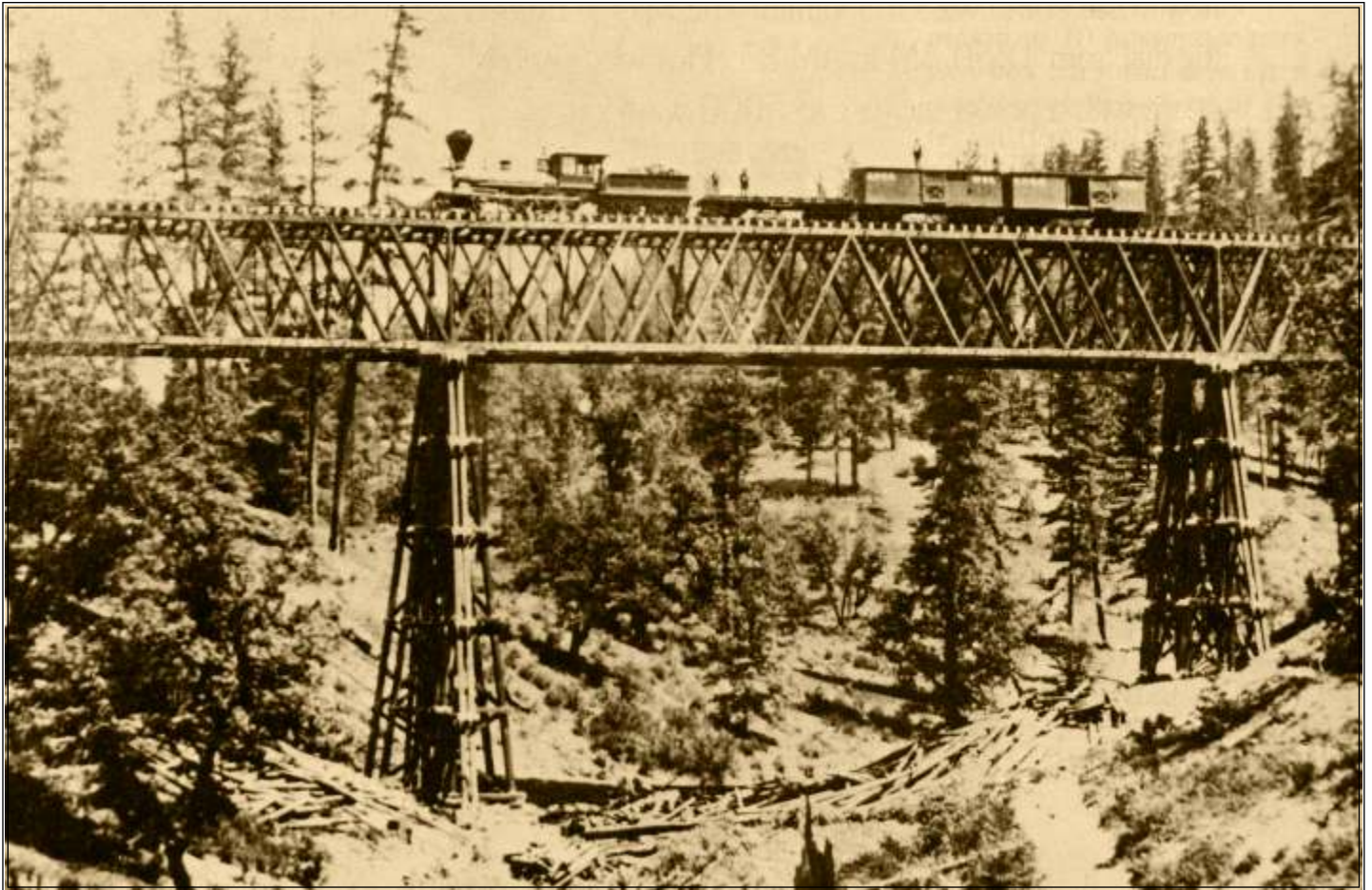




DONNER CROSSINGS



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From the time the tracks were completed east of Colfax, trains have passed over a bridge at Long Ravine before reaching Cape Horn. This Alfred Hart photo shows the original Howe truss wooden bridge built in 1866 to span Long Ravine when the railroad was completed through the area. In 1876, the Nevada County Narrow Gauge Railroad began its 66-year run, crossing under this bridge and the Central Pacific/Southern Pacific tracks on its way from Colfax to Grass Valley/Nevada City. The CP apparently planned at one point to fill this gap and force the NCNG to build a tunnel through the fill. Through the years the wooden bridge was closed in, then replaced with steel structures. Today I-80 east of Colfax passes under the twin Long Ravine steel railroad bridges (see page 9 for a recent photo of the bridges and I-80). The story of these bridges and the changes over the years starts on page 6. *Hart Photo #042, PSRHS Collection.*

Preserving Railroad History along the Donner Pass Route



From the Editor:

While perusing items on E-Bay, club president Jim Wood ran across an article from a New York paper that provided a first-person account of a ride on the first passenger train from Sacramento over the mountains to Reno on the partially completed Central Pacific Railroad. After further research, the Donner Crossing editor found the original article published in the Daily Alta California on June 20, 1868. It is hard to imagine with present-day travel options what it must have been like to ride one of the first trains across the rugged Sierra Nevada mountains. The newspaper reporter's account provides a snapshot of that June 18, 1868 first ride on the newly completed tracks. Let's climb aboard and experience the run through the eyes (and words) of someone who was there.

Several PSRHS members have spent many hours standing under or near the Long Ravine railroad bridges, doing a lot of arm waving and speculating about the history of these bridges and the changes that occurred over time. There are brief mentions of the bridges in some of the Central Pacific and Southern Pacific publi-

cations of the day, but one must rely on rather limited newspaper accounts to fill in the details. Using Chief Engineer reports, newspaper articles, and historic photos, we can paint a sketchy picture of the original bridge construction and the timeline for changes that have occurred to yield the configuration one sees today.

Roger Staab, editor

In This Issue:

ACROSS THE SIERRA NEVADAS – THE FIRST RAILWAY PASSENGER TRAIN FROM SACRAMENTO OVER THE MOUNTAINS Take a ride on the first through train from Sacramento to Reno on the newly completed CP tracks over Donner Summit.
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THE EVOLUTION OF THE RAILROAD BRIDGE(S) AT LONG RAVINE. We take a closer look at those bridges at Long Ravine and the when and why of the changes that have occurred through the years.
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You are invited to submit feature articles and/or photos for future issues of Donner Crossings. Please contact Roger Staab, email roger.staab@psrhs.org, or by mail at PSRHS, P.O. Box 1776, Colfax, CA 95713. Assistance is available to format your information or photos into final form for publication.

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On The First Train from Sacramento to Reno, June 18, 1868

[ed -Article that follows was transcribed from Daily Alta California dated June 20, 1868.

Text is an exact copy except where noted in italics]

ACROSS THE SIERRA NEVADAS

THE FIRST RAILWAY PASSENGER TRAIN FROM SACRAMENTO OVER THE MOUNTAINS

Shoveling a Pathway Through Monster Snow Drifts in Midsummer – Description of the Scenery Along the Route – Incidents of the Trip – Accomplishment of the Grandest Engineering Feat Ever Attempted by Man – Etc., etc.

(From the special correspondent of the Alta)

Desiring to be among the first to cross the Sierra Nevada by through train, the writer left San Francisco at 4 P.M. Wednesday, June 17th, by the C.S.N. Co.'s elegant steamer *Yosemite*, in company with several friends, bound for the Silver Land. *[ed - Details of the steamship ride across the bay and up the river omitted]* It was well past midnight when the heavily-laden steamer reached Sacramento and tied up at the landing.

Sacramento

The cars do not leave Sacramento until 6-1/2 o'clock A.M., and we heartily enjoyed a walk of a couple of hours around the shady streets of the Capital City. *[ed - Prose about the weather and blooms omitted]* Very beautiful are many of the quiet homes of Sacramento, and very hard have their owners had to struggle for them, as the huge levees running all around the city, the streets raised high above their natural level by filling in and paving with the clean, noiseless Nicolson at a heavy cost, readily attest. The walls of the State Capitol are beginning to rise above the city so as to form a noticeable landmark visible from a long distance. There is more of an air of business about the streets, not observable a few years since, and though evidently not increasing in population rapidly, the town, as a whole,

has a more thrifty appearance than it was used to present *[sic]*. But the whistle sounds, and we are off.

Across the Valley

The train moves out of the town of Sacramento, across "the Slough," past the unfinished roundhouse and immense machine-shops of the Central Pacific Railroad Company – in which an army of workmen will be employed at no distant day – up the valley, along the northern outskirts of the rambling town, and then by a long bridge across the American River. As we emerge from the trees and shrubbery along the American, into the open plain which stretches away to the eastward towards the foot-hills, the mighty Sierra Nevada looms up, like a gigantic cloud-bank, against the eastern horizon. The mountains, for a long way upward from their base, are enveloped in a dim, blue haze, which contrasts beautifully with the snow-fields on their summits, flashing against the blue sky and lighted up by the glory of the summer morning sun. One distant peak sparkles like an iceberg, with all the hues of the opal; another is tinged with delicate pink like the inner surface of a sea-shell; and a third is of a pure brilliant white, like frosted silver. The country at one point is open and treeless, like a western prairie, and at another dotted with wide-spreading trees, like the "oak openings" of Michigan; but the soil is poor, and a few herds of horses, and now and then the residence of some small ranchman or herder, are the only signs of life we see for miles and miles. The country is poor, uncultivated, and for the most part unfenced and uninhabited.

At the Junction, 18 mi. from Sacramento, a branch road leading toward Marysville takes away a portion of our passengers, and 4 miles further on we come to Rocklyn *[sic]*, where are the immense granite quarries from which an unlimited supply of building material for Sacramento and San Francisco is obtained, with simply the trouble of quarrying.

Now we enter the foot-hills *[sic]*, and as we commence to ascend more rapidly the great mountains before us seem to sink down until we lose sight of them altogether, and we do not see the snowfields again for a long time. The sun is shining down upon us from an unclouded sky, and the heat is such as to drive us all to the shady side of the cars. Luscious strawberries, ripe pears,

cherries and other summer fruits are brought through the cars for sale – everything around speaks of middle summer.

Up the Mountains

The engine blows and wheezes with short, sharp aspirations, and the feeling of weight as we lean back on the seats tells us that we are ascending a steep and increasing grade. Newcastle, Auburn – a pretty little village and somewhat active place – Clipper Gap, and New England Mills, all more or less important mining and trading posts, are passed, and at 9:50 A.M. we have ascended 2,448 feet and reached Colfax, 54 miles from Sacramento, where stage roads for Grass Valley, Nevada, and other rich mining towns, branch off. The town is built of slight materials, and does not look as if made for all time. Here we should meet and pass the down train from the Summit, but snow slides beyond the great Summit Tunnel have delayed the train between that point and Reno, away down on the Truckee, beyond the Sierra, and after waiting a few minutes, just long enough to partake of a capital cup of coffee and a nice spring chicken on toast at the depot, we move on.

Soon after leaving Colfax the cars pass on a high embankment around Cape Horn, and nervous passengers begin to look around anxiously, peering with evident trepidation down into the depths below. Along the edge of a canyon the train whirls steadily along, a branch of the American River lying like a yellow ribbon hundreds on hundreds of feet below. Eight miles from Colfax we pass the mining camp of Secret Town, and look back into the valley from an elevation of 2,985 feet – something greater than that of Mount Tamalpais. Up, up and onwards, ever climbing steadily skywards. Through the openings in the mountains we begin to see other mountains beyond, whose peaks are covered with snow; and the hot air of the valleys reaches us no longer, the breezes now being tempered by the snowfields above. The atmosphere is gloriously exhilarating and our spirits rise as our corporeal substance rises heavenwards.

At sixty-seven miles from Sacramento we look down upon the well nigh exhausted placers and town of Dutch Flat; flat enough the town appears at this time. Two miles further on we reach Alta, at an elevation of 3,625 feet above the sea, almost the height of the summit of Mount Diablo. Here we expected to, but did not, meet the descending train, which had been delayed

by an accident on the other side of the summit, by which the cars between Reno and Coburn's, or Truckee, had been thrown off the track and smashed up, making it impossible for the passengers to reach the summit by stage in time to connect with the regular train. Here the roofs of the houses begin to pitch sharply after the style of Alpine cottages – an indication that the snows fall heavily here in the winter. The mountain sides are covered with magnificent pines, which increase in size as we ascend to a point some distance above here.

The stream, far down at the bottom of a deeper canyon, is now a saffron colored thread, and we cling to the side of the mountain as a swallow clings to a cliff. Snow now appears on the heights, but a little above us, and at intervals along the road, where there are deep cuts, long, sharp-roofed sheds of heavy timbers, to ward off the snow drifts, rest over the track. Passing Shady Run Station, we reach the first tunnel, 500 feet in length, 75 miles from Sacramento, and 4,500 feet above the sea. The mountains are growing more rugged and the snow fields came down to a level with the road.

The Heart of the Sierra

Still up, up: the trees grow smaller; cedars, tamaracks, and firs take the place of the noble pines and we no longer see the red earth of the gold-belt below. Grey granite rocks are growing thicker and the small mountain peaks on either side of the road begin to show bald heads. We are in the heart of the Sierra – a barren, dreary, desolate country. It is not at all like the Heart of the Andes – as Church paints it.

At Emigrant Gap, 84 miles above Sacramento, we meet the down train at last, and the road is open before us. Another tunnel, 300 feet in length. We pass Crystal Lake and are at Cisco, a town of shanties, which was for a long time the terminus of the road.

We are at 5,900 feet above the sea, and still ascending. The pines have almost entirely disappeared, and we pass through many long cuts blasted through the solid granite spurs of the mountains. We pass through continuous snow fields and immense drifts, through which the road has been cut with shovels for the passing of the trains. A few hours since we were among the flowers, ripe fruits and singing birds of the valley, sweating under the summer sun; now we are in the midst of dazzling snow fields, and the atmosphere and aspects of the scene are such as we might find in the mountains

of New England on any fine winter's day. The streams which come down the sides of every precipice and dash in foamy torrents down every canyon, are cold as ice from the melting snows. Chinamen are swarming all along the road. They have nearly finished their work in this vicinity and are packing up their traps preparatory to passing on over the summit into the great interior basin of the continent. One hundred and two miles from Sacramento we reach Summit Valley, and stand 6,800 feet above the sea. Lift Mount Tamalpais bodily from its base and place it on the summit of Mount Diablo and we could still look down by hundreds of feet on the double mountain height. The snow banks rise high above the road on either side. Two miles more and the cars reach the entrance of the great tunnel, 1,659 feet in length.

The Summit of the Sierra

We have scaled the great Sierra at last, and *ne plus ultra* might be written on the granite walls of the great tunnel before us. We are 7,043 feet above the sea. The air feels cold and damp, but not oppressive, and we experience no inconvenience from its rarification at this great elevation.

[ed - Here the author philosophized with poetry and musing, which is omitted from this summary]

The snow lies piled in immense banks above the tunnel, and rises in solid banks, with sheer precipitous sides, on either side of the track. A swarm of Chinamen are busy at the other end of the tunnel shovelling away the snow, which has come down in great slides, bringing with it huge granite rocks upon the track. The water pours down in torrents from numberless crevices and seams in the granite walls and roof of the long, dark, cavernous tunnel, but we struggle through on foot, and anxiously inquire after the prospect of getting through.

Two or three hours will clear the track. We wait with what patience we may, and at last at four o'clock the prolonged whistle of the good locomotive "Antelope," which has drawn us to the summit of the Sierra, is heard. "all aboard," shouts the conductor, George Wood, who has the honor of taking the first passenger train across the mountains, and the train moves slowly on. A halt for another slide; another start, another halt, and so on, slowly and carefully. The snow banks come down so close to the track that the eaves of the cars rake them on either side. It is the closest fit imaginable. Six more

tunnels, ranging from 100 to 863 feet each in length, in many of which we see great masses of solid blue ice, hanging down from the walls like stalactites and stalagmites in the Mammoth Cave of Kentucky, are slowly passed through. We have descended 600 feet already, and as we emerge from the last one the conductor exclaims: "By Heaven, we are over the mountains! This is new road, finished this summer, and we shall have no more snow-slides!" It is true, indeed. The mighty task is accomplished, after years of toil and the expenditure of millions of money. Words fail us to describe our sensations; we will not attempt it.

Down the Eastern Slope

And now the train with accelerated speed moves steadily downwards towards the Valley of the Truckee. The steam is shut off, the brakes put down, and as the eagle sets his wings and floats noiselessly down, down, down, through the realms of air towards the earth from his eyry [*sic*] among the clouds, we glide swiftly and smoothly down the acclivities of the mountains into the Great Basin of Nevada. Donner Lake, as lovely a sheet of water as is to be found on earth, lies far below us among the pine-clad hills, its bosom unruffled by a breath of breeze, and as blue and calm as the heavens above it. The road winds around the precipitous mountain-sides, almost encircling Donner Lake as it descends, and following around a long canyon, making a circuit of seven miles to gain an advance of no more than a quarter of a mile, we reach the outlet of the lake, a swift, rushing stream of blue, cold water. We have travelled 9-1/2 miles and descended 783 feet since leaving the summit.

Now we descend rapidly, on one of the most beautifully smooth and solid roads on the continent, into the romantic valley of the Truckee, whose mountain torrent comes rushing and roaring out of the mountains from the southwards, hidden in which lies the loveliest sheet of water on the earth, Lake Tahoe. The timber here is immense, and from this source the supplies for building the road for hundreds of miles eastward are to be drawn. Sawmills by the dozen, driven by the rushing river, line the banks of the stream for miles and miles, and the hills swarm with laborers of every nationality and hue – Europeans, Americans, Africans and Asiatics (the latter immensely preponderating in number) – engaged in cutting down and preparing the timber for the road.

The whistle sounds a long shrill scream, and the train arrives at Truckee Station – Coburn’s – 119 miles from Sacramento, and 5,860 feet above the sea. The portion of the trip between this point and Summit Valley had until this day – June 18th – been made by stages. As we pass we see the jaded stage horses looking wonderingly, and, as it seems to us, joyously at the swift-speeding train; their weary toil through mountain-snows and mud is over, and now the stagemen will pull down their stables and pack up their traps, the drivers will “fold up their tents like the Arab,” and horses and men will “as silently steal away,” to be seen no more here forever. The Valley of the Truckee widens out little by little as we descend; the timber grows less abundant, the sage brush begins to make its appearance, and occasionally we see small patches of cultivated land. The grain on the western slope of the Sierra is already ripe and mostly harvested; here it is but a few inches above the ground. On one side, we saw summer, ripe and warm, and the harvest in all its rich abundance; on the Summit, winter’s snows and ice; and on this side the first faint dawn of early spring. Passing through two more tun-

nels, and crossing and recrossing the “exulting and abounding river,” as it leaps full of fierce, fresh mountain life and energy down towards the desert plains, we emerge at last into the open, treeless country of Nevada, with the snow-clad heights of the Washoe Mountains and the wondrous Silver Land before us. Just as the last faint light of day fades from the summit of the Sierra, the long, shrill, joyous shriek of the locomotive announces our arrival at our journey’s end, 19 miles from Virginia, and we find ourselves 154 miles from Sacramento, in Reno, a town of stores, hotels, saloons, gambling houses and stables, which has sprung up like magic within a month. The whole population, men, women and children, rush out to meet and welcome us. Thus ends the story of the trip of the first passenger train over the Sierra Nevada.

P.S. – The returning passenger train left Reno at 3:30 A.M., and arrived at Sacramento at 1 P.M. – schedule time.



The Evolution of the Railroad Bridge(s) at Long Ravine

Even as the new Central Pacific tracks reached Colfax in late summer 1865, grading had already begun on the route above Colfax. The first major obstacles to be overcome were Long Ravine and Cape Horn.

The Wooden Howe Truss Bridge - 1866-1890

The dip in the ridgeline at Long Ravine was traversed with a curved wooden trestle, 450 ft long and 70 ft high, and a wood-timber Howe truss bridge, 428 ft long. The photo on page 7 identifies the trestle and bridge portions. These structures were completed in 1866, and tracks reached Dutch Flat by July of that year.

Ten years later, in 1876, construction was completed on the Nevada County Narrow Gauge railroad, running from Colfax to Grass Valley & Nevada City. Leaving Colfax, this line paralleled the CP tracks to Long Ravine, where the NCNG tracks crossed under the Long Ravine Howe truss bridge (see photos on page 8).

In the 1877 Central Pacific Annual Report to stockholders, Chief Engineer Montague reported that “The most important permanent improvements made upon your

road in the year 1876, have been the filling of all the high trestles on the Sacramento division (Sacramento to Truckee), ...” including “Western approach to Long Ravine bridge, four hundred and fifty (450) feet long and seventy (70) feet high – filled.” See photos page 7.

Montague added, “This completes the work of this kind on the mountain division, unless it may be deemed advisable in the future to make an embankment across Long Ravine which is now crossed upon a Howe truss bridge. This being a deck bridge, built of the best quality of timber and securely covered with corrugated iron, its renewal should not be necessary for twelve or fifteen years, probably longer.”

The trestle portion of the Long Ravine crossing had been filled in 1876, but what was the fate of the Howe truss bridge at Long Ravine? Did the CP really consider filling this portion as well, as suggested in Montague’s Chief Engineer’s report of 1877?

Before the trestle was filled in, the Howe truss bridge was “boarded over to conceal its construction”, accord-



Above, looking westbound, the 1866 curved wooden trestle (1) can be seen beyond the wooden bridge (2) at Long Ravine. The trestle portion was covered with fill in 1876. The circa 1900 photo at upper right shows the curved fill (1) where the trestle once stood, and the steel bridge (2) that replaced the wooden bridge in 1890. At right, an eastbound passenger train with helper is on one of the two Long Ravine Bridges in 1941. *Photos above and right courtesy of Jack Duncan. Photo above right from PSRHS collection.*



ing to Best in his book, NCNG. This change is visible in the two photos at the bottom of page 9. The exact date for this “boarding over” has not been determined.

In Oct 1876, the Grass Valley Union reported, "We understand that the Central Pacific Railroad company has about concluded to make a fill at Long Ravine, where their bridge crosses the same, about one mile this side of Colfax. The Nevada County Narrow Gauge Railroad crosses under that Long Ravine bridge, and if the Central Company makes a fill of the ravine, instead of constructing an iron bridge, the Narrow Gauge Company will have to build an extensive archway. The Central Company is compelled by law to construct an iron bridge or to make a fill at the place mentioned."

On Oct. 26, 1876, the Sacramento Union reported, "The Central Pacific Railroad Company have commenced making the fill at the Long Ravine Bridge, and have about 300 men employed there for that purpose. The Narrow Gauge Railroad runs under that

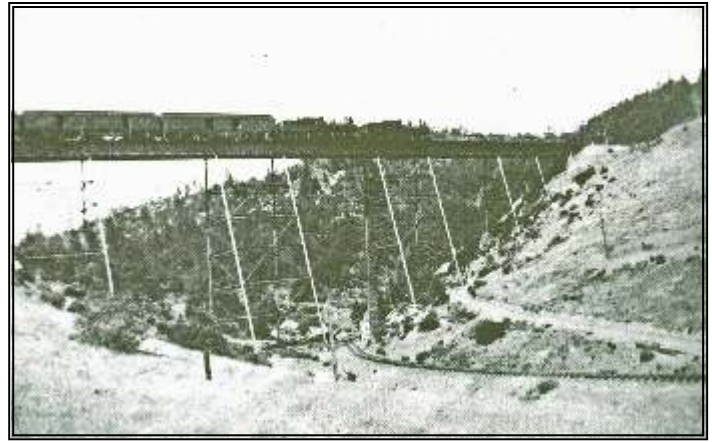
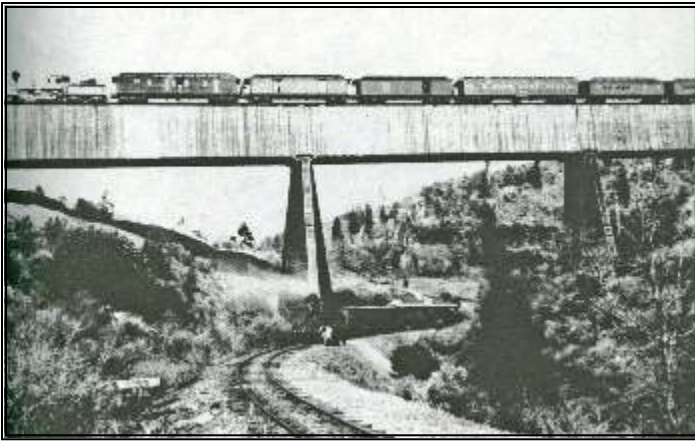
bridge, and Superintendent Kidder is superintending the construction of a tunnel, through which his cars will pass when the work is completed. It will take several weeks to do the job."

On Nov. 17, 1876, the Grass Valley Union reported, "Colfax Items -- We got the following from the Colfax Enterprise of the 15th: The work of arching or timbering by the NCNGRR, where the fill of the CP is being made, has not yet been made, although we are informed the contract has been let for the material."

Apparently as the fill of the Long Ravine trestle was being accomplished in 1876, CP was considering filling the area spanned by Long Ravine bridge as well. However, Montague's report in 1877 indicates that the idea of filling Long Ravine bridge had been dropped.

Iron Replaces Wood - 1890-1914

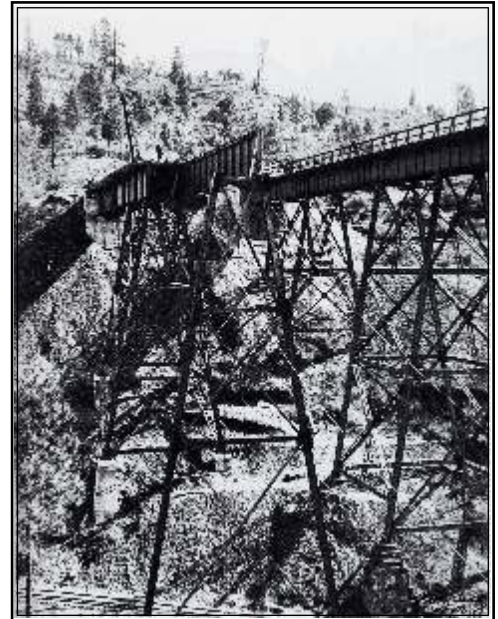
The wooden Howe truss bridge at Long Ravine had a finite life, and would eventually need to be replaced.



The view at top left shows Long Ravine bridge after it was boarded up and shortly after the NCNG began service in 1876. In the photo at top right, the wood Howe truss was replaced with an iron bridge in 1890. NCNG tracks can be seen curving under the iron bridge.

To date, no photos or descriptions have been found that address where the iron bridge was located relative to the wooden Howe truss bridge. Since the railroad could not tolerate being shut down during the construction of the iron bridge, the wooden bridge must have been left in place while the iron bridge was being constructed.

In 1913, double tracking of the Donner route above Colfax was underway. To accommodate the double track, a second steel bridge was built at Long Ravine. In the photo at right looking eastbound, construction of the second bridge is underway. *Photos from Best – NCNG*



The Sacramento Union reported on Jun. 5, 1889, “The railroad company is soon to commence building a new bridge across Long Ravine at Cape Horn.” The Dept. of Interior's Report of the Commissioner of Railroads, November 1, 1890, stated “Principle improvements reported during the year ending June 30, 1890 by the Central Pacific Railroad include: ‘Long Ravine: An Iron bridge was built to replace the wooden structure’”

A lot of the arm-waving referred to in the editor’s notes on page 2 is tied to conjecture about the location of the new iron bridge relative to the original wood Howe truss bridge. As noted in the photo caption above, the railroad would have wanted to continue operations while the new bridge was being built, and it does not appear likely that the iron bridge was built “around” the wooden bridge. It is more likely that the new bridge was built beside the wooden bridge, but which side? There is evidence in the fill material west of the Long Ravine bridges that the fill on today’s westbound track

is older than on the eastbound track, yet the westbound bridge is newer. One explanation could be that the original wooden bridge was located near where the present-day westbound bridge is located.

A Second Steel Bridge – 1914-1957

The new iron bridge at Long Ravine carried all Donner route traffic from 1890 until a second bridge was built as part of double-tracking the line. From 1909-1911, double tracking was completed from Rocklin to Colfax, and in 1913, work began on the second track from Colfax to Blue Canyon. SP reported in its Aug. 1920 SP Bulletin that the second track from Colfax to Blue Canyon (which included the new bridge at Long Ravine) was completed in 1914. A steel plate with the date 1913 is welded to the framing under the newer westbound bridge.

The support structures under the newer bridge were offset from those under the older bridge due in part to

the NCNG tracks that passed below (see photos on previous page). The NCNG continued operations until WWII when mining business decreased and scrap-metal value increased to support the war effort. The NCNG ceased operations in 1942 and was torn up and scrapped.

One More Modification – 1957

The Long Ravine bridges remained virtually unchanged from 1914 until the 1950’s construction of Interstate 80 and its routing under the railroad bridges.

The new freeway crossed under the bridges along the old NCNG right-of-way. However, one of the support structures under the eastbound span was in the way of

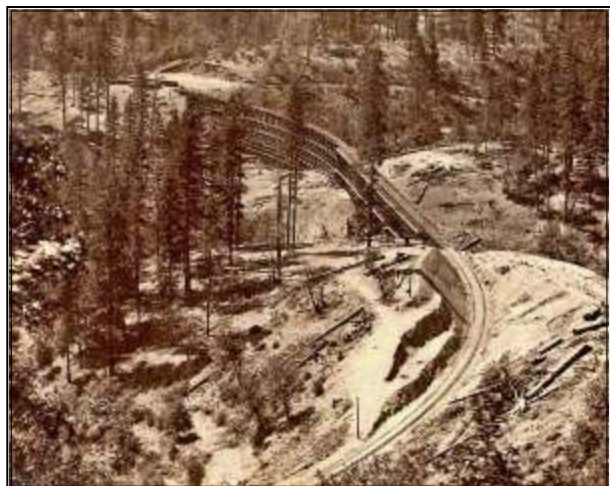
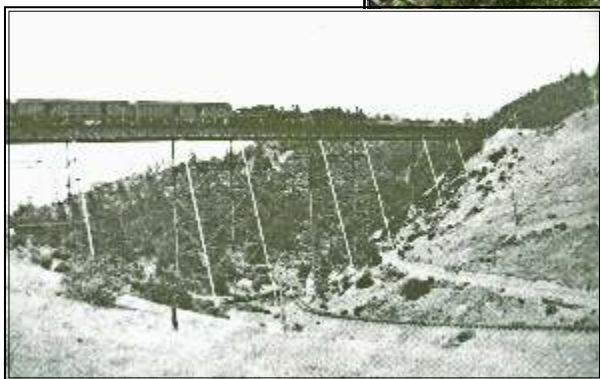
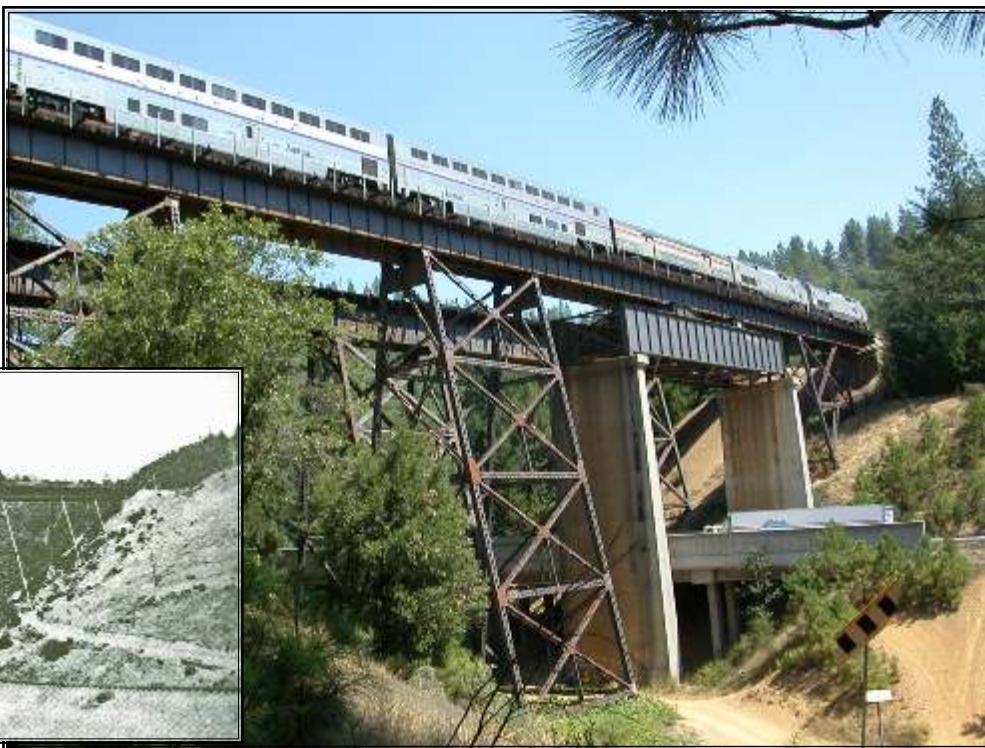
the new freeway. To eliminate the offending support structure, two concrete piers were installed spanned by a girder bridge. As a side note, the railroad bridge that spans I-80 in Auburn was similarly modified when the highway that passed under it was widened.

In searching for a date for this bridge modification, a post was found in a forum on trainorders.com stating “we authorized the first train over the eastbound bridge after the modification to accommodate I-80 in 1957.”

Below is a photo of the bridges as they appear today.



At Right - AMTRAK and Long Ravine bridges above I-80 in 2003. Inset below shows how supports under eastbound span were altered for I-80. 2003 photo by Roger Staab Inset from Best -



At left – Unenclosed Long Ravine bridge and curved trestle beyond it looking westbound from Cape Horn. Hart photo #039

At right – Long Ravine trestle in foreground and enclosed wooden Howe truss bridge beyond the trestle looking eastbound. Houseworth photo #1342

