

2 Railroads Transform the Nation

TERMS & NAMES
transcontinental
railroad
standard time

MAIN IDEA

The railroads tied the nation together, speeded industrial growth, and changed U.S. life.

WHY IT MATTERS NOW

The railroad first made possible our modern system of shipping goods across the country.

ONE AMERICAN'S STORY

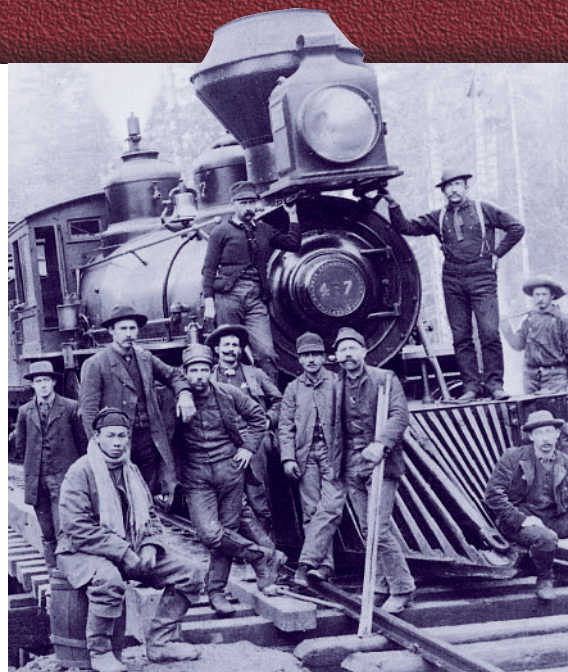
Ah Goong was one of thousands of Chinese workers on the Western railroads in the late 1800s. Building a railroad across steep mountains was dangerous. In some places, the workers had to blast rock from a cliff wall to build bridges and tunnels. The lightest Chinese climbed into wicker baskets at the top of the cliff. Others lowered the baskets hundreds of feet to the blasting site. Years later, Ah Goong's granddaughter described her grandfather's job.

A VOICE FROM THE PAST

Swinging near the cliff, Ah Goong . . . dug holes, then inserted gunpowder and fuses. He worked neither too fast nor too slow, keeping even with the others. The basketmen signaled one another to light the fuses. He struck match after match and dropped the burnt matches over the sides. At last his fuse caught; he waved, and the men above pulled hand over hand hauling him up, pulleys creaking.

Maxine Hong Kingston, *China Men*

Irishmen and Americans also worked on the railroads. This section discusses the building of the railroads and how they changed America.



Chinese immigrants—like the one at the lower left—helped build several railroads in the West.

Deciding to Span the Continent

Americans had talked about building a **transcontinental railroad**—one that spanned the entire continent—for years. Such a railroad would encourage people to settle the West and develop its economy. In 1862, Congress passed a bill that called for two companies to build a transcontinental railroad across the center of the United States.

The Central Pacific, led by Leland Stanford, was to start in Sacramento, California, and build east. The Union Pacific was to start in Omaha, Nebraska, and build west. To build the railroad, these two companies had to raise large sums of money. The government lent them millions of dollars. It also gave them 20 square miles of public land for every mile of track they laid. The railroad companies could then sell the land to raise money.

With the guarantees of loans and land, the railroads attracted many investors. The Central Pacific began to lay its first track in 1863. The

Union Pacific laid its first rail in July 1865 (after the Civil War had ended).

Building the Railroad

The Central Pacific faced a labor shortage because most men preferred to try to strike it rich as miners. Desperate for workers, the Central Pacific's managers overcame the widespread prejudice against the Chinese and hired several dozen of them. The Chinese were small and weighed, on average, no more than 110 pounds. But they were efficient, fearless, and hard working.

They also followed their own customs, which led to an unexpected benefit for the railroad company. The Chinese drank tea instead of unboiled water, so they were sick less often than other workers. Pleased with the Chinese workers, the company brought more men over from China. At the peak of construction, more than 10,000 Chinese worked on the Central Pacific.

The Union Pacific hired workers from a variety of backgrounds. After the Civil War ended in 1865, former soldiers from both North and South flocked to work on the railroad. Freed slaves came, too. But one of the largest groups of Union Pacific workers was immigrants, many from Ireland.

Both railroads occasionally hired Native Americans. Washos, Shoshones, and Paiutes all assisted the race of the rails across the deserts of Nevada and Utah.

Railroads Tie the Nation Together

Only short, undergrown trees dotted the vast open space. To the south shimmered the Great Salt Lake. In the east rose the bluish shapes of the Rocky Mountains. Across that space, from opposite directions, the workers of the Central Pacific and the Union Pacific toiled. By May 10, 1869, Central Pacific workers had laid 690 miles of track. Union Pacific workers had laid 1,086 miles. Only one span of track separated the two lines at their meeting point at Promontory, Utah.

Hundreds of railroad workers, managers, spectators, and journalists gathered on that cool, windy day to see the transcontinental railroad completed. Millions of Americans waited to hear the news by telegraph. A band played as a Chinese crew and an Irish crew laid the last rails. The last spike, a golden one, was set in place. First, the president of the Central Pacific raised a hammer to drive in the spike. After he swung the hammer down, the crowd roared with laughter. He had missed. The vice-president of the Union Pacific took a turn and also missed. But the telegraph operator couldn't see and had already sent the message: "done." People across the nation celebrated.

Background

Boiling water kills germs.

ReadingHistory

A. Drawing

Conclusions Why did the Union Pacific have a larger supply of workers?

ReadingHistory

B. Reading a Map

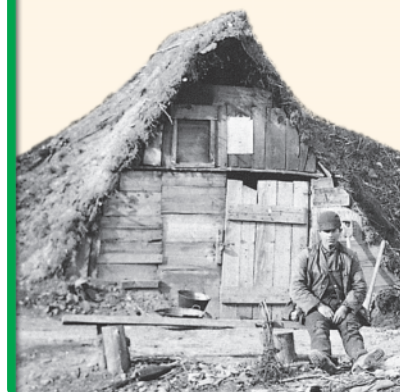
Using the map on page 190, find the Union Pacific and Central Pacific Railroads. Notice how they connect Omaha to Sacramento.

daily life

RAILROAD CAMPS

Union Pacific workers often worked 12-hour days. Graders had the job of leveling the roadbed. After a day of hard labor, they slept in small dirt shanties like the one below.

Track layers lived together in groups of 100 to 135, in railroad cars with three layers of bunk beds. The cars were parked at the end of the just-finished track. Workers ate in a dining car with their plates nailed to the table. They gobbled a quick meal of beef, beans, and bread. As soon as one group of 125 workers was done, the next group filed in.



This golden spike united the Central Pacific and Union Pacific Railroads.



The Union Pacific-Central Pacific line was the first transcontinental railroad. By 1895, four more U.S. lines had been built across the continent. Between 1869 and 1890, the amount of money railroads earned carrying freight grew from \$300 million to \$734 million per year.

Railroad Time

The railroads changed America in a surprising way: they altered time. Before the railroads, each community determined its own time, based on calculations about the sun's travels. This system was called "solar time." Solar time caused problems for people who scheduled trains crossing several time zones and for travelers.

Background

Canada had also built a transcontinental railroad, so there were six altogether.

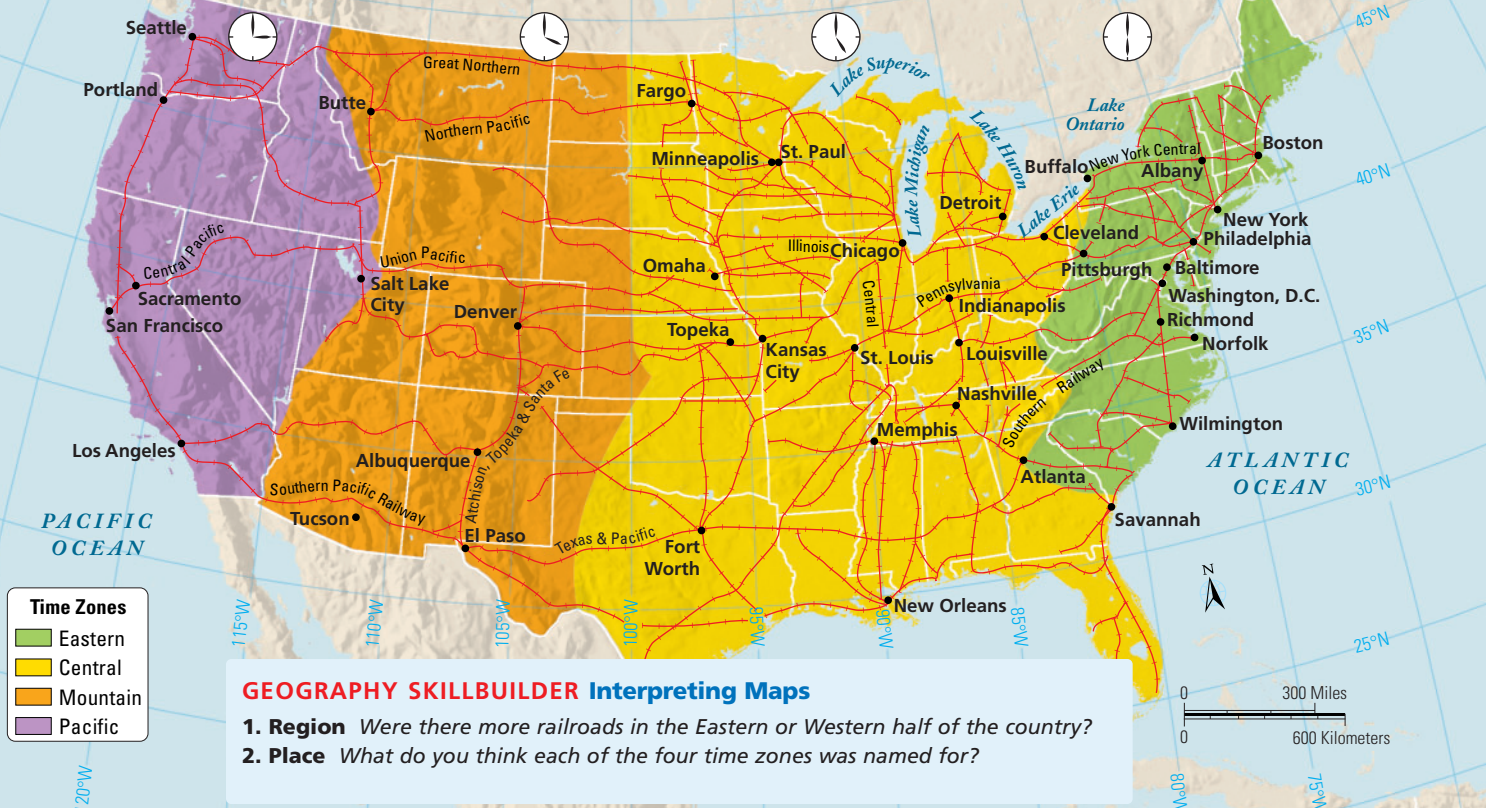
A VOICE FROM THE PAST

I have been annoyed and perplexed by the changes in the time schedules of connecting railroads. My watch could give me no information as to the arrival and departure of trains, nor of the time for meals.

John Rodgers, quoted in *Passage to Union*

To solve this problem, the railroad companies set up **standard time**. It was a system that divided the United States into four time zones. Although the plan went into effect on November 18, 1883, Congress did not adopt standard time until 1918. By then, most Americans saw its benefit because following schedules had become part of daily life.

Railroads of the Transcontinental Era, 1865–1900



Economic and Social Changes

The railroads changed people's lives in many other important ways. They helped create modern America.

1. Linked the economies of the West and East.

From the West, the railroads carried eastward raw materials such as lumber, livestock, and grain. Materials like these were processed in Midwestern cities such as Chicago and Cleveland. (See Geography in History on pages 196–197.) From Eastern cities, in turn, came manufactured goods, which were sold to Westerners.

2. Helped people settle the West.

Railroads were lifelines for settlers. Trains brought them lumber, farm equipment, food, and other necessities and hauled their crops to market.

3. Weakened the Native American hold on the West.

As Chapter 5 explained, the railroads carried hunters who killed off the herds of buffalo. They also brought settlers and miners who laid claim to Native American land.

4. Gave people more control of the environment.

Before railroads, people lived mainly where there were waterways, such as rivers. Roads were primitive. Railroads made possible cities such as Denver, Colorado, which had no usable waterways.

Just as railroads changed life for many Americans in the late 1800s, so did big business. You will read about big business in Section 3.

ReadingHistory

C. Evaluating

Which of these four changes do you think were positive, and which were negative?

Connections TO ART & MUSIC

RAILROAD HEROES

Several American songs celebrate railroad heroes. One tells of Casey Jones, an engineer who saved lives. He slammed on the brakes as his train rounded a bend and plowed into a stalled freight train. He died but slowed the train enough to save his passengers.

Another song tells of a mythical worker named John Henry, shown below. This ballad celebrates an African American's strength in a track-laying race against a steam-driven machine.



Section 2 Assessment

1. Terms & Names

Explain the significance of:

- transcontinental railroad
- standard time

2. Taking Notes

Using a chart like the one below, record which groups of people helped build the transcontinental railroad.

Central Pacific	Union Pacific

Which group worked on both railroads?

3. Main Ideas

- Why did the federal government want a transcontinental railroad built?
- How did the government encourage the building of the railroad?
- Why was standard time created?

4. Critical Thinking

Recognizing Effects

Which of the trends started by railroads are still part of the modern business world?

THINK ABOUT

- railroads' effect on time
- the way they linked the economy
- the way they changed where people settled

ACTIVITY OPTIONS

ART TECHNOLOGY

You have been asked to honor those who built the transcontinental railroad. Design a **memorial** or create the opening screen of a **multimedia presentation**.