

# THE MOFFAT ROAD

(FORMER "HILL" ROUTE)

A SELF-GUIDING AUTO TOUR



ARAPAHO AND ROOSEVELT

*National Forests*

**COMPOSITION CREDITS:**

**REV. EDWARD T. BOLLINGER  
FORREST CROSSEN**

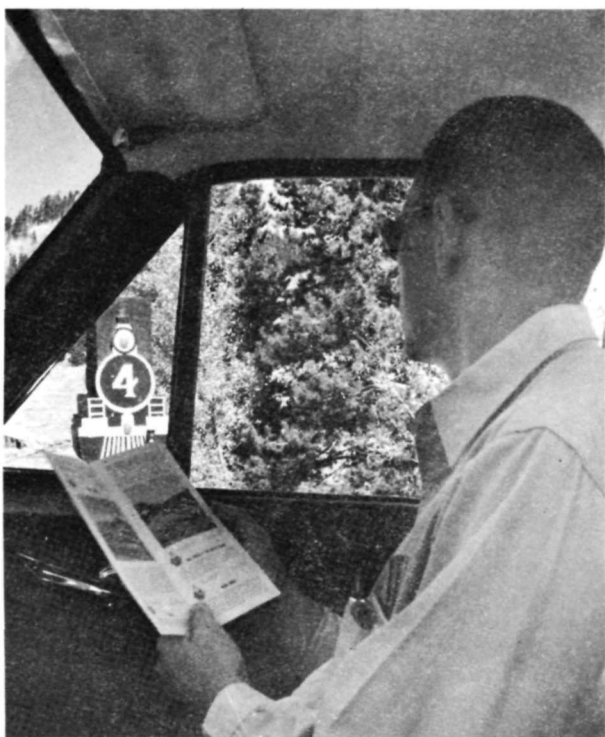
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## THE MOFFAT ROAD

(Former "Hill" Route)

A SELF-GUIDING AUTO TOUR



### HOW TO USE THIS BROCHURE

THE MAP IN THE CENTER of this brochure traces the former "Hill" route of the Moffat Road. "The Hill" refers to that section of the original Moffat Road which made its arduous way up the mountainside, crossing the Continental Divide through Rollins Pass.

As you travel the "Hill," you will observe numbered markers which correspond to the numbers in this brochure. On the left-hand side of the page by each point of interest you will find the mileage both from the east — at Jumbo Mountain Rest Area and from the west — at U.S. 40. Allow about four hours for the trip. Except as noted, the

automobile road follows the original railroad bed over which powerful steam locomotives pulling heavy trains once fought their way.

As you make the trip, try to visualize going over Rollins Pass, or along the steep wall of Devil's Slide in the middle of a howling blizzard. This will give you a greater appreciation of what railroading over the "Hill" must have been like.

All aboard? Then let's follow the path of those hardy railroading men . . .

## HISTORY OF THE MOFFAT RAILROAD

The story of the Moffat Railroad is an epic in world railroading. It is an example of how the dream of one man, David H. Moffat, was realized, in spite of incredible physical and financial hardships.

Men began driving the line westward from Denver to Hot Sulphur Springs in April 1903, and they completed it in June 1905. They had to bore 33 tunnels on a 2% grade up South Boulder Creek and on a 4% grade over Rollins Pass.

## HILL ROUTE "TEMPORARY"

While the route over the Hill was never intended to be a permanent part of the Moffat Railroad, it served as the main line for 24 years. The "Moffat," as employees and people at large commonly called it, operated over the Hill from 1904 until 1929.

## TORTUOUS ROUTE

The tortuous grade was constructed to provide access to the west side of a proposed 2.6-mile tunnel under Rollins Pass at the 9,960 foot level. This tunnel would have kept the railroad safely below the blizzards of winter. Financial setbacks and the active opposition of powerful railroad men prevented the tunnel's construction. The intended three or four years' use of the Hill stretched on.

## MOFFAT TUNNEL

Built during 1923 to 1927, 6.21-mile Moffat Tunnel cost 19 lives and \$18,000,000. It is the second longest railroad tunnel in the United States.

Completion of Moffat Tunnel through the Continental Divide in 1927 made 23 miles of Moffat tract unnecessary. Moffat Tunnel shortened the line from Denver to Craig from 255 to 232 miles. It cut the average running time for passenger trains from 2.5 hours over the Hill to 12 minutes through the tunnel.

In 1935, the Denver & Rio Grande Western began routing its fastest passenger and fast trains via Moffat Tunnel. Such famous steam-powered trains as the Panoramic, then the Exposition Flyer, took this route until they were superseded by the California Zephyr and Prospector of today.



MILES FROM EAST  
STARTING POINT

1.6

MILES FROM WEST  
STARTING POINT

32.7

## GIANT'S LADDER

Railroad engineers found it easier to build in valleys as they wove their rails through the Colorado Rockies. But here at the head of Boulder Creek, near the backbone of the Continental Divide, the valleys rose too sharply for the rails to follow. To gain elevation for the final push over the Divide, the railroad curved out of the valley in giant switchbacks up the mountain side. Three levels of railroad grade make up the "rungs" of the Giant's Ladder. Carved through the pine forests, they are still visible on the mountain. The first "rung" of the ladder was a continuation of the proposed main line, but the upper two rungs are on the "branch line" with sharp curves and doubled grade.



MILES FROM EAST  
STARTING POINT

2.4

MILES FROM WEST  
STARTING POINT

31.9

## TOLLAND (ELEV. 8,889 FT.)

Seeking relief from Denver's summer heat, hundreds of tourists flocked to this little town on the railroad. They found comfort in the cool mountain air, walking among the flowers and pine trees of nearby Medicine Bow Forest Reserve (now called Roosevelt National Forest). Here in South Boulder Park, Tolland Station (originally named Mammoth) was the first tourist stop of the Moffat Railroad west of Denver. The original Moffat Station in Denver,

was torn down and moved brick-by-brick to where it was it was reconstructed in Tolland. With its lunchrooms, souvenir shop, picnic shelter and picturesque National Forest setting, Tolland was a favorite week-end trip for tourists. As many as 3,011 people were brought up in 11 trains in one day by the railroad that never lost a passenger's life.



MILES FROM EAST  
STARTING POINT

4.8

MILES FROM WEST  
STARTING POINT

29.5

### EAST PORTAL OF THE MOFFAT TUNNEL

The six-mile long Moffat Tunnel under the Continental Divide was completed in 1927. The East Portal contains huge fans to force the smoke and gas westward out of the tunnel. A closer view of the Portal is available by driving one mile west on the gravel road. Train schedules for the tunnel entrance are posted at both east/west portals.



MILES FROM EAST  
STARTING POINT

7.4

MILES FROM WEST  
STARTING POINT

26.9

### WATER TOWER

If you walk up the old railroad grade to your right, you will arrive at a square water tower. Please follow the trail markers. It is one of the few square water towers ever built in the United States, and possibly the only one still standing. Built to service engines during the railroad construction period, it was not needed after the railroad began operation. The weathered structure stands as a monument to the construction of the Moffat Road. Just beyond it, Tunnel 31 is completely caved in. Please return by the same marked route. Allow about one hour for the trip.



MILES FROM EAST  
STARTING POINT

8.0

MILES FROM WEST  
STARTING POINT

26.3

### FOUR PERCENT GRADE

The Rollins Pass Branch begins here. At this point of construction on the railroad, hope was given up for a short 2.6-mile tunnel through the Great Divide. For want of gentler slopes here, the railroad grade had to be increased to 4%. A section of 2% grade which was to be the approach to the planned tunnel can be seen below. It was abandoned without having a rail laid on it.



MILES FROM EAST  
STARTING POINT

9.3

MILES FROM WEST  
STARTING POINT

25.0

### LADORA OVERLOOK

Below you are the remains of the town of Ladora. A bustling railroad settlement during 1903 and 1904, Ladora served as an important railroad siding, one of five on "The Hill." Section crews that maintained the line lived here.

Loggers also lived here. The lumberjacks remained until 1929 when the Hill route was discontinued. Without railroad transportation it was unprofitable to haul lumber to Denver. Ladora became a ghost town.



MILES FROM EAST  
STARTING POINT

10.0

MILES FROM WEST  
STARTING POINT

24.3

### ANTELOPE (ELEV. 9,905 FT.)

Antelope was a tiny railroad settlement clinging to the mountains. During construction of the railroad, large numbers of workmen made their homes here. As workmen steadily pushed the rails westward, Antelope settled down to being just another section-crew headquarters. The small year-round population lasted only as long as the railroad operated over Rollins Pass. Note the ruins of the small, crude, log cabins the workmen lived in.



MILES FROM EAST  
STARTING POINT

11.0

MILES FROM WEST  
STARTING POINT

23.3

### RUNAWAY TRAIN-WRECK

The four-percent grade became too much for one particular freight train. The brakes could not slow the runaway sufficiently on the curve above Antelope to keep the engine on the tracks. Mallet\* engine 201 hurtled off the rails causing the coal cars to dump their loads over the mountainside. Retrieving the engine, then the largest in the west, was done without a wrecker crane.



MILES FROM EAST  
STARTING POINT

11.9

MILES FROM WEST  
STARTING POINT

22.4

### CLEAR-CUT STRIP

For approximately the next mile, you will observe a narrow strip of deforested land along the old railroad right-of-way. Even in early days it was considered an esthetic eyesore, but was the lessor of two evils; the right-of-way through timber was kept cleared of all vegetation in an attempt to prevent forest fires. Locomotive sparks and burning cinders flying into the nearby timber were an ever-present forest fire hazard. In the clearing process there was little waste of timber—trees cut here were used in construction of railroad snowsheds. A few decks of unused, aging, logs are still visible along the road. Present vegetation within this strip has grown up since 1928.



MILES FROM EAST  
STARTING POINT

12.3

MILES FROM WEST  
STARTING POINT

22.0

### SMALL FRAME HOUSE

This one-room log structure was used by loggers and later as a vacation home.

\*The Mallet engine was named after its French inventor, Anatole Mallet. It was very large and powerful—in effect two engines in one. It was known as "the lord of the mountain rails."



MILES FROM EAST  
STARTING POINT

13.0

MILES FROM WEST  
STARTING POINT

21.3

### SPRUCE WYE (ELEV. 10,990 FT.)

Spruce Wye was born of necessity. So fierce was the assault of wind above this point, that rotary snow plows had to operate every eight hours or more during winter storms. Spruce Wye was the turn-around point.

The stem of the wye was long enough to accommodate two Mallet engines and the rotary. A snowshed was built over the stem. Its fallen timbers remain.

Tin cans and other debris found on this side of the wye accumulated from use of a two-story building that housed telegraph operators, section men, and served as temporary housing for snowplow crews.



MILES FROM EAST  
STARTING POINT

14.7

MILES FROM WEST  
STARTING POINT

19.6

### YANKEE DOODLE LAKE

This is the most advertised and popular scenic spot on the old railroad. The pile of rock and earth tailings extending out into this beautiful lake is the result of an early effort of David Moffat and other men in 1879-1880 to construct a 2,000-foot tunnel. The Colorado, Utah and Pacific narrow gauge was headed through this ridge to Middle Boulder Creek Basin, where it was also planned to construct a second tunnel to go under the Continental Divide to western Colorado. Many such excavations were begun to hold the right-of-way. From 1886-89, the Burlington Railroad promoted a line and took up this filing, resuming construction. This adventure ended when the Burlington ran out of money in the war between the giant railroads.



MILES FROM EAST  
STARTING POINT

15.5

MILES FROM WEST  
STARTING POINT

18.8

### DIXIE SIDING AT JENNY LAKE

The highest water stop on the east side of the summit was at Dixie Lake Siding. Tenders were filled here for

the final four-mile climb to the "top of the world," some 800 feet above. Water came from man-made Jenny Lake above. One passenger asked the railroad to rename the lake "Dixie" since there was a Yankee Doodle Lake . . . hence the name of the siding.

A train stalled here in a storm November 2, 1905. A brakeman assisted a mother giving birth to a baby whose name became Jenny Lake Miller.



MILES FROM EAST  
STARTING POINT

19.9

MILES FROM WEST  
STARTING POINT

14.4

## CORONA (ELEV. 11,600 FT.)

Naming of "Corona" Station and Hotel has resulted in some confusion to the visitor. The mountain pass on which Corona Station and Hotel were erected is officially known as Rollins Pass. Corona is Spanish for "Crown." On top of the world as it is, this area is usually covered with snow from October to June. Westerly winds sweep across the Continental Divide the year round.

In winter, snow on Rollins Pass drifted 20 to 30 feet deep, necessitating an extensive snowshed to cover the main line, the wye and the passing track.

As many as a dozen helper engines would be found in this shed waiting to return to Tabernash or Tolland. Coal, oil and cattle trains usually required five mallets to ascend from the west. This created the problem of coal gas. The pyramid-shaped snowshed ventilators often could not exhaust the gas-laden locomotive fumes fast enough to prevent an engineer or the trainmen from passing out from asphyxiation.

A railroad eating house was built a hundred feet back from the shed to the south and was reached by a small snowshed passageway. Near the wye and a passing track of the main line, there was a steam heating plant and a water tank. There were other buildings made of boxcar bodies.

To the north a beautiful restaurant-hotel was built. Its foundation can be seen today, as well as the deeply-anchored cable supports used to keep the roof from blowing off. Most of the dismantling of salvagable structures on the Hill was done in 1936.

Further to the north is King's Lake where in the late summer of a dry year another tunnel excavation of the D. U. and P. can be found.



MILES FROM EAST  
STARTING POINT

17.0

MILES FROM WEST  
STARTING POINT

17.3

## NEEDLE'S EYE TUNNEL

The combination of a tunnel on the skyline at the end of a straight stretch of the railroad resembles a needle and its eye. The present automobile road goes along the "needle" and through its "eye." This is Tunnel No. 32 west of Denver.

## BOULDER PASS WAGON ROAD (Just west of the tunnel)

Boulder Pass was the first name for Rollins Pass. In 1865 following the Civil War, a group of Mormons had to take their 39 wagons apart and pack them piece by piece up the last part of the trail. They were led by John Quincy Adams Rollins. He then began construction of a wagon road (seen below) in 1866, finished it in 1873, and hauled much freight over the pass which now bears his name. The cabin remnants at Yankee Doodle Lake were a part of this endeavor.



MILES FROM EAST  
STARTING POINT

18.6

MILES FROM WEST  
STARTING POINT

15.7

## TWIN TRESTLES

The Devil's Slide, 1,000 feet above Middle Boulder Creek, is traversed by twin trestles. Clinging spectacularly to the mountainside, the trestles were constructed in 1904. At the west end of the higher trestle you may note a wooden barrel buried in the ground. This barrel, kept filled with water, was handy to quench the flame if a spark from a passing steam engine started a trestle fire.

# THE MOFFAT ROAD

FORMER "HILL" ROUTE



POINT OF INTEREST  
MARKER ON ROAD

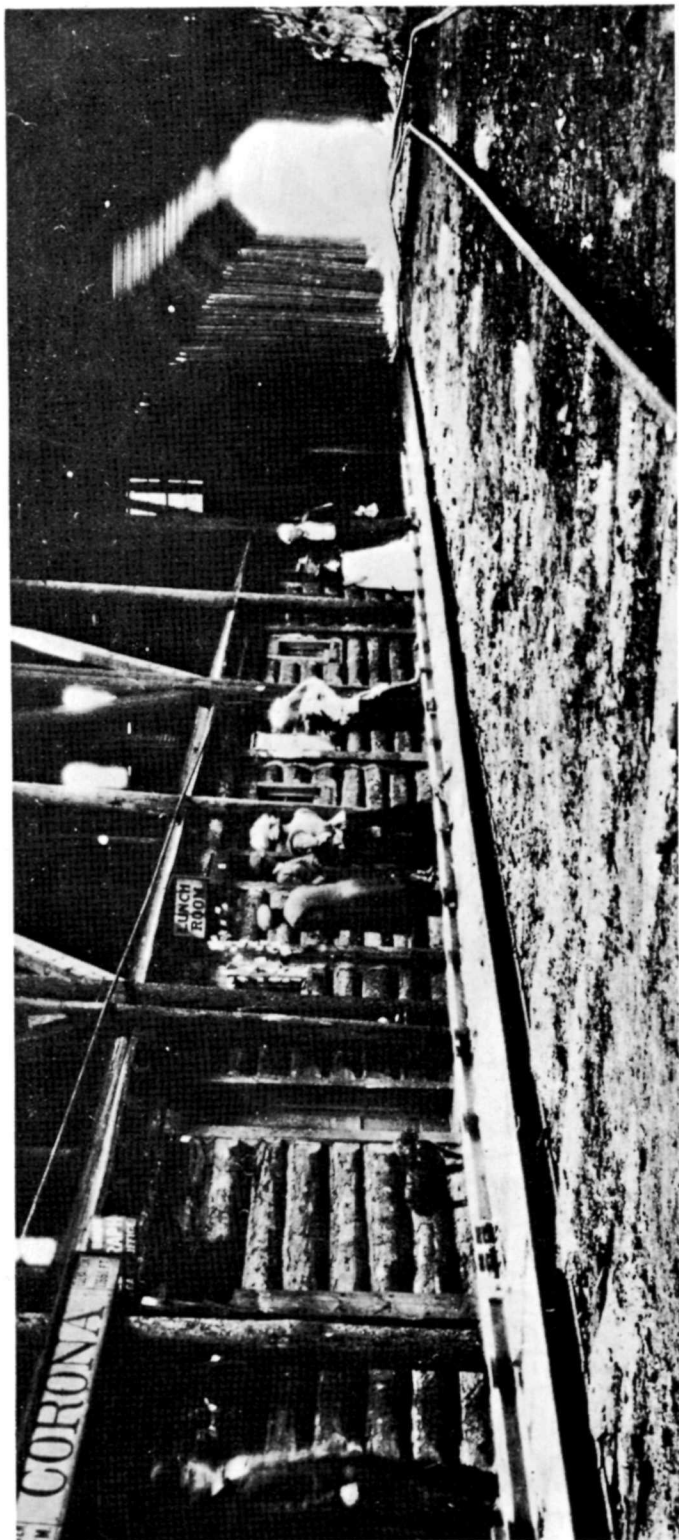
AUTO ROAD BYPASSES  
OLD RAILROAD  
GRADE



ROUTE OF  
ORIGINAL  
DENVER  
NORTHWESTERN  
&  
PACIFIC  
RAILWAY

ARAPAHO AND ROOSEVELT *National Forests*  
FOREST SERVICE U. S. DEPARTMENT OF AGRICULTURE





MILES FROM EAST  
STARTING POINT

20.7

MILES FROM WEST  
STARTING POINT

13.6

### PUMP HOUSE LAKE

By Pump House Lake, in the basin directly to the west of this road, there was a steam generated water pump. The water pump operator and his wife spent the winter here, isolated except for the telegraph. They kept the pump working to supply the needs of Corona Station, the hotel, and railroad water tanks used to replenish locomotive water supplies after the steep ascent to the Divide.



MILES FROM EAST  
STARTING POINT

21.4

MILES FROM WEST  
STARTING POINT

12.9

### TELEGRAPH POLES

In the alpine meadows to the east of the road is a long row of telegraph poles that served the Moffat Road. In winter blizzards when snow was almost as high as the crossarms, men from stranded trains felt their way along these wires to shelter. Once, when a train was stalled in a snowdrift, George Barnes, the conductor, struggled to a nearby telegraph pole, hooked up his telegraph instrument, and reported the train's plight—"Engines gone dead because of low water and inability to shovel snow in the terrible gale." The trainmen had to abandon the train and walk to Corona. Imagine such an experience in a 50-mile-an-hour wind at 20° below zero! At other times, water for the locomotives was often obtained by shoveling snow into the tender tanks and melting it with steam.



MILES FROM EAST  
STARTING POINT

21.8

MILES FROM WEST  
STARTING POINT

12.5

### TRAIN WRECKS

On the mountainside across the valley, you may observe two diagonal cuts in the timber, extending downward from the lower level of track. The ramp to your left was used to retrieve a snowplow. In 1924, Engine #210 jumped from upper level, landed on lower level and exploded down the hill. Pieces of rusted metal from it still remain on the slope. The ramp on the right was built in 1922 to retrieve Mallet Engine #208. Men were shoveling snow into the tender to melt water. An avalanche swept the engine and tender down the mountain. The men inside the tender survived. To the right of this is the spot where a large number of coal cars were swept down the hillside. Coal piles still remain today.



MILES FROM EAST  
STARTING POINT

22.3

MILES FROM WEST  
STARTING POINT

12.0

## SUNNYSIDE

This area, with its sunny exposure, was appropriately named "Sunnyside." Before the pump was established at Pump House Lake, water for engines was obtained from the small pond at this site. Some of the ponding structure remains.

Across the road is a weather shelter used by Federal Aviation Agency servicemen who, in all kinds of weather, have to maintain the FAA's beacon on a nearby mountain peak.

During the summer, sheep graze this alpine area under permit from Arapaho National Forest. The range study plot was constructed from original ties from the railroad bed. Beyond the study plot are old cabins used during construction of the railroad.

## TRESTLE CAMPGROUND

Trestle Campground has been constructed on the Arapaho National Forest for your enjoyment. It is one of the many picnic and camping grounds on the Arapaho and the Roosevelt National Forests. Why not stop here, have lunch and enjoy the spectacular summer view of the high country?



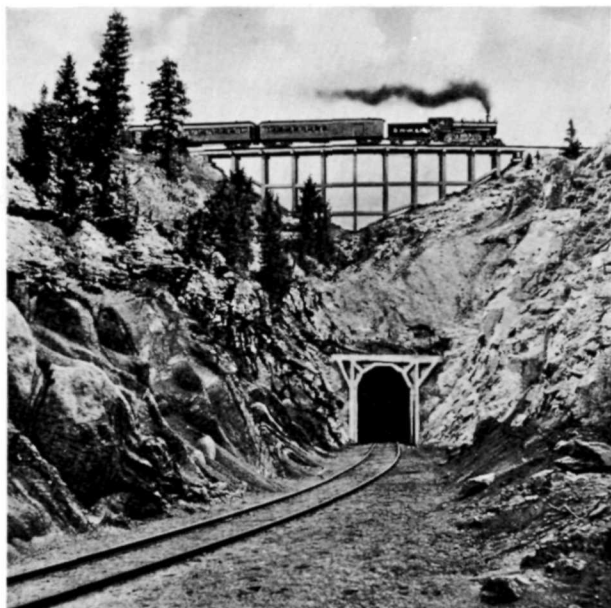
MILES FROM EAST  
STARTING POINT

23.5

MILES FROM WEST  
STARTING POINT

10.8

## LOOP TRESTLE AND TUNNEL 33



A train going through Tunnel 33 had to ascend one and a half miles of loop track (circling a mountain in the process) before it reached the Loop Trestle. The vertical distance between the two sections of the track is 150 feet.

The notch below the Trestle was known as Rifle Sight Notch. The Trestle is unsafe because it rests directly on the caved-in roof of Tunnel 33.



MILES FROM EAST  
STARTING POINT

24.5

MILES FROM WEST  
STARTING POINT

9.5

## ACCESS TRAIL TO WRECK SITES

A foot trail from here leads to the original grade. It is about a five-minute walk. From there you can locate the ramps built down to retrieve the various wrecked engines, described under stop #19.



MILES FROM EAST  
STARTING POINT

25.2

MILES FROM WEST  
STARTING POINT

9.1

## TRESTLE-TUNNEL BYPASS JUNCTION

The railroad grade up-hill from this point is impassable. The bypass road rejoins the railroad grade at the loop trestle 1.7 miles from here.

At this point you will note two old cabins which were used by loggers when the Moffat Road was being constructed. Just around the lower bend in the road you will see a "landing deck." This is a structure built by loggers to aid them in loading logs on flatcars. Today, landing decks are still used on the Arapaho and Roosevelt National Forests to aid in the loading of logs, but trucks with modern loading devices make the job much easier.



MILES FROM EAST  
STARTING POINT

26.9

MILES FROM WEST  
STARTING POINT

7.4

## RANCH CREEK WYE (ELEV. 10,200 FT.)



This was the turn-around point for the snowplows on the west side of the Hill. You will notice that it is a short wye. Yet, to construct one here at all, it was necessary to excavate rock from the hillside. A water tank and an operator's office were located here. The remains of Railroad Bridge #72.83 (72.83 miles from Denver) are at the bend in the road. All water tanks were insulated with a foot of sawdust.

A short distance down the road (toward the West Portal) is a white hut. It is one of the Federal Aviation Agency's airways beacon maintenance crew emergency shelters used during storms. Periodically, throughout the year, FAA personnel service the beacon located on a mountain peak near Rollins Pass.



MILES FROM EAST  
STARTING POINT

30.0

MILES FROM WEST  
STARTING POINT

4.3

### SAWMILL SPUR

This spur left the main line to reach a sawmill. Some of the dilapidated log buildings still remain. The cabins were occasionally used as emergency shelters during blizzards. In such instances, westward-bound passengers often had to walk to Arrow in sub-zero temperatures.



MILES FROM EAST  
STARTING POINT

30.3

MILES FROM WEST  
STARTING POINT

4.0

### FOREST SPUR

A level grade was built back into the trees to allow trains to pass.



MILES FROM EAST  
STARTING POINT

30.4

MILES FROM WEST  
STARTING POINT

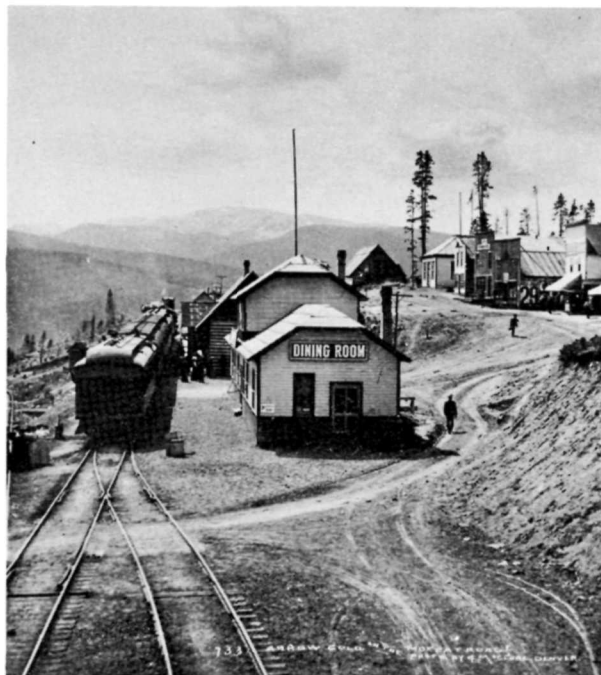
3.9

### ARROW (ELEV. 9,585 FT.)

Rails were laid into Arrow on September 18, 1904, 76 miles west of Denver. Arrow, or Arrowhead, as it was initially called, was incorporated on December 29, 1904 as the first incorporated town in Grand County. The reason for incorporating was to legalize the sale of liquor. Until this time the site was part of the Forest Reserve on which the sale of liquor was prohibited. Before incorporation, the barkeepers always had explained to inspectors that the kegs of liquor standing about were their "personal stock."

Before the railhead was extended westward in 1905, over 2,000 people from nearby construction camps received their mail at Arrow. Two miles above the old Berthoud Pass wagon road, Arrow existed as long as the Hill route was in operation. Then it became a ghost town. As you walk about the site, note the building foundations and excavations in all directions.

There was no passing track on the four-percent grade, as it did not permit safe stopping, so a level spur was built above the main track to serve the station. The eating house or "dining room" fronted on the short side track. A coal tipple, engine loop and stock yard were also alongside this track. The town in its hey-day had pressure-tank gasoline street lights. Such lamps were usually seen only on the boulevards of large cities!



MILES FROM EAST  
STARTING POINT

31.0

MILES FROM WEST  
STARTING POINT

3.3

### PACIFIC SIDING

Mainly a passing track for Arrow, this was also the proposed junction with the main line through the 2.6-mile tunnel under the Divide. The little Chicago wagon road crosses the rails at this point. When Arrow was the temporary western railhead for the year 1904-05, this road connected Arrow with the valley below.

### MOFFAT TUNNEL OVERLOOK

When you reach Highway 40 — turn left on U.S. 40 to the West Portal of the Moffat Tunnel. An overlook has been built there by Arapaho National Forest.



**DAVID H. MOFFAT**

(July 23, 1839 – March 20, 1911)



David H. Moffat, pioneer Denver banker, mining man, and railroad builder, organized his railroad July 18, 1902, incorporating it as the Denver, Northwestern & Pacific Railway Company.

"To build and to operate a railroad west of Denver in 1902 was almost as daring as to fly to the moon sixty years later."\*

David H. Moffat dared. At the turn of the century, he was one of the wealthiest men in Colorado. He owned much of the Colorado gold mining areas around Florence and Cripple Creek. It was his ambition to provide access to the natural resources of northwestern Colorado and a more direct rail route to Salt Lake City and the West Coast. Moffat also wanted the lower freight rates such a direct route would provide. This could only be done by building a railroad directly west from Denver. Such a line would cancel the need of a 175-mile detour either north to the Union Pacific or south by way of the Rio Grande Railroad.

The north and south routes were owned by eastern financial tycoons who fought Moffat's every effort to build the railroad.

The men who operated the locomotives were loyal to Moffat. For it was he who, more than once, had signed a blank piece of paper and told his enginememen to write their

own contracts. "I know that you will not cheat me," he told them. They never did. They were ever loyal in fighting the winter blizzards to keep the Moffat Road in operation under the most trying of circumstances.

Moffat was president of the Denver, Northwestern & Pacific until his death March 20, 1911. In 1912, the DN&P was forced into receivership; it was reorganized April 30, 1913, as the Denver & Salt Lake Railroad Company. It operated under this name until April 11, 1947, when it became part of the present Denver & Rio Grande Western Railroad Company.

## TIPS TO DRIVERS

Drive Defensively.

Expect a car around every curve. Stay to the right.

Remember the car proceeding up-hill has the right-of-way.

Do not ride brakes on hills. Use lower gears.

Keep car radiator filled.

If the engine "vapor locks" (heats up and stops), place a cool, damp cloth over the fuel pump for a few minutes.

For repairs or other emergencies pull off to the right of the road.

Mountain driving often takes you into isolated areas. In the mountains it may snow any month of the year. Certain emergency equipment is advisable, even those which may seem like "space-stealers."

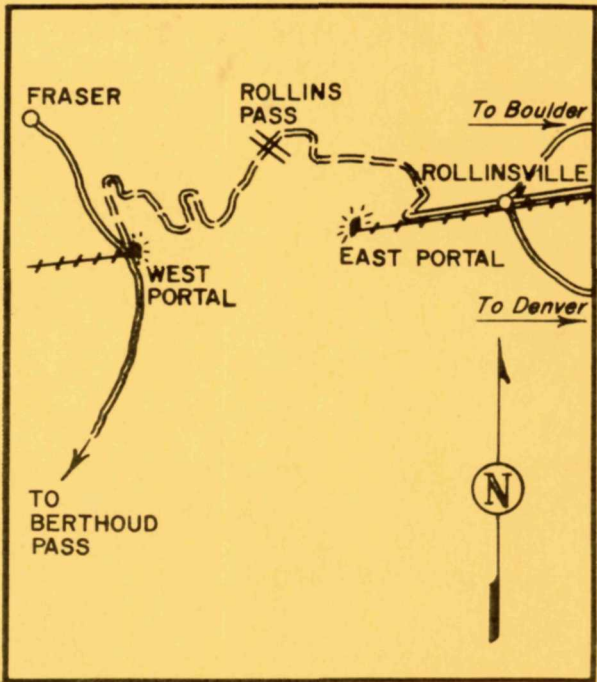
1. Bumper Jack
2. Tow rope, strap or chain
3. Tire chains
4. Two-way repair light (spot and flashing red lights)
5. First-aid kit
6. Fire extinguisher
7. Road-side reflectors
8. Blankets, matches and extra food

**PLEASE USE YOUR ASHTRAY AND  
HELP PREVENT FOREST FIRES.**

— KEEP THE MOFFAT ROAD CLEAN. —

\*Bollinger, Edward T., and Bauer, Frederick: "The Moffat Road." Sage Books, Denver, Colorado. 1962, pg. 21.

# KEY MAP



The Arapaho and Roosevelt National Forests are part of a system of 154 National Forests administered by the U. S. Forest Service.

The Forest Service, U. S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives — as directed by Congress — to provide increasingly greater service to a growing Nation.

ARAPAHO NATIONAL FOREST  
GOLDEN, COLORADO  
ROOSEVELT NATIONAL FOREST  
FT. COLLINS, COLORADO

