CENTENNIAL PAPERS

Standing Committee on Freight Rail Transportation (AR040)
Pasi T. Lautala, Chair

Freight Rail: On Track to the Future

PASI LAUTALA, *Michigan Technological University*
DAVID CLARKE, MARK BURTON, *University of Tennessee Knoxville*
ELIZABETH (LIBBY) OGARD, *PrimeFocus, LLC*
AMY KROUSE, *American Shortline and Regional Railroad Association (ASLRRA)*

HISTORY/BACKGROUND OF THE COMMITTEE

The genesis of the *Freight Rail Transport Committee* dates back at least to the 1970s, when the future of light density railroad branch and secondary lines concerned many state and local governments. Since then, the Committee has experienced several iterations of changes, as the TRB structure and trends have expanded from a technical engineering focus to include an integrated multimodal freight industry policy and investment focus. Figure 1 presents a timeline that highlights some of the key changes along the way, both for the Committee and for the freight rail industry in general. The following narrative discusses the changes.

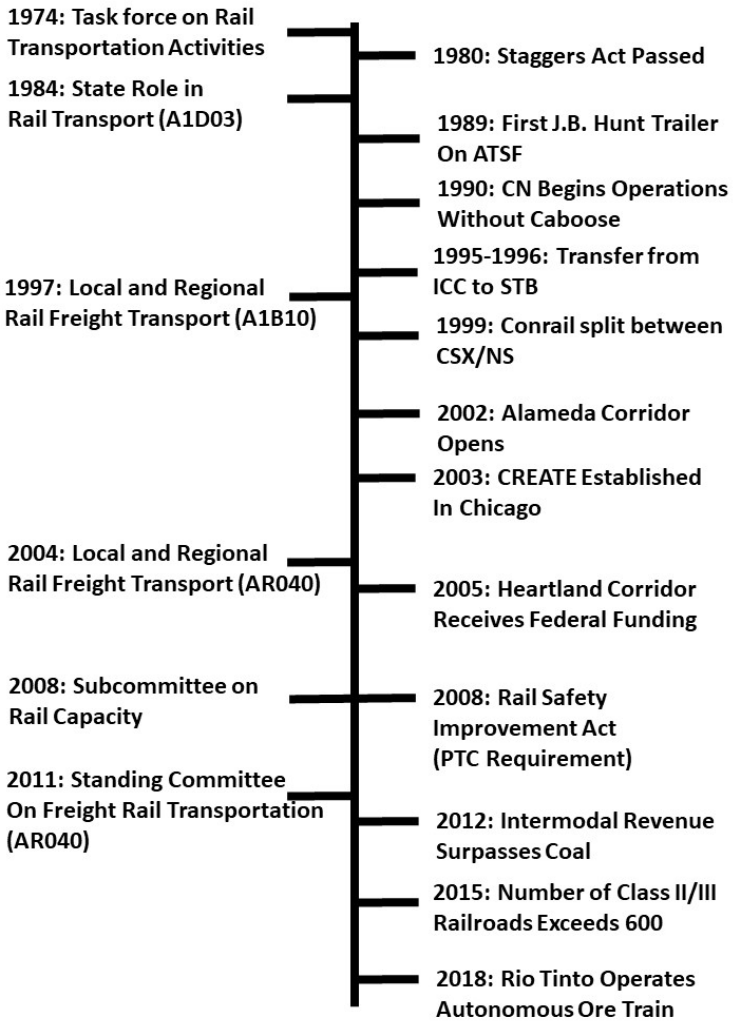

FIGURE 1 Timeline of key industry trends and TRB AR040 changes over time

In the 1980s, the freight industry was in a state of transition. Railroad route mileage was declining, many shippers experienced rail service problems, and the failures of the Penn Central, Rock Island, and Milwaukee Road resulted in wholesale petitions for line abandonment in the Northeast and Midwest. Even the relatively healthy western and southern carriers sought to dispose of or abandon portions of their networks deemed duplicative or to have insufficient traffic potential to justify future investment. Because of these trends, many states were concerned about the preservation of rail freight service, particularly in rural areas. However, state DOTs had little experience with railroad management or operations.

In response to these issues, TRB formed the *Standing Committee on State Role in Rail Transport*. The Committee's A1D03 designation indicated its assignment to the Technical Activities Division (A), Transportation Systems Planning and Administration Group (1), Transportation Systems Planning Section (D). The committee's scope addressed the relationship between states and rail carriers. Early membership emphasized state agencies, but also included representatives from Class I railroads, short line railroads, academia, and the Association of State

Highway Transportation Officials (AASHTO). Topical issues of that period included truck size and weight regulation changes, impacts of rail service on reducing highway maintenance costs, state funding mechanisms for freight rail projects, and rail safety. The committee had strong liaisons with the National Conference of State Railway Officials (NCSRO) and later with the AASHTO Standing Committee on Rail Transport (SCORT), typically holding mid-year meetings at events sponsored by these organizations.

During a March 1996 meeting, members recommended modifying the committee name and scope to reflect broader interests in issues related to short line and regional freight railroads. The short line industry had grown rapidly to more than 500 separate entities by 1996, each formed to operate and rehabilitate track abandoned by larger railroads. This reflected the changing role of states since the committee's inception, along with the composition and functions of other TRB committees addressing rail transportation. TRB approved these changes in 1997. The committee name then officially became *Local and Regional Rail Freight Transport*. The new designation, A1B10, reflected its repositioning to the Multimodal Freight Transportation section (B) of the Transportation Systems Planning Group.

The revised committee scope focused on local and regional railroads, including economic performance, questions of long-term viability, relationships with state and local governments, and relationships with Class I railroads. The scope limited consideration of light density lines owned by Class I railroads to those with possible conversion to short line operation. Topics of interest during this period included open access, the effect of not-in-my-back-yard (NIMBY) movements on railroad initiatives, the future of single carload railroading, and impacts of a new industry standard, the 286,000-pound freight car, on track and bridges.

In 1999, TRB announced a call for committees to prepare "Millennium Papers" for the year 2000. The papers would examine issues in the 21st century relevant to the committee's scope. In response, committee members prepared a paper entitled "Local and Regional Rail Freight Transport-Millennium Issues". The paper captured the tremendous success of smaller rail carriers since the Staggers Act, but also highlighted critical aspects for continuing prosperity, such as changes in the economy influencing demand, the need to obtain financing to maintain and improve infrastructure, and the shift to conducting operations in an increasingly regulated environment.

In 2003, TRB reorganized its committee structure. A newly formed *Rail Group* included most of the rail related committees. The new structure placed the committee in the Rail Group under the designation *–Standing Committee on Local and Regional Rail Freight Transport (AR040)*. The new structure became effective at the beginning of 2004. Committee members applauded the new structure, which elevated the rail mode to greater prominence. The Committee is still part of the Rail Group today, but its name was revised to its current form, *Standing Committee on Freight Rail Transportation (AR040)* in 2011. The change reflected the expansion of the Committee's role in addressing all rail freight, regardless of carrier size.

FREIGHT RAIL TRANSPORTATION COMMITTEE (AR040) TODAY

TRB and related committees continue to be an important venue for transportation related discussion that involve various stakeholder groups and the Freight Rail Transportation Committee has a critical role in implementing activities that advance the freight rail related discussion within the medium.

The current mission of the committee is "*to promote research into and share knowledge of issues related to rail freight transportation*." As explained in the previous section, the mission and the purview of the committee have changed over time, as new trends have emerged or escalated in importance. The committee currently has an extensive scope, as it is *"concerned with the spectrum*

of strategic, operational, technical and planning issues related to rail freight transportation. The Committee's areas of emphasis include: capacity, demand for freight services, including intermodal traffic; the economic viability of railroads and related topics; integrating rail freight transport into federal, state and local transportation planning processes; public and private investment strategies including public/private partnerships; assessing regulatory issues and impacts; identifying areas of needed technical research; and promoting implementation of new rail technology."

Achievements to Date

SummeRail

From early on, the Freight Rail Transportation Committee and its predecessors held meetings outside the TRB Annual Meeting. These typically involved a gathering of committee members attending other events, including the National Conference of State Railway Officials (NCSRO), AASHTO's Rail Council (formerly the Standing Committee on Rail Transportation [SCORT]), and other TRB conferences. In 2007, the Committee organized its first independent mid-year meeting, called SummeRail. The main motive for SummeRail was a genuine desire to find a better way to present the rail industry to practitioners, academics, government officials and students interested in railroading. Rather than sitting in windowless meeting rooms, SummeRail was held at railroad facilities usually off limits (shops, terminals), presenting interactive education sessions including topical presentations and discussions to address key developments and trends in the industry. The event was an immediate success and has been organized annually since 2007. The rail industry has demonstrated great hospitality, regularly welcoming the stakeholders to their facilities. Since 2014, industry members with key contributions for successful SummeRail have been recognized annually through through "*Silver Lantern*" awards (Figure 2). In 2016, the committee was awarded the prestigious TRB Blue Ribbon Award for SummeRail for standing committee program excellence.

FIGURE 2 Key contributors to SummeRail 2017 receive the Silver Lantern Awards. Left to Right: Nikkie Johnson and Timothy Hoeffner (Michigan DOT), Joseph McHugh (Amtrak), Forrest Van Schwartz (AR040 SummeRail Coordinator) Deb Miller (Surface Transportation Board)

Knowledge Sharing

In the early 2000s, the Freight Rail Transportation Committee witnessed increasing participation at the committee meetings hosted during the TRB Annual Meeting. This interest in the committee and subsequent participation had a lot to do with the growth of the railroad industry and the burgeoning railroad renaissance sparked in part by an increase in intermodal and multimodal freight systems. The participation has also become more diverse, as many public agencies and economic development professionals have become involved in freight rail transportation to ensure that freight rail movement is efficiently and effectively connected to interstate highways, waterways, ports and multimodal/intermodal networks. One of the core objectives for the committee is to share knowledge on issues related to rail freight transportation during and outside the Annual Meeting. The committee has worked diligently to use workshops and lectern sessions to cover the most relevant industry trends and to review/publish papers with important insight on freight rail transportation. Therefore, many of the industry trends highlighted in the following sections have already been covered in committee discussions and presentations over time. In addition to authors of the papers, the committee has regularly invited rail industry professionals (in many cases from executive level) as presenters in our sessions and workshops. The committee has organized numerous panel presentations on "hot ticket" rail transportation topics, such as panels related to crude oil transportation by rail featuring Matt Rose (then CEO of BNSF), and freight rail innovation featuring Jim Young (then CEO of Union Pacific Railroad), intermodal transportation, public-private partnerships in rail, and most recently on autonomous technologies related to rail. The committee also participated in securing the first ever rail specialist to deliver the Thomas B. Deen Distinguished Lecture (James McClellan, 2011). All these events have helped to escalate the visibility of rail transportation in the conference. Many of the workshops and sessions have been co-sponsored by other committees, such as the Urban Freight Committee (AT025), the Freight Transportation and Economics and Regulation Committee (AT010), the Freight Transportation Planning and Logistics Committee (AT015), the Railroad Operating Technologies Committee (AR030), the Trucking Industry Research Committee (AT060), the Rail Rolling Stock and Motive Power Committee (AR020), and the Railroad Operational Safety Committee (AR070).

Most recently, the committee has tried to further increase the visibility of freight rail by committing to sessions early in the cycle, providing back-to-back sessions and avoiding conflicts with Freight Day. We have also continued to facilitate more partnerships with other TRB standing committees to increase stakeholder participation and collaboration on rail related topics.

The knowledge transfer is not limited to Annual Meeting. The committee has successfully increased the engagement of members through regular committee web conferences and special webinars on selected topics such as North American Railroad Networks and Development of Research Needs Statements. Recently, the committee established a regular newsletter and a LinkedIn group. All these tactics help us to provide continuous activities to our members and interested parties throughout the year, increasing the pace of knowledge sharing among our constituents.

Research Gaps and Research Needs Statements

Despite past success in turning Research Needs Statements into funded projects, the loss of funding through the National Cooperative Rail Research Program (NCRRP) has slowed rail research and development in recent years. However, through the committee's long-term

relationship with AASHTO and other organizations, it has recently engaged the AASHTO Freight Rail Committee's state members in the development of a freight rail research agenda. Current research funding from the National Cooperative Highway Research program (NCHRP) requires a highway component for eligibility, limiting its applicability to one quarter of the more than twenty rail research topics that were developed with AASHTO in 2018. While the remaining topics are of equal importance to the states and are included in the current FRA themes for research, the lack of a direct interface with the Primary Freight Network or the Interstate Highway System makes them ineligible for NCHRP funds. Examples of the topics not eligible for funding include rail safety, infrastructure, innovation, and best practices in accountability.

Internal/External Collaboration

As already discussed, one strength of the committee has been its ability to create relationships with several TRB standing committees and with critical stakeholders outside of TRB. These relationships support annual meeting programs, while SummeRail events build interest in committee membership and advance the knowledge transfer identified in the committee mission statement. One of the examples of committee leadership is addressing an identified need to collect rail capacity methodology and promote capacity research. In 2008, the committee approached the Rail Group to form a subcommittee, the *Joint Subcommittee on Rail Capacity*, focusing on the topic. The Freight Rail Transportation Committee is serving as lead committee with six other rail, passenger transportation, transit, and freight committees participating to work on the capacity challenge.

The committee recognizes that its mission is closely related to both Rail and Freight groups within the TRB. Until the reorganization in 2003, the committee was closely aligned with freight-related standing committees. After the reorganization, the direct relationship with these committees faded, but the Freight Rail Transportation Committee has been working to resurrect a more direct working relationship with several committees in the Freight Group, such as Freight Transportation Economics and Regulation (AT010) and Freight Transportation and Logistics (AT015*)*. It is our goal to increase our connections and programs to include waterway, trucking and other modes, in recognition of a multimodal freight system required to serve freight carriers and freight generators throughout North America. We also hope to become an active contributor to Freight Day sessions that will help integrate freight rail into the overall freight discussion.

External relationships are equally important to the committee. Many of them have originated from the working group concentrating in *State and Local Freight Rail Transportation.* Under this group, we have systematically worked to collaborate with the State DOTs, especially through SCORT, recently renamed as the Council of Rail Transportation by AASHTO. In 2018, several years of regular meetings with SCORT culminated in the development of a research agenda with more than 20 freight rail topics that States identified as critical needs. In addition to AASHTO, the committee works regularly with the Association of American Railroads (AAR) and the American Shortline and Regional Railroad Association (ASLRRA). We have also worked diligently to include the next generation of railroaders in our activities, especially through collaboration with the National University Rail Center (NURail), a co-sponsor of several SummeRail events.

CURRENT TRENDS IN FREIGHT RAIL TRANSPORTATION

As highlighted in Figure 1, the institutional reforms of the 1970s and 1980s, coupled with the robust railroad industry response, led to a so-called "railroad renaissance". Indeed, North

America's freight railroads are more fiscally and physically robust and more productive than at any time in their almost 200-year history. Nonetheless, the world of freight is by no means static; both new technologies and continued economic change mean that further rail industry adaptations are essential. The following sections highlight the current trends and best practices in the industry, as well as the role of the Freight Rail Transportation Committee in these developments.

Changes in Markets and Operations

One of the challenges for the railroad industry is the increasing pace of change. It's well known that railroad infrastructure investments have a time horizon of several decades and some of them (track and facilities) are not portable. At the same time, changes in markets are taking place with escalating pace. For example, in the near-term, freight railroads must adjust to fundamental shifts in the demands for service. Coal movements, a century-long traffic stalwart, have fallen by 40 percent from their 2008 record high. Coal now ranks third behind intermodal traffic and chemicals as a generator of railroad revenues. Moreover, the continued growth in global trade and abundant domestic availability of affordable natural gas suggest that these trends will be lasting. Changing commodity flows over differing origins and destinations require significant and continuous adjustments in infrastructure, operating plans, and equipment fleets.

Also, railroads are facing increasing pressure from the financial sector to advance lean operations. While the long-term benefits of such changes to this capital-intensive industry can be (and are being) debated, the railroads cannot afford to ignore the inclinations of their investors. The consequences are epitomized by what the late E. Hunter Harrison dubbed "Precision Scheduled Railroading" (PSR). PSR is designed to reduce operating costs by forcing more balanced and predictable traffic and operations. While the evidence suggests that its principles accomplish this goal, PSR also reduces carrier flexibility and imposes often unwelcome constraints on railroad customers.

Technologies

The railroad industry's future prosperity is also tied to the development and adaptation of new technologies. As much of what the industry does is unseen by the public and the railroads' outward appearance changes only a little over time, there is a public perception that rail carriers are not technologically advanced, or even, up-to-speed. That perception is woefully incorrect. Many of the technologies that are currently envisioned for motor carriage have already been implemented in railroad industry. For example, the railroad industry has practiced *attended automation* for two decades within terminals, where locomotives are routinely operated remotely by ground crews. In the line-haul operations, remotely controlled distributed power (locomotives) are already being used to optimize overall train performance. A number of railroads even remotely monitor and control idling and unattended locomotives. Technology has also played a central part in the inspection and maintenance of infrastructure and rolling stock. Remotely monitored wayside inspection systems have been widely implemented to improve the productivity and accuracy of rolling stock monitoring/inspections, while manned and unmanned inspection vehicles routinely collect and store information on track conditions across the network. The connecting factor with the increase in both capabilities is the explosion of sensing and communication technologies that make immediate data transfer and analysis possible, leading to proactive intervention or mitigation of issues.

From a technology vantage, the most notable rail industry change is the development and implementation of "Positive Train Control" (PTC). Loosely, PTC is a set of highly advanced train

control technologies designed to make freight rail transportation safer by automatically stopping a train before certain types of accidents can occur. The current version of PTC was mandated by Congress in 2008 and was originally to have been developed and implemented by 2015.[1] Currently, the full-implementation deadline is December 2020 and the freight railroads seem well positioned to meet that target.

Growth of Short Line Railroad Industry

Changing economics and emerging technologies have also brought about changes in the structure of the railroad industry. In the early 1980s, there were roughly 20 Class I railroads operating in the United States. Today, there are seven. At the same time, the number of short line railroads has increased dramatically. Class I carriers have rationalized networks and reduced operating costs, shedding thousands of route miles. In some cases, route segments were simply abandoned while in others transitioning operations to short line carriers proved to be a viable way to relieve the parent railroad of costs without a commensurate loss of revenue, while preserving rail connectivity for affected communities.

Today, the short line industry has become an integrated and crucial part of the industry. The number of short line railroads has grown from roughly 200 in 1980 to over 600 today. The ownership has evolved into a mix of single, independently-owned operators and holding companies that may have several dozen operators under their umbrella. The short line industry operates 47,500 route miles, or 29 percent of the U.S. freight rail network, much of this in small town and rural America. In some states, the complete rail network is operated by short lines. They serve more than 10,000 shippers across all industries and are known for their first- and last-mile service. Indeed, one in five U.S. freight rail carloads begins or ends its journey on a short line. [2]

Role of Government

The railroad renaissance of the past 40 years was a direct result of sweeping, federal-level institutional changes during the 1970s and 1980s that dramatically altered the economic conditions under which railroads operate. Those changes are correctly credited with rescuing an industry that was on the brink of collapse. There are, however, two important corollary points that are not always noted. First, federal policies continue to play an important role in the rail industry's evolution and prosperity, and second, the emergence of short lines as an important component has amplified the importance of state rail policies and programs. Railroading is one of the most capital-intensive industries in the United States, requiring investment of a high percentage of annual revenues in infrastructure improvements and maintenance.[2] Roughly 30 states operate rail programs that provide ongoing financial support to the privately-held freight railroads (or in some cases shippers) through a combination of grant programs and revolving loan funds. In some instances, these support funds are restricted to infrastructure rehabilitation and improvements. In other states, program funds can also be used to rehabilitate or acquire additional freight equipment.

At the federal level, rail industry financial support has been less evident, but a forward-looking view suggests that outcome is changing. Prior to 2017, most federal support came in the

---

[1] Federal Rail Safety Improvements, 122 STAT. 4848 PUBLIC LAW 110–432—OCT. 16, 2008. https://www.congress.gov/110/plaws/publ432/PLAW-110publ432.pdf

[2] Short Line Regional Railroad Facts and Figures, 2017, https://www.aslrra.org/web/About/Industry_Facts.aspx

form of loans through the *Railroad Rehabilitation & Improvement Financing* (RRIF) program. While in the early years there were complaints that the associated administrative burdens severely limited the program's value, reforms instituted through recent federal transportation legislation have the potential to remedy the claimed administrative difficulty.[3] Perhaps more importantly, beginning with 2017 funding, the federal rail industry loan program has been accompanied by grant funds offered under the *Consolidated Rail Infrastructure and Safety Improvement* (CRISI) program In addition, the *Better Utilizing Investments to Leverage Development* (BUILD) was established to replace the *Transportation Investment for Generating Economic Recovery* (TIGER) program that had seen some success in funding freight rail projects in the past. BUILD is available to fund multi-modal, multi-jurisdictional projects that have a significant local or regional impact at the state and local levels, but are more difficult to support through traditional DOT programs. While CRISI funding has been modest compared to federal spending for other transport modes and BUILD projects are non-exclusive to freight (or freight rail), these programs nevertheless offer new opportunities for future development of the system.

On the short line industry side, one form of support has come from the Short Line Tax credit was that was first enacted by Congress in 2005. The credit, also known by its tax line item reference, 45G, has allowed short lines to invest over $5 billion since its inception.[4] As the tax credit will expire on December 31, 2022, there is a legislative push to make the 45G credit permanent (HR 510 and S203 in 116th Congress).

From a regulatory perspective, the federal government continues to define the economic environment in which both Class I and short line railroads operate. While the Staggers Act of 1980 substantially reduced the scope of federal rail industry regulation, the Surface Transportation Board (successor to the Interstate Commerce Commission) still exercises significant regulatory control over railroad rate-setting, line sales, consolidations, service discontinuances, and other commercially relevant matters. Particularly in an era where the railroad industry must invest heavily in the equipment and infrastructure necessary to compete with automated motor carriage, the federal role in determining railroad revenues is critical.

FUTURE TRENDS

"Foresight is not about predicting the future, it's about minimizing surprise." ~ Karl Schroeder.

The list of current developments covered in the earlier sections offer a good starting point for the discussion of future rail industry trends. The mission of the Freight Rail Transportation Committee is not to make predictions on what will take place in the future, but to provide foresight on critical issues that will impact freight rail transportation. The following list will highlight some of these issues.

- **Technology** - Technology is often identified as the single key factor that determines the direction of future development. For example, the Association of American Railroads

[3] The RRIF program was established by the Transportation Equity Act for the 21st Century (TEA-21) and amended by the Safe Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the Rail Safety Improvement Act of 2008, and the Fixing America's Surface Transportation (FAST) Act. See: https://www.transportation.gov/buildamerica/programs-services/rrif

[4] The Short Line Tax Credit, https://www.aslrra.org/web/Advocacy/45G_Tax_Credit/web/Advocacy/Test_Advocacy/Short_Line_Tax_Credit.aspx?hkey=55c93c8b-a377-49f0-9669-f5d5b36d83e2

(AAR) highlights three ways that technology will drive the future of rail, namely through big data/big solutions, the movement toward automation, and through its impact on 21st century regulations[5]. PTC and remote monitoring of assets are the most visible applications of technology to date, but applications are bound to expand to issues such as robotics, artificial intelligence, internet-of-things, cybersecurity and blockchains. With these technological advancements, continued improvements in safety, productivity and visibility/transparency can be expected.

- **Role of Public and Private Stakeholders** – Freight rail transportation has long been in unique position as the only mode of transportation in the United States with vertically integrated infrastructure and operations (the same owner for both). For a while, the role of federal government concentrated mainly on safety and economic regulations. Increase in public/private partnerships, such as the Chicago Region Environmental and Transportation Efficiency (CREATE) Program and Heartland Corridor Project, and new freight related federal funding programs, such as the Consolidated Rail Infrastructure and Safety Improvement Grants (CRISI) Program, have started to expand that role. Simultaneously, many states have become more active in sustenance and/or improvement of existing rail corridors and in economic development that involves rail service, especially in rural areas. It will be interesting to see where the balance between public and private stakeholders settles in the future, especially as it relates to infrastructure ownership and financing.
- **Impact of Other Modes** – In some ways, the growth of intermodal transportation has brought the traditionally competing modes into collaboration, but there are also concerns on the impact of automated trucks on freight rail transportation. At the same time, new modes of transportation, such as Hyperloop, are introduced as potential alternatives to traditional modes and supply chains are going through transformational changes such as the Amazon/eCommerce effect. Will freight rail be able to use some of these changes to its benefit or will it feel increasing pressure to remain a viable alternative in the new marketplace?
- **Urban Expansion** – The increased population growth and its continuing concentration on urban areas is pressuring shared rail assets along corridors and especially yards and choke points that have historically been located in urban centers. This pressure can be expected to increase and freight rail will need to find alternative solutions for maintaining operational quality under (hopefully) growing traffic and limited facility expansion opportunities.
- **Workforce Development** – Many industries are finding it difficult to attract new talent to their pipelines and freight rail is no exception. Despite all the technological advances, the rail industry has failed to rouse the next generation as an exciting career opportunity. When combined with above-average aged workforce, the challenge isn't getting any easier. It remains to be seen if stable career prospects and improving work environment enabled by

[5] Association of American Railroads, *How Technology Drives the Future of Rail*, https://www.aar.org/article/the-future-of-rail/

technological advances are enough to make the rail industry an attractive choice for the 21st Century workforce.

The Future of the Freight Rail Transportation Committee

Considering the increasing complexity and interdependency of today's freight transportation, it is essential that the committee continues to evolve and remain on the cutting edge of technological development, whichever direction it takes. Throughout its existence, the committee has adjusted to industry change, but its core mission of *sharing the knowledge and providing intellectual/technical advice* on freight rail transportation is the backbone for the Committee today and tomorrow. What remains under constant review and adjustment is the methods and strategies to achieve that mission. The following highlights some of the key strategies and goals that the Committee has set to guide its future.

- **Increase Collaboration –** The multimodal freight transportation system of today requires a complex interface of operators, technology providers and public entities to move goods in a timely and efficient manner. To fulfil its mission, the committee also needs to continue to expand its collaboration, both within and outside TRB. The committee has a solid foundation to build on through our current collaborations with AASHTO, NURail, and other TRB committees, but it needs to extend further into state rail management areas and become a resource for states, industry and researchers. The greatest impact can be reached through these collaborations.
- **Advancing Research –** Continuing research and knowledge transfer are equally important as a goal for the committee. There are multiple ways to advance research and the committee believes that freight rail warrants a boost in this area. Our strategy builds on reviewing and publishing papers and on development of Research Needs Statements (RNS). We are working on developing a RNS process that generates new statements on an annual basis in collaboration with committee members and our external partners such as AASHTO, ASLRRA and AAR. An equally important part of advancing research is securing a program through TRB that provides funding for the research. The dedicated National Cooperative Rail Research Program (NCRRP) is currently unfunded and other programs have eligibility restrictions for certain types of freight rail research. The committee hopes for a return to a dedicated and funded program to advance rail research through TRB. The committee also desires to work with the Consensus and Advisory Studies Division of TRB to ensure that the expertise of its members can be taken advantage of when freight rail related special studies are performed. Finally, we believe that freight rail transportation topics would be helpful as part of the TRB Synthesis Program.
- **Creating a Diverse and Vibrant Committee –** One of the best ways to advance the goals of the committee is by being dedicated and motivated to work toward our mission. By working together with universities and industry to identify promising young and minority members, we can both harness their skills sets to advance the cause and address the challenges in our workforce. In today's global environment, we will also work to enhance collaboration across continents through international membership so that development in other continents can be integrated with North America.
- **Attracting Workforce –** Railroading is a 150-year old industry and struggles to attract and retain talent due to the perception that railroads are not on the cutting edge of technology.

Many prospective students and railroad recruits have limited understanding of how railroads work and the irreplaceable role they play in commercial supply chains. It is within our mission to develop interest among students, young professionals and the research community to help railroads continue to contribute to economic growth in a meaningful way.

As we prepare for the TRB Centennial and beyond, the Freight Rail Transportation Committee is enthusiastic and well-positioned to continue meeting its mission. The committee has built a strong foundation during the decades of its existence and an impressive track record of furthering its mission with clear direction and well-placed collaboration with internal and external parties. We have been able to stay aligned with the tremendous changes in our industry and create innovative programs, such as SummeRail. We are looking forward to building on that success, staying on track and riding the rails toward upcoming challenges and developments!

DISCLAIMER

This paper is the property of its author(s) and is reprinted by NAS/TRB with permission. All opinions expressed herein are solely those of the respective author(s) and not necessarily the opinions of NAS/TRB. Each author assumes full responsibility for the views and material presented in his/her paper.