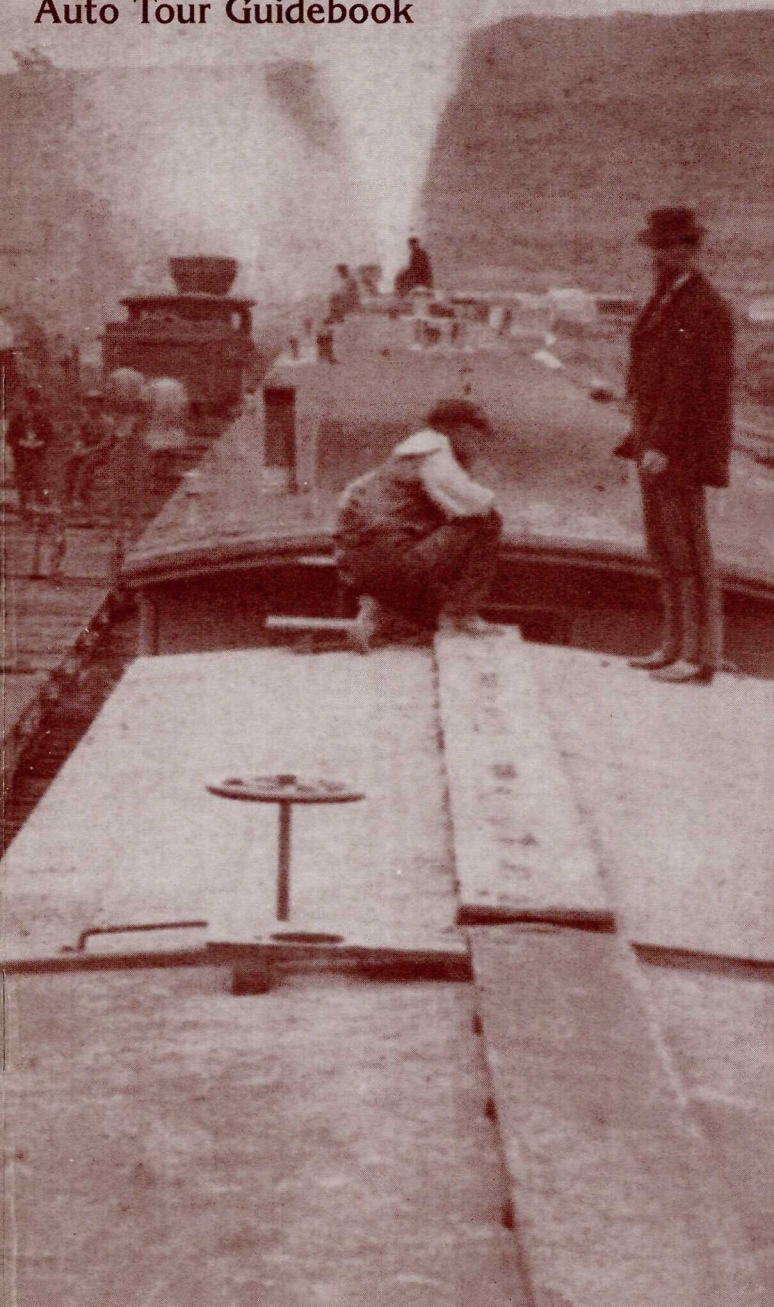


The Promontory Trail

Auto Tour Guidebook



West Tour

To Locomotive Springs

Site of Camp Victory

Begin West Grade Auto Tour

NORTH PROMONTORY MOUNTAINS

Kings Peak
5666ft
1727m

CENTRAL PACIFIC GRADE

UNION PACIFIC GRADE

"Ten Miles in One Day" sign

PROMONTORY HOLLOW

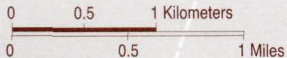
Locomotive "119"
(exhibited in summer)


Locomotive "Jupiter"
(exhibited in summer)


Visitor Center
Park Headquarters
4905ft
1495m

Locomotive Engine House



PROMONTORY MOUNTAINS



 Auto Tour Route —
one way, unpaved
(closed during snow)

 Unpaved road

 Golden Spike
National Historic
Site

 Ranger station
 Picnic area

 Restrooms
 Parking

Cover photo: Railroad Camp near Victory.
10 1/4 miles laid in one day.

By Alfred A. Hart (reverse image)

Courtesy: Barry A. Swackhamer

West Tour

If you wish to take the complete tour, turn right as you leave the Visitor Center parking area and follow the well-marked gravel road west eight miles to the start. A full tour will require about an hour and a half. Refer to the map on the inside front cover.

East Tour

If you prefer to take a shorter tour, turn left as you leave the parking area and begin with stop number 10 at the railroad crossing. This abbreviated tour will take approximately one half hour. Refer to the map inside the back cover.

For Your Safety

Both tours are on original 1860s railroad bed. Traffic is one-way only. Please do not block others taking the tour. Pull off at wide sections of the grade when stopping. Because the grade is narrow and often elevated, drivers should pay close attention to the road and travel at slow speeds.

Historic Preservation

Golden Spike National Historic Site was set aside by Congress to document and explain the importance and construction of the Nation's first transcontinental railroad. All historic artifacts, plants, animals, and natural objects are protected. If you find an object that may have historic significance, please leave it in place and tell a Ranger. The most valuable information is often not what was found, but where it was found.

Train Trivia

If you are taking the tour with children you may enjoy Train Trivia on the last page of this booklet. Ask the questions as you drive to the beginning of the tour route.

The Promontory Trail

A nineteenth century trip by train across an entire continent . . . imagine it!

You are riding on the newly completed transcontinental railroad. Four hours ago you passed into Utah from Nevada. With fascination you watch sagebrush and desert fly by.

Take a look at your fellow passengers. In the half-filled car an emigrant family converses excitedly in another language. Across the aisle are four soldiers in their natty blue uniforms. Behind you are a ferret-faced gambler, a dozing businessman, and two rough-looking characters whose piercing gaze encourages you to look elsewhere.

The windows are closed to keep out the soot and cinders that float back from the locomotive. But through the grimy pane your eye catches a glimpse of section hands leaning on their shovels. The emigrant children see them too, and press their noses against the windows and wave. In an instant, just before they disappear from view, one fellow raises his arm and waves back. You are one mile closer to Promontory.

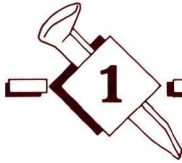


Typical passenger train of the 1870s.

That is how it might have appeared to you if you traveled across the West by rail. Today those rails are gone. So too, the cars and passengers who rode them. But you can re-live the ride to Promontory by driving the old transcontinental roadbed. As you do, please drive with caution. Open your senses to all that surrounds you. These same mountains echoed the locomotive's whistle over 130 years ago.

Now All Is Changed

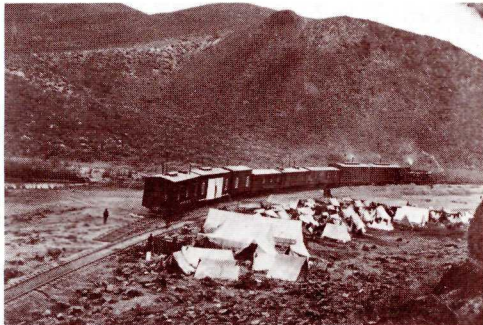
"A journey over the plains was a formidable undertaking that required great patience and endurance. Now all is changed," reported *Frank Leslie's Illustrated Newspaper* after the completion of the railroad. Early westward travelers had a choice of a six month passage by sailing ship around South America, a five to seven month walk alongside a wagon train, or a jarring twenty-four day ride in a stagecoach. Each option was expensive and dangerous. In 1870, for a first class fare of \$100, the passage between Omaha and Sacramento took just four and one half days in comparative comfort.



The Last Climb

In April 1869 Chinese laborers employed by the Central Pacific Railroad toiled on this stretch of railroad grade. Their hardest labors already lay as monuments behind them — in the crossing of the Sierra Nevada Mountains of California and the deserts of Nevada. These men welcomed the gentle, easy approaches to Promontory, from here only seven track miles away.

Travel with them as they work to a final meeting at Promontory. But don't go fast. Trains a century ago averaged speeds of only twenty miles per hour.



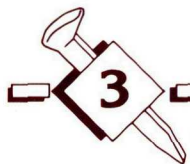
Chinese camp and dormitory train at end of track.



Parallel Grading

Notice the second grade on your right and the parallel cuts ahead. They are remnants of the great railroad race to Promontory. With huge land grants and government subsidies to be gained, both the Union Pacific and Central Pacific Railroads strained hard to build more track than the other. In 1864 Congress authorized each company to send graders up to 300 miles ahead of its end-of-track. Here in Utah, the Union Pacific and Central Pacific crews actually met and passed one another with roadbeds. The result was utter duplication of effort, with grades often running within sight of one another for miles. Congress finally stopped the wastefulness on April 10, 1869 by establishing Promontory Summit as the meeting place. Thereafter each company concentrated on reaching Promontory, the shallow valley ahead.

Time has not erased the extravagance of this effort. Evidence of this parallel grading is best preserved here at Golden Spike National Historic Site.



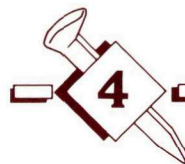
3

Cut and Fill

On your right is an example of making the most of the construction materials available. As cuts were cleared, the rock was conveniently used to fill in nearby low areas. In construction parlance this is known as "cut and fill" construction. This fill was abandoned when Union Pacific workers learned that Promontory was to be the meeting place and their end of track.



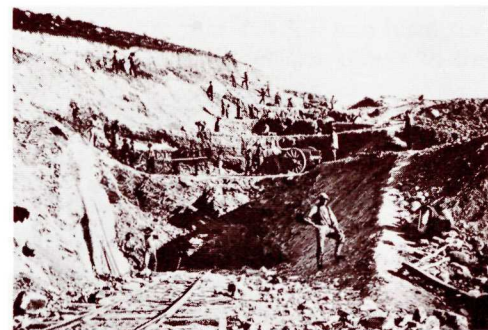
Mule drawn wagons carry debris from the "cut" in the foreground to the "fill" in the background.



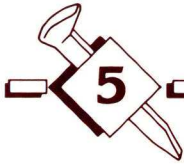
4

Stair-Step Cuts

Leave your coach here momentarily and take a closer look at the unfinished cut on your right. Please pull off to the left. Rock impasses like this were breached in stair-step fashion. Several crews worked on a cut, but from opposite sides and different levels. The result was a systematic and efficient method of removing rock.



This cut is attacked on five levels allowing each crew to stay clear of the others.



A Hand-Built Railroad

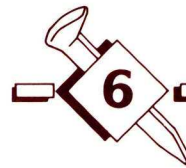
The long winding grade you are traveling and the Union Pacific grade on your right are testimony to the organization of the workers. Second Lieutenant Charles Currier, U.S. Infantry, one of the first men to travel on the completed transcontinental railroad, observed a fill like this under construction.



Railroad construction was labor intensive, with each worker assigned a specific job.

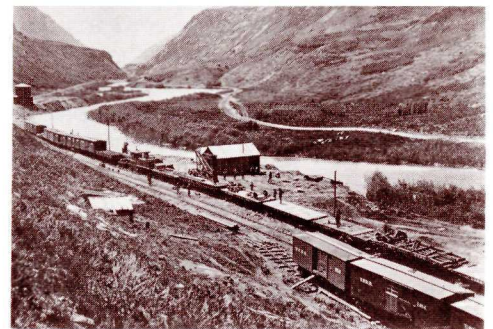
I can count five hundred men and one hundred fifty carts drawn by patient mules hauling dirt to grade the permanent track . . . there are plows, scrapers & etc. The mules are well trained; they climb up and down the bank, stop at the right place and wait till their load is dumped, then take their place in the line and go back to get another. They look like ants. The place is black with laborers; they stand as near together as they can shovel. It's a funny sight to see five hundred shovels going into the air at one time.

Do you see the rock culvert in the Union Pacific grade? This and others like it were laid without mortar in 1869 and have survived the years. Watch for others in the park.

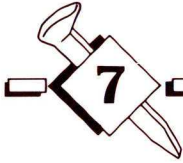


Sidings

The grade widens here. In later years a siding was constructed at this site so that trains traveling in opposite directions could pass. Lower priority trains, usually freights, were required to wait on a siding while higher priority trains, pulling passengers or mail, continued on. Sidings were built about every three to five miles along the route.



A work train waits on this siding in Echo Canyon, Utah Territory.



Ten Miles In One Day

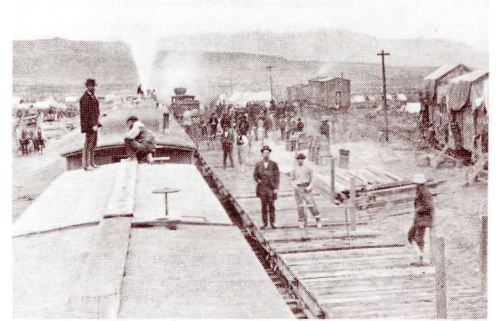
Here on April 28, 1869 the Central Pacific established a record that has never been equaled.

The Union Pacific once laid eight and one half miles of track in a single day and boasted that their feat could not be matched. Charles Crocker, Central Pacific construction superintendent, was determined to beat that record. He shrewdly waited until the distance between the two companies was so short that the Union Pacific could not try again.

A correspondent from the San Francisco *Evening Bulletin* described the event:

The scene is a most animated one. From the first pioneer to the last tamer, perhaps two miles, there is a thin line of 1,000 men advancing a mile an hour; the iron cars, with their living and iron freight, running up and down; mounted men galloping backward and forward. Far in the rear are trains of material, with four or five locomotives, and their water-tanks and cars. . . . Keeping pace with the track-layers was a telegraph construction party, hauling out, and hanging, and insulating the wire, and when the train of offices and houses stood still, connection was made with the operator's office, and the business of the road transacted. . . .

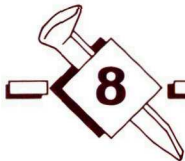
Ten miles, fifty-six feet of track were laid. It was an orchestration of humanity as magnificent as the Pacific Railroad effort itself.



By noon the Central Pacific laid six miles of track and stopped here at "Camp Victory" for lunch.

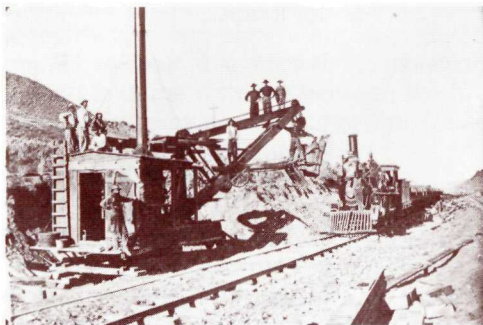
Iron Men

The iron rail used by the railroads came in twenty-eight foot sections and weighed fifty-six pounds per yard. Eight Central Pacific tracklayers, supported by hundreds of other workers, carried all of the rail on that record setting day. If each man carried his fair share he hefted 123 tons between sunrise and sunset. Relief tracklayers were standing by but the first crew was so proud of their work that a rest was not requested.



Gravel for Ballast

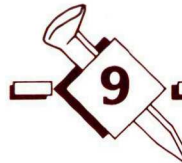
You are driving on a roadbed built of gravel "borrowed" from the large excavation on your left. Routine railroad maintenance regularly required new ballast or loose rocks that held ties in place and provided for drainage. Sources like this were of considerable importance to the railroads.



This steam shovel loads ballast to be placed elsewhere on the track.

The Humming Wires

The Nation's second transcontinental telegraph was built alongside the advancing rails. This gave the railroads instant communication with their headquarters in Sacramento and Omaha. The rest of the country eagerly followed the progress of each company as mileages were reported over the wires daily. The telegraph also gave dispatchers safer control over the two-way movements of trains on a single track.



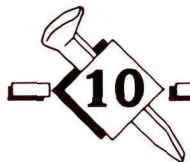
Approaching the Golden Spike

You are nearing Promontory Summit, just around the bend ahead. Imagine the jubilation felt by the thousands of workers as they laid track through here. They came 690 miles in nearly four years and the end was finally in sight.

The press praised the Central Pacific's efforts, but showed less favor for the Union Pacific workers laboring on the valley floor east of Promontory. One correspondent grumbled on May 7th:

We are completely paralyzed here at present, and waiting anxiously for the arrival of the Eastern people. Some dissatisfaction is felt at this prolonged delay, which compels us to sojourn in these regions longer than was expected.

Ahead you will leave the railroad grade and return to the main road. Stop number 10 is just beyond the Visitor Center.



An Unlikely Meeting Place

In the spring of 1869, with the Union Pacific already in Ogden and the Central Pacific closing in from just west of the Great Salt Lake, Congress and the two companies agreed to meet at a point equidistant between the two ends of track. Promontory Summit became the site for the Last Spike just by chance.

During 1869, both rail lines terminated here and travelers were obliged to change trains to complete their journey east or west. It was an inconvenient arrangement since there was no water for locomotives, horses, or people. An early description listed the amenities.

The town consists of a few tents, the ticket houses of both companies, their telegraph offices, hordes of grasshoppers, and swarms of sand fleas.

In early 1870, as part of an agreement between the companies, the terminus was moved to Ogden. As a result, trains no longer stopped regularly at Promontory and curious passengers only glimpsed the Last Spike Site as they rolled by.

Follow the signs 3 miles to the beginning of the East Tour. Refer to the map inside the back cover for the remainder of the tour.



These Central Pacific workers wait for the ceremony to begin.

One of four special spikes placed on May 10th.



An Embarrassing Delay

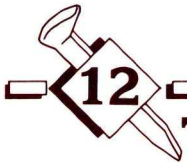
May 8, 1869 was the date agreed upon to complete the railroad. The Central Pacific dignitaries, led by railroad President Leland Stanford, arrived the evening of May 7th. Dr. Thomas Durant, Vice-President of the Union Pacific, wired ahead that his party was unavoidably delayed. What he did not say was that his train was chained to a siding in Piedmont, Wyoming Territory by his own contractors who had not been paid in over four months. Durant wired for enough money to pay the workers and the ceremony took place two days late on May 10th.



Union Pacific's Last Cut

Ironically, some of the most difficult work for the Union Pacific on their line from Nebraska to Utah, was here in these mountains, only a few miles from the completion site. A tortuous ten miles of track, with an average climb of eighty feet per mile, was laid from the valley floor to the summit of the pass. Included in the construction were four long fills, four major trestles, five sizeable rock cuts, and numerous culverts.

Leave your coach again and walk the one hundred and sixty-five yards to the long deep cut at the end of the path. This was Union Pacific's last major rock cut before reaching Promontory Summit. On the opposite side you can see how workers neatly stacked the rocks to keep debris out of the cut.



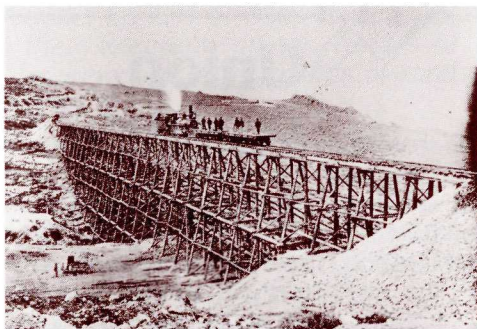
12

Trestles and Fills

Union Pacific crews began construction work in the Promontory Range much later than Central Pacific. Their belated start and the difficulty of the job required shortcuts wherever possible.

On the right, workmen trestled across this ravine rather than completing the fill as originally planned, and partially constructed. A culvert crew finished a lengthy stone waterway along the bottom of the ravine before the decision was made to build a trestle instead.

Central Pacific builders, on the other hand, were here through the harsh winter of 1868–69. They had more time and easily completed their fill across this same ravine.



Union Pacific locomotive "119" on the "Big Trestle."



13

Blasting

Deep rock cuts like this one required specialized labor, tools, and huge quantities of explosives. Cuts were started by two-man drilling teams called double jackers. One worker rotated a steel, chisel-like star drill while the other struck it with a sledge hammer. A good double-jack team could drill a thirty-inch-deep hole in an hour. Look carefully; many of these drill holes are still visible.

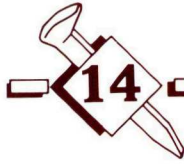
When drilling was completed, a powder monkey filled the holes with black powder and connected each hole with fuses. Once everyone was out of the way the charges were ignited.

A reporter from Salt Lake City's *Deseret Evening News* vividly described cutting here in the Promontorys.

Sharp & Young's blasters are jarring the earth every few minutes with their glycerine and powder, lifting whole ledges of lime stone rock from their long resting places, hurling them around. . . in every direction. Mr. T. E. Ricks showed me a boulder of three or four hundred pounds weight that was thrown over a half mile and completely buried itself in the ground within twenty yards of his cook room. I ate a hearty breakfast and left that spot sine dine.



Drilling crew with the tools of their trade.



14

Choosing a Route

The Great Salt Lake created a sizeable barrier to the railroad. The Union Pacific entered the valley from the east through Weber Canyon into Ogden. The choice then was to go around the lake either to the north or the south. Residents of Salt Lake City pressed the railroads for a southerly route, which would bring it right through town.

Planning engineers recognized geologic evidence that suggested the northern route. Look across the valley at the level benches on the hillsides. These are old shorelines left when the lake was deeper and larger. The railroads eventually chose the route around the north end so the line would not be endangered by rising lake waters. In view of the lake's recent fluctuations, do you think they made a wise choice?



Changing water levels of the Great Salt Lake.



15

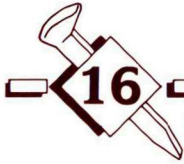
Natural Memorial

The limestone formation on your left, known as Chinaman's Arch, has become a memorial to the thousands of Chinese who helped build the transcontinental railroad. Labor was scarce in California. Chinese were first employed experimentally by the Central Pacific in 1865. They proved themselves excellent workers and soon the company recruited directly from China. By 1868, over 11,000 were employed on the railroad.

Many of the Chinese remained with the company after the race to Promontory ended. Travelers often noticed their tents along the transcontinental route. Apparently one such camp was here during the 1880s when this arch was given its special name.

Labor Shortage

Rapid construction of the railroad required a large work force. The pool of available laborers in California was not sufficient to do the job because most found mining more to their liking than the discipline of railroad work. The Central Pacific solved the problem by recruiting workers directly from China. The pay for the Chinese was the same as the other unskilled labor, about \$30 per month, but they provided their own food. After the Civil War labor was more readily available with Irish immigrants predominating.



16

The Steepest Grade

You are now descending the steepest mile of railroad in Utah. The Pacific Railroad Act of 1862, authorized construction and stipulated that grades were not to exceed 2.2% or 116 feet of elevation per mile. This stretch measures 1.7%, or 90 feet per mile, a hard pull for steam locomotives of the day. Yet, in the entire 1776 miles of the trancontinental railroad, the grade seldom exceeded 1.5%.

After the line was completed the Central Pacific stationed "helper" locomotives at the base of the grade to assist heavy trains up the hill.



17

More to Discover

Look across the valley to the right. Can you see the two grades on the hillside? After their descent to the valley floor they parallel Highway 83 into Brigham City. With a sharp eye you will be able to see them on your right if you drive into town.

There is more to see at Golden Spike National Historic Site. You may wish to turn left here and drive to the Big Fill parking area a short way up the hill. A three-quarter mile walk beyond the parking area will take you to the Big Fill and Big Trestle site, two of the most impressive structural remains in the park.



Taking on passengers at Corinne, Utah Territory.

Big Fill and Big Trestle Site

This leisurely walk will allow you to see many of the details of railroad construction close up. Look for drill marks in the deep cuts. These long straight scars from 1869 are silent testimony to the hustle over the mountains.

You are walking on Central Pacific grade that was maintained by the railroad from 1869 through 1942. Early in World War II steel was needed for the war effort and tracks here were pulled up and scrapped. The Union Pacific grade to your right was used for less than a year after the railroad was completed. When the station was moved from Promontory to Ogden, the Central Pacific relocated the tracks to the grade they constructed, leaving the Union Pacific grade to the elements.

When building grade across a gully, a rock fill was preferred to constructing a wooden trestle. A fill took longer to build but was easier to maintain and more durable. This "Big Fill" was built and named by the Central Pacific. However, the Union Pacific was pressed for time and chose a trestle for this site. Only thirty-two days were needed for construction but it produced a rickety structure at best. When the Central Pacific took control of the mainline between Promontory and Ogden, they moved the track to their own grade and abandoned the trestle. Most of the lumber was taken for use elsewhere and within a few years only the rock fill abutments remained.



Central Pacific's "Big Fill" as it looks today.

A Feat With Long-Lasting Consequences

The railroad was more than just an engineering feat. It was an event that captured the heart of a nation and symbolized the growth of the free society that built it. It populated the west and changed the economy of the country. In short, it brought to an end the area then called the western frontier.



Frank Leslie's *Illustrated Newspaper* shows the Nation's pride in the accomplishment.

Train Trivia

How much do you know about the railroad? Test your knowledge with these questions. The answers can be found in the exhibits and films at the Visitor Center and at the bottom of this page.

1. What were the four special spikes made of?
2. Who was President of the United States when the railroad was finished?
3. What war was being fought while the railroad was under construction?
4. From which city did the Central Pacific Railroad start building?
5. From which city did the Union Pacific Railroad start building?
6. What two locomotives met at the Last Spike Ceremony?
7. Which railroad company built the grade you are driving on?
8. On a locomotive, whose job is it to ring the bell?
9. Who is the "captain" of a train?
10. How long was this transcontinental railroad?

1. two were solid gold, one solid silver, and one iron, gold, and silver. 2. Ulysses S. Grant. 3. American Civil War. 4. Sacramento, California. 5. Omaha, Nebraska. 6. Central Pacific "Jupiter" and Union Pacific "119". 7. Central Pacific. 8. fireman. 9. conductor. 10. 1776 miles.

To Locomotive Springs

504

Locomotive "119"
(exhibited in summer)

Locomotive "Jupiter"
(exhibited in summer)

Visitor Center

Park Headquarters

4905ft
1495m



Locomotive
Engine House

Begin East Grade
Auto Tour

CENTRAL PACIFIC GRADE

UNION PACIFIC GRADE

Promontory Pass

Big Fill Walk

Central Pacific
Big Fill Site

Last Cut

Union Pacific
Big Trestle Site

Chinaman's
Arch

BLUE CREEK VALLEY

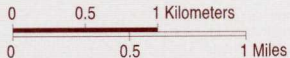
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
83

To Promontory Point



East Tour



 Auto Tour Route —
one way, unpaved
(closed during snow)

 Unpaved road

 Golden Spike
National Historic
Site

 Ranger station
 Picnic area

 Restrooms
 Parking



The Promontory Trail

Auto Tour Guidebook

