



Railway Association
of Canada

RAIL-GOVERNMENT INTERFACE 2019

TECHNOLOGY AND INNOVATION

MAY 15, 2019 • BALLROOM C, DELTA HOTEL, OTTAWA, ON



SPONSORED BY



AGENDA

Time Event

- 11:30 – 12:30** Lunch and exhibits open
- 12:30 – 1:10** *Safe, Reliable, Efficient — This is TTCI*
Lisa Stabler, President,
Transportation Technology Center, Inc.
- 1:10 – 1:35** *The Impact of Climate Change on Rail Infrastructure*
Louis Gravel, President, Genesee & Wyoming Canada
- 1:35 – 2:00** *CN Technology & Innovation*
Michael Farkouh, Vice-President,
Railroad and Network Technology Deployment, CN
- 2:00 – 2:25** *The Future of Supply Chain Management is Here
— Are You Ready?*
Corrie Banks, Director, Logistics, Cando Rail Services
- 2:25 – 2:40** *AskRail, Safety Tool for First Responders*
Andy Elkins, Manager, HAZMAT Compliance,
Association of American Railroads
- 2:40 – 3:10** BREAK and exhibits
- 3:10 – 3:35** *Technology-Driven Train Inspection*
Dr. Kyle Mulligan, Chief Engineer, CP
- 3:35 – 4:00** *Innovating to Curb Rail Trespassing Fatalities:
Using Data, Personal Stories and Partnerships*
Sarah Mayes, National Director,
Operation Lifesaver Canada
- 4:00 – 4:25** *Light Rail Transit in Ottawa*
Michael Morgan, Director, Rail Construction Program,
City of Ottawa
- 4:25 – 4:50** *Technology: Critical to strengthening
and transforming any organization*
Corina Moore, President & CEO,
Ontario Northland Transportation Commission
- 4:50 – 5:00** Closing remarks and directions to the reception
- 5:00 – 7:00** Reception in the Panorama Room (penthouse)

EXHIBITORS

Ontario Northland Transportation Commission

Unmanned aerial vehicles (UAV's), more commonly known as drones, allow for cost effective, up-close inspections on railway infrastructure that were previously too difficult to access. ONTC currently uses this technology for bridge and culvert inspections, ballast stockpile volume calculations, general track infrastructure review and investigation of areas that may pose a risk to track integrity, such as beaver activity, high water and other obstructions within the right of way. ONTC values safety and continuous improvement and the use of UAV technology is invaluable both presently and into the future.

CN

CN will offer an exploration of their new cutting-edge automated inspection technology portals, which use advanced digital imagery and machine learning to inspect trains in real time — as they travel at full speed — and identify rail cars that need repair.

CN has developed a patented innovative process to transform heavy crude oil (also known as bitumen in Canada) without refining, into solid pellets suitable for rail transport in open-topped gondola cars. The pellets — called CanaPux — do not leak or leach, are not flammable or explosive, do not create dust, and float on water. In a spill on land or in water they simply need to be picked up with no impact to our environment. At destination, the pellets can be converted back into liquid heavy crude oil with no alteration in quality. The solidification process uses recycled plastics which are recovered upon reliquification and can be reused in industrial applications or shipped back to be made into more CanaPux pellets.

CP

Specialized sensors beside rail lines and mounted on rail equipment are capturing terabytes of data every year. CP is applying this data to inform predictive maintenance months — and even years — in advance, enhancing safety and customer service.

Cando Rail Services

Quasar allows Cando to build on its 40+ years of experience facilitating the safe, efficient movement of products across the entire supply chain for our customers. The full Quasar platform includes yard management, car storage, shipment visibility, activity-based costing, metrics and analytics and predictive and prescriptive analytics. The goal of the Quasar platform is to optimize the supply chain through cleaner, faster data acquisition and the creation of analytics that identify waste in the supply chain. The entire system helps Cando Rail get your goods to market at the lowest possible cost in the shortest possible timeframe.

Association of American Railroads

The #AskRail app, launched in 2014, is a collaborative effort among the emergency response community and all North American Class I railroads. The app provides more than 25,000 first responders — from all 50 states and eight Canadian provinces — with immediate access to accurate, timely data about what type of hazardous materials a railcar is carrying so they can make an informed decision about how to respond to a rail emergency.

Operation Lifesaver

Operation Lifesaver will be promoting two of its innovative virtual-reality (VR) campaigns, Train to Drive and Look. Listen. Live., at its RGI booth. Participants will have the chance to test their driving and rail-safety skills in a VR environment through Train to Drive, a driver training program that requires users to make real-time decisions behind the “wheel.” Participants will also be able to experience OL’s Look. Listen. Live. VR videos — and “drive” an ATV or snowmobile, or take an illegal shortcut across the tracks on foot — to see for themselves how quickly and quietly a train can sneak up on them.

City of Ottawa

The City of Ottawa will have staff onsite to describe the O-Train Confederation Line light rail transit (LRT) system, including information on the LRT system’s electrification and communications technology, Alstom Citadis Spirit light rail vehicles and construction and tunnel excavation methodology. Information will also be available on the Ready for Rail customer education campaign.

PRESENTERS



Lisa Stabler

**PRESIDENT, TRANSPORTATION
TECHNOLOGY CENTER, INC**

Lisa A. Stabler was named President of TPCI in October of 2011. As President, she is responsible for all aspects of the facility and personnel, including the successful execution of the Association of American Railroads' Strategic Research Initiative and the Federal Railroad Administration's Task Orders. Major commercial customers include all North American Class I railroads and other organizations in South America, Europe, Asia and Australia. In addition to her duties as President of TPCI and a member of the TPCI Board of Directors, Ms. Stabler serves as a member of the Board of Directors for the Penn State Altoona Rail Transportation Engineering Program, the International Heavy Haul Association, and the World Conference on Railroad Research, and as a member of the Rail Industry Advisory Group for the National Railroad Hall of Fame. In 2017, Ms. Stabler was honored by the League of Railway Women as the 2017 Outstanding Woman of the Year.

Mrs. Stabler joined TPCI in 2010 as Vice President-Operations and Training. Prior to TPCI, Mrs. Stabler was employed by BNSF RR as Assistant Vice President — Quality and Reliability Engineering. During her tenure at BNSF RR, she was responsible for Supplier Quality, Freight Car Design, Track Measurement, Six Sigma Problem Solving, the Mechanical Quality System and Mechanical Best Way Processes. Mrs. Stabler also served as Chairman of the Advanced Technology Safety Committee for the Association of American Railroads. She came to BNSF RR from General Motors/Delphi, where she had several assignments in Product Engineering, Quality Assurance and Strategic Planning.

Mrs. Stabler holds a Bachelor of Mechanical Engineering degree from the University of Dayton, and a Master of Science in Mathematics from Wright State University. She is an ASQ Certified quality professional.



Louis Gravel

PRESIDENT, GENESEE & WYOMING CANADA

Since June 2014, Mr. Louis Gravel has been President of Genesee & Wyoming Canada Inc. (GWCI) and its Canadian subsidiaries. GWCI operates nine railways across four Canadian provinces and three US states.

From 2006 to 2014, Mr. Gravel was Managing Director, Rail and Port Operations, for the Quebec North Shore and Labrador (QNS&L) Railway. During his 24 years with QNS&L and Rio Tinto, he held various management positions such as Railway Engineer; Superintendent of Railway Maintenance; Superintendent of Transport, Signals and Communications, and finally Director of Engineering and Capital Projects.

Mr. Gravel graduated from Laval University in Mechanical Engineering and Duke University of North Carolina in Business Leadership. He also holds a Certificate in Locomotive Engineering obtained from the Canadian Institute of Railway Transportation.

Mr. Gravel is a member of the Board of Directors of the Railway Association of Canada (RAC) since 2014, where he represents Short Lines & Regional Railroads.

Engaged within the community, he has been a member of the Board of Directors of the Caisse d'Économie Desjardins of Sept-Îles in Northeast Quebec for nearly 25 years.



Michael Farkouh

VICE-PRESIDENT, RAILROAD AND NETWORK TECHNOLOGY DEPLOYMENT, CN

Michael Farkouh is the Vice-President, Railroad and Network Technology Deployment, based in Montreal. He was appointed in April 2019 and as a key member of the Information and Technology team, is responsible for the deployment of next-generation scheduled railroading technology.

Mr. Farkouh started with CN in 1989 as Officer, Division — Mechanical. Over the years, he has held various positions in both the operations

and manufacturing fields including: Manager Planning, Car Fleet Maintenance; Regional Mechanical Officer — Eastern Canada; Superintendent Operations — Greater Montreal; and General Manager Operations in several locations including the Great Lakes Division, Greater Toronto Division, Champlain and B.C. South. In November of 2012 he was promoted to Assistant Vice-President — B.C. South following by Vice-President, Safety and Sustainability in April 2013, and Vice-President, Eastern Division in April 2015.

Mr. Farkouh holds a Bachelor of Engineering Degree from McGill University and has 26 years of experience in the transportation sector. Mr. Farkouh has had extensive experience in both the operations and manufacturing fields of this industry.

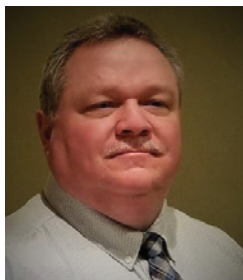


Corrie Banks

DIRECTOR LOGISTICS, CANDO RAIL SERVICES

Corrie Banks is a logistics expert with 22 years of experience. She is recognized internationally as a thought leader in the logistics industry and was recently recognized as one of the 100 most influential women in the Canadian supply chain.

Corrie has worked for Canadian Pacific Railway, Canadian Pacific Logistics Solutions, Parmalat Canada, Triskele Logistics and currently works for Cando Rail Services leading their supply chain optimization platform. Using her “lean” and “six sigma” qualifications, Corrie has managed 3rd party logistics, warehousing/distribution, rail and truck shipments, railcar and truck maintenance and repair scheduling, port operations, load planning, shipment management, issue resolution, freight audit and payment, and data metrics and analytics. As an insightful, passionate, and dynamic leader Corrie looks forward to collaborating with industry professionals to innovate and optimize supply chains.



Andy Elkins

**MANAGER HAZMAT COMPLIANCE,
ASSOCIATION OF AMERICAN RAILROADS**

In my job as manager of hazardous materials compliance with the AAR, and in my previous experience in law enforcement, having served 27 years as a Police Officer with the Metro Nashville, Tennessee Police Department, I have seen first-hand how First Responders rush toward incidents that most others are running from. I strongly support programs, such as AskRail, that provide information that keep these responders, and the communities they serve, safe.

For the Association of American Railroads (AAR), one of the leading railroad policy, research and technology organization for North America's major freight railroads, safety is a top priority. America's privately-owned freight rail network continues to invest billions annually on capital improvements and maintenance. One priority is the support of first responders that may be called to the scene of a railroad incident.

As the freight rail industry continues its work to make operations safer, it also supports critical initiatives like Operation Lifesaver (OLI), International Level Crossing Awareness Day (ILCAD) and many others that focus on the rail safety message. I am proud to serve on the Board of Directors for Operation Lifesaver Inc. and to have the opportunity to share part of the technologies and initiatives that are sponsored by the Railroads.



Dr. Kyle Mulligan

CHIEF ENGINEER, CP

Kyle Mulligan is the Chief Engineer at Canadian Pacific. During his four year tenure he has held several roles including: Senior Reliability Engineer EHMS (2015), Assistant Chief Mechanical Engineer (2016/2017), Chief Mechanical Engineer (2018), and Chief Engineer (2019). Kyle and his team specialize in the implementation of predictive models which identify freight car component failures earlier than previous methods, enabling pro-active maintenance without affecting train speed. Kyle and his team have introduced methods of using train dynamic modeling simulators

to understand true root causes of incidents while also using the same simulators to build trains in ways to reduce risk to the industry. Because of his extraordinary work, he has won several industry awards including a CEO Award for Excellence in 2017 for asset optimization, has been voted one of Railway Age's top 10 under 40, and has also received one of the Railway Association of Canada's safety awards.

Kyle has a research background in artificial intelligence and machine learning with applications within the aerospace industry both on structures and aircraft engines. He is a qualified locomotive engineer and qualified freight car mechanic, and holds a doctorate in mechanical engineering from the University of Sherbrooke in addition to degrees in computer systems, electrical, and biomedical engineering. He continuously strives to learn new ways to positively impact the industry.



Sarah Mayes

NATIONAL DIRECTOR, OPERATION LIFESAVER CANADA

Sarah Mayes is National Director of Operation Lifesaver Canada, and has more than 15 years of combined media, communications and project-management experience. Before joining OL, Sarah served as the Railway Association of Canada's Director of Public Affairs, managing the association's day-to-day communications and media relations, and overseeing its national advertising campaign. Prior to joining the association world, Sarah worked as an associate producer and reporter for the Canadian Broadcasting Corporation (CBC). Sarah holds a Bachelor of Science from McGill University (2001) and a Master of Journalism from Carleton University (2018).



Michael Morgan

**DIRECTOR, RAIL CONSTRUCTION PROGRAM,
CITY OF OTTAWA**

Michael Morgan is currently the Director of the Rail Construction Program where he is responsible for the design and construction of Stage 2 light rail transit. He previously held the position of Director of Rail Operations for OC Transpo, where he was responsible for all aspects of OC Transpo's light rail operations including the maintenance contract with Rideau Transit Maintenance (RTM) group and the Trillium Line.

Michael has significant experience in project delivery, commissioning, operations, and maintenance of light rail systems. His project experience includes commissioning the Gold Coast Light Rail Stage I in Queensland, Australia, commissioning the Everline in Yongin, South Korea, operations and maintenance of the JFK AirTrain system in Queen's, New York, and design engineering for the SkyTrain Millennium Line Project in Burnaby.



Corina Moore

**PRESIDENT & CEO, ONTARIO NORTHLAND
TRANSPORTATION COMMISSION**

Corina Moore, President and CEO of Ontario Northland — a transportation agency, is a proud northerner with a hands-on leadership style focused on the long term sustainability of the organization.

Corina's early career traces a journey around the globe in business process engineering and optimization in the telecommunication and technology industries.

As President and CEO she is a fearless leader, responsible for the radical transformation of Ontario Northland into a renewed, strong and stable organization. Her efforts have resulted in unprecedented positive changes for the North; increasing freight and manufacturing customer base, expanding motor coach services for the first time in the company's history, reducing operating costs significantly and obtaining long-term investment from the Province.

Over the next few years, Corina's focus will be to continue delivering strong and reliable transportation services that are vital to the people of Northern Ontario.

Corina was recognized by Progressive Railroading and the League of Railway Women as 2018's Outstanding Woman of the Year and by Railway Age as one of ten women who are visionaries in the rail industry in North America. She is the first woman to be appointed to the Railway Association of Canada's Board of Directors and the first woman to appear on the front cover of Railway Age Magazine since its inception in 1856.

She is a graduate of Waterloo University in Systems Design Engineering and Business Administration and Management.

A married mother of three, when Corina isn't at the hockey rink, she can be found spending time with her family, travelling, volunteering or enjoying time at the lake with her children.



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