

The Northern Railroad opened service between Concord and West Lebanon, NH in 1848. Daniel Webster spoke at the ribbon-cutting ceremony, proclaiming: "It is altogether new. The world has seen nothing like it before." There were 1,200 people at the inauguration of the "steam

highway". Trains passed through eleven towns on their 70-mile route, which came to be known as "Main Line North." In 1890, the Boston & Maine Railroad Company leased the Northern as part of its conglomeration of railroads in New England. The Boston & Maine modernized the rail system—steam engines now burned coal and steel replaced the old iron rails. New safety improvements were enabled by Centralized Traffic Control (CTC). From an office in Boston, technicians were able to control track switches and traffic flow. Other automated safety features included:

Automatic Train Stops (ATS) A fail-safe air brake/dead-man's switch for emergencies, such as debris on the tracks, disconnected rails, or an unresponsive engineer

Automatic Switch and Signal Interlocking Electro-pneumatic control of track switches replaced throwing switches manually

Automatic Block Signaling (ABS) Circuit controls to detect a train in a particular block of track and automatically enact proceed or stop signals

In 1965, eclipsed by the superhighways that enabled automobiles and trucks to move more expeditiously, the Northern Railroad stopped operating passenger trains. The last freight train ran in 1982. In 1992, the Northern Railroad became the Northern Rail Trail that today is one of New Hampshire's more popular recreation trails.

Keeping the Trains Moving Safely

Signs

Signs along the railroad indicated crossings, speed limits, or safety warnings. Historic signs used words or symbols to communicate information to engineers, rail workers, and of course the public.



The "One Long Whistle" sign is unique to this area. Friends of the Northern Rail Trail found it in the basement of a nearby home and restored it to its original location. The train whistle blast warned workers at the Winter Hill Ice Company, who were working on the sidetrack near the main line, to clear the way.

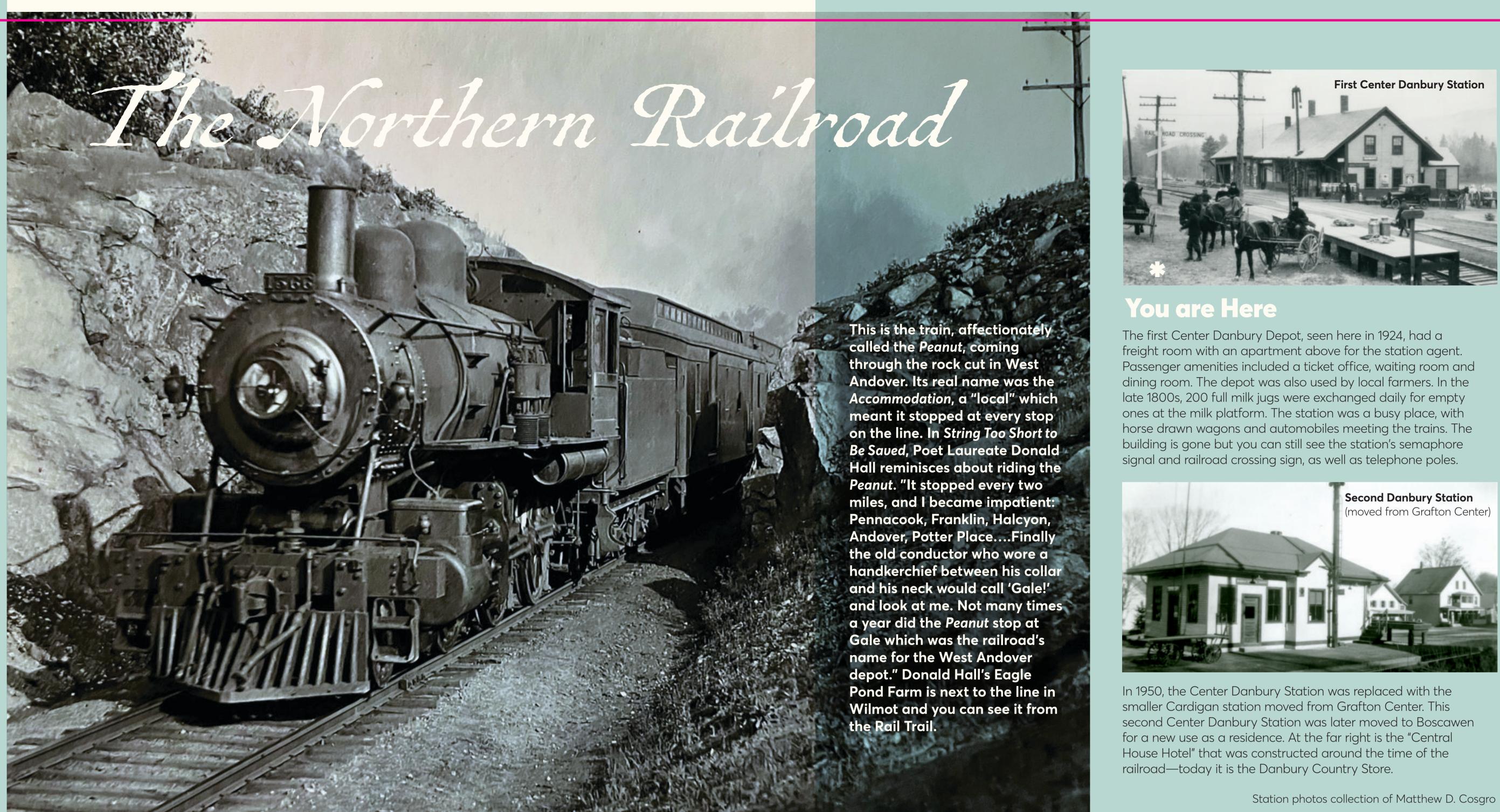
The Andover Historical Society has worked to restore and preserve many of the historic artifacts along the railroad corridor, but some have been lost to time. Ed Hiller, pictured here, provided the photos of the work done by the Friends of the Northern Rail Trail and the Andover Historical Society.

Markers





Concrete Bridge Posts were used to identify the locations of bridges and culverts. This post (above left) is marking 96.90 miles from Boston. 44 concrete Whistle Posts painted "W" were placed a quarter mile before grade crossings at street intersections, telling the engineer to sound a whistle warning of four blasts: long-long-short-long. The fourth blast was extended until the locomotive entered the intersection.



There were small features in the railroad right-of-way that provided various types of information to the train crew. These are still visible as you travel the Northern Rail Trail today.

Markers show mileage and upcoming features. In 1901, the Boston & Maine installed 69 mile markers along the right side of the line heading north.



Mile markers indicate the mileage from Boston "B" on one side and from White River Junction "WRJ" on the other. These markers are granite posts that measure one-foot square and 8½ feet tall and weigh about 1,500 pounds. They were half buried under ground for stability.



Tell-Tales

Before the invention of airbrakes in 1869, a brakeman had to climb on top of the freight cars to manually set the braking system. This was extremely dangerous work because if he was not watching, he could be knocked down as the train passed under a bridge. Tell-tales were invented to prevent these accidents. A telltale consisted of a metal mast supporting an eight-foot wide horizontal bracket with loosely spaced ropes or thin rods that hung six inches lower than the height of the upcoming bridge. They would hit the brakeman on the head or back to warn him to lie down or get off the car. The name "Tell-Tale" came from the saying "Dead men tell no tales."

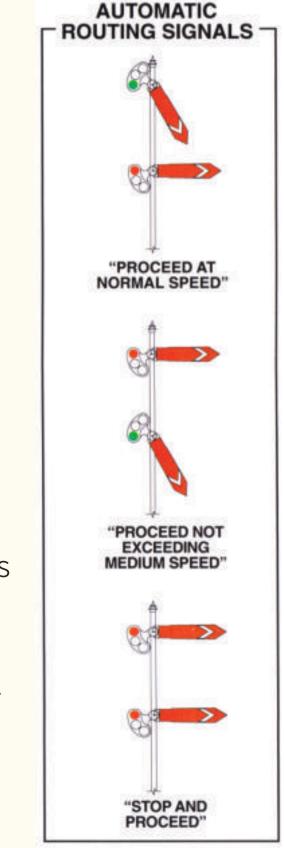


This tell-tale warning is in front of a 1929 steel trestle bridge at mile 111.18 in Danbury. In 2021 the 174-foot long, five-span bridge, was replaced. The tell-tales, historically located north and south of the bridge, were removed and replaced as part of the bridge replacement project.

Signals

In 1841 semaphore signaling was developed to alert the engineers if the tracks ahead at the depot were clear. This way of visually signaling by flags or lights originally had to be set by hand. In 1910, Automatic Block Signaling (ABS) was installed on the line using Union Switch and Signal Company Style "B" semaphore signals. As the train passed by, the wheels and axles would close circuits to electronically control the twoarmed semaphore signal. The two blades represented Home or Distant. The top blade reflected the track immediately in front of the signal ("home") and the lower blade indicated the position of the next home signal ahead ("distant").

This interpretive panel was produced in cooperation with the New Hampshire Department of Transportation, Federal Highway Administration, the New Hampshire Division of Historical Resources, the Town of Danbury, and the Friends of the Northern Rail Trail under Section 106 of the National Historic Preservation Act. Preservation Company and BaileyDonovan 2023



Semaphore Signals