

# Carolina Conductor



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Monthly Newsletter of the Carolina Railroad Heritage Association, Inc.

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## Preserving the Past Active in the Present Planning for the Future

**Web Site:** [hubcityrrmuseum.org](http://hubcityrrmuseum.org)

**Facebook:** Carolina Railroad Heritage Association & Hub City RR Museum

### Hub City Railroad Museum and SOU Rwy Caboose #X3115:

**Spartanburg Amtrak Station**

298 Magnolia Street

Spartanburg, SC 29301-2330

Wednesday 10-2 & Saturday 10-2

### Meeting Site:

**Fountain Inn Presbyterian Church**

307 North Main Street

Fountain Inn, SC 29644

3rd Friday of the Month at 7:00 p.m.

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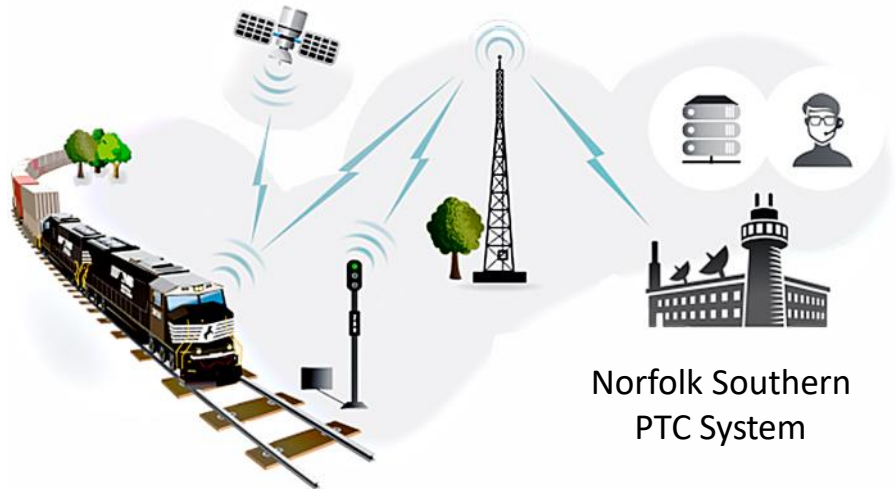
Articles can be submitted anytime.

# Positive Train Control

## Overview

Positive Train Control (PTC) systems are designed to prevent train-to-train collisions, over-speed derailments, incursions into established work zones, and movements of trains through switches left in the

cable host and tenant railroad that currently operates on PTC-governed main lines. In addition, as required, FRA certified that each host railroad's PTC system complies with the technical requirements for PTC systems. This accomplishment was



Norfolk Southern  
PTC System

wrong position. On December 29, 2020, Federal Railroad Administration (FRA) announced that PTC technology is in operation on all 57,536 required freight and passenger railroad route miles, prior to the December 31, 2020, statutory deadline set forth by Congress. Furthermore, as of that date railroads had reported that interoperability has been achieved between each appli-

the culmination of over a decade of sustained and direct engagement and collaboration among FRA and the 41 railroads currently subject to the statutory mandate, including seven Class I railroads, Amtrak, 28 commuter railroads, 5 other freight railroads that host regularly scheduled intercity or commuter rail passenger service, as well as key railroad industry associations, material suppliers,

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# Museum Happenings



↑ Our young visitors go away with reading material at each caboose visit.

The smile says it all. →

Rolling artwork seen recently. ↓



Young guests learn all sorts of interesting history. This is our new signal display. →



↑ Bob, Mister Lucky, Klempner won this Yeti cooler from an Operation Lifesaver drawing he entered.





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and service providers.

The Rail Safety Improvement Act of 2008 (RSIA) mandated the implementation of PTC systems on



**Cascades wreck that could have been prevented if PTC was implemented.**

Class I railroads' main lines over which five million or more gross tons of annual traffic and certain hazardous materials are transported, and on any main lines over which intercity

or commuter rail passenger transportation is regularly provided. RSIA and FRA's implementing regulations also require PTC systems to be interoperable, meaning that the locomotives of host and tenant railroads operating on the same main line must communicate with and respond to the PTC system, including during uninterrupted movements over property boundaries.

Prior to its completion, each railroad subject to the Congressional mandate submitted to FRA Annual and

Quarterly Reports detailing their progress towards implementing PTC. From 2016 through 2018, FRA published infographics depicting railroad quarterly progress updates: Steps Towards Full Implementation of Mandated PTC Systems (Q4 2018), Each Railroads Pro-

gress Towards Meeting Statutory Criteria for an Extension, PTC Implementation Status by Railroad, and PTC Implementation Status by Freight and Passenger Rail. Beginning in 2018, FRA published new quarterly in-



**High speed trains can benefit from PTC.**

fographics here summarizing both the industry's progress, and each railroad's incremental progress toward completing the major requirements of full PTC system implementation. In the fall of 2020, FRA published its PTC-related Outreach and Communication with the Industry, detailing the agency's exhaustive stakeholder engagement since 2017 to hasten and facilitate full PTC implementation.

PTC Document Submission: Railroads that are sub-

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Typical PTC equipment installation on side of ice box.

listed here.

PTC Background: In 2008, Congress passed, and the President signed the Rail Safety Improvement Act of 2008 requiring PTC systems to be fully implemented by December 31, 2015, on Class I railroads' main lines that transport poison- or toxic-by-inhalation hazardous materials and any main lines with regularly scheduled intercity or commuter rail passenger service. In October 2015, Congress extended the deadline for full implementation by at least three years to December 31, 2018 and required FRA to approve any railroad's request for an "alternative schedule and sequence" with a final deadline not later than December 31, 2020, if a railroad demonstrated it met certain statutory criteria by December 31, 2018. PTC systems use communication-based and processor-based train control technology to prevent train-to-train collisions reliably and functionally, overspeed derailments, incursions into established work zone limits, and movements of trains through switches in the wrong position. FRA will continue to perform comprehensive oversight, provide technical assistance to all applicable host railroads and tenant railroads, and work with other stakeholders, in-

ject to the statutory mandate must submit various PTC-related documents to FRA and obtain written approval. Those documents, including PTC Implementation Plans, requests to conduct testing of uncertified PTC systems on the general rail network (including RSD), PTC Safety Plans, and FRA's decision letters are available on [www.regulations.gov](http://www.regulations.gov) under each railroad's PTC docket number, which are generally



cluding railroad associations and PTC system vendors and suppliers, until all railroads subject to the mandate fully implement FRA-certified and interoperable PTC systems by the statutory deadline.



# Class 1 Railroads



## Definition And Revenue

While the monetary figure designating a Class 1 has changed over time its principal meaning has remained the same; it is the largest railroad, in terms of annual operating revenue, based in either the United State or Canada.

During the industry's classic era, predating the 1970's, such a carrier could have been only a few hundred miles in length if it met the minimum operating revenue. Small names then like the Detroit & Mackinac, Lehigh & Hudson River, Green Bay & Western, and Spokane International all earned sufficient revenue to wear the designation of Class 1.

Today, this has vastly changed as no railroad smaller than Kansas City Southern's 6,000 route miles holds such a title. As of 2021, the Association of American Railroads (AAR) defines a Class 1 as having operating revenues of, or exceeding, \$900 million annually (previously the figure had been \$505 million).

## Class 1's At A Glance

- Current Class 1 Revenue** \$900+ million
- Current Class 1 Railroads** CSX Transportation, Canadian National Railway, Canadian Pacific Railway, Kansas City Southern Railway, BNSF Railway, Norfolk Southern Railway, Union Pacific Railroad
- Average Employee Compensation** \$135,700
- Freight Tonnage** 19.3 billion tons
- Fuel Efficiency** 1 ton of freight travels 500 miles per gallon of fuel
- Capital Investment** \$760 billion
- Current U.S. Rail Network** 140,000 miles

The association also notes, Class 1's contain 69% of the industry's mileage, 90% of its employees, and 94% of its freight revenue. They operate in 44 states and the District of Columbia and concentrate largely on long-haul, high-density intercity traffic. The latter point is a stark change from years ago when railroads sought local and less-than-carload, or LCL, business.

## History

In 1939 a premier U.S. railroad was defined as having annual operating revenues of at least \$1 million. However,

this figure has been updated several times over the years to meet inflation and other market factors. For instance, in 1956 it was revised to \$3 million, \$5 million in 1965, \$10 million in 1976, \$50 million in 1978, \$250 million in 1993, \$319.3 million in 2005, \$475.5 million in 2014, \$505 million in 2019, and today's current figure.

As railroads felt the pinch of federal regulation and competition they turned to merger as a way of reducing costs. These consolidations eventually resulted in today's seven conglomerates. In addition, mileage was abandoned when deemed superfluous, shrinking from 1916's peak figure of 254,037 miles to 138,000 miles today. Of the current mileage Class 1's own about 95,000 miles. Much of the rest has been spun off to short lines or regionals, many formed in the post-Staggers Act era (1980). In all, there are more 560 railroads currently in operation across the country including Class 1's, regionals—Class 2's, and short lines—Class 3's.

## Could There Ever Be A New Class 1?

In today's modern age it is unlikely a new Class 1 will ever appear although the idea is not entirely impossible. For instance, during the 1990's a growing Wisconsin Central came close to achieving this threshold. It was formed in January of 1987 when Soo Line sold 2,300 miles of track stretching from northern Illinois, into the Upper Peninsula of Michigan, and across Wisconsin. By the 1990's it had transformed this derelict trackage into a profitable enterprise eclipsing \$100 million annually. Weary of its growing influence, Canadian National purchased the carrier in 2001.

If a similar situation were to occur today, another prominent regional would be the obvious candidate. The way for this to occur, of course, would be some type of continued growth through new acquisition.

During the industry's formative era it was easy to acquire property for new route construction. The difficulty lay in gaining the necessary funding for actual grading and materials. Unfortunately, the thought of doing this today is unheard of due to the extensive regulatory process, environmental laws, and public opposition ("NIMBY," Not-In-My-Backyard). A good example is the Tongue River Rail-

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road of southern Montana. The first proposal for this new 80-mile route was launched in 1981; projected to serve a surface coal mine at Ashland it would reach Miles City and link with the then Burlington Northern. After numerous battles with environmental groups and land owners, all the while completing several environmental studies, the Surface Transportation Board (STB) finally rejected the idea in April of 2016.



The other possibility would be to revive a long-abandoned corridor. This idea has been carried out in a few cases since the 1990's but only along short stretches. The thought of seeing a major rebuild, such as the Milwaukee Road's Pacific Coast Extension (central Montana to Seattle), the Erie Railroad's/ Erie Lackawanna's Chicago main line (Ohio to Chicago), or Baltimore & Ohio's St. Louis main line (central West Virginia through southern Ohio) appears unlikely for the same reasons previously mentioned. While these lines were direct, high-quality corridors that saw extensive use, even up until their abandonment, the idea of reactivation is remote. But there are many miles of preserved rights-of-way across the country, railbanked for the express purpose of possible future use.

One of the industry's most interesting recent developments occurred in the fall of 2015 when Canadian Pacific

openly announced plans to seek a merger with Norfolk Southern. CP had already sought a similar union with CSX, which flatly rejected the idea. The Canadian road, through then CEO, E. Hunter Harrison, sent a letter to NS in November 2015 hoping for a friendly response. But after some time, and careful deliberation, NS also turned down the proposal. CP continued to pursue the endeavor by sending additional requests, each also rejected. Despite talk of a potential hostile takeover CP quietly dropped the

idea. Had the marriage taken place it would certainly have caused a domino effect of other mergers, resulting in two gigantic, coast-to-coast railroads.



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# CP+KCS=CPKC

On October 29, 2021, Canadian Pacific Railway Limited (CP) and Kansas City Southern (KCS) filed an application with the Surface Transportation Board seeking authorization for CP to acquire KCS. CP did complete its acquisition of KCS on Dec. 14, 2021. Immediately upon the closing of the acquisition, the shares of KCS were placed into a voting trust that ensures KCS will operate independently of CP while the STB completes its regulatory review of the companies' joint railroad control application to create Canadian Pacific Kansas City (CPKC), the only single-line railroad linking the United States, Mexico and Canada, noted CP on their website. A decision is not to far off in the future by STB.



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