



TESTIMONY

of

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President

SMART Transportation Division

BEFORE

the

Federal Railroad Administration

**Public Hearing for Proposed Rulemaking on
Train Crew Size Safety Requirements**

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Thank you for the opportunity to testify today and for the opportunity to speak to what is, without question, the greatest threat to safety in the railroad industry. My name is Jeremy Ferguson, and I am the president of SMART Transportation Division, which is the largest railroad union in the United States - representing over 40,000 freight railroad employees. Our members work in the operating crafts of certified conductor, locomotive engineer, yardmaster, yard foreman, switchman, utility employee, brakeman, and many others. It is with absolute pride and honor that I present these remarks on their behalf.

There is no greater risk to the safety of railroad workers and the communities they serve than the consideration of a reduction in crew size in the cab of a locomotive. In fact, it is because of the two-person crew that this nation's railroads have been able to achieve and enjoy the safest and richest era in their histories. However, despite what some might want you to believe here today, safety is not, nor has it ever been improved simply by reducing manpower. This is especially true when it comes to the staffing on America's Class I freight rail trains.

Railroading is unlike any other business in the world. The environment is intrinsically dangerous. So much so that the mere presence of standing equipment is in and of itself a risk to anyone that might encounter it. In my first 15 months as President, from October 2019 to January 2021, there were 12 rail worker fatalities. There was a stretch of 9 consecutive months during that timeframe when there was a fatality or an amputation each month. Unfortunately, very little has changed for the better since then.

The railroads try to hide this fact by comparing themselves to other far less dangerous work environments, but in doing so they are comparing sprains to broken bones and paper cuts to amputations. The truth is few, if any industries have fatalities on a scale similar to that of railroading.

Safety in the industry has plateaued and we recognize that change is needed, but it cannot come in the form of placing more burden on one individual, nor is it garnered by making more cuts to an already depleted and overworked workforce that will make railroading even more dangerous.

To that point, today's railroads are of the singular mindset that if there are less employees then there must be less injuries, but what they fail to consider is the fallout and the harm to the environment, the infrastructure, the communities, and the remaining railroad workers, all of which FRA is obligated to protect. The truth is, by reducing employees in the cab of a locomotive, the carriers, if they get their way, will have done nothing to improve the actual working conditions. The real dangers that threaten our members and the public will still exist.

Interestingly, the carriers regularly argue that there is no data to support a two-person crew being safer than a one-person crew. The irony, however, is that, likewise, there is no data to support that a one-person or autonomous operation is any safer than a two-person crew. This is because there are no comparable one-person crew operations being utilized on a Class I railroad. Sure, one can look at smaller regional lines and one can look at Europe, but the fact is no other line or system in the world is comparable to America's major freight railroad network.

Now is not the time to be gambling on factors unknown, but rather is exactly the time that we should be welcoming new data and more observations before any substantial consideration to change in the industry can be made. Rest assured, every single day there are incidents and accidents that are prevented because of the actions of a two-person crew, but the rates and/or trends of those incidents cannot be captured nor quantified because the railroads refuse to accept and implement close call reporting safety systems like C3RS, which is sponsored by the FRA.

For example, the following is a story, as recalled by one of my member's experiences, of a precious life saved simply because there was a crew of two.

"Eight years ago, I was working as an Engineer on a solid loaded bulk coal train with 108 cars and six engines. The train weighed approximately 16,000 tons. Controlling this train required my full attention and to be readily aware of my surroundings outside the cab of the locomotive. With equipment of this size and having incredible velocity I am sure we all know how it turns out when we hit something. Especially if that something is a 3-year-old child. This is my story and a nightmare that lives often in my head. A train requires a mixture of constant scanning of the Engineers Control Stand and looking out the windows of the cab. Looking out the windows as much as possible to keep vigilant to the conditions of the track ahead is a must. The Conductor and I were approaching an area where there is a speed change. The Conductor reminded me of the change, and I acknowledged him. I started monitoring the speed of our train on my console, making preparations to slow the train down. Out of nowhere the Conductor screamed "Look out ahead! There is a child on the track!!" When something like that is yelled inside the cab of a locomotive you are almost too terrified to look. A young boy around 3 years old, wearing bibbed overalls, wearing a light blue shirt, with blonde hair was standing in the middle of the track. It's crazy I still remember what he had on. I imagine most people will remember things like that when something this intense happens. I started blowing the horn and ringing the bell hoping and praying he would move (he didn't). I slid open the window and started screaming at him "Run kid! Move!!" He started waiving at me. It wasn't until the Conductor ran out on the nose of the engine and waived his arms in a manner to tell him to move! At the last second that child stepped out of the track and we missed him by inches.

If my Conductor had not have been there, I am convinced I would have killed that poor child. If there had not been anyone to report this to the dispatcher, the next train coming through may have killed him."

This moment, as fundamental as it seems, was a lifesaving moment. In an instant, a child's life was spared because of the actions of a two-person crew. No formal report was made. No record was filed. The only data that exists is in the haunting memories of that crew's experience.

This story boils down to the basic fact that conductors are observing track conditions while engineers are obligated to split their attention between monitoring the controls and the track. Having conductors on trains save lives and prevents disasters in ways technology cannot. Artificial Intelligence absolutely has a role to play, but it cannot replace authentic human intelligence in railroading.

Distractions are killers for any mode of transportation, but it is especially true for the men and women that operate trains. A statistic so often heard around railroading is that a person or vehicle in America is struck by a train, on average, every three hours. My question to you, is that not too much? At a time when we, as a nation, should be weighing options to better protect our citizens, the railroads are looking to blindly cut the greatest known contributing factor to improved safety. And for what, another dollar? Because they refuse to accept viable, working programs, like C3RS, that will identify the successes and safety gained because of the two-person crew, they are looking to pull the wool over this nation's eyes and pretend that the conductor's role in the cab of the locomotive is irrelevant. I ask, do you think the mother of that little boy sees the actions of the conductor on that day as irrelevant?

As unfortunate and as ironic as it is, the introduction of technology into the cab of the locomotive has exacerbated this troubling scenario. Instead of facing forward, engineers are now spending the majority of their time interacting and manipulating the many screens and software programs that lie before them. The only real ability to actively observe the territory in which they are traversing is to have a second person sitting next to them.

This is affirmed by the U.S. Department of Transportation's own Volpe Center, and I quote:

"The locomotive engineer and conductor function as a joint cognitive system, meaning that conductors and locomotive engineers jointly contribute to the set of cognitive activities required to operate the train safely and efficiently.

While each crew member has a distinct set of formal responsibilities, in practice they operate as an integrated team, contributing knowledge and backing each other up as necessary.

When operating on the mainline conductors not only serve as a 'second pair of eyes', alerting the locomotive engineer to upcoming signals and potential hazards (e.g., activity at grade crossings; people working on or around the track), they also contribute knowledge and decision-making judgment.

Conductors also serve an important, redundant check and backup role, reminding locomotive engineers of upcoming work zones and speed restrictions.

If necessary, they will also handle unanticipated situations and activate the emergency brake, in cases where the locomotive engineer has not responded quickly enough.

Conductors have developed a variety of skills and strategies that enable them to handle non-routine situations safely and efficiently."

PTC is, and was, designed to be nothing more than a safety overlay. It is not, nor is any other software currently within the cab of the locomotive, capable of identifying obstructions and/or hazards – especially those occurring under the

tenets of restricted speed. It should come as no surprise then that the frequency and veracity of derailments has had no substantial change since its implementation.

Simply put, PTC does not work below twenty miles per hour. At these speeds, it does not protect against, nor does it look out for another train, car, obstruction, stop signal, derail, or an improperly lined switch. It also does not look out for washouts, rockslides, fires, vehicles, and pedestrians. And while this may seem insignificant at such a slow speed, FRA has gone out of its way to warn the industry of the dangers that can occur as a result of train accidents and incidents that occur in these circumstances, but it has gone beyond to make known just how common and how big a threat this scenario really is.

In its contemplation of restricted speed, FRA wrote the following:

“Operating employees must work together as a team because they work in an environment which is often without on-site managerial oversight. Both the locomotive engineer and conductor of a train are equally responsible for safe operation of their train and compliance with railroad operating rules. Indeed, both the engineer and conductor, and any other crewmembers present in the controlling locomotive of a train, must remain vigilant and must assist each other in the safe operation of the train. As the above accidents indicate, even slight lapses in situation awareness, particularly when operating trains on ‘Approach’ and ‘Restricting’ signal indications can lead to tragedy. An environment must be created and maintained in the locomotive control compartment where the crew exclusively focuses on properly controlling the train in compliance with the operating rules.”

PTC does nothing to alleviate these obligations, nor does it do anything to improve the vigilance necessary to provide safe train operations, especially when operating under the requirements of restricted speed. This is reinforced, again, by the Volpe

Center, wherein they stated, “PTC will not provide all of the cognitive support functions the conductor currently provides to the locomotive engineer.”

In the FRA’s September 2022 Research Results, it specifically noted that “[the conductor must be allowed] to make programming changes if information has not been entered into PTC and the Trip Optimizers,” as well as work with the engineer “to review the train and trip information prior to starting a trip for PTC and Trip Optimizer purposes; increase the visibility of presented information on the Trip Optimizer (to the conductor); and duplicate the PTC and Trip Optimizer displays at the conductor’s workstation.”

FRA is correct in their findings. The technology currently in use in the cab of a locomotive has been found to be fallible and vulnerable to disengagements without alert or notification to the crew. To get a better look at this reality and just how large of a problem the industry is facing, we created a voluntary report system for our members to provide our Union with technological failures they experience in the field. We have received thousands of these reports, ranging from loss of communication to the PTC’s incorrect interpretation of stop and proceed signals. Every single one of these events is a scenario that requires human intervention, redundancy, and action. Stranding a single individual to react in an instantaneous transition from a normal environment to a high-stressful, critical operating environment is not conducive toward safety.

This includes blocked crossings. There is, arguably, no greater complaint from the public than the growing epidemic of blocked highway crossings at grade. Because of the railroads insatiable appetite for profit under PSR, trains have grown tremendously longer, without regard to public interruption and safety. Having only one-person onboard a locomotive will make the disruption to commuters, first responders and safety personnel infinitely longer and will handicap first responders from performing the life-saving measures required of their job.

God forbid an equipment failure occur on the line of road without a conductor readily available to act in a moment's notice, but especially if the train has an entire community blocked off. There is little a lone engineer can do in that situation.

What happens in the case of a train strike or derailment? The engineer cannot quickly leave the locomotive cab to respond to the emergency. For that to occur, he/she must first go through the process of ascertaining that the train is secure so as not to create an additional threat to the public, other moving trains, and/or other railroad employees. This means that he/she will have to tie hand breaks on all the engines, test the brakes, set the circuit breakers in the correct formation to prevent unexpected movements, set the air brakes, set and test the required number of handbrakes on the cars, and then remove the reverser from the control stand. After all of that has been accomplished, the engineer would then be free to respond; and that's assuming no unexpected issues arise.

Chances are, however, that the engineer will not leave the cab in these events, as they possess the only real means of communication with authorities, dispatchers, oncoming trains, and whatever term the railroads dig up for the theoretical nomadic travelling conductor. As such, the engineer will have to stay put not able to provide any aid or assistance to injured individuals who may need immediate attention or comfort.

There will be no one will be on the ground, in a timely fashion, to assess the situation and/or identify the potential dangers that may exist to the crew and the community. In fact, in the time it takes for first responders to arrive, hazardous chemicals could be leaking into our water tables and/or fires spreading from rail car to rail car. Time will now be consumed in travel rather than in immediate response. Likewise, there will be increased difficulty in the transfer of hazardous materials documents to emergency responders. Instead of being able to travel directly to the scene, EMS workers will first have to locate the head-end of the train before being able to adequately or intelligently know how to treat the actual event.

So, this begs the question, where would conductors be if not assigned to a locomotive? Despite the railroads' not having the contractual authority or freedom to enforce any of their profit-driven plans, we have heard enough to know that the railroads' theory for a ground-based conductor would be to assign one to a particular region or territory. This means that one individual would be responsible for an area of unknown size, and that they would have to care for all of the trains within the region at any one time, as well as provide the ground support for trains needing to service an industry.

Hypothesizing how any of the aforementioned situations could play out, it could be hours before a conductor is available to receive the communication, much less possess the ability to travel what could be a great distance to assess and assist in derailments, blocked crossings, and/or emergency situations. What if the weather is bad? What if the roads are closed? What if the train's location is inaccessible, for whatever reason, and the wandering conductor can't gain access?

Does the FRA really want to explain to a mayor, county council, or a family in need that their only major right-of-way into and out of an area was blocked for hours because of a train, which resulted in major damage or the loss of life, because the conductor assigned to the territory was stopped in traffic?

I want to be realistic here. The only way that we can assure the safest course is protected during train operations is by maintaining two crew members in the cab of the locomotive. Our communities cannot afford the risk that is associated with the contemplation of a reduction in crew size. They need to know that a crew is staffed and available to provide the fastest means to correct and/or protect from an adverse event causing them harm or hardship.

One must look no further than the Cassleton, ND, derailment that occurred on December 30, 2013. More than 476,000 gallons of crude oil was leaked onto the land and then subsequently ignited causing a fire that burned for more than three

days. That train's conductor was able to immediately dismount the locomotive, identify the emergency situation, relay life-saving critical information to the engineer so that he was able to inform the dispatcher, and then made a separation of the train to mitigate the potential for expansion of the burning crude oil, thus protecting a large amount of the environment and wildlife. None of this would have been possible had the train been forced to wait on a ground-based conductor to arrive on a very dangerous scene in a quite forceful snowstorm, and that's assuming the itinerant conductor would have been able to make it.

According to the Bureau of Transportation Statistics, there were 23,824 highway fatalities involving a passenger car occupant or a light truck occupant. And according to Esurance in a well circulated report, a driver's chances of getting into a car accident are 1 in 366 for every 1,000 miles traveled. Now, I have not done the math, but I can say with absolute certainty that by removing the conductor from the cab of the locomotive and placing them into a roadway vehicle, the likelihood of them getting into an accident with injury or death increases exponentially.

Unfortunately, I have no doubt that the railroads are going to break out their smoke and mirrors and try to convince you that safety will actually be improved because the total of employees will be reduced, and, thus, the number of injuries and fatalities will also reduce, but what they won't tell you or admit themselves is that the employees assigned to these tasks will be placed in greater danger, and that the likelihood of their going home the same way they came to work will be diminished. This is unacceptable, and it's reprehensible.

Similarly, recent legislation has imposed new rules and a fresh look at mitigating fatigue in the railroad industry. A rail employee's work life is unpredictable. From random calls to duty, to uncertain lengths of shift, a conductor or engineer can never know when they're going to work and/or for how long they're going to be there. Unlike most American workers, all they can do is live by a phone and hope that they are rested for the call to duty.

Fatigue is an enemy of any vehicle operator, but because of the on-call nature of railroading, it is a monster. Conductors and engineers rely on one another to maintain situational awareness, rules compliance, and the ability to complete a tour of duty safely. There are moments wherein an employee will succumb to the unforgiving, unrelenting pace of the railroad industry, but they are brief, insignificant, and mitigated by the presence of a second person in the cab of the locomotive.

Fatigue does not target just one craft. It affects us all, and to sacrifice a lone engineer to the threat fatigue poses is a dereliction of duty and a failure to provide a safe working environment. PTC and Trip Optimizer does not offset the threat of fatigue, nor does it do anything to combat it. In fact, if anything, it may actually make it worse.

The Australian College of Applied Professionals asserts that, “staring at a screen for hours every day causes eye strain, but it’s also psychologically taxing and can leave [a person] feeling tired and frustrated.” Neither of which should be welcome in the cab of a locomotive.

It is not uncommon, because of how the railroads staff their availability boards and fail to plan their train lineups, for an employee to be forced into a scenario where they have been unable to get any sleep for at least twenty-four hours, which, according to the Centers for Disease Control, is the equivalent of a person working with a blood alcohol concentration of .10%.

Another report titled *Fatigue and Alertness in the United States Railroad Industry Part I: The Nature of the Problem* advises that “there are several aspects of railroad operations that can cause fatigue and alertness problems: the irregularity of work schedules in freight operations, the need for splitshifts in commuter and urban operations, and the high potential for complacency and boredom in some freight operations.”

PTC and Trip Optimizer make the threat of complacency and boredom infinitely worse. Compound that by removing the only real mitigating factor to fatigue, another crewmember, and you have a recipe for disaster.

So, how do train and engine employees overcome this? They rely on one another, they trust their instincts, and they offset the monotony that often times is railroading. I know because I've been there.

But there are also additional complications that will impact an isolated engineer, and that's the fact that railroad workers are required to work when sick. As I'm sure you've seen in the news the last few weeks, sick leave isn't exactly an option for the men and women I represent. Far too often, in fact the majority of the time, when a rail worker takes off sick, they do so knowing they will be disciplined and/or fired for being unable to work. So, instead of risking their job or losing their livelihoods, they accept their assignment and come to work sick. This exacerbates the threat of exhaustion and loss of situational awareness. Again, the only true mitigating factor is the presence of a second crewmember in the cab of the locomotive to aid them in operational procedures, rule and regulation compliance, comprehension of directives, and the overall safety of themselves and their train.

Lastly, I have to address Precision Scheduled Railroading and its contributions to the detriment of a safe and efficient railroading environment, which includes the desire and contemplation of doing more with less, or, in other words, risking the safety of others to make more profit. PSR is nothing more than a business model designed to cut its way to massive profits. This is evidenced in the 45,000 employees that were removed from service in an almost single swoop and the mothballing of thousands of locomotives.

The railroads have proven their willingness to make decisions that are not in the interests of safety, but rather are in the interests of profit and shareholder wealth. Perhaps one of the most obvious examples is in the growing length of trains.

America's Class I carriers are experts when it comes to sharpshooting regulations, or the absence thereof, to make operational changes that have received no review or study as to their merit or integrity, especially when it comes to public and employee safety. They recognize that FRA is silent on this issue and they have exploited it.

FRA has recognized the potential for considerable dangers associated with the growing length of trains as it has active projects ongoing to study the effects and vulnerabilities of braking on trains in excess of 8,500 feet in length. Congress is no exception, as the Bipartisan Infrastructure Law required a study by the National Academies of Science to research the impact long trains are having on the American population and their potential for greater endangerment.

So, why am I talking about long trains and the ever-increasing frequency of their population within the railroad system? Because long trains block more crossings, which, in turn, has an adverse impact on the travelling public and hinders emergency responders. The only real tool to clear-up a blocked crossing in a timely fashion is by having a conductor onboard and assigned to every controlling locomotive.

I want to end on this point, and it's as simplistic as I can make it. If a train has a crossing blocked and an ambulance is needing to get through, the victim's chances of survival hinge on how long it takes for that train to be removed from that crossing. If a conductor is onboard, it will only be as long as it takes them to get back to the crossing. But if a conductor is remote, the variables become so much more.

A blocked crossing creates traffic. Traffic stops vehicles. How does a conductor traveling in a car overcome the traffic to get to the crossing?

Railroad safety isn't just for the men and women working on the rails. It's for everyday citizens that take for granted that the railroad is safe. Without a doubt, I can attest that the removal of the conductor, should it be permitted, from the cab of the locomotive will not just be catastrophic to all rail workers, it will be inimical to the American public.

I thank FRA for the opportunity to present this testimony today, and for your careful consideration of the points I have waged. Please note that we will be submitting formal comments that will expound upon my comments made here today.