

DONNER PASS

SOUTHERN PACIFIC



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1 Route Information

1.1 History

To reach California from the East, pioneer emigrants had to get their wagons over the Sierra. In 1844, the Stephens-Townsend-Murphy Party followed the Truckee River up into the mountains. At the head of what is now called Donner Lake, they found a low notch in the mountains and became the first overland emigrants to use the pass.

The pass received its name, however, from another group of California-bound emigrants. In early November 1846, the Donner Party found the route blocked by snow and was forced to spend the winter on the eastern side of the mountains. Of the 81 emigrants, only 45 survived to reach California; some of them are alleged to have resorted to cannibalism to survive.

A railroad over Donner Pass was first conceived by Theodore Judah, who was part of the then newly formed Central Pacific Railroad. The project was authorized by Congress in 1862. It was financed and built by four California businessmen named Leland Stanford, Collis Huntington, Charles Crocker, and Mark Hopkins.

Crocker, in charge of construction hired much of the western laborers who were primarily made up of Chinese emigrant workers who were not lured by the gold digging craze sweeping across California. With up to 12,000 such laborers employed by the Central Pacific Railroad, the Chinese workers represented 90 percent of the entire work force.

Construction began in 1863, with the first rails laid in down town Sacramento in October of that year. It would be another 5 years before the CPRR reached the summit of Donner Pass, at a height of over 7,000ft above sea level. In that time, 105miles of track had been laid, joining the now famous towns of Roseville, Auburn, Cisco and Colfax along the way.

To cross the summit, the construction of four tunnels, several miles of snow sheds, and two "Chinese Walls" were necessary. These constituted by far the most difficult engineering and construction challenges of the entire Sacramento to Ogden route.

Eventually, the CPRR reached back down to the flat plains of the Nevada Desert and were quickly heading towards the construction of the Union Pacific company. In May 1869, the railheads of the Union Pacific and Central Pacific railroads finally met at Promontory Summit, Utah Territory. In anticipation of the ceremony, Union Pacific's No. 119 and Central Pacific's No. 60 locomotives were drawn up face-to-face on Promontory Summit, separated only by the width of a single tie. Three spikes were driven, one (and probably the most famous) was the gold spike, one was silver, and one was a mix of gold, silver, and iron.

The Donner Pass continues in use to this day, used by numerous transcontinental transportation arteries, including the California Trail, First Transcontinental Railroad, Overland Route, Lincoln Highway, U.S. Route 40 and indirectly by Interstate 80.

1.2 Southern Pacific Railroad

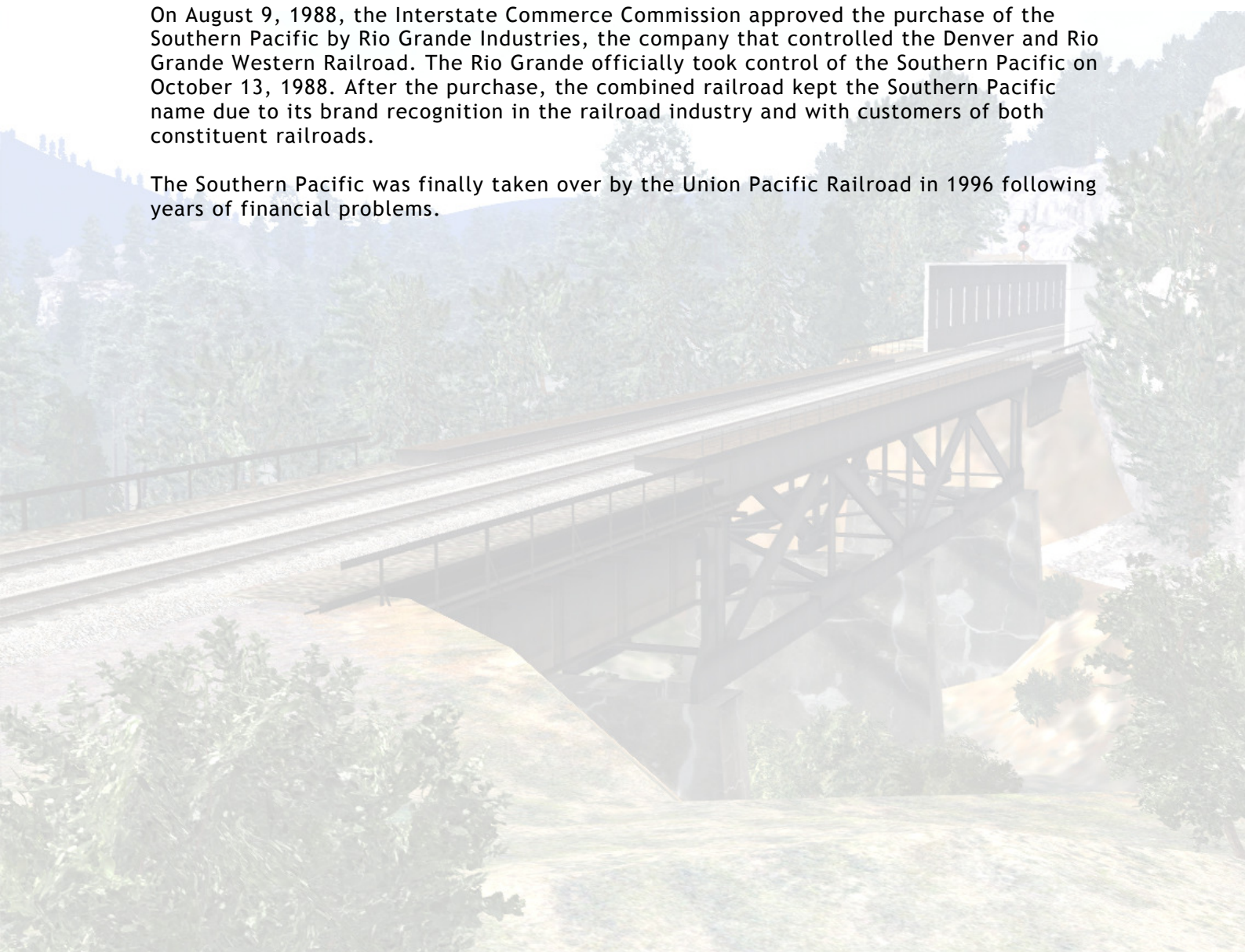
The Southern Pacific Transportation Company (reporting mark SP), earlier Southern Pacific Railroad and Southern Pacific Company, and usually simply called the Southern Pacific or (from the railroad's initials) Espee, was an American railroad.

Founded in 1865, it later acquired the Central Pacific Railroad and by 1900 had grown into a major system incorporating many smaller companies. Under these conditions, the companies influence extended from New Orleans through Texas to El Paso, across New Mexico and through Tucson, to Los Angeles, throughout most of California including San Francisco and Sacramento; Eastward across Nevada to Ogden, Utah and finally reaching north throughout and across Oregon to Portland.

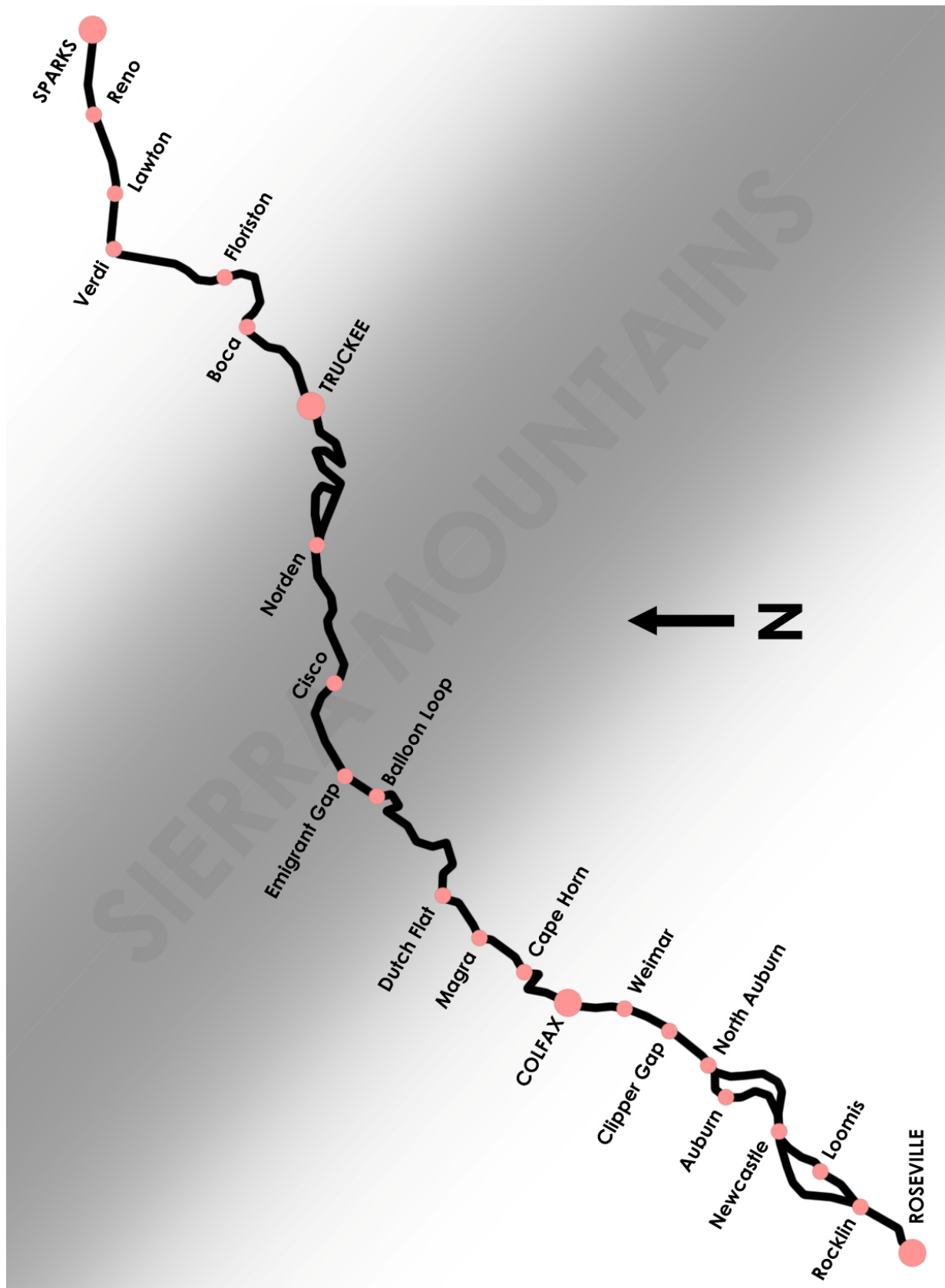
Southern Pacific's total route mileage varied significantly over the years. In 1929, the system showed 13,848 miles. When the D&RGW merged with Southern Pacific, mileage had dropped to 10,423 miles, mainly due to the pruning of branches. The takeover of Southern Pacific by Rio Grande Industries swelled the combined system to 15,959 miles. By the time of the merger with the Union Pacific Railroad, SP's mileage had once again dropped, with the entire system comprising 13,715 miles.

On August 9, 1988, the Interstate Commerce Commission approved the purchase of the Southern Pacific by Rio Grande Industries, the company that controlled the Denver and Rio Grande Western Railroad. The Rio Grande officially took control of the Southern Pacific on October 13, 1988. After the purchase, the combined railroad kept the Southern Pacific name due to its brand recognition in the railroad industry and with customers of both constituent railroads.

The Southern Pacific was finally taken over by the Union Pacific Railroad in 1996 following years of financial problems.



2 Donner Pass Route Map



3 Southern Pacific Roster

3.1 SW1500 Yard Switcher

808 units of the SW1500 were produced between June 1966 and January 1974. The SW1500 succeeded the SW1200 in the EMD product line (produced between 1954 and 1966) and the SW1500 was itself succeeded by the MP15DC (produced between 1974 and 1980).

Originally intended for short distance switching duties, the bulky EMD SW1500 was close to road switcher abilities and in many cases operated in this role for branch line services.

Production of the SW1500 peaked in 1972 with 189 units produced but the model became a casualty of 1970s skyrocketing inflation shortly after. With costs spiraling, a unit dedicated primarily to switching was not proving to be cost effective. Instead the design was revamped and evolved into the MP15 which could be used both for yard and road service.

Design & Specification

Manufacturer	Electro-Motive Division
AAR Wheel Arrangement	B-B
Unit Weight	248,000lb
Vehicle Length	44ft 8in
Vehicle Width	10ft 4in
Vehicle Height	15ft
Power Output	1500hp
Fuel Capacity	600 US Gallons
Design Speed	60 MPH
Total Built	808



3.2 GP9 (Geep) Road Switcher

4,000+ units of the GP9 were produced between January 1954 and August 1963. Affectionately known as 'Geeps' the GP9 was the successor to the EMD GP7 and the predecessor to the GP15 (produced between 1976 and 1982).

Being built under the GP series - literally standing for General Purpose, the GP9 was visually identical to the GP7 with the exception of the slight bulge mid-roof of the long bonnet where the dynamic brakes are housed where the unit was fitted with such. Mechanically the engine was also up rated from the GP7's 1,500hp rating.

With its ease of maintenance and extreme versatility the units performed on any type of freight service as well as on passenger services. Though in 1959 the GP9 outsold the GP7 by almost a 1/3rd cementing the success of diesel over steam powered locomotion at the time.

Design & Specification

Manufacturer	Electro-Motive Division
AAR Wheel Arrangement	B-B
Unit Weight	248,000lb
Vehicle Length	56ft 2in
Vehicle Width	10ft 4in
Vehicle Height	14ft 6in
Power Output	1,750hp
Fuel Capacity	800 US Gallons
Design Speed	70 MPH
Total Built	4,115



3.3 SD40-2 Diesel Locomotive

Introduced between 1972 and 1986, General Motors Electro-Motive Diesel (EMD) produced the SD40-2 as a 3,000 horsepower model as an upgrade from the SD40. Although not as powerful as some rival locomotives in the same Class, the SD40-2 features modular electronic control systems, making it significantly more reliable and economical than its competitors.

With almost 4,000 units built for 29 Railroad companies, the SD40-2 is one of the best selling locomotives of all time. The British Class 59 is even derived from the processes and experience learned from the SD40-2.

3.4 SD40T-2 ‘Tunnel Motor’ Diesel Locomotive

A total of 312 examples of this locomotive were built for North American railroads between April 1974 and July 1980. This locomotive, along with the SD45T-2, are popularly called tunnel motors, but are officially referred to as SD40-2s with "cooling system modifications" because they were specifically designed to be more effective when operating in tunnels.

The major differences between this locomotive and its non-tunnel motor SD40-2, are the radiator intakes and radiator fan grills located at the rear of the locomotive. The radiator air intakes in this model are located along the deck to allow more fresh, cooler air to enter and less hot exhaust fumes lingering around the tunnel's ceiling.

Design & Specification

Manufacturer	Electro-Motive Division
AAR Wheel Arrangement	C-C
Unit Weight	368,000lb
Vehicle Length	70ft 8in
Vehicle Width	10ft 3in
Vehicle Height	15ft 7in
Power Output	3,000hp
Fuel Capacity	4,400 US Gallons
Design Speed	70 MPH
Total Built	312



3.5 C44-9W (Dash-9) Diesel Locomotive

The GE C44-9W, or Dash 9-44CW, is manufactured by General Electric Transportation Systems of Erie, Pennsylvania.

Debuting in 1993, the C44-9Ws proved very popular with many North American railroads placing orders such as Santa Fe and BNSF (the liveries featured in this pack) as well as Chicago & North Western Railway, CSX, Southern pacific, Canadian National Railway, Union Pacific Railroad and BC Rail. The similar Dash 9-40CW was purchased by Norfolk Southern.

Due to stricter emissions requirements introduced in 2005, the production of the Dash 9 was replaced by the GE ES44DC.

Design & Specification

Manufacturer	GE Transportation Systems
AAR Wheel Arrangement	C-C
Unit Weight	425,000lb
Vehicle Length	73ft 2in
Vehicle Width	10ft 3in
Vehicle Height	16ft
Power Output	4,400hp
Fuel Capacity	5,000 US Gallons
Design Speed	75 MPH
Total Built	2,500+



4 Scenarios

4.1 Donner Pass

Welcome to the Donner Pass. Operating a Directors Special over the central portion, visit the sights and history of many of the iconic features along this route.

Operating out of Bowman, run this service upto nearby Colfax, before heading on up and over the summit at Norden, and on to Truckee on the eastern slopes.

- **Date** 26th June 1990
- **Time** 10:00
- **Rating** Easy
- **Duration** 215 Minutes
- **Start Location** Bowman Loop
- **Train** GP9 + DRGW ACF Passenger Cars

4.2 Getting Involved / Powering Up

Let's get to it. You're part of the helper crew operating out of Colfax. Those trains won't make it without you.

A Manifest train has just come to a stand in the loop at Colfax. Pull forward and hook up to provide extra power to the summit. Accompany the train up to Norden Sheds and disconnect in the designated track. Once clear, head back to Colfax for your next duty.

- **Date** 5th August 1990
- **Time** 12:00
- **Rating** Easy
- **Duration** 100 Minutes
- **Start Location** Colfax Depot
- **Train** GP9 & SD40T-2 Locomotives

4.3 Together as One / A Joint Effort

Working as a helper you have to remain dynamic as you never know what might come your way.

Colfax Snapper, this is Colfax Depot. A Stack train has stalled just west of your location further down the grade. We need you to hook up and haul him to Truckee. Use the Balloon Track to turn your locomotives so the Tunnel Motor is lead, and then reverse down Track 1 to the train.

- **Date** 5th August 1990
- **Time** 14:00
- **Rating** Medium
- **Duration** 100 Minutes
- **Start Location** Emigrant Gap
- **Train** SD40T-2 & GP9 Locomotives

4.4 Cold Play

A snow storm has rolled in and it's your job to check the line. Can you make it over the summit?

Right guys, the snows really coming in now. This is a busy route and we need to keep it open. Get your train and your gear up the mountain and check we can keep the trains running. Keep us posted on your position.

- **Date** 2nd February 1991
- **Time** 09:00
- **Rating** Medium
- **Duration** 130 Minutes
- **Start Location** Truckee Depot
- **Train** Two SD40T-2 Locomotives and a Caboose



4.5 Colfax Depot

Its winter on the Sierra Mountains, so the conditions are tough. Which mode of travel will you choose to get down the mountain?

Choose from the available trains by clicking on it and then head for Reno as best you can.

- Date 15th October 1990
- Time 09:00
- Rating Free Play
- Weather Overcast Snow

4.6 Donner Summit

Donner Pass has been a trans-continental route for more than 150 years. The Summit is 7,056ft above sea level, overlooking Donner Lake, 9 miles west of the town of Truckee.

- Date 1st July 1990
- Time 12:00
- Rating Free Play
- Weather Snowing

4.7 Roseville Yard

This is one of the largest rail yards in the northwest, and you have free reign over its operation. How will you work the freight cars?

We are faced with a view of the main depot here at Roseville, but it is closely backed by a sea of cargo in amongst the many tracks and side roads. Choose your mode of traction by clicking on one of the locomotives, and take to the rails.

- Date 9th September 1993
- Time 17:00
- Rating Free Play
- Weather Overcast

4.8 Sparks Yard

Originally named Harriman after the President of the Southern Pacific, its name quickly changed to the Governor of Nevada at that time John Sparks. After 80 years of operation, Sparks yard is a hive of activity.

Select one of the available trains through out the yard area and take to the rails of this eastern Reno district.

- Date 1st July 1990
- Time 11:00
- Rating Free Play
- Weather Cloudy Sunshine

4.9 Truckee Depot

With the last few hours of sunlight on this mixed Spring day, do you have enough time to cross the mountains before darkness?

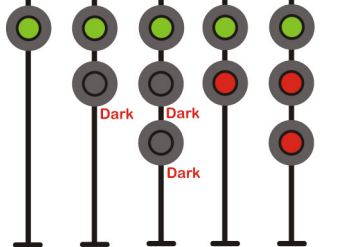
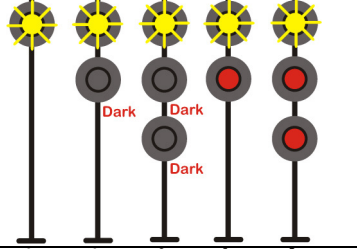
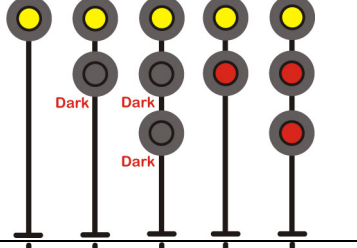
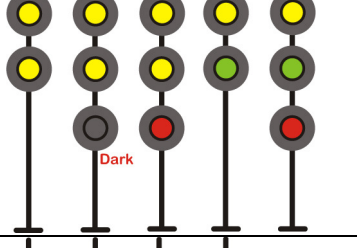
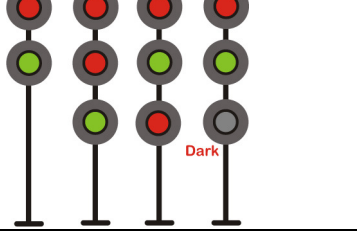
Choose from several large freights sitting in Truckee Yard, or run the last local of the day for the residence to get home.

- Date 21st March 1991
- Time 16:00
- Rating Free Play
- Weather Overcast Rain

5 US Searchlight Signals

5.1 Signal Head Aspects

Colour light signals are used for controlling running movements. They display aspects by means of red, yellow and green coloured lights.

Signal Aspect	Description	Instruction to Driver
	Clear	Proceed, at the maximum allowed line speed.
	Advance Approach	Proceed: be prepared to stop after the next signal.
	Approach	Proceed: be prepared to stop at the next signal.
	Approach Diverging	Proceed: be prepared to take a diverging track after the next signal.
	Diverging Clear	Proceed on diverging track at prescribed speed for junction.

	Diverging Advance Approach	Proceed on diverging track at prescribed speed for junction. Be prepared to stop after the next signal.
	Diverging Approach	Proceed on diverging track at prescribed speed for junction. Be prepared to stop at the next signal.
	Diverging Approach Diverging	Proceed on diverging track at prescribed speed for junction. Be prepared to take a diverging track after the next signal.
	Approach Restricting	Proceed: be prepared to pass next signal at restricted speed.
	Restricting	Proceed at restricted speed.
	Stop	Stop.

6 Using Southern Pacific Locomotives

6.1 Scenario Editor (if creating new scenarios)

To get the Southern Pacific locomotives provided in this add-on ready for selection in a scenario that is not located on the Donner Pass Southern Pacific route, you will need to enable it in the **Object Set Filter** list, which will add it to the rolling stock browser list.

Follow these steps:

1. Enter the Scenario Editor. (Note: If a route is locked it will need to be unlocked first before you can enter the Scenario Editor. Unlock by clicking the padlock icon in the bottom right of the screen).
2. Click the Object Set Filter button (the small blue cube on the middle left panel).
3. In the new window which opens on the right hand side, select the following:
RSC / DonnerPass
4. The Southern Pacific locomotives will now appear in the list of rolling stock.
5. You may need to repeat this process on other routes or scenarios where you wish the Southern Pacific locomotives to be available.



7 Acknowledgements

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