

Because of the initiative to memorialize the Saluda Depot and Saluda's railroad history, Saluda Faces is featuring the faces of unknown men and women who were part of this legend.

Cresting the peak: the power and challenge of Saluda Grade
Story by Rebecca Burcher

This article appeared in a 1992 edition of "NS FOCUS," a magazine published by Norfolk Southern Public Relations Department. Trains no longer run through Saluda.

With all the brakes applied and speed still picking up, Engineer Leonard Biddix of Ridgecrest, N.C., jumped from the cab of a runaway coal train heading down Saluda Mountain, the steepest standard gauge main-line railroad grade in the United States.

"I leaned back and put one foot out and jumped," says Biddix, describing the most memorable ride of his 30-year railroad career.

Before leaving the cab, Biddix, who was working that run as a fireman, checked the train's speed: 22 mph. When he was safely off the train, he says, "I turned around and watched it go by." As the caboose passed him, Biddix estimates the train was moving at about 35 mph.

The runaway on which Biddix rode was lost Sept. 20, 1964, at about 2 o'clock in the morning. There were six engines, pulling 69 coal cars. The locomotives plunged down the mountainside several hundred feet and are said to have knocked down trees a foot-and-a-half in diameter. Twenty-three cars derailed.

"That's one you don't forget," says Biddix, now 68 years old and retired.

For the first time since diesel engines replaced steam power, Saluda Mountain, famous for its three miles of curving, steep grade, had claimed another train with the '64 derailment.

"You've got to be absolutely positive on Saluda Mountain," says Melvin Warren, Norfolk Southern's division road foreman for the Piedmont division, where the Saluda grade is located. "You can't take any chances."

No roller coaster

To the uninitiated (and certainly those who are not rail fans), hearing of Saluda grade and its distinction as the steepest standard gauge main-line rail grade in the 48 contiguous states brings to the minds of those with vivid imaginations track laid out over the southwestern North Carolina mountains like a thrill-seeker's favorite roller coaster: sudden drops and rapid speeds that bring about piercing screams. Not so.

The Saluda grade, at its crest in the center of the quaint city of Saluda, N.C., looks to the casual observer like nothing more than curving track. Without a railroader's explanation, or possibly a ride in a locomotive cab, the challenge and power of the Saluda grade — 5.4 percent at its steepest and an average of 4.7 percent over the nearly three-mile course — is lost on the average person.

Speed limits certainly suggest the perilous nature of the grade that the eye cannot see when merely looking at the tracks in downtown Saluda. Trains traveling down the mountain are restricted to an 8 mph limit, and those traveling up the mountain may not exceed 20 mph. It takes precision train-handling, particularly going down the mountain, to maintain those speeds.

An automated time zone monitors downhill speeds. A train must not pass through the timed zone in fewer than 64 seconds. If it does, then the engineer has failed to keep the perfect 8 mph balance between the train's air brakes and its electric retarding (dynamic) brakes. When this occurs, an electronically controlled switch automatically prevents the train from continuing down the mountain's mainline track. Instead, the train is diverted onto a safety track with a 10 percent uphill grade.

The safety-track idea was the brainchild of Engineer W.P. "Pitt" Ballew, who lost a train July 13, 1903, to the Saluda grade. According to the story, Ballew was the last crewman to jump from the train. Thirteen coal cars and two merchandise cars derailed; ironically, a carload of eggs was all that stayed on the track.

Ballew was seriously injured, and he spent several months in a hospital with plenty of time to think. There, he came up with the idea for safety tracks.

When Southern Railway lost two more trains before Ballew was fully recuperated, the company installed two safety tracks by November 1903.

One of the crashes that urged Southern Railway officials to act quickly on Ballew's idea claimed three lives and derailed locomotive and 13 coal hoppers. The wreck inspired a banner headline, referencing lost lives, across the front page of The Asheville (N.C.) Citizen on Aug. 14, 1903. According to the news article, a railroad operator fainted when he saw the racing runaway pass him.

Today, only one of the safety tracks remains functional. In 1955, Southern sought permission from the ICC to close one safety track, explaining that diesel locomotives and improved operating procedures eliminated the need for both safety tracks.

The last fatal accident on Saluda grade occurred in 1940, and the last derailment occurred Nov. 14, 1971. Rail enthusiast Bob Loehne, who's published The Rail modeler's Guide to Saluda Mountain, quotes the runaway's engineer, the late J.T. Stanberry of Asheville, N.C., as saying, "Southern said, 'The computer says the train can make it down the hill.' And it was right!"

Lumps of coal from the 1971 derailment remain today, mixed in with the ballast around the safety track.

Handle with care

Gene McCrary of Pisgah Forest, N.C., who retired in 1982 as general road foreman of engines for Norfolk Southern's Eastern lines, has taken many trains "over Saluda Mountain. (His father operated steam locomotives over Saluda Mountain, also.) In 1959, when he earned his qualification to take a locomotive over the mountain by himself, he was tested over and over.

"They made me take 34 trains of different kinds over that mountain before they would give me the qualification," muses McCrary. "But they were doing that for my advantage. It's quite a precision operation to take a heavy tonnage train over Saluda."

Part of what requires the precision is the crest of the grade. If an engineer isn't operating the train just so, the cars are apt to separate when the train's mid-section peaks the crest. At that point, gravity is pulling the train in opposite directions, and the stress on couplers,

knuckles and draft gear (assemblies on railcars similar to shock absorbers) can cause the cars to pop apart as if the train were a toy.

"You don't take chances here," explains Melvin Warren, NS's Piedmont division road foreman. If you do, you're going to be in trouble. You've got to concentrate every minute."

Warren says operating instructions are followed to the letter on Saluda Mountain. "We do not make any exceptions," he continues. "Those rules have been written from mistakes made in the past."

McCrary, the retired general road foreman, backs up Warren on these points. After the 1971 runaway train, McCrary, who was working during that period, says several rules and special instructions were evaluated and made more restrictive.

"Following the rules and special instructions is that critical," says McCrary, "because it's too late after you get on the side of that mountain, and you can't control that train."

Steeped in History

The track over Saluda Mountain connects Asheville, N.C., and Spartanburg, S.C., some 60 miles apart. The line was opened in 1878, according to a state historical marker posted at the crest of the grade.

In John Gilbert's 1972 book, "Crossties over Saluda," considered by rail fans and railroad personnel alike as a respected source of information on Saluda grade, the author says the track between Asheville and Spartanburg "follows almost precisely the famous Wilderness Trail over which the earliest settlers trudged and trundled their belongings in search of lands to settle."

According to Gilbert's sources, thought was given to constructing a rail line between Asheville and Spartanburg as early as 1832. When rail construction did begin later on, it was the work of the Spartanburg and Asheville Railroad, later called the Asheville and Spartanburg Railroad. Financial hardships, however, prevented easy construction of the line, and eight years passed before the initial segment between Spartanburg and Hendersonville, N.C., completed in 1877, was linked with the final segment to Asheville in 1885. Southern Railway gained control of the line in November 1895.

It's said the rail line was constructed as it is because the route, while treacherous, was the cheaper construction option. A Hendersonville historian, Sadie Patton, was quoted in a 1949 edition of the Asheville (N.C.) Citizen Times, saying a 13-mile route was discussed instead of today's three-mile course, but the longer route called for heavy grading and cutting, plus several tunnels.

I. Ray Mauney of Ellenboro, N.C., who retired in 1985 as Norfolk Southern's system general road foreman of engines, says Southern's former president, Stanley Crane, oversaw a number of studies and tests that would have eliminated Saluda grade by constructing tunnels in the area. But, says Mauney, the answers always came out the same: too costly. The lime content in the Saluda area makes tunnels prohibitively expensive. So, for more than a hundred years, trains have continued to cross the steep Saluda grade.

"You used to flatten a lot of wheels on that grade," says Mauney. Flattening wheels, however, is no longer a problem because of improved rail equipment.

Talking about tunnels and steep grades, particularly in the mountainous regions of southwestern North Carolina, adds validity to the common reference to "Saluda Mountain." But, in reality, there is no mountain by that name. Residents of Saluda readily point out that fact. Actually, their city is situated in a valley, surrounded by seven hills.

"Wish you were here."

Gilbert, in his book, quotes from an early ("vintage," according to Gilbert) Southern Railway promotional brochure, which encouraged the popular tourist trade in the region:

"Probably no other section of railroad of equal length in the United States affords to the student, to the tourist or to the casual traveler such a wealth of interest and enjoyment. It is overflowing (sic) with historical lore of wonderful richness and its scenic beauties are scarcely equaled and not surpassed anywhere. Every mile of the road is wrapped in romance and enshrined in history."

Passenger trains operated safely over Saluda grade until Dec. 5, 1968. In some 90 years of operations over Saluda grade, no passengers ever lost their lives.

Eighty-seven-year-old Lola Ward, owner and proprietor of Ward's Market, a hub of shopping, conversation, dining and politicking in Saluda, remembers the last passenger train over Saluda grade.

"I rode the last 28 (Train #28) that went down (the grade)," she says from her customary perch alongside the market's cash register. "When that train got to Columbia, S.C., there wasn't a soul on that train but me and the crew."

"We miss those trains."

Today, coal is the primary commodity traversing the Saluda grade. The Belmont coal train, named for its Belmont, N.C. destination, moves 96 cars, or 13,248 tons of coal, over Saluda for deliveries to Duke Power. In addition, Saluda grade sees many carloads of wood chips, which are delivered to Champion Paper Co. in Canton, N.C. At other times, commodities such as sand, gravel, stone, asphalt and caustic soda cross the mountain.

An often-asked question is whether Norfolk Southern intends to maintain operations over the Saluda grade, and points are made for keeping the line open, as well as abandoning it. The debate continues. Meanwhile, engineers, concentrating every inch of the way, are moving freight over Saluda grade.

A Railroad Legend

Ask Melvin Warren what it takes to operate a train over Saluda grade and he answers in a word: Nerve

He thinks a little, then adds, "A lot of guys, you can see their hands trembling when they reach for the throttle. It's just human nature."

"I've seen a couple road foremen who've been transferred here, rode the mountain once and said, 'If this is all you've got for me ...' Some would rather quit than oversee operating trains across the steepest standard gauge main-line grade in the United States."

Long live the legend of Saluda Mountain.