



Act safely at level crossings



ILCAD INTERNATIONAL CONFERENCE ON **HOW TO IMPROVE SAFETY AT AND AROUND LEVEL CROSSINGS**

**JUNE 2, 2017, MONTRÉAL, QUÉBEC, CANADA
SAINT-LAURENT ROOM, HÔTEL DE L'INSTITUT
3535, RUE SAINT-DENIS, MONTRÉAL**



INTERNATIONAL UNION
OF RAILWAYS

RAILWAY
ASSOCIATION
OF CANADA



YEARS/ANS
2017

ASSOCIATION DES
CHEMINS DE FER
DU CANADA

AGENDA

OPENING 9:00-9:20

1. Michael Bourque, President & Chief Executive Officer, Railway Association of Canada (RAC)
2. Yves Desjardins-Siciliano, President and Chief Executive Officer VIA Rail Canada, Chairman of UIC North America Region (NARA)
3. Renato Mazzoncini, Chairman of UIC, CEO of Italian Railways (FS)
4. Jean-Pierre Loubinoux, Director General of the International Union of Railways (UIC)

A. BEHAVIOUR, DISTRACTION, ENFORCEMENT, REGULATIONS (9:20-10:00)

1. Rob Johnston, Transportation Safety Board of Canada (TSB): Fatal distraction: the OC Transport-VIA RAIL collision
2. Jocelyn Latulippe, Deputy Chief, CN Police Service, Canada
Questions

B. TRESPASSING AND SUICIDE PREVENTION (10:00-11:05)

1. Mr. Lauby, FRA's Chief Safety Officer & Associate Administrator for Railroad Safety: "Trespassing – the leading cause of rail-related fatalities in the US"
2. Kurt Topel, Chairman, Chicagoland Rail Safety Team, USA: "Rail trespassing and suicide prevention"
3. Allan Spence, Head of Corporate Passenger & Public Safety, Network Rail, "Influencing the public to make Britain's railway safer together"
Questions

11:05-11:25 COFFEE BREAK

C. OVERVIEW OF LEVEL CROSSING SAFETY IN EUROPE AND BEYOND (11:25-12:05)

1. Alberto Mazzola, FS Italiane Senior Vice President International Government Affairs: "Level Crossing safety in Italy"
2. Isabelle Fonverne, Senior Advisor Safety, UIC: "Safer-LC, UIC Coordinated EU project (within Horizon 2020): Safer Level Crossings by integrating and optimizing road-rail infrastructure management and design"
Questions

12:05-13:15 LUNCH BREAK

D. ENGINEERING, INNOVATIVE SOLUTIONS (13:15-14:25)

1. Mr. Neil Ternowetsky, Product Manager and CTO, TRAINFO, Canada: "Improving road safety and public health with real time and predictive train crossing information"
2. Mrs. Parinaz Bazeghi Kisomi (MSc Student) and Dr. Morteza Bagheri, School of railways, University of Science and Technology (IUST), Iran: "Use of smart watches to reduce train-pedestrian collisions"
3. Mr. Enrico Vignozzi, Managing Director, Progress Rail, Italy: "State of the art of the radar technology (76GHz) applied to detection of vehicles and pedestrians at level crossings"
4. Mrs. Virginie Taillandier, Level Crossing Safety Manager, SNCF, France: "Anti collision Tech4rail project"
Questions

14:25-14:45 COFFEE BREAK

E. EDUCATION/AWARENESS/COMMUNITY OUTREACH (14:45-15:50)

1. Tamo Vahemets, CEO, Operation Lifesaver Estonia: "LC safety awareness activities in Estonia"
2. Danijela Baric, Head of Chair for Road Transport Technology, University of Zagreb, Faculty of Transport and Traffic Sciences: "Level crossing safety campaign in Croatia"
3. Katarzyna Kucharek, PKP Group Foundation, Poland: "How making young adults aware of risks at level crossings" (represented by UIC)
4. Sarah Mayes, National Director, Operation Lifesaver Canada: "Look. Listen. Live. Re-Imagining Canada's Rail Safety Public – Awareness Program"
Questions

16:00 WRAP UP

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SPEAKERS' BIOGRAPHIES AND SUMMARIES OF PRESENTATIONS



Rob Johnston
**Manager, Central Region
& Headquarters
Railway/Pipeline —
Investigations Branch**

Rob Johnston has been with the Transportation Safety Board of Canada (TSB) since 2001. He was Senior Regional

Investigator in Winnipeg until 2004, when he assumed the position of Senior Investigator, Standards and Training Officer at TSB Head Office in Gatineau, Quebec. He became Manager of Central Regional Operations in November 2009, and served as Acting Director of Investigations - Rail/Pipeline for 9 months in 2010– 2011.

He now manages a staff of 6 rail/pipeline investigators in Winnipeg, Toronto, and Ottawa, and is responsible for all activities related to rail investigations in TSB's Central Region, which extends from Cornwall, Ontario, to near the Alberta–Saskatchewan border.

During his time at the TSB, Mr. Johnston has been involved in over 60 TSB accident investigations as either an Investigator-in-Charge or as an investigation team member providing technical expertise.

Before joining the TSB, Mr. Johnston worked for Canadian Pacific Railway in Winnipeg from 1984 until 2001, where, as a member of the Train Accident Prevention group, he acquired an extensive background in mechanical operations, failure analysis, and dangerous goods.



Jocelyn Latulippe
Deputy Chief, Operations

Jocelyn Latulippe joined CN Police Service in 2015 as Deputy Chief, Operations. After 28 years of service at the Quebec Provincial Police Force (Sûreté du Québec), he retired with the rank of Deputy Director General, at the head of the Investigations and Internal

Security Branch. Mr. Latulippe also coordinated the response capabilities of the Quebec Anti-Terrorism Police Structure in conjunction with various external partners and police entities.

Mr. Latulippe has dedicated his career to police operations related to Criminal Investigations, Professional Standards and Patrol duties as Commanding officer of the Monteregie District. All of those responsibilities being conducted in various regions of the Quebec province such as Montreal, Quebec, the North Shore, Abitibi-Temiscamingue and Gaspésie.

He holds a master's degree from the National School of Public Administration and other certificates in management, criminal investigation, and leadership in counter-terrorism from the FBI in Virginia. Mr. Latulippe has been a member of various national committees, and is a former co-chair of the Organized Crime National Committee of the Canadian Association of Chiefs of Police (CACP). He was awarded the Officer of the Canadian Police Order of merit medal in 2007.

Summary of his presentation:

Jocelyn Latulippe will speak about the CN Police Service roles and responsibilities with a focus on our strategies for reducing railway related incidents. Based on the principle of accountability, its police members are currently performing different types of actions intended at avoiding incidents both related to grade crossings and trespassing issues. Those different types of actions will be explained as they are all supported by the implementation of the Comstat methodology adapted to the Railway policing environment.



Robert C. Lauby
P.E., Associate Administrator
for Railroad Safety
& Chief Safety Officer

Mr. Robert Lauby has 35 years of railroad and rail transit experience involving safety, security, accident investigation, project management, project engineering,

manufacturing, and vehicle maintenance. His current position is Associate Administrator for Railroad Safety/Chief Safety Officer with the Federal Railroad Administration (FRA). In this role, he provides regulatory oversight for rail safety in the United States and oversees the development and enforcement of safety regulations and programs related to the rail industry.

Prior to his promotion to Associate Administrator in September 2013, he served as Deputy Associate Administrator for Regulatory and Legislative Operations. In that role, Mr. Lauby was responsible for FRA's safety rulemaking activities, including oversight of the Railroad Safety Advisory Committee (RSAC). He also served as Chairman of the FRA Safety Board that makes determinations on petitions for waivers from FRA regulations. In addition, he served as the program manager for the technical portion of FRA's high-speed rail safety program.

Prior to that, Mr. Lauby served as Staff Director of the FRA Passenger Rail Division, which was established in 2009 within the FRA Office of Railroad Safety to address passenger rail issues. Mr. Lauby's primary responsibilities were to develop and implement passenger rail safety programs and initiatives and coordinate and maintain FRA safety policies, regulations, and guidance for all safety matters related to commuter rail, intercity rail, and high-speed rail.

Before joining FRA in October 2005, Mr. Lauby was employed by Booz Allen Hamilton, where he performed safety and security work for the Federal Government and the railway and transit industry. During his tenure at Booz Allen, Mr. Lauby was assigned lead investigator by the Special Commission of Inquiry in the 2003 Waterfall, New South Wales, accident near Sydney, Australia. He was later assigned to lead recovery efforts to modify and reopen the Las Vegas Monorail.

Prior to joining Booz Allen, Mr. Lauby served as the Director of the National Transportation Safety Board (NTSB) Office of Railroad Safety, where he managed hundreds of railroad and rail transit accident investigations. He led the U.S. fact-finding contingent to the 1998 Eschede, Germany, Inter-City Express (ICE) accident investigation and represented the National Transportation Safety Board on the RSAC and the American Public Transportation Association's (formerly American Public Transit Association) Passenger Rail Equipment Safety Standards Committee.

Mr. Lauby also served as a project manager for Knorr Brake Corporation, a major railcar brake manufacturer, on numerous light rail vehicle, new car procurements and as a maintenance supervisor at a Conrail locomotive running repair shop.

He has testified numerous times before Congressional and Senate subcommittees on railroad safety and is a licensed professional engineer.

Title presentation: Trespassing – the leading cause of rail-related fatalities in the United States

Summary of his presentation: Mr. Lauby will present statistics on trespasser and suicide fatalities that have occurred in the United States. He will highlight the increasing number of fatalities and describe actions the Federal Railroad Administration is taking to respond to this important safety issue.

Question: Despite everything you are doing to address trespasser accidents, the number of fatalities and injuries continues to climb. How do you explain this discrepancy?

Quote: *Entering railroad private property is called trespassing for a reason – it's against the law!*



Kurt Topel

Kurt Topel is a rail safety advocate from the Chicago area. After a career in business, Mr. Topel became interested in rail safety as the result of a personal tragedy. He has spent the last 6 years learning about rail safety, and he is Chairman of the Chicagoland Rail Safety Team. He is a member of the Transportation Review Board (TRB) and is

finishing up on a literature review for its newly-formed Committee on Rail Trespassing and Suicide Prevention.

Summary of presentation on rail trespassing and suicide prevention:

Railway trespassing and suicide account for about 70% of railroad fatalities worldwide. Both activities have significant adverse impacts for the railroads, the victims, their family and friends, witnesses to the event, and the general public. Unlike most other rail safety events, trespassing and suicide numbers have not improved over the last few decades. The literature indicates that there is a number of measures that have consistently been shown to reduce deaths and others where the evidence is conflicting or not clear. There are still other areas that require a different research approach to determine the most cost-effective means to reduce these risky behaviors.



Allan Spence

Head of Corporate Passenger & Public Safety Network Rail

Allan joined Network Rail in 2012 to create the company strategy for transforming safety and wellbeing. He has been at the heart of the company's shift towards its vision of: *Everyone Home Safe Every Day*. He is currently leading the company's work in all aspects of passenger and public safety.

He is vice chair of the cross-industry System Safety Risk Group and chair of specialist groups covering level crossing and platform train interface safety.

His career was originally as a safety regulator with experience in many different industries. In 2000 Allan joined the then HM Railway Inspectorate and moved with the inspectorate to the newly combined safety and economic regulator — the Office of Rail Regulation — becoming HM Deputy Chief Inspector.

His rail experience spans all aspects of the British industry including infrastructure management, operators, major projects, light rail and the heritage sector, as well as work with overseas regulators and railway companies. But he also draws on his experience with many other industries, including his roots in agriculture.

The summary of his presentation is: Network Rail is pushing the boundaries of new technology in their latest distraction campaign. To launch, at ILCAD 2017, are the first three episodes in a series of Virtual Reality films aimed at educating level crossing users on safer behaviour at level crossings. This cutting edge technology allows NR to get their message across without endangering actors or film crew. Reaching out to at-risk groups using innovative technology is intended to engage and drive safer behaviour in ways that traditional print and film media now struggle to do. Working with technology partners, Eon Reality, Network Rail has been able to develop a mini soap opera over seven episodes, the first three of which will be launched internationally at the 2nd June ILCAD event. ***Making it safer together!***



Alberto Mazzola
FS Italiane Senior Vice President
International Government Affairs

FS Italiane Senior Vice President International Government Affairs and permanent representative at the UIC Union Internationale des Chemins de Fer and at the CER Community of European Railways.

Working at FS Italiane since 2002 dealing with International Affairs and European Legislation, market regulation and technical standards.

Since 2008 Deputy Chairman of Transport Working Group of **Business Europe**.

Since 2015 Member of the **European Economic and Social Committee**, Co-Rapporteur on Consumers Rights and Rapporteur on the European Fund for Strategic Investments (Juncker Plan) .

From 1988 to 2002 he worked for Leonardo-Finmeccanica, in 1992 assisted the Romanian Ministry of Industry to privatise state companies, in 1990-91 member of the Cabinet of the Italian State Holdings Minister, in 1990-94 Mayor of Villa d'Adda (Italy).

He holds a Master in Business Administration and a degree cum laude in Nuclear Engineering at the Politecnico of Milan.



Isabelle Fonverne
Senior Advisor, Safety and
Interoperability
UIC, Paris, France www.uic.org

- 9/1988- 11/1990 EUROSIT: Export Department of a French exporting company in the field of office furniture and seats
- 12/1990-01/1992 BERCY EXPO, international real estate project to renovate Bercy area in the 12th arrondissement of Paris
- 01/1992- today: UIC, the worldwide professional association representing the railway sector and promoting rail transport: www.uic.org

I have been working at UIC from 1992 in different domains of activities (high speed, economics, environment, technology and research, interoperability and safety).

- From 2010-today: Senior Advisor, Safety and Interoperability
 - In charge of level crossing safety at the UIC Safety Division
 - Secretary of the European Level Crossing Forum (ELCF)
 - Secretary of a UIC railway safety group “SSMG” (Systems Safety Management Group) working on the EU Agency for railways working programme
 - Secretary of a UIC railway “IRSN” (International Railway Safety Network).
 - Project manager and Coordinator of the International Level Crossing Awareness Day (ILCAD) the unique road/rail safety awareness campaign on a global level (45 countries on board): visit www.ilcad.org
 - Member of the UNECE WP on Road Traffic Safety and I have been cooperating actively with the UNECE in Geneva to create a Group of Experts on level crossing safety. This group met for the first time in January 2014 and finalized a report in January 2017.
 - Member of the Steering Committee of the Global Level Crossing Symposium (GLXS)

Title of presentation: “Safer-LC, UIC Coordinated EU project (within Horizon 2020): Safer Level Crossings by integrating and optimizing road-rail infrastructure management and design”



Neil Ternowetsky
**Product Manager and Chief
Technology Officer**

Neil Ternowetsky is the Product Manager and Chief Technology Officer of TRAINFO. Neil has worked in the systems design and data science for nearly 10 years, and holds several patents in the areas of predictive

analytics, and IoT sensor array design. In addition to deploying TRAINFO across North America with his team, he is also leading research and development with a group of government agencies and research groups to create a SAE standard for the connected vehicle Basic Safety Message at rail crossings.

Presentation summary:

To public road authorities and road users, there is very little transparency in the movement of trains over level crossings. The daily distributions, and crossing durations are typically left as a best guess that focus solely on through train movements. These best guesses are developed with little consideration into shunting and switching movements at crossings. TRAINFO provides this level of information to road authorities and road users. This information provides the basis of a range of applications; everything preventing delays at rail crossing by predicting when the crossing will be blocked, to in depth crossing safety studies. This presentation focuses on the work TRAINFO is doing with Canada's National Research Council to prepare for connected and autonomous vehicle interactions at level crossings and with Transportation Canada to study pedestrian movement activities at crossings.



Parinaz Bazeghi

She was born in Iran on 31 July 1993, she received The Bachelor degree in Railway transportation engineering from Iran University of Science and Technology in 2015 and now she is Candidate for Master of Science degree in Railway transportation engineering in Iran University of Science and Technology. In 2013 she was editor in

chief of "Rahe-Sevom" Quarterly Journal of School of Railway. Since 2014 she had cooperation with BornaTech Company as a research engineer in transportation department and in 2017, as a member of Borna Team (Morteza Bagheri, Parinaz Bazeghi, Saba Karimi) won first UIC digital award in safety field Now she is cooperating with Iranian Railway International department.

Summary of her presentation: Using smartwatches to reduce train-pedestrian collisions

Train-pedestrian collisions and accidents have been shown to be the leading cause of fatality in rail accidents around the world. About every 3 hours, a person or a vehicle is hit by a train in the US and trespassing accident is an important challenge of railways worldwide. Beside technical, physical and behavioral measures to reduce accident occurrence, new technologies, innovative solutions and digital revolution can play an important role to prevent trespass collisions. The objective of this presentation is to introduce an idea to detect people adjacent to rail track by GPS sensors of smart watches and trains to inform person about coming train.

Smart vehicle, smart user and smart infrastructure will lead us to decrease number of pedestrian-train collision and to employ intelligent transportation systems to improve safety at level crossings and make them smarter. smart phones and smart watches are increasingly using by people and they can be used to aware them from danger of hit and help to reduce collisions, death and injuries.



Enrico Vignozzi
Managing Director,
Progress Rail, Italy

Born on 20th July 1974 in Empoli Italy, Married with 2 children. He got a degree in Telecommunication Engineering at University of Pisa (Italy) in 2002. In the same year he joined Agusta-Westland and he worked as a

system engineer for on-board Radar Systems of the AW military Helicopters. Since 2005 he worked in GE Transportation as Product Manager for Train Inspection Systems. In 2010 he moved to Progress Rail, where he held several roles as a Production Manager, Sales Manager and finally Managing Director of the Railway Signaling business in Europe (Current Role). During his career in the Railway business he took over the development of several Railway products to enhance Safety of the train operations.

Summary of presentation: State of the art of the radar technology (76GHz) applied to prevention of accidents at Level Crossings

In the railroad sector the crossings where trains, cars and trucks are using the same infrastructure, create risks for any safe railroad operation. Progress Rail has developed its first generation of Obstacle Detection Systems for level crossings (PAI-PL) based on a CENELEC SIL 4 Design, about 15 years ago. These systems were based on a 10GHz Microwave Radar and they have been used as a Fully Automated Safe Control of the level crossing area before the transit of the train. Those systems have avoided several accidents and they have saved many human lives. Recently, given the rising awareness of the risks associated to level crossings' operations and the request of Railways to increase safety at their level crossings, Progress Rail has developed a new generation system for such an application called "MIRA" (Multi Inspection Radar Application). MIRA includes the best from Progress Rail previous generation systems but it also includes new enhancements in terms of Availability and Maintainability thanks to its new state of the art 76GHz Microwave Radar technology.

Quote: *"To realize the value of one second, ask a person who has avoided an accident. That's all we do, we use seconds to save people's lives."*

Virginie Taillandier
Level crossing manager at SNCF



Virginie Taillandier has a master degree in marketing. She is currently in charge of the project Tech4rail level crossing at SNCF. She was during 5 years the Expert on level crossing safety at SNCF Network Safety Division. She started her career in the rail transport sector at different positions related to security and safety at RATP.

She also worked in the domain of information systems in the car industry.

Presentation: Projet Tech4rail: Towards an intelligent level crossing

SNCF has recently launched a technological upgrade programme for example through the Tech4rail project. 8 projects were endorsed including a level crossing safety project aiming at preventing collisions at level crossings.

Within the last few years we have been experiencing collisions between trains and heavy vehicles which could have been dramatic. SNCF has identified various safety barriers to prevent those risks:

- Protection measures through obstacle detectors
- Prevention measures through the identification and improvement of the road profiles of certain level crossings

This project is included in a more global policy towards an intelligent level crossing connected to autonomous road vehicles and trains of the future.

Tamo Vahemets

- 2016 – Eesti Energia AS, Head on Security Department, www.energia.ee
- 2015 – But Me NPO, founder, Chairman of Management Board, www.agamina.ee
- 2013 – 2016 Port of Tallinn, Community Safety Programme Manager, www.portoftallinn.com
- 2009 – Estonian Club, Member of Management Board, www.eestiklubi.ee (Valuation of Estonian cultural heritage)
- 2007 – Baltic WingTsun Association, Member of Management Board, www.wingsun.ee (Organisation of martial arts training)
- 2004 – Operation Lifesaver Estonia, founder, Chairman of Management Board and CEO, www.ole.ee (Activities in the field of public railway safety)
- 1995 – 2012 Head of Security of Estonian Railways, www.evr.ee (Coordination of company's security activities and administration of motor vehicle fleet)
- 1994 – Riveta Club, founding member, President, trainer of martial arts, www.riveta.ee (Organising dance and stage fight shows and coordinating the work of children's theatre)



Danijela Barić

Danijela Barić has a Bachelor's, Master's and Doctoral degree in Transportation from the University of Zagreb, Faculty of Transport and Traffic Sciences. After graduation as a transport engineer she worked six years at the Institute of Transport and Communications in Zagreb and since 2008 she is working at Faculty of Transport and Traffic Sciences. Currently she is Assistant Professor and Head of Chair for Road Transport Technology. Her personal interests include transport planning, modelling and transport safety.

She participated in several scientific projects sponsored by the Croatian Ministry of Science, FP7, H2020, led several University projects and participate in more than 50 professional projects in cooperation with industry and public institutions. She published more than 50 papers at conferences and international journals.

In last few years, she is deeply involved in education and promotion of safety on level crossings.

Title of presentation: Level Crossing Safety Campaign in Croatia

Summary:

The presentation will include an overview of activities carried out under the project "*Implementation of measures to increase the safety of the most vulnerable road users at level crossings.*" The project is part of the National Road Traffic Safety Programme of the Republic of Croatia 2011-2020.

Level Crossing Safety Campaign in Croatia is a joint work of the Faculty of Transport and Traffic Sciences and HZ Infrastructure (Croatian Railways).



Katarzyna Kucharek
Member of the Board
PKP Group Foundation

Katarzyna Kucharek has been working in the railway industry for over 9 years. At present, she is a Chief Executive in PKP Group Foundation. One of the Foundation's priority goals is safety. During her work in PKP Polish

Railway Company (Polish Railway Infrastructure Manager) she was responsible for social awareness campaign Safe Rail-Road Level Crossing – “Stop and Live!”. Mrs. Kucharek has also an extensive experience in international environment (groups working on safety at rail-road level crossings carried on by International Union of Railways and United Nations Economic Commission for Europe).

Presentation: How to reach young people in the context of safe behavior on rail-road crossings? Summary of the 12th edition of the “Safe rail-road level crossing...” campaign.

We promote socially desirable attitudes, raise awareness of threats posed by inappropriate behavior whilst going through the railway area. We strive to reduce the number of accidents at level and railway crossings in Poland. Thus, it is important that our campaign message reaches all target groups and the entire cross-section of society. Evaluation studies carried out under the “Safe rail-road level crossing...” campaign have shown that we are the least recognizable among young people. In the age of mobile technology, the Internet and social media seem to be the best channel for reaching this specific target group.



Sarah Mayes
National Director of 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. Most recently, 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 *Pulling for Canada* advertising campaign. Prior to joining the association world, Sarah worked as an associate producer and reporter for the Canadian Broadcasting Corporation (CBC), as an online journalist for CBC.ca, and in the CBC's national political bureau as a researcher and writer for *Politics with Don Newman*. Sarah holds a Bachelor of Science from McGill University (2001).

Presentation Title/Summary: “Look. Listen. Live.: Re-Imagining Canada's Rail-Safety Public- Awareness Program”

This presentation will provide an overview of an innovative campaign, launched by Operation Lifesaver (OL) Canada in April 2017, which harnesses cutting-edge technology to promote rail safety to OL's target audience of 18 to 25-year-olds.

Quote:

“We're delighted that ILCAD is being hosted in Canada in 2017 – a year when Operation Lifesaver Canada launched an innovative virtual-reality campaign to raise awareness about rail safety among young people,” said Sarah Mayes, National Director, Operation Lifesaver Canada.

operationlifesaver.ca