aid and support in every honorable way.

Very respectfully

PRESCOTT AUTO CLUB,

By, [illegible] Clark
Secretary.

LAMAR COBB
STATE ENGINEER

8-012

T. F. NICHOLS
OFFICE ENGINEER
E. P. ADAMS
CHIEF CLERK

STATE OF ARIZONA
OFFICE OF
STATE ENGINEER
PHOENIX

Exhibit E

Jan. 30, 1914.

Board of Supervisors,
Kingman, Arizona.

Gentlemen:-

I have ordered two Prairie 2-Blade adjustable steel road drags, weight 250# each, for use on the State road in your County. These drags have been ordered shipped as follows:-

1 to Kingman, Arizona

1 " Yucca, "

Bills of lading enclosed herewith.

Yours very truly,

Lamar Cobb

State Engr.

C/M

P. S. In order that no charges may accumulate on the drags, please arrange to have taken out of station promptly.

OFFICE OF
COUNTY ENGINEER
MOHAVE COUNTY
GEORGE A. BEEBE, County Engineer
KINGMAN, ARIZONA

Exhibit F

Kingman, Arizona. April 2, 1915.

To The Hon. Board of Supervisors,
Mohave County, Arizona.

Gentlemen : - I have the honor to submit the following statement showing amounts expended on roads in the various districts, compiled from the records of this office Jan. 1st to March 31st, 1915.

Jan.	Goldroad District No. 1	Kingman to Oatman,	$420.25	
Feb.	Goldroad	Kingman to Oatman,	1273.50	
		Oatman to River,	366.35	
Mch. 1st to 27th,		Kingman to Oatman,	1349.00	
		Total,	$3409.10	$3409.10

Sandy District No. 2 , consolidated.

Jan. & Feb.		Cane Springs to lower Sandy,	757.25	
March,		Round Valley to Cane Springs,	63.00	
		Frosts Ranch to Round Valley,	686.75	
	New road,	State Highway to Frosts Ranch,	413.25	
		Surveying Round Valley & Windmill,	62.25	
		Total,	$1982.50	$1982.50

Old Trails District No. 3

March,		Section State Highway, repairs,	25.00	
		Kingman to Berry, dragging,	50.00	
		Louise to Walapai, grading,	184.00	
		Hackberry work, no record,	?	
		Total,	259.00	

Chloride District No. 4.

March.		Cerbat to Chloride, old White Hills road, repairs,	435.00	$435.00

Kingman District No. 5

March.		Ditching and filling, streets,	476.85	$476.85

Stockton Hill District, Special,

March.		Repairs, Kingman to Stockton Hill,	210.80	210.80
				$6505.25
		Total expense as per office records,		
		Total expense for month of March,		$3955.15

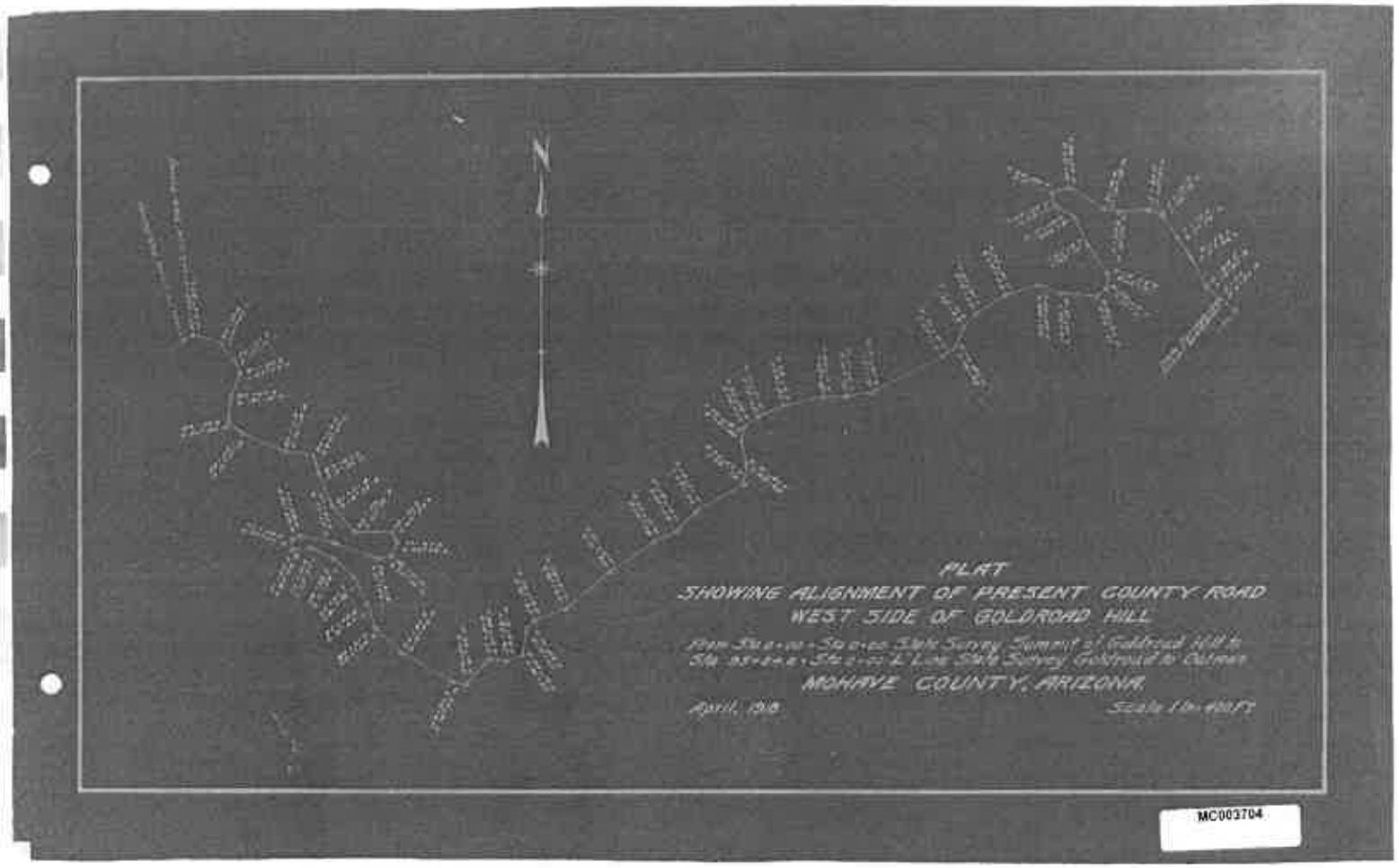
Before the end of April I will have completed the records to date, and be able to furnish and exact statement. It is my pleasure to report all main roads in fair condition, and the work of repairs and construction is progressing rapidly.

Most respectfully,

J. B. Wright

County Engineer.

Exhibit G


N
PLAT
SHOWING ALIGNMENT OF PRESENT COUNTY ROAD
WEST SIDE OF GOLDROAD HILL
MOHAVE COUNTY, ARIZONA
April, 1918
Scale 1 in. = 400 Ft.
MC003704

OFFICE OF THE BOARD OF SUPERVISORS OF MOHAVE COUNTY, STATE OF ARIZONA.

Kingman, April 14, 1920.

Pursuant to recess of April 5th, 1920, the Board of Supervisors of Mohave County, State of Arizona met this day at ten o'clock A. M.in regular session. Present: GEO. B AYERS, Chairman; A. M. MacDUFFEE, Member and J. S. WITHERS, Clerk. Absent: L. H. FOSTER, Member.

Election heretofore called for April 6, 1920, for the issuance of Road and Hospital Bonds of this County not having been held, because of certain irregularities, the new report of the Mohave County Highway Commission, ordered March 19th, 1920, was this day submitted, filed and ordered published as required by law, said report with map attached being as follows to-wit:

REPORT OF THE MOHAVE COUNTY HIGHWAY COMMISSION
TO THE HONORABLE BOARD OF SUPERVISORS
OF MOHAVE COUNTY, STATE OF ARIZONA.

In compliance with the requirements of Chapter 31, of the Session Laws of Arizona, Regular Session 1917, and of the acts supplementary thereof and amendatory thereto, we the regularly appointed, and duly qualified members of the Mohave County Highway Commission do hereby report as follows:

After diligent and thorough investigation of the condition of the public Highways of the County generally, and of the necessity or desirability of the construction of any new public highways this Commission has caused to be prepared a map marked Exhibit "A", which is attached hereto, and made a part of this report, showing the location and connections of such public highways of this County, as in the judgment of this Commission the greatest public necessity and convenience required to be constructed, reconstructed or improved.

This Commission hereby estimates the cost of this construction, reconstruction or improvement to be the sum of THREE HUNDRED THOUSAND ($300,000.00) DOLLARS. (exclusive of State or Federal Aid), and has for convenience divided the highway system into Nine Units, the estimated cost of improvements in each unit being as follows:

UNIT A. Roads North of the Colorado River comprising Littlefield, Wolfhole, and Short Creek Sections.

LITTLEFIELD SECTION: The road from the Nevada State Line to the Utah State Line is to be relocated and permanently constructed, with proper provision for drainage, on that portion involving the present heavy grades, same to be surfaced with suitable material where necessary.

WOLFHOLE SECTION: The road from the Utah State Line to the vicinity of Brink's Ranch is to be generally improved, with suitable provision for drainage.

SHORT CREEK SECTION: The road from the Utah State Line to Cane Beds is to be improved by surfacing with suitable material such portions as are necessary, and a bridge is to be constructed across Short Creek.

APPROXIMATE ESTIMATE $21,700.00

UNIT B. Comprising the following roads: Chloride to Searchlight Ferry, Chloride to Pierce Ferry, Chloride to Union Station, from Chloride-Kingman road to Mineral Park, from Chloride-Kingman road to Cerbat, Union Pass to Union Station.

CHLORIDE TO SEAL ... re-located in part with specia ... the mountain grade widened a ... ith suitable culverts or forda ...

CHLORIDE TO PIE ... y's share of the cost of bui ... ver FORTY THOUSAND ($40,000.00) DOLLARS will be ... from the bond issue.

Exhibit H

CHLORIDE TO UNION STATION: The present road will be improved by substantial drainage structures.

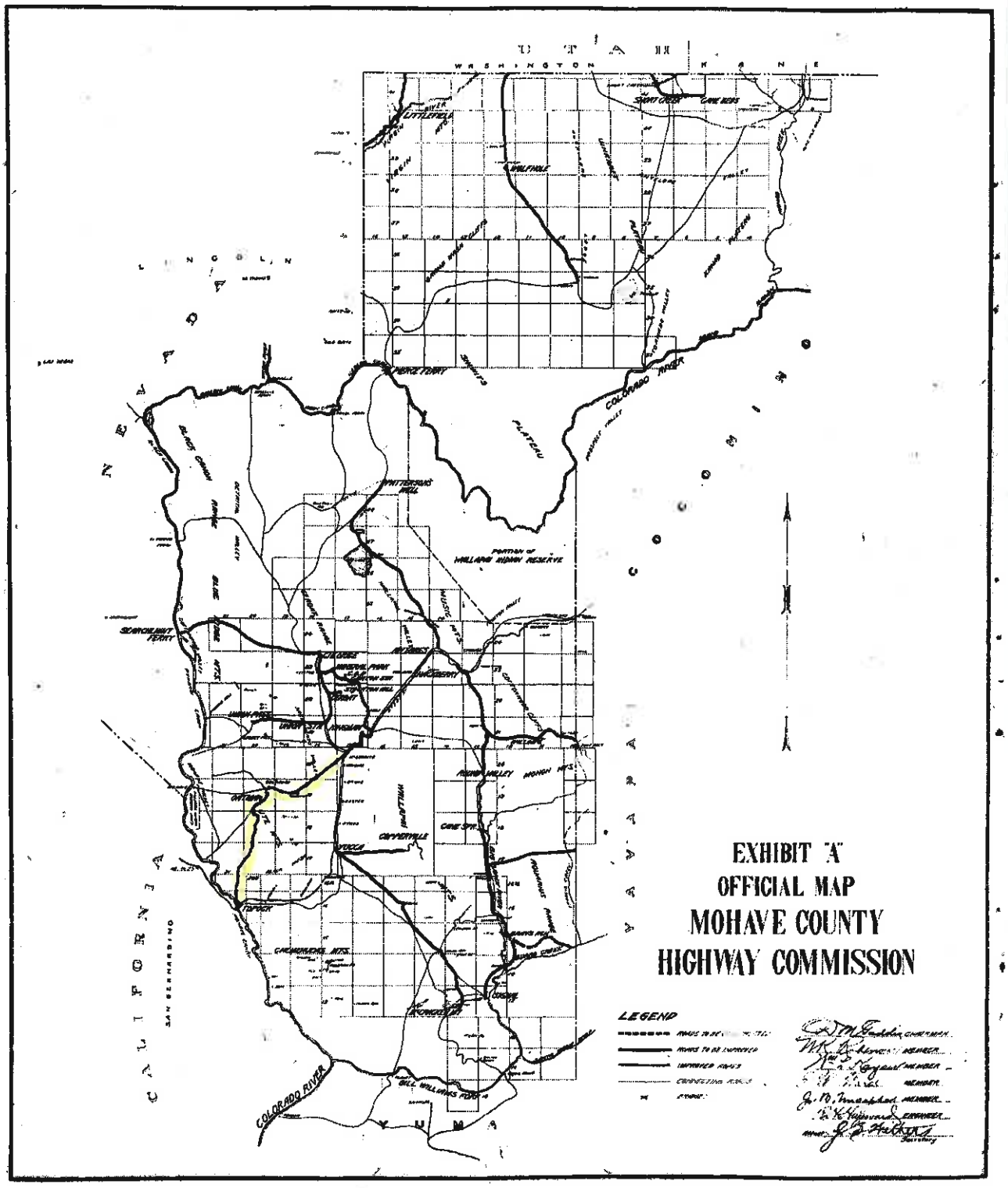
CHLORIDE-KINGMAN ROAD TO MINERAL PARK: This road to be relocated with special attention to drainage, and reconstructed in a permanent manner.

CHLORIDE-KINGMAN ROAD TO CERBAT: The present road to be repaired in a manner to avoid present sandy portions and to improve drainage conditions.

UNION PASS TO UNION STATION: From a point near the Frisco Mine to Union Station, this road will be practically relocated and newly constructed to avoid the present heavy grades and unsuitable road material. Special attention will be paid to drainage. Culverts will be installed where possible, and suitable fords provided.

APPROXIMATE ESTIMATE $88,400.00

UNIT C. Road from Kingman to C. O. D. Mine via Stockton Hill. This



When recorded please mail to:
Mohave County
Clerk of the Board of Supervisors
PO Box 7000
Kingman, AZ 86402
928.753.0731

Exhibit I

RESOLUTION NO. 2020-023

Supporting an application to the American Society of Civil Engineers to designate Historic Route 66 in Mohave County, from Topock to McConnico, as a Historic Civil Engineering Landmark

WHEREAS, Mohave County maintains approximately 48 miles of Historic Route 66 between Topock and McConnico pursuant to A.R.S. §28-6705; and

WHEREAS, this length of Historic Route 66 was constructed from 1916 to 1926, and is part of the longest continuous stretch of Route 66 left in all eight Route 66 states; and

WHEREAS, for decades Route 66 has inspired writers, filmmakers, photographers and artists, including John Steinbeck who proclaimed it the "Mother Road"; and

WHEREAS, the American Society of Civil Engineers recognizes historically significant local, national, and international civil engineering projects through its' . Historic Civil Engineering Landmark Program; and

WHEREAS, through dedications, physical plaques, and an online public registry this program increases public appreciation of civil engineering contributions to the progress of society, encourages the preservation of significant historic civil engineering works, and fosters the inclusion of civil engineering landmark information in encyclopedias, guidebooks, and maps; and.

WHEREAS, Historic Route 66 from Topock to McConnico is a significant, historical Civil Engineering project worthy of said recognition; and

WHEREAS, said recognition brings credit and recognition to Mohave County and furthers the County's efforts to promote historical-based tourism,

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors as of this date expresses its' support for submission of an application to the American Society of Civil Engineers to designate Historic Route 66 in Mohave County, from Topock to McConnico, as a Historic Civil Engineering Landmark.

APPROVED AND ADOPTED by the Mohave County Board of Supervisors on this 3rd day of February, 2020.

MOHAVE COUNTY BOARD OF SUPERVISORS

Jean Bishop, Chairman

ATTEST:

Ginny Anderson, Clerk of the Board

BOARD OF SUPERVISORS MOHAVE CO. ARIZONA
DITAT DEUS

Exhibit J

Exhibit K

Exhibit L

Exhibit M

Exhibit N

Appendix C
Additional Information on Roadway Development in Each State

Illinois

Route 66 in Illinois – General Background
Illinois was the first state to have its entire section of route 66 completely hard-surfaced. In 1918, Illinois voters approved a $60 million bond issuance to finance the construction of approximately 4,800 miles of hard road state highways.

At the 1919 annual meeting of AASHO, Anson E. Marston, dean and director of the engineering department at Iowa State College, and later President of ASCE in 1929, presented a plan to the State highway officials: “The country is about to spend untold billions of dollars in the construction of paved roads. Yet there is a very serious lack of the fundamental scientific data which are absolutely essential to the correct design and construction of paved roads.”

AASHO responded by influencing construction of the Bates Experimental Road near Springfield to investigate important factors involved in the rational design of pavement surfaces. Clifford Older, Chief Engineer of the Illinois Highway Department, published the results of this study in the 1924 Transactions of ASCE as Paper No. 1546, entitled, "Highway Research in Illinois", and in Bulletin No. 18 of the State of Illinois.

Building on the success of the 2018 bond issue, an additional $100 million in bonds was approved in 1924. By the end of 1926, all of the $60 million State Bond Issue for road construction had been contracted, and SR4, renamed to Route 66, was paved from Chicago to East St. Louis.

Over the next several decades, the legacy of the Bates road test eventually extended well beyond the borders of Illinois. As one of the best-documented initiatives of its kind during that era, the Bates Road Test helped set the stage for larger-scale efforts that were also undertaken to assess the most optimal materials and designs for the development of long-lasting roads. These efforts included several loading tests on concrete pavement that were conducted by the U.S. Bureau of Public Roads in the 1930's. A later road test in 1958 to 1960 by AASHO in Ottawa, Illinois, established design parameters for roads and bridges on the Interstate system.

References for the above General Background may be found via the following links
International Society for Concrete Pavements - Bates Road Test
Sangamon County Historical Society - Bates Experimental Road
Illinois Division of Highways on the Bates Experimental Road project
Modern highways got start in Sangamon County
International Society for Concrete Pavements - AASHO Road Test - Ottawa, IL, 1958-1960 AASHO Road Test
Historical Concrete Pavement Explorer - AASHO Road Test - Ottawa, IL
Flexible Pavement Design - State of the Practice, National Center for Asphalt Technology
National Park Service - Illinois Road Segments

Additional references for Illinois may be found via the following links

- Bates Experimental Road - Illinois Highway Department - 1922
- ASCE Transactions 1924 - Highway Research in Illinois - Clifford Older, Chief Highway Engineer
- Illinois Route 66 Corridor Management Plan Illinois Route 66 Heritage Project
- Road Construction in Illinois - Frank T. Sheets, Chief Highway Engineer - Bluebook of Illinois 1927-1928
- Surface Oiling of Earth Roads - B.H. Piepmeier, Maintenance Engineer, Illinois State Highway Department, 1915
- Manual On Road Construction - B.H. Piepmeier, Engineer of Construction, Illinois Division of Highways, 1921
- Highway Officials of Illinois in 1917 - Illinois Highway Improvement Association
- Brick Paved Segments of Route 66 - The Route 66.com
- Illinois Highway Improvement Bluebook 1919 - Illinois Highway Improvement Association
- Historic Drawbridges on Route 66 - (Various authors)
- Route 66 in Madison County - By Cheryl Eichar Jett
- Database of Historic Bridges in Illinois - By Jim Ross

Key Professionals related to Illinois roadway development may be found via the following links

- Anson E. Marston
- Arthur Newell Talbot
- Harold M. Westergaard
- Clifford Older
- Samuel Ellsworth Bradt
- Frank T. Sheets
- B.H. Piepmeier
- Ernst Lieberman - Chief Highway Engineer in 1938 (Biography not available)
- Raymond F. Dawson

Missouri

Route 66 in Missouri – General Background
At the beginning of the twentieth century practically all of Missouri's roads were dirt roads haphazardly maintained by county governments and local township road overseers.

In 1907, a series of new state laws sought to improve roads at the county level. Legislation that year established the office of State Highway Engineer within the State Board of Agriculture; provided for county highway engineers; required automobile licensing and registration; and created a state road fund of $500,000 for new construction or road improvements, distributed among the counties according to their assessed valuations. The first State Highway Engineer, Curtis Hill, had a largely advisory capacity to the county highway engineers who, in 1908, organized themselves into the Highway Engineers Association of Missouri. Additional legislation in 1909 reestablished the road fund on a permanent basis. That year Hill classified only 5,000 miles of roadways as "improved" out of the 110,000 miles of roads across the state. Additional legislation in 1909 reestablished the road fund on a permanent basis.

In 1913, the Missouri General Assembly replaced the State Highway Engineer with a State Highway Commissioner and Deputy Commissioner, and created the Missouri State Highway Department, relieving the State Board of Agriculture of its responsibilities in matters of road construction and maintenance. The expanded duties of the new Highway Commissioner, Colonel Frank W. Buffum, and Deputy Commissioner W. S. Hawkins, included devising specifications and design plans for road construction, including "standard gauge roads" which would be designated by a given name or number.

In March 1917, he Missouri General Assembly passed the Hawes Road Law, which strengthened the role of the Missouri State Highway Department, placing it under the authority of a four-member State Highway Board. The board appointed Graham, as State Highway Engineer, who began outlining the state road system. Graham's proposed system of 5,000 miles connected all of the counties and the larger population centers, and the plan remained the foundation of Missouri's road system.

The McCullough-Morgan Act of March 1919 amended the Hawes Law by providing for a Highway Superintendent who would generally oversee the State Highway Department operations and serve as secretary to the State Highway Board. John M. Malang, who had overseen construction of the first concrete road on the state highway system, Federal Aid Project No. 2 from Webb City to the Kansas state line, became the new Highway Superintendent. In 1920, Superintendent Malang, Governor Frederick Gardner, and the Missouri Good Roads Federation spearheaded an intensive campaign for a $60 million state bond issue to "Lift Missouri Out of the Mud." The bond issue passed in November 1920 in sixty-one of the 114 counties.

The Centennial Road Law of 1921, designed to implement the 1920 bond issue, created a four-member Missouri State Highway Commission with broadened powers to locate, design, construct, and maintain the state highway system, let contracts, and purchase rights of way. The commission was authorized to appoint a Secretary to the Commission, a Chief Counsel, and the Chief Engineer, and reinstated Alexander W. Graham as Chief Engineer.

During 1922, the new Missouri State Highway Commission began its work in constructing the state highway system as mandated by the Centennial Road Law, and began by hiring Rollen J. Windrow as a consulting engineer. On June 1, 1922, Bion H. Piepmeier replaced Alexander Graham as Chief Engineer, who with Windrow completed the study of the primary

road system, which, when constructed, would connect twenty-six cities, serving 91 percent of Missouri's urban population and half of the state's total population.

In 1926, the Missouri State Highway Commission published and printed 600,000 copies of its state highway map with Route 14 from St. Louis to Joplin and Route 1F from Joplin to Kansas labeled as US 60. This was unacceptable to Governor William H. Fields of Kentucky, since route numbers ending in "0" were supposed to run in an East/West direction.

The Executive Committee of The Joint Board of Interstate Highways then agreed to assign "62" to the Chicago to Los Angeles route and "60" to the route through Kentucky, but this was unacceptable to Illinois, Missouri, and Oklahoma.

On April 30, 1926, Cyrus Avery, Highway Commissioner from Oklahoma, B.H. Piepmeier, Chief Engineer of the Missouri Highway Department, and John M. Page, Oklahoma's Chief Highway Engineer, met in Springfield, Missouri, in an attempt to resolve the issue. Page noticed that the number "66" had not been assigned to any route. Avery and Piepmeier immediately sent a telegram to FHWA Chief MacDonald: "We prefer sixty six to sixty two."

Thus, Route 66 was born, becoming an iconic road that would stretch across multiple states and capture the imagination of travelers for decades to come.

References for the above General Background may be found via the following links

A History of the Missouri State Highway Department, Davis C. Austin and Thomas J. Gubbels
Historic Preservation Section, Design Division, Missouri Department of Transportation

From Names to Numbers: The Origins of The U.S. Highway System", Richard F. Weingroff, Federal Highway Administration

Birthplace of Route 66 Springfield, MO, C.H. Skip Curtis, Curtis Enterprises, 424 S. National, Springfield, MO 65802

Additional references for Missouri may be found via the following links

- **The History of Route 66 in Missouri - It All Started Here - Springfield Missouri Convention & Visitors Bureau**
- **Route 66: Missouri - National Park Service**
- **History of Route 66 in Missouri - By Joe Sonderman, The Route 66 Association of Missouri**
- **Excerpts from the Missouri Corridor Management Plan - Great River Associates**
- **St. Louis County - Great River Associates**
- **Roads and Their Builders - The Missouri State Highway Commission**
- **The Centennial Road Law of 1921 - 2023 Old Settlers Gazette**
- **A History of the Missouri State Highway Department - David C. Austin and Thomas J. Gubbels, Missouri Department of Transportation**
- **1943 History of the Missouri State Highway Department - H.B. Dickey, The Missouri State Highway Department**
- **Missouri Highways - The Years Between - Missouri State Highway Commission**
- **Serving Missouri's Transportion Needs For 75 Years - The Missouri Highway and Transportation Commission**
- **Commission Members, Chief Engineers, Secretaries to the Commission, and Chief Counsels - The Missouri Highway and Transportation Commission**
- **Database of Historic Bridges in Missouri - Jim Ross**

Key Professionals related to Missouri roadway development may be found via the following links

In September, 1906, the Missouri State Board of Agriculture sponsored a good roads convention in Chillicothe to consider the question of a better system for road construction and maintenance in the State. Attendance included 200 appointed delegates and 4,000 to 5,000 people. During the convention three miles of improved dirt road were constructed for a prize of $200. At the conclusion of the convention, among several resolutions adopted, the first was to recommend to the State legislature the creation of the office of State Highway Engineer under the jurisdiction of the State Board of Agriculture. As a result of that convention the following engineers or other professionals were a few that figured prominently in the formative years of Missouri's state highway system leading to the creation of U.S. Highway 66.

Curtis Hill Missouri's First State Highway Engineer, 1907-1913
Frank W. Buffum Highway Commissioner 1913-1917
Frederick D. Gardner Governor of Missouri 1917 - 1921
Alexander W. Graham State Highway Engineer 1917-1922
Harry Hawes Author of Hawes Road Law of 1917
J.G. Morgan Co-author McCullough-Morgan Law of 1919
Theodore Gary Highway Commissioner 1921 - 1926
B.H. Piepmeier State Highway Engineer 1922-1927
Rolen J. Windrow Consulting Engineer 1922 - circa 1927
Leif J. Sverdrup Engineer of Bridges 1924 - 1928
John M. Malang Highay Superintendent 1924 - 1928
Thomas H. Cutler State Highway Engineer 1927 - 1936
Norman R. Sack Engineer of Bridges 1928 - 1942
Carl W. Brown State Highway Engineer 1936 - 1951
Rex Whitton State Highway Engineer, President of AASHTO, FHWA Administrator

Reference

A History of the Missouri State Highway Department David C. Austin and Thomas J. Gubbels, Historic Preservation Section, Design Division, Missouri Department of Transportation

Kansas

Route 66 in Kansas – General Background

The first Kansas road laws were enacted in 1855 at a meeting of the free-state assembly in Topeka, Kansas. One of these allowed for the establishment of territorial roads. Beyond designating these routes, however, territorial government took little responsibility. The law stipulated that no territorial funds could be applied to pay for territorial roads. The general road law gave authority for establishing roads to "the tribunal transacting county business," which could approve or deny petitions by twelve householders for opening new roads. While the commissioners were given the power to "lay out, alter, or discontinue any road," they could do nothing until they had received a petition.

Road overseers, appointed in each district by the county commissioners, would supervise construction and maintenance by work crews made up of male residents 16 to 45, each of whom were legally obligated to the district for one month of road work. The law also established the first body of standards and specifications for construction by requiring that wetlands and streams be bridged, so long as no bridge cost more than $50. Roadways could be no less than twenty feet in width and no more than forty feet wide. Provisions for road construction enacted by the territorial legislatures became the basis for the states' road laws in its constitution when Kansas was admitted to statehood on January 29, 1861. The constitution sealed the state treasury against road construction by providing that "the state shall never be a party to carrying on any works of internal improvements." These laws remained the system by which Kansans acquired their highways until the next century. From 1875 to 1900 few state roads were established and little change was made in the laws or system of management, except that the township was made the unit instead of the county.

In 1909, The Kansas Legislature created the Office of County Engineer and authorized the Board of County Commissioners of each county to appoint a county engineer to supervise county road and bridge work. Also in 1909 the extension service of Kansas State Agricultural College, which later became Kansas State University, appointed W.S. Gearhart as Extension Highway Engineer to advise the county engineers on road matters. In 1911, The Legislature created the Office of State Highway Engineer to serve the counties, and Gearhart was designated as State Engineer, in which position he served until April, 1919. The Kansas Legislature also created a road classification system consisting of state, county, mail, and township roads. State roads were defined by the Legislature; county roads were designated by county commissioners; free delivery mail routes were roads not designated as state or county roads; and township roads were designated as all other public highways within a township. County and state roads were maintained at the expense of the county; mail route and township roads were maintained by township overseers.

The State Highway Commission was created in 1917 and consisted of three members: the governor, who was the ex officio chairman; and two members appointed by him or her from districts defined by law. They served four-year terms. The commission was repealed in 1925 and was recreated consisting of three members appointed by the governor from named districts for four-year terms. The commission from their own membership selected the chairman. In 1927, the membership of the commission was increased to six and the commission appointed a director on the recommendation of the governor, serving at his or her pleasure. Provision was made in the 1929 Laws for the Commission to establish rules and regulations governing the transaction of their business. In August of 1975, the State Highway Commission of Kansas became the Kansas Department of Transportation.

In 1920, faced with the loss of federal funds because of the lack of state control, Kansas voters passed a "good roads" amendment allowing state aid to counties for roads. The counties and townships still controlled the road system, an arrangement that violated federal law. In 1928, $2 million per year of federal aid for Kansas roads was stopped because

the state would not fund a state highway system. In that year, Governor Ben Paulen borrowed money from Topeka banks to pay for the State Highway Commission and called a special session of the legislature to propose a constitutional amendment removing all obstacles to establishing a statewide highway network. In 1929, after passage of the amendment, Kansas joined the other 47 states and the state began building and maintaining a system of cross-state highways.

Additional references for Kansas may be found via the following links

- **Kansas Department of Transportation - District 4: Southeast Area District Offices**
- **Kansas Historic Route 66 Byway receives state designation - Kansas Department of Transportation**
- **Rainbow Bridge - Wikipedia**
- **Rainbow Bridge - National Register Nomination**
- **Rainbow Bridge Celebrates 100 Years - Fernanda Silva**
- **James Barney Marsh - Kansas Historical Society**
- **J.B. Marsh Arch Bridge Patent - Google Patent Images**
- **Kansas Route 66 Historic District-East Galena - National Register Nomination Form**
- **Kansas Route 66 Historic District – North Baxter Springs - National Register Nomination Form**
- **Baxter Springs, Kansas - Wikipedia**
- **Baxter Springs Heritage Center & Museum - Baxter Springs Heritage Center & Museum**
- **Baxter Springs as a military post - Kansas Historical Society**
- **Fort Baxter,Kansas - Wikipedia**
- **Galena, Kansas - The Route 66.com**
- **Riverton, Kansas - Wikipedia**

Key Professionals related to Kansas roadway development may be found via the following links

- **State Highway Engineers 1917 to 1975**
- **State Highway Commissioners 1917 to 1975**
- **Advisory State Highway Commissioners 1917 to 1975**
- **Directors of the State Highway Commission 1917 to 1975**
- **K-DOT State Transportation Engineer 1975 to 1983**

Oklahoma

Route 66 in Oklahoma – General Background
Route 66 has been the path of migrants, dreamers, desperados, and an entire generation of vacationers discovering the way west. It was crafted into an American cultural icon by both its builders and its people, whose ingenuity and imagination brought to its history the character by which that era of travel is now defined. It is a ribbon of road, a TV show, a song, a book, and a post card. It is a collection of cozy motor courts, outlandish roadside attractions, and small town boulevards splashed with pulsing neon. Popularly referred to as The Main Street of America or The Will Rogers Highway, US 66 has come to symbolize the essence of going somewhere. It is history, it is legend, and above all, it is undying.

America's Mother Road, all of this and more, originally meandered more than 2,400 miles between Chicago and Los Angeles, including nearly 400 miles across Oklahoma. And while officially it no longer exists, a great deal of it remains to be driven, experienced, and enjoyed. Indeed, US 66, the road of dreams, is alive and well.

Because Route 66 was in a state of continual change from its beginning in 1926 until its de-certification in 1985, correctly identifying some of the alignments within its myriad of pathways now presents a challenge, even for seasoned enthusiasts or researchers. The process becomes further complicated when considering that many surviving sections of Route 66 were converted to county or state highways, or lie behind fences on private land. Additionally, many more stretches were completely obliterated; especially those in the path of limited access interstates built as the Mother Road's replacement.

Efforts to document unverified or suspected Route 66 alignments today often involves using a variety of resources, such as reference books, newspaper and magazine articles, vintage maps, old postcards, museum archives, aerial photographs, and transportation department documents, particularly construction plans or related project data. While some sources are better than others, most require corroboration. On-site inspection is also imperative.

Most vital to this process, however, is the availability of public records, as official documentation is virtually irrefutable and often eliminates the need for further research. It is this critical need that makes A Construction History of U.S. Route 66 in Oklahoma an invaluable publication.

By Jim Ross
Route 66 historian and author of "Oklahoma Route 66"
Taken from the forward of **DIRT ROAD TO "PAVED MAIN STREET OF AMERICA: A CONSTRUCTION HISTORY OF US ROUTE 66 IN OKLAHOMA"**

Additional references for Oklahoma may be found via the following links

Route 66: Oklahoma - National Park Service
A Chronology of the Construction History of Route 66 in Oklahoma - Oklahoma Department of Transportation, Planning & Research Division
History of Route 66 and Oklahoma City - City of Oklahoma City
Route 66 in Oklahoma City Historic Context Project Report - Blanton & Associates
Oklahoma Department of Transportation - Wikipedia
The Encyclopedia of Oklahoma History and Culture *Route 66* - Oklahoma Historical Society

Route 66 in Oklahoma: An Historic Context Review - **Oklahoma Historical Society**
Route 66 Construction History - **Oklahoma Department of Transportation, Planning & Research Division**
Upcoming Route 66 centennial to celebrate best of the Mother Road - **Oklahoma Department of Transportation**
Oklahoma's Memorial Highways & Bridges on Route 66 - **Oklahoma Department of Transportation**
Oklahoma Route 66 Corridor Management Plan - **TransSystems/Jacobs Carter Burgess**
Excerpts from Oklahoma Route 66 Corridor Management Plan - **TransSystems/Jacobs Carter Burgess**
Database of Historic Bridges in Oklahoma - **Jim Ross**
PhD Thesis
Oklahoma's Highways: Indian Trails to Urban Expressways **William Paul Corbett, PhD Thesis, Oklahoma State University, 1982**

Key Professionals related to Oklahoma roadway development may be found via the following links
Biographical information on individuals who were involved in the design and construction of Route 66 in Oklahoma is difficult to find.

The Oklahoma Historical Society's Encyclopedia of Oklahoma History and Culture lists only Sydney Suggs, who was appointed by Gov. Lee Cruce in 1911 as Oklahoma's first Highway Commissioner, and Cyrus Stevens Avery, who served as a state highway commissioner under Gov. Martin Trapp, from 1922 through 1926.

John M. Page was chief engineer of the Oklahoma Highway Department in 1926, when U.S. Highway 66 was officially numbered. Avery had campaigned to name the route from Chicago to Santa Monica as U.S. 60, but after months of controversy within the Joint Board of Interstate Highways, at a meeting in Springfield, Missouri, with Avery and Bion Piepmeier, Missouri's chief engineer, Page suggested the number 66, which was accepted by all participants in the naming of U.S. highways. No biographical Information for Page was found in a diligent web search.

The Encyclopedia of Oklahoma History and Culture pages on Suggs and Avery can be accessed at:

Sydney Suggs https://www.okhistory.org/publications/enc/entry?entry=SU004

Cyrus Stevens Avery https://www.okhistory.org/publications/enc/entry?entryname=CYRUS%20STEVENS%20AVERY

When Oklahoma was admitted to statehood in 1907, the state constitution established a framework for a highway department, but did not give the department any authority to oversee road construction, leaving this function to the counties and townships. The new highway department could only disburse funds for construction when these were available and to promote cooperation of local authorities as to routes, methods, and materials of highway construction. No changes came in this control procedure until the federal government passed the Federal Aid Road Act of 1916. In 1917 the Oklahoma legislature appropriated its first matching funds to obtain federal highway money, but the highway department still had no authority to oversee the construction of roads. Local authorities still made all decisions about the spending of funds.

In 1921 Congress modified the Federal Highway Act of 1916, calling for a system of interstate highways and advising states that if they wished to continue sharing in federal revenue they would have to designate specifically up to 7 percent of their roads to receive this aid. Oklahoma did not immediately respond to the new federal program owing to the desire to continue the local control system.

Not until 1924 did the state finally pass legislation reorganizing the state highway department, giving the state highway department the power to construct roads throughout the state and to maintain these to federal standards where necessary. By the end of 1924 the state highway department was finally in a position with funding and specific powers to build a viable state highway system. By that time, a number of Federal Aid projects on the roads that were to become U.S. Highway 66 had been completed by the counties in which the roads were located. (Oklahoma Transportation: Construction History of Route 66 https://www.odot.org/memorial/route66/route66const-hist.htm

Reference:

ROUTE 66 IN OKLAHOMA: AN HISTORIC PRESERVATION SURVEY

Texas

Route 66 in Texas – General Background

The Texas Highway Department, re-named Texas Department of Transportation in 1991, was established in 1917 by act of the Thirty-fifth Legislature and was originally charged with the primary responsibility of granting financial aid to counties for highway construction and maintenance. The act provided for a three-member Commission having the authority to appoint a State Highway Engineer. At the Commission's first meeting on June 4, 1917, George A. Duren was appointed to that position, in which he served until 1919. (Biographical sketches of Texas Highway Department chief engineers are listed below in the Key Professionals section.)

The Commission proposed that an 8,865 mile network of state highways be built. They published a map of the proposed system in June, 1917, which became the basis for the future Texas highway system, (the future Route 66, which followed a branch of the Ozarks Trail is labeled "13"), but few roads were actually constructed before the 1920's. In 1924, Gibb Gilchrist was appointed State Highway Engineer, having served as district engineer in both San Antonio and San Angelo. He resigned in 1925 when Miriam A. (Ma) Ferguson became Governor. A quick succession of five men held the department's executive post from 1925-1928. Gilchrist returned to serve from 1928 until 1937, when he left to become dean of engineering (and later, university dean) at Texas A&M University. It was during this period that the most significant progress was made in building the state highway system, and U.S. Route 66 was hard-surfaced across the state.

In 1927, DeWitt C. Greer joined the Texas Highway Department as an instrument man. He worked in various roles, including acting district engineer and later district engineer in the Tyler district. In 1936, he moved to Austin to head the department’s division of construction and design. In 1940, Greer became the state highway engineer and served in that role for 27 years. He retired from the Department in 1967, but continued to serve the state of Texas as a Highway Commissioner from 1969 to 1981. During his tenure, the Texas highway system expanded significantly.

The Texas Department of Transportation's Headquarters building in Austin, completed in 1933, is named the Dewitt C. Greer State Highway Building in his honor.

References for the above General Background may be found via the following links

Minutes of the Meeting of the State Highway Department June 4, 1917
Highway Department Records at the Texas State Archives, 1920s-1930s, 1962-1975
Texas Transportation Commission - Former Commissioners
Dewitt C. Greer State Highway Building

Additional references for Texas may be found via the following links

- Historic Texas Highway Program **Texas Historical Commission**
- Historic Texas Sign Management Report **Texas Historical Commission**
- Route 66 through Texas Historic Resouces Survey 2005 **Texas Historical Commission**
- Route 66 in Texas Survey Report 2018 **Texas Historical Commission**
- Route 66 Historic Resources Survey Manual **Texas Historical Commission**
- Transportation Related Reasearch Resources **Texas Historical Commission**
- Texas Highway Development **Texas State Historical Association**
- Handbook of Texas, Texas State Historical Association **Texas State Historical Association**

Texas Department of Transportation **Home Page**

Dirt Roads to Diverging Diamonds: A Century of Transportation in Texas **Texas Highways Magazine**

Good Roads for Texas: A History of the Texas Highway Department, 1917-1947 **John David Huddleston, PhD Thesis, Texas A&M University**

Texas and the Good Roads Movement: 1895 TO 1948 **Karl Edward Wallace III, Masters Thesis, University Texas, Arlington**

Texas Timeline **Texas Highways Magazine**

Database of Historic Bridges in Texas **Jim Ross**

Key Professionals related to Texas roadway development may be found via the following links

Texas Highway Department Chief Highway Engineers 1917 to 1985
(Names of chief engineers who influenced the development of Route 66 are highlighted and link to biographical sketches of those engineers.)

1. George A. Duren, **First Chief Highway Engineer, June 4, 1917 - May 19, 1919**
2. Rollin Joe Windrow, **May 20, 1919 - February 15, 1922.**
3. **J. D. Fauntleroy, February 16, 1922 - March 3, 1924.**
4. Gibb Gilchrist, **March 4, 1924 - February 15, 1925**
5. **J. Hank, February 16, 1925 - January 14, 1926.**
6. **W. P. Kemper, (acting), January 15, 1926 - February 28, 1926.**
7. **A. C. Love, March 1, 1926 - December 31, 1926.**
8. **Doak Rainey (acting), January 1, 1927 - January 31, 1927.**
9. **A. Thompson, February 1, 1927 - January 25, 1928.**
10. Gibb Gilchrist, **January 26, 1928 - September 30, 1937.**
11. Julian Montgomery, **October 1, 1937 - June 30, 1940.**
12. Dewitt Carlock Greer, **July 1, 1940 -January 31, 1968.**
13. James Colin Dingwall, **February 1, 1968 - January 31, 1973.**
14. Bannister Luther DeBerry, **February 1, 1973 - June 30, 1980.**
15. Marquis G. Goode, **Jr., July1, 1980 - August 31, 1986**

New Mexico

Route 66 in New Mexico – General Background

Route 66 was started in New Mexico in August of 1926 on existing roadways. The 506 mile distance across the state included passing over 4 major rivers, the continental divide at an elevation of 7250 ft., and seven Native American Reservations.

Politicians and Civil Engineers sought improvements and constructed a shortcut between Santa Rosa and Albuquerque in 1926 under difficult conditions and saved 90 miles. An additional shortcut from Albuquerque to Laguna was authorized late in 1926 to save another 17 miles.

These two shortcuts were officially incorporated into Route 66 in 1937, in the same year that the route was completely paved across the state.

Engineering features of the shortcut were that two bridges had to be constructed in flood plains that needed special features in the designs, and an underpass had to be constructed so that Route 66 travel would safely pass under the Atchinson, Topeka, and Santa Fe Railroad.

Additional references for New Mexico may be found via the following links

- **Introduction to Route 66 Nomination in New Mexico - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Publications Related to Santa Rosa-Laguna Short Cut of Route 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Historic Route 66 in Albuquerque, New Mexico - Visit Albuquerque**
- **New Mexico Office of the State Engineer - University of New Mexico Digital Repository**
- **New Mexico Enters Sisterhood of States - Albuquerque Historical Society**
- **Source Documents Index - Albuquerque Historical Society**
- **Central Avenue Bridge Became a Part of Route 66 History - La Ćronica de Nuevo México - Historical Society of New Mexico**
- **Central Avenue Bridge Designated as a Historic Landmark - City of Albuquerque Planning Department**
- **New Mexico Road Segments - National Park Service**
- **New Mexico Historic Bridge Survey - Webmaster**
- **History of Albuquerque's Central Avenue - Robert Wood et al.**
- **INTRODUCTION TO NEW MEXICO SECTION OF NHCEL NOMINATION FOR ROUTE 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **DRAFT CENTRAL AVENUE BRIDGE NOMINATION - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Clyde Tingley and the Rerouting of Route 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **INTERSECTION THAT SYMBOLIZES MAJOR CHANGES TO ALBUQUERQUE - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **DRAFT SANTA ROSA-LAGUNA SHORTCUT NOMINATION - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Database of Historic Bridges in New Mexico - Jim Ross**

Key Professionals related to New Mexico roadway development are listed below.

Key Civil Engineers and Other New Mexico Professionals

Civil Engineers

E. B Bail, F. ASCE

- Project Manager for Santa Rosa Cut-off construction in December 1926.
- Northwest District Engineer in NM State Highway Department- January 1, 1925 to January 1, 1927.
- Documented construction of cut-off from Santa Rosa to Moriarty in December 1926.
- Worked in New Mexico Highway Department until 1957.
- Chose Burton G. Dwyer, F. ASCE, and Sam Fulton, Las Vegas District Maintenance Superintendent (References later) as team leaders for the two construction crews for the Santa Rosa Cut-off.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
ASCE Member search.

James A. French, M. ASCE

- State Engineer 1912-1918.
- State Highway Engineer 1922-1926.
- Responsible for selection of new Federal Highways in New Mexico that were initiated in December of 1925 and officially commissioned in August of 1926. Route 66 was announced in August of 1926.
- Responsible for creating US 470 from Willard, NM through Moriarty to Barton, Tijeras, and Albuquerque from 1926-1931.
- Passed away suddenly in October of 1926 on one of his highways near Encino, NM.

Reference:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico; "
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.

Sam Fulton, Las Vegas District Maintenance Superintendent (1926)

- Team Leader for NM 6 construction from Santa Rosa to Palma.

Reference:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.

W. C. Davidson

- State Highway Engineer 1927-1931.
- Was involved in removal of US 470 and inauguration of US 366 and NM 41.
- Was highway department administrator for design and construction of Central Avenue Bridge over the Rio Grande in 1930.
- Was involved in negotiations for Re-alignment of Route 66 along Santa Rosa-Laguna Shortcut in 1931.

Reference:

Communications from Special Collections Library.

Frank Kimball, M. ASCE

- Northwest District Engineer in NM State Highway Department, January 3, 1927- April 1931.
- Accepted Santa Rosa Cut-off on first day on the job on January 3, 1927.
- Was responsible for Central Avenue Bridge Construction in 1930.

- Was responsible for new Laguna Cut-off construction from the Central Avenue Bridge.
- Was City of Albuquerque Engineer from 1920-1927.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Healy Succeeds Dave Thornburg, Clovis Evening News Journal, Clovis, New Mexico, April 13, 1931.
ASCE Member Search.

W. R. Eccles

- State Highway Engineer, 1932-1933.
- Administrator when Rio Puerco Bridge was constructed.

Reference:

Internet

G. D. Macy, M. ASCE

- State Highway Engineer, 1934.

Reference:

Internet and ASCE Member search.

Grover Conroy, M. ASCE

- State Highway Engineer, 1935-1938.
- Was involved in final paving of the newly aligned Route 66 in 1937.
- Was the highway administrator when Route 66 was formally aligned over the Santa Rosa-Laguna Shortcut in 1937.

Reference:

Internet and ASCE Member search.

Burton G. Dwyre, F. ASCE

- Grant County Engineer 1920-1935.
- Was on loan from Grant County to be Team Leader for Santa Rosa Cut-off construction in December 1926.
- Dwyer's segment of the Santa Rosa Cut-off required 27 miles of construction over virgin land.
- State Highway Engineer 1939-1952. (Appointed by Governor Clyde Tingley).
- State president of New Mexico Section of ASCE in 1940.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Obituary: January 13, 1992.

Engel Bert Van de Greyn

- Central Avenue Bridge Designer, 1930.
- Designed Don Gaspar Bridge in Santa Fe.

Reference:

NM State Highway Department drawings for Bridge 1557 (Central Avenue Bridge).

F. D. Shufflebarger

- Builder of Rio Puerco Bridge, which was designed by Kansas City Structural Steel Company.

Reference:

Citation for listing in National Register of Historic Places.

W. W. Kelly, M. ASCE

- Central Avenue Underpass Chief Engineer for Western Lines of A. T. & S. F. Railway Co.
- AT. & S. F. engineer responsible for design of Central Avenue Underpass for N. M. Highway Department.

References:

General Plan; The A. T. & S. F. Ry. Co, Western Line, Railroad and Track Provisions, Albuquerque, New Mexico, May 12, 1936.
ASCE Member search.

<u>Other New Mexico Professionals</u>

A. T. Hannett

- Mayor of Gallup, NM 1918-1922.
- Member of New Mexico Highway Commission 1923-1924.
- Governor of New Mexico 1925-1927.
- Signed NM Legislature Bill on March 19, 1925, that created NM 6 as a new route that went west from Santa Rosa to intersect the road going through Moriarty to Albuquerque.
- Authorized Santa Rosa Cut-off (NM 6) construction in November 1926 after not being reelected.
- Overspent Highway Maintenance Funds to finance Santa Rosa Cut-off construction.

References:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.
Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Hannett, A. T., "Sage Brush Lawyer" Pageant, 1964.
Kammer, David, "Route 66 through New Mexico: Re-survey Report;" Santa Fe New Mexico
Historic Preservation Division, Office of Cultural Affairs, March 2003.
Zimmerman, R. M.,"Rerouting Route 66 Through Tijeras Canyon." Memoirs of Roger Max
Zimmerman, Volume 5 Volunteer Activities, Library of Congress No. 2020922418; 2021.
5-Cent Gas Tax Passes, Hannett Administration Left Construction account $200,000 Over-drawn, Springer Says; Santa Fe New Mexican; Feb. 9, 1927.

Clyde Tingley

- Ex-officio Mayor of Albuquerque, 1922-1935.
- District 3 Highway Department Maintenance Superintendent 1923-1927.
- Wrote letter to Governor A. T. Hannett proposing Laguna Cut-off in June 1925.
- Governor of New Mexico 1935-1939.
- Got Federal WPA Funds to build Central Avenue Underpass, Tijeras Underpass, and Coal Avenue Viaduct in 1937.
- Was Governor when Route 66 was officially aligned from Santa Rosa to Laguna and paved across the state.

References:

Zimmerman, R. M. "Clyde Tingley and the Rerouting of Route 66," La Cronica de Nuevo Mexico,
Publication of the Historical Society of New Mexico, Issue No. 115, Fall 2021.
Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.

Letter from Clyde Tingley to Governor A. T. Hannett; Commission of Public Records, State Records Center and Archives; June 9, 1925.

Charles Springer

- Chairman of State Highway Commission 1919-1931. Served on commission from 1917-1931.
- Chairman of State Highway Commission that approved Laguna Cut-of December 29, 1926 while the Santa Rosa Cut-off was being completed.
- Authored two pieces of NM Legislation which laid the foundation for the state's entire road system.
- Springer wanted to tax gasoline for road building purposes and to issue short term debentures for road building instead of bonding the state.
- Worked to use over-expenditure of highway maintenance funds in 1926 to pay for Santa Rosa Cut-off construction.
- Got NM Gas Tax raised in 1927 to have more money for highways.
- Chairman of State Highway Commission when U S 470 was decommissioned and U S 366 from Moriarty to Albuquerque, NM was created in 1931. Also, NM 41 was created to go from Willard through Moriarty to Galisteo, NM.
- Chairman of State Highway Commission when the US Bureau of Roads officially accepted the Santa Rosa-Laguna Shortcut as the new alignment for Route 66 in 1931. This allowed federal funds to be spent on the shortened Route 66 across New Mexico.
- As a Republican, he served as State Highway Commission Chairman under Republican and Democratic Administrations.

References:

State Highway Commission Minutes -1925-1932; NM Department of Transportation.
5-Cent Gas Tax Passes, Hannett Administration Left Construction account $200,000 Over-drawn, Springer Says; Santa Fe New Mexican; Feb. 9, 1927.
Obituary: Clovis New Mexico Evening News Journal, Clovis, NM. February 12, 1932.

Richard C. Dillon

- Grew up in Springer, NM.
- Ran a store in Encino, NM.
- Was a New Mexico State Senator from 1924-1927.
- Served two-terms as Governor of New Mexico 1927-1931.
- As new Governor, accepted Santa Rosa Cut-off as shortened route from Santa Rosa to Moriarty on January 3, 1927.
- Approved state construction of Central Avenue Bridge over the Rio Grande in 1930.
- Supported Federal government decision in 1931 to realign Route 66 along the Santa Rosa-Laguna Shortcut.
- Set stage for construction of Rio Puerco Bridge in 1933 using Federal Highway funds.
- Did not follow tradition of firing highway department workers on Santa Rosa Cut-off after change of New Mexico Governor's Administration.

Reference:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.
Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.

Arizona

Route 66 in Arizona – General Background

Road-building in Arizona leading to the adoption of the alignment for Route 66 began with the appointment of Arizona Territory's first, and only, Territorial Engineer in 1909, James Bell Girand, who developed the plan for the state's first system of highways. When Arizona was admitted to statehood in 1912 the Office of the Territorial Engineer was redesignated as the Office of State Engineer with two-year terms for the designated State Engineers, who continued the development of the state highway system until 1927, when the Arizona Highway Department was created. The Biennial Report of each State Engineer from 1912 to 1926 is included in the Arizona References.

Additional references for Arizona may be found via the following links

- **Good Roads Everywhere A History of Road Building in Arizona - Arizona Department of Transportation**
- **Arizona Transportation History - Arizona Department of Transportation**
- **Beale's Report to the Secretary of War**
- **Beale's Wagon Road - Wikipedia**
- **Report of the State Engineer 1909-1914**
- **Second Biennial Report of the State Engineer 1914-1916**
- **Third Biennial Report of the State Engineer 1916-1918**
- **Fourth Biennial Report of the State Engineer 1918-1920**
- **Fifth Biennial Report of the State Engineer 1920-1922**
- **Sixth Biennial Report of the State Engineer 1922-1924**
- **Seventh Biennial Report of the State Engineer 1924-1926**
- **Cool Springs to Oatman - Road Trip USA**
- **National Scenic Byways & All-American Roads Arizona - Federal Highway Administration**
- **Map of Historic Route 66 Arizona Eastern Section - Federal Highway Administration**
- **Map of Historic Route 66 Arizona Western Section - Federal Highway Administration**
- **Arizona Route 66 Corridor Management Plan - Arizona Department of Transportation**
- **Database of Historic Bridges in Arizona - Jim Ross**

Key Professionals related to Arizona roadway development may be found via the following link

Route 66 in Arizona (route66nhcel.net)

California

Route 66 in California – General Background
In 1907, California legislators created the Division of Highways and in 1910, California voters approved an $18 million bond issue for the construction of a state highway system. The framers of the State Highway Act of 1909 contemplated that the State should construct two main or trunk roads throughout the length of the State, one along the coast and one through the Sacramento and San Joaquin valleys. The act specifically declared that these trunk lines were to be laid out by the "most direct and practicable routes," and that the county seats of such counties east or west of the said trunk lines were to be connected by laterals. On August 7, 1912, the California broke ground on its first highway construction project, the section of El Camino Real between South San Francisco and Burlingame with the intent to complete the main routes between San Diego, San Francisco and Sacramento in time for the Panama-Pacific International Exposition planned for 1915 in San Francisco, and the Panama–California Exposition, also planned for 1915 in San Diego.

Anticipating the need for road improvements across the Mojave Desert to accommodate traffic on the National Old Trails Road bound for the Panama Canal celebrations, the County of San Bernardino held a special election on Oct. 20, 1914, and voters approved surfacing the road 16 feet wide with crushed limestone aggregate and asphaltic binding from the crossing of the Colorado River at Topock, Arizona, to San Bernardino. The Chief Engineer, E. Q. Sullivan, of Division VIII, Division of Highways in San Bernardino, who drove the route in 1923 described it as two ruts in the sand and two rows of chuck holes in areas of hard ground; the trip taking over two days each way. The ravages of weather, wind, and traffic had totally obliterated the paving, except for a ten-mile stretch near Essex.

When it was designated as U.S. Highway 66 in 1926, the Division of Highways further improved the route with bridges across the many washes and upgraded the paving to a high-type asphaltic concrete surface. After it was decommissioned on June 27, 1985, the route from Topock to San Bernardino was taken over by the County of San Bernardino. Currently, the County is rebuilding the bridges between Barstow and Needles, and much of the road is closed to traffic as described in the link below, "National Trails Highway – Route 66."

The Arroyo Seco Parkway from Los Angeles to Pasadena, California's first freeway, was marked as U.S. Highway 66 from the time it was opened to traffic on December 30, 1940, until October 19, 1963, when U.S. Highway 66 from Needles to Santa Monica was decertified by AASHTO. In 1999, the American Society of Civil Engineers designated the Parkway as a National Historic Civil Engineering Landmark, as described in the link below, labeled "Arroyo Seco Parkway."

The Colorado Street Bridge in Pasadena also carried U.S. Highway 66 until 1940, when U.S. 66 was re-routed to the Arroyo Seco Parkway. In 2013, the bridge's Centennial, as well as the Centennial of the Los Angeles Section of ASCE, the bridge was designated as an ASCE State Historic Civil Engineering Landmark, having been designated as a Local Historic Civil Engineering Landmark in 1974.

Only two segments of U.S. 66 remain as a California State highway; a 3.02-mile segment in the City of San Bernardino, and a 3.22-mile segment in the Cities of LaVerne, Pomona, and Claremont.

References for the above General Background may be found via the following links
An Introduction to the Panama-Pacific International Exposition California Historical Society
Panama Pacific International Exposition American Group West
About the Panama-California Exposition American Group

Key Decision Point Coming for the Panama Canal Center for Central & Economic Studies
National Trails Highway – Route 66 San Bernardino County Department of Public Works.
Arroyo Seco Parkway Los Angeles Section ASCE History & Heritage Committee
Colorado Street Bridge Los Angeles Section ASCE History & Heritage Committee
Old Trails Bridge Los Angeles Section ASCE History & Heritage Committee

Additional references for California may be found via the following links

- **U.S. Numbered Highway 66 in Los Angeles - by Jim Powell, Founder, Route 66 Association of Missouri**
- **National Trails Highway – Route 66 - San Bernardino County Department of Public Works**
- **California Route 66 Corridor Management Plan - California Historic Route 66 Association and the California Desert District of the Bureau of Land Management**
- **Arroyo Seco Parkway - California's First Freeway - ASCE Region 9 History & Heritage Committee**
- **Colorado Street Bridge - ASCE Region 9 History & Heritage Committee**
- **Old Trails Bridge - ASCE Region 9 History & Heritage Committee**
- **Cajon Pass - Wikipedia**
- **State Route 66 - cahighways.org**
- **National Trails Highway at 10 Bridges Project-Final EIR/EA - Caltrans/San Bernardino County**
- **Database of Historic Bridges in California - Jim Ross**

Key Professionals related to California roadway development may be found via the following links

- Austen B. Fletcher California's First Chief Highway Engineer, 1911 to 1923
- C.H. Purcell California's Chief Highway Engineer 1928 to 1942
- Spencer V. Cortelyou Division Chief, Division VII, California Division of Highways, 1915 to 1949
- E. Q. Sullivan Division Chief, Division VIII, California Division of Highways, 1923 to 1950

NOMINATION SUMMARY

Submittal date: June 30, 2024; revised April 21, 2025

Submitting ASCE Sections: This is a joint submittal by the following 10 ASCE Sections:

Illinois Section
Central Illinois Section
St. Louis Section
Kansas City Section
Kansas Section
Oklahoma Section
Texas Section
New Mexico Section
Arizona Section
Los Angeles Section

Requested Designation: National Historic Civil Engineering Landmark

Proposed Name of the Landmark: Route 66

Existing Designations as a State or Local ASCE Historic Civil Engineering Landmark:
As more thoroughly described later in this nomination package, this nomination is to commemorate the Route 66 corridor from Chicago, Illinois to Santa Monica, California. Within that corridor this nomination has identified 15 select civil engineering features, or elements, of historical significance to be included as part of the Route 66 National HCEL designation. Two of these elements are currently National or State ASCE Historic Civil Engineering Landmarks. They are:

Arroyo Seco Parkway, a National Historic Civil Engineering Landmark, in Los Angeles, CA
Colorado Street Bridge, a State Historic Civil Engineering Landmark, in Pasadena, CA

Owner of the proposed Landmark:
Route 66 existed as a numbered route and signed U.S. Highway from 1926 to 1985. During this time period the route followed by Route 66 in local areas often changed. Thus, the roadway may have had many different alignments, even within a small geographic area. When an alignment was abandoned, the roadway ownership in some cases changed to a different jurisdiction. Similarly, as time has passed subsequent to 1985, many roadway segments have had changes in ownership. Many segments of the route that were originally state-owned have been relinquished to the cities and counties through which Route 66 passed. The roadway ownership of some segments has been retained by the respective states. There are literally hundreds of jurisdictions that now own segments of what was, at one time, a portion of Route 66.

As noted above, this nomination has identified 15 select civil engineering features, or elements, of historical significance to be included as part of the Route 66 National HCEL designation. Those select features, and their ownership, is as follows. For most of these features, ownership is shown at the time National Register of Historic Places designation was granted, and may have subsequently changed.

Feature	Ownership
Chain of Rocks Bridge (crossing Mississippi River, Illinois and Missouri)	City of Madison, Illinois
Meramec River Bridge (Missouri)	Missouri State Parks
Brush Creek Bridge (Kansas)	Cherokee County
11th Street Arkansas River Bridge (Oklahoma)	City of Tulsa
Bridge # 18 at Rock Creek (Oklahoma)	Creek County
Bridgeport Bridge (Oklahoma)	Oklahoma Dept of Transportation
Bridge over the Chicago, Rock Island, and Gulf Railroad (Texas)	Wheeler County
Route 66, SH 207 to Interstate 40 Conway, Texas (Texas)	Carson County Highway Dept
Realignment of Route 66 in central New Mexico	various ownership
Rio Puerco Bridge (New Mexico)	New Mexico Dept of Transportation
Querino Canyon Bridge (Arizona)	Apache County
Route 66 in Mohave County (Arizona)	Mohave County
Old Trails Bridge at Topock (crossing Colorado River, Arizona, California)	El Paso Natural Gas Company
Colorado Street Bridge, Pasadena (California)	City of Pasadena
Arroyo Seco Parkway, Los Angeles (California)	California Dept of Transportation

Location: This is a "linear project" from Chicago, Illinois to Santa Monica, California, approximately 2,448 miles in length.

Starting point in Chicago, Illinois: 41 52 46.5 N 87 37 28.2 W (the intersection of Michigan Avenue and Adams Street)

Ending point in Santa Monica, California: 34 00 54.9 N 118 29 10.8 W (the intersection of Lincoln Boulevard and Olympic Boulevard)

Local and vicinity maps: The location of the Route 66 alignment is shown on the cover page.

Nominating Team

Illinois Section	Brian Pawula, P.E.
Central Illinois Section	Christopher Gutkowski, P.E.
St. Louis Section	Jeffrey Fouse, P.E.
Kansas City Section	Tony Kulesa, P.E.
Kansas Section	Ben Ware, P.E.
Oklahoma Section	Josh Johnston, P.E.
Texas Section	Melinda Luna, P.E.
New Mexico Section	Roger Zimmerman, P.E., PhD
Arizona Section	Mark Lamer, P.E.
Los Angeles Section	Bill Lawson, P.E.
Route 66 NHCEL Nominating Team Lead	Andrew Machen. P.E.
Liaison to national History and Heritage Committee	Jonathan Upchurch, P.E.

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NOMINATION DISCUSSION

Unlike nearly all other designated ASCE Historic Civil Engineering Landmarks, Route 66 was not constructed as a single project with an identifiable construction start date and construction end date. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that created what eventually became a continuous numbered highway from Chicago, Illinois to Santa Monica, California.

1. **Historic Significance:** Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. While many individual segments of Route 66 may not have historic civil engineering significance, may not have contributed particularly to civil engineering or regional development, and are not otherwise unique, there were many notable civil engineering features constructed and achievements accomplished at many locations along the Route 66 alignment during its development. As the first continuous numbered cross-country route connecting the Midwest (Chicago) with the Pacific Coast (Los Angeles and Santa Monica) Route 66 is historically significant for its effect on regional and national economic, social, and political development. Collectively, many worthy elements combine to make Route 66 credible for designation as a National Historic Civil Engineering Landmark.

2. **Contributions:** The two following paragraphs are from Oxford Research Encyclopedia, "The History of Route 66", Stephen Mandrgoc[1] and David Dunaway[2]

> During its existence from 1926 to its formal decommissioning in 1985, US Highway 66, or Route 66, came to occupy a special place in the American imagination. For a half-century and more, it symbolized American individualism, travel, and the freedom of the open road with the transformative rise of America's automobile culture. Route 66 was an essential connection between the Midwest and the West for American commercial, military, and civilian transportation. It chained together small towns and cities across the nation as America's "Main Street." Following the path of older trails and railroads, Route 66 hosted travelers in many different eras: the adventurous motorist in his Ford Model A in the 1920s, the Arkies and Okies desperate for a new start in California in the 1930s, trucks carrying wartime soldiers and supplies in the 1940s, and postwar tourists and travelers from the 1950s onward. By its nature, it brought together diverse cultures of different regions, introducing Americans to the "others" that were their regional neighbors, and exposing travelers to new arts, music, foods, and traditions. It became firmly embedded in pop culture through songs, books, television, and advertisements for its attractions as America's most famous road.
>
> Travel on Highway 66 steadily declined with the development of controlled-access interstate highways in the 1960s and 1970s. The towns and cities it connected and the many businesses and attractions dependent on its traffic and tourism protested the

[1] Stephen Mandrgoc: University of New Mexico - Albuquerque, Center for Southwest Research
[2] David Dunaway: University of New Mexico - Albuquerque, Department of English

removal of the highway designation by the US Transportation Department in 1985, but their efforts failed. Nonetheless, revivalists who treasured the old road worked to preserve the road sections and attractions that remained, as well as founding a wide variety of organizations and donating to museums and libraries to preserve Route 66 ephemera. In the early 21st century, Route 66 is an international icon of America, traveled by fans from all over the world.

3. **Uniqueness:** Route 66 is different from each of the 12 existing National Historic Civil Engineering Landmarks that are roads. Those roadways, their locations, dates of completion, and short descriptions are listed chronologically below. In terms of date of construction, period of use, purpose, and function, Route 66 is clearly distinctly different from the existing Historic Civil Engineering Landmarks as noted in parentheses.

   El Camino Real (1) – New Mexico and Mexico, 1500's. The oldest and longest historical trail in the Western Hemisphere, extending from Mexico City to Santa Fe. (Much earlier period of use)

   El Camino Real (2) – Louisiana, Texas and Mexico, 1500's. Running from Mexico to Louisiana, the El Camino Real-Eastern Branch was a major Spanish pioneer transportation artery that provided support, defense and political stability for early colonists. (Much earlier period of use)

   King's Road -- Florida and Georgia, 1775. The principal overland transportation link between the former British Colony of St. Augustine and the 13 Colonies, the King's Road was originally 126 miles long. (Much earlier period of use)

   National Road -- Cumberland, MD to Vandalia, IL, 1811-1839. The first U.S. roadway to be financed with federal money. (Much earlier period of use)

   Mullan Road -- Montana to Washington, 1860. The first major engineered highway in the Pacific Northwest, the Mullan Road was designed to facilitate the movement of troops and supplies across the Rocky Mountains between the Missouri River basin in the Great Plains and the Columbia River Basin. (Much earlier period of use)

   Old Columbia River Scenic Highway -- Oregon, 1913 – 1922. The roadway design blended 74 miles of roadways, tunnels, viaducts, and overlooks into the natural environment harmoniously. (designed as a scenic highway)

   Going-to-the-Sun Road -- Glacier National Park, Montana, 1932. The first major trans-mountain scenic highway in the United States. (designed as a scenic highway)

   Blue Ridge Parkway – Virginia and North Carolina, 1936 – 1987. A 469-mile long parkway designed to emphasize the natural environment. (designed as a scenic highway)

   Pennsylvania Turnpike -- Pennsylvania, 1940. The first limited access long-distance highway in the United States. (designed as a limited-access facility)

   Arroyo Seco Parkway – Los Angeles, 1940. The first urban freeway to be built in the United States west of the Mississippi River. (designed as a limited-access facility to serve an urban area)

   Alaska Highway – British Columbia, Yukon, Alaska, 1942. Constructed as a military supply route in a very remote area during World War II. (purpose was a military supply route)

   Maine Turnpike -- Maine, 1947. The first major modern limited access highway to be built without any state or federal funding. (designed as a limited-access facility)

Although there were many other “highways” contemporaneous with Route 66 in their development and use, none has captured the American imagination or enjoyed the degree of name recognition.

Two other “highways” that were created in the early 1900’s were the Lincoln Highway and the Dixie Highway.

The Lincoln Highway

The following paragraph is from Wikipedia:

> The Lincoln Highway is the first transcontinental highway in the United States and one of the first highways designed expressly for automobiles. Conceived in 1912 by Indiana entrepreneur Carl G. Fisher, and formally dedicated October 31, 1913, the Lincoln Highway runs coast-to-coast from Times Square in New York City west to Lincoln Park in San Francisco, originally through 13 states: New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Iowa, Nebraska, Colorado, Wyoming, Utah, Nevada, and California. In 1915, the "Colorado Loop" was removed, and in 1928, a realignment relocated the Lincoln Highway through the northern tip of West Virginia. Thus, there are 14 states, 128 counties, and more than 700 cities, towns and villages through which the highway passed at some time in its history.

Dixie Highway

The two following paragraphs are from Wikipedia:

> Dixie Highway was a United States auto trail first planned in 1914 to connect the Midwest with the South. It was part of a system and was expanded from an earlier Miami to Montreal highway. The final system is better understood as a network of connected paved roads, rather than one single highway. It was constructed and expanded from 1915 to 1929.
>
> The Dixie Highway was inspired by the example of the slightly earlier Lincoln Highway, the first road across the United States. The prime booster of both projects was promoter and businessman Carl G. Fisher. It was overseen by the Dixie Highway Association and funded by a group of individuals, businesses, local governments, and states. In the early years, the U.S. federal government played little role, but from the early 1920s on it provided increasing funding until 1927. That year the Dixie Highway Association was disbanded and the highway was taken over by the federal government as part of the U.S. Route system, with some portions becoming state roads.

Compared with Route 66, the Lincoln Highway was dedicated 14 years before a route numbering system was adopted for U.S. numbered routes. Like Route 66, the Lincoln Highway was the collection of many individual efforts at the state, county and local level. Compared to both the earlier Lincoln and Dixie Highways, Route 66 benefitted from a greater federal role in funding of highway construction.

4. **Date of original construction, and other significant dates:** The Route 66 route number was assigned in 1926 for a route linking Chicago, Illinois with Santa Monica, California. The Route 66 route number was officially discontinued in 1985. Dates of construction are given in each of the descriptions of the 15 civil engineering features.

5. **Names of key engineers**: Names of key engineers are given in each of the descriptions of the 15 civil engineering features

6. **Photographs:** Photographs are included in each of the descriptions of the 15 civil engineering features.

7. **Additional documentation:** Additional documentation is included in each of the descriptions of the 15 civil engineering features.

8. **References:** The following references relate to Route 66 as a whole. Additional references are included in each of the descriptions of the 15 civil engineering features.

The History of Route 66 - Stephen Mandrgoc and David Dunaway
Building The Highways - Linda Hall Library
Route 66: Departments of Transportation - National Park Service
Route 66: Associations and Organizations - National Park Service
H.R. 801 Route 66 National Historic Trail Designation Act - U.S. Department of the Interior, Office of Congressional and Legislative Affairs
Travel Route 66 - National Park Service
Route 66 1926 - 1945 - National Park Service
Route "66" The Mother Road - Federal Highway Administration
Creation of a Landmark: The Federal Aid Road Act of 1916 - Federal Highway Administration
Highway History Bibliography: U.S. Route 66 - Federal Highway Administration
U.S. Route 66 - Wikipedia
National Old Trails Maps - Automobile Club of Southern California
Bridges of Route 66 - Jim Ross

PhD Theses and Other Publications

Huddleston, John David, Good Roads for Texas: A History of the Texas Highway Department, 1917-1947, Texas A&M University, August 1981
Corbett, William Paul, Oklahoma's Highways: Indian Trails to Urban Expressways, Oklahoma State University, 1982
Mason, Phillip, The League of American Wheelmen and the Good Roads Movement 1890-1905, M.A. Thesis, The American University, 1957

IMPLEMENTATION

9. **Text for ASCE website:** A draft of the proposed text which will appear on the ASCE website (maximum 500 words)

Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Route 66 was not constructed as a single project with an identifiable construction start date and construction end date. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago, Illinois to Santa Monica, California, approximately 2,448 miles in length.

There were many notable civil engineering features constructed and achievements accomplished at many locations along the Route 66 alignment during its development. As the first continuous numbered cross-country route connecting the Midwest (Chicago) with the Pacific Coast (Los Angeles and Santa Monica) Route 66 is historically significant for its effect on regional and national economic, social, and political development.

This National Historic Civil Engineering Landmark commemorates the Route 66 corridor from Chicago, Illinois to Santa Monica, California. Within that corridor are 15 select civil engineering features, or elements, of historical significance. Fourteen are listed on the National Register of Historic Places. They 15 include:

- The Chain of Rocks Bridge, over the Mississippi River north of St. Louis: Piers were located to align with water intake towers downstream. To locate all piers on sound bedrock, the design featured a thirty-degree bend in the road at a pier in mid-river.
- Brush Creek Bridge, north of Baxter Springs, Kansas: The Marsh Rainbow Arch bridge design is constructed of concrete and steel.
- 11th Street Arkansas River Bridge in Tulsa, Oklahoma: Built in 1916-1917, it was the first major multi-span concrete bridge in Oklahoma with 18 spans and 1,470 feet long.
- Bridgeport Bridge over the Canadian River hear Bridgeport, Oklahoma: A 40 span, 3,945 foot long truss structure.
- Santa Rosa Cutoff and Laguna Cutoff in New Mexico: The two realignments improved roadway geometrics and shortened the travel distance by 107 miles.
- Route 66 in Mohave County, Arizona: The Oatman Highway through the Black Mountains dealt with the most challenging topography along the 2,448 mile long Route 66 and had the steepest grades and most curving alignment.
- Old Trails Bridge over Colorado River at Topock, Arizona: A 600-foot steel arch constructed in 1914.
- Colorado Street Bridge in Pasadena, California: The highest concrete bridge in the world upon completion in 1913.
- Arroyo Seco Parkway in Los Angeles: Upon completion in 1940, was the first "freeway" in the western United States.

Route 66 was established as a numbered route in April, 1926 but it was several years until 1938 when the last unpaved segment was paved. The Route 66 route number was decommissioned in 1985. During Route 66's 59-year life there were many changes in local alignment resulting from highway improvements and relocations. Yet, today, many civil engineering features of historic significance continue to remain.

10. **Text for Landmark plaque:** A draft of proposed text that will appear on the Landmark plaque that describes the Landmark and why it is worthy of recognition from a historic civil engineering point of view. (maximum of 100 words)

    The following is proposed text for a "generic" Landmark plaque such as might be placed at each end of Route 66. This text could also be used at other locations.

    Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago to Santa Monica. Notable civil engineering features and achievements occurred at many locations along the Route 66 alignment during its development. Route 66 is historically significant for its effect on regional and national economic, social and political development. [85 words]

    The following is proposed text that could be used by ASCE Sections for site-specific use. The text is the same as above, except that the final sentence has been deleted, leaving space for about 32 words to describe the local feature.

    Route 66 is representative of the early development (circa 1920's) of cross-country highway routes in the United States. Creation of Route 66 was the collection of many individual efforts at the state, county and local level that established what eventually became a continuous numbered highway from Chicago to Santa Monica. Notable civil engineering features and achievements occurred at many locations along the Route 66 alignment during its development. [Description of local feature to be inserted here. As an example: The Chain of Rocks Bridge was designed to align its piers with downstream water intake towers, thus minimizing hazards to river navigation. The 30-degree bend in the bridge at mid-river was necessary to place bridge piers on stable bedrock.]

11. **Proposed Landmark plaque location:** Ten Sections have participated in preparing this nomination of the Route 66 corridor and there are 15 features of historical significance identified in this nomination. Typically, ASCE at the national level will pay for one Landmark plaque for a Historic Landmark. There has been a suggestion from one member of the History and Heritage Committee that perhaps two Landmark plaques could be funded, one at each end of Route 66. Individual Sections may wish to pay for additional plaques to be located at other locations. For example, the St. Louis Section would like a plaque installed at Route 66 State Park in Missouri. This nomination package proposes that the decision on Landmark plaque locations be made after the History and Heritage Committee recommends designation as a NHCEL and after Board approval.

COMMITMENTS

12. **Owner commitment:** This nomination is unlike the typical Historic Civil Engineering Landmark nomination, which involves a single owner. As noted earlier in this nomination package, there are literally hundreds of jurisdictions that now own segments of what was, at one time, a portion of Route 66. It is not practical to seek and obtain statements of owner commitment for all the individual "pieces" of the former Route 66.

    There are 15 features of historical significance identified in this nomination. This nomination proposes that owner commitments be sought only at those locations where a Landmark plaque will be installed. At the time of this nomination submittal, the nominators have not requested letters of support from the owners of the 15 features.

13. **Property owner commitment for installation of Landmark plaque:** As suggested in the two preceding numbered items 11 and 12, it is proposed that property owner commitments be sought in conjunction with the selection of Landmark plaque locations. Because potential Landmark plaque locations are unknown at this time, the nominators have not requested letters of commitment for Landmark plaque installation.

14. **Section commitment**: Resolutions have been received from the 10 Sections and are included in Appendix A. Those resolutions support the nomination as a National HCEL. In concept, there could be many dedication ceremonies held by many Sections for this National HCEL. Some of these ceremonies might include unveiling of Landmark plaques, while other ceremonies might not. It is proposed that, after Board approval of this NHCEL, commitments to conduct dedication ceremonies and to provide continuing Landmark plaque maintenance be sought from each Section interested in installing a Landmark plaque.

The next section of this nomination package provides descriptions of 15 civil engineering features of historical significance to be included as part of the Route 66 National HCEL designation. Additional supporting information then follows in Appendices.

DESCRIPTIONS OF 15 CIVIL ENGINEERING FEATURES

The 15 civil engineering features that comprise this nomination package are discussed in this section of the nomination package. They are organized geographically by state and listed from east to west along Route 66.

Illinois and Missouri

Chain of Rocks Bridge (crossing Mississippi River)
The Chain of Rocks Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is:
https://www.nps.gov/places/chain-of-rocks-bridge.htm#:~:text=The%20Chain%20of%20Rocks%20Bridge%20was%20listed%20in,MO%20and%20Illinois%203%20in%20Madison%20County%2C%20IL

NPS Photo courtesy of Rhys Martin

Overview of Chain of Rocks Bridge

Chain of Rocks Bridge is one of the more interesting bridges in America. It's hard to forget a 30-degree turn midway across a mile-long bridge more than 60 feet above the mighty Mississippi. For more than three decades, the bridge was a significant landmark for travelers driving Route 66.

The bridge's colorful name came from a 17-mile shoal, or series of rocky rapids, called the Chain of Rocks beginning just north of St. Louis. Multiple rock ledges just under the surface made this stretch of the Mississippi River extremely dangerous to navigate. In the 1960s, the Corps of Engineers built a low-water dam covering the Chain of Rocks. That's why you can't see them today. Back in 1929, at the time of the construction of the bridge, the Chain was a serious concern for boatmen.

A massive undertaking in its day, the Chain of Rocks Bridge had a projected cost of $1,250,000. The bridge was to be a straight, 40-foot wide roadway with five trusses forming 10 spans. Massive concrete piers standing 55 feet above the high-water mark were to support the structure. Plans called for a four-mile fill along the road leading to the bridge's north end.

All that proved true except for one major change--in direction. Riverboat men protested the planned bridge because it was to run near two water intake towers for the Chain of Rocks pumping station. Navigating the bridge piers and the towers at the same time, the river captains argued, would be extremely treacherous for vessels and barges. Besides, the initial straight line would have put the bridge over a section of the river where the bedrock was insufficient to support the weight of the piers. Either way, the bridge had to bend.

Construction started on both sides of the river simultaneously in 1927, and the piers were complete by August of 1928. A grand opening was planned for New Year's Day 1929. The Mississippi River had other plans. Floods and ice slowed the work, and the Chain of Rocks Bridge finally opened to traffic in July of 1929.

Then, as now, actual expenditures for construction often exceed projected costs. Chain of Rocks Bridge cost just over $2.5 million--twice its original estimate. Fortunately, the public got its money's worth. The bridge

had beautifully landscaped approaches. A park-like setting around a pool and a large, ornate toll booth anchored the Missouri end. On the Illinois side, 400 elm trees lined the approach. The bridge brought travelers into St. Louis by way of the picturesque Chain of Rocks amusement park on the Missouri hills overlooking the river. On a clear day, crossing the Chain of Rocks Bridge was a real pleasure. That pleasure became an official part of the Route 66 experience in 1936, when the highway was rerouted over the bridge.

During World War II, Chain of Rock's colorful red sections had to be painted green to make the bridge less visible from the air. At the same time, wartime gas rationing reduced traffic. To offset these costs, the City of Madison increased bridge tolls to 35 cents per car, with an additional five cents per passenger—a fee structure that sets on its head today's system of special high-speed lanes reserved for cars carrying more, not fewer, people.

In 1967, the New Chain of Rocks Bridge carrying Interstate 270 opened just 2,000 feet upstream of the old bridge, which closed in 1968. The bridge deteriorated, and during the 1970s, Army demolition teams considered blowing it up just for practice. In 1975, demolition seemed imminent. Fortunately for the bridge, a bad market saved the day. The value of scrap steel plummeted, making demolition no longer profitable. At that point, the Chain of Rocks Bridge entered 20 years of bridge limbo--too expensive to tear down, too narrow and outdated to carry modern vehicles. In 1980, film director John Carpenter used the gritty, rusting bridge as a site for his science fiction film, Escape from New York. Otherwise, the bridge was abandoned.

Today you might say that the Chain of Rocks Bridge has completed a historic cycle. Built at the beginning of America's love affair with the automobile, it is now a reflection of America's desire not to ride in cars so often. During the 1980s, greenways and pedestrian corridors became increasingly popular, and a group called Trailnet began cleanup and restoration of the bridge. Linked to more than 300 miles of trails on both sides of the river, the old Chain of Rocks Bridge reopened to the public as part of the Route 66 Bikeway in 1999.

Because the bridge has not been significantly altered over the years, a visit there today conveys a strong sense of time and place, an appreciation for early-20th-century bridge construction, and outstanding views of the wide Mississippi River. The Chain of Rocks Bridge was listed in the National Register of Historic Places in 2006.

1. **Historic Significance:** Chain of Rocks Bridge is listed on the National Register of Historic Places and has significance under National Register criteria A and C. Criterion A is that: Property is associated with events that have made a significant contribution to the broad patterns of our history. Criterion C is that: Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity who's components lack individual distinction.
   The Statement of Significance in the National Register Registration Form includes the following. The Chain of Rocks Bridge, which crosses the Mississippi River and connects St. Louis, Missouri, with Madison County, Illinois, is eligible for the National Register under Criteria A and C for its significance in transportation and engineering. Under Criterion A the Chain of Rocks Bridge reflects an important era in the nation's transportation history as a notable link in the US Route 66 corridor. Revered as the "Main Street of America," Route 66 is distinct in the American interstate system of the early twentieth century as one of the most well-traveled roads to the West.

The history of Route 66 reflects the country's social, economic, and cultural development during this era. The Chain of Rocks Bridge played a pivotal role in the highway's history. The bridge served as the widest river crossing along the route, and provided access to the largest city between the route's two termini. The Chain of Rocks Bridge continued to carry Route 66 traffic until the late 1960s. After a period of non-use, the bridge now serves as a pedestrian and bicycle corridor.

The Chain of Rocks Bridge is also eligible under Criterion C for its significance in engineering. The bridge's steel truss design is notable for its graceful, long-span trusses, which are cantilevered over tapered concrete piers. Over one mile in length, it is one of the longest bridges of this type in the country. The thirty degree bend in the middle of the structure also makes it quite distinctive. The original design of the bridge was altered to include this bend in an effort to better accommodate river navigation and to adequately maneuver the river's problematic geological formations. The Chain of Rocks Bridge is an excellent example of early highway design and construction. Its size, scale, and unique configuration make it an important resource of American transportation history. The Chain of Rocks Bridge is nationally significant and its period of significance extends from its construction date of 1929 to the fifty-year milestone of 1956 [50 years before National Register listing].

2. **Contributions:** The Chain of Rocks Bridge contributed to the development of the St. Louis region as described in the National Register Registration Form: 'In 1936, the Chain of Rocks bridge was designated part of US Route 66. In the St. Louis area, Route 66 was originally routed across the Mississippi and into the city over the McKinley Bridge. In 1934, the route was changed to the MacArthur Bridge. Each of these corridors channeled traffic into St. Louis's warehouse district. Both options resulted in congested downtown traffic, so the highway was rerouted a third time in 1936 to cross over the Chain of Rocks Bridge. This was a much preferred course as it brought travelers into the city from the north."

3. **Uniqueness:** The Statement of Significance in the National Register Registration Form includes the following. The Chain of Rocks Bridge was constructed in the late 1920s to help alleviate the rising traffic congestion across the Mississippi River. The sixth vehicular bridge to be built over the Mississippi River in the area, the Chain of Rocks structure connected Madison County, Illinois, and northem St. Louis, Missouri. The bridge takes its name from a rocky area that extends across the river. Known as the Chain of Rocks, this natural formation often made river navigation troublesome. St. Louis engineer Baxter L. Brown designed the structure, which was to cost $1.25 million. Brown's design called for a straight roadway with five continuous, rigid-connected trusses forming ten spans. Massive concrete piers supported the structure and stood approximately fifty-five feet above the high water mark. Approaches on both ends were to consist of simple trusses with the north end having a four-mile long fill.

   Brown's design for the bridge had to be slightly altered, however, due to the surrounding terrain and issues with existing structures. The bridge was to be built near the Chain of Rocks water pumping station, and its proposed location was upstream from two existing water intake towers associated with the station. Navigating around both the bridge and the tower would make river travel through the area difficult, and after riverboatmen strongly protested the plan, the War Department ordered the configuration of the bridge to be changed. Piers were repositioned to align with the water intake towers, thus easing navigation of barges and other vessels through the river's shoal area. In addition, the initial straight alignment would have put the bridge in a location where there was not sufficient bedrock to support it. The new design featured a thirty-degree bend in the road at a pier in mid-river [as shown in the photo at the beginning of this Chain of Rocks Bridge description].

4. **Date of original construction:** Constructed 1927 to 1929
   1936 – Route 66 routed over the bridge
   1968 – closed to vehicular traffic
   1999 – reopened to pedestrian and bicycle traffic
5. **Names of key engineers**: Designed by Baxter L. Brown.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/28891353
8. **References:**

Cassity, Michael. "Route 66 Corridor, National Historic Context Study." Route 66 Corridor Preservation Program, National Trails System Office-Intermountain Region, National Park Service, Santa Fe, New Mexico, 2004.

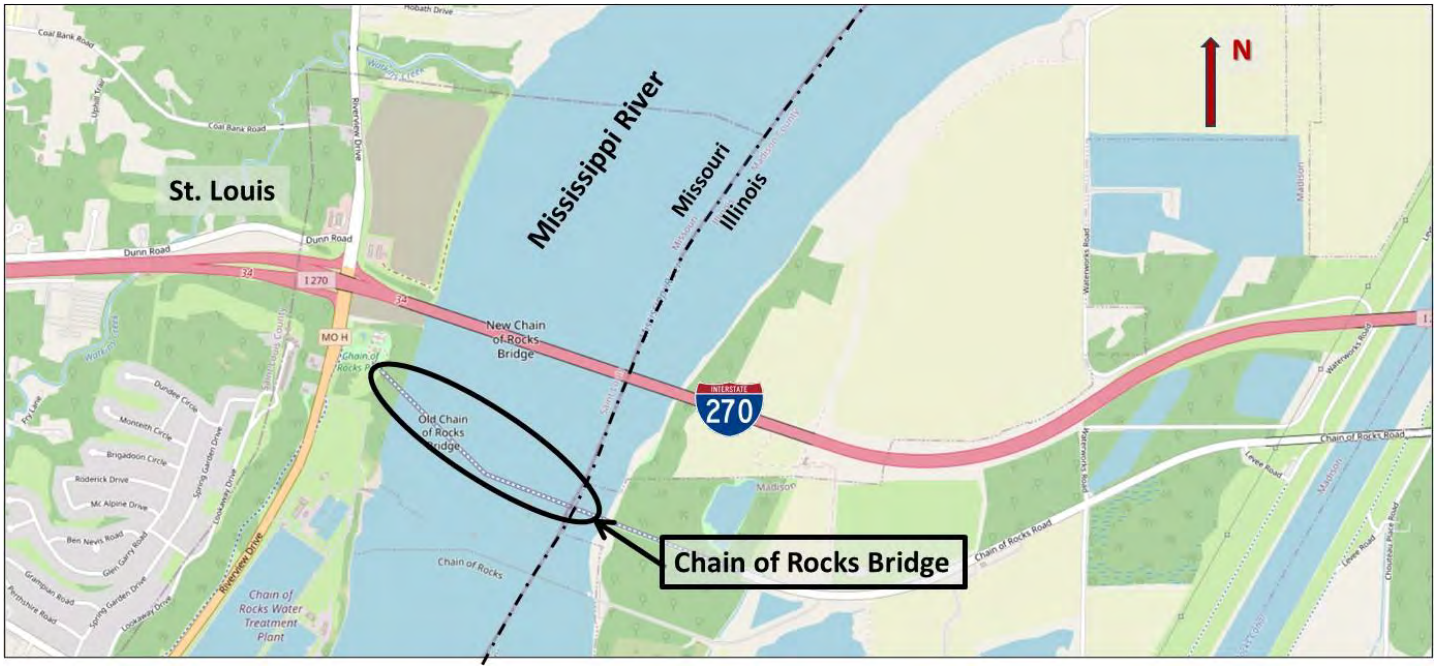
Fraser, Clayton B. "Chain of Rocks Bridge." Historic American Engineering Record Inventory, Missouri Historic Bridge Inventory, Missouri Highway and Transportation Department, August 1994.

"The Old Chain of Rocks Bridge" Trailnet Brochure.

Seratt, Dorothy and Terri Rybum-Lamont, Route 66 Association of Illinois. Multiple Property Documentation Form, "Historic and Architectural Resources of Route 66 Through Illinois." 1997.

Location: 10820 Riverview Drive, St. Louis, MO 63137 38 45 51.8 N 90 10 52.9 W
Chain of Rocks Bridge parallels Interstate 270 along Chain of Rocks Rd. between Riverview Dr. in St. Louis, MO and Illinois Route 3 in Madison County, IL. Free parking is available in Illinois at the bridge entrance on Chain of Rocks Road and at Chain of Rocks Park, south of the bridge on Riverview Drive on the St. Louis side.

Local and vicinity maps:



Missouri

Meramec River Bridge

The Meramec River Bridge is listed on the National Register of Historic Places.
Source of the following photo and Overview is: https://www.nps.gov/places/meramec-river-us-66-bridge.htm

Photo source: National Park Service

Overview of Meramec River Bridge

After its designation in 1926, the course Route 66 took from Illinois to California did not remain static. As practical and political concerns arose, authorities rerouted it to meet them. Meramec River U.S. 66 Bridge resulted from this rerouting. The bridge and the road it supported helped to transform the surrounding area from a wealthy retreat center to a working-class town. More recently, the bridge has become a centerpiece of a state park devoted to Route 66.

Local government mostly funded and maintained highways and bridges before the late 19th century. Boats and trains were the preferred means of transportation before that time, and roads were expensive. In the late-19th and early-20th centuries, bicycle and automobile enthusiasts began establishing good roads associations to lobby for highway infrastructure, and the States and Federal government responded with funding for transportation.

A combination of state and federal actions developed Missouri's 20th-century road system. In response to good roads pressure, Missouri established a state highway system in 1909 and an inter-county network road system in 1913. In 1916, the United States passed the Federal Highways Act to begin funding interstate roads. Missouri responded in 1917 by creating a state road fund, State Highway Board, and State Highway Engineer to supplement federal funding. The most far-reaching state legislation occurred in 1921, when the Centennial Road Law made the state solely responsible for road building. Missouri established a Bureau of Bridges the same year to deal solely with the issue of crossings.

Bridge building increased dramatically in Missouri during the 1920s. In 1918, the state funded a mere 35 new bridges. By 1931, the Bureau of Bridges had prepared designs for 2,465 additional bridges. When the United States designated Route 66 as a federal highway in 1926, Missouri's existing infrastructure enabled its routing across the state.

Route 66 initially bypassed the lower Meramec River, which late 19th-century hotel and railroad operators had made a destination for well-off area residents. The grandest resort was the Meramec Highlands, established in 1895 ten miles upriver from the eventual bridge site. The 1904 World's Fair in St. Louis introduced a new audience to the area as well. In 1925, a working-class resort called Times Beach opened there.

Route 66 was rerouted from Gravois Road to Chippewa in southern St. Louis in 1931, requiring a Meramec River crossing. The Meramec River U.S. 66 Bridge that resulted is a 1009-foot-long 30-foot-wide steel structure, and the Bureau of Bridge engineers employed a Warren deck truss type in its design. Truss bridges use a triangular placement of beams to stiffen and strengthen the roadbed.

Horizontal "chords" at the top and bottom of the bridge's sides are connected by vertical posts and diagonals. Abutments are used to provide additional support. Truss patterns work very well with metal materials, and the type became popular in the middle of the 1800s, when iron was commonly used in bridge construction. James Warren and Theobald Manzani patented the Warren truss, defined by its placement of the chords to create equilateral triangles, in 1848. The bridge's type [rigid-connected Warren deck truss] makes it a rarity in Missouri, whose flat rivers often provide insufficient clearance for this type of structure. Most of Missouri's few deck truss bridges were constructed in the 1920s and 1930s and all were designed by the state highway department. Only four rigid-connected Warren deck truss bridges remain in the state, including the Meramec River U.S. 66 Bridge, which builders completed in 1932.

The bridge supported subsequent development of the area. During the Depression, Times Beach transitioned into a permanent community because of the relative affordability of its small homes. In the 1940s, as commuting supported by the bridge became a popular option and river-based recreation developed further, more people moved to this section of shoreline. Times Beach incorporated in 1954, and the state added an auxiliary bridge for eastbound traffic two years later. By the late 1960s, construction of Interstate 44 had begun and traffic was permanently rerouted to the 1956 bridge relegating the Meramec River U.S. 66 Bridge to local traffic. By 1985 Route 66 was entirely decommissioned in the state. Interest in the road remained, however, and sparked Missouri's 1999 creation of the Route 66 State Park. The 419-acre park interprets and showcases the surrounding environment and portions of Route 66 within its boundary, including the Meramec River U.S. 66 Bridge. Although listed on the National Register of Historic Places in

2009. That same year, the bridge was closed to all traffic by the Missouri Department of Transportation (MoDOT). In 2010, the bridge decking was removed to preserve the support structure by taking the weight off the aging truss. MoDOT) had plans to demolish the remaining bridge structure if a viable redevelopment plan was not in place by the end of 2016. Thanks to a collaborative effort and financial gifts from donors, Landmarks Association and Philip and Judith Stupp, fundraising efforts are underway to explore options to rehabilitate the bridge. Missouri State Parks is now the owner of the bridge.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** Only four rigid-connected Warren deck truss bridges remain in the state of Missouri; the Meramec River Bridge is one of them.
4. **Date of original construction:** Construction completed in 1932.
   2009 – bridge closed to all traffic
   2010 - decking removed
5. **Names of key engineers**: Designed by the Bureau of Bridges under the State Highway Commission. Constructed Frazier-Davis Construction Company. Adrian W. Frazier completed a civil engineering degree from Washington University in 1909.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/63817983
8. **References:**

American Institute of Steel Construction, Inc. Prize Bridges, 1928 - 1936. New York: Selfpublished, (1937).

Bensman, David and Mark R. Wilson, "Iron and Steel," Online Encyclopedia of Chicago at: http://www.encvclopedia.chicagohistorv.or&-pages/653.html.

Brown, David J. Bridges. New York: MacMillan Publishing Company, 1993.

Federal Works Agency. Narrative Report of the Fiscal Study by the Missouri State-Wide Highway Planning Survey. (Washington, D.C): Public Roads Administration, 1940.

Fraser, Clayton B. "HAER Inventory: Missouri Historic Bridge Inventory, Meramec River Bridge, MHTD: J 421." 4 August 1994.

FRASERdesign. "Missouri Historic Bridge Inventory," April 1996. Unpublished bridge survey. On file with Missouri Department of Transportation and Missouri Department of Natural Resources, Jefferson City, MO.

"Historic Bridges of the United States," Webpage available at: https://www.bridgehunter.com/bridge/22651

"A History of Times Beach," Show Me Route 66, April 2000 (pages not numbered). Volume 12:1.

Missouri Department of Natural Resources, Division of State Parks. Route 66 State Park. (Jefferson City, MO): Self-published, (2005).

State Highway Commission of Missouri. Eighth Biennial Report. (Jefferson City, MO): Selfpublished, 1931.

State Highway Commission of Missouri. Seventh Biennial Report. (Jefferson City, MO): Selfpublished, 1930.

Workers of the Writers' Program of the Works Progress Administration. Missouri - The WPA Guide to the "ShowMe" State. St. Louis: Missouri Historical Society Press, 1998 (reprint; original edition 1941).

Location: The Meramec River U.S. 66 Bridge is located approximately two miles east of Eureka, MO, within the Route 66 State Park along the historic alignment of Route 66. The Meramec River separates the visitor center and east side of the bridge from the bulk of the park and the west side of the bridge. To access the east side of the bridge, take Interstate 44 exit 266/Lewis Rd. and follow the signs to the park. To access the west side of the bridge, take Interstate 44 exit 265/Williams Rd. and follow signs to the park. Exit 265 is accessible only to eastbound traffic, so cars traveling west will need to first take exit 264 to reverse direction.

The east end of the bridge is located at: 38 30 21.2 N 90 35 29.0 W

Local and vicinity maps:

Kansas

Brush Creek Bridge

The Brush Creek Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is:
https://www.nps.gov/places/brush-creek-bridge.htm#:~:text=Built%20in%201923%2C%20the%20130-foot%20bridge%20carried%20Route,the%20National%20Register%20of%20Historic%20Places%20in%201983

NPS Photo courtesy of Rhys Martin

Overview of Brush Creek Bridge

Three and a half miles north of Baxter Springs, Kansas stands the elegant Brush Creek Bridge, the only remaining example of a fixed Marsh Rainbow Arch bridge left on Kansas Route 66. Two other examples, the Spring River and Willow Creek bridges, were dismantled in the early 1990s.

The Brush Creek Bridge, also known as the Rainbow Bridge, was part of a project in the early 1920s to connect the mining communities of Galena, Riverton, and Baxter Springs with a concrete road. The unique and graceful Rainbow Arch design was the brainchild of James Barney Marsh, a bridge designer from Iowa, who patented the concrete and steel truss design in 1912. Marsh spent the next two decades erecting approximately 70 of his Rainbow Arch bridges throughout the Midwest, most of them in Kansas, where approximately 35 still remain.

The bridge consists of a pair of arches disposed between two abutments, with concrete banister railings aligned…[with the edges of] the bridge deck. The original patents called for slidable wear plates, molded into the concrete where the bridge deck came into contact with the…abutments. This is important, as one of the main benefits of this design was to allow for the expansion and contraction of the reinforced concrete bridge under varying conditions of temperature and moisture. Built in 1923, the 130-foot bridge carried Route 66 motorists over Brush Creek until it was bypassed by the interstate in the 1960s.

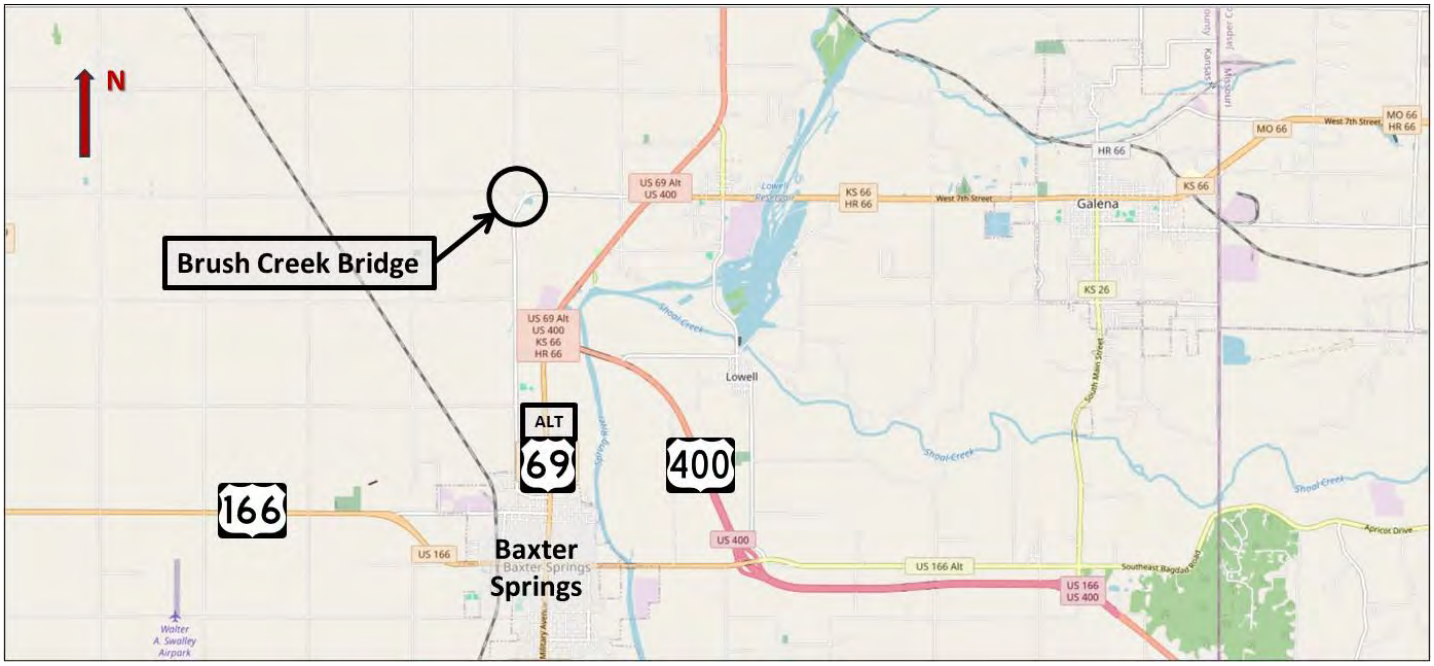
The Brush Creek Bridge was listed in the National Register of Historic Places in 1983. In 1992, upon seeing two other Marsh Arch bridges on the short stretch of Route 66 through Kansas dismantled, the Kansas Historic Route 66 Association worked successfully to save the Brush Creek Bridge. At this time, a new bridge was built just to the east of the Brush Creek Bridge to redirect and accommodate the increasing needs of local traffic. Two years later, the Association and the Cherokee County Commission combined efforts to make important repairs to the Brush Creek Bridge. In 2005, the National Park Service Route 66 Corridor Preservation Program provided additional Cost-Share Grant funds to assist with repairs to the concrete superstructure.

The Brush Creek Bridge can be reached by driving north on N. Willow Ave. (Southeast 50th) approximately 3.5 miles out of Baxter Springs, KS. Although local traffic has been rerouted around the bridge, it is still possible to walk or drive across the bridge.

1. **Historic Significance:** Served as an element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1923 to 1924.
   1926 – newly designated Route 66 routed over the bridge
   Circa 1992 – replacement bridge built nearby
5. **Names of key engineers**: Bridge designed by engineer James B. Marsh.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Inventory – Nomination Form. Available at: https://www.kshs.org/resource/national_register/nominationsNRDB/Cherokee_BrushCreekBridgeNR.pdf

Location: 37 04 24.5 N 94 44 27.0 W

Local and vicinity maps: The Brush Creek Bridge can be reached by driving north on N. Willow Ave. (Southeast 50th) approximately 3.5 miles out of Baxter Springs, KS. Although local traffic has been rerouted around the bridge, it is still possible to walk or drive across the bridge.



Oklahoma

11th Street Arkansas River Bridge

The 11th Street Arkansas River Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/11th-street-arkansas-river-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of 11th Street Arkansas River Bridge

Built in 1916-1917 over the Arkansas River in Tulsa, the 11th Street Arkansas River Bridge is significant as the first major multi-span concrete bridge in Oklahoma. The bridge became a critical link between downtown Tulsa and the oil fields to the west. The mid-1910s was a period of great activity for Tulsa because of the booming oil economy. Across the Arkansas River, West Tulsa expanded rapidly to become a busy area for refining oil. The increase in traffic and trucking associated with the oil business made replacing the earlier wooden bridge a necessity.

Built by the Missouri Valley Bridge and Iron Company for $180,000, the 11th Street Arkansas River Bridge is a multi-span concrete arch bridge with 18 spans set on piers sunk into bedrock. Harrington, Howard and Ash of Kansas City, a firm that designed many bridges in the Midwest, engineered the bridge. Completed in 1917 and regarded as an architectural beauty with all modern features, the bridge, at 1,470 feet long and 34 feet wide, was one of the longest concrete structures in the Midwest. It supported a railroad track in the center and single lane of vehicular traffic on each side with sidewalks adjacent to the exterior lanes. The original

design included a classical balustrade and Victorian-era lighting. In 1929, the installation of new Art Deco style guardrails and lighting fixtures updated the bridge. These lights are no longer extant.

Tulsan Cyrus Avery served as County Commissioner from 1913 to 1916, and was involved with construction of the bridge. In 1924, the Federal Government appointed Avery as a consulting highway specialist and assigned him the task of creating a U.S. highway system. Recognizing the economic impacts of these highways, Avery became a strong proponent of a route from Chicago to Los Angeles [eventually to be designated as Route 66] that would pass through his hometown of Tulsa. Already in existence as the primary crossing over the Arkansas River, the 11th Street Bridge became a major determining factor in defining the path of Route 66 to and through Tulsa.

A project in 1934 widened the bridge to its present width of 52 feet 8 inches and included construction of a second arch structure downstream of the 1916 structure and the connection of the new and old bridges with a single deck. New sidewalks were also built on both sides of the bridge. After completion of the project, the new 40-feet curb-to-curb width allowed the bridge to accommodate four lanes of traffic. The bridge remained in service until 1980, when it closed to traffic. In 1996, the bridge was listed in the National Register of Historic Places.

In 2003, the voters of Tulsa County approved a series of projects as part of the Vision 2025 initiative, one of which involves promoting and enhancing Route 66 in Tulsa. Plans are underway to implement the Vision 2025 projects with repairs to the 11th Street Bridge and the opening of a visitor center at the site. In 2004, the bridge officially received a new name, the "Cyrus Avery Route 66 Memorial Bridge," in honor of the man responsible for bringing Route 66 through Tulsa. The Cyrus Avery Memorial Plaza is located at the north end of the bridge.

1. **Historic Significance: T**he first major multi-span concrete bridge in Oklahoma.
2. **Contributions:** Supported Route 66's role in contributing to region and national growth.
3. **Uniqueness:** At the time of its construction in 1917 the bridge was one of the longest concrete structures in the Midwest. It supported a railroad track in the center and single lane of vehicular traffic on each side with sidewalks adjacent to the exterior lanes.
4. **Date of original construction:** Constructed 1916 to 1917
   In 1934 a project widened the bridge to its present width of 52 feet 8 inches and included construction of a second arch structure downstream of the 1916 structure and the connection of the new and old bridges with a single deck. New sidewalks were also built on both sides of the bridge.
   1980 – Closed to traffic
5. **Names of key engineers**: Designed by the firm of Harrington, Howard and Ash of Kansas City.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86510535
8. **References:**

Black, Archibald. The Story of Bridges. New York: McGraw-Hill, Inc., n.d.
Butler, William. Tulsa 75: A History of Tulsa. Tulsa: Metropolitan Tulsa Chamber of Commerce, 1974.

Harrington, Howard and Ash, Consulting Engineers. "Plans and Drawings of 11th Street Arkansas River Bridge." 1916.

Spans of Time: Oklahoma Historic Highway Bridges. Oklahoma City: Planning Division, Oklahoma Department of Transportation, 1993.

Teague, Tom. Searching for 66. Springfield, Illinois: Samizdat House, 1991.

"The Arkansas: A River to Cross." Tulsa: Thomas Gilcrease Institute of American History and Art. Historical Leaflet No. 6, 1965.

Wallis, Michael. Route 66: The Mother Road. New York: St. Martin's Press, 1990.

Works Progress Administration, Federal Writers' Project. American Guide Series. Tulsa: A Guide to the Oil Capital. Tulsa: The Mid-West Printing Company, 1938.

Location: 36 08 39.7 N 96 00 11.8 W

Local and vicinity maps: The 11th Street Arkansas River Bridge spans the Arkansas River on historic Route 66 between the Southwest Boulevard Bridge and Interstate 244 Bridge in Tulsa, OK. The bridge is closed to vehicle and pedestrian traffic.

Bridge # 18 at Rock Creek

Bridge # 18 at Rock Creek is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/bridge-18-rock-creek.htm

NPS Photo courtesy of Rhys Martin

Overview of Bridge # 18 at Rock Creek

Of the great number of bridges built on Route 66, Bridge #18 at Rock Creek is one of the better examples of the remaining steel-truss bridges in Oklahoma. Truss bridges were developed in the mid-1800s and used extensively until World War II, when technology changed and more standardized concrete designs were developed.

In terms of lineage, the ancestor of the steel-truss bridge is the beam bridge, usually built of wood and limited in the amount of weight it could support. As a result, early roads generally followed old trails where rivers and creeks were shallow. Even bridges that were quite long were located at shallow crossings.

One of the oldest types of modern bridges, truss bridges were altogether something new. Bridge #18 at Rock Creek is composed of connected elements, in this case steel beams, which stressed by tension and compression (or sometimes both) in response to dynamic and heavier loads. Because of truss bridges, deeper water could be safely crossed. Roadways no longer had to meander from one low-water crossing to another. Instead they could be built along the shortest route. Bridge #18 is a Parker through truss bridge. Its

ancestor is the beam bridge, while its descendants are today's cantilever, truss-arch, and lattice bridges. Unusual for a steel truss bridge, #18 has brick decking.

Bridge #18 is an illustration of the bridges of its era. Route 66 travelers who crossed Rock Creek near Sapulpa during the late 1920s would have thought the bridge the most dynamic design of its time, and it was. Constructed in 1924, #18 served as part of the old Ozark Trail, one of the few marked U. S. roads at the time. It became part of Route 66 in 1926. Just over a decade later the State's entire section of Route 66 was paved. The bridge served Route 66 until the construction of a new alignment in 1952. The bridge was listed in the National Register of Historic Places in 1995.

1. **Historic Significance:** Bridge No. 18 is listed on the National Register of Historic Places and has significance under National Register criteria A and C. Criterion A is that: Property is associated with events that have made a significant contribution to the broad patterns of our history. Criterion C is that: Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity who's components lack individual distinction. As stated in the National Register of Historic Places form, Bridge No. 18 at Rock Creek, constructed in 1924 southwest of Sapulpa, is significant as an excellent example of a Parker Through Truss bridge on Route 66 in Oklahoma. The Parker Through Truss is a Pratt Truss with a polygonal top chord. This type of bridge design was used extensively along Route 66 during the first quarter of the twentieth century for large bridges. The Pratt Truss was developed in 1844 and was used extensively until the beginning of World War II when bridge technology changed and new and better designs were developed.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** Bridge No. 18 has brick decking on a steel Parker Through Truss.
4. **Date of original construction:** Constructed in 1924. Likely closed in 1952.
5. **Names of key engineers**: Designer unknown. Constructed by the Concrete and Steel Construction Company, a New York company with an office in Joplin, Missouri.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86510015
8. **References:**
County Commissioners Report, November 16, 1921, p.l25.
Snyder, Tom. The Route 66 Traveler's Guide and Roadside Companion. New York: St. Martin's Press, 1990.
State of Oklahoma Department of Highways. "Plans and Profile of Proposed State Highway including Bridge No. 18 over Rock Creek," 1924-1925.

Location: West Ozark Trail, Sapulpa, OK 35 59 37.2 N 96 08 10.2 W

Local and vicinity maps: (following page)


N
44
Governor Roy Joseph Turner Turnpike
Roy Joseph Turner Turnpike
West Line Street
Sapulpa
OK 97
OK 66
OK 117
ALT
75
Rock Creek
Bridge #18 at Rock Creek
Sapulpa City Golf Course
Sooner Subdivision
West Ozark Trail
West Bryan Avenue
East Bryan Avenue
East Taft Avenue
West Taft Avenue
Kelly Lane Park
Oknoname 037068 Dam

Bridgeport Bridge

The Bridgeport Bridge is listed on the National Register of Historic Places.

Photo credit: Oklahoma Department of Transportation

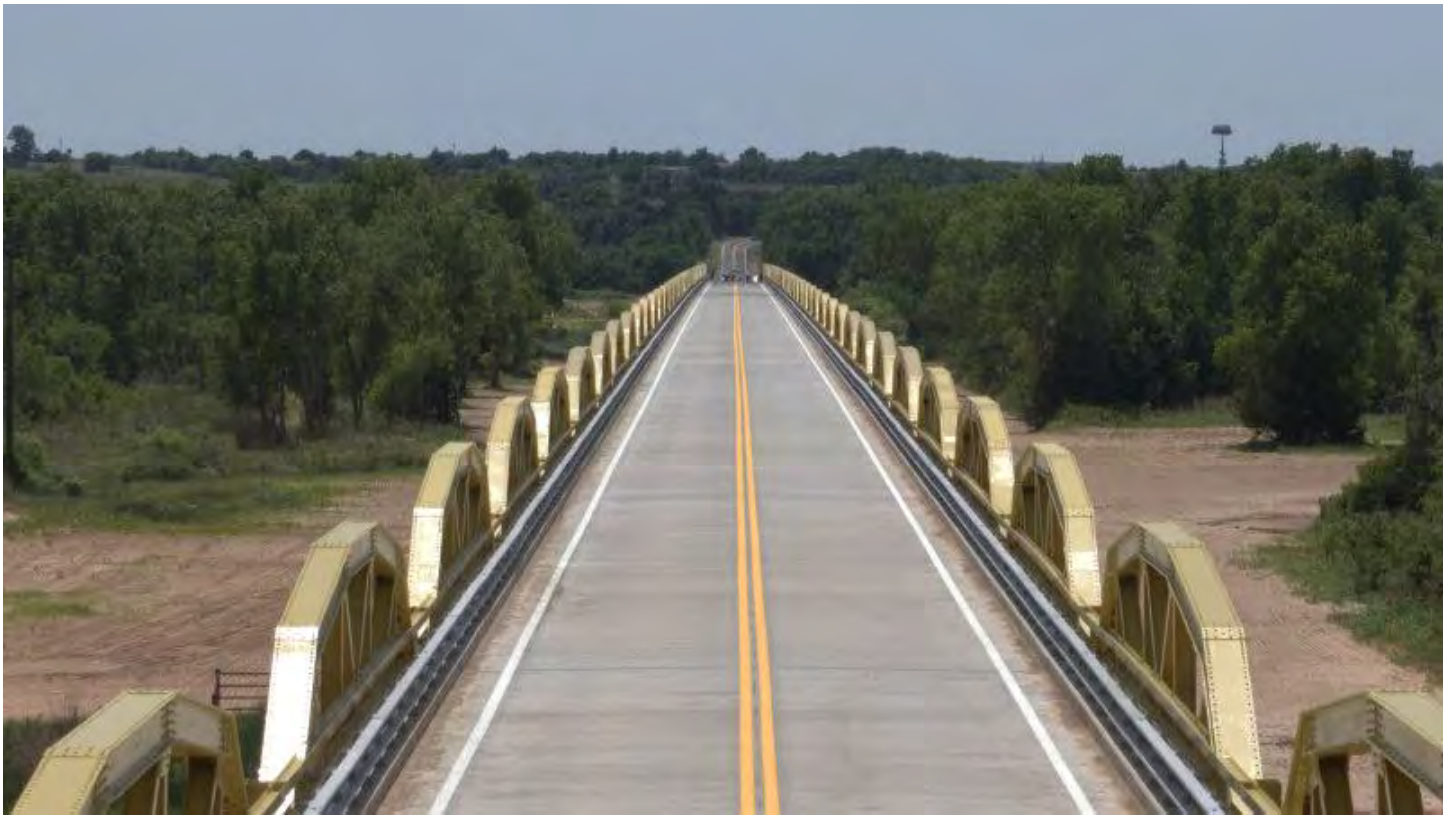


Photo credit: Oklahoma Department of Transportation

Photo credit: Oklahoma Department of Transportation

Overview of Bridgeport Bridge (also known as the William H. Murray Bridge)

The two following paragraphs are from a FY2020 BUILD grant application.

> The existing bridge was constructed in 1933 as part of the original Route 66 corridor. The approximately 3,945-foot long Warren[3] pony truss[4] structure consists of thirty-eight 100-foot long "camelback" pony truss spans, with two 36-foot long multi-beam approach spans at either end.
>
> The project proposed in this application will reconstruct the bridge on its current alignment with a 28-foot width. The reconstruction of the bridge will include replacing the substructure, deck and entire superstructure. The historic pony trusses will be re-attached to maintain the historic integrity of the original bridge. The bridge will also be repainted and restored to its original look. Maintaining the bridge's original look and feel, as well as the majority of its original truss members, will preserve the historic context for years to come. [Note: Reconstruction has now been completed.]

The two following paragraphs are from the National Register Registration Form

[3] Although the two reference sources cited here both refer to Warren trusses, members of the ASCE History and Heritage Committee believe that they would more properly be described as Pratt trusses with counter diagonals in the middle panel and with a polygonal top chord.

[4] A pony truss is a truss bridge which allows traffic to travel between parallel trusses, but the tops of the trusses are not joined together with cross braces.

The William H. Murray Bridge, also known locally as The Pony Bridge because of the truss system it uses, is one of the most prominent road features on Route 66 in Oklahoma because of the enormous length of the bridge. About three-fourths of a mile long, the bridge is made of thirty-eight spans with Warren pony trusses, each a hundred feet long. In addition to being the longest bridge on Route 66 in Oklahoma, it is also the second longest extant bridge in the state. While the normal road width is twenty feet, the bridge roadway widens slightly to twenty-five feet. The bridge was constructed in 1932-1933 and put into use in 1934 when the road to the west was completed. The approaches to each end of the bridge are protected with four sections of concrete guardrails. Plaques commemorating the construction of the bridge, and the public and private officials responsible, are located on concrete panels adjacent to the guardrails. The plaques also honor the company responsible for its construction; the Kansas City Bridge Company.

Still an awesome bridge when encountered by the modem traveler, it was even more so in the 1930s when the nation's traveling public crossed the continent on Route 66. The reason for its vast length, of course, is the wide flood plain of the South Canadian River. Concrete piers rise from that sandy stretch to support the junction of the separate spans, with each pier consisting of two columns joined by a concrete panel. The trusses themselves are characteristic Warren Pony trusses. Each one has the W pattern of diagonal braces connecting with the upper chord at each of its five angles, further braced by vertical steel members rising from the lower chord and intersecting the upper chord at each of the five angles, and with an X brace in the center. With such attention to the detail of each truss, the strength and endurance of the bridge is immediately apparent. In fact, the standard reference on bridges in Oklahoma[5] refers to this bridge as "a powerful demonstration of the strength and versatility of the standard-design camelback pony" configuration. That description holds for each span of the bridge. When multiplied times thirty-eight, the power, the strength, and the sheer force of this structure become obvious.

William H. Murray served as a U.S. Congressman from Oklahoma and Governor of Oklahoma.

1. **Historic Significance:** (From a FY2020 BUILD grant application) This bridge was suggested by Oklahoma Department of Transportation to be the most historically significant bridge in the state. Oklahoma does not have the notable old 19th century cast and wrought iron truss bridges of states in the eastern United States. However, it has two unusual truss bridge forms that are unique to the state. The state is also noted for its extremely long [bridges made of] simple-span truss[es]…, most of which are created from state-standard pony truss spans. Of those ultra-long…bridges [with pony truss spans], this bridge is by far the longest [3,945 feet] example and the best example. It has been reported to be the longest bridge of any kind in Oklahoma.
   The Bridgeport Bridge is widely considered Oklahoma's most significant historic bridge. The bridge is significant as a contributing element to the NRHP listed segment of Route 66 from Bridgeport Hill-Hydro, which is also part of the Route 66 National Scenic Byway.

   (from National Register Registration Form) While all the bridges in this section of Route 66 meet the requirements [for historic significance] under Criterion A, one bridge also fulfills the requirements [for historic significance] under Criterion C. The William H. Murray Bridge over the South Canadian River is an exceptional feature by any standard. This is, first of all, an excellent example of a camelback pony truss bridge with its characteristic feature of exactly five angles in the upper chord of each span, which, according to the standard

[5] Joseph E. King, Spans of Time: Oklahoma Historic Highway Bridges (Oklahoma City: Oklahoma Department of Transportation, 1993)

reference on Oklahoma's historic bridges[6], "permitted greater standardization and better predictability on how the structure would behave in service." Indeed, that reference uses this particular bridge as "a powerful demonstration of the strength and versatility of the standard-design camelback pony." Secondly, this was an engineering accomplishment in its own right, aside from the particular design of the bridge. The state highway department proudly called it at the time it was under construction, "the most pretentious bridge engineering project ever undertaken by the Oklahoma Highway Commission"[7]. It noted, further, that "when completed it will be the longest bridge in Oklahoma, and one of the longest in the entire Southwest." This bridge, moreover, proved to be the defining feature of the route taken by the El Reno Cutoff of Route 66 and provided an efficient, reliable way for travelers to cross the South Canadian River.

It should not be forgotten that when the bridge was completed and dedicated, allowing the opening of new, important segment of Route 66, the William H. Murray Bridge was both an engineering accomplishment in its own right and also a symbol of the triumph of the organization of the resources of society to facilitate a transformation in life not just locally but along the full length of Route 66.

2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** It is significant for its scale and length, as the second longest bridge in Oklahoma and the longest Route 66 bridge west of the Mississippi River. It is also significant for its repeating camelback truss configuration.
4. **Date of original construction:** Constructed in 1933
   Circa 2020 - closed to traffic
   2022 to 2024 – reconstructed while maintaining its historic appearance
   2024 – bridge reopened to traffic
5. **Names of key engineers**: Designer unknown. Constructed by Kansas City Bridge Company. **Photographs:** Included above.
6. **Photographs: Included above.**
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/86509959
8. **References:**

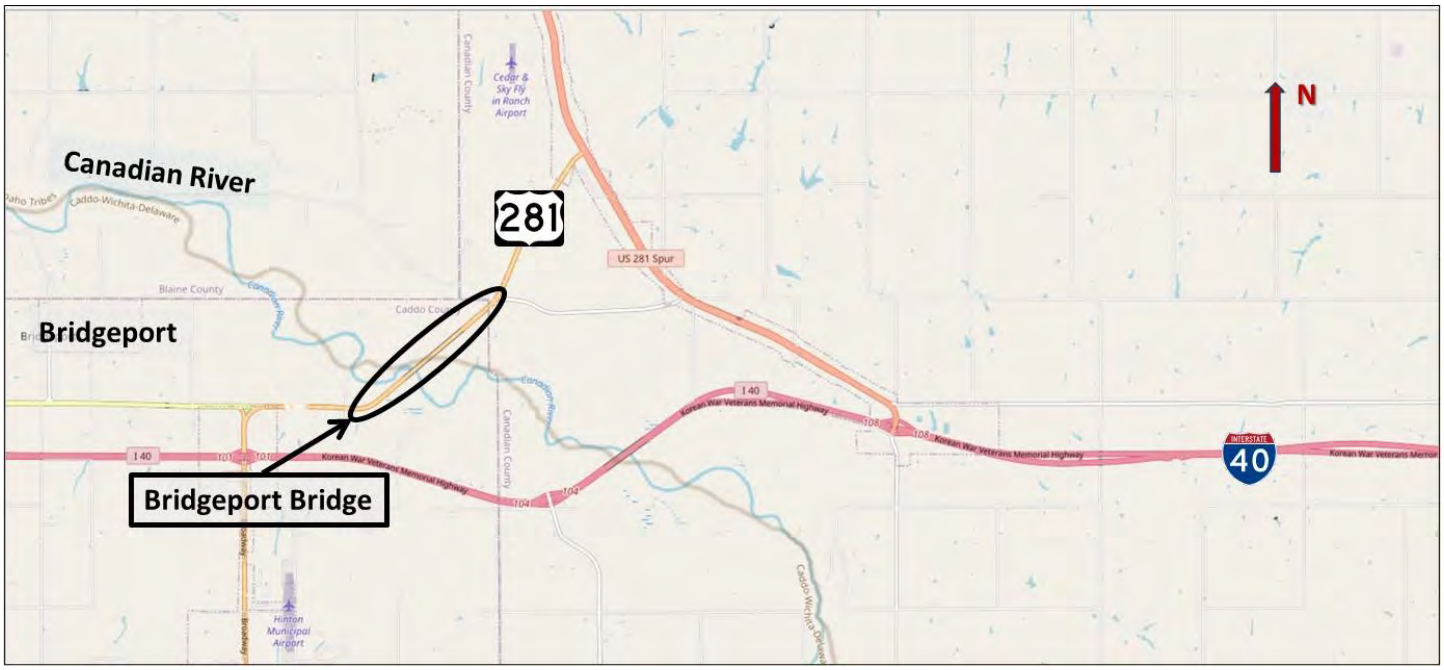
El Reno Daily Tribune, July 14,21,29, August 2, 3,4,7, 9,29, September 11, October 7,13, November 21,1932.
Hinton Quest Club, "History of Bridgeport, Oklahoma," unpublished manuscript in files of Oklahoma Historical Society, Oklahoma City.
King, Joseph E., Spans of Time: Oklahoma Historic Highway Bridges (Oklahoma City: Oklahoma Department of Transportation, 1993), 42.
Little, Leon "These Were my Kicks on Route 66," in Oklahoma Route 66 Association, Memories on Route 66 (Bethany, Oklahoma: Oklahoma Route 66 Association, 1991).
Oklahoma Department of Transportation, Files of Plans and Designs of Oklahoma Roads, Federal Aid Projects 164, 204.
Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1929-1930 Inclusive, (Oklahoma City, 1931),
Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1931-1932 Inclusive, (Oklahoma City, 1933).

[6] Ibid.
[7] Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1931-1932 Inclusive, 49

Oklahoma Highway Commission, Report of the State Highway Commission for the Years 1933-1934 inciusive, (Oklahoma City, 1935).
Oklahoma Route 66 Association, Memories on Route 66 (Bethany, Oklahoma; Oklahoma Route 66 Association, 1991),
Rittenhouse, Jack D., A Guide Book to Highway 66 (Los Angeles: privately published, 1946; reprint, Albuquerque: University of New Mexico Press, 1989,2000).
Ross, Jim, Oklahoma Route 66 (Arcadia, Oklahoma: Ghost Town Press, 2001).
Scott, Quinta, and Susan C. Kelly, Route 66: The Highway and its People (Norman: University of Oklahoma Press, 1988).
Joseph B. Thoburn, "The Roads of the Fore-Runners," Biennial Report of State Highway Commission, 1925 to 1926 Inclusive (Oklahoma City, 1927).

Location: Northeast end: 35 32 50.1 N 98 18 45.4 W
Southwest end: 35 32 24.5 N 98 19 22.8 W

Local and vicinity maps:



Texas

Bridge over the Chicago, Rock Island, and Gulf Railroad

The Bridge over the Chicago, Rock Island, and Gulf Railroad is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/route-66-bridge-over-chicago-rock-island-and-gulf-railroad.htm#:~:text=It%20was%20listed%20in%20the%20National%20Register%20of,part%20of%20a%20frontage%20road%20for%20Interstate%2040

NPS Photo by Judson McCranie

Overview of Bridge over the Chicago, Rock Island, and Gulf Railroad

The Route 66 Bridge over the former Chicago, Rock Island, and Gulf Railroad right-of-way is a Route 66 landmark that travelers might miss if they're not looking for it. The bridge stands in the arid plains eight miles east of Shamrock, five-and-a-half miles west of the Oklahoma State line, and 12 miles southeast of Wheeler.

The Kiowa and Comanche Indians once lived in the area, hunting great herds of buffalo. Anglos arrived in the late 1800s, replacing the buffalo with crops, sheep, and Hereford cattle. During the 1920s, agriculture in the Texas Panhandle boomed. The oil industry emerged, generating substantial growth in Amarillo, which became a commercial and corporate center of the region. Highways had to be built to connect the relatively isolated Panhandle to the rest of the country.

Paved in 1932, Route 66 was the primary road in this development. The highway passed through numerous small towns, most of which had fewer than 500 residents. The high plains of the Panhandle are relatively flat, so the area didn't require many bridges, which makes the bridge in Wheeler County somewhat unusual. The bridge passed over the railroad tracks for the Chicago, Rock Island, and Gulf Railroad running 25 feet below the roadbed of Route 66.

The bridge designer was concerned that steel I-beams supporting the bridge deck above the railroad track would be exposed to blasts of coal smoke and water vapor from steam engines passing below. To address this problem, the designers did something a little unusual for 1932. They encased the steel beams in concrete. The result is a five span, 126-foot bridge with a main span of concrete-encased beams. Other spans are made of reinforced concrete girder units resting on reinforced concrete pile bents. Encasing the steel beams in concrete helped to protect the structure from harsh weather and blast from the locomotives which passed beneath it. [This paragraph has been revised to better explain the purpose of concrete-encased beams.]

The Route 66 Bridge in Wheeler County has not been altered since its construction, allowing visitors a good look at the design, workmanship, and materials of its era. It was listed in the National Register of Historic Places in 2007.

The Route 66 Bridge over the Chicago, Rock Island, and Gulf Railroad crosses the Chicago, Rock Island, and Gulf Railroad eight miles east of Shamrock, TX, and remains in use as part of a frontage road for Interstate 40.

1. **Historic Significance:** The Statement of Significance in the National Register nomination reads, "The Route 66 Bridge over the Chicago, Rock Island and Gulf Railroad near Shamrock, Wheeler County, Texas, is nominated to the National Register under Criteria A and C at the state level of significance for its historical and engineering significance. As part of Route 66, the bridge reflects the development and history of the national highway, which served as the main corridor from the Midwest to the West during the early to mid-twentieth century. The bridge's concrete encased steel I-beam design is noteworthy and is one of the few examples of this bridge type in Texas, and is the last vehicular bridge in Texas directly associated with Route 66."
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** The steel beams of the main span are encased in concrete. The result is a 126-foot long bridge with a main span of concrete-encased beams.
4. **Date of original construction**: Constructed in 1932.
   1960 - Interstate 40 completed immediately to the north and served as a replacement to Route 66. The bridge became part of the I-40 frontage road.
5. **Names of key engineers**: Designed by Engineer M. L. Grady, an employee of the Texas State Highway Department's Bridge Division.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/40970769

8. **References:** Cassity, Michael. "Route 66 Corridor National Historic Context Study." Route 66 Corridor Preservation Program, National Trails System Office - Intermountain Region, National Park Service, Santa Fe, New Mexico, December 15, 2004.

"Route 66: Across 1930s Texas," in Texas: A Guide to the Lone Star State. Federal Writers' Project of the Works Projects Administration for the State of Texas, 1940.

Texas Department of Transportation. Historic Bridge Inventory, Structure 25 242 0275-23-001. August 31, 1999.

Texas Highway Department, Texas Highway Map, 1939.

Young, Nancy Beck. "Chicago, Rock Island and Gulf Railway," The Handbook of Texas Online, https://www.tshaonline.org/handbook/entries/chicago-rock-island-and-gulf-railway

Location: 35 13 35.1 N 100 06 20.1 W

Local and vicinity maps: The Route 66 Bridge over the former right-of-way of the Chicago, Rock Island, and Gulf (CRI&G) Railroad is located on the Interstate 40 Frontage Road on the south side of I-40 approximately eight miles east of the town of Shamrock, Texas. The bridge is approximately 5.5 miles west of the Oklahoma state line.

Route 66, SH 207 to Interstate 40 Conway, Texas

Route 66, SH 207 to Interstate 40 Conway, Texas is listed on the National Register of Historic Places.

Source of the following photo and the first six paragraphs of the Overview is: https://www.nps.gov/places/route-66-texas-sh-207-to-interstate-40.htm

NPS Photo courtesy of Rhys Martin

Overview of Route 66, SH 207 to Interstate 40 Conway, Texas

The segment of Route 66 between State Highway 207 and Interstate 40 is the longest and best preserved section of Route 66 in Texas. Turn off your cell phone, and you won't need the GPS. Put on your Ray Bans. Open a Coca Cola, the kind that comes in a sweating green glass bottle. Put some Sinatra on the player, and roll down the windows. It's time to drive the 7.2 miles of Route 66 west of Conway, Texas.

Motorists on the two-lane road will pass a windmill after a mile or so. Driving a little farther, they will see concrete agricultural buildings on the south side of the road, important reminders of the regional economy. As the road intersects County Road L (dirt) and, a little later, County Road K (also dirt) stop to look around, because with the exception of a single windmill way off in the distance, visitors can see not a single modern intrusion, only wide open range. The abandoned railroad bed beside this stretch of Route 66 serves as a reminder of how expansive the landscape is, and how quiet.

Early in the 1900s, this roadway was little more than a dirt path. In 1930, the path was paved, and by 1940, it was a bustling highway. An aerial view today looks much the same as it did then, a straight line of highway framed on both sides by square agricultural fields in various shades of brown, yellow, and green.

Between 1930 and the mid 1960s, travelers along this stretch of Route 66 experienced much of what you see today. From here to Carson County (where travelers can get back on I-40) you will experience only old Route 66, fences, dirt farm roads, grain elevators, and more windmills.

When Interstate 40 was completed through Carson County, this section of Route 66 became Texas Farm Road 2161, part of the county's highway system. Today it is the longest and best preserved section of Route 66 in Texas, carrying local traffic and travelers out to capture the distinctly American ambiance of old Route 66. It was listed in the National Register of Historic Places in 2007.

This section of Route 66 is in the vicinity of Conway, TX and is labeled locally as Texas Farm Rd. 2161. Access from the east is from State Highway 207/County Rd. N and from the west is from Interstate 40 exit 89.

The following paragraphs are from the National Register of Historic Places Registration Form.

This property is a 7.2 mile section of Route 66 between Conway and Interstate 40 in Carson County, Texas. Conway is located in the Texas Panhandle, twenty miles east of Amarillo. This section of roadbed was designated as Route 66 in 1930 and was paved later that year. It served as the roadbed for Route 66 from 1930 until ca. 1965 when Interstate 40 was completed 1.3 miles to the north. After the completion of Interstate 40, this section of Route 66 was incorporated into the Carson County highway system and is now known as Texas Farm Road 2161. From Conway to Interstate 40, the historic roadbed of Route 66 extends through open rangeland and farmland. There are few modern intrusions along the roadbed and it retains much of its mid-20"' century integrity and design.

Roads in this section of Texas were little more than dirt paths in the early twentieth century. The trip from Amarillo to Tucumcari, New Mexico, a journey of approximately 110 miles, averaged a full day. But as the oil industry prospered in the 1920s, activity in the region called for improved roads, and by 1928 this same trip required only three hours. The establishment of Route 66 through the Texas panhandle was a key event in the region's road development. Route 66 extended in a rather direct east-west alignment across the panhandle passing through a series of small towns most of which had fewer than five hundred residents. These included Shamrock, McLean, Alanreed, and Groom in eastern Texas, and Vega, Adrian, Landergin, and Wildorado in the western part of the state. Centrally located Amarillo in Potter County was the only sizeable city through which the road passed.

When US Highway 66 was planned through Texas in the 1920s, various routes were recommended. There was also an extensive push across the panhandle to have the highway fully paved. In 1928, E.W. Bowen, a prominent highway booster from Tucumcari spoke to a group of Amarillo businessmen about the benefits of having a paved roadbed between their towns, citing ease of traffic and quicker travel as key advantages. Bowen encouraged Amarillians to attend a meeting between the governors of Texas and New Mexico and officials from both state highway departments regarding interstate highway improvements, which was scheduled to take place the following month. Bowen also boasted of a new paving process that had been used in his state. The new pavement material was of "sand and oil mixed on the road by machinery," and

provided a layer about four inches thick that could be sloped for drainage. The process "made it possible to surface a road after it had been graded and culverts and bridges installed." Other benefits of the pavement were its dust proof quality and low cost, which averaged around $1,000 per mile. It does not appear that this type of paving was utilized on the section of roadbed west of Conway.

Although Route 66 was designated in 1926, its route through Texas remained in dispute for several years in Carson and Potter Counties east of Amarillo. Carson County officials including a local judge traveled to Austin in support of the road and helped to secure its location. The route through Carson County was finalized by August 24, 1930, when an article in the Amarillo Daily New.-; declared the "U.S. 66 Highway Tangle Solved." The paper stated that state and federal officials had approved relocation of the highway between the town of Conway to the Potter County line along a route north of the Chicago, Rock Island & Pacific Railroad. Local residents were jubilant over the announcement as the dispute over its location had delayed the paving of a ten-mile section of roadbed for over a year. Following this announcement, Carson County officials announced "We will start work at once on plans for the unpaved strip of the road" . . . "and we believe it possible to let a contract for grading and drainage structures when the state highway commission meets in September."^ The road west of Conway was paved with concrete in 1930 and this hard surfaced road was opened to Amarillo.

From 1930 to the mid-1960s, this two-lane roadbed served as the alignment for Route 66 west of Conway. This roadbed extended through open range land and farm land and paralleled the Chicago, Rock Island & Pacific Railroad for several miles. A 1956 highway map of Carson County shows the roadbed as Route 66 and with few houses or other buildings along this alignment.' When Interstate 40 was completed through Carson County, federal management of Route 66 ended and it was incorporated into the county's highway system as Texas Farm Road 2161. The highway continues to be used for local traffic south of the interstate as well as providing a sense of time and place for Route 66 travelers.

Throughout Texas, Route 66 is primarily an access frontage road for 1-40 for much of its length. The 7.2 mile section Cl Route i)6 -between Conway and 1-40 continues to be used as a state highway and possesses the highest degree of integrity of any rural section of Route 66 in Texas. The nominated property retains integrity of location, setting, feeling and association not only because of the preservation of the original roadbed, but also because of the largely unaltered farmland and rangeland through which it extends.

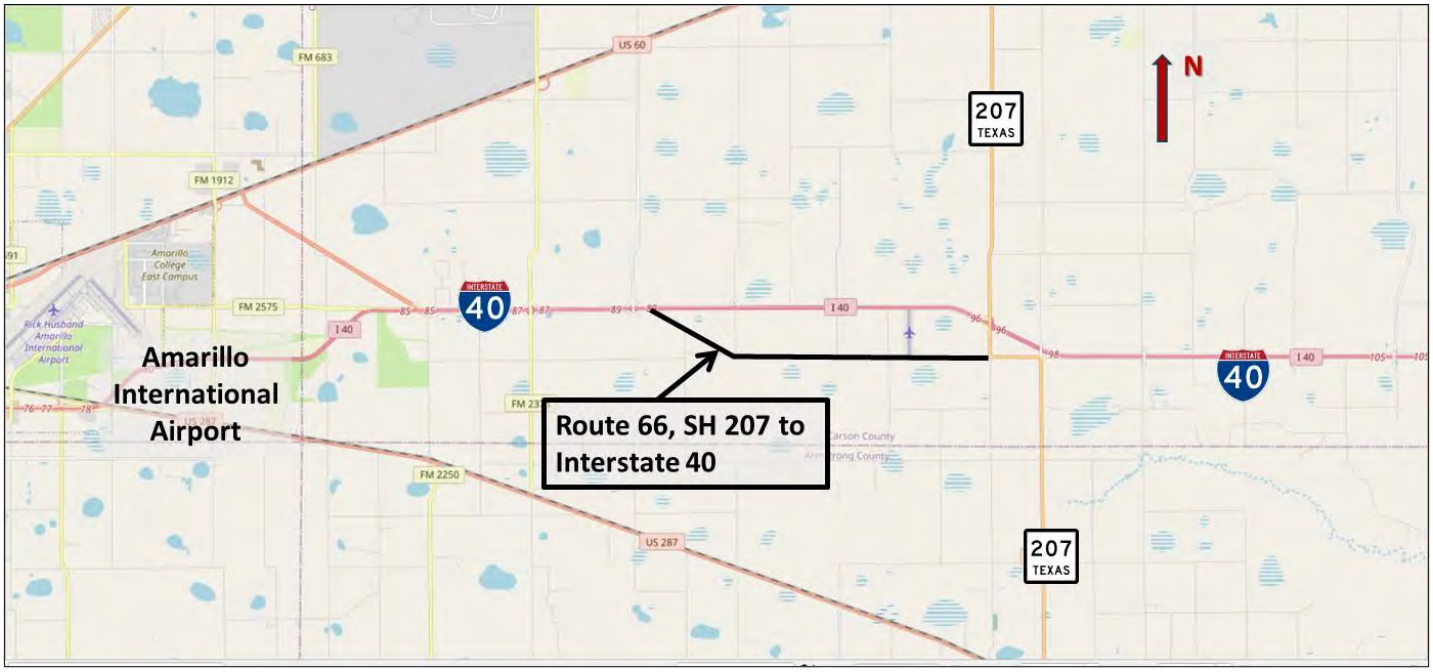
1. **Historic Significance:** (from National Register of Historic Places Registration Form) This segment of original Route 66 roadbed west of Conway in Carson County, Texas is nominated to the National Register under Criteria A and C at the state level of significance, in the areas of Engineering and Transportation. Route 66 was one of the nation's leading highways during the early to mid-twentieth century, and served as the primary corridor between Chicago and California. The road reflects the history of transportation from this era and both the forces which brought it into being and those that diminished its use. Under Criterion C, this segment of Route 66 is significant as a representative example of roadbed construction and engineering of the 1930s. The road retains much of its original form, design, materials and the surrounding setting has changed little since the road's construction. The roadbed segment conveys a strong sense of its historic time and place and is one of the longest and best preserved sections of Route 66 in Texas.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.

4. **Date of original construction:** Paved in 1930.
5. **Names of key engineers**: Designer unknown.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/40968509
8. **References:**

Amarillo Daily News, 13 July 1928 and 24 August 1930.
Carson County Highway Map, Texas State Highway Department, 1956.
Cassity, Michael. "Route 66 Corridor National Historic Context Study." Rute 66 Corridor Preservation Program, National Trails System Office, Intermountain Region, National Park Service, Santa Fe, New Mexico, 2004.
Randel, Mrs. Ralph E. ed. A Time to Purpose, A Chronicle of Carson County. Panhandle, Texas: Carson County Historical Survey Committee, 1966.

Location: East terminus in Conway, Texas: 35 12 27.3 N 101 22 56.8 W
West terminus: 35 13 15.8 N 101 30 4.4 W

Local and vicinity maps:



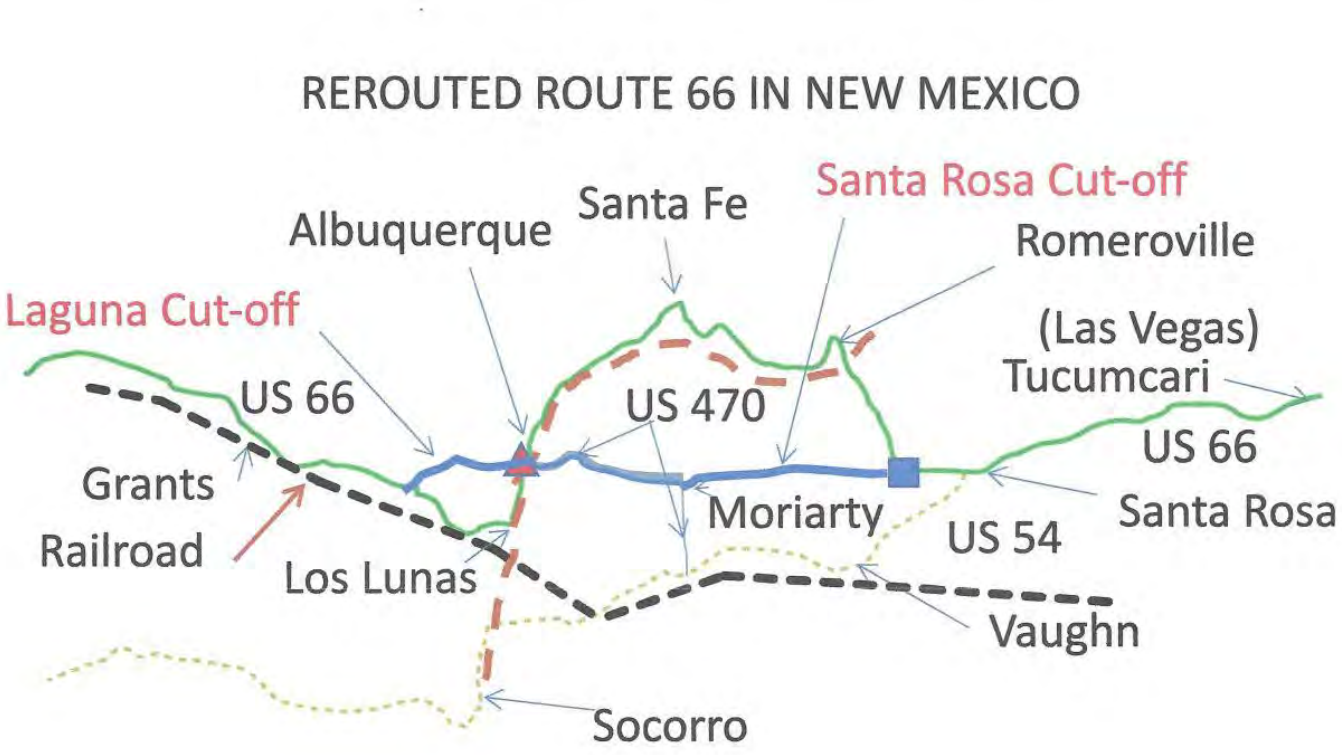
New Mexico

Realignment of Route 66 in central New Mexico: Santa Rosa Cutoff and Laguna Cutoff

Throughout its length from Chicago, Illinois to Santa Monica, California the alignment of Route 66 changed as the years passed. Changes were made to shorten the mileage, improve roadway geometrics, and to serve different cities and towns. Re-alignments (re-routings) were not unusual. The most significant re-alignments in terms of mileage reduction and geographical change were the Santa Rosa Cutoff and the Laguna Cutoff in New Mexico.

(this paragraph is from Wikipedia)

> From west of Santa Rosa, New Mexico, to north of Los Lunas, New Mexico, the original route of Route 66 turned north from current I-40 along much of what is now US 84 to near Las Vegas, New Mexico, then followed (roughly) I-25—then US 85 through Santa Fe and Albuquerque -- to Los Lunas, and then turned northwest along the present New Mexico State Road 6 (NM 6) alignment to a point near Laguna. In 1937, a straight-line route was completed from west of Santa Rosa through Moriarty and east–west through Albuquerque and west to Laguna. This newer routing saved travelers as much as four hours of travel through New Mexico.



Route 66 alignment from 1926 to 1937 shown in green
Shown in blue are the Santa Rosa Cutoff and Laguna Cutoff that formed the post-1937 alignment

Both the original Route 66 alignment and the Santa Rosa and Laguna Cutoffs are shown on the National Park Service map of Route 66 on the cover page of this nomination package.

(the remaining paragraphs authored by Roger Zimmerman)

When Route 66 in New Mexico was designated in August of 1926, it was a 506-mile alignment of existing dust or gravel covered roadways going from Glenrio, a small town located astraddle the Texas/New Mexico border, to the Navajo Indian Reservation located on the Arizona state border to the west of Gallup. This route crossed the Pecos River three times, the Rio Grande, from one to three times depending on local traffic needs, and the Rio Puerco in two locations. The Rio Puerco flows from Northern New Mexico into the Rio Grande south of Albuquerque.

The first fully paved alignment of Route 66 across New Mexico came 11 years later and it was only 399 miles long. Politicians, government agencies, technicians, and civil engineers had made their contributions to the shortening of this historical highway.

The shorter route bypassed Santa Fe, Bernalillo, Los Lunas, and some Native American Pueblos, much to the disappointment of small businesses in those locations. The new alignment went east-west along Central Avenue through Albuquerque and this rerouting transformed the city from being a linear city with a north south major axis to a cruciform shaped city with north-south and east-west axes. Central Avenue , which was 20 feet wider than other downtown streets was the logical street for handling the significant amount of transcontinental traffic that would eventually swamp the downtown area.

The savings in length over these 11 years was accomplished with two cut offs: the Santa Rosa Cutoff and the Laguna Cutoff. The Santa Rosa Cutoff went from a point 7 miles west of Santa Rosa directly west toward Moriarty, which was a distance of 69 miles. Most of this distance was ranch land in 1926 when the new roadway was first cleared and graded. From Moriarty, the cutoff joined US 470 and went another 45 miles into Albuquerque, terminating at the intersection of Central Avenue and 4th Street. This cut off saved 90 miles of travel for Route 66 travelers. The Laguna Cutoff went from 4th Street and Central, along Central Avenue and across the Rio Grande to a point west of Atrisco, where it was aligned up Nine Mile Hill to eventually join the original Route 66 alignment near the village of Correo, some 32 miles westward towards Laguna. By bypassing Los Lunas, the Laguna Cutoff saved 17 more miles for Route 66 travelers.

Re-routing Route 66 via these cutoffs was not just simple roadway construction on new alignments. Implementing the cutoffs included three significant engineering projects. They were the Rio Puerco Bridge, a new Central Avenue bridge over Rio Grande River in Albuquerque, and a new Central Avenue underpass under the Santa Fe Railroad in Albuquerque.

The shortened alignment of Route 66 crossed each of the Pecos, Rio Grande, and Rio Puerco waterways only one once, but with differing degrees of difficulty. The Pecos had its headwaters in Northern New Mexico and the watershed was not large. It did not provide abnormal challenges to bridge designers. The Rio Puerco also had headwaters in Northern New Mexico . The Rio Puerco had large sand deposits where the Route 66 alignment was planned and this provided a challenge to bridge designers. The solution – the first significant engineering project - was a 250-foot long Parker through truss bridge that was designed and constructed in 1933. The Rio Puerco Bridge is further described in a following section of this nomination package.

The Rio Grande provided a much greater engineering challenge. The Rio Grande comes from the mountains of Colorado and has a large drainage area. Until 1973, no dams had been constructed between the headwaters and Albuquerque. To make things worse, downtown Albuquerque is located in a flood plain of the river. The second significant engineering project was to bridge the Rio Grande. To cross the Rio Grande,

a new 1350 long Central Avenue bridge with fifty-four 25 ft. spans having a 20 ft. wide road way and 6 ft. sidewalk was successfully built and finished in 1930, composed of a concrete deck, steel girders, and timber piles.

The third significant engineering project – the last hurdle to be addressed – to complete the shortcut, was the separation of the Atchison, Topeka & Santa Fe Railway (AT&SF) from the east-west Route 66 traffic in Albuquerque. This was accomplished by the Works Progress Administration (WPA) providing the funds, AT&SF engineers designing the structure, and the New Mexico Highway Department supervising the construction. The underpass was completed in 1937 and was the final structure that was needed to make the Santa Rosa and Laguna shortcuts fully functional. It should be noted that the AT&SF engineers raised the tracks 7 feet to provide underpass dimensions that facilitated east-west Route 66 traffic through downtown Albuquerque.

The Laguna Cutoff, New Mexico Route 6 really got going in 1930 when the Central Avenue Bridge was completed and travelers could get through downtown Albuquerque and across the bridge. It took until 1931 for the federal government to decide to make the Santa Rosa and Laguna Cutoffs a federal highway and bypass the original route through Santa Fe. When this happened, the final alignment was decided and Federally sponsored construction monies were devoted to making the shortcut a part of Route 66. With the completion of the Rio Puerco Bridge in 1933, transcontinental travelers could take the full shortcut across the state on an all-weather basis, and this became a popular route even though it wasn't completely paved until 1937.

Rio Puerco Bridge

The Rio Puerco Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/rio-puerco-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Rio Puerco Bridge

Heading west out of Albuquerque on Route 66, travelers can enjoy a scenic descent from Nine Mile Hill into the Rio Puerco Valley, where a Parker through truss bridge crosses the steeply eroded banks of the Rio Puerco River. The valley is the site of Laguna Pueblo, the home of Puebloans since the 1300s. Because the Rio Puerco is known for its violent flooding and severe erosion, the State Highway Department specifically chose a Parker through truss bridge design for the Rio Puerco Bridge to eliminate the need for a center pier and prevent washouts.

The Federal Government funded the bridge in 1933 as part of President Roosevelt's effort to use emergency monies for highway construction. Completed within a year, the bridge opened the Laguna Cutoff to transcontinental traffic. In 1937, the alignment officially became U.S. Route 66. The Kansas City Structural Steel Company conceived the structure, and F.D. Shufflebarger was in charge of constructing the bridge. The Rio Puerco Bridge has a 250 foot long span and is one of the longest single span steel truss bridges built in New Mexico.

The bridge consists of 10 panels measuring 25 feet in length, each with its top cord at a different angle, as is characteristic of Parker truss design bridges. The 25-foot wide deck is concrete with an asphalt surface and rests on steel stringers. This design was selected partially because it was commonly used during the late-1920s and 30s, but also because it was particularly suitable for this bridge, which needed to withstand a river capable of massive flooding that had washed away previous bridges along the Rio Puerco.

In 1957, the truss was remodeled, and the lower portal struts were removed and replaced by lighter struts that were inserted above to create a higher clearance. Metal guardrails were added to protect the truss members. This bridge served motorists on Route 66 for many years, and when I-40 was completed, the Rio Puerco Bridge became part of a frontage road across the Rio Puerco.

The structure was listed in the National Register of Historic Places in 1997. In 1999, the New Mexico State Highway and Transportation Department replaced it but preserved the historic bridge. Though currently closed to car traffic, the old bridge is open for people to walk across, allowing visitors a glimpse of the old Highway 66 slowly curving and dipping as it disappears into the vast New Mexico desert.

1. **Historic Significance:** The Statement of Significance in the National Register nomination reads: "Serving local traffic as a frontage road for 1-40 across the Rio Puerco, the former U.S. 66 bridge across the Rio Puerco is significant for its long association with highway transportation in New Mexico dating to the early 1930s. The longest single-span Parker through truss design bridge in New Mexico, it is also significant for embodying the design, materials and methods of construction associated with that bridge sub-type.

   When federal highways first received a systematic numbering in 1926, many of the roads included in the system in the western states were simply local roads spliced together to create a makeshift network of federal highways. Only in the late 1920s and 1930s did engineers have the resources to plan and construct more efficient, safer alignments. In New Mexico, the original alignment of U.S. 66 used local roads, following a circuitous alignment west of the Rio Grande. In the late 1920s, Albuquerque boosters advocated straightening

the alignment, shifting it to run due west from the city. In order to achieve this goal they succeeded in building a bridge across the Rio Grande at Old Town (1931) but still required a bridge at the Rio Puerco. After several years of lobbying the State Highway Commission, by the early 1930s they succeeded in their petition to have the so-called Laguna Cutoff placed on the federal road system and, thus the cutoff become eligible for federal matching funds. The Rio Puerco Bridge was included in federal funding in 1933 as part of the Roosevelt Administration's effort to use emergency monies for highway construction. The bridge was completed within the year, opening the Laguna Cutoff for transcontinental traffic. In 1937, the alignment officially became U.S. 66.

Although the waterflow in the Rio Puerco is often minimal, the river is capable of torrential flooding, a fact underscored by its severely eroded floodplain and river banks. In the early decades of the twentieth century prior to efforts at stabilizing rangelands within the river's drainage area, the river posed a major challenge to highway engineers, earning the reputation of being an “outlaw" river capable of "cloudburst” flooding that threatened bridges and roads. In the fall of 1929 the river inflicted its worst damage, washing away several bridges, including the bridge several miles downstream that then served U.S. 66. As a result, engineers determined to construct bridges that would withstand future floods.

The selection of the Parker through truss design at what four years later, would become the U.S. 66 crossing reflected the highway department's partiality to that design in many of its major projects of the late 1920s and 1930s. In order to compensate for the eroding floodplain and its unstable river banks susceptible to scouring during flooding, engineers designed a bridge employing unusually massive abutments built on deeply driven pilings. They then constructed a single 250-foot span capable of clearing the entire floodplain of the river. The BPR considered the bridge the longest single-span Parker through truss bridge in the Southwest. With its heavy steel members, the bridge appeared especially suited to handle the increasingly [sic] traffic flow along what was becoming a major east-west highway.

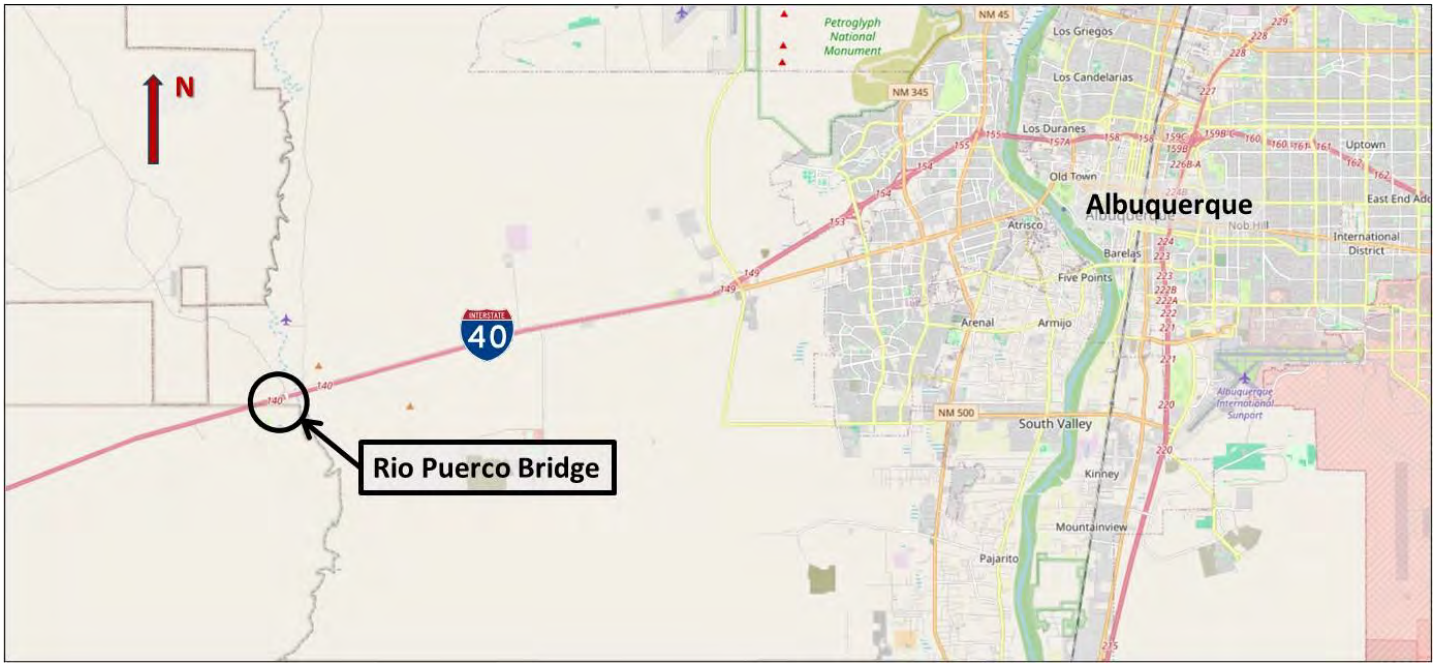
The setting of the bridge over the deep, eroded course of the Rio Puerco conveys a strong feeling of how truss bridges appeared along New Mexican highways prior to World War II. The polygonal upper chords of its superstructure appear in marked relief to the newer twin steel beam bridges of 1-40 which parallel it. When the section of the interstate at Rio Puerco was completed in the 1960s, the bridge and the former Route 66 alignment to the east became a part of the frontage road.

2. **Contributions:** Supported Route 66’s role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1933 to 1934
   In 1957 the truss was remodeled
   1999 – bridge closed to traffic
5. **Names of key engineers:** Designed by Kansas City Structural Steel Company.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Registration Form. Available at: https://catalog.archives.gov/id/77845957
8. **References:**

"Long Steel Truss Bridge Being constructed in New Mexico." New Mexico, Vol. 11, No. 5 (May, 1933), p. 40.
Macy, G.D., State Highway Engineer, "New Mexico's Recovery Road Program." New Mexico, Vol 11, No. 7 (July, 1933), pp. 14-15, 44.
New Mexico State Highway Department. "Bridge Department Structure Report, Bridge No. 2530," April 1, 1940.

Location: 35 02 01.0 N 106 56 29.7 W

Local and vicinity maps: The Rio Puerco Bridge is located off of and parallel to Interstate 40 at exit 140 west of Albuquerque, NM. Visitors can walk across the bridge.



Arizona

Querino Canyon Bridge

The Querino Canyon Bridge is listed on the National Register of Historic Places.

Source of the following photo and Overview is: https://www.nps.gov/places/querino-canyon-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Querino Canyon Bridge

The Querino Canyon Bridge is picturesquely situated over a rugged and beautiful canyon just outside Houck, Arizona. Designed by the Arizona Highway Department, the bridge is a representative example of early highway truss design. There are three concrete-decked steel Warren trusses with sub-verticals supported by steel piers. Each truss is about 77 feet long and 20 feet wide. Concrete abutments support the bridge from below and steel lattice guardrails typical of the period line the roadway. [This paragraph adapted from the National Park Service description to provide a more technically correct explanation.]

The State built the bridge in 1929 as part of a grand rehabilitation and relocation of Route 66 across northern Arizona. The project included several bridges, drainage construction, and at least 25 miles of roadway. The largest of these multiple efforts, the bridge over Querino Canyon formed an integral link on one of America's primary arteries.

This section of the highway became a county road during the 1960s after construction of Interstate 40. The Querino Canyon Bridge remains intact, carrying local traffic on Navajo Nation land. It was listed in the National Register of Historic Places in 1988.

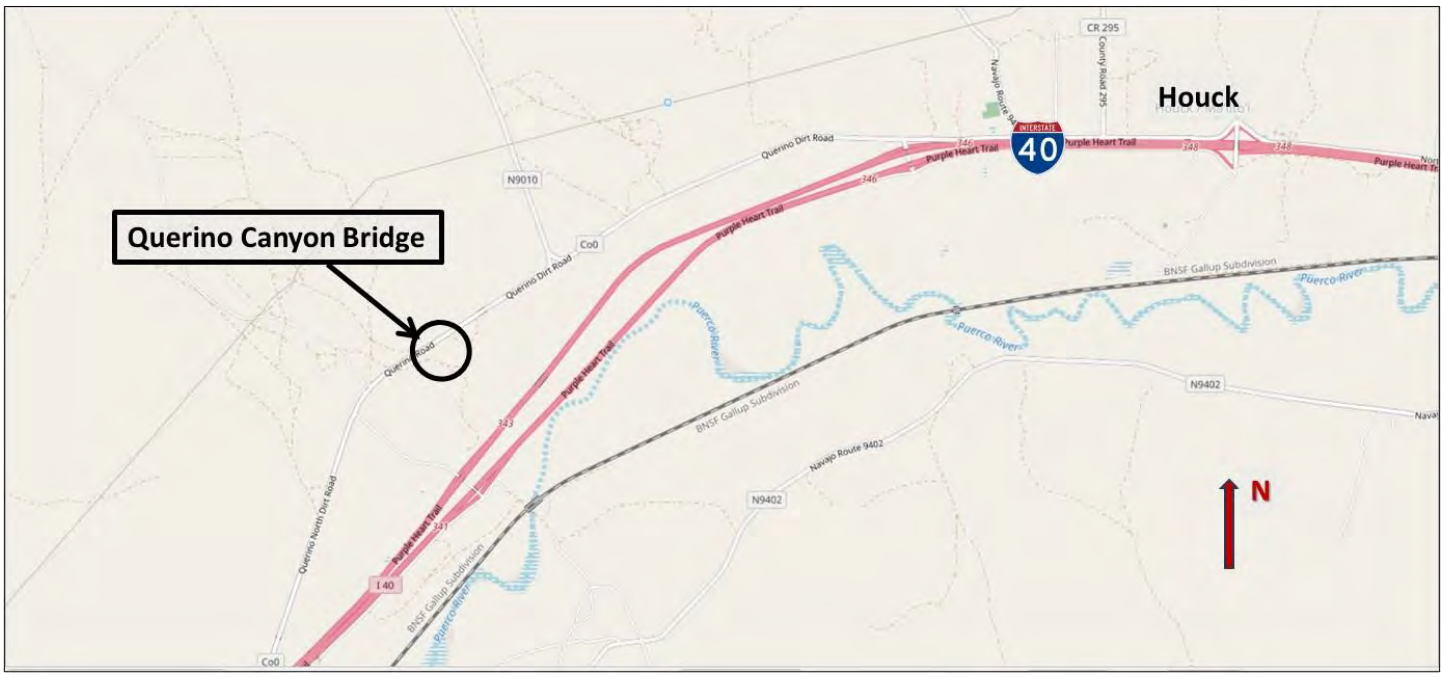
An important crossing of rerouted U.S. 66, the Querino Canyon Bridge formed an integral link on one of America's primary transcontinental routes. Picturesquely sited over the rugged canyon, the Querino Bridge is a typically configured example of early highway truss design.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** See Uniqueness narrative for Route 66 as a whole in the Nomination Discussion section.
4. **Date of original construction:** Constructed in 1929
5. **Names of key engineers:** Designed by the Arizona Highway Department.
6. **Photographs:** Included above.
7. **Additional documentation**: HABS / HAER Inventory. Available at: https://catalog.archives.gov/id/75607912
8. **References:**
   Bridge Record, Arizona City Streets and County Roads: 8071: Structures Section,' Arizona Department of Transportation.
   "Department Closed Brilliant Construction Year," Arizona Highways. 7-1931-3

Location: 35 16 15.9 N 109 16 37.4 W

Local and vicinity maps: The Querino Canyon Bridge crosses Querino Canyon 3.8 miles southwest of Houck, AZ as part of Old Highway 66.

Vicinity map on following page.


Querino Canyon Bridge
Houck
CR 295
County Road 295
Navajo Route 9402
INTERSTATE
40
Purple Heart Trail
Querino Dirt Road
N9010
Co0
Querino Road
Querino North Dirt Road
I 40
BNSF Gallup Subdivision
Puerco River
N9402
N

Route 66 in Mohave County

In February 2020 the Arizona Section submitted a nomination package to nominate the segment of Route 66 in Mohave County, Arizona as a National Historic Civil Engineering Landmark. Because of its length (42 pages), a copy of the nomination package is provided in Appendix B.

Arizona and California

Old Trails Bridge at Topock (crossing Colorado River)

The Old Trails Bridge is listed on the National Register of Historic Places.

Source of the following Overview is: https://www.nps.gov/places/old-trails-bridge.htm

Overview of Old Trails Bridge at Topock

> The steel arch of the Old Trails Bridge simply soars. An innovative piece of engineering, one enormous span of 600 feet supports the 800-foot bridge that crosses the Colorado River in Topock, halfway between Yuma and the Utah border. The bridge carried automobile traffic over the Colorado River from 1916 until 1948.
>
> Builders constructed the Old Trails Bridge in 1914 partly to compete with the Ocean-to-Ocean Bridge being built in Yuma, south of Topock. To entice traffic farther north, the States of Arizona and California and the Bureau of Indian Affairs decided to erect another substantial span over the Colorado River. The new bridge would be part of the National Old Trails Road, an early transcontinental route well underway to connecting St. Louis to Los Angeles by 1914. In the process, the designers created a landmark of American civil engineering.
>
> The Old Trails Bridge carried traffic until 1948 when cars and trucks began moving onto interstate systems. In 1948, the deck was removed so the bridge could accommodate a natural gas pipeline, which it still carries. The bridge was listed in the National Register of Historic Places in 1988.

1. **Historic Significance:** The HABS / HAER Inventory document states: "The Topock Bridge is historically significant in the Southwest as a pivotal crossing on the transcontinental Old Trails Highway. Technologically, the structure is nationally significant as an outstanding example of steel arch construction, called by the Engineering Record, "exceptionally daring and successful for work of such magnitude". Taking a cue from the difficulties experienced at Yuma, engineers for Kansas City Steel erected this bridge using a novel cantilever system, in which the bridge

halves were assembled on their sides on the ground and hoisted into place using a unique ball-and-socket center hinge. At its completion the longest arch bridge in America, the 360-ton Topock Bridge was also distinguished as the lightest and longest three-hinged arch. The removal of the deck has done little to compromise the bridge, and it remains a landmark in American civil engineering."

The National Park Service site at: https://www.nps.gov/places/old-trails-bridge.htm adds the following. "The engineers for the Old Trails Bridge had studied the problems builders and engineers encountered while constructing the Ocean-to-Ocean Bridge in Yuma, Arizona. They knew the engineers there had found constructing and securing a large span over the deep Colorado gorge difficult, so they tried the task a different way."

"In Topock, engineers used a unique cantilever method of construction assembling bridge halves on their sides on the ground and hoisting them into place using a ball-and-socket center hinge. This meant that the structure was not supported by traditional spans from the ground up as it was being built. The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was the lightest and longest bridge of its kind. From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first on the transcontinental National Old Trails Road and, by 1926, on Route 66."

2. **Contributions:** Supported Route 66's role in contributing to regional and national growth.
3. **Uniqueness:** The bridge was erected using a novel cantilever system, in which the bridge halves were assembled on their sides on the ground and hoisted into place using a unique ball-and-socket center hinge.
4. **Date of original construction:** Constructed in 1915 to 1916
   In 1948 roadway deck was removed and replaced with a pipeline
5. **Names of key engineers**: Designed by S. A. Sourwine. Constructed by Kansas City Structural Steel Company.
6. **Photographs:** Included above.
7. **Additional documentation**: HABS / HAER Inventory. Available at: https://catalog.archives.gov/id/75608784
8. **References:** David Plowden, Bridges: The Spans of North America. (New York: The Viking Press, 1974), page 178.

Location: 34 42 54.8 N 114 29 05.1 W

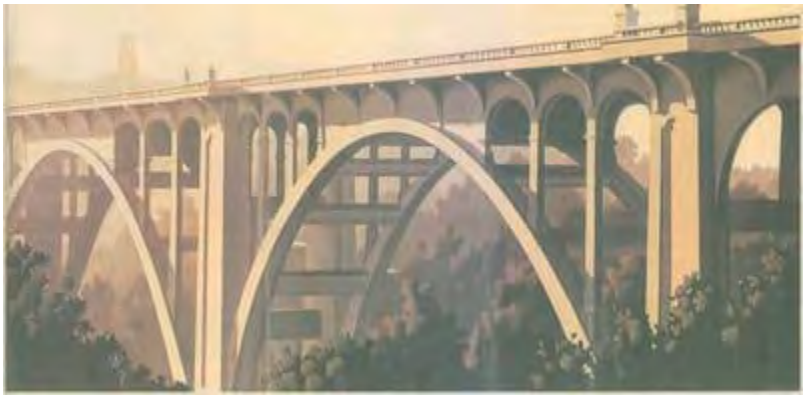
Local and vicinity maps: The Old Trails Bridge is several hundred feet south of Interstate 40 where it crosses the Colorado River at Topock, AZ. To park and view the bridge, take the Interstate 40 exit for Park Moabi, the last California exit from the west and the first from the east. Signs direct visitors to the park. Follow the Park Moabi Entrance Rd. north to its intersection with the National Trails Highway/Park Moabi Rd. then turn right. The first vantage point is from an old brick bridge nearly a mile from the intersection. Visitors can park on the side of the road and walk down the bridge top. The second vantage point is nearly two miles from the intersection. Visitors should continue along the National Trails Highway/Park Moabi Rd. past the first vantage point and intersection with Interstate 40; then look for a historic concrete billboard and adjacent pullout pad. This location provides the best view of the bridge.


Colorado River
N
Topock
Arizona
California
Old Trails Bridge
Purple Heart Trail
Needles Freeway
Moabi Regional Park
BNSF Seligman Subdivision
CR 10
US 66 Hist
INTERSTATE
40

California

Colorado Street Bridge

The Colorado Street Bridge is listed on the National Register of Historic Places and was designated as a Local Historic Civil Engineering Landmark in 1975. It is an eleven-arched reinforced concrete structure, the longest and highest bridge of its time. Through its design and construction, the bridge represents the advancing concrete technology of the early twentieth century and the ornamental aesthetic of the late nineteenth century.



Source of the following photo and Overview is: https://www.nps.gov/places/colorado-street-bridge.htm

NPS Photo courtesy of Rhys Martin

Overview of Colorado Street Bridge

With its majestic arches rising 150 feet above the deeply cut Arroyo Seco, the Colorado Street Bridge was proclaimed the highest concrete bridge in the world upon completion in 1913. The bridge impressed

travelers from the day it opened. Until then, the crossing of the Arroyo Seco required horses and wagons to descend the steep eastern slope, cross a small bridge over the stream, and then climb the west bank through Eagle Rock Pass. Given this harsh topography, the Colorado Street Bridge proved a challenge to design and build. Solid footing eluded engineers in the seasonally wet arroyo bed.

These engineering challenges were solved when contractor John Drake Mercereau conceived the idea of curving the bridge 50 degrees to the south. This solution coupled with a graceful design of soaring arches and a curved deck created a work of art that received Historic Civil Engineering Landmark designation and listing in the National Register of Historic Places. Mercereau chose to support the bridge's 28-foot-wide roadway and five-foot-wide sidewalks using spandrel construction. In this system, support columns rest on the expansive arched ribs of the bridge. Mercereau's design also included classical balusters and ornate cast-iron lamp posts supporting multi-globed lamps.

Construction took 18 months. Horse carts brought materials down the steep sides of the gorge. Records show that some 11,000 cubic yards of concrete and 600 tons of steel reinforcing went into the bridge. The company's single concrete mixer poured concrete half a yard at a time into the bridge's hundreds of wooden forms that, when removed, revealed the bridge's arches, girders, spandrels, and decorative details. The bridge cost one quarter of a million dollars to build. Thousands of Pasadena citizens came to celebrate its opening.

[The new bridge connection to Los Angeles generated substantial growth in Pasadena.] Traffic on the new bridge was heavy. Only two lanes wide, the bridge was considered inadequate as early as the 1930s. The bridge remained part of Route 66 until the 1940 completion of the Arroyo Seco Parkway.

The historic bridge was listed in the National Register of Historic Places in 1981, but by that time, it was in disrepair. Chunks of concrete sometimes fell from its ornate arches and railings. After the Loma Prieta earthquake in 1989, the bridge closed as a precautionary measure. Eventually Federal, State, and local funds provided 27 million dollars in renovation costs. The bridge reopened in 1993, complete with all of its original ornate detail.

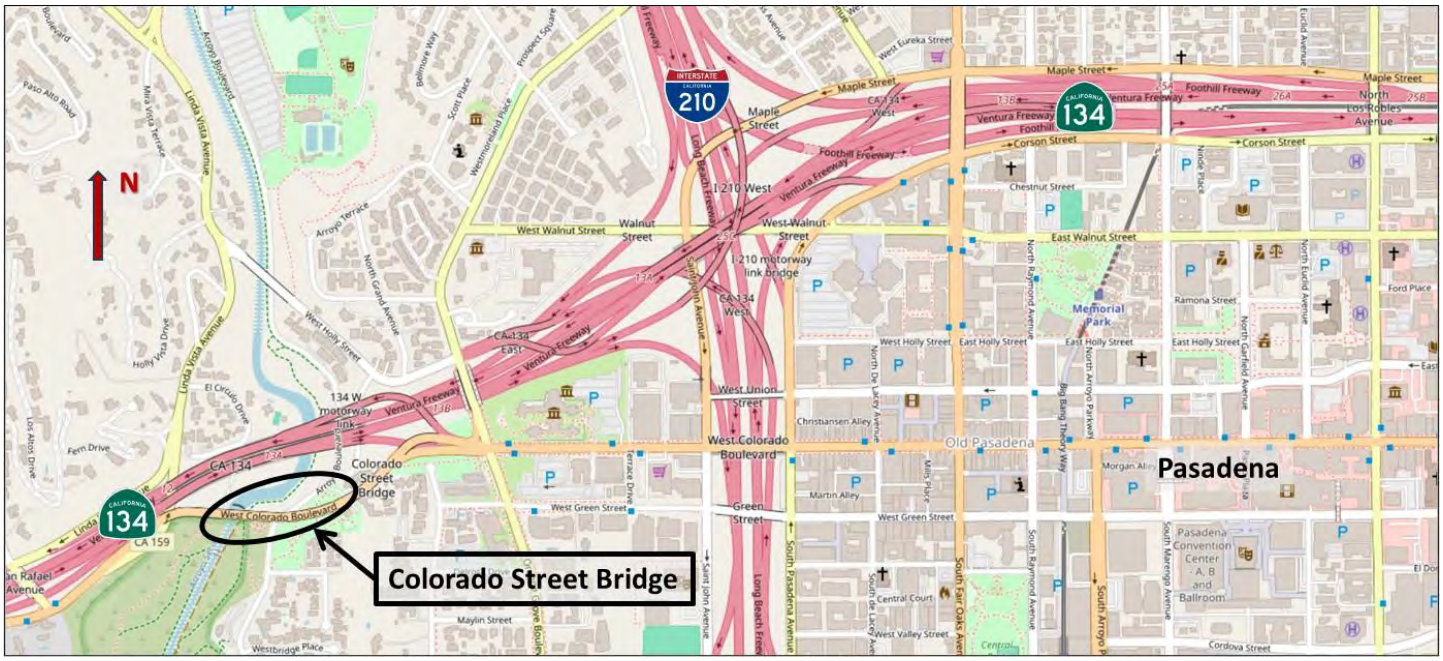
The Colorado Street Bridge spans the Arroyo Seco as part of Colorado Blvd. just south of the Ventura Freeway and between North San Rafael Ave. and North Orange Grove Blvd. in Pasadena, CA. To view the bridge from below, take West Holly St. west from North Orange Grove Blvd. and then turn left on Arroyo Dr., which joins with North Arroyo Blvd. to pass below the bridge.

1. **Historic Significance:** Served as an important element in Route 66, a highway which is historically significant for its effect on regional and national economic, social, and political development.
2. **Contributions:** Supported Route 66's role in contributing to regional and national growth and, in particular, to the growth of Los Angeles and Pasadena.
3. **Uniqueness:** The highest concrete bridge in the world upon completion in 1913.
4. **Date of original construction**: Constructed in 1912 to 1913.
   Closed after Loma Prieta Earthquake in 1989.
   Reopened in 1993 after renovation.

5. **Names of key engineers**: Engineer C. K. Allin [Allen], contractor John Drake Mercereau, John Alexander Low Waddell of the engineering firm of Waddell and Harington of Kansas City.
6. **Photographs:** Included above.
7. **Additional documentation**: National Register of Historic Places Inventory – Nomination Form. Available at: https://catalog.archives.gov/id/123859043
8. **References:**
City Facts, "Colorado Street Bridge One of City Wonders," vol. 1. No. 4, December 1923. ‘
Hool, George A., Bridges and Culverts. New York: McGraw-Hill Book Co., 1916 •
Howard, E.E. "Colorado Street Bridge Over Arroyo Seco," Engineering Record, vol. 67, no. 21, May 24, 1913.

Location: 34 08 43.0 N 118 09 47.0 W

Local and vicinity maps: The Colorado Street Bridge spans the Arroyo Seco as part of Colorado Blvd. just south of the Ventura Freeway and between North San Rafael Ave. and North Orange Grove Blvd. in Pasadena, CA. To view the bridge from below, take West Holly St. west from North Orange Grove Blvd. and then turn left on Arroyo Dr., which joins with North Arroyo Blvd. to pass below the bridge.



Arroyo Seco Parkway

The Arroyo Seco Parkway is listed on the National Register of Historic Places and was designated by ASCE as a National Historic Civil Engineering Landmark in 1999.

Source of the following photo and Overview is: https://www.nps.gov/places/arroyo-seco-parkway.htm

Photo by Brian Grogan, Library of Congress, https://www.loc.gov/resource/hhh.ca2777.photos/?sp=1

Overview of Arroyo Seco Parkway

A drive through the Arroyo Seco is a ride through history. Some call the Arroyo Seco Parkway the starting point for Los Angeles car culture. It was the first "freeway" in the West and an engineering marvel of its time. Add to that the distinction and imprint of historic Route 66 and you have the makings for the perfect adventure by car.

By 1920, Los Angeles was already under the spell of the automobile. Although well-developed interurban trolley lines were enabling the city's sprawling character, the automobile was widely recognized as the future. Anyone caught in the 5 o'clock crush downtown would say the future had already arrived, as thousands of gridlocked cars kept the trolleys from running on time. Traffic congestion was a problem with which city planners were already engaged. Since the city was a nascent metropolis at the dawn of the automobile age, it was better positioned than any other city in the nation at that time to plan future development around the car.

It did so only gradually, however. Various regional plans, beginning as early as 1907, called for first an overarching grid of Parisian-style boulevards, then a network of landscaped parkways, and finally, as the

Second World War approached, a region-wide system of limited-access highways that, for better or worse, became a model for the rest of the nation and indeed the world.

The first link in this system would be a 6.2-mile stretch of highway called the Arroyo Seco Parkway, which straddled the design line between parkway and freeway. It ran primarily along the water course of the Arroyo Seco, a tributary of the Los Angeles River that snaked southward from the San Gabriel Mountains north of Pasadena's Rose Bowl through the Arroyo Seco canyon and into downtown Los Angeles.

Upon its completion in 1940, it was designated an alignment of Route 66 becoming the first stretch of the Mother Road to run over a modern, limited-access highway in the nation. If the spread of the freeway concept, eventually embodied by the national Interstate Highway System, spelled the beginning of the end for Route 66, the Arroyo Seco Parkway still stands as a remarkable piece of urban transportation history and holds a unique place in the story of Route 66.

The final form of the Arroyo Seco Parkway proved to be a hybrid of the scenic parkway aesthetic and the then-developing idea of a high-speed, limited-access freeway. Grade-separated overcrossings for existing streets, combined with on- and off-ramps (woefully short by modern standards) placed it squarely in the freeway camp. But the fact that it was heavily landscaped with native plants, and that it ran through dedicated parkland for much of the route in Los Angeles, including going through Elysian Park near downtown via a series of four tunnels, gave it much of the character of a parkway. These are the only known tunnels along the entire route of Route 66. To the contemporary observer, it feels much more like a parkway, despite many compromises to the landscaping for safety purposes over the years.

As you travel the route, pay particular attention to the many bridges under which the Parkway passes, including the graceful 750-foot long steel historic Santa Fe's Arroyo Seco Railroad Bridge (now the Metro Gold line) that spans across the entire Arroyo Seco and passes 100 feet overhead. Most of these bridges maintain their historic integrity, and their varied construction styles present a very different design aesthetic than more contemporary freeway architecture. This is even more the case for the four Figueroa Street tunnels that carry northbound traffic through Elysian Park. The Art Deco design of the tunnels marks them unmistakably as from another era, and you will immediately recognize them from countless film and television productions. There is a gateway sign welcoming a northbound traveler to South Pasadena constructed of arroyo stones taken from the watercourse that fits the region's importance to the Arts & Crafts Movement.

Travel along Route 66 during World War II, which the U.S. entered just a year after the Parkway was completed, was light, and the bulk of the traffic along the new alignment would have been local. But as travel boomed after the war and the Route 66 experience began to grab the national imagination ever more tightly, those who sojourned along it to the Pacific experienced the Arroyo Seco Parkway as a shining new example of the future of highway travel in America. Speed and convenience, the driving forces behind the automobile's rise earlier in the century, were now reflected in highway design. If this had the ultimate effect, as many would argue, of disconnecting highways from their local context, few stretches of road can make you feel more rooted in a place than does the Arroyo Seco Parkway.

The Arroyo Seco Parkway (California State Route 110) runs northeasterly from the Four-Level Interchange with U.S. 101 just outside downtown Los Angeles (mile post 23.69) to East Glenarm St. in Pasadena (mile post 31.89), CA. It is a National Civil Engineering Landmark, a National Scenic Byway, and the first of just two California Historic Parkways (the other being S.R. 163 through Balboa Park in San Diego). In 2011, the Parkway and associated features were listed in the National Register of Historic Places as the Arroyo Seco Parkway Historic District.

Excerpt from 1997 NHCEL nomination package: A two-page excerpt from the nomination package is reproduced on the following pages and provides basic information on the Landmark. Because the Arroyo Seco Parkway was designated as a National Historic Civil Engineering Landmark in 1999, additional details are not presented in this Route 66 nomination package. The entire 1997 nomination package for the Arroyo Seco Parkway is available on the History and Heritage Committee Teams site.

AMERICAN SOCIETY OF CIVIL ENGINEERS
HISTORIC CIVIL ENGINEERING LANDMARK NOMINATION FORM

To: Committee on History and Heritage
American Society of Civil Engineers
1015 Fifteenth Street, NW, Suite 600
Washington, DC 20005

Date: APR 30 1997

From: Los Angeles Section

This is to nominate the following for designation as a National Historic Civil Engineering Landmark:

ARROYO SECO PARKWAY (Pasadena Freeway since 1954)

Located at: CALIFORNIA STATE HIGHWAY #110 from the I-5 interchange in Los Angeles to Glenarm Street in the City of Pasadena (postmile 25.48 to postmile 31.91). See Attachment A, part of Automobile Club Map.

County: LOS ANGELES State: CALIFORNIA

Please furnish below the latitude and longitude to the nearest minute or UTM coordinates:

Lat. 34°06'N, Long. 118°12'W
(See Attachment B, part of USGS Los Angeles Quadrangle.)

The Proposed Landmark's Owner:

CALIFORNIA DEPARTMENT OF TRANSPORTATION

In support of this nomination the following information is provided:

1. Dates of Construction: January, 1938 - December, 1940 (See Attachment C)

2. Names of key professionals associated with the project: Spencer Y. Cortelyou, Fred J. Grumm, and Lloyd Aldrich (See also Attachments D, G, H, and I.)

3. Historic national significance of this landmark: First fully grade-separated, limited-access landscaped freeway that was built as a non-toll state highway, direct ancestor of urban freeways in the U.S. (See Attachments E, F, G, H, I, and J.) Initial link in California's statewide freeway system of grade-separated, limited-access urban State Highways. (See Attachments E, F, G, H, I, and J.)

4. Comparable or similar projects, both in the Unites States and other countries:

   Various east-coast parkways, the initial segment of what was to become the Hollywood Freeway, the Terminal Island Freeway in Long Beach, and other early limited access highways. See Attachment J for a detailed list.

5. Unique features or characteristics which set this proposed landmark apart from other civil engineering projects, including those in 4 above:

   The Arroyo Seco Parkway was the first limited access highway to be adopted by the State and built through an already-urban environment. Additionally, as a comparison test of asphalt and portland cement concrete pavements, one traffic lane of each of the three-lane roadways had asphalt concrete pavement while the other two lanes of each roadway had portland cement concrete pavement. Construction was marked by unusually good inter-agency collaboration among the three cities, the Division of Highways, the U. S. Army Corps of Engineers, and the Works Progress Administration.

6. Contribution which this structure or project made toward the development of: (1) The civil engineering profession; (2) the nation or a large region thereof.

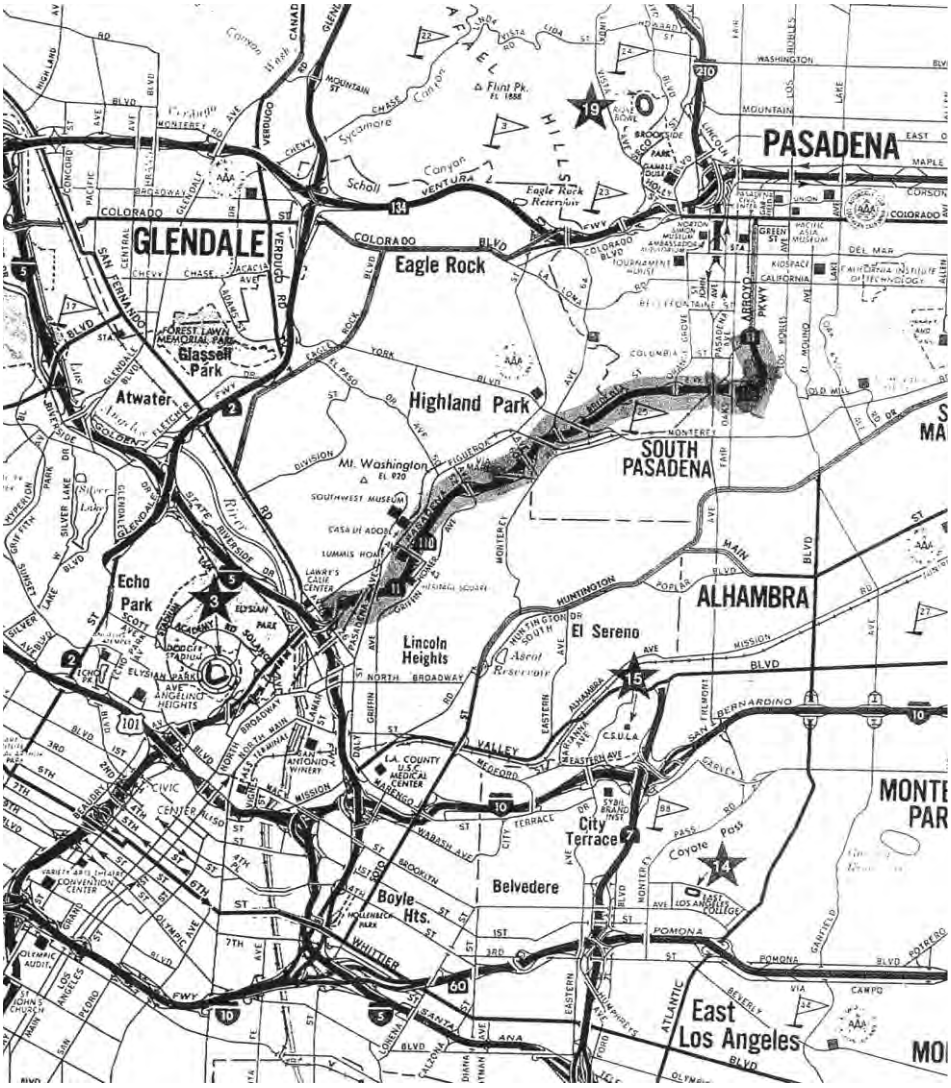
   (1) The Profession: The Arroyo Seco Parkway proved to highway engineers nationwide that a fully grade-separated highway in an urban area was feasible, that such a highway would be popular with motorists, and that substantial user benefits could be realized from such a highway.

   Additionally, traffic operations experience on the Arroyo Seco Parkway established the value of speed-change lanes at the access points on limited-access urban highways and the minimum practical width for a planted median.

   (2) The Region and the Nation: The pioneering Arroyo Seco Parkway was followed by State Route 163 in San Diego (1942), the Terminal Island Freeway (1943), the Downtown Extension of the Hollywood Parkway (1946-1948), the San Bernardino Freeway (1950), and the Santa Ana Parkway (1949-52). These wartime and early postwar projects were designed for general traffic use and were later renamed as "Freeways". The Arroyo Seco Parkway itself was extended after World War II to connect (in 1953) with the Hollywood and Santa Ana Parkways at the Four-level Interchange in Downtown Los Angeles and in 1954 was redesignated as the "Pasadena Freeway".

   The Arroyo Seco Parkway established the practice of building state highways in urban areas as freeways in landscaped strips. Subsequent to the Highway Act of 1943, which established the Federal-Aid Urban classification, and following the model of the pioneering California freeways, roughly 15,000 miles of limited-access highway have been constructed within urban areas in the United States. Over 400 route-miles of freeway have been built in Los Angeles County alone. These urban freeways have had nationwide effects on land use, personal travel habits, social structure, public policies, and the economies of urban areas.

Local and vicinity maps:



Appendix A

Resolutions from ASCE Sections

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN ILLINOIS

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas**, the centennial is an opportunity to celebrate the important history of Route 66 in Illinois through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Illinois Section Board of Directors of ASCE on behalf of their members in northern Illinois:

1. Recommends approval of the entirety of Route 66 in Illinois as a National Historic Civil Engineering Landmark;

2. Supports the following Illinois appointments by the President of the United States to the Route 66 Centennial Commission: (1) Cinnamon Catlin-Legutko – Director of the Illinois State Museum and (2) William M. Thomas – Chairman of the Route 66 Road Ahead Partnership and Director of Economic Development of Logan County, Illinois.

Sandra Homola

Sandra Homola, P.E., CFM
President, Illinois Section ASCE
Date: January 10, 2023

RESOLUTION IN SUPPORT OF ROUTE 66 IN ILLINOIS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Illinois through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Central Illinois Section Board of Directors of ASCE on behalf of their members in Central Illinois:

1. Recommends approval of the entirety of Route 66 in Illinois as a National Historic Civil Engineering Landmark.

2. Supports the ASCE Illinois Section appointments to the President of the United States to the Route 66 Centennial Commission.

Grant Hischke, P.E., M. ASCE
President, Central Illinois Section ASCE
Date: 2/28/25

DUCZYNSKI.MICHAEL.PETER.1556005849 Digitally signed by DUCZYNSKI.MICHAEL.PETER.1556005849 Date: 2025.02.28 13:42:07 -06'00'

Michael Duczynski, A.M. ASCE
Secretary, Central Illinois Section
Date: _____

AMERICAN SOCIETY OF CIVIL ENGINEERS ST. LOUIS SECTION
RESOLUTION IN SUPPORT OF HISTORIC ROUTE 66 AS AN ASCE NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **WHEREAS,** Route 66 was opened in November 1926 as the first all-weather highway in the United States connecting Chicago, Illinois to Santa Monica, California and played a major role in the history and development of the United States;

2. **WHEREAS,** the original Route 66 spanned about 240 miles through the St. Louis Section, from Madison County, just south of Staunton, Illinois, through St. Louis, and to Conway, Missouri in Laclede County;

3. **WHEREAS,** Route 66 was key in the development of six major bridges over the Mississippi River at St. Louis, beginning with the McKinley Bridge, followed by the MacArthur (originally Municipal) Bridge, the Martin Luther King (Veterans Memorial) Bridge, the Chain-of-Rocks Bridge, Poplar Street Bridge, and the I-270 Chain of Rocks Bridge, which have each been a major civil engineering achievement;

4. **WHEREAS,** Route 66 was key in the development of many communities in the St. Louis region, across Missouri, and in the United States, as a "road to opportunity";

5. **WHEREAS,** the U.S. Congress established the "Route 66 Centennial Commission" for planning and promoting activities fitting and proper for the commemoration of Route 66;

6. **WHEREAS,** the Missouri Legislature has established the Missouri Route 66 Centennial Commission to plan, promote and sponsor official Route 66 centennial events, programs, activities designed to involve all Missouri citizens;

7. **WHEREAS,** the Missouri Department of Parks has established the Route 66 State Park in Eureka at the former Meramec River Bridge to commemorate the history of Route 66 in Missouri;

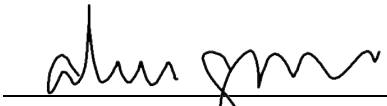
RESOLVED, that the ASCE St. Louis Section Board of Directors, on behalf of its members:

1. **RECOMMENDS** approval of the entirety of Route 66 in Missouri as a National Historic Civil Engineering Landmark (NHCEL);

2. **RECOMMENDS** seeking to place a NHCEL plaque in the Route 66 State Park;

3. **RECOMMENDS** that Governor Mike Parson in consultation with the Missouri Route 66 Centennial Commission recommend to the President the appointment of representatives from Missouri to the Congressional Route 66 Centennial Commission.

Approved by the St. Louis Section Board of Directors at a regular meeting on February 7, 2023.



Alison Graves, P.E.
President, St. Louis Section

RESOLUTION IN SUPPORT OF ROUTE 66 IN KANSAS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Kansas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Kansas City Section Board of Directors of ASCE on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Kansas as a National Historic Civil Engineering Landmark;

2. Supports the appointment by the President of the United States to the Route 66 Centennial Commission of Dale A. Oglesby of Galena, Kansas

Anthony T. Kulesa — 1/9/24
President, Kansas City Section ASCE — Date

Anthony Omer — 1/9/24
Secretary, Kansas City Section — Date

RESOLUTION IN SUPPORT OF ROUTE 66 IN KANSAS
AS A
NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Kansas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Kansas Section Board of Directors of ASCE on behalf of their members:

Recommends approval of the entirety of Route 66 in Kansas as a National Historic Civil Engineering Landmark;

	February 28, 2025	Ryan Bowman	2-28-2025
President, Kansas Section ASCE	Date	Secretary, Kansas Section	Date

Resolution in Support of Nomination of Route 66 in Oklahoma as a National Historic Civil Engineering Landmark

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Oklahoma through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Oklahoma Section Board of Directors, the Oklahoma City Branch, and the Tulsa Branch on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Oklahoma as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of Oklahoma to recommend to the President of the United States the appointment of Josh Johnston, P.E. as Oklahoma's representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Oklahoma Section, the Oklahoma City Branch, and the Tulsa Branch;

Sean Kavanagh, P.E. President, Oklahoma Section Date: _____	Brad Folks, P.E. President, Oklahoma City Branch Date: 10/11/2022	Aaron Beats P.E. President, Tulsa Branch Date: 9/30/2022

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN TEXAS

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner the appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas**, the centennial is an opportunity to celebrate the important history of Route 66 in Texas through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Texas Section and the High Plains Branch Boards of Direction on behalf of their members:

1. Recommends approval of the entirety of Route 66 in Texas as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of Texas to recommend to the President of the United States the appointment of (insert name) as the Texas representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Texas Section and the High Plains Branch;

Patrick M. Beecher, P.E.
President, Texas Section ASCE
Date: 9/16/22

Hunter J. Streun Digitally signed by Hunter J. Streun Date: 2022.10.24 10:01:04 -05'00'

Hunter Streun, EIT
President, High Plains Branch ASCE
Date:_____

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN NEW MEXICO AS A NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner the appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in New Mexico through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE New Mexico Section and the Northern Branch Boards of Direction on behalf of their members:

1. Recommends approval of the entirety of Route 66 in New Mexico as a National Historic Civil Engineering Landmark;

2.. Supports the Governor of New Mexico's selection of Jen Paul Schroer as New Mexico's representative to the Route 66 Commission.

Approved by the Boards of Directors of the New Mexico Section and the Northern Branch;

Logan Brandenburg, P.E., M. ASCE
President, New Mexico Section ASCE
Date: 03/21/2023

Summer Herrera, P. E., M. ASCE
President, Northern Branch
Date: 3/21/2023

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN ARIZONA

AS A

NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas,** on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas,** Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas,** Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas,** the year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas,** Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in Arizona through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the Arizona Section Board of Directors of ASCE and the Board of Directors of the Northern Arizona Branch of ASCE;

1. Recommends approval of the entirety of Route 66 in Arizona as a National Historic Civil Engineering Landmark;

2. Supports the appointment by the President of the United States of Debbie Johnson, Miles Partnership, to the U.S. Route 66 Centennial Commission.

Larry Hanson

Larry Hanson, P.E., President
Arizona Section ASCE
Date 4/26/24

Sabrina M. Gibson

Sabrina Gibson, P.E., President
Northern Arizona Branch ASCE
Date 4/25/2024

RESOLUTION IN SUPPORT OF NOMINATION OF ROUTE 66 IN CALIFORNIA AS A NATIONAL HISTORIC CIVIL ENGINEERING LANDMARK

1. **Whereas**, on December 23, 2020, the Senate and House of Representatives of the United States of America in the 116th Congress assembled adopted Public Law 116-256, entitled, "ROUTE 66 CENTENNIAL COMMISSION ACT" establishing the Route 66 Centennial Commission;

2. **Whereas**, Congress found that Route 66 was the first all-weather highway in the United States connecting the Midwest to California, and has played a major role in the history of the United States;

3. **Whereas**, Route 66 has become a symbol of the heritage of travel and the legacy of seeking a better life shared by the people of the United States, and has been enshrined in the popular culture of the United States;

4. **Whereas**, The year 2026 will be the centennial anniversary of Route 66 and Congress has directed the Route 66 Centennial Commission to study and recommend to Congress activities that are fitting and proper to celebrate the anniversary in a manner that appropriately honors the Mother Road of the United States;

5. **Whereas**, Congress stipulates that the Route 66 Centennial Commission shall consist of 15 members to be appointed by the President of the United States as recommended by the Secretary of Transportation, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the House of Representatives, the Majority Leader of the Senate, the Minority Leader of the Senate, and the Governors of the states of Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, Arizona, and California, the states through which Route 66 passes;

6. **Whereas,** the centennial is an opportunity to celebrate the important history of Route 66 in California through commemorative, educational and community events, including programs and exhibits about the history of how local communities grew and changed with construction of the highway; the development of a modern transportation system; the cultural impact of Route 66 both within the United States and internationally; the portrayal of Route 66 in music, artwork and folklore; and how we maintain the mystique and appeal of Route 66 for future generations.

RESOLVED, that the ASCE Los Angeles Section, Metropolitan Los Angeles Branch, and the San Bernardino Branch Boards of Directors, on behalf of their members:

1. Recommends approval of the entirety of Route 66 in California as a National Historic Civil Engineering Landmark;

2. Petitions the Governor of California to recommend to the President of the United States the appointment of Congresswoman Grace Napolitano as California's representative on the Route 66 Centennial Commission.

Approved by the Boards of Directors of the Los Angeles Section, the Metropolitan Los Angeles Branch (MLAB), and the San Bernardino-Riverside Branch (SBD-RIV) of ASCE;

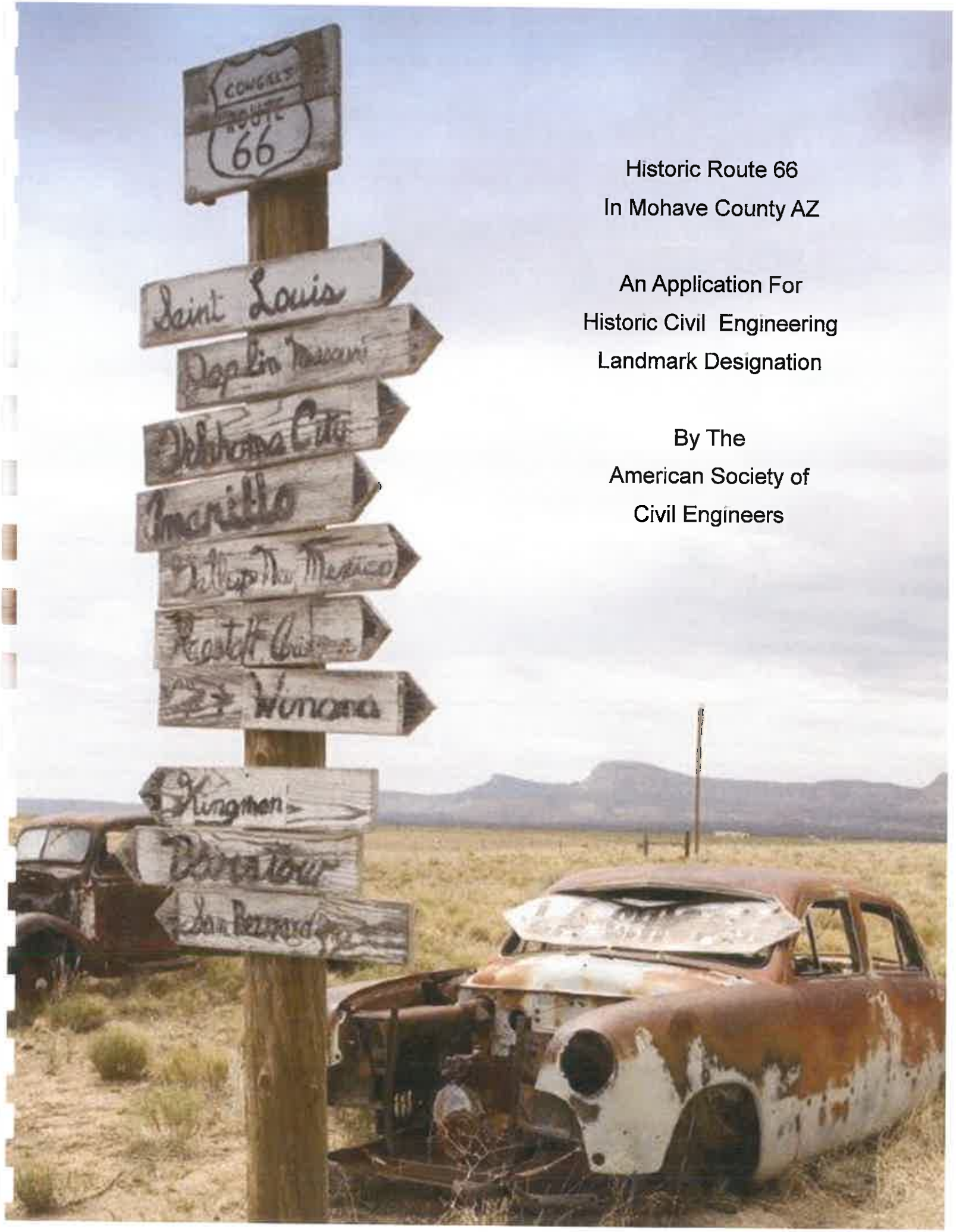
Melissa T. Barbosa, P.E.
President, Los Angeles Section
Date: 12/15/2022

Ben Baker
Ben Baker, M.S.
President, MLAB
Date: 1/20/2023

Emily Sipes, M.S.
President, SBD-RIV Branch
Date: 1/30/2023

Appendix B

Nomination Package from Arizona Section to nominate Mohave County segment of Route 66



Historic Route 66
In Mohave County AZ

An Application For
Historic Civil Engineering
Landmark Designation

By The
American Society of
Civil Engineers

Historic Civil Engineering Landmark Nomination

This form may be printed. Please submit one copy for each committee member of all materials relating to the nomination. If more space is required to provide full response, please include additional documentation.

To: History & Heritage Committee
ATTN: Jennifer Lawrence
1801 Alexander Bell Drive Reston, VA 20191-4400

Date: **February 21, 2020** ASCE Section: **Arizona**

This is to nominate the following for designation as a Historic Landmark: **National** –

Historic Route 66 in Mohave County, Arizona

Previously nominated for National: **No**

Located at: **See vicinity maps Exhibits A and B**

County: **Mohave**

State: **Arizona**

The proposed landmark's owner: **Mohave County, Arizona.**

The latitude and longitude to the nearest minute (or U.T.M. coordinates). Attach detailed local and vicinity maps that show access from a major city or the interstate:

Length of this segment is 48 miles.

The Topock end of the route is Latitude 34.715491 degrees north, Longitude 114.484759 degrees west.

The McConnico end is Latitude 35.139779 degrees north, Longitude 114.107544 degrees west.

In support of this nomination the following information must be provided:

1. **Date of construction (and other significant dates):**

Route 66 embodies a complex, rich history that goes well beyond any chronicle of the road itself. An artery of transportation, an agent of social transformation, and a remnant of America's past, it once stretched 2,448 miles from Chicago to Santa Monica.

This 48-mile segment is part of the longest remaining stretch of Route 66 in all of the eight Route 66 states.

Earliest Beginnings

The expansion of U.S. territory to include California and the Southwest, along with the gold rush to California, created an urgent need to improve communication and transportation links between the west and the rest of the nation. In 1853 Congress appropriated $150,000 for six surveys of potential routes to the Pacific Ocean that would be carried out by Army topographical engineers. Routes attempting to follow the 35th parallel were explored by Sitgreaves in 1851 and by Whipple in 1853, but the most notable is that taken by Edward Beale.

War Department Survey Crew southeast of Oatman before any roads existed

In 1857 Congress ordered the War Department to construct a northern army wagon road across New Mexico Territory (containing present-day Arizona). Beale began construction 1857 and took five months to complete his road, at a cost of $50,000.

After completion, the "Beale Wagon Road" was touted as being suitable for six-mule teams pulling wagon loads as heavy as 3,500 pounds!

The building of Beale's wagon road was the Southwest's first Federal road construction project.

Crossing the Colorado

As interstate commerce began to drive the need for infrastructure, crossing the Colorado River quickly proved to be a significant challenge. In 1890, the Needles Ferry began moving travelers across the Colorado River at Topock (the Mohave Indian term for "water crossing"), at a then-astronomical fee of $3.50 per passenger. The National Old Trails Highway system also used the ferry until a flood took it out of service in 1915.

The Needles Ferry over the Colorado River

To relieve this burden on travelers and to compete with the "Ocean-to-Ocean Road" bridge being built in Yuma, the Old Trails Bridge was constructed from 1915 to1916 through a joint effort between Arizona, California, the Bureau of Indian Affairs, and Mohave County.

The Old Trails Arch Bridge under Construction, 1915

A landmark of American civil engineering in its own right, the structure is nationally significant as an outstanding example of steel arch construction.

The bridge's engineers had studied difficulties experienced by the Ocean-to-Ocean bridge project, and settled on a unique cantilever method of construction. They assembled the bridge halves on their sides on the ground and hoisted them into place using a ball-and-socket center hinge.

The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was also the lightest bridge of its kind.

From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first for the transcontinental National Old Trails Highway, and later for Route 66.

When vehicle traffic was moved to Interstate 40 just a few yards away, the bridge was re-purposed to carry an interstate natural gas pipeline, and still serves today.

The Old Trails Bridge was listed in the National Register of Historic Places in 1988.

The Old Trails Highway and the Good Roads Effort

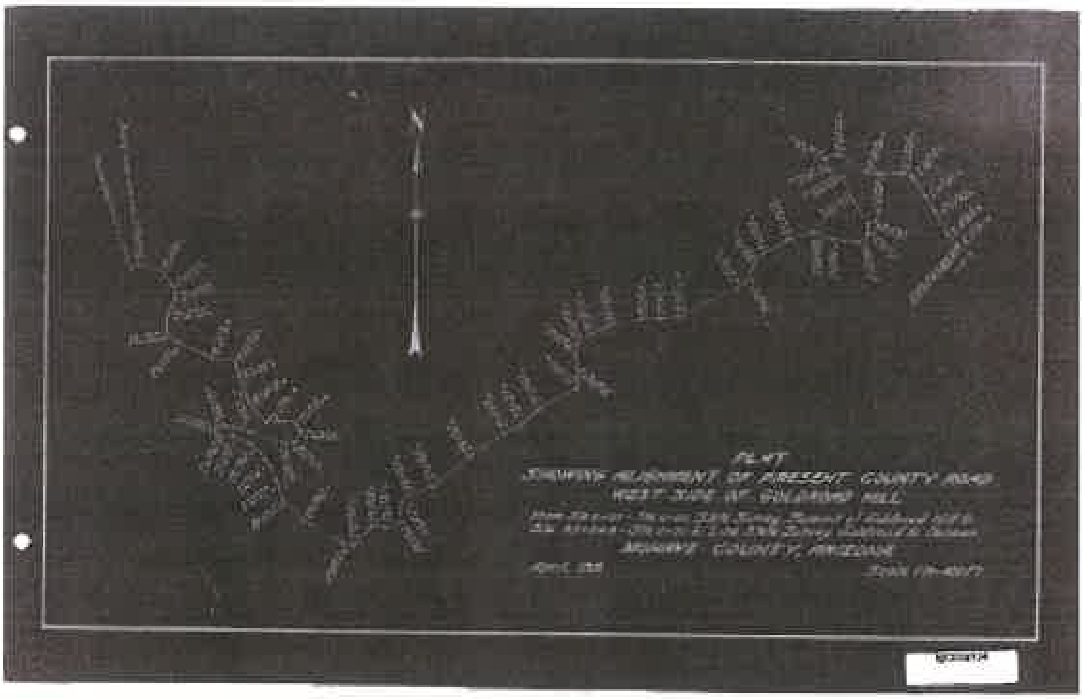
Prior to the creation of Federal highway agencies and funding, many transcontinental road efforts were championed by local governments, automobile enthusiast organizations, and various "Good Roads" organizations. Throughout the early 1900s there was in fact a fierce debate as to whether the national government even had an appropriate role in road building.

The National Old Trails Highway, part of which would eventually become a part of Route 66, was begun in 1911 as a project of the Missouri chapter of the Daughters of the American Revolution. In 1913 the National Old Trails Highway Association announced the road's route through Arizona, including the historical alignment in Mohave County following Edward Beale's army wagon road.

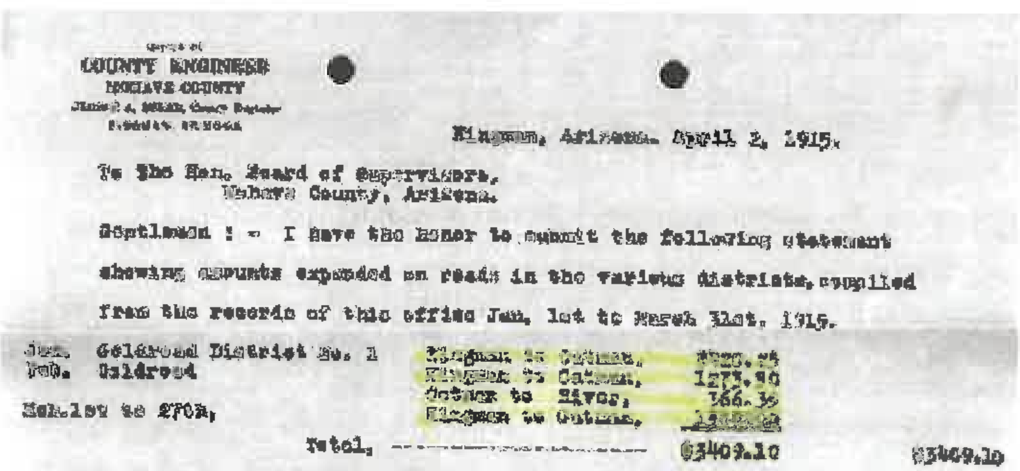
Under Arizona's 1909 Territorial Road Law (Arizona did not become a state until 1912), 75% of road tax collections went to the counties and 25% was retained for Territorial roads. As a result, far more road work was undertaken by the Counties than by the Territory.

As was typical for the time, most of the original design and construction of the Old Trails Highway was performed by County forces.

A 1918 alignment map for the Goldroad-Oatman section was designed by Mohave County Engineer J. B. Wright, and is appended as Exhibit G.



Engineer Wright's April, 1915 report to the Mohave County Board of Supervisors itemized an expenditure of $3,409.10 on the Kingman-Oatman-River road for the first quarter of that year.



OFFICE OF
COUNTY ENGINEER
MOHAVE COUNTY
[illegible]
KINGMAN, ARIZONA

Kingman, Arizona. April 2, 1915.

To The Hon. Board of Supervisors,
Mohave County, Arizona.

Gentlemen : - I have the honor to submit the following statement showing amounts expended on roads in the various districts, compiled from the records of this office Jan. 1st to March 31st, 1915.

Jan. Feb.	Goldroad District No. 1 Goldroad	Kingman to Oatman,	[illegible]	
		Kingman to Oatman,	1273.90	
		Oatman to River,	366.35	
	Mch. 1st to 27th,	Kingman to Oatman,	[illegible]	
	Total,		$3409.10	$3409.10

Oatman

Mountain man and prospector Johnny Moss discovered gold in the Black Mountains near Beale's survey line in 1853.

Oatman, Arizona was founded astride the wagon road circa 1902 - 1908. Built in 1902, the Oatman Hotel is the oldest two-story adobe structure in Arizona, and is especially famous as the honeymoon stop of Clark Gable and Carole Lombard.

From about 1900 to 1920, Oatman was a typical western gold rush town, and was one of the largest gold producers in the American west. By 1931, area gold mines had produced over 1.8 million ounces of gold with a present day value of nearly $700 billion.

22 Mule Team rounding the turn at Goldroad Summit (Sitgreaves Pass) to Oatman

Gold was deemed "non-essential to the war effort" and the gold mines were shut down in 1941. Oatman was fortunate in that it was located on busy U.S. Route 66 and was able to cater to travelers driving between Kingman, Arizona and Needles, California.

Oatman circa 1925

Yet even that advantage was short-lived, as the town was completely bypassed in 1953 when a new route between Kingman and Needles was built. By the 1960s, Oatman was all but abandoned.

A revitalized interest in Historic Route 66 saved Oatman from demise, and while it may not be thriving, it has much to offer visitors looking for that kitschy slice of Americana.

Naturally Hollywood has been drawn to the unique patina of Oatman. Film producers have used Oatman as a location for many films, including *How the West was Won* and *Edge of Eternity*.

Oatman is often described as a ghost town, but that is not quite accurate. The current human population is 128. The burro population is close to 2,000.

Present-day Route 66 in Oatman, Arizona

Federalization

The Federal Aid Road Act of 1916 was among the most important pieces of public works legislation in American history. It established the model for federal participation in highway development for the remainder of the century.

With Federal funding came the transfer of the largely county-owned Old Trails Highway into the Arizona Highway System. In 1925 the Arizona Highway Department (now ADOT) assigned each of Arizona's highways a unique number with east-west routes receiving even numbers.

The National Old Trails Highway, running across Arizona from Lupton to Topock, was initially designated U.S. Route 60. Soon thereafter it was renumbered U. S. Route 66.

Under that number, as the celebrated Route 66 connecting Chicago with Los Angeles, it would become America's most famous roadway.

De-commissioning

Alas, progress inevitably marches on. In 1953, the Oatman Highway through the Black Mountains was completely bypassed by a new route between Kingman, Arizona, and Needles, California near the present Interstate 40 alignment.

Prior to this shift, Route 66 was the most heavily travelled highway in Arizona.

With various re-routings of Route 66 in the 1950s and 1960s, ownership and maintenance responsibility for this reach was transferred from the Arizona Highway Department back to Mohave County.

By 1985, all of U.S. Route 66 in America had been removed from the Federal highway system.

2. Names of key civil engineers and other professionals associated with project:

Among others, this list would include:

• J. B. Girand	Territorial Engineer, 1909-1912
• Lamar Cobb	First State Engineer, 1912-1916
• Thomas Maddock	State Engineer, 1917-1922
• F. R, Goodwin	State Engineer, 1923-1924
• W. C. Lefebre	State Engineer, 1925-1927
• J. B. Wright	Mohave County Engineer, circa 1915
• O. K. Parker	Engineer for the Automobile Club of Southern California, circa 1912
• J. A. Sourwine	Designed the Old Trails Arch Bridge
• J. P. Kemmerer	Supervised construction of the Old Trails Arch Bridge
• E. Ross Householder	Mohave County Engineer circa 1925-1960

3. **Historic (national or local) significance of this landmark:**

No highway is as famous as Route 66.

The Beale Wagon Road was the first Federal highway project in Arizona.

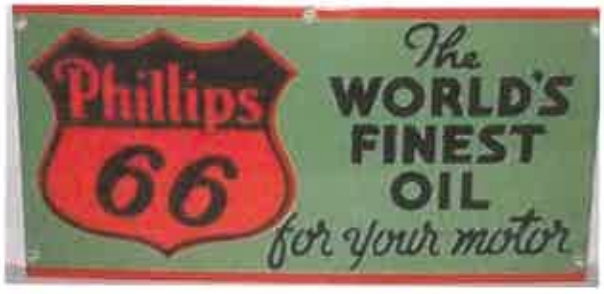
Route 66 has become the focus of a nostalgia industry based on the "Open Road" of 20th-century America. On the Route 66 of legend, endless prairies and desert vistas are punctuated by odd, individualistic cafes, motels, and roadside attractions, the whole effort symbolizing something essential about America.

Travel and Leisure magazine has named Route 66 as one of America's 29 "Most Iconic Drives".

Arizona drivers can display their support and enthusiasm with a special Route 66 license plate:

Shortly after the route was stitched together out of shorter, less ambitious roads, a cross-country foot race in 1928 publicized the new "Main Street of America".

The Tulsa-based Phillips Petroleum Company helped imprint the number on the national consciousness by adopting the name "Phillips 66" for its gasoline and service stations, shown in a highway-shield type logo.



The cultural product that made 66 a household number was John Steinbeck's novel of dust bowl flight *The Grapes of Wrath*. Steinbeck first called Route 66 "the mother road"

and chronicled its importance and impact on American westward migration.

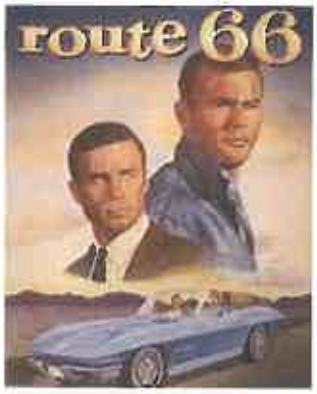
In 1940 John Ford adapted Steinbeck's novel into a movie of the same name. The opening scene features a young Henry Fonda with the Old Trails Arch Bridge as the backdrop.

Screen Shot from *The Grapes of Wrath* (Old Trails Bridge)

In the postwar era, even as Route 66 was about to be replaced by Interstate 40, the road came to symbolize the restless spirit of long-distance highway travel. In 1960 a television show, "Route 66", portrayed two young men who roam the country in a Corvette convertible.

If Steinbeck's scenes of the hardscrabble poor invoked memories of families crossing the

continent in a covered wagon, "Route 66" recalled the roving cowpokes and gamblers of movie and TV westerns.



Route 66 also inspired two pieces of music that are entwined in American culture: the Nelson Riddle theme song for the TV show and "Get Your Kicks on Route 66", written in 1946 by Bobby Troupe after he and his wife drove the road to Los Angeles.

Troup had hoped to make a career as a songwriter and musician, and his career plan soon worked better than he had dreamed. Upon arriving in Los Angeles, he almost immediately sold the song, which was recorded by Nat King Cole.

4. **Comparable or similar projects, both in the United States and other countries.(Provide name, location, dates, short description of each project)**

- The Lincoln Highway: A transcontinental route conceived in 1912 running from New York to San Francisco. A young Army Major named Dwight Eisenhower was part of a convoy across the length of the Lincoln Highway; the difficulties encountered eventually contributed to Eisenhower's support for the Interstate Highway System.
- Britain's A-5 links London to Dublin (with a ferry segment). It follows many segments originally constructed by the Romans and is signed as "The Roman Road".
- The Pacific Coast Highway from Dana Point to Leggett, California, and including the Golden Gate Bridge, was constructed from 1911 to 1960, and is designated an All American Road.

5. **Unique features or characteristics which set this proposed landmark apart from other civil engineering projects, including those in #4 above.**

<u>The Old Trails Arch Bridge</u>

The Old Trails Bridge was constructed 1915-1916 through a joint effort between Arizona, California, the Bureau of Indian Affairs, and Mohave County. A landmark of American civil engineering in its own right, the structure is nationally significant as an outstanding example of steel arch construction. The engineers had studied difficulties experienced by the Ocean-to-Ocean bridge project, and settled on a unique cantilever method of construction assembling the bridge halves on their sides on the ground and hoisting them into place using a ball-and-socket center hinge.

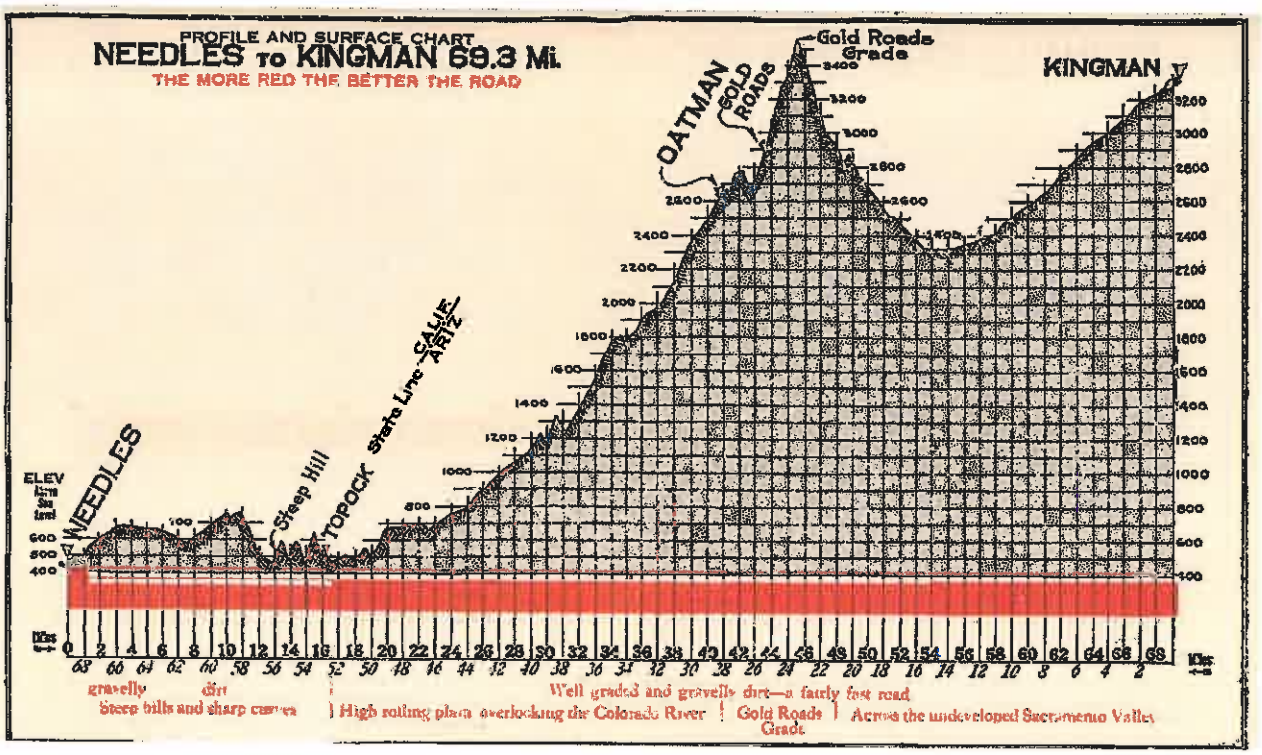
The use of the cantilever was a daring move for its time, creating the longest arched bridge in America. At 360 tons, it was also the lightest bridge of its kind. From the day it opened, this graceful arch and the deck it supported were a pivotal Colorado River crossing, first on the transcontinental National Old Trails Highway, and later on Route 66.

Working with Nature

Geometrics that are primitive by today's standards reflect a time when roads were designed to coexist with the surrounding landscape rather than dominate and conquer it.

The "design" vehicles for Route 66 were mule-drawn wagons, Ford Model As, and Model Ts; speeds were low and airbags did not exist. Anti-lock braking systems and even seat belts were decades in the future.

This section of Route 66 was the steepest along the entire 2,448-mile length, and motorists were advised to climb the grade in reverse so that fuel could get to their engine.



1925 *Hobbs Road Guide* Excerpt

This reach was so fraught with hairpin turns that local guides were available to assist.

Even today, the geometrics dictate a 40-foot maximum allowable vehicle length.

Use of Native Materials

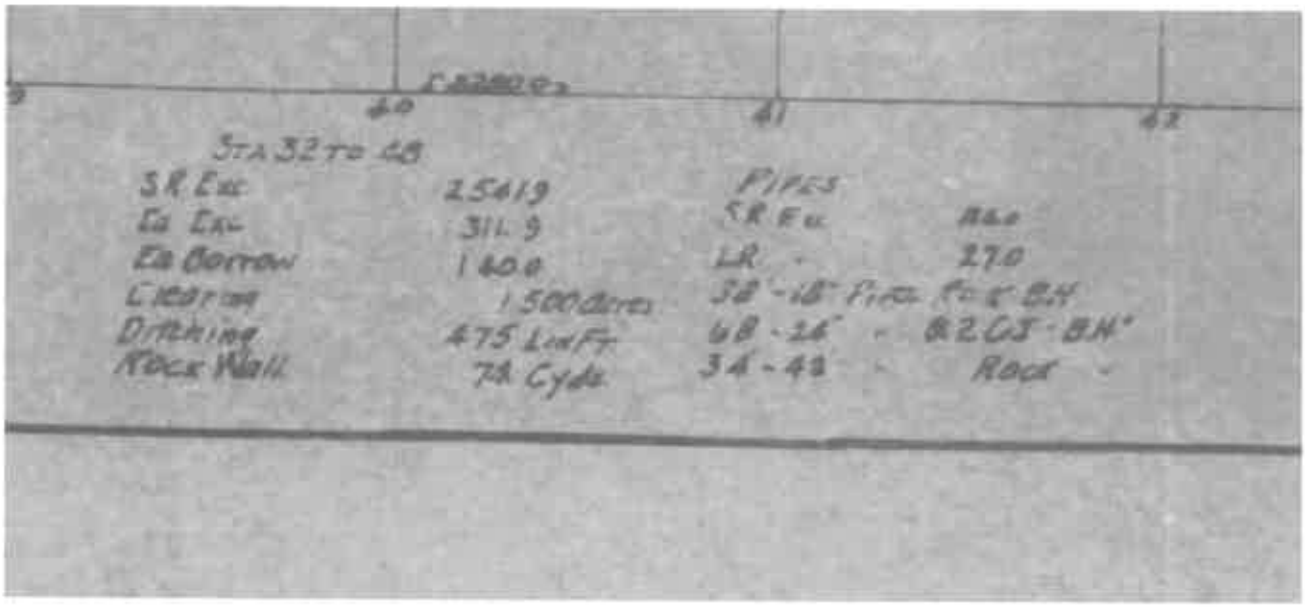
In promoting the construction of the roadway, Engineer O. K. Parker "...described the road building methods that could be more advantageously used. A telling point in this lecture was Mr. Parker's statement that, in addition to the scenic and topographical advantages of the route, it was further favored by *the unlimited amount of natural good road material that exists throughout Arizona* and assures the construction of a high-class road at a moderate cost."

Many of the native rock, hand-built retaining walls and "guardrail walls" are still readily visible along the route, illustrating different construction approaches from a bygone era.

Design Standards

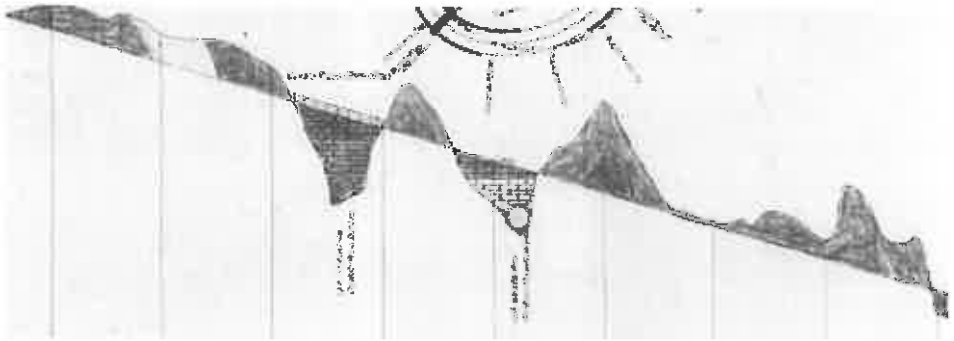
Little documentation has survived of the actual design effort other than the plans themselves, although both Wright's 1915 plans and the Arizona Highway Department's 1921 plans for "Federal Aid Project No. 5" allow interpretation as to how they were engineered.

In a time without calculators, much less computers and Excel spreadsheets, all curves, grades, bearings, flows, cuts, fills, and quantities were laboriously calculated, checked, and re-checked by hand. CAD was decades in the future; drawings were made by hand on linen.

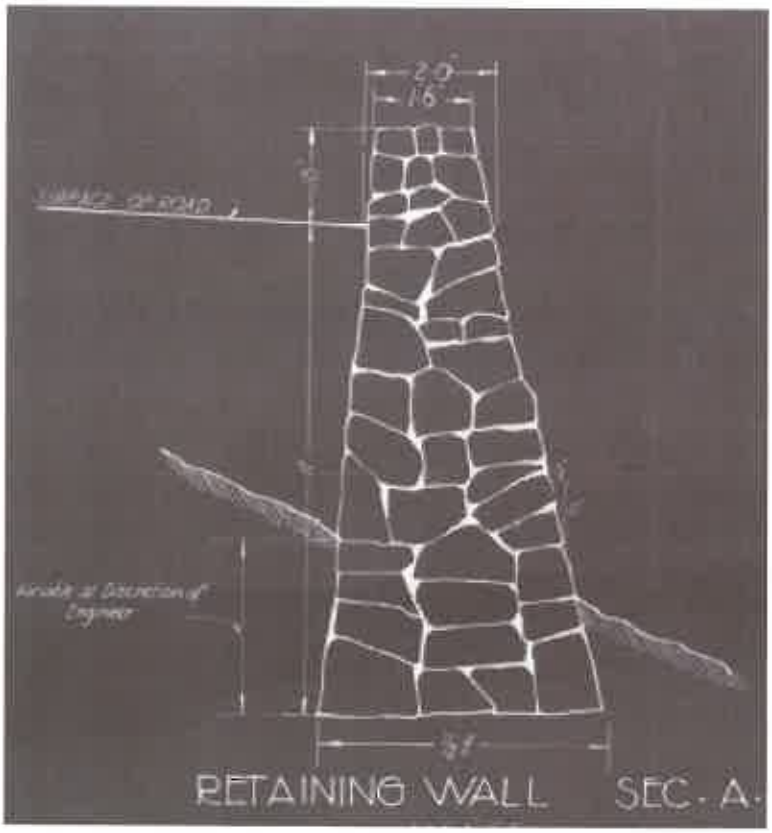


Surveying was not performed with GPS or even photogrammetry, but relied on transits, spirit levels, and 100-foot steel chains in steep mountain terrain in severe heat and cold.

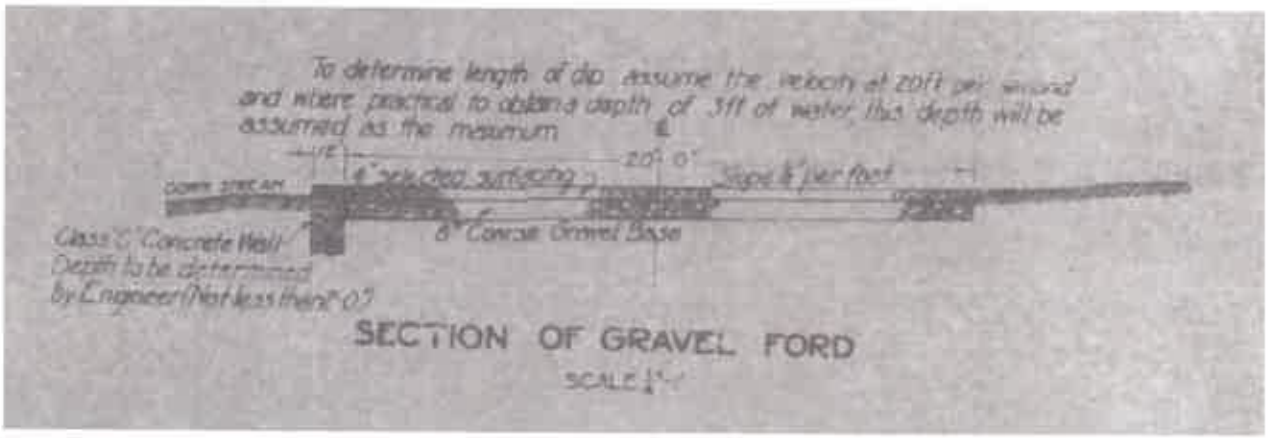
Earthwork calculations were made by plotting existing and design profiles and measuring the area of cuts and fills with a planimiter.



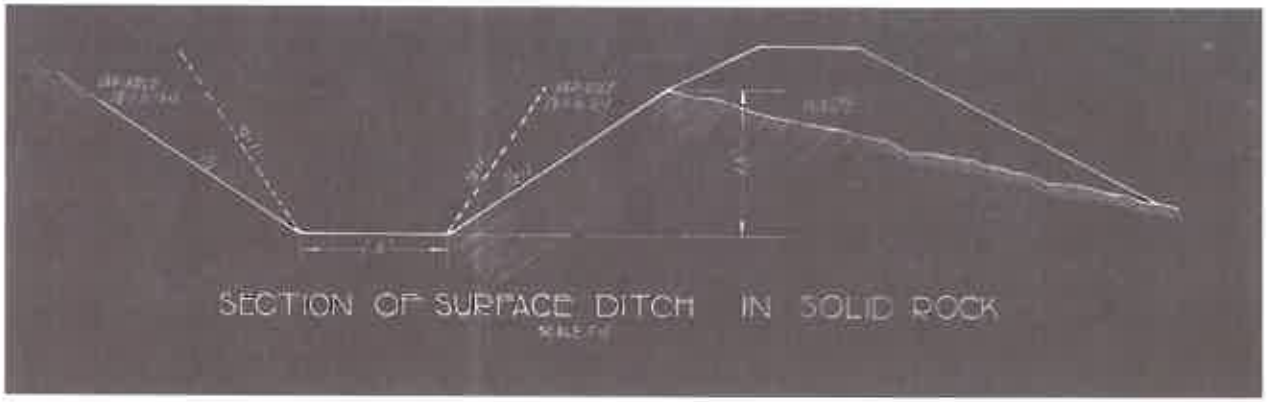
Greater reliance was placed on hand craftsmanship and utilizing local materials, and is illustrated in details such as this one for unreinforced grouted rock retaining walls with an embedment depth "variable at discretion of Engineer".



Also reflecting different times, 1921 design standards called for storm flow overtopping at ford crossings allowable to a depth of three (3) feet!



And, as a reminder of the nature of the route's geology, a separate detail was made to illustrate the geometrics of surface channels to be carved out of solid rock.



Construction

In April 1857, the United States Secretary of War John B. Floyd instructed Lieutenant Edward Fitzgerald Beale to construct a wagon road close to the 35th parallel between Fort Defiance in what is now Apache County, Arizona and the Colorado River in the west.

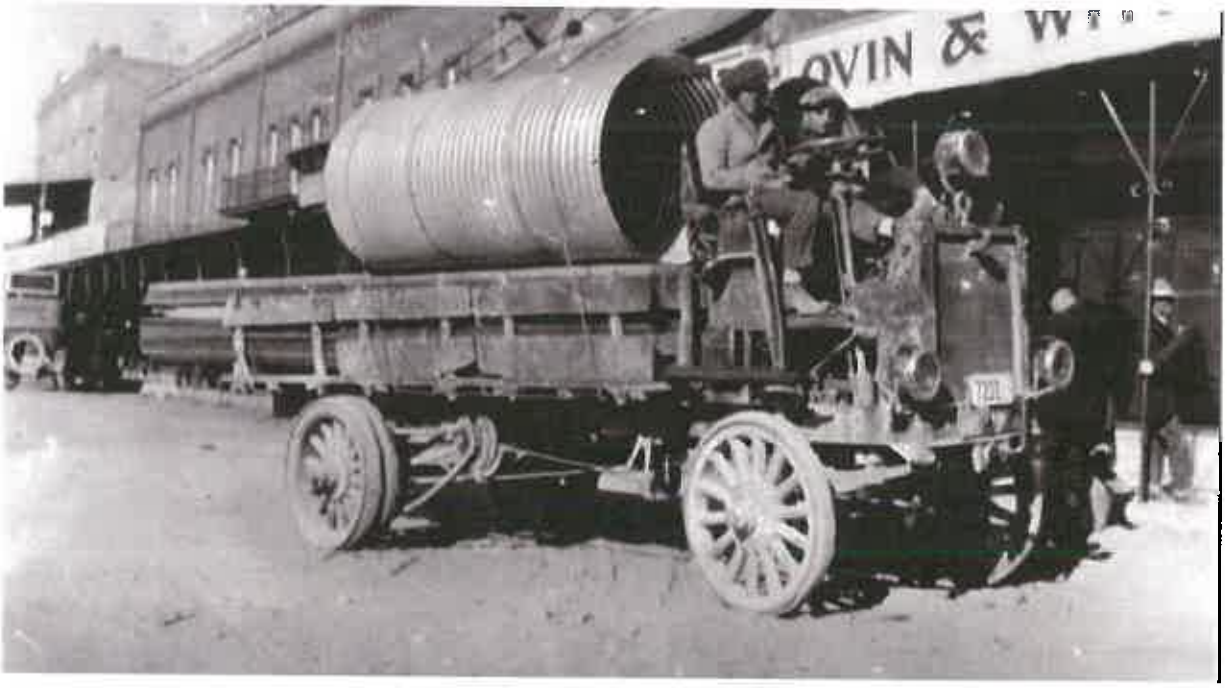
Lieutenant Beale, along with a crew of 100 men and 22 camels built the first Federal highway in the southwest without electricity or internal combustion engines, using only human- and animal-powered tools and implements.

Construction began 1857 and took five months to complete, at a cost of $50,000.

The Old Trails Highway and Route 66 construction projects of 1915-1930 were able to take advantage of radical new construction techniques employing steam, compressed air, and internal combustion engines:

Rock Cut, 1926 Route 66 Construction

Placing Base on Route 66, 1926



Downtown Kingman, circa 1920

6. **Contribution which this structure or project made toward the development of: (1) the civil engineering profession; (2) the nation or a large region thereof (part 2 is necessary for an NHCEL).**

The story of Historic Route 66 in Mohave County is a timeline of both development of the American Southwest and the development of our 20th century transportation system:

- Military surveys of the largely-unexplored Southwest
- Building of Army roads to access and protect the California gold rush
- Ferry crossing replaced by a state of the art arched bridge
- Grassroots "Good Roads" boosterism
- The National Old Trails Highway System
- Territorial road funding mechanisms
- Creation of the Federal Highway System
- Arizona's gold rush boom and bust
- America's dust bowl and depression-era westward migration
- Local roadways eclipsed by the Interstate Highway System
- Development of a nostalgia/tourism industry

The appearance of Route 66 on the American scene coincided with unparalleled economic strife and global instability, yet it hastened the most comprehensive westward movement and economic growth in the Unites States history.

The cultural product which made Route 66 a household number was John Steinbeck's 1939 novel of dust bowl migrants, *The Grapes of Wrath.* As every reference source reminds the reader, Steinbeck declared Route 66 the "mother road, the road of flight".

Route 66 allowed an estimated 500,000 Depression and Dust Bowl refugees to chase their American Dream west, mirroring the covered wagons of a few generations earlier.

Both migrations were major contributors to the development of the Union.

With full paving completed in 1938 on the eve of World War II, Route 66 was also particularly significant to the nation's war effort, allowing rapid mobilization to and from training bases in the west.

It acted as a military transport corridor moving troops and supplies from one military reservation to another.

Mohave County Historic Route 66 Importance

- ✓ Punctuates Historic Route 66 as the foremost example of lasting civil engineering impact on American culture and lifestyle and a forerunner to the modern interstate highway system.
- ✓ Exemplifies the evolution of water and rail to accessible, reliable highway transportation.
- ✓ Revels in its worldwide prominence as leading transportation attraction.

7. List of published references concerning this nomination.

- *Arizona Transportation History*, FHWA Report Number FHWA-AZ-11-660, December, 2011.
- *The National Old Trails Road* https://www.fhwa.dot.gov/infrastructure/trails.cfm
- https://www.historic66.com/
- https://en.wikipedia.org/wiki/U.S._Route_66
- https://en.wikipedia.org/wiki/Beale%27s_Wagon_Road
- https://www.amazon.com/Wagon-Road-Defiance-Colorado-River/dp/1376320835
- https://www.amazon.com/Route-66-Encyclopedia-Jim-Hinckley/dp/0760349487
- https://www.legendsofamerica.com/
- https://www.amazon.com/s?k=the+great+american+foot+race&hvadid=77859279487848&hvbmt=be&hvdev=c&hvqmt=e&tag=mh0b-20&ref=pd_sl_5u3vo3bc85_e
- https://www.roadtripusa.com/route-66/arizona/old-route-66-oatman/
- http://www.route66world.com/
- https://www.route66news.com/
- https://en.wikipedia.org/wiki/(Get_Your_Kicks_on)_Route_66
- https://en.wikipedia.org/wiki/Lincoln_Highway
- https://en.wikipedia.org/wiki/A5_road_(Great_Britain)
- https://en.wikipedia.org/wiki/California_State_Route_1
- https://www.fhwa.dot.gov/byways/byways/2489
- https://www.travelandleisure.com/slideshows/americas-most-iconic-drives?slide=113745#113745
- https://localwiki.org/kingman/Beale%27s_Wagon_Road

8. **A list of additional documentation in support of this nomination. (Please list all enclosed documents, publications, photographs and supporting historical evidence. Digital images and one 5" x 7" black and white glossy photo are required for publicity and presentation purposes.)**

- Exhibits A and B – Vicinity maps
- Exhibit C – A December 27, 1912 letter from Governor Hunt to Mohave County expressing support for the work of the Arizona Good Roads association
- Exhibit D – An April 19, 1912 letter to the Mohave County Board of Supervisors from the Prescott Auto Club supporting and urging construction of a Prescott-Kingman-Colorado River road
- Exhibit E – A January 30, 1914 letter from Lamar Cobb, the first State Engineer, to the Mohave County Board of Supervisors giving two steel road drags to the County "for use on the State road…"
- Exhibit F – An April 2, 1915 Budget Report by the Mohave County Engineer showing quarterly expenditure of $3,409.10 on this roadway segment
- Exhibit G – A Plat Map showing the alignment of this segment dated April, 1918
- Exhibit H – A map from Mohave County's 1920 Capital Roadway Plan showing this roadway segment (highlighted in yellow)
- Exhibit I – Mohave County Board of Supervisors Resolution 2020-023
- Exhibits J-N – Numerous photographs of this segment of Route 66

9. **The recommended citation for HHC consideration.**

Established on November 11, 1926, U.S. Route 66 once ran from Chicago, Illinois to Santa Monica, California. Route 66 was a primary route for the westward migration of hundreds of thousands of people during the Great Depression and Dust Bowl of the 1930s, as memorialized in song, literature, and film in "The Grapes of Wrath". Despite this period of great economic strife, Route 66 hastened the most comprehensive westward movement and economic growth in United States history.

The Mohave County stretch of Route 66 from Topock to McConnico was the steepest and most curving along the entire 2,448-mile length, and is also part of the longest remaining segment of Historic Route 66 still in use in its original configuration.

11. A statement of the owner's support of the nomination.

The Mohave County Board of Supervisors approved the enclosed Resolution 2020-023 (Exhibit I) in support of Historic Civil Engineering Landmark designation for this roadway.

If this nomination is approved for designation as a National Historic Civil Engineering Landmark by the Board of Direction of ASCE, we understand that the Section will have the major responsibility for the public presentation ceremony of the plaque and for plaque maintenance.

Chairman, Section History & Heritage Committee:

Julian Dresang

Section Secretary:

Jeff Swan

Section President:

Breanna Connelly

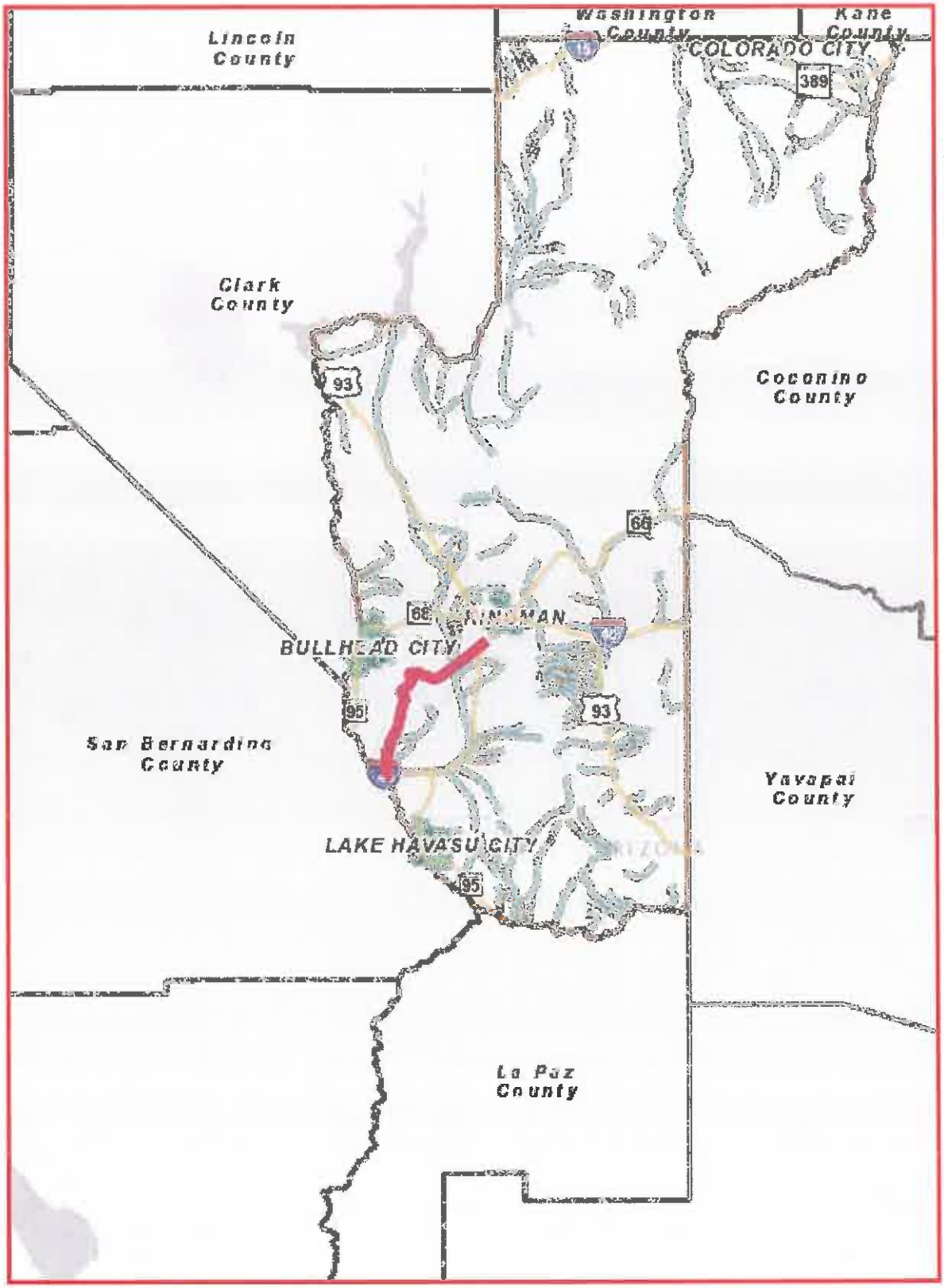
*Note: For State Historic Civil Engineering Landmark designation, the other Section presidents from the state should sign the nomination form or concur with the nomination in writing. If all Sections affected by the nomination agree on dedicating this landmark, the nominating Section should inform the HHC of their decision and send one (1) copy of the nomination package to the staff contact for the HHC.

Note: Designation by ASCE as a National Historic Civil Engineering Landmark carries no legal commitment on the part of ASCE, the owner or the governmental jurisdiction in which it is located.

EXHIBITS A-G

gis.mohavecounty.us

Mohave County Public Works



Legend

- City Limits
- Township/Range
- Named Washes

Exhibit A

1: 2,541,484

N W E S

0 211,790. 423,580. Feet

(approximate scale)

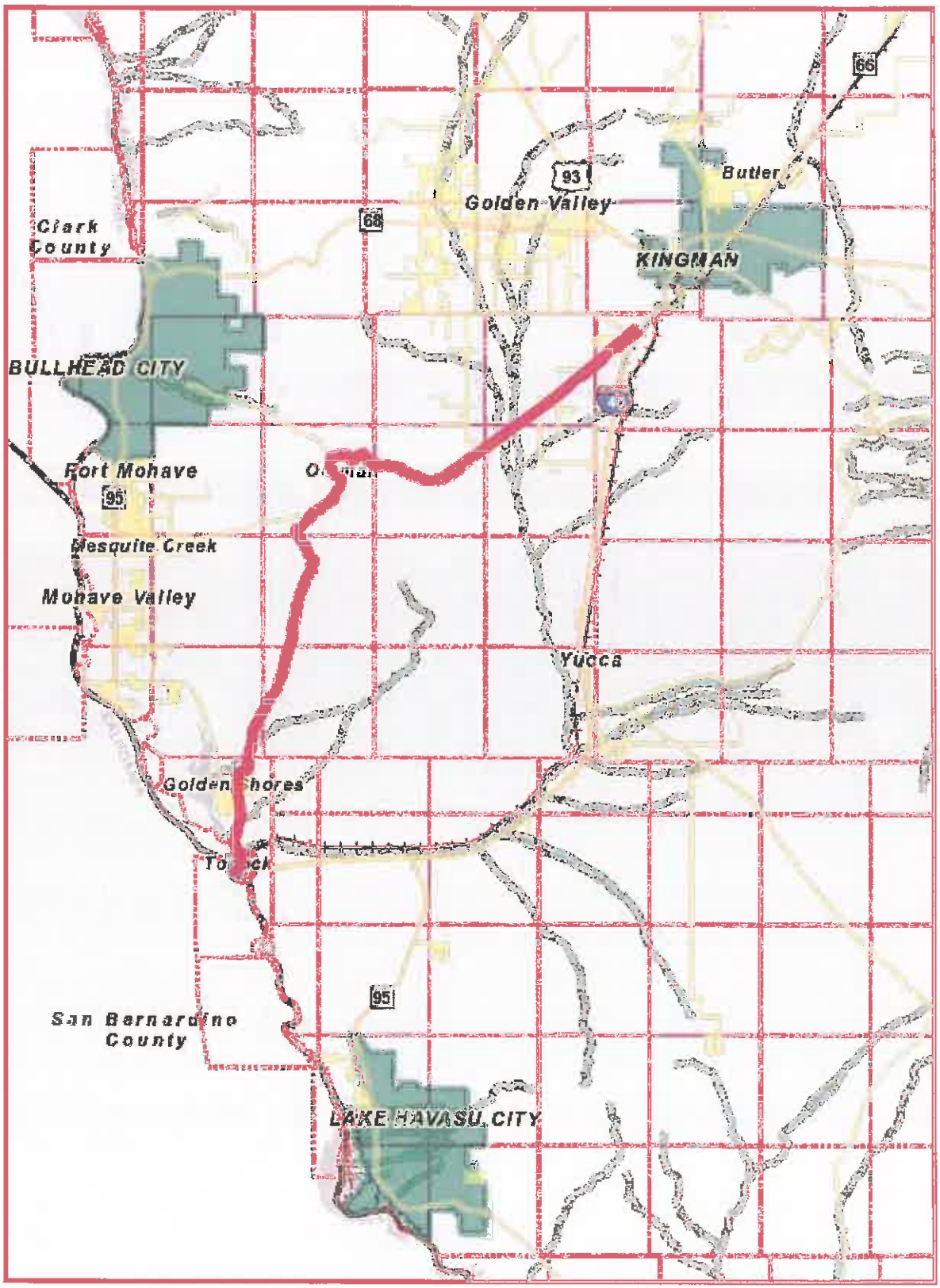
Map Created: 1/22/2020

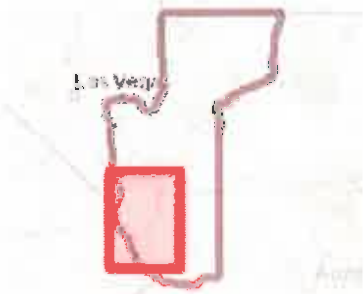
Notes:

HISTORIC ROUTE 66 IN MOHAVE COUNTY, ARIZONA

gis.mohavecounty.us

Mohave County Public Works





Legend

- Collectors
- Railroad
- City Limits
- Township/Range
- Named Washes

Exhibit B

1: 635,371

N W E S

0 52,947.5 105,895. Feet

(approximate scale)

Map Created: 1/22/2020

Notes:

HISTORIC ROUTE 66 IN MOHAVE COUNTY, ARIZONA

Exhibit C

The Governor's Office

STATE HOUSE

PHOENIX

December 27, 1912.

My dear Mr. Morgan:

The Arizona Good Roads Association has arranged for a series of lectures by a government engineer in all the counties of the State, during January, on the subject of "Roads in Arizona."

I regard this as a most practical idea, and one which will result in material benefit. The suggestion that each county set aside $50 for expenses in connection has my approval. I am sure that co-operation of your Board of Supervisors with the Association will greatly advance the cause of good road building.

Sincerely yours,

Geo. W. P. Hunt

Governor of Arizona.

Mr. J. W. Morgan, Clerk,

Board of Supervisors,

Kingman, Arizona.

OFFICE OF THE

BOARD OF SUPERVISORS OF MOHAVE COUNTY

STATE OF ARIZONA

JOHN C. POTTS, CHAIRMAN
Kingman, Arizona
W. K. RIDENOUR, Oatman, Arizona
J. S. WITHERS, Kingman, Arizona

Exhibit D

C O P Y

PRESCOTT
Kingman, Arizona, [illegible] 19 12

To the Honorable

The Board of Supervisors,

Mohave County, Arizona.

Gentlemen:

At a meeting of the Prescott Auto Club held on the 11th.,inst., a resolution was adopted most strongly favoring the early construction of the proposed road between Prescott and Kingman, this Club believing that such a road would not only prove of great and immediate benefit to Mohave and Yavapai Counties, but that its construction will practically compel the Trans-continental Highway to accept the northern route across Arizona, and to adopt this road as a part of it. This is so because of the many advantages this route enjoys over any possible southern route. Many automobilists and others who have tried both routes concur in this view, notably Mr. Kilby, field representative of the American Automobile Association, and Mr. H.L.Graves, the Pacific Coast representative of the Ford Motor Company. But in any event it will greatly stimulate the influx of tourists and sight seers. So that, aside from the substantial benefit of our local road patrons, much money may reasonably be expected to be spent in both Counties by visitors who will be attracted here on account of the good roads.

It is understood by this Club that the Supervisors of Mohave and Yavapai Counties have already practically agreed to build this road, to a common point on the boundary line. The Board of Yavapai County proposes, as we understand it, to commence at a point on the Prescott-Ash Fork road near Pattison's ranch, thence westerly to

OFFICE OF THE

BOARD OF SUPERVISORS OF MOHAVE COUNTY

STATE OF ARIZONA

JOHN C. POTTS, CHAIRMAN
Kingman, Arizona
W. K. RIDENOUR, Oatman, Arizona
J. S. WITHERS, Kingman, Arizona

Kingman, Arizona, ... 19

Seligman, thence south of the railroad to the Mohave line through an easy country for road work. We understand that Mohave County proposes to build from this point to Kingman via Hackberry, and that the road can heasily be laid out so that both counties will avoid expense of building through Truxton Canyon. The Club also understands that Mohave County proposes to extend this road beyond Kingman to some convenient crossing on the Colorado River.

This road is certain to become at once one of the most important and valuable in the west. It gives Mohave County an outlet to all eastern points, and, through Prescott, to Phoenix and the south. It gives Prescott an outlet through Kingman to California and to the mining districts of Mohave County.

As this Club is advised, this road could be built very cheaply, and considering how greatly it will benefit the citizens of both counties, and especially Kingman and Prescott, this Club feels warranted in assuming to recommend to the Supervisors of both counties its early construction, and pledge its aid and support in every honorable way.

Very respectfully
PRESCOTT AUTO CLUB,

By, [illegible] Clark
Secretary.

LAMAR COBB
STATE ENGINEER

8-012

T. F. NICHOLS
OFFICE ENGINEER
E. P. ADAMS
CHIEF CLERK

STATE OF ARIZONA
OFFICE OF
STATE ENGINEER
PHOENIX

Exhibit E

Jan. 30, 1914.

Board of Supervisors,
Kingman, Arizona.

Gentlemen:-

I have ordered two Prairie 2-Blade adjustable steel road drags, weight 250# each, for use on the State road in your County. These drags have been ordered shipped as follows:-

1 to Kingman, Arizona

1 " Yucca, "

Bills of lading enclosed herewith.

Yours very truly,

Lamar Cobb

State Engr.

C/M

P. S. In order that no charges may accumulate on the drags, please arrange to have taken out of station promptly.

OFFICE OF
COUNTY ENGINEER
MOHAVE COUNTY
GEORGE A. BEEBE, County Engineer
KINGMAN, ARIZONA

Exhibit F

Kingman, Arizona. April 2, 1915.

To The Hon. Board of Supervisors,
Mohave County, Arizona.

Gentlemen : - I have the honor to submit the following statement showing amounts expended on roads in the various districts, compiled from the records of this office Jan. 1st to March 31st, 1915.

Jan.	Goldroad District No. 1	Kingman to Oatman,	$420.25	
Feb.	Goldroad	Kingman to Oatman,	1273.50	
		Oatman to River,	366.35	
Mch. 1st to 27th,		Kingman to Oatman,	1349.00	
		Total,	$3409.10	$3409.10

Sandy District No. 2 , consolidated.

Jan. & Feb.		Cane Springs to lower Sandy,	757.25	
March,		Round Valley to Cane Springs,	63.00	
		Frosts Ranch to Round Valley,	686.75	
	New road,	State Highway to Frosts Ranch,	413.25	
		Surveying Round Valley & Windmill,	62.25	
		Total,	$1982.50	$1982.50

Old Trails District No. 3

March,		Section State Highway, repairs,	25.00	
		Kingman to Berry, dragging,	50.00	
		Louise to Walapai, grading,	184.00	
		Hackberry work, no record,	?	
		Total,	259.00	

Chloride District No. 4.

March.		Cerbat to Chloride, old White Hills road, repairs,	435.00	$435.00

Kingman District No. 5

March.		Ditching and filling, streets,	476.85	$476.85

Stockton Hill District, Special,

March.		Repairs, Kingman to Stockton Hill,	210.80	210.80
				$6505.25
		Total expense as per office records,		
		Total expense for month of March,		$3955.15

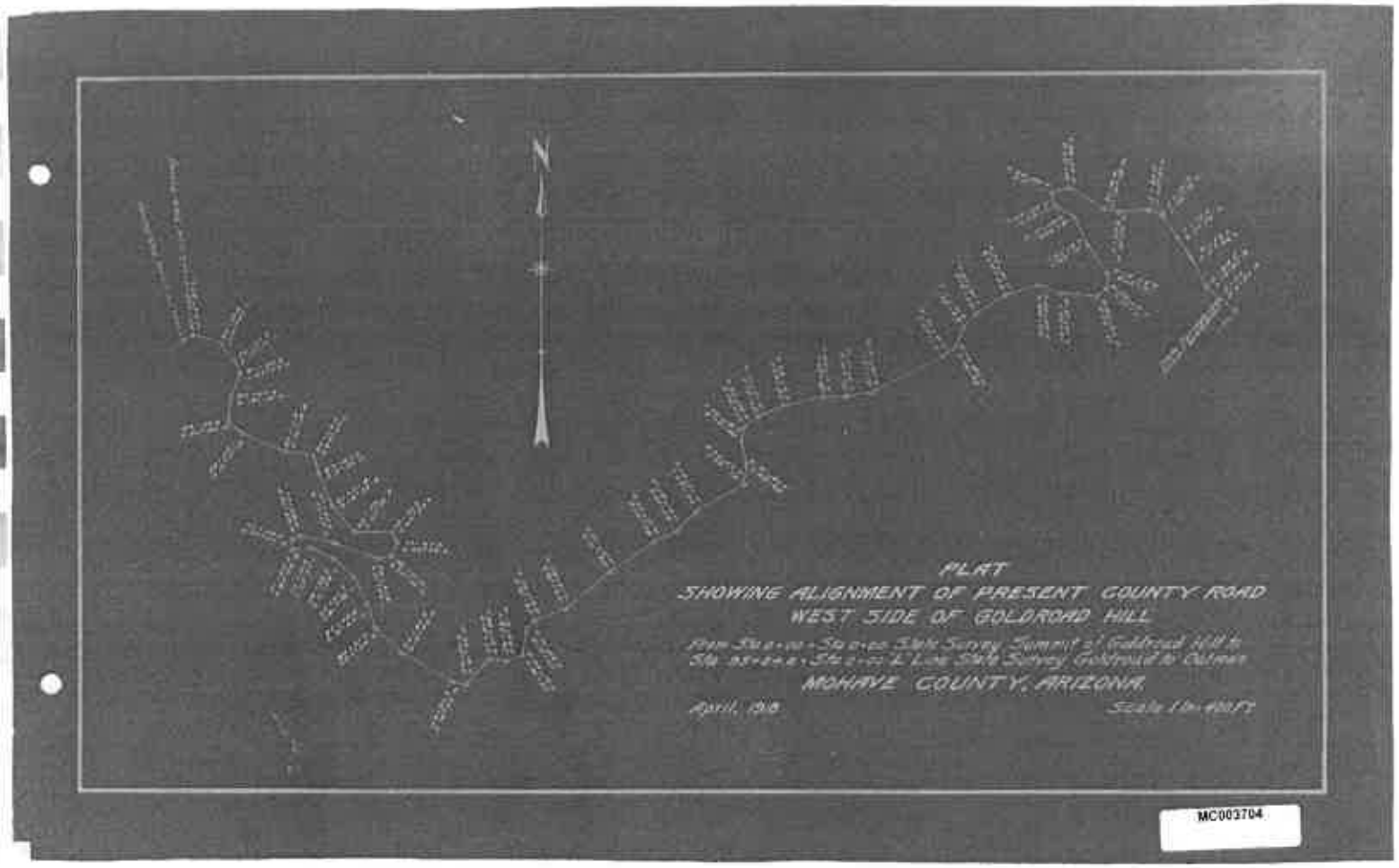
Before the end of April I will have completed the records to date, and be able to furnish and exact statement. It is my pleasure to report all main roads in fair condition, and the work of repairs and construction is progressing rapidly.

Most respectfully,

J. B. Wright

County Engineer.

Exhibit G


N
PLAT
SHOWING ALIGNMENT OF PRESENT COUNTY ROAD
WEST SIDE OF GOLDROAD HILL
MOHAVE COUNTY, ARIZONA
April, 1918
Scale 1 in. = 400 Ft.
MC003704

OFFICE OF THE BOARD OF SUPERVISORS OF MOHAVE COUNTY, STATE OF ARIZONA.

Kingman, April 14, 1920.

Pursuant to recess of April 5th, 1920, the Board of Supervisors of Mohave County, State of Arizona met this day at ten o'clock A. M.in regular session. Present: GEO. B AYERS, Chairman; A. M. MacDUFFEE, Member and J. S. WITHERS, Clerk. Absent: L. H. FOSTER, Member.

Election heretofore called for April 6, 1920, for the issuance of Road and Hospital Bonds of this County not having been held, because of certain irregularities, the new report of the Mohave County Highway Commission, ordered March 19th, 1920, was this day submitted, filed and ordered published as required by law, said report with map attached being as follows to-wit:

REPORT OF THE MOHAVE COUNTY HIGHWAY COMMISSION
TO THE HONORABLE BOARD OF SUPERVISORS
OF MOHAVE COUNTY, STATE OF ARIZONA.

In compliance with the requirements of Chapter 31, of the Session Laws of Arizona, Regular Session 1917, and of the acts supplementary thereof and amendatory thereto, we the regularly appointed, and duly qualified members of the Mohave County Highway Commission do hereby report as follows:

After diligent and thorough investigation of the condition of the public Highways of the County generally, and of the necessity or desirability of the construction of any new public highways this Commission has caused to be prepared a map marked Exhibit "A", which is attached hereto, and made a part of this report, showing the location and connections of such public highways of this County, as in the judgment of this Commission the greatest public necessity and convenience required to be constructed, reconstructed or improved.

This Commission hereby estimates the cost of this construction, reconstruction or improvement to be the sum of THREE HUNDRED THOUSAND ($300,000.00) DOLLARS. (exclusive of State or Federal Aid), and has for convenience divided the highway system into Nine Units, the estimated cost of improvements in each unit being as follows:

UNIT A. Roads North of the Colorado River comprising Littlefield, Wolfhole, and Short Creek Sections.

LITTLEFIELD SECTION: The road from the Nevada State Line to the Utah State Line is to be relocated and permanently constructed, with proper provision for drainage, on that portion involving the present heavy grades, same to be surfaced with suitable material where necessary.

WOLFHOLE SECTION: The road from the Utah State Line to the vicinity of Brink's Ranch is to be generally improved, with suitable provision for drainage.

SHORT CREEK SECTION: The road from the Utah State Line to Cane Beds is to be improved by surfacing with suitable material such portions as are necessary, and a bridge is to be constructed across Short Creek.

APPROXIMATE ESTIMATE $21,700.00

UNIT B. Comprising the following roads: Chloride to Searchlight Ferry, Chloride to Pierce Ferry, Chloride to Union Station, from Chloride-Kingman road to Mineral Park, from Chloride-Kingman road to Cerbat, Union Pass to Union Station.

CHLORIDE TO SEAL ... re-located in part with specia ... the mountain grade widened a ... ith suitable culverts or forda ...

CHLORIDE TO PIE ... y's share of the cost of bui ... ver FORTY THOUSAND ($40,000.00) DOLLARS will be ... from the bond issue.

Exhibit H

CHLORIDE TO UNION STATION: The present road will be improved by substantial drainage structures.

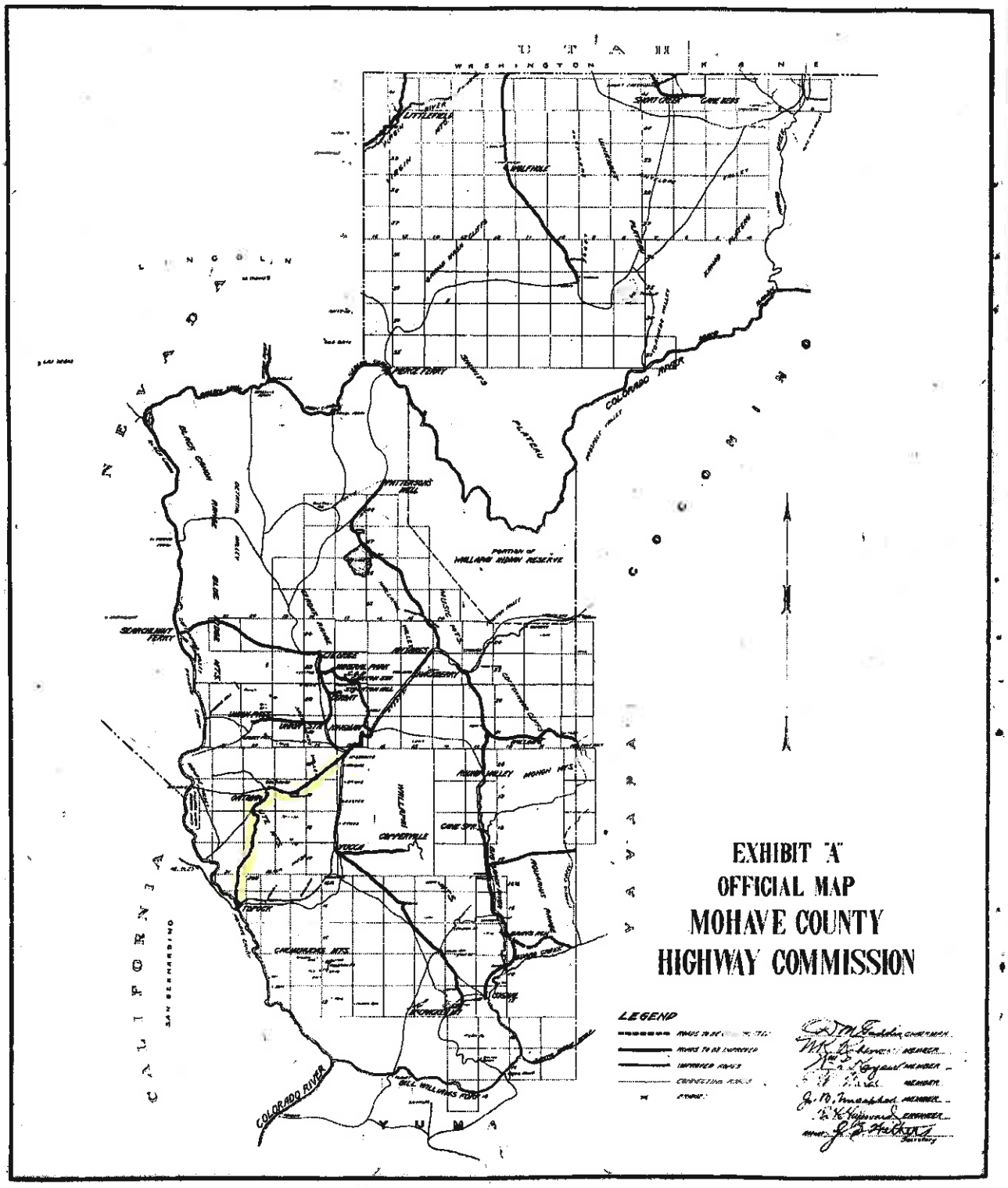
CHLORIDE-KINGMAN ROAD TO MINERAL PARK: This road to be relocated with special attention to drainage, and reconstructed in a permanent manner.

CHLORIDE-KINGMAN ROAD TO CERBAT: The present road to be repaired in a manner to avoid present sandy portions and to improve drainage conditions.

UNION PASS TO UNION STATION: From a point near the Frisco Mine to Union Station, this road will be practically relocated and newly constructed to avoid the present heavy grades and unsuitable road material. Special attention will be paid to drainage. Culverts will be installed where possible, and suitable fords provided.

APPROXIMATE ESTIMATE $88,400.00

UNIT C. Road from Kingman to C. O. D. Mine via Stockton Hill. This



When recorded please mail to:
Mohave County
Clerk of the Board of Supervisors
PO Box 7000
Kingman, AZ 86402
928.753.0731

Exhibit I

RESOLUTION NO. 2020-023

Supporting an application to the American Society of Civil Engineers to designate Historic Route 66 in Mohave County, from Topock to McConnico, as a Historic Civil Engineering Landmark

WHEREAS, Mohave County maintains approximately 48 miles of Historic Route 66 between Topock and McConnico pursuant to A.R.S. §28-6705; and

WHEREAS, this length of Historic Route 66 was constructed from 1916 to 1926, and is part of the longest continuous stretch of Route 66 left in all eight Route 66 states; and

WHEREAS, for decades Route 66 has inspired writers, filmmakers, photographers and artists, including John Steinbeck who proclaimed it the "Mother Road"; and

WHEREAS, the American Society of Civil Engineers recognizes historically significant local, national, and international civil engineering projects through its' . Historic Civil Engineering Landmark Program; and

WHEREAS, through dedications, physical plaques, and an online public registry this program increases public appreciation of civil engineering contributions to the progress of society, encourages the preservation of significant historic civil engineering works, and fosters the inclusion of civil engineering landmark information in encyclopedias, guidebooks, and maps; and.

WHEREAS, Historic Route 66 from Topock to McConnico is a significant, historical Civil Engineering project worthy of said recognition; and

WHEREAS, said recognition brings credit and recognition to Mohave County and furthers the County's efforts to promote historical-based tourism,

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors as of this date expresses its' support for submission of an application to the American Society of Civil Engineers to designate Historic Route 66 in Mohave County, from Topock to McConnico, as a Historic Civil Engineering Landmark.

APPROVED AND ADOPTED by the Mohave County Board of Supervisors on this 3rd day of February, 2020.

MOHAVE COUNTY BOARD OF SUPERVISORS

Jean Bishop, Chairman

ATTEST:

Ginny Anderson, Clerk of the Board

BOARD OF SUPERVISORS MOHAVE CO. ARIZONA
DITAT DEUS

Exhibit J

Exhibit K

Exhibit L

Exhibit M

Exhibit N

Appendix C
Additional Information on Roadway Development in Each State

Illinois

Route 66 in Illinois – General Background
Illinois was the first state to have its entire section of route 66 completely hard-surfaced. In 1918, Illinois voters approved a $60 million bond issuance to finance the construction of approximately 4,800 miles of hard road state highways.

At the 1919 annual meeting of AASHO, Anson E. Marston, dean and director of the engineering department at Iowa State College, and later President of ASCE in 1929, presented a plan to the State highway officials: “The country is about to spend untold billions of dollars in the construction of paved roads. Yet there is a very serious lack of the fundamental scientific data which are absolutely essential to the correct design and construction of paved roads.”

AASHO responded by influencing construction of the Bates Experimental Road near Springfield to investigate important factors involved in the rational design of pavement surfaces. Clifford Older, Chief Engineer of the Illinois Highway Department, published the results of this study in the 1924 Transactions of ASCE as Paper No. 1546, entitled, "Highway Research in Illinois", and in Bulletin No. 18 of the State of Illinois.

Building on the success of the 2018 bond issue, an additional $100 million in bonds was approved in 1924. By the end of 1926, all of the $60 million State Bond Issue for road construction had been contracted, and SR4, renamed to Route 66, was paved from Chicago to East St. Louis.

Over the next several decades, the legacy of the Bates road test eventually extended well beyond the borders of Illinois. As one of the best-documented initiatives of its kind during that era, the Bates Road Test helped set the stage for larger-scale efforts that were also undertaken to assess the most optimal materials and designs for the development of long-lasting roads. These efforts included several loading tests on concrete pavement that were conducted by the U.S. Bureau of Public Roads in the 1930's. A later road test in 1958 to 1960 by AASHO in Ottawa, Illinois, established design parameters for roads and bridges on the Interstate system.

References for the above General Background may be found via the following links
International Society for Concrete Pavements - Bates Road Test
Sangamon County Historical Society - Bates Experimental Road
Illinois Division of Highways on the Bates Experimental Road project
Modern highways got start in Sangamon County
International Society for Concrete Pavements - AASHO Road Test - Ottawa, IL, 1958-1960 AASHO Road Test
Historical Concrete Pavement Explorer - AASHO Road Test - Ottawa, IL
Flexible Pavement Design - State of the Practice, National Center for Asphalt Technology
National Park Service - Illinois Road Segments

Additional references for Illinois may be found via the following links

- Bates Experimental Road - Illinois Highway Department - 1922
- ASCE Transactions 1924 - Highway Research in Illinois - Clifford Older, Chief Highway Engineer
- Illinois Route 66 Corridor Management Plan Illinois Route 66 Heritage Project
- Road Construction in Illinois - Frank T. Sheets, Chief Highway Engineer - Bluebook of Illinois 1927-1928
- Surface Oiling of Earth Roads - B.H. Piepmeier, Maintenance Engineer, Illinois State Highway Department, 1915
- Manual On Road Construction - B.H. Piepmeier, Engineer of Construction, Illinois Division of Highways, 1921
- Highway Officials of Illinois in 1917 - Illinois Highway Improvement Association
- Brick Paved Segments of Route 66 - The Route 66.com
- Illinois Highway Improvement Bluebook 1919 - Illinois Highway Improvement Association
- Historic Drawbridges on Route 66 - (Various authors)
- Route 66 in Madison County - By Cheryl Eichar Jett
- Database of Historic Bridges in Illinois - By Jim Ross

Key Professionals related to Illinois roadway development may be found via the following links

- Anson E. Marston
- Arthur Newell Talbot
- Harold M. Westergaard
- Clifford Older
- Samuel Ellsworth Bradt
- Frank T. Sheets
- B.H. Piepmeier
- Ernst Lieberman - Chief Highway Engineer in 1938 (Biography not available)
- Raymond F. Dawson

Missouri

Route 66 in Missouri – General Background
At the beginning of the twentieth century practically all of Missouri's roads were dirt roads haphazardly maintained by county governments and local township road overseers.

In 1907, a series of new state laws sought to improve roads at the county level. Legislation that year established the office of State Highway Engineer within the State Board of Agriculture; provided for county highway engineers; required automobile licensing and registration; and created a state road fund of $500,000 for new construction or road improvements, distributed among the counties according to their assessed valuations. The first State Highway Engineer, Curtis Hill, had a largely advisory capacity to the county highway engineers who, in 1908, organized themselves into the Highway Engineers Association of Missouri. Additional legislation in 1909 reestablished the road fund on a permanent basis. That year Hill classified only 5,000 miles of roadways as "improved" out of the 110,000 miles of roads across the state. Additional legislation in 1909 reestablished the road fund on a permanent basis.

In 1913, the Missouri General Assembly replaced the State Highway Engineer with a State Highway Commissioner and Deputy Commissioner, and created the Missouri State Highway Department, relieving the State Board of Agriculture of its responsibilities in matters of road construction and maintenance. The expanded duties of the new Highway Commissioner, Colonel Frank W. Buffum, and Deputy Commissioner W. S. Hawkins, included devising specifications and design plans for road construction, including "standard gauge roads" which would be designated by a given name or number.

In March 1917, he Missouri General Assembly passed the Hawes Road Law, which strengthened the role of the Missouri State Highway Department, placing it under the authority of a four-member State Highway Board. The board appointed Graham, as State Highway Engineer, who began outlining the state road system. Graham's proposed system of 5,000 miles connected all of the counties and the larger population centers, and the plan remained the foundation of Missouri's road system.

The McCullough-Morgan Act of March 1919 amended the Hawes Law by providing for a Highway Superintendent who would generally oversee the State Highway Department operations and serve as secretary to the State Highway Board. John M. Malang, who had overseen construction of the first concrete road on the state highway system, Federal Aid Project No. 2 from Webb City to the Kansas state line, became the new Highway Superintendent. In 1920, Superintendent Malang, Governor Frederick Gardner, and the Missouri Good Roads Federation spearheaded an intensive campaign for a $60 million state bond issue to "Lift Missouri Out of the Mud." The bond issue passed in November 1920 in sixty-one of the 114 counties.

The Centennial Road Law of 1921, designed to implement the 1920 bond issue, created a four-member Missouri State Highway Commission with broadened powers to locate, design, construct, and maintain the state highway system, let contracts, and purchase rights of way. The commission was authorized to appoint a Secretary to the Commission, a Chief Counsel, and the Chief Engineer, and reinstated Alexander W. Graham as Chief Engineer.

During 1922, the new Missouri State Highway Commission began its work in constructing the state highway system as mandated by the Centennial Road Law, and began by hiring Rollen J. Windrow as a consulting engineer. On June 1, 1922, Bion H. Piepmeier replaced Alexander Graham as Chief Engineer, who with Windrow completed the study of the primary

road system, which, when constructed, would connect twenty-six cities, serving 91 percent of Missouri's urban population and half of the state's total population.

In 1926, the Missouri State Highway Commission published and printed 600,000 copies of its state highway map with Route 14 from St. Louis to Joplin and Route 1F from Joplin to Kansas labeled as US 60. This was unacceptable to Governor William H. Fields of Kentucky, since route numbers ending in "0" were supposed to run in an East/West direction.

The Executive Committee of The Joint Board of Interstate Highways then agreed to assign "62" to the Chicago to Los Angeles route and "60" to the route through Kentucky, but this was unacceptable to Illinois, Missouri, and Oklahoma.

On April 30, 1926, Cyrus Avery, Highway Commissioner from Oklahoma, B.H. Piepmeier, Chief Engineer of the Missouri Highway Department, and John M. Page, Oklahoma's Chief Highway Engineer, met in Springfield, Missouri, in an attempt to resolve the issue. Page noticed that the number "66" had not been assigned to any route. Avery and Piepmeier immediately sent a telegram to FHWA Chief MacDonald: "We prefer sixty six to sixty two."

Thus, Route 66 was born, becoming an iconic road that would stretch across multiple states and capture the imagination of travelers for decades to come.

References for the above General Background may be found via the following links

A History of the Missouri State Highway Department, Davis C. Austin and Thomas J. Gubbels
Historic Preservation Section, Design Division, Missouri Department of Transportation

From Names to Numbers: The Origins of The U.S. Highway System", Richard F. Weingroff, Federal Highway Administration

Birthplace of Route 66 Springfield, MO, C.H. Skip Curtis, Curtis Enterprises, 424 S. National, Springfield, MO 65802

Additional references for Missouri may be found via the following links

- **The History of Route 66 in Missouri - It All Started Here - Springfield Missouri Convention & Visitors Bureau**
- **Route 66: Missouri - National Park Service**
- **History of Route 66 in Missouri - By Joe Sonderman, The Route 66 Association of Missouri**
- **Excerpts from the Missouri Corridor Management Plan - Great River Associates**
- **St. Louis County - Great River Associates**
- **Roads and Their Builders - The Missouri State Highway Commission**
- **The Centennial Road Law of 1921 - 2023 Old Settlers Gazette**
- **A History of the Missouri State Highway Department - David C. Austin and Thomas J. Gubbels, Missouri Department of Transportation**
- **1943 History of the Missouri State Highway Department - H.B. Dickey, The Missouri State Highway Department**
- **Missouri Highways - The Years Between - Missouri State Highway Commission**
- **Serving Missouri's Transportion Needs For 75 Years - The Missouri Highway and Transportation Commission**
- **Commission Members, Chief Engineers, Secretaries to the Commission, and Chief Counsels - The Missouri Highway and Transportation Commission**
- **Database of Historic Bridges in Missouri - Jim Ross**

Key Professionals related to Missouri roadway development may be found via the following links

In September, 1906, the Missouri State Board of Agriculture sponsored a good roads convention in Chillicothe to consider the question of a better system for road construction and maintenance in the State. Attendance included 200 appointed delegates and 4,000 to 5,000 people. During the convention three miles of improved dirt road were constructed for a prize of $200. At the conclusion of the convention, among several resolutions adopted, the first was to recommend to the State legislature the creation of the office of State Highway Engineer under the jurisdiction of the State Board of Agriculture. As a result of that convention the following engineers or other professionals were a few that figured prominently in the formative years of Missouri's state highway system leading to the creation of U.S. Highway 66.

Curtis Hill Missouri's First State Highway Engineer, 1907-1913
Frank W. Buffum Highway Commissioner 1913-1917
Frederick D. Gardner Governor of Missouri 1917 - 1921
Alexander W. Graham State Highway Engineer 1917-1922
Harry Hawes Author of Hawes Road Law of 1917
J.G. Morgan Co-author McCullough-Morgan Law of 1919
Theodore Gary Highway Commissioner 1921 - 1926
B.H. Piepmeier State Highway Engineer 1922-1927
Rolen J. Windrow Consulting Engineer 1922 - circa 1927
Leif J. Sverdrup Engineer of Bridges 1924 - 1928
John M. Malang Highay Superintendent 1924 - 1928
Thomas H. Cutler State Highway Engineer 1927 - 1936
Norman R. Sack Engineer of Bridges 1928 - 1942
Carl W. Brown State Highway Engineer 1936 - 1951
Rex Whitton State Highway Engineer, President of AASHTO, FHWA Administrator

Reference

A History of the Missouri State Highway Department David C. Austin and Thomas J. Gubbels, Historic Preservation Section, Design Division, Missouri Department of Transportation

Kansas

Route 66 in Kansas – General Background

The first Kansas road laws were enacted in 1855 at a meeting of the free-state assembly in Topeka, Kansas. One of these allowed for the establishment of territorial roads. Beyond designating these routes, however, territorial government took little responsibility. The law stipulated that no territorial funds could be applied to pay for territorial roads. The general road law gave authority for establishing roads to "the tribunal transacting county business," which could approve or deny petitions by twelve householders for opening new roads. While the commissioners were given the power to "lay out, alter, or discontinue any road," they could do nothing until they had received a petition.

Road overseers, appointed in each district by the county commissioners, would supervise construction and maintenance by work crews made up of male residents 16 to 45, each of whom were legally obligated to the district for one month of road work. The law also established the first body of standards and specifications for construction by requiring that wetlands and streams be bridged, so long as no bridge cost more than $50. Roadways could be no less than twenty feet in width and no more than forty feet wide. Provisions for road construction enacted by the territorial legislatures became the basis for the states' road laws in its constitution when Kansas was admitted to statehood on January 29, 1861. The constitution sealed the state treasury against road construction by providing that "the state shall never be a party to carrying on any works of internal improvements." These laws remained the system by which Kansans acquired their highways until the next century. From 1875 to 1900 few state roads were established and little change was made in the laws or system of management, except that the township was made the unit instead of the county.

In 1909, The Kansas Legislature created the Office of County Engineer and authorized the Board of County Commissioners of each county to appoint a county engineer to supervise county road and bridge work. Also in 1909 the extension service of Kansas State Agricultural College, which later became Kansas State University, appointed W.S. Gearhart as Extension Highway Engineer to advise the county engineers on road matters. In 1911, The Legislature created the Office of State Highway Engineer to serve the counties, and Gearhart was designated as State Engineer, in which position he served until April, 1919. The Kansas Legislature also created a road classification system consisting of state, county, mail, and township roads. State roads were defined by the Legislature; county roads were designated by county commissioners; free delivery mail routes were roads not designated as state or county roads; and township roads were designated as all other public highways within a township. County and state roads were maintained at the expense of the county; mail route and township roads were maintained by township overseers.

The State Highway Commission was created in 1917 and consisted of three members: the governor, who was the ex officio chairman; and two members appointed by him or her from districts defined by law. They served four-year terms. The commission was repealed in 1925 and was recreated consisting of three members appointed by the governor from named districts for four-year terms. The commission from their own membership selected the chairman. In 1927, the membership of the commission was increased to six and the commission appointed a director on the recommendation of the governor, serving at his or her pleasure. Provision was made in the 1929 Laws for the Commission to establish rules and regulations governing the transaction of their business. In August of 1975, the State Highway Commission of Kansas became the Kansas Department of Transportation.

In 1920, faced with the loss of federal funds because of the lack of state control, Kansas voters passed a "good roads" amendment allowing state aid to counties for roads. The counties and townships still controlled the road system, an arrangement that violated federal law. In 1928, $2 million per year of federal aid for Kansas roads was stopped because

the state would not fund a state highway system. In that year, Governor Ben Paulen borrowed money from Topeka banks to pay for the State Highway Commission and called a special session of the legislature to propose a constitutional amendment removing all obstacles to establishing a statewide highway network. In 1929, after passage of the amendment, Kansas joined the other 47 states and the state began building and maintaining a system of cross-state highways.

Additional references for Kansas may be found via the following links

- **Kansas Department of Transportation - District 4: Southeast Area District Offices**
- **Kansas Historic Route 66 Byway receives state designation - Kansas Department of Transportation**
- **Rainbow Bridge - Wikipedia**
- **Rainbow Bridge - National Register Nomination**
- **Rainbow Bridge Celebrates 100 Years - Fernanda Silva**
- **James Barney Marsh - Kansas Historical Society**
- **J.B. Marsh Arch Bridge Patent - Google Patent Images**
- **Kansas Route 66 Historic District-East Galena - National Register Nomination Form**
- **Kansas Route 66 Historic District – North Baxter Springs - National Register Nomination Form**
- **Baxter Springs, Kansas - Wikipedia**
- **Baxter Springs Heritage Center & Museum - Baxter Springs Heritage Center & Museum**
- **Baxter Springs as a military post - Kansas Historical Society**
- **Fort Baxter,Kansas - Wikipedia**
- **Galena, Kansas - The Route 66.com**
- **Riverton, Kansas - Wikipedia**

Key Professionals related to Kansas roadway development may be found via the following links

- **State Highway Engineers 1917 to 1975**
- **State Highway Commissioners 1917 to 1975**
- **Advisory State Highway Commissioners 1917 to 1975**
- **Directors of the State Highway Commission 1917 to 1975**
- **K-DOT State Transportation Engineer 1975 to 1983**

Oklahoma

Route 66 in Oklahoma – General Background
Route 66 has been the path of migrants, dreamers, desperados, and an entire generation of vacationers discovering the way west. It was crafted into an American cultural icon by both its builders and its people, whose ingenuity and imagination brought to its history the character by which that era of travel is now defined. It is a ribbon of road, a TV show, a song, a book, and a post card. It is a collection of cozy motor courts, outlandish roadside attractions, and small town boulevards splashed with pulsing neon. Popularly referred to as The Main Street of America or The Will Rogers Highway, US 66 has come to symbolize the essence of going somewhere. It is history, it is legend, and above all, it is undying.

America's Mother Road, all of this and more, originally meandered more than 2,400 miles between Chicago and Los Angeles, including nearly 400 miles across Oklahoma. And while officially it no longer exists, a great deal of it remains to be driven, experienced, and enjoyed. Indeed, US 66, the road of dreams, is alive and well.

Because Route 66 was in a state of continual change from its beginning in 1926 until its de-certification in 1985, correctly identifying some of the alignments within its myriad of pathways now presents a challenge, even for seasoned enthusiasts or researchers. The process becomes further complicated when considering that many surviving sections of Route 66 were converted to county or state highways, or lie behind fences on private land. Additionally, many more stretches were completely obliterated; especially those in the path of limited access interstates built as the Mother Road's replacement.

Efforts to document unverified or suspected Route 66 alignments today often involves using a variety of resources, such as reference books, newspaper and magazine articles, vintage maps, old postcards, museum archives, aerial photographs, and transportation department documents, particularly construction plans or related project data. While some sources are better than others, most require corroboration. On-site inspection is also imperative.

Most vital to this process, however, is the availability of public records, as official documentation is virtually irrefutable and often eliminates the need for further research. It is this critical need that makes A Construction History of U.S. Route 66 in Oklahoma an invaluable publication.

By Jim Ross
Route 66 historian and author of "Oklahoma Route 66"
Taken from the forward of **DIRT ROAD TO "PAVED MAIN STREET OF AMERICA: A CONSTRUCTION HISTORY OF US ROUTE 66 IN OKLAHOMA"**

Additional references for Oklahoma may be found via the following links

Route 66: Oklahoma - National Park Service
A Chronology of the Construction History of Route 66 in Oklahoma - Oklahoma Department of Transportation, Planning & Research Division
History of Route 66 and Oklahoma City - City of Oklahoma City
Route 66 in Oklahoma City Historic Context Project Report - Blanton & Associates
Oklahoma Department of Transportation - Wikipedia
The Encyclopedia of Oklahoma History and Culture *Route 66* - Oklahoma Historical Society

Route 66 in Oklahoma: An Historic Context Review - **Oklahoma Historical Society**
Route 66 Construction History - **Oklahoma Department of Transportation, Planning & Research Division**
Upcoming Route 66 centennial to celebrate best of the Mother Road - **Oklahoma Department of Transportation**
Oklahoma's Memorial Highways & Bridges on Route 66 - **Oklahoma Department of Transportation**
Oklahoma Route 66 Corridor Management Plan - **TransSystems/Jacobs Carter Burgess**
Excerpts from Oklahoma Route 66 Corridor Management Plan - **TransSystems/Jacobs Carter Burgess**
Database of Historic Bridges in Oklahoma - **Jim Ross**
PhD Thesis
Oklahoma's Highways: Indian Trails to Urban Expressways **William Paul Corbett, PhD Thesis, Oklahoma State University, 1982**

Key Professionals related to Oklahoma roadway development may be found via the following links
Biographical information on individuals who were involved in the design and construction of Route 66 in Oklahoma is difficult to find.

The Oklahoma Historical Society's Encyclopedia of Oklahoma History and Culture lists only Sydney Suggs, who was appointed by Gov. Lee Cruce in 1911 as Oklahoma's first Highway Commissioner, and Cyrus Stevens Avery, who served as a state highway commissioner under Gov. Martin Trapp, from 1922 through 1926.

John M. Page was chief engineer of the Oklahoma Highway Department in 1926, when U.S. Highway 66 was officially numbered. Avery had campaigned to name the route from Chicago to Santa Monica as U.S. 60, but after months of controversy within the Joint Board of Interstate Highways, at a meeting in Springfield, Missouri, with Avery and Bion Piepmeier, Missouri's chief engineer, Page suggested the number 66, which was accepted by all participants in the naming of U.S. highways. No biographical Information for Page was found in a diligent web search.

The Encyclopedia of Oklahoma History and Culture pages on Suggs and Avery can be accessed at:

Sydney Suggs https://www.okhistory.org/publications/enc/entry?entry=SU004

Cyrus Stevens Avery https://www.okhistory.org/publications/enc/entry?entryname=CYRUS%20STEVENS%20AVERY

When Oklahoma was admitted to statehood in 1907, the state constitution established a framework for a highway department, but did not give the department any authority to oversee road construction, leaving this function to the counties and townships. The new highway department could only disburse funds for construction when these were available and to promote cooperation of local authorities as to routes, methods, and materials of highway construction. No changes came in this control procedure until the federal government passed the Federal Aid Road Act of 1916. In 1917 the Oklahoma legislature appropriated its first matching funds to obtain federal highway money, but the highway department still had no authority to oversee the construction of roads. Local authorities still made all decisions about the spending of funds.

In 1921 Congress modified the Federal Highway Act of 1916, calling for a system of interstate highways and advising states that if they wished to continue sharing in federal revenue they would have to designate specifically up to 7 percent of their roads to receive this aid. Oklahoma did not immediately respond to the new federal program owing to the desire to continue the local control system.

Not until 1924 did the state finally pass legislation reorganizing the state highway department, giving the state highway department the power to construct roads throughout the state and to maintain these to federal standards where necessary. By the end of 1924 the state highway department was finally in a position with funding and specific powers to build a viable state highway system. By that time, a number of Federal Aid projects on the roads that were to become U.S. Highway 66 had been completed by the counties in which the roads were located. (Oklahoma Transportation: Construction History of Route 66 https://www.odot.org/memorial/route66/route66const-hist.htm

Reference:

ROUTE 66 IN OKLAHOMA: AN HISTORIC PRESERVATION SURVEY

Texas

Route 66 in Texas – General Background

The Texas Highway Department, re-named Texas Department of Transportation in 1991, was established in 1917 by act of the Thirty-fifth Legislature and was originally charged with the primary responsibility of granting financial aid to counties for highway construction and maintenance. The act provided for a three-member Commission having the authority to appoint a State Highway Engineer. At the Commission's first meeting on June 4, 1917, George A. Duren was appointed to that position, in which he served until 1919. (Biographical sketches of Texas Highway Department chief engineers are listed below in the Key Professionals section.)

The Commission proposed that an 8,865 mile network of state highways be built. They published a map of the proposed system in June, 1917, which became the basis for the future Texas highway system, (the future Route 66, which followed a branch of the Ozarks Trail is labeled "13"), but few roads were actually constructed before the 1920's. In 1924, Gibb Gilchrist was appointed State Highway Engineer, having served as district engineer in both San Antonio and San Angelo. He resigned in 1925 when Miriam A. (Ma) Ferguson became Governor. A quick succession of five men held the department's executive post from 1925-1928. Gilchrist returned to serve from 1928 until 1937, when he left to become dean of engineering (and later, university dean) at Texas A&M University. It was during this period that the most significant progress was made in building the state highway system, and U.S. Route 66 was hard-surfaced across the state.

In 1927, DeWitt C. Greer joined the Texas Highway Department as an instrument man. He worked in various roles, including acting district engineer and later district engineer in the Tyler district. In 1936, he moved to Austin to head the department’s division of construction and design. In 1940, Greer became the state highway engineer and served in that role for 27 years. He retired from the Department in 1967, but continued to serve the state of Texas as a Highway Commissioner from 1969 to 1981. During his tenure, the Texas highway system expanded significantly.

The Texas Department of Transportation's Headquarters building in Austin, completed in 1933, is named the Dewitt C. Greer State Highway Building in his honor.

References for the above General Background may be found via the following links

Minutes of the Meeting of the State Highway Department June 4, 1917
Highway Department Records at the Texas State Archives, 1920s-1930s, 1962-1975
Texas Transportation Commission - Former Commissioners
Dewitt C. Greer State Highway Building

Additional references for Texas may be found via the following links

- Historic Texas Highway Program **Texas Historical Commission**
- Historic Texas Sign Management Report **Texas Historical Commission**
- Route 66 through Texas Historic Resouces Survey 2005 **Texas Historical Commission**
- Route 66 in Texas Survey Report 2018 **Texas Historical Commission**
- Route 66 Historic Resources Survey Manual **Texas Historical Commission**
- Transportation Related Reasearch Resources **Texas Historical Commission**
- Texas Highway Development **Texas State Historical Association**
- Handbook of Texas, Texas State Historical Association **Texas State Historical Association**

Texas Department of Transportation **Home Page**

Dirt Roads to Diverging Diamonds: A Century of Transportation in Texas **Texas Highways Magazine**

Good Roads for Texas: A History of the Texas Highway Department, 1917-1947 **John David Huddleston, PhD Thesis, Texas A&M University**

Texas and the Good Roads Movement: 1895 TO 1948 **Karl Edward Wallace III, Masters Thesis, University Texas, Arlington**

Texas Timeline **Texas Highways Magazine**

Database of Historic Bridges in Texas **Jim Ross**

Key Professionals related to Texas roadway development may be found via the following links

Texas Highway Department Chief Highway Engineers 1917 to 1985
(Names of chief engineers who influenced the development of Route 66 are highlighted and link to biographical sketches of those engineers.)

1. George A. Duren, **First Chief Highway Engineer, June 4, 1917 - May 19, 1919**
2. Rollin Joe Windrow, **May 20, 1919 - February 15, 1922.**
3. **J. D. Fauntleroy, February 16, 1922 - March 3, 1924.**
4. Gibb Gilchrist, **March 4, 1924 - February 15, 1925**
5. **J. Hank, February 16, 1925 - January 14, 1926.**
6. **W. P. Kemper, (acting), January 15, 1926 - February 28, 1926.**
7. **A. C. Love, March 1, 1926 - December 31, 1926.**
8. **Doak Rainey (acting), January 1, 1927 - January 31, 1927.**
9. **A. Thompson, February 1, 1927 - January 25, 1928.**
10. Gibb Gilchrist, **January 26, 1928 - September 30, 1937.**
11. Julian Montgomery, **October 1, 1937 - June 30, 1940.**
12. Dewitt Carlock Greer, **July 1, 1940 -January 31, 1968.**
13. James Colin Dingwall, **February 1, 1968 - January 31, 1973.**
14. Bannister Luther DeBerry, **February 1, 1973 - June 30, 1980.**
15. Marquis G. Goode, **Jr., July1, 1980 - August 31, 1986**

New Mexico

Route 66 in New Mexico – General Background

Route 66 was started in New Mexico in August of 1926 on existing roadways. The 506 mile distance across the state included passing over 4 major rivers, the continental divide at an elevation of 7250 ft., and seven Native American Reservations.

Politicians and Civil Engineers sought improvements and constructed a shortcut between Santa Rosa and Albuquerque in 1926 under difficult conditions and saved 90 miles. An additional shortcut from Albuquerque to Laguna was authorized late in 1926 to save another 17 miles.

These two shortcuts were officially incorporated into Route 66 in 1937, in the same year that the route was completely paved across the state.

Engineering features of the shortcut were that two bridges had to be constructed in flood plains that needed special features in the designs, and an underpass had to be constructed so that Route 66 travel would safely pass under the Atchinson, Topeka, and Santa Fe Railroad.

Additional references for New Mexico may be found via the following links

- **Introduction to Route 66 Nomination in New Mexico - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Publications Related to Santa Rosa-Laguna Short Cut of Route 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Historic Route 66 in Albuquerque, New Mexico - Visit Albuquerque**
- **New Mexico Office of the State Engineer - University of New Mexico Digital Repository**
- **New Mexico Enters Sisterhood of States - Albuquerque Historical Society**
- **Source Documents Index - Albuquerque Historical Society**
- **Central Avenue Bridge Became a Part of Route 66 History - La Ćronica de Nuevo México - Historical Society of New Mexico**
- **Central Avenue Bridge Designated as a Historic Landmark - City of Albuquerque Planning Department**
- **New Mexico Road Segments - National Park Service**
- **New Mexico Historic Bridge Survey - Webmaster**
- **History of Albuquerque's Central Avenue - Robert Wood et al.**
- **INTRODUCTION TO NEW MEXICO SECTION OF NHCEL NOMINATION FOR ROUTE 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **DRAFT CENTRAL AVENUE BRIDGE NOMINATION - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Clyde Tingley and the Rerouting of Route 66 - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **INTERSECTION THAT SYMBOLIZES MAJOR CHANGES TO ALBUQUERQUE - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **DRAFT SANTA ROSA-LAGUNA SHORTCUT NOMINATION - Roger Zimmerman, P.E., PhD, Life Member ASCE**
- **Database of Historic Bridges in New Mexico - Jim Ross**

Key Professionals related to New Mexico roadway development are listed below.

Key Civil Engineers and Other New Mexico Professionals

Civil Engineers

E. B Bail, F. ASCE

- Project Manager for Santa Rosa Cut-off construction in December 1926.
- Northwest District Engineer in NM State Highway Department- January 1, 1925 to January 1, 1927.
- Documented construction of cut-off from Santa Rosa to Moriarty in December 1926.
- Worked in New Mexico Highway Department until 1957.
- Chose Burton G. Dwyer, F. ASCE, and Sam Fulton, Las Vegas District Maintenance Superintendent (References later) as team leaders for the two construction crews for the Santa Rosa Cut-off.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
ASCE Member search.

James A. French, M. ASCE

- State Engineer 1912-1918.
- State Highway Engineer 1922-1926.
- Responsible for selection of new Federal Highways in New Mexico that were initiated in December of 1925 and officially commissioned in August of 1926. Route 66 was announced in August of 1926.
- Responsible for creating US 470 from Willard, NM through Moriarty to Barton, Tijeras, and Albuquerque from 1926-1931.
- Passed away suddenly in October of 1926 on one of his highways near Encino, NM.

Reference:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico; "
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.

Sam Fulton, Las Vegas District Maintenance Superintendent (1926)

- Team Leader for NM 6 construction from Santa Rosa to Palma.

Reference:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.

W. C. Davidson

- State Highway Engineer 1927-1931.
- Was involved in removal of US 470 and inauguration of US 366 and NM 41.
- Was highway department administrator for design and construction of Central Avenue Bridge over the Rio Grande in 1930.
- Was involved in negotiations for Re-alignment of Route 66 along Santa Rosa-Laguna Shortcut in 1931.

Reference:

Communications from Special Collections Library.

Frank Kimball, M. ASCE

- Northwest District Engineer in NM State Highway Department, January 3, 1927- April 1931.
- Accepted Santa Rosa Cut-off on first day on the job on January 3, 1927.
- Was responsible for Central Avenue Bridge Construction in 1930.

- Was responsible for new Laguna Cut-off construction from the Central Avenue Bridge.
- Was City of Albuquerque Engineer from 1920-1927.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Healy Succeeds Dave Thornburg, Clovis Evening News Journal, Clovis, New Mexico, April 13, 1931.
ASCE Member Search.

W. R. Eccles

- State Highway Engineer, 1932-1933.
- Administrator when Rio Puerco Bridge was constructed.

Reference:

Internet

G. D. Macy, M. ASCE

- State Highway Engineer, 1934.

Reference:

Internet and ASCE Member search.

Grover Conroy, M. ASCE

- State Highway Engineer, 1935-1938.
- Was involved in final paving of the newly aligned Route 66 in 1937.
- Was the highway administrator when Route 66 was formally aligned over the Santa Rosa-Laguna Shortcut in 1937.

Reference:

Internet and ASCE Member search.

Burton G. Dwyre, F. ASCE

- Grant County Engineer 1920-1935.
- Was on loan from Grant County to be Team Leader for Santa Rosa Cut-off construction in December 1926.
- Dwyer's segment of the Santa Rosa Cut-off required 27 miles of construction over virgin land.
- State Highway Engineer 1939-1952. (Appointed by Governor Clyde Tingley).
- State president of New Mexico Section of ASCE in 1940.

References:

Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Obituary: January 13, 1992.

Engel Bert Van de Greyn

- Central Avenue Bridge Designer, 1930.
- Designed Don Gaspar Bridge in Santa Fe.

Reference:

NM State Highway Department drawings for Bridge 1557 (Central Avenue Bridge).

F. D. Shufflebarger

- Builder of Rio Puerco Bridge, which was designed by Kansas City Structural Steel Company.

Reference:

Citation for listing in National Register of Historic Places.

W. W. Kelly, M. ASCE

- Central Avenue Underpass Chief Engineer for Western Lines of A. T. & S. F. Railway Co.
- AT. & S. F. engineer responsible for design of Central Avenue Underpass for N. M. Highway Department.

References:

General Plan; The A. T. & S. F. Ry. Co, Western Line, Railroad and Track Provisions, Albuquerque, New Mexico, May 12, 1936.
ASCE Member search.

<u>Other New Mexico Professionals</u>

A. T. Hannett

- Mayor of Gallup, NM 1918-1922.
- Member of New Mexico Highway Commission 1923-1924.
- Governor of New Mexico 1925-1927.
- Signed NM Legislature Bill on March 19, 1925, that created NM 6 as a new route that went west from Santa Rosa to intersect the road going through Moriarty to Albuquerque.
- Authorized Santa Rosa Cut-off (NM 6) construction in November 1926 after not being reelected.
- Overspent Highway Maintenance Funds to finance Santa Rosa Cut-off construction.

References:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.
Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.
Hannett, A. T., "Sage Brush Lawyer" Pageant, 1964.
Kammer, David, "Route 66 through New Mexico: Re-survey Report;" Santa Fe New Mexico
Historic Preservation Division, Office of Cultural Affairs, March 2003.
Zimmerman, R. M.,"Rerouting Route 66 Through Tijeras Canyon." Memoirs of Roger Max
Zimmerman, Volume 5 Volunteer Activities, Library of Congress No. 2020922418; 2021.
5-Cent Gas Tax Passes, Hannett Administration Left Construction account $200,000 Over-drawn, Springer Says; Santa Fe New Mexican; Feb. 9, 1927.

Clyde Tingley

- Ex-officio Mayor of Albuquerque, 1922-1935.
- District 3 Highway Department Maintenance Superintendent 1923-1927.
- Wrote letter to Governor A. T. Hannett proposing Laguna Cut-off in June 1925.
- Governor of New Mexico 1935-1939.
- Got Federal WPA Funds to build Central Avenue Underpass, Tijeras Underpass, and Coal Avenue Viaduct in 1937.
- Was Governor when Route 66 was officially aligned from Santa Rosa to Laguna and paved across the state.

References:

Zimmerman, R. M. "Clyde Tingley and the Rerouting of Route 66," La Cronica de Nuevo Mexico,
Publication of the Historical Society of New Mexico, Issue No. 115, Fall 2021.
Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.

Letter from Clyde Tingley to Governor A. T. Hannett; Commission of Public Records, State Records Center and Archives; June 9, 1925.

Charles Springer

- Chairman of State Highway Commission 1919-1931. Served on commission from 1917-1931.
- Chairman of State Highway Commission that approved Laguna Cut-of December 29, 1926 while the Santa Rosa Cut-off was being completed.
- Authored two pieces of NM Legislation which laid the foundation for the state's entire road system.
- Springer wanted to tax gasoline for road building purposes and to issue short term debentures for road building instead of bonding the state.
- Worked to use over-expenditure of highway maintenance funds in 1926 to pay for Santa Rosa Cut-off construction.
- Got NM Gas Tax raised in 1927 to have more money for highways.
- Chairman of State Highway Commission when U S 470 was decommissioned and U S 366 from Moriarty to Albuquerque, NM was created in 1931. Also, NM 41 was created to go from Willard through Moriarty to Galisteo, NM.
- Chairman of State Highway Commission when the US Bureau of Roads officially accepted the Santa Rosa-Laguna Shortcut as the new alignment for Route 66 in 1931. This allowed federal funds to be spent on the shortened Route 66 across New Mexico.
- As a Republican, he served as State Highway Commission Chairman under Republican and Democratic Administrations.

References:

State Highway Commission Minutes -1925-1932; NM Department of Transportation.
5-Cent Gas Tax Passes, Hannett Administration Left Construction account $200,000 Over-drawn, Springer Says; Santa Fe New Mexican; Feb. 9, 1927.
Obituary: Clovis New Mexico Evening News Journal, Clovis, NM. February 12, 1932.

Richard C. Dillon

- Grew up in Springer, NM.
- Ran a store in Encino, NM.
- Was a New Mexico State Senator from 1924-1927.
- Served two-terms as Governor of New Mexico 1927-1931.
- As new Governor, accepted Santa Rosa Cut-off as shortened route from Santa Rosa to Moriarty on January 3, 1927.
- Approved state construction of Central Avenue Bridge over the Rio Grande in 1930.
- Supported Federal government decision in 1931 to realign Route 66 along the Santa Rosa-Laguna Shortcut.
- Set stage for construction of Rio Puerco Bridge in 1933 using Federal Highway funds.
- Did not follow tradition of firing highway department workers on Santa Rosa Cut-off after change of New Mexico Governor's Administration.

Reference:

Kammer, David, "Historic and Architectural Resources of Route 66 Through New Mexico;"
National Register of Historic Places, US Department of the Interior, National Park Service, August 1993.
Bail, E. B.," New Mexico-U. S 66 Albuquerque's Golden Road," NM Professional Engineer, July-August 1952.

Arizona

Route 66 in Arizona – General Background

Road-building in Arizona leading to the adoption of the alignment for Route 66 began with the appointment of Arizona Territory's first, and only, Territorial Engineer in 1909, James Bell Girand, who developed the plan for the state's first system of highways. When Arizona was admitted to statehood in 1912 the Office of the Territorial Engineer was redesignated as the Office of State Engineer with two-year terms for the designated State Engineers, who continued the development of the state highway system until 1927, when the Arizona Highway Department was created. The Biennial Report of each State Engineer from 1912 to 1926 is included in the Arizona References.

Additional references for Arizona may be found via the following links

- **Good Roads Everywhere A History of Road Building in Arizona - Arizona Department of Transportation**
- **Arizona Transportation History - Arizona Department of Transportation**
- **Beale's Report to the Secretary of War**
- **Beale's Wagon Road - Wikipedia**
- **Report of the State Engineer 1909-1914**
- **Second Biennial Report of the State Engineer 1914-1916**
- **Third Biennial Report of the State Engineer 1916-1918**
- **Fourth Biennial Report of the State Engineer 1918-1920**
- **Fifth Biennial Report of the State Engineer 1920-1922**
- **Sixth Biennial Report of the State Engineer 1922-1924**
- **Seventh Biennial Report of the State Engineer 1924-1926**
- **Cool Springs to Oatman - Road Trip USA**
- **National Scenic Byways & All-American Roads Arizona - Federal Highway Administration**
- **Map of Historic Route 66 Arizona Eastern Section - Federal Highway Administration**
- **Map of Historic Route 66 Arizona Western Section - Federal Highway Administration**
- **Arizona Route 66 Corridor Management Plan - Arizona Department of Transportation**
- **Database of Historic Bridges in Arizona - Jim Ross**

Key Professionals related to Arizona roadway development may be found via the following link

Route 66 in Arizona (route66nhcel.net)

California

Route 66 in California – General Background
In 1907, California legislators created the Division of Highways and in 1910, California voters approved an $18 million bond issue for the construction of a state highway system. The framers of the State Highway Act of 1909 contemplated that the State should construct two main or trunk roads throughout the length of the State, one along the coast and one through the Sacramento and San Joaquin valleys. The act specifically declared that these trunk lines were to be laid out by the "most direct and practicable routes," and that the county seats of such counties east or west of the said trunk lines were to be connected by laterals. On August 7, 1912, the California broke ground on its first highway construction project, the section of El Camino Real between South San Francisco and Burlingame with the intent to complete the main routes between San Diego, San Francisco and Sacramento in time for the Panama-Pacific International Exposition planned for 1915 in San Francisco, and the Panama–California Exposition, also planned for 1915 in San Diego.

Anticipating the need for road improvements across the Mojave Desert to accommodate traffic on the National Old Trails Road bound for the Panama Canal celebrations, the County of San Bernardino held a special election on Oct. 20, 1914, and voters approved surfacing the road 16 feet wide with crushed limestone aggregate and asphaltic binding from the crossing of the Colorado River at Topock, Arizona, to San Bernardino. The Chief Engineer, E. Q. Sullivan, of Division VIII, Division of Highways in San Bernardino, who drove the route in 1923 described it as two ruts in the sand and two rows of chuck holes in areas of hard ground; the trip taking over two days each way. The ravages of weather, wind, and traffic had totally obliterated the paving, except for a ten-mile stretch near Essex.

When it was designated as U.S. Highway 66 in 1926, the Division of Highways further improved the route with bridges across the many washes and upgraded the paving to a high-type asphaltic concrete surface. After it was decommissioned on June 27, 1985, the route from Topock to San Bernardino was taken over by the County of San Bernardino. Currently, the County is rebuilding the bridges between Barstow and Needles, and much of the road is closed to traffic as described in the link below, "National Trails Highway – Route 66."

The Arroyo Seco Parkway from Los Angeles to Pasadena, California's first freeway, was marked as U.S. Highway 66 from the time it was opened to traffic on December 30, 1940, until October 19, 1963, when U.S. Highway 66 from Needles to Santa Monica was decertified by AASHTO. In 1999, the American Society of Civil Engineers designated the Parkway as a National Historic Civil Engineering Landmark, as described in the link below, labeled "Arroyo Seco Parkway."

The Colorado Street Bridge in Pasadena also carried U.S. Highway 66 until 1940, when U.S. 66 was re-routed to the Arroyo Seco Parkway. In 2013, the bridge's Centennial, as well as the Centennial of the Los Angeles Section of ASCE, the bridge was designated as an ASCE State Historic Civil Engineering Landmark, having been designated as a Local Historic Civil Engineering Landmark in 1974.

Only two segments of U.S. 66 remain as a California State highway; a 3.02-mile segment in the City of San Bernardino, and a 3.22-mile segment in the Cities of LaVerne, Pomona, and Claremont.

References for the above General Background may be found via the following links
An Introduction to the Panama-Pacific International Exposition California Historical Society
Panama Pacific International Exposition American Group West
About the Panama-California Exposition American Group

Key Decision Point Coming for the Panama Canal Center for Central & Economic Studies
National Trails Highway – Route 66 San Bernardino County Department of Public Works.
Arroyo Seco Parkway Los Angeles Section ASCE History & Heritage Committee
Colorado Street Bridge Los Angeles Section ASCE History & Heritage Committee
Old Trails Bridge Los Angeles Section ASCE History & Heritage Committee

Additional references for California may be found via the following links

- **U.S. Numbered Highway 66 in Los Angeles - by Jim Powell, Founder, Route 66 Association of Missouri**
- **National Trails Highway – Route 66 - San Bernardino County Department of Public Works**
- **California Route 66 Corridor Management Plan - California Historic Route 66 Association and the California Desert District of the Bureau of Land Management**
- **Arroyo Seco Parkway - California's First Freeway - ASCE Region 9 History & Heritage Committee**
- **Colorado Street Bridge - ASCE Region 9 History & Heritage Committee**
- **Old Trails Bridge - ASCE Region 9 History & Heritage Committee**
- **Cajon Pass - Wikipedia**
- **State Route 66 - cahighways.org**
- **National Trails Highway at 10 Bridges Project-Final EIR/EA - Caltrans/San Bernardino County**
- **Database of Historic Bridges in California - Jim Ross**

Key Professionals related to California roadway development may be found via the following links

- Austen B. Fletcher California's First Chief Highway Engineer, 1911 to 1923
- C.H. Purcell California's Chief Highway Engineer 1928 to 1942
- Spencer V. Cortelyou Division Chief, Division VII, California Division of Highways, 1915 to 1949
- E. Q. Sullivan Division Chief, Division VIII, California Division of Highways, 1923 to 1950