New Jersey Transit's longest delay: Modern safety technology

October 21 2016, by Michael R. Sisak

This Oct. 1, 2016, file photo provided by the National Transportation Safety Board shows damage done to the Hoboken Terminal in Hoboken, N.J., after the Sept. 29 commuter train crash. Lawmakers investigating New Jersey Transit are expected to focus on the role modern safety technology could have played in preventing last month's deadly crash. Friday's hearing on Oct. 21, 2016, in Trenton comes after an Associated Press report found that NJ Transit had more accidents and paid more safety fines than any other commuter railroad since 2011. (Chris O'Neil/NTSB photo via AP, File)

Six years after New Jersey Transit won federal approval to install modern safety technology on its commuter rail lines, the project has languished and trains still operate with speed controls developed in the 1950s.

The technological divide was underscored last month when a packed NJ Transit train sped to double the 10 mph speed limit and hurtled into Hoboken Terminal, killing a woman on the platform and injuring more than 100 other people.

Instead of a sophisticated on-board computer regulating train speeds into the station, NJ Transit relies on an antiquated in-cab signaling system that's designed to alert engineers and stop trains only when they go faster than 20 mph.

Even at Hoboken Terminal—where NJ Transit had an exception from positive-train control requirements—experts say an on-board computer tied to the PTC system still would have worked to keep the train within the speed limit.

After the crash, NJ Transit lowered the speed limit to 5 mph and ordered conductors to stand in the front of the train and act as a second set of eyes for engineers when entering the station. The agency said it's enforcing the speed limit with radar and downloads from on-board data systems. Still, there's no mechanism in place to alert the engineer that the train is going too fast until it surpasses 20 mph.

The Sept. 29 crash and other safety concerns—including an Associated Press analysis showing NJ Transit had more accidents than any other commuter railroad in the country in the past five years—has raised criticism of the transit agency. Lawmakers in Trenton are holding a hearing Friday to begin asking questions.

This Oct. 1, 2016, file photo provided by the National Transportation Safety Board shows damage done to the Hoboken Terminal in Hoboken, N.J., after a commuter train crash that killed one person and injured more than 100 others last week. Lawmakers investigating New Jersey Transit are expected to focus on the role modern safety technology could have played in preventing last month's deadly crash. Friday's hearing on Oct. 21, 2016, in Trenton comes after an Associated Press report found that NJ Transit had more accidents and paid more safety fines than any other commuter railroad since 2011. (Chris O'Neil/NTSB photo via AP, File)

Trains run by NJ Transit, which operates the nation's second-largest commuter railroad, have been involved in 157 accidents since the start of 2011, three times as many as the largest, the Long Island Rail Road, according to an AP analysis of data from January 2011 through July 2016.

"When I see 57 percent of accidents are attributed to human error, to me that's indicative of an organizational problem," said state Sen. Bob Gordon, a Bergen County Democrat. "There's something wrong with the culture, the safety culture. That may necessitate wholesale changes."

NJ Transit's sluggishness on PTC is also expected to be a focus of Friday's hearing, with lawmakers looking to compare the agency's progress with that of other commuter railroads. The Southeastern Pennsylvania Transportation Authority, which serves Philadelphia and its suburbs, has PTC functioning on eight of its 13 branches. NJ Transit said in a June filing that it hasn't made any additional progress as a December 2018 deadline looms.

NJ Transit did not respond to a request for comment.

The railroad industry has said installing PTC at train terminals like the one in Hoboken is impractical and cumbersome, given the high volume of trains arriving and departing at what are normally low speeds, as well as the multitude of signals and other infrastructure already in place.

"Although low-speed collisions do occasionally occur in these environments, the consequences are low; and the rate of occurrence is very low in relation to the exposure," the Federal Railroad Administration stated in a 2010 regulatory filing on positive-train control.

In this Sept. 29, 2016 file photo, emergency personnel respond to a train crash in the Hoboken train station, in Hoboken, N.J. A rush-hour commuter train crashed through a barrier at the busy Hoboken station and lurched across the waiting area Thursday morning, killing one person and injuring more than 100 others. Lawmakers investigating New Jersey Transit are expected to focus on the role modern safety technology could have played in preventing last month's deadly crash. (Tariq Zehawi/The Record via AP, File)

Investigators say the engineer on the Hoboken train hit the emergency brake when the train hit 21 mph, seconds before crashing into and then over a bumping post. Investigators are looking into whether the alert system kicked in. It's unclear if it would have slowed the train in time.

Under Federal Railroad Administration rules, the maximum authorized speed for areas exempt from positive-train control is 20 mph. NJ Transit, in its implementation plan, said the maximum authorized speed at Hoboken Terminal is 15 mph.

That's still too fast, said David Schanoes, a former superintendent at New York's Grand Central Terminal. He said cutting the speed to 10 mph would significantly reduce the risk of another Hoboken-type crash because it would give engineers far more time to slow, stop or be alerted to stop before crashing.

In the event of a crash, Schanoes said, a train going 10 mph would produce one-quarter of the force of one traveling 20 mph.

"In terms of lowering speeds within a terminal, that's certainly an option," said Federal Railroad Administrator Sarah Feinberg. "We will look at anything that we can across the board to improve safety anywhere."

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