The story of America's first transcontinental railroad is legend. In 1853, Congress authorized surveys of potential routes for the "Pacific Railroad," which were completed in 1855 and identified a Northern Pacific, a Central Pacific, and two Southern Pacific routes. The 1862 Pacific Railway Act chose the Central Pacific route due to gold in northern California, silver in northern Nevada, and the absence of Southern Congressmen -- due to the Civil War -- to advocate for a Southern Pacific route, which would have been a much easier build. The Act specified two railroad charters: the Union Pacific Railroad would build railroad and telegraph lines west from the eastern shores of the Missouri River at Council Bluffs, Iowa, and would meet the Central Pacific Railroad and telegraph line built eastward from the navigable waters of the Sacramento River in California. On January 8, 1863, grading for the CP commenced at "K" Street at the waterfront of the Sacramento River and the first rails were laid later that year. The CP crossing of the Sierra Nevada required 15 tunnels, the most difficult being the summit tunnel at Donner Pass, and other engineering feats. The first train passed through the Donner Pass summit tunnel on June 18, 1868, and thanks to advance work, the first train arrived in Reno the next day. From Reno, the CP had relatively clear sailing as it wound its way around the normal-fault mountain ranges and across the flat alluvial valleys of northern Nevada, including this location at Halleck, Nevada, and then through northwest Utah to meet the UP on May 10, 1869, at Promontory Summit, Utah, henceforth binding the nation. The CP was absorbed into the Southern Pacific over time, starting with a lease in 1885 and finally a full merger in 1959, and in 1996 the SP was absorbed into the UP.

Eastward view of a UP westbound plying the CP (1869) at Halleck, Nevada. The grade continues to climb eastward, up the Humboldt River toward Wells. In this area, the Humboldt River is a one mile wide marsh with several meandering channels within it. The CP alignment skirts the north edge of the marsh, seen in this photo as the green area to the right. The green also reflects the elevation, 5,230 feet above mean sea level at the river. The snowcapped East Humboldt Range, with its 11,000-foot peaks that loom a mile above the valley, indicate that the normal fault along which the mountain rose above the valley has a vertical displacement of about a mile.

Southwestward view of the same UP train at the same location. The Humboldt River is now to the left and the snowcapped Ruby Mountains, which are a continuation of the East Humboldt Range, are in the distance. Note the siding, not in the previous photo, which ends just to the left of the viewer.

Southward view of the CP (1869) and old buildings at Hellack. Note the U-shaped valley in the Ruby Mountains at the right side of the photo (just above the vertical pole), indicative of Pleistocene glaciers.

In 1909, the Western Pacific Railroad's Feather River Route was completed between Oakland, California, and Salt Lake City, Utah, via Beckwourth Pass, to compete with the Southern Pacific's (original Central Pacific [1869]) route over Donner Pass. While significantly longer and more difficult, the WP's crossing of the Pacific Crest at Beckwourth Pass is about 2,000 feet lower than the SP/CP Donner Pass Route (elevation about 7,000 feet). Once over Beckwourth Pass the WP, like the CP 40 years earlier, had relatively clear sailing across northern Nevada and into Utah.

Southward view of the WP (1909), 4,000 feet southeast of the previous location, within the Humboldt River marsh. The WP is crossing over the river to the south side. Note the green marshland.

Westward view of the WP (1909), same location as previous, within the Humboldt River marsh. Note the significant fill grade to carry the tracks over the marsh. The curve is the beginning of a broad curve to follow the south bank of the Humboldt River after crossing it and parallel the CP (1869) east to Wells.