

Our next meeting will be back at the Pacific Northwest Railroad Archives located at 425 SW 153rd Street in Burien on March 2nd. We will meet at 11 AM . Program to be determined.

SAFETY SYSTEM NOW ON TRAINS

Control Tool Monitors, Can Stop Trains; 41 Sounder vehicles and all Amtrak Cascades Trains

The Seattle Times, Jan. 28, 2019

Decades after the National Transportation Safety Board began calling for the crash-prevention tool, Sound Transit showed off its positive train control on Sounder trains Monday. The satellite-based system, known as PTC, monitors the commuter trains and can stop them if they're traveling too fast or in danger of a collision. Sound Transit finished the system last fall.

"Even without positive train control, commuter rail is an extraordinary safe way to travel- far safer than getting on any interstate or major highway- but with PTC we're going to make a safe system even safer," Sound Transit CEO Peter Rogoff said Monday.

The system was not yet fully operational on the Amtrak Cascades line when a train derailed on a curve near DuPont, Pierce County, in December 2017, killing three people and injuring 62 others. The train was traveling at about 80 mph through a curve where the speed limit was 30 mph. PTC is now fully operational on all Amtrak Cascades trains, said WSDOT spokeswoman Janet Markin. Amtrak service has not yet returned to the bypass route where the derailment occurred and won't until the National Transportation Safety Board issues its final report about the incident, likely sometime this spring, Markin said.

After a 2008 crash involving a commuter train and a freight train killed 25 people in California, Congress mandated PTC on certain train lines by 2015 but later extended the deadline to December 2018. Sound Transit was one of six commuter railroads to meet the deadline, Rogoff said. Sound Transit began using PTC in 2017, but the system was plagued by technical glitches early on. That year, engineers were able to use the system on 56 percent of trips. Today, it works on "more than 99 percent" of Sounder trips, Rogoff said. By continuing to "troubleshoot occasional issues" the agency expects to get even closer to 100 percent, he said. At a cost of \$53 million, Sound Transit has installed PTC on 41 Sounder vehicles.

About 17,000 riders use Sounder each weekday. PTC will now be in place on all Sounder routes between Everett and Lakewood, the agency said. The funding came from the agency's general revenues, Rogoff said. Sound Transit Link light rail trains are already equipped with a similar, smaller-scale system.

PTC uses equipment on the trains, along the track and in an operations center to relay GPS information and monitor the train's speed and location. The system can track whether the train is complying with speed limits at work zones and other locations along a route. If a train is traveling too fast, the system will warn the engineer, and if the engineer does not respond, automatically stop the train. The system is meant to prevent trains from colliding with other trains, exceeding speed limits or entering work zones without authorization, said Peter Brown, Sound Transit's director of systems engineering and integration. But Brown warned that the system does not detect pedestrians or vehicles such as cars or trucks on the tracks, and so can't prevent those collisions.

FIFTY YEARS AGO IN “THE TRAINSHEET”

From the February 1969 issue

High Speed Operation (at last)

“The Penn Central high speed train service between New York and Washington, DC went into regular operation on January 16. The trains will zip back and forth at 110 mph for the present with an eventual 165 mph in the future. The PC spent about \$35 million to upgrade its tracks for this operation and the government added \$11 million of its (our) money for this “experiment.” High speed service between Boston and New York is expected to start later this year.

Seattle-area members of the Northwest Railfan Group saw films on February 7th of the French National Railways 205 mph runs. These runs were made in 1955 on regular track (catenary had been strengthened), with only three cars on the train. The Penn Central’s trains have six cars and make about half this speed.”

Excerpted from a February 1969 article on Great Northern’s Empire Builder by H.M. Swan:

“St. Paul (Great Northern corporate headquarters) isn’t too worried about over 79 mph speeds in North Dakota. The cost of putting in Automatic Train Control (ATC) for the *Empire Builder* would be so high that even thinking about it borders on the ridiculous. And as things have been going, we predict it won’t be long before 79 mph plus speeds on the CB&Q (Burlington) portion of the run in Wisconsin will end. Witness the fact that the more pro-passenger Milwaukee Road has now deactivated ATC. None of the famous *Hiawathas* are now allowed to travel faster than 79 mph. It takes little reasoning to assume that the CB&Q will soon deactivate its ATC.” *(Update to 2019: Passenger trains speeds of up to 110 mph were not unknown during the 1940’s and 1950’s when railroads competed with each other for passenger business. An Interstate Commerce Commission ruling in the late 1950’s required trains to be equipped with Automatic Train Control (ATC) if regularly exceeding 79 mph. Like today’s PTC, ATC would halt the train if it exceeded the speed limit or if the engineer ignored signals. It was a complex, costly electro-mechanical system to install and relied on wayside equipment that needed constant maintenance. Some railroads installed ATC on their high-speed lines, but by the time Amtrak assumed passenger service, only Penn Central’s Northeast Corridor was still equipped with it. —Mike*

Sound Transit Update

by Mike Bergman

Sound Transit has been making substantial progress on constructing East Link, the new light rail line that will connect Microsoft’s Redmond campus with Seattle via Bellevue and Mercer Island. The new line will join existing light rail tracks just south of the International District/Chinatown station as it enters downtown Seattle. The construction of this junction, together with a “pocket” track needed so that trains can move from the Seattle operating base to the Eastside, will cause considerable disruption to existing Link service starting in January 2020. On February 8th, Sound Transit announced its operating plan for the project.

Demolition of existing pavement and placement of new switches and track mean that trains will need to operate in both directions on a single track through the construction area. Existing track crossovers are located just north of Westlake Station, and just south of Stadium Station, a distance of about 1.5 miles. To maintain service, Sound Transit will break Link service into two separate lines, one operating from the UW Station to Pioneer Square, the other operating from Pioneer Square to Angle Lake (the current south end terminus). UW trains will operate on single track from just north of Westlake Station to Pioneer Square, and Angle Lake trains will operate on single track from Pioneer Square to just south of Stadium Station. Through passengers will make an across-the-platform transfer at Pioneer Square, using a temporary platform placed where a center passing lane currently exists for buses. The single track operation will limit frequency of service to every 12 minutes at all times, including the peak period (current peak service is every 6 minutes). To compensate for this reduction in capacity, Sound Transit will increase train consists from 3-car to 4-car trains (most peak

trains are currently 3-car, but there are a few 2-car trains due to limited fleet availability). The net result of these changes is a 24 percent decrease in capacity during peak periods, and a slight increase in off-peak capacity. Many peak period trains are currently operating at near crush-load levels.

Sound Transit predicts that construction will require single-tracking for 10 weeks during early 2020, together with three weekend total system closures in January, February and March. The announcement triggered a flurry of postings on the Seattle Transit Blog. Many lamented that the decrease in light rail capacity and service levels for such an extended period would produce intolerable overcrowding and drive passengers away from public transit. Others suggested that more bus service be added on parallel corridors to take up the slack (other than replacement bus service on the weekends when all rail service would be shut down, Sound Transit has not mentioned running more buses).

One thing is for sure: It will be interesting to watch the passenger transfer at Pioneer Square during the rush hour.



Rare shot of an Amtrak F59 pulling a Sounder North Line train, taken at King Street Station last fall. Amtrak and Sound Transit have a contractual arrangement to use each others locomotives when needed. Mike Bergman photo

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