



Inside THE RAIL

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DISTRACTIONS IMPACTING SAFETY

Distractions can manifest in many forms and have the potential for severe consequences. In November 2016, the Office of Research, Development and Technology for the Federal Railroad Administration (FRA) sponsored a study entitled *Reducing Major Rule Violations in Commuter Rail Operations: Distraction and Its Mitigation with Sustained Attention Training (SAT)*.¹ Recent commuter rail accidents and rule violations highlighted the need to research operator distraction and its contribution to rule violations such as failure to stop at a red signal or to comply with a speed restriction.

Within the study, one Locomotive Engineer study group received three hours of Sustained Attention Training (SAT) and Crew Resource Management (CRM) training and the other study group only received CRM training. During the SAT, real-life examples were presented that demonstrated that various factors impact our ability to direct attention appropriately including task overload /underload, expectation bias, mental rumination, and mind wandering. Each group then participated in realistic simulations of low and high task load scenarios in order to better understand if SAT or CRM training helped prevent errors from occurring.

The group that received the SAT Training showed a 10.5 % reduction in subjective mental workload and an 11.1% increase in compliance with procedures for dealing with unusual events in the low task load condition. The authors noted that in low task load conditions, there can be periodic lapses in attention. As an industry, we should help employees remain focused on the task at hand and recognize and minimize distractions in order to operate safely. This issue of *Inside The Rail* shares reporter accounts of distraction while in safety-critical situations.



Wandering Trespasser on Right of Way

This crew was distracted by a trespasser on the right-of-way which later resulted in a misplatform event.

■ *...I was positioned in the 2nd car when we stopped at [the] Station. I looked out the window both ways. The front of the train was platformed and the back appeared to be fully platformed. I then opened the doors and almost immediately the intercom (IC) went off and it was my Brakeman advising me that the rear car of the train was opened off the platform...*

I truly believe earlier incidents on our trip contributed to this very unfortunate occurrence. When we were near [a prior] Station, my Engineer abruptly stopped the train and contacted me on the IC and told me to speak to a person that was walking alongside the tracks. I then looked out the off cab side window and saw a person wandering along the right of way. I got her attention and asked her what is she doing and that she cannot be walking over here and it's very dangerous. She told me she dropped her keys from the overpass (it crosses over the main tracks) and was retrieving them. I told her that she should have called the railroad and they would have sent someone to get them for her. She apologized and was embarrassed and left through a hole in the fence along the street. I watched where she

went and called the [Dispatcher] and gave them the exact street intersection so they could get the fence repaired. We then continued on.

Chattering Away

This Engineer made a Station Stop within a restriction, and forgot about the restriction upon departure after being distracted by the radio.

■ *Operating Train with cab car...Slowed down for Temporary Speed Restriction.... Made stop at Station. Upon leaving Station, was distracted by radio chatter and accelerated [14 MPH over speed] before realizing train was still in the restriction. Immediately reduced speed. Solution: Whenever a stop is to be made at a Station that is located wholly within the limits of a Temporary Speed Restriction, place a second speed limit sign at either end of the platform to remind the Engineer that the train is still in the Temporary Speed Restriction.*

Trained to Block

This Dispatcher was distracted with training a Student and operated a switch within a Track Authority without obtaining prior permission from Maintenance of Way.

■ *Maintainers requested and [were] given Track Authority on the Switch at CP (Control Point). At the time, I had a Trainee working with me with [little time] on the railroad. When I was explaining (after a Track Authority was granted), how to block the switches for Track Authority, I threw the Switch reverse with [the Maintainers] still having authority. I [called the] Maintainers on the phone to make sure that everyone was okay. They had no idea I even threw the switch since the Maintainers said they were walking from the B end of the switch to the A end of the switch and that everyone was clear and OK. Maintainers continued with their switch inspection and cleared when done.*

Employee in Cab

An Engineer became distracted by conversations inside the cab with a qualified employee which resulted in a missed Temporary Speed Restriction.

■ *I operated through a Temporary Speed Restriction at [10 or more MPH overspeed]. I had possession of a Temporary Speed Restriction Bulletin which listed the restriction with signs displayed. I passed through the area and no signs were displayed. I didn't realize that I had forgotten the restriction until my next Station Stop. Contributing factors: 1) Signs were removed from the restriction. 2) Employee qualifying was riding the head end with me. Our conversations were a distraction.*

Filling Out Paperwork

This Engineer was distracted by paperwork and troubleshooting a speedometer and realized the train was operating overspeed in a controlled siding.

■ *[We were] put into controlled siding to meet [a Train], increased speed over 10 MPH above the speed limits set for the controlled siding. [I] Was filling out paperwork for the trip on the designated form for defects with the equipment. [I was] not attentive to the speed because it was night and speed appears different than daylight and was distracted with the paperwork. The speedometer was malfunctioning on the cab car unit and not providing an accurate speed reading. I was making this note on the (defect form) when the overspeed condition happened. Next time, [I] will do paperwork at [the] end of [the] trip.*

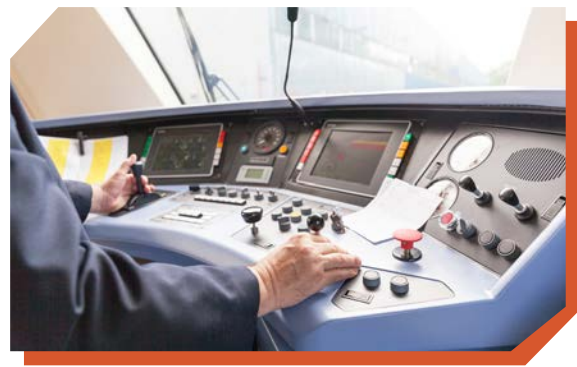
Remembering to Call

An Engineer was distracted by Dispatcher contact and entered a Temporary Speed Restriction 15 MPH above the authorized speed.

■ *Arrived for Station Stop on Track X and then crossed over to Track Y for [another] Station Stop. There was a Speed*

Restriction for Track Y within the limits of [the] Interlocking of X MPH. Departed Station on an Approach Limited signal and increased to Limited speed of [15 MPH overspeed]. As I approached [the] Interlocking, [I] saw the speed limit sign and realized the speed restriction. I immediately applied the brakes and simultaneously got a Positive Train Control (PTC) penalty which brought the train to a stop as I entered the speed limit zone.

The reason for the occurrence was twofold. First, crossing over from Track X to Track Y happened past the Approach speed limit sign, which could've served [as] a reminder. Second, the Dispatcher requested that I contact them after arriving into Station which resulted in distraction as I focused on giving them a call. During training I was given a rule of thumb to avoid this by always immediately checking Speed Restrictions after crossing over to another track. I will continue to follow that advice in the future.



Unfamiliar Territory

A Conductor was distracted by conversations with the Dispatcher and did not restore both ends of a crossover to the normal position on the main line.

■ *I was the Pilot on the Crane and we were using a Maintenance Truck to move the Crane and a flat car. We were making a new move that I was unfamiliar with by taking Street X to the Lead and heading to Street Y. After going through Street X and going through the crossover at the Track, we were back on the Main [Track] by the time I realized I only lined one end of the crossover back. That is a violation of the Rule. The new territory and several conversations with the Dispatchers must have distracted me.*

1. Elsmore, G., & Parasuraman, R. (2016). *Reducing Major Rule Violations in Commuter Rail Operations: Distraction and Its Mitigation with Sustained Attention Training*. Technical Report, Veolia, Inc.

Report Intake By Craft January to November 2018	
Transportation	3,795
Mechanical	168
Engineering	73

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Monthly Report Intake Previous 3 Months 2018	
September	358
October	377
November	344