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vv Conrail train OIBU-X
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curve near milepost 314
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ON THE COVER:

Amtrak's *Capitol Limited*, led by heritage unit No. 822, rolls east to the station at Harpers Ferry, WVa., on Sept. 3, 2019.

Brandon Muir

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THE TRAINS INTERVIEW

Sonia Bot and John Orr

Consultants foresee the next development of Precision Scheduled Railroading

IN A WHITE PAPER called “Delivering PSR 2.0 for Entrepreneurial Railroading and its Ecosystems: The Evolution of Precision Scheduled Railroading,” Sonia D. Bot and John F. Orr argue that the railroad industry needs to expand Precision Scheduled Railroading to include short lines and regional railroads, embrace a broader use of technology, and build partnerships across the entire supply chain. Along the way, the railroad industry must become entrepreneurial and better match service to the demands of customers. Bot, CEO of The BOT Consulting Group, has worked at technology, media, and telecommunications companies worldwide, and was instrumental in positive train control implementation on Canadian National’s U.S. lines. Orr, a transportation consultant, is a fourth-generation railroader who came up through the ranks to become CN’s chief transportation

officer. With E. Hunter Harrison and his successors, Orr delivered precision scheduled railroad operations, and continues the mission today throughout North America, Europe, and Asia.

Q A key point of PSR 2.0 is that railroads need to become entrepreneurial. Shortline and regional railroads are; the Class I systems are not. How can such big companies become entrepreneurial? And what will happen if they do?

A PSR 2.0 transcends the limits of PSR 1.0 by embracing entrepreneurship and partnerships across the railroad and transportation ecosystems. PSR 2.0 requires raising the bar on the entrepreneurial capabili-

ties of Class I railroads, Class II railroads, and others in the transportation ecosystem; not just Class I railroads. As with other industries, how entrepreneurship is executed depends on the resources and circumstances of the organization. Larger organizations have different approaches than

smaller ones. Typically, entrepreneurial efforts in smaller organizations are more readily acknowledged, valued, and encouraged. This does not mean that the larger organizations are not entrepreneurial; they just do it differently. For example, for large companies, they first need to acknowledge their commitment to entrepreneurship and establish such beliefs, values, and attitudes. Rewarding an entrepreneurial



Sonia D. Bot



John F. Orr

▲ A BNSF coal train meets a Dallas, Garland & Northeastern locomotive in Carrollton, Texas, in 2015. Short lines could be part of Precision Scheduled Railroading version 2.0. Steve Schmollinger





Amazon Prime trailers ride an eastbound BSNF train at Summit, Calif, in 2018. Railroads need to show Amazon's understanding of the supply chain, two consultants say. Scott A. Hartley

culture promotes participation ... and builds capacity to identify and act on emerging opportunities. It supports incremental and breakthrough solutions and improvements within the current market position, plus immediate-, mid-, and longer-term planning horizons. This creates a commitment to the end-to-end supply chain that applies to all stakeholders. At its core, the impact is about providing integrated end-to-end customer service reliably, predictably, effectively, and safely while manifesting other benefits such as profitability.

Q Railroads are making technology advancements across the board, from automating processes and providing customers with more information to using big data and artificial intelligence to find track and equipment defects. Yet you argue that this does not go nearly far enough. Why?

A It's how the railroads are currently approaching technology that is not going far enough in order to embrace the tail end of the digital age and prepare the foundation of the new era of innovation. Currently, the technology investments are primarily piecemeal and focused inward for a company to create its own competitive advantage. Integration with external players is minimal at best. What we propose is that there must be linkages and visibility across thousands of different customers across various transportation enterprises. Individual railroads can't do this alone. They need to tie into the billions of dollars invested in trucking and shipping logistics and the new expectations brought forth by delivery services such as Amazon that rely on the railway to deliver goods. A shift toward an integrated

and cohesive shared platform, that is enabled by the technology advances, is required. With a unified PSR 2.0 platform, all parties in the end-to-end supply chain are measured, monitored, and accountable.

Q PSR 2.0 advocates forging better partnerships between railroads and their customers, as well as between the Class I systems and their shortline connections. How can customers and short lines get a seat at the table?

A First and foremost, railways have an obligation to develop their customer base and service relationship. We are not advocating that there is any kind of significant shift in their self-determination. PSR 2.0 demands forging productive relationships. More so, it is also about having a more comprehensive view of the business objectives, service alignment, and supply chain from the view of the product; where product originates, where should it go, where could it go because of inefficiencies of the ecosystem, and how do we support the product in its transit. It is about deepening engagement with customers from a product-level viewpoint. This includes trading partners, transportation neighbors, regulators/lawmakers, and extending the reach of the product into the marketplace. When looking at a customer-development view in an organization, it creates natural boundaries. A product-cycle view transcends those boundaries. To optimize the path and handling you must include all the parties in the conversation and on how that service will be agreed to. Inter-railway service agreements have not been so much about the product but more about time and proximity. In order to have the receiving party agree to something, they must be a part of

the design as opposed to a downstream recipient. PSR 2.0 puts more structure and meaning to these things. They earn a seat at the table by wanting to participate by committing resources and committing to solutions, and really by wanting to take a product-level view of the service.

Q How important is it for railroads to get a full understanding of how they fit into customers' supply chains?

A If railways don't do this, then someone else will. Actually, others are already doing it right now: Amazon, Tesla, Walmart, and SpaceX are deep into the supply chains and their understandings of where the opportunities are. They are driving changes to support the movement of products faster and more reliably than ever before. If railways are to continue their leadership and role as the backbone of the North American economy, then they have to increase their commitment to understanding the end-to-end supply chain and be willing to participate in improvements that extend beyond their boundaries. If they don't, they will see their revenue and profitability challenged and the return on their invested capital erode.

From a more technical perspective, railroads need to have an end-to-end view of the value chain so they know how to behave in it effectively, develop better processes and solutions. Processes usually don't operate in isolation. It is vital to consider its context and how other processes interact with it, or depend on it. Rather than bundling together a hodgepodge of processes and workflows into the system — most of which do not integrate into a cohesive end-to-end business process — focus on the end-to-end customer experience. This includes the customer's points of contact, their journey throughout the process, and the environments/tools where this takes place. Railroads and other transportation providers must see the cause-and-effect impacts across the end-to-end system as opposed to siloed in a region or organizational entity.

Q You note that 40% of the North American rail network is not under PSR today, including short lines, regionals, and passenger railroads. To what extent is PSR applicable on smaller systems? And can the principles work on smaller short lines that are mom-and-pop operations?

A A sweet spot in that 40% rests with the short lines and other railroads that are not yet committed to PSR. This is the opportunity for them to embrace PSR 2.0, where the first ones to do so have the first mover advantage of setting the pace and the terms. Let's apply an analogy with the



A Union Pacific heads toward the setting sun at Glen Ellyn, Ill., on March 8, 2020. Precision Scheduled Railroading 2.0 emphasizes better railroad-customer relationships. TRAINS: David Lassen

regional airlines, where they have various sizes of aircraft that feed hubs across North America. They all work on the same disciplines, standards, and performance schedules. They all work in a highly competitive environment and do it efficiently. It should be no different in the rail industry. Imagine if Porter Airlines was put on a runway at Dallas-Fort Worth International Airport and waited 24-48 hours before air traffic control would give it a green light to get a spot on the runway. This would not happen.

From a more technical perspective, PSR can be applied to any type of railroad class. PSR is a management philosophy that is timeless and scalable. The various methods to implement PSR are tailored to size, scope, and complexity. This is in line with other business approaches, from Lean Six Sigma to Kaizen and Disciplined “Just Do It.” The bottom line is that you apply the right PSR methodology that fits the characteristics and objectives of the respective railroads.

Q **What’s the competitive threat to railroads from new players in the transportation industry? And how can PSR 2.0 help the industry head off the threat?**

A Transportation disruptors such as Uber and Lyft have shaped not only the retail transit world but the very notion of automobile manufacturing and ownership. Amazon and Walmart are competing worldwide and are redefining global service expectations of speed and efficiency. Just in the last year,

retail giant Amazon shocked the world with the notion of drone delivery service, and SpaceX’s CEO Elon Musk won the bid to build an underground high-speed state-of-the-art shuttle system from downtown Chicago to O’Hare airport (shaving a 1-hour commute to 12 minutes). Walmart and other retailers have same-day shipping and, in some cases, same-day delivery. These, along with other companies that are synonymous with fast premium service (FedEx, UPS), are significant freight-rail users. They are setting new and higher expectations for origin-to-destination requirements and fueling unprecedented competition. If railway service and highways are not sufficient, then the trillion-dollar corporations like Amazon are apt to jump into this opportunity. They have deep pockets and could buy their way in.

The urgency for a call to action has exponentially escalated with the onset of the COVID-19 pandemic and resulting existential threat on the economy as we know it today.

PSR 2.0 embraces the threat, competition, and urgency; actually, you can thrive in this as the threat provides pressure to do better. You leverage the threat by taking a product view in the context of origin-destination across the end-to-end supply chain, while this customer experience is cost appropriate and the service providers are being operationally efficient and profitable. Railways need to assert their value in these times. PSR 2.0 and its collaborative ecosystem approach strengthens the railroad.

— *Bill Stephens*

NEWS BRIEFS

Guelph Junction to get new operator



The city of Guelph, Ontario, has placed the operating contract for its **GUELPH JUNCTION RAILWAY** up for bid, and current operator **ONTARIO SOUTHLAND** — with an Alco-centric roster — has not submitted a bid. Four operators submitted bids to operate the 24-mile line. MLW locomotives lead a Guelph Junction train on March 25. Stephen C. Host

INNOTRANS, the massive international rail-industry trade show held every two years in Berlin, Germany, postponed its 2020 edition after Berlin’s government banned events with 5,000 or more people before late October because of coronavirus concerns. The event, which drew more than 3,000 exhibitors from 61 countries along with 150,000 visitors in 2018, sprawls over 42 exhibit halls and more than 2 miles of display tracks. It was set for Sept. 22-25, but now will be held April 27-30, 2021.

A planned San Diego ballot initiative to fund transit projects has been scrapped because of conditions created by the COVID-19 pandemic. The **METROPOLITAN TRANSIT SYSTEM** ended plans for a November measure to fund a \$24 billion program known as “ElevateSD,” with elements including a trolley connection to San Diego’s airport, saying the pandemic had created an unfavorable climate for the proposed half-cent sales tax.

New York’s **METROPOLITAN TRANSPORTATION AUTHORITY** agreed to a \$500,000 benefit payment for transit workers killed by the COVID-19 virus following negotiations with unions representing subway, bus, and commuter rail workers. The MTA said it would extend the agreement, which includes three years of health insurance for surviving family members, to non-union employees. As of April 28, 84 MTA deaths were attributed to the virus.