

DEPARTMENT OF TRANSPORTATION  
OFFICE OF THE SECRETARY

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DOCKET NO. DOT-OST-2019-0165:  
NON-TRADITIONAL AND EMERGING TRANSPORTATION TECHNOLOGY  
(NETT) COUNCIL

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COMMENTS OF  
THE ASSOCIATION OF AMERICAN RAILROADS

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The Association of American Railroads (“AAR”), on behalf of itself and its member railroads, submits the following comments in response to the November 26, 2019 invitation for public comments on projects, issues or topics that DOT should consider through the NETT Council.<sup>1</sup> These comments respond to the question “are there existing Federal transportation laws or regulations that inhibit innovation by creating barriers to testing, certifying or verifying compliance, or operating non-traditional and emerging transportation technologies?” Outdated, prescriptive federal regulations do impede innovation in the rail industry, but the NETT Council could support a pathway for innovation by supporting our proposal regarding the Federal Railroad Administration (“FRA”)’s Risk Reduction Program (“RRP”) rule.

Prescriptive Regulations Stifle Progress.

For the last several decades, U.S. railroads have worked diligently to improve the safety and efficiency of their operations. Safety has improved dramatically: according to FRA data, recent years have been the safest on record for the rail sector. Using data current as of October 2019, since 2000 the train accident rate is down 35 percent, the equipment-caused accident rate is down 26 percent, the track-caused accident rate is down 47 percent, and the derailment rate is down 35 percent.

At the same time, railroads have delivered more and more goods, with greater fuel efficiency, and without increasing the size of the railroad network. In 1980, traffic density was 5.58 million ton-miles per mile of road. In 2018, the number was 18.63 million ton-miles, approximately a 234 percent increase. Today, railroads can move one ton of freight 473 miles on one gallon of fuel – doubling fuel efficiency from 1980. Overall, rail productivity gains have been dramatic: from 1980 through 2018, rail employee productivity (measured by ton-miles per employee) rose 489 percent; locomotive productivity (measured by ton-miles per

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<sup>1</sup> AAR is a trade association whose membership includes freight railroads that operate 83% of the line-haul mileage, employ 95% of the workers, and account for 97% of the freight revenues of all railroads in the United States; and passenger railroads that operate intercity passenger trains and provide commuter rail service. 84 Fed. Reg. 65,214 (Nov. 26, 2019).

locomotive) rose 103 percent; and average freight carried per train rose 65 percent. The most commonly used broad measure of rail industry productivity — ton-miles per constant dollar operating expense — was 155 percent higher in 2018 than in 1980. This progress has benefitted rail customers: average rail rates (measured by inflation-adjusted revenue per ton-mile) were 44 percent lower in 2018 than in 1981.

These improvements in rail safety and efficiency have been achieved notwithstanding a pervasive, outdated regulatory scheme characterized by highly prescriptive, command and control regulations that were promulgated decades ago. For example, in the management of railroad infrastructure, railroad equipment and wayside signal systems, manual inspections are still required by federal regulations - even though modern technologies exist that can both keep workers out of harm's way and eliminate the potential for human error in these inspection processes. Other FRA regulations contain detailed requirements that are not the most effective way to protect rail safety, such as regulations that have not kept up with modern rail braking systems. Others demand paper processes, such as air brake slips, when superior electronic systems exist to collect data and develop predictive analytics. Last, the majority of regulations are designed to be "one size fits all." The approach of regulating to the lowest common denominator may benefit small railroads but it significantly burdens the larger ones, who have more resources to develop technological advances but are shackled by adherence to prescriptive requirements. Innovation is thus stifled by outdated regulatory burdens.

As the pace of innovation increases exponentially, this gap between what is possible using 21<sup>st</sup> century technologies and what is permitted will continue to widen dramatically while the rail safety regulatory scheme remains locked in the last century. DOT has an opportunity to facilitate and incentivize the industry, through regulatory modernization, to develop and deploy alternative risk based approaches to achieve the same (or higher) safety and efficiency objectives. The safety performance of today's railroads and emerging technology supports such a new approach. As described further below, and in AAR's Supplemental Comments to the RRP NPRM, the RRP rule, and the Technology Implementation Plan directive within the RRP rule, we believe that our approach to the RRP provides the ideal springboard for this new approach to driving continued safety improvement through the use of innovation and technology.<sup>2</sup>

#### The Risk Reduction Program Mandate Provides the Opportunity for Innovation.

In 2008, Congress directed FRA to issue regulations requiring all Class I railroads and smaller railroads with inadequate safety performance to develop, submit to FRA for review and approval, and implement railroad safety risk reduction programs. In addition, Congress directed railroad safety risk reduction programs to include technology implementation plans. See Section 103 of the Rail Safety Improvement Act of 2008, P.L. 110-432, Div. A, 122 Stat. 4848 *et seq.* In the NPRM text, FRA proposes that "each railroad subject to this part must establish a Risk Reduction Program (RRP) that systematically evaluates railroad safety hazards on its

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<sup>2</sup> AAR's supplemental comments to the RRP NPRM can be found at Docket No. FRA-2009-0038-0104 (Nov. 1, 2018).

system and manages the risks associated with those hazards in order to reduce the number and rates of railroad accidents/incidents, injuries, and fatalities.” Further, FRA proposes that a railroad required to have an RRP “shall develop, and periodically update as necessary, a technology implementation plan (“TIP”) that contains a prioritized implementation schedule describing the railroad carrier's plan for development, adoption, implementation, maintenance, and use of current, new, or novel technologies on its system over a 10-year period to reduce safety risks identified in the railroad's risk-based hazard management program.”

FRA should modify the proposed regulatory text of the RRP rule to provide that a railroad may, within its TIP, submit for FRA’s approval a plan, for implementing technology and processes that provides superior mitigation of identified risks covered by existing, specifically identified, federal regulations. The plan would detail applicable safety analysis, risk assessment, and performance standards. FRA’s approval of that railroad’s RRP plan would allow the railroad to analyze and deploy technology in accordance with its plan as an alternative means of compliance with the identified federal regulations. FRA would audit the railroad’s compliance with its approved plan, and the railroad would be required to adhere to the approved performance standard.

This approach, provides a logical forum and process for the railroad to demonstrate to the regulator how it would evaluate, deploy and measure the performance of a technology that presents a superior alternative to compliance with existing federal regulations. The TIP approach would provide FRA the opportunity to engage and proactively encourage and support movement towards even greater safety improvement through innovation relieved of prescriptive barriers, but without also having to overhaul its entire regulatory system.

For the railroad using an approved TIP, it would have the ability to analyze a new technology using hazard and risk assessment, document an appropriate performance standard, and proceed with an alternative means of complying with an otherwise applicable prescriptive regulation governing the same safety risk. As an example, FRA grade crossing safety regulations at 49 C.F.R. § 234.249 require that a railroad test for grounds on each energy bus furnishing power to circuits that affect the safety of warning system operation, both when the energy bus is placed into service and thereafter monthly. However, a railroad might develop and desire to deploy technology that could remotely monitor grade crossing conditions on a continual basis, thus removing employees from field exposures and facilitating collecting large amounts of data for predictive analytics. Provided that the railroad can demonstrate that the technology sufficiently addresses the safety rationale behind the FRA requirement to conduct a monthly ground test at 49 C.F.R. § 234.249, and follows the requirements of its approved TIP, use of the remote monitoring technology would proceed in lieu of compliance with the prescriptive federal regulation. The regulatory relief granted by this approach would incentivize the railroads to pursue the development of this type of new, innovative technology, as it has the capability of superior safety management while also reducing workers’ exposure to the hazards of a manual inspection.

The TIP approach is an alternative to, not a replacement of, the existing FRA waiver process. For many railroads, including those not required to provide an RRP to FRA for approval, the FRA waiver process is a suitable path for their efforts to innovate beyond what the current rules allow. There may also be occasions when a railroad would want to pursue particularly local or isolated regulatory relief, not rising to the level of inclusion in a TIP. The existing waiver process and the proposed changes to the RRP regulatory text provide complementary means for railroads to pursue creative solutions to increase safety and productivity.

### Conclusion

To optimize safety and fuel efficiency, and compete in today's global market, U.S. railroads need the license and flexibility to conceive, develop, and deploy new technologies and practices where they are effective and efficient. However, current regulations hinder advancements. The TIP approach described in this letter reduces such barriers, and it dovetails with the NETT Council's chief responsibility – resolving jurisdictional and regulatory gaps associated with non-traditional and emerging transportation technology. We urge the NETT Council to review and recommend FRA adopt our proposed changes to the RRP rulemaking.

Respectfully Submitted,

A handwritten signature in black ink that reads "Sarah Yurasko". The signature is written in a cursive, flowing style.

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