



RIO GRANDE SOUTHERN



PLACERVILLE TO RICO & TELLURIDE

Milepost
Simulations

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Route Information

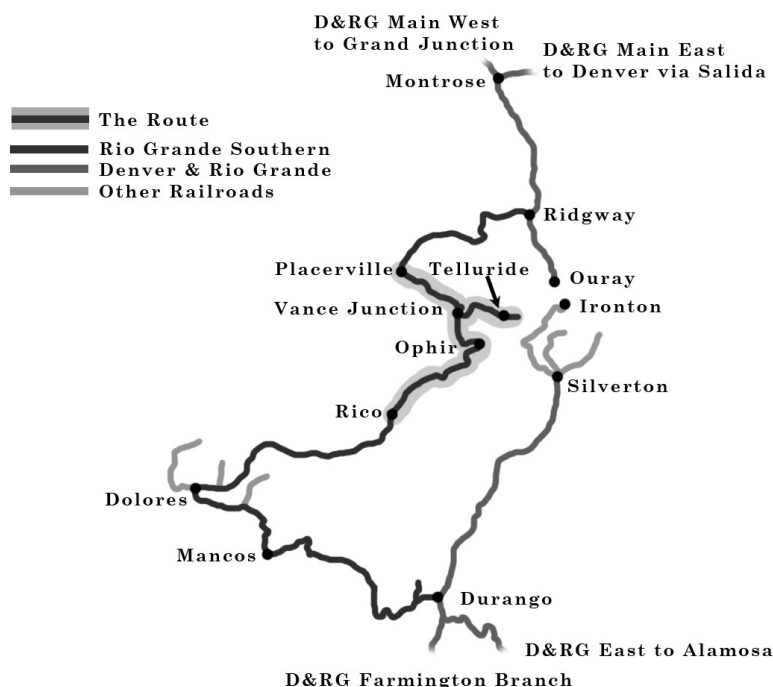
The Route features a 40 mile section of the narrow gauge Rio Grande Southern Mainline from Placerville to Rico and a 10 mile branch to Telluride and Pandora in the San Juan Mountains of Colorado. The route is set in the early 1940s.

The route from Placerville to Vance Junction features a 'gentle' climb with grades up to 2% along the San Miguel River. From Vance Junction the Mainline starts the climb up Lizard Head Pass and round the Ophir Loop, one of the highest railroad crossings in North America at an elevation of 10,250 feet with grades of up to 3.5% before descending into Rico. The branch to Telluride climbs up Keystone Hill with grades of up to 4% before flattening out on the approach to Telluride.

Traffic on the line was mainly made up with ores from mines and supplies for mines and towns along the line. Seasonal livestock traffic of sheep and cattle was also an important source of business for the railroad.

History

Otto Mears incorporated The Rio Grande Southern to connect the Denver and Rio Grande Ouray Branch (completed in 1887) with Durango (completed in 1881 with the branch to Silverton completed in 1882) and to serve the mining communities on route. Otto Mears had originally hoped to do this by building the Silverton Railroad from Silverton to Ouray, however the descent required into Ouray from Ironton was too steep for a railway so a much longer route from Ridgway (about 15 miles north of Ouray) to Durango was required for the Rio Grande Southern.



Construction started in 1889 from both Ridgway and Durango and the line was complete by the end of 1891. The line had to cross Dallas Divide (elevation 8,989ft) and Lizard Head Pass (elevation 10,250ft)

To climb the north side of Lizard Head Pass the railroad was required to build the Ophir Loop to keep the grade to 3.5%. This loop required 9 trestles in the space of 2 miles including Bridge 45A which is 483 feet long making it the longest on the Rio Grande Southern.

The Silver Panic of 1893 caused an economic depression to hit the San Juan Mountains of Colorado which resulted in significant loss of traffic and revenue for the Rio Grande Southern within 2 years of the line being completed. The railroad entered receivership which it remained in throughout its life and at times was operated by the Denver and Rio Grande.

The Denver & Rio Grande itself entered receivership in 1918 and was re-organised as the Denver & Rio Grande Western (D&RGW) in 1921.

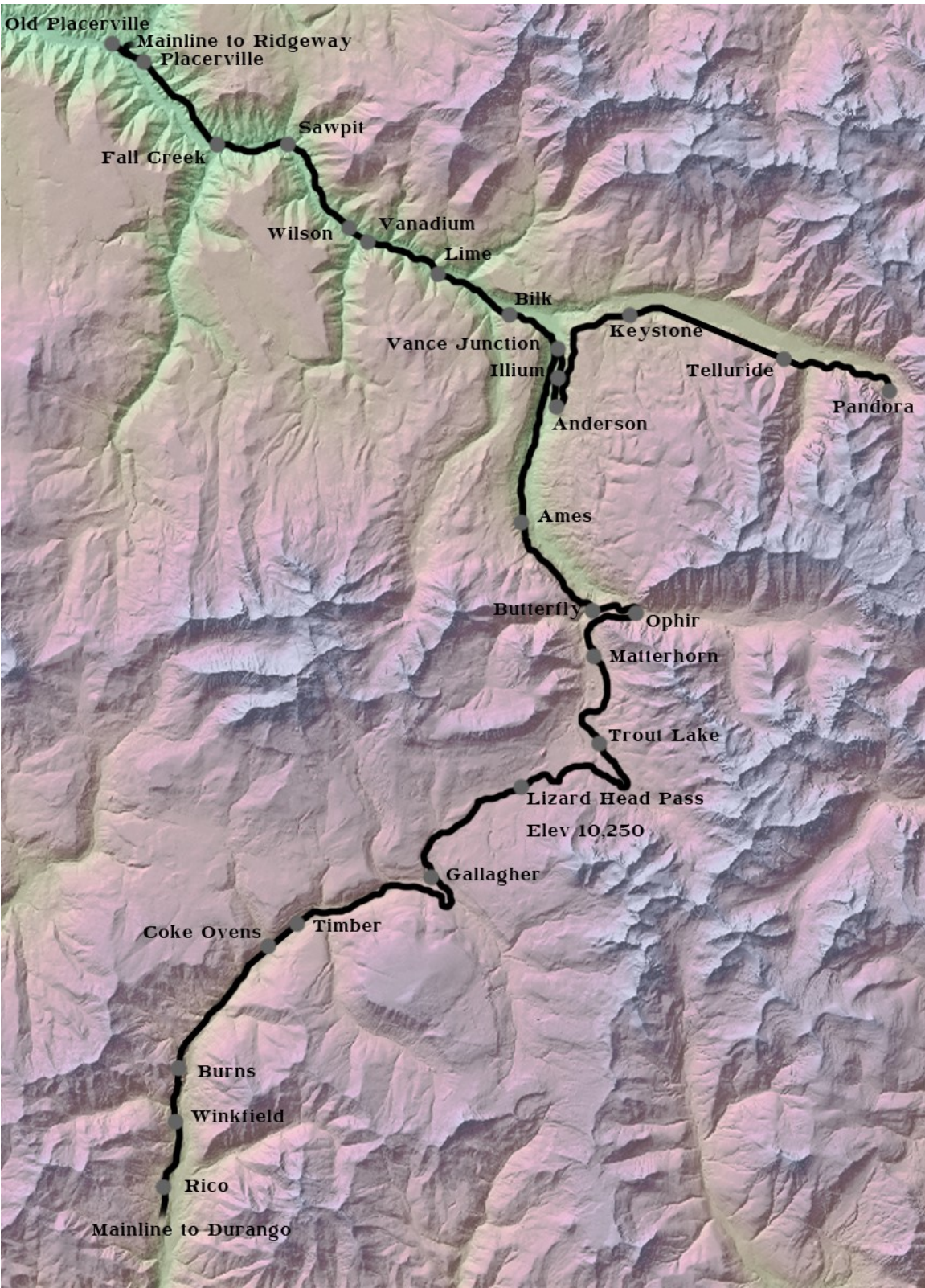
To help reduce costs of running passenger trains in the 1930s while still keeping the profitable US Mail contract the railroad 'invented' the 'Galloping Goose' a modified automobile running on narrow gauge rails capable of carrying light freight, mail and a few passengers. This significantly reduced the operating costs as only a one man train crew was required as well as being cheaper to maintain and less wear on the track.

During World War II traffic grew substantially partly as it was found that mine tailings (old mine waste) at Vandium and Rico contained Uranium-238. This was shipped by the Rio Grande Southern to Durango to be refined. 1,000 tons of mine tailings resulted in 2 grams of the required Uranium-235. Between 1941 and 1945 the railroad shipped 5,785 car loads of the mine tailings for Durango.

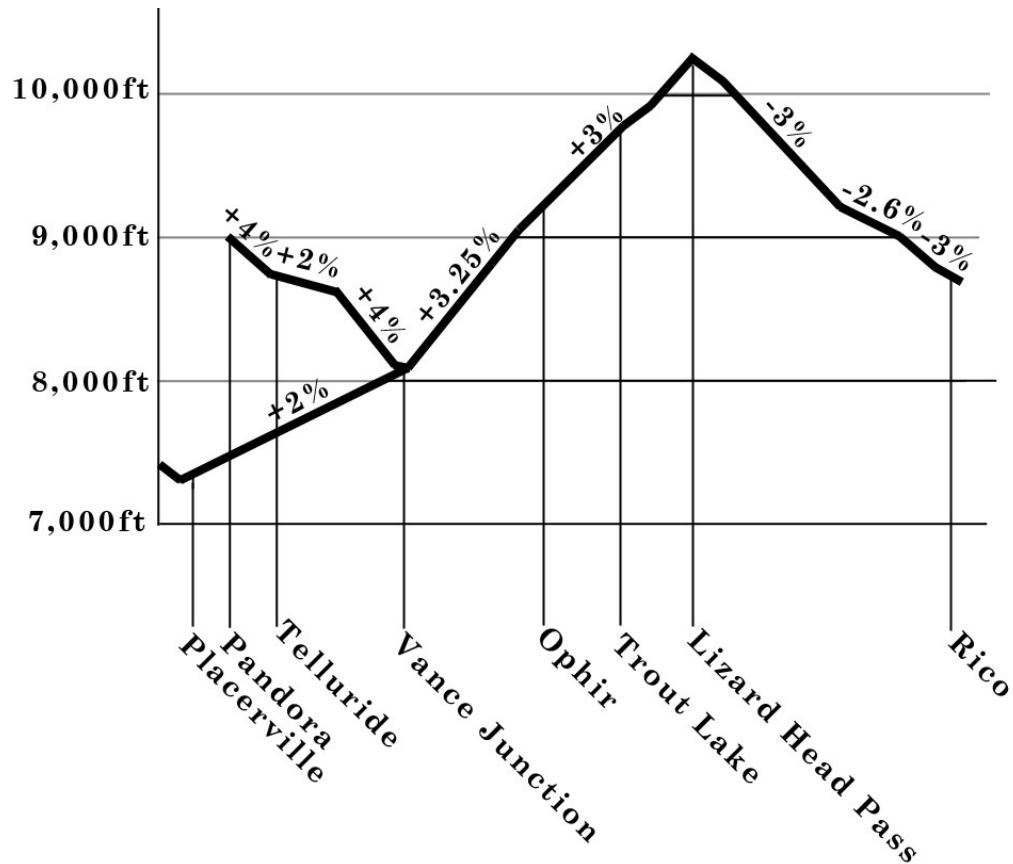
The railroad lost the US Mail contract in 1950 as the railroad was unable to keep the line open during winter as the railroad's only rotary snowplow suffered a boiler explosion. The freight sections of the 'Galloping Geese' were converted to carry passengers on tourist trips. However this was not enough to keep the railroad afloat.

The last revenue earning freight train operated in November 1951 and in April 1952 the railroad applied to the Interstate Commerce Commission for abandonment. The tracks were lifted during 1952 and 1953.

Route Map



Elevation Profile



Speed Limits

Speed Limits	Freight	Passenger
RGS Mainline	25	35
Sharp Curves	15	20
2.5% to 3% grades	15	20
3% to 4% grades	12	18
Over bridges between Ames and Matterhorn	10	10
In or out of turnouts	15	15
Placerville City Limits	6	6

In all included scenarios you will not lose any points until you are doing 4mph above the speed limit.

K-27 Locomotive



The Denver and Rio Grande ordered 15 outside frame "Mikado" 2-8-2 locomotives from Baldwin 1903. They were the first Mikado type locomotive for the Denver and Rio Grande narrow gauge as well as the first outside frame locomotives for the Denver and Rio Grande narrow gauge. The locomotives were originally classified as class 125 and were built as Vaucrain compound locomotives. The locomotives had a tractive effort of 27,000lbs making them significantly more powerful than any other locomotives on the Denver and Rio Grande narrow gauge system at the time. The most powerful 2-8-0 "Consolidation" had a tractive effort of only 19,000lbs. The K-27 were assigned to the mountainous sections of the network.

Between 1907 and 1909 the locomotives were rebuilt as simple expansion locomotives. During the 1924 reorganisation of the Denver and Rio Grande into the Denver and Rio Grande Western the locomotives were reclassified as K-27. Most of the class were rebuilt with Walschaerts valve gear some with inward facing cylinders and others with outward facing cylinders. The model included features the examples with outward facing cylinders.

The class first saw use on the Rio Grande Southern in 1920s after some track improvements were carried out. The locomotives proved to be very successful on the Rio Grande Southern due to their much increased tonnage rating up the steep grades of the northern district of the railroad. The Rio Grande Southern normally had a couple of K-27 locomotives on hire from the Denver and Rio Grande Western. In September 1939 the Rio Grande Southern traded a pile driver machine with the Denver and Rio Grande Western for K-27 #455 giving the Rio Grande Southern the first K-27 of their own. This locomotive #455 become the first locomotive to be painted with the new 'sunrise' logo on the tender. In November 1943 #455 had a runaway between Dallas Divide and Ridgeway resulting in damage which required an

extensive rebuild which resulted in the locomotive being given a cab from a Denver and Rio Grande Western standard gauge locomotive giving #455 a unique look after being rebuilt.

In 1950 the Rio Grande Southern also purchased #461 from the Denver and Rio Grande Western while it was on route for scrapping in transit over the Rio Grande Southern from Montrose to Alamosa. Locomotive #461 remained in operation to the end of the Rio Grande Southern before being scrapped along with #455.

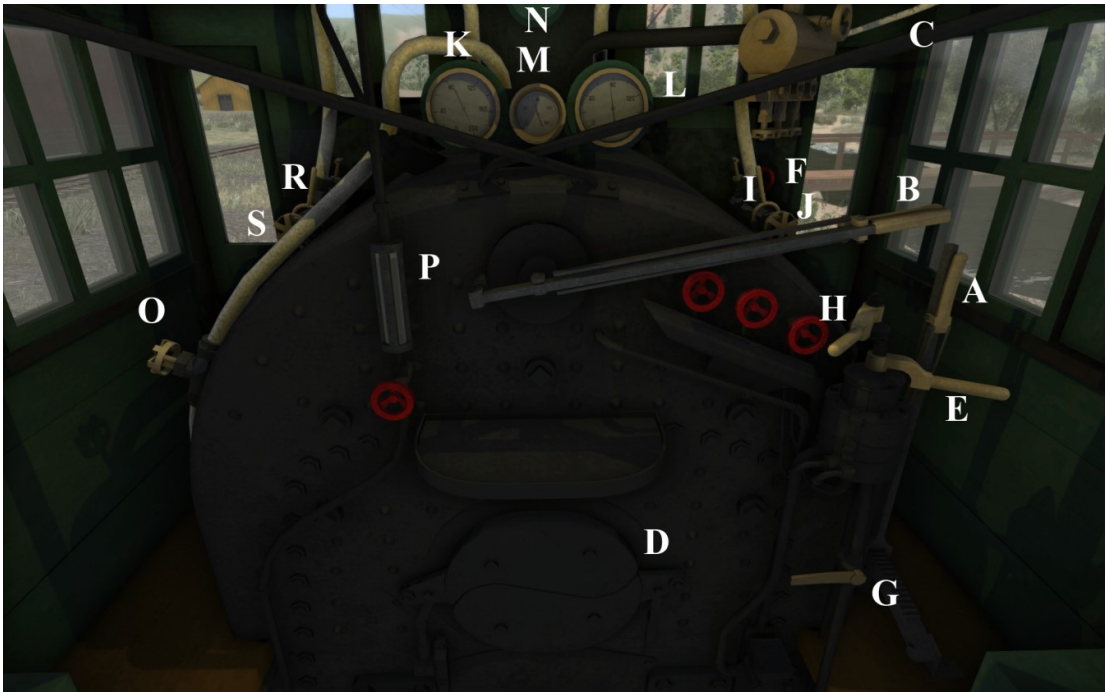
Two K-27 locomotives remain today in operation #463 at the Cumbres and Toltec Scenic Railroad in Colorado and New Mexico and #464 at the Huckleberry Railroad in Michigan.

K-27 Tonnage Limits

Section	Tonnage
Placerville to Vance Junction	430
Vance Junction to Pandora	183
Vance Junction to Lizard Head	250
Rico to Lizard Head	275

Pressing Control+Shift+R will report the total tonnage of the train. The locomotive and tender weigh 90.5 tons which can be deducted from the total given.

Locomotive Controls



	Control	Key		Control	Key
A	Reverser	W & S	K	Boiler Pressure	-
B	Regulator	A & D	L	Air Reservoir Pressure	-
C	Whistle	Space	M	Brake Pipe Pressure	-
D	Firebox Door	S	N	Cab Light	click
E	Train Brake	: and ‘	O	Blower	N
F	Cylinder Cocks	C	P	Water Gauge	-
G	Sander	X	R	Steam Lever For Injector	I
H	Locomotive Brake	[&]	S	Water Lever for Injector	O
I	Steam Lever for Injector	O			
J	Water Valve for Injector	I			

Rolling Stock

The route includes a selection of Denver & Rio Grande Western freight cars which were hired by the Rio Grande Southern as required. Each car has a loaded and empty version and some cars have different versions with different logos.

Boxcar



Flatcar



Gondola



Stockcar



A double and single decker version of the stock car are included. The double decker is used for sheep and the single decker is user for cattle.

Tank Car



Caboose



Four different Rio Grande Southern cabooses are included 0400-0403 each is modelled with detail for the prototype. Two versions of each caboose are included with and without the roof mounted lamp that was removed sometime during the 1940s. A Denver and Rio Grande Western caboose is also included.

Scenarios

Cattle Drive Part I

Duration: 120 minutes **Difficulty:** Medium **Route:** Placerville-Lizard Head
Take a cattle train from Placerville to Lizard Head Pass.

Cattle Drive Part II

Duration: 60 minutes **Difficulty:** Medium **Route:** Lizard Head-Rico
Take a cattle train from Lizard Head Pass to Rico.

Lizard Head Freight

Duration: 125 minutes **Difficulty:** Medium **Route:** Vance Junction-Rico
Take a freight from Vance Junction to Rico over Lizard Head Pass in Autumn with a drop off to make at the summit.

Mine Run Part I

Duration: 25 minutes **Difficulty:** Medium **Route:** Telluride-Pandora
Make up a train at Telluride and take it to Pandora.

Mine Run Part II

Duration: 50 minutes **Difficulty:** Medium **Route:** Pandora-Vance Junction
Make up a train at Pandora and head down the branch to Vance Junction.

Telluride Bound

Duration: 80 minutes **Difficulty:** Hard **Route:** Placerville-Telluride
Take a mixed freight from Placerville to Telluride

Winter Northbound Part I

Duration: 70 minutes **Difficulty:** Medium **Route:** Rico-Trout Lake
Take a freight from Rico to Trout Lake on a clear winters day.

Winter Northbound Part II

Duration: 95 minutes **Difficulty:** Medium **Route:** Trout Lake-Placerville
Take a freight from Trout Lake to Placerville on a clear winters day.

Signage



The post on the **left** is a milepost with the mileages starting at Rico.
The post of the **right** is a whistle post normally before a level crossing.

Credits

Route and Rolling Stock created by Jonathan Lewis, some assets provided by Dovetail Games, Locomotive Physics by Mike Rennie.