STAY IN TOUCH

Visit our website at www.IRF.global, where you can sign-up for our newsletters and learn more about our global program of work.

REGIONAL STAFF CONTACTS

Eastern & Central Africa
Clarence Karots
ckarots@irf.global

Western & Southern Africa
Patrick Bekoe
pbekeoe@irf.global

Asia Pacific
Howie Gan
hgan@irf.global

Europe & Central Asia
Brendan Halleman
bhallem@irf.global

Latin America & Caribbean
Esteban Salinas
esalinas@irf.global

Middle East & North Africa
Magid Elabyad
melabyad@irf.global

North America
Michael G. Dreznes
mdreznes@irf.global

2017 IRF EXECUTIVE SUMMARY & ANNUAL REPORT

Copyright © 2018 by International Road Federation

This volume is a product of the International Road Federation.

Rights and Permissions

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Road Federation encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission requests, write to the IRF at:
International Road Federation
Madison Place 500 Montgomery Street Fifth Floor
Alexandria, VA 22314 USA
Tel: +1 703 535 1001 | Fax: +1 703 535 1007
www.IRF.global
Printed in the United States of America
# TABLE OF CONTENTS

## ABOUT

- Chairman’s Foreword ........................................... 2
- At-A-Glance ......................................................... 3
- Board of Directors ................................................. 4
- Committees ......................................................... 5

## A GLOBAL FOOTPRINT

- 2017 Activities ...................................................... 8-9
- Regional Congresses ............................................ 10-15

## CONTINUING EDUCATION

- Expanded Training Curriculum ......................... 16-17
- Launch of New Global Credentials .................... 18-19
- Highlights of 2017 Training ................................. 18

## BUILDING PARTNERSHIPS

- Road Safety on the New Silk Road ...................... 26
- A Better Road to the Future ................................. 27
- IRF Awards ......................................................... 28-29
- Sharing Knowledge Across Borders ................... 30-31

## INVESTING IN THE NEXT GENERATION

- IRF Fellowship Program: Class of 2017 ............ 34
- IRF Road Scholar Program ................................. 35
- Ways You Can Support ......................................... 35

## INDUSTRY PARTNERS

- Supporting Organizations ................................. 38-39
- Multilateral Institutions ........................................ 40
- Ministries and Federal Agencies ........................ 40
- Sponsors ............................................................ Inside back cover

---

2017 Annual Report: An Executive Summary of Activities | 1
2018 will mark seven full decades since the International Road Federation was established in Washington DC to assist the world’s reconstruction effort at a time when many of its connectivity infrastructure links lay in ruins. The intuition of my predecessors was that the flow of investments had to be accompanied with a steady stream of ideas and knowledge, to ensure that new roads were built to the best and safest standards. 70 years on, this vision remains the driving inspiration behind our collective effort to continue providing world-class knowledge resources, advocacy services, and continuing education programs which together offer a global marketplace for best practices and industry solutions.

IRF Members can justifiably look back at an action-filled year which offered more opportunities than ever for the voice of the roads & mobility community to be heard at a time of profound transformation in our industry. From Indonesia, to Namibia, and Dubai to Colombia, through workshops and webinars, IRF’s messages were heard by a combined audience of 10,000 decision-makers and professionals. In 2018, we will continue building on this strong foundation with more than 30 events already planned offering countless opportunities to share insights and establish lasting connections.

At a time of growing complexity in infrastructure design, the need to train the next generation of transportation experts in areas ranging from road safety and rural accessibility, to climate-resilient roads and innovative financing has never been greater. Skilled managers and frontline personnel able to formulate, plan, and deliver highway infrastructure programs will increasingly make the difference between those countries that are successful in reducing their connectivity deficits, and those that risk getting left behind.

It is to avoid letting countries fall into this knowledge gap that IRF has updated its offering of executive education services. As a strong believer in continuing education, we provide our members and road professionals worldwide with educational opportunities that cover the whole of the project lifecycle from planning and financing through design and construction, asset management and highway operations. IRF courses are delivered by engineers, constructors, materials suppliers, and working practitioners in the road building industry providing the latest practices and insights on best practices and the current trends in our market. There are many ways to benefit from IRF’s educational services - please do not hesitate to continue soliciting us for your training needs.

In the years to come, I fully expect our sector’s challenges to grow. Roads which are being designed and built today will serve an increasingly diversified range of motorized vehicles and mobility services. Full automation presents important questions to infrastructure planners and road builders which will require a level of cross-industry expertise that the IRF is perfectly situated to address through its high-quality network of experts, advanced research capabilities, and knowledge-sharing instruments.

Eng. Abdullah A. Al-Mogbel
IRF Chairman
IRF AT-A-GLANCE

OUR MISSION
Building Partnerships
We assist countries in progressing towards better, safer and smarter road systems.
We develop and deliver world-class knowledge resources, advocacy services, and continuing education programs, which together offer a global marketplace for best practices and industry solutions.
We serve a wide range of member organizations from both the public and private sectors of the road and transport industry. Together, we form a global network for information exchange and business development.
We invest in the next generation of transport leaders. Since 1949, the IRF has awarded educational scholarships to individuals in 119 countries to pursue careers in the road and transport industry.

OUR VISION
We believe that well-planned, safe, accessible and environmentally sound road networks are fundamental building blocks for human and economic development.
We are committed to increasing road and transport investments to meet the demands for safe and efficient travel and the flow of goods and services that help improve the lives of people worldwide.
We engage with governments, development institutions, businesses, and academia around the world to make our vision a reality.

OUR ORGANIZATION
A Global Federation
The International Road Federation welcomes members from government, academia, road associations, research institutes, and private industry.
We are a global not-for-profit organization, headquartered in Washington, D.C. since 1948 and supported by regional offices throughout the world.
The IRF serves a network of public and private sector members in more than 70 countries by providing resources, services, and education.

IRF MILESTONES
1948 - IRF chartered in Washington, DC
1949 - Award first IRF Fellowships
1952 - Establish International Road Educational Foundation (IREF)
1954 - Governments included as Full Members of IRF
1975 - U.S. President Reagan congratulated IRF on its achievements
1988 - Created IRF Global Road Achievement Awards (GRAA)
2001 - 1st IRF Caribbean Regional Congress
2011 - 1st IRF Africa Regional Congress
2013 - 17th IRF World Meeting held in Saudi Arabia
2014 - 1st IRF Asia Regional Congress
2015 - 1st IRF Europe & Central Asia Regional Congress
2016 - IRF Middle East & North Africa Regional Congress
2017 - Established IRF Global
2017 - Launch Global Credentials on PPPs & Safety Audits

2017 Annual Report: An Executive Summary of Activities
IRF BOARD OF DIRECTORS

With leadership from 25 countries, the IRF Board of Directors represents all aspects of the road and transport industry, including government, academia, and the private sector, and truly reflects the IRF’s status as a global federation.

Chairman
Abdullah A. Al-Mogbel
ITA-CET (KSA)

Past Chairman
Brian Stearman
Parsons Corporation (retired) (USA)

Vice Chairmen
Jeffrey R. Reed
Valley Slurry Seal Company (USA)

T. Peter Ruane
ARTBA (USA)

Thomas Topolski
Turner & Townsend (USA)

Treasurer
Lester Yoshida
Parsons Corporation (Canada)

President & CEO
C. Patrick Sankey
International Road Federation

IREF Chairman
Essam Radwan
University of Central Florida (USA)

Elected Directors to Serve on the Executive Committee
Tarek Al-Shawaf
Saudi Consulting Services (KSA)

Dan Hickey
3M (USA)

Robert Jaffe
Consystec (USA)

William Russell
Eberle Design Inc. (USA)

Chris Sanders
Lindsay Transportation Solutions (USA)

Omar Smadi
Iowa State University (USA)

Fernando Vilhena
Armco Staco (Brazil)

Kiyoshi Watariguchi
Maeda Corporation (Japan)

Directors (2015-2017)
3M
Dan Hickey (USA)

Armco Staco
Fernando Vilhena (Brazil)

ARTBA
Pete Ruane (USA)

Avery Dennison
Patricia Calle (Colombia)

Consystec
Robert Jaffe (USA)

Sensys Gatso Group
Philip Wijers (Netherlands)

Horizon Signal Technologies
David Krahulec (USA)

Iowa State University
Omar Smadi (USA)

LanammeUCR
Luis Loria (Costa Rica)

Louis Berger
TBN

Parsons
Lester Yoshida (Canada)

South African Road Federation
Neil Toimie (South Africa)

Ministry of Transport
TBN

Ministry of Public Works
Waskito Pandu (Indonesia)

Maeda Corporation
Kyoshi Watariguchi (Japan)

Ministry of Transport
Hathool Al-Hathool (Saudi Arabia)

Ministry of Public Works
Jose Miguel Ortega (Chile)

Ministry of Public Works
Abdullah Al-Hassan (Kuwait)

Ministry of Works
Essam Khalaf (Bahrain)

Saudi Binladin Group
Bakr Binladin (Saudi Arabia)

Ministry of Public Works
Eng. Ahmed Al-Hammadi (UAE)

Ministry of Infrastructure Development
Akio Kasuga (Japan)

Sumitomo Mitsui Construction Co.
Akiyo Kasuga (Japan)

Swarco
TBN (Austria)

Traffic-Tech
Husam Musharbash (Qatar)

Directors (2016-2018)
Arizona State University
Kamil Kaloush (USA)

Argentina Road Association
Miguel Angel Salvia (Argentina)

China Road Federation
Joe Y. Chou (Chinese Taipei)

Consystec
Robert Jaffe (USA)

Dar Al-Handasah
Bashar Rihani (Lebanon)

DBi
John LeFante (USA)

Eberle Design Inc.
William Russell (USA)

Iowa State University
Omar Smadi (USA)

Japan Road Contractors Association
Takeo Miyoshi (Japan)

Korea Expressway Corp.
TBIN (South Korea)

Lindsay Transportation Solutions
Chris Sanders (USA)

Ministry of Communications
Raul Munua (Mexico)

Ministry of Infrastructure Development
Eng. Ahmed Al-Hammadi (UAE)

Ministry of Public Works
Jose Miguel Ortega (Chile)

Ministry of Public Works
Abdullah Al-Hassan (Kuwait)

Ministry of Works
Essam Khalaf (Bahrain)

Saudi Binladin Group
Bakr Binladin (Saudi Arabia)

Ministry of Public Works
Eng. Ahmed Al-Hammadi (UAE)

Ministry of Infrastructure Development
Akio Kasuga (Japan)

Sumitomo Mitsui Construction Co.
Akiyo Kasuga (Japan)

Swarco
TBN (Austria)

Traffic-Tech
Husam Musharbash (Qatar)

University of Central Florida
Essam Radwan (USA)

Troxler Electronic Laboratories, Inc.
William F. Troxler, Jr. (USA)

The World Bank
TBN (USA)

Zydex Industries
Ajay Ranka (India)
IRF COMMITTEES

The International Road Federation is a leading global advocate for the road sector, promoting best practices across all major policy areas. Through IRF Committees, knowledge-sharing programs, and capacity building initiatives, IRF members can reach out to a global audience of key governmental decision-makers and affect real change in road policies around the world. All members in good standing of IRF are eligible for induction in IRF regional & technical committees. For additional information, please contact advocacy@irf.global.

REGIONAL AFFAIRS

The mission of the regional committees are to identify the needs of regional members; provide guidance to staff in the development of regional events and advocacy initiatives; and provide a forum for intra- and interregional communications.

Africa
Chair: Magnus Quarshi, Institution of Engineers, Ghana

Latin America
Chair: Miguel Angel Salvia, Argentina Road Association, Argentina

Middle East & North Africa
Chair: Husam Musharbash, Traffic Tech, Qatar

Central Asia
Chair: Talgat Aduov, Kazautozhol

TECHNICAL COMMITTEES

The mission of the IRF Technical Committees is to foster a network of practitioners to share knowledge and contribute to the development of improved best practices.

Asset Management
Chair: Başak Aldemir Bektaş, Iowa State University

ITS
Chair: William (Bill) Russell, Eberle Design, Inc.

Subcommittees
• Business Development
• Education
• Road User Charging
• Systems Engineering

Pavements
Chair: Kamil Kaloush, Arizona State University

Procurement & Alternative Financing
Chair: Mehran Avini, Senior PPP Advisor & Marc Ribo, Abertis

Road Safety
Chair: Chris Sanders, Lindsay Transportation Solutions

Subcommittees
• Driver Behavior, Education, and Training
• Enforcement
• Intersections/Roundabouts
• Roadside Safety Features
• Vulnerable Users
• Work Zones & Temporary Traffic Control Safety

New Committees Launched in 2017

The Regional Committee on Central Asian Affairs is a member-run program designed to assist IRF members gain access to a wider pool of knowledge on regional infrastructure programs, and solutions designed to optimize road investments.

The Committee on Procurement & Alternative Financing provides road agencies and other transportation stakeholders with best practices to meet their infrastructure needs more efficiently.
34 events held globally

Highlights of 2017 conferences
“Our time and resources were vested in an event that has contributed great value and depth of industry knowledge’

Shafik Nasser
SABER Investment Company
2017 ACTIVITIES

More information: www.IRF.global/events

Road Scholar Program
January 8-13
Washington, DC

69th IRF Annual Meeting & General Assembly
January 10-11
Washington, DC

Road Safety Management Certified Training
February 20 - 24, 2017
Gaborone, Botswana

Road Safety Audits & Effective Countermeasures
February 27 - March 3, 2017
Gaborone, Botswana

PBC Executive Seminar
March 5-11
Amsterdam, Netherlands

Vulnerable Road User, Work Zone Safety, Road Safety Audits Workshop
March 20-21, 2017
Bali, Indonesia

PPPs in the Road Sector Workshop
March 20-21
Bali, Indonesia

1st IRF Global Road Summit & 15th REAAA Conference
March 22-24
Bali, Indonesia

Road Network Safety Management in Fast-Motorizing Economies Workshop
March 30-31, 2017
Malaga, Spain

Road Safety Audits Certified Training
April 3-6, 2017
Doha, Qatar

Road Safety Workshop
April 19-20, 2017
Georgetown, Guyana

Asphalt Materials and Strategies for Managing and Maintaining Your Pavements Workshop
April 10-15
San Francisco, CA USA

Road Safety Workshop
April 26-27, 2017
Cuernavaca, Mexico

Crash Investigation for Transportation Managers
May 15-16, 2017
Montego Bay, Jamaica

6th IRF Caribbean Regional Congress
May 17-19
Montego Bay, Jamaica

Deploying Intelligent Transportation Systems Workshop
May 24-25, 2017
Istanbul, Turkey

Cost Effective Pavements Today for a Greener Tomorrow
May 24-25, 2017
Lisbon, Portugal

Road Safety Audits & Effective Countermeasures
June 6-8, 2017
Abuja, Nigeria

Pavements: Materials, Construction & Management Executive Seminar
June 19-23, 2017
Alexandria, VA USA

Managing Infrastructure Assets Workshop
July 17-19, 2017
Pretoria, South Africa
2nd IRF Africa Regional Congress
July 11-13, 2017
Windhoek, Namibia

Road Safety Workshop
August 2-3, 2017
Bogotá, Colombia

Road Safety Audits Workshop
August 29-31, 2017
Alexandria, VA USA

Asphalt Materials and Strategies for Managing and Maintaining Your Pavements Workshop
August 8-11
Kuala Lumpur, Malaysia

Vulnerable Road Safety Certified Training
September 24-26, 2017
Doha, Qatar

Winter Maintenance Workshop
September 26-27, 2017
Istanbul, Turkey

Pavements Workshop
October 3-4, 2017
Lima, Peru

IRF Middle & North Africa Congress & Exhibition
October 29-31, 2017
Dubai, UAE

PBC Executive Seminar
November 5–15, 2017
Orlando, Florida USA

Safer Roads by Design Workshop
November 8-10, 2017
Kiev, Ukraine

Road Safety Workshop
November 13-14, 2017
Mexico City, Mexico

Road System Resilience to Climate Change & Extreme Weather Events Conference
November 15-17
Goyang, South Korea

Safer Roads by Design Executive Seminar
December 4–8, 2017
Alexandria, VA USA

5th IRF Latin America Regional Congress
December 13–15, 2017
Bogotá, Colombia
The International Road Federation, in partnership with the Road Engineering Association of Asia and Australasia, successfully concluded its inaugural IRF Global Road Conference, held in conjunction with the 15th REAAA Conference and themed “Roads for Better Living”. This road and transport sector event attracted more than 1,000 participants including 20 government delegations.

The Summit and Conference underscores four decades of cooperation between the IRF and REAAA, highlighted by a renewed memorandum of understanding signed in 2016. “I am delighted that this REAAA Conference is also in cooperation with the IRF, who provide a unique forum for sharing the latest industry technologies, solutions, and best practices,” said REAAA President Hermanto Dardak in his opening address to delegates. “REAAA and the IRF share a common vision to promote innovative road design and management practices,” said IRF President & CEO C. Patrick Sankey. “Our partnership with REAAA provides a platform to better serve the members of IRF and REAAA on a regional and global basis,” he added.

“Through its partnership with REAAA, the IRF was able to leverage global perspectives on regional questions in need of answers, including a significant infrastructure shortfall and troubling rates of road traffic injuries,” said IRF Chairman Abdullah A. Al-Mogbel. Demonstrating the spirit of cooperation, IRF presented a special session to REAAA members on Public Private Partnerships, in which presenters shared experiences from China, Canada, India, Indonesia, Spain, and the United States. Stemming from this session were three key outcomes for PPP successes: an enabling environment, experienced advisors/consultants, and sufficient lead time to encourage bidder participation.

“IRF Congresses embody our role as a global broker of applied industry knowledge.”

C. Patrick Sankey
IRF President & CEO
Lack of effective coordination among Africa’s transportation stakeholders is inhibiting the impacts of existing programs, but technology and innovation are increasingly understood as essential drivers to propel Africa forward in meeting its development goals. These were some of the main findings of the 2nd IRF Africa Regional Congress which was held July 11-13 in Windhoek, Namibia.

The event, which gathered more than 150 delegates from 26 countries across the continent, was notable by the quality of its interdisciplinary dialogue among governmental, industry, and civil society stakeholders. “Platforms of this nature afford us all the opportunity to listen, share, and learn from each other’s contributions,” said Namibia’s Works & Transport Minister Alpheus ǃNaruseb in his opening address. “Namibia has made major strides in infrastructure development; however, in spite of these noteworthy milestones, road safety is one of the major concerns in the transportation industry. We are fortunate to be joined by representatives of different groups who all share our passion and commitment to road safety, and we need to join hands and come up with better interventions to ensure road safety for motorists and pedestrians.”

In his address to delegates, IRF Executive Vice President Michael Dreznes said, “The IRF’s vision to be a global broker of knowledge through Congresses such as these meets a continent in need of fresh new ideas to develop the technical and managerial capacity of its road professionals. Skilled frontline personnel and managers able to formulate, plan, and manage highway infrastructure programs will increasingly make the difference between those countries that are successful in reducing their connectivity deficits, and those that risk getting left behind.”

The need to train the next generation of transportation experts in areas ranging from road safety and rural accessibility, to climate-resilient infrastructure and innovative financing was thoroughly reviewed during the 3-day event. Development partners presented ways to equip future managers with the resources to challenge the status quo and embrace new policy instruments and technological enablers. A dedicated workshop on leadership development open to all Congress delegates was organized in partnership with the UKAID-funded Research for Community Access Partnership (ReCAP) with the goal to generate regional consensus on educational programs for Africa’s future industry leaders.
IRF Middle East & North Africa Regional Congress, Dubai, UAE:
Mobility Solutions for the 21st Century

The premier road engineering & mobility event in 2017 came to a close with a renewed call for consensus-building and knowledge partnerships to address key sustainability and mobility challenges. More than 200 papers were presented by authors from 50 countries, representing an enormous body of knowledge for policy makers and transportation stakeholders to work with. The Congress was also characterized by an enhanced focus on Connected & Autonomous Vehicles whose emergence will continue impacting, challenging and inspiring the industry.

In her closing address, Eng. Maitha bin Adai, CEO of the Traffic & Roads Agency, said, “The streets and highways we are building today are durable assets whose design characteristics will help shape tomorrow’s mobility. Many innovative processes and technologies presented during the Congress show enormous potential for road agencies such as ourselves.”

“As demand grows, it is our role to continue identifying models that reduce the footprint of the sector and prepare it for 21st century mobility”, said C. Patrick Sankey, IRF President & CEO. “This means greening our road networks, making them forgiving and self-explaining, more resilient to climate change, and readying our city streets for connected and autonomous vehicles.”

IRF Chairman Eng. Abdullah Al-Mogbel noted, “These questions, and others, require a level of cross-industry consensus, and IRF is perfectly situated to address these key issues as one of only a few multi-stakeholder organizations capable of meeting the challenge.”
IRF and the Dubai Roads & Transport Authority (RTA) have agreed to enter into a collaborative partnership to advance the international state of the art in two key road mobility disciplines:

- Impact of connected & autonomous vehicles for city street planning, design & traffic management (known as the “IRF Global Alliance for Connected City Streets”)
- Innovative processes and technologies for pavement design that enhance the durability, environmental sustainability, and energy efficiency of road infrastructure (known as the “IRF Center of Excellence on Energy & Environmental Sustainability in Pavement Design”).

Under this agreement, IRF will apply its vision and industry leadership to deliver two global programs tasked with developing a strategic roadmap, targeted R&D activities and consensus-building activities in order to fill current knowledge voids and shape industry developments.
For many governments, the transition to PPPs represents an important shift in key operational practices and client-contractor relations: contractors are much more closely embedded in the agency’s organization and investment decisions, since they provide the inputs that assist asset managers in prioritizing maintenance budgets and scheduling works accordingly. Cooperation becomes thus even more important, not only between road agencies and contractors, but also with other public authorities.

Against this backdrop, IRF and the UAE’s Ministry of Infrastructure Development (MOID) co-hosted a global leadership forum aimed at leveraging international experience to achieve consensus on the mechanisms and institutional enablers for effective PPPs in the infrastructure. The United Arab Emirates government have announced plans to roll out Public Private Partnerships in support of investments in infrastructure. Beyond the impact of persistently low oil prices on public spending patterns, there is also greater regional awareness of the need for structural reform in the management of transportation programs and, by extension, the respective role of public agencies, regulatory bodies and private sector partners.

Although many challenges remain before there is a healthy pipeline of PPP deals across the region, the Forum confirmed that there is a real feeling that the stars have never been better aligned to allow that pipeline to grow. In designing effective programs that leverage private sector skills and incentivize performance, transportation stakeholders can bypass a steep learning curb thanks to the availability of well-documented international know-how.
IRF Caribbean Regional Congress, Montego Bay, Jamaica:
Congress Concludes with Renewed Call for Strengthened Road Safety Collaboration

The International Road Federation’s annual Caribbean Regional Congress has now firmly installed itself as the leading forum for professionals, researchers, and civil society with a stake in the region’s transportation policy choices.

Noting that Jamaica had hosted four out of six regional congresses, the Honorable Lester “Mike” Henry, Minister of Transport & Mining, praised the very special relationship developed with the IRF over the years. “Your presence here has almost become a staple for the region’s road safety, maintenance, and construction system,” he said, “and our transportation architecture is increasingly aligned with the United Nations Sustainable Development Goals.”

Nowhere is this more evident than with Jamaica’s continuing efforts to champion safer roads for all. Of particular focus at the Congress this year was the question of post-crash investigation and analysis. Jamaica must encourage “a thorough investigation into the crash and the application of an effective legal response to road deaths and injuries and therefore encourage fair settlements and justice for the bereaved and injured” to conform with the guidelines of the UN Decade of Action, Minister Henry said.

Jamaica and its neighboring countries see thousands of road crashes occur every year, and many of these are very complex to investigate. The failure of people, vehicles, roads, and the road environment to behave or react as expected cause many of these crashes. The goal of post-crash investigations is to identify the different causation factors, in order to understand their complexity and to realize that most car crashes are preventable by eliminating one or more of these factors.

Welcoming the Minister’s remarks, IRF Executive Vice President Mike Dreznes said that “Post-crash investigations determine how and why these failures occur and give additional answers to determine what can be done to prevent similar incidents. Road safety professionals need to know the basics of crash investigation in order to introduce measures to prevent similar crashes in the future. Understanding the crash phases and causes provides skills for the practitioners to improve safety in their community.”

In 2016, the International Road Federation introduced a specialized program for crash investigators as part of a comprehensive capacity-strengthening partnership with Qatar University. At this year’s 6th IRF Caribbean Regional Congress, this course was offered to 40 practitioners creating significant momentum for the region’s efforts to curb traffic injury rates.

The event also saw the formal launch of a new IRF regional committee for Caribbean affairs which will provide key orientations for the cycle of regional congresses out to 2020.
INDUSTRY’S MOST TRUSTED BRAND IN EXECUTIVE EDUCATION

Expanded Training Curriculum
Launch of New Global Credentials
Highlights of 2017 Training
“IRF is one of the most effective organizations in the area of training”

Eric Dean Cook, PE
For more than 60 years, an essential part of IRF’s mission has been the organization and delivery of executive education services that provide continuing professional development for individuals and contribute to the dissemination of knowledge and expertise throughout the world.

As a strong believer in continuing education, IRF provides members and road professionals worldwide with educational opportunities at all stages of road policy development and project implementation.

IRF courses are delivered by the engineers, constructors, materials suppliers, and working practitioners in the road building industry providing the latest practices and insights on best practices and the current trends in our market.

IRF courses cover the whole of the project lifecycle from planning and financing through design and construction, asset management and highway operations.

**TRACKS**

- Finance & Procurement
- Project Management
- Building Resilient Roads
- Safer by Design
- Asset Management
- ITS
- Traffic Planning & Management
DELIVERY MECHANISM

There are many ways to benefit from IRF’s educational services:

• in-country/on premises: IRF instructors will design a bespoke program and travel to the training facility of your choice

• at the IRF Global Training Institute (Alexandria, VA) where the majority of training programs are delivered in a new, state-of-the-art facility.

• as part of scanning tours, where delegates meet their peers, visit research facilities and engage with the contracting industry.

• online, through IRF’s program of webinars and global credentials.
IRF has joined an elite group of continuing education providers accredited to administer Public-Private Partnership proficiency credentials to aspiring road & transportation professionals. With this accreditation, professionals taking the APMG approved IRF course on PPPs may go on to apply for a Public-Private Partnerships Professional Certification (CP3P) established by APMG, a global examination institute.

The CP3P program, whose aim is to enhance PPP performance globally, is recognized by leading institutions such as the World Bank Group, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and the Islamic Development Bank. For further details on the certification, please visit: www.ppp-certification.com

“The CP3P accreditation is a notable achievement and a great enhancement to the PPP courses we have been delivering since 2011,” said IRF Vice-President for International Programs Magid Elabyad. “Road professionals certified under the CP3P program can showcase to their peers and clients that their skills are aligned with international best practice.”

IRF President & CEO C. Patrick Sankey said, “With traditional public funding mechanisms increasingly constrained, it is essential that road & transportation professionals become familiar with other financing instruments through a learning environment whose credentials have been independently vetted. We are proud of this important milestone which confirms the IRF’s role as the industry’s most trusted brand in continuing education.”

The IRF will run CP3P certification programs year round at its newly launched Global Training Institute, as well as on-demand in different locations globally.
IRF Global Credential for Road Safety Audit Team Leaders

Road safety professionals seeking recognition for their auditing and inspection experience now have access to a global credential program administered by the International Road Federation. Candidates are required to take an online knowledge qualifying exam and submit a comprehensive application presenting their professional track record and details of the projects they have audited in order to complete the program.

Who Should Apply?

If you are an accomplished road safety professional with experience leading and directing cross-functional road safety audit teams, then the IRF Global Credential for Road Safety Audit Team Leaders is the right choice for you.

Prerequisites

You must meet the standard requirements outlined in the IRF policy statement “Requirements for Road Safety Audit Team Leaders” available from https://www.irf.global.

Gain and Maintain Your Global Credential

You must complete a Qualifying Knowledge Exam comprising forty randomized questions. You will also be asked to submit Qualifying Professional Experience by completing three audit briefs comprising a scheme description, illustration of problem identification & solving, and have these attested by a verified third party. These briefs
Road agencies and local governments across the world are quickening the pace of adoption of safe and smart mobility solutions as an integral part of their transportation strategies. This was one of the key findings of a series of four workshops organized by the International Road Federation in partnership with Intertraffic Istanbul on May 24-25, 2017.

The workshops gathered more than 170 participants from 23 countries in total for presentations covering safer city streets, automated speed enforcement, connected roads, and roadway analytics carefully selected to illustrate current policy orientations and technological applications in the host city of Istanbul and other rapidly motorizing environments.

“The urban environment today is the focus of renewed attention as public agencies align their policies and resources to deploy solutions that save lives and money,” noted Dr. William Sowell, Chair of the IRF Subcommittee on ITS Education. “Fast-motorizing cities, in particular, are moving from concept to reality at a more rapid pace, with important deployments of integrated and resilient systems. The Municipality of Istanbul, whose senior executives joined several of the panels, has made notable strides with world-class solutions currently in operation.”

These workshops also served to introduce some of the courses taught by the IRF as part of its acclaimed continuing education programs. “The rapid pace and ubiquity of ITS deployments require, more than ever, that policy makers, senior project managers, engineers and other technical professionals involved in the process be equipped with the knowledge and tools needed to leverage the full potential of these new applications,” concluded Dr. Sowell.
Mainstreaming Climate Resilience in Road Project

Frequently presented as one of the defining challenges of the 21st century, climate change is putting at risk the lives of millions of people worldwide, as well as trillions of dollars of investment in transport infrastructure and services. A transport system that cannot withstand the emerging impacts of climate change will prove burdensome, impose high costs for repair, and cause significant economic losses.

Against this background, IRF held a practitioner-driven seminar on “Road System Resilience to Climate Change & Extreme Weather Events” in Goyang, Korea, on November 15-17, 2017 attended by representatives from 8 countries.

The main objectives of the course were to share the current state of the art on vulnerability assessment tools, cost-effective engineering measures and technologies all designed to ensure robustness, redundancy, and resilience are designed into road networks.

“Delegates were from eight countries of four different continents: Africa, America, Asia and Europe. The variety of participants enabled the attendees to learn and exchange a wide variety of practices and experiences” noted Dr. Kyung-Soo Yoo, Advisor, Korea Road Association, 79/80 Class IRF Fellow and 2017 IRF Professional of the Year.

Dr. Kamil Elias Kaloush, Professor, Arizona State University, and lead instructor for the course noted that the discussions demonstrated the complexity of designing and maintaining roads of the future; but on a positive note, promising materials and technologies are also within reach.

Developing Effective Strategies for Winter Road Maintenance

An IRF workshop held in partnership with the Municipality of Istanbul gathered more than 70 participants to discuss effective winter maintenance strategies in light of successful international practices.

Ensuring a continued delivery of services, preserving the environment and offering a safe driving environment in harsh winter conditions were some of the focal topics addressed over the two-day workshop held at the invitation of the International Road Federation on September 26-27.

The workshop offered an opportunity for delegates to learn from, and interact with, international practitioners from Nordic countries responsible for managing winter maintenance activities in challenging conditions. A key finding of the workshop was the need to embed winter maintenance programs within broader sustainable asset management strategies and identifying/measuring service levels across key municipal services (such as hospitals and schools).

Participants were also given practical insights on the latest technologies and equipment available to implement these strategies.
BUILDING PARTNERSHIPS

Road Safety on the New Silk Road
A Better Road to the Future
IRF Awards
Sharing Knowledge Across Borders
“Winning an IRF award highlights our accomplishments in developing road PPPs”

Mukund Sapre
Executive Director
ITNL
SAFETY ON THE NEW SILK ROAD

IRF Fellows Assess Kazakhstan’s Highways

For developing economies like Kazakhstan, Asia’s infrastructure push offers opportunities to improve road safety. In Kazakhstan, road crashes are estimated to cost US$ 9 billion annually, or nearly 4 percent of gross domestic product. Kazakhstan is also a keystone for regional infrastructure investment programs such as the United Nations’ Asian Highway Network, the Asian Development Bank’s Central Asia Regional Economic Cooperation (CAREC) program, and more recently, China’s “Belt and Road” initiative.

To help set priorities within these overlapping initiatives, IRF staff and Fellows joined forces with the Center for Strategic & International Studies to produce a report analyzing 13,000 kilometers of highways, or 13.4 percent of Kazakhstan’s highway network. Within this sample, most roads are undivided with two lanes and rated below “good” condition. Most crashes are related to infrastructure deficiencies and noncompliance of the drivers to traffic rules and regulations. A series of maps identifies priority areas for improvement.

Building on this analysis and a review of best practices, cost-effective infrastructure measures were recommended for improving connectivity and road safety.
A BETTER ROAD TO THE FUTURE

Landmark Report Identifies Pathways to Road Project Efficiency

A report jointly released by the International Road Federation and McKinsey & Company will help transport decision-makers and international financial institutions identify and leverage efficiency gains in road project design and delivery, potentially saving billions of dollars each year.

The report, titled “A better road to the future” focuses on what can be done to enhance the whole delivery system, ensuring that the spend results in the best possible road network – defined as the network that best fulfils the transportation needs of the economy. In consultation with leading industry experts, the report’s authors developed a diagnostic for the full infrastructure delivery system which was applied to over 20 countries in Europe, the Middle East, Africa, Latin America, and South-East Asia.

Commenting the report, IRF President & CEO C. Patrick Sankey noted “many authoritative studies have underscored the growing gap between investment needs on the one hand, and the combined spending on road construction and upkeep on the other. Less attention has been paid to the policies and mechanisms required to stretch available funds through better project selection, efficient procurement strategies, and effective delivery practices. Thanks to a successful global partnership between the IRF and McKinsey, transportation decision-makers now have a new comparative study on the cost-effectiveness of productivity-enhancing practices”.

According to Nicklas Garemo, Senior Partner at McKinsey: “In implementing the findings of the report, all stakeholders have a role to play: governments need to set up the playing field right and enable sufficient flow of funds; infrastructure owners need to build comprehensive plans for investments, maintenance and improved use; companies need to strive for innovation; courts and municipalities need to streamline permitting; and citizens can make their voices heard on effectiveness measures. The task may feel overwhelming, but as the work with this report has shown, a good way to start is to take stock of the current state and design an inclusive plan for improvements based on the desired future state.”
IRF AWARDS: RECOGNIZING EXCELLENCE

PROFESSIONAL OF THE YEAR

An IRF Fellowship Scholar, Kyung-Soo Yoo graduated from Ohio State University in 1980 before returning to the Korea Highway Corporation as a Highway & Traffic Engineer. In 2005, Dr. Yoo was appointed to run the Highway & Transportation Technology Institute affiliated to the Korea Highway Corporation. He later took on a series of leadership roles across Korean and International Associations, including the Korea Road Association, the Korea Society of Intelligent Transportation Systems and the Road Engineering Association of Asia & Australasia. These positions were successively held as Korea grew in the international ranking of countries with the highest performing road system and a continuous record of declining road traffic injuries.

FIND A WAY AWARD

"Korea’s leadership and track record over the last 25 years in curbing traffic injuries is truly impressive, and serves as an inspiration for other governments and the global community of road safety professionals," said IRF President & CEO C. Patrick Sankey. "The Find A Way Award embodies the idea that governments everywhere have an important opportunity and responsibility to weigh in the broader policy directions and examine ways to prevent what has become a global public health crisis."

2017 Professional of the Year: Dr. Kyung-Soo Yoo
Global Road Achievement Awards (GRAA)

This year, the IRF honored 11 projects from around the world, each leading the way in innovation across major road and highway disciplines. The selection was made by an international panel of senior road development specialists.

“Much of the transport sector’s accomplishments are unnoticed by the hundreds of millions of people who benefit so greatly from the availability of safe, smart, and interconnected road networks,” said IRF Chairman Abdullah Al-Mogbel. “This is precisely why the IRF’s Global Road Achievement Awards provide a rare opportunity to celebrate our industry’s successes, and highlight how our work supports broader societal goals.”

2017 GRAA Winners

ASSET PRESERVATION & MAINTENANCE MANAGEMENT
Ascendi
SustiIMS

CONSTRUCTION METHODOLOGY
Republic of Turkey, Ministry of Transport, Maritime Affairs and Communications
Eurasia Tunnel

DESIGN
CCCC Second Highway Consultant Co. Ltd (CHSCC)
Tibet Nyingchi-Lhasa Highway

ENVIRONMENTAL MITIGATION
The World Bank Financed Project Office of Hubei Provincial Transportation Department
Hubei Yiba Highway Project

PROGRAM MANAGEMENT
Louis Berger
Sava River Bridge

PROJECT FINANCE & ECONOMICS
IL&FS Transportation Network Limited
Jharkhand Accelerated Road Development Programme (JARDP)

RESEARCH
JW Eco-Technology Ding Tai Co. Ltd
A JW Eco-City by JW Breathing Ecological Road

SAFETY
Nissan Middle East
Aqdar Drive Safety Program

TECHNOLOGY, EQUIPMENT & MANUFACTURING
Korea Expressway Corporation (KEC)
Innovative Automatic Incident Detection System

TRAFFIC MANAGEMENT AND ITS TRANSCOM, ConSysTec, and Infosenseglobal Transcom

URBAN PLANNING & MOBILITY
Dubai Roads & Transport Authority, and Parsons
Dubai Water Canal
The IRF Examiner [ISSN 2411-3867 (Print), ISSN 2411-3875 (Online)] is a freely available periodical journal published by the International Road Federation featuring peer-reviewed technical papers by leading industry professionals. It is designed to broadcast — and build on — the sum of academic and technical knowledge assembled during the highly successful 17th IRF World Meeting & Exhibition in Riyadh, as well as other IRF regional congresses in 2014, 2015 and 2016.

The IRF Examiner directly supports the IRF’s stated mission of creating a global marketplace of knowledge in support of informed policies and effective programs.

**Volume 12 – Winter 2017**

**WATER HARVESTING FROM ROADS: CLIMATE RESILIENCE IN TIGRAY, ETHIOPIA**

Kifle Woldearegay, Frank van Steenbergen, Marta Agujetas Perez, Berhane Grum, Martin van Beusekom

**VALUE ENGINEERING APPLICATION IN HIGHWAY DESIGN & CONSTRUCTION**

Engr. Humoud Al Salmi

**ENHANCING PROJECT DELIVERY THROUGH TRANSPARENCY AND ACTIVE RISK MANAGEMENT**

Dr. Khalid Bekka, Doug Jackson, PE, Christopher Behr

**INTELLIGENT DESIGN (4D, 5D AND BEYOND) FOR ROAD DESIGN AND CONSTRUCTION PROJECTS: TWO CASE STUDIES**

Hassan T. Abdelwahab

**BENEFITS OF VIRTUAL DESIGN AND CONSTRUCTION IN CIVIL ENGINEERING IN THE NORDICS**

Pekka Pakkala, Jani Myllymaa, Jarkko Sireeni

**RATIONAL MOTORWAY PROJECT SOLUTION FOR LOW TRAFFIC AND EXTREMELY DIFFICULT TERRAIN CONDITIONS**

Prof. Dr Ljubisa Kuzović, Draženko Glavić, PhD. TE., Radenko Ostojić, M.Sc. C.E., Vuk Bogdanovic, Ph.D. TE.

All of the IRF’s Examiners can be accessed online at [www.IRF.global/examiner](http://www.IRF.global/examiner)
IRF e-Learning Webinars offer an excellent overview of the international state of the art and regulatory environment across a range of road and transportation topics. They also provide an introduction to the discussion topics and coursework covered in the traditional courses. IRF e-Learning Webinars are typically structured as a 60-90-minute presentation, followed by a Q&A with the registrants.

Webinars Conducted in 2017:

- THE INCLUSIVE AND GREEN RURAL ROAD: CONTRIBUTIONS FROM THE SUM4ALL INITIATIVE
- DISTRACTED/DROWSY DRIVING: MITIGATING A KILLER
- PAVEMENT PRESERVATION
- CLIMATE RESILIENT ROADS
- ASSET MANAGEMENT FOR LOW-VOLUME ROADS
- ROADWAY ANALYTICS: IMPROVING ROADWAY PERFORMANCE IN CITIES AND ACROSS STRATEGIC ROAD NETWORKS
INVESTING IN THE NEXT GENERATION

IRF Fellowship Program: Class of 2017
IRF Road Scholar Program
Ways You Can Support
“My professional career was largely influenced by the best practices I was exposed to as an IRF Fellow. It also offered me both a new way to understand the world and the idea that with effort and perseverance you can be an element to change the world for better.”

Mario Leiderman
IRF Fellow Class of 1961, Ohio State University
Director of International Relations
Argentina Road Association
The IRF Fellowship Program: Class of 2017

The IRF Fellowship Program for graduate students of engineering and transportation policy has been a cornerstone in the work of the International Road Federation for 69 years. Founded in 1949, the program has enhanced the professional curriculum of 1,395 students from 118 countries in fields related to the development of better and safer roads and their ability to meaningfully improve transportation in their home countries.

Students selected through both the Traditional and Executive application processes come together every January in Washington, D.C. to participate in the Road Scholar Program, the IRF’s multiday leadership and orientation program.

There are two paths to becoming an IRF Fellow. Through the Traditional process, applicants are self-nominated on the IRF website. Fellows are selected based on a strong academic background, professional qualifications and leadership potential.

Through the Executive process, students must be nominated by a Member University professor in order to be considered, and must demonstrate not only great educational accomplishments, but also a strong desire to use their education in their home countries.

“In enhancing the education of the next generation of transportation leaders — nearly 1,400 since 1949 — the IRF Fellowship Program provides an invaluable service to our industry and remains the Crown Jewel of the International Road Federation.”

Abudullah A. Al-Mogbel
IRF Chairman

More information
www.IRF.global/fellowships
IRF Road Scholar Program

The IRF Road Scholar Program is an annual multiday leadership and orientation program designed to enhance Fellows’ leadership skills and provide valuable insight into the transportation industry through visits to prominent domestic, regional, and international organizations. These typically include the World Bank, the Federal Highway Administration (FHWA), the Inter-American Development Bank (IADB), the American Association of State Highway and Transportation Officials (AASHTO), and the Turner-Fairbank Highway Research Center.

Team-oriented activities allow participants to form long lasting professional and personal bonds with their current class, as well as with past Fellows via the IRF Fellows Alumni Association (IFAA). Furthermore, Fellows are afforded the opportunity to meet and interact with successful business leaders who work for IRF member organizations.

Ways You Can Support

1. **BY NAMING A GRANT**

   Organizations, agencies and individuals can donate at any time. These donors also could create a chair within the Foundation to sponsor students who are considered future leaders in the domain in which these organizations operate. These donors can specify the country and field of expertise for the Fellow.

2. **BY FORMING PARTNERSHIPS WITH UNIVERSITIES**

   Universities and research centers in the United States can form partnerships with international universities to sponsor new students or already enrolled students to become IRF Fellows.

3. **BY TAKING PART IN THE ROAD SCHOLAR PROGRAM**

   The Road Scholar Program is a multi-day program where IRF Fellows experience leadership training under the auspices of the IRF. Fellows also get the chance to meet and network with the who’s who of the transportation world by visiting agencies including FHWA, AASHTO, the World Bank, etc. Organizations, agencies and individuals can sponsor students with a particular area of expertise or home country.

4. **BY NOMINATING A SPECIFIC INDIVIDUAL**

   Companies can sponsor potential Fellows from a particular country as part of a multi-year project they are conducting in the country. This will contribute to building local capacity to tackle transportation problems in the said country. Governments and other organizations can sponsor budding transportation professionals from their countries as well as professionals from other countries through the Fellowship Program.
2017 DONORS: IRF FELLOWSHIP PROGRAM

INDIVIDUALS

Emmanuel Adanu  
Muhammad Zulfiqar  
Ahmed  
Margaret-Avis Akofio-Sowah  
Jam Al  
Ahmad Al-Akhras  
Daniel Albuquerque  
Ibrahim Aldubabe  
Gloriana Arrieta Martinez  
Mehdi Azimi  
Deog Sang Bae  
Edgar Barriga  
Dirk Begell  
Basak Bektas  
Josie Bianchi  
Prasad Buddhavarapu  
Long Bui  
Chi Ho Johnny Chan  
Li-Chung Chao  
Yu Chen  
Yikai Chen  
Brian Coree  
Lorena Cucalon  
Kamal Darghawth  
Victor Dato  
Janine Dawkins  
Paul De Verteuil  
Denis Del Cid  
Franco Di Biase  
Carlos Duran  
Helmut Echterhoff  
Sam Enmon  
Safak Ercisli  
Jorge Erdmenger  
Gerardo Flintsch  
Andre Frieslaar  
Luis David Galicia  
Amir Golalipour  
Radhameris Gomez  
Akshay Gundla  
Mohammad Hossain  
Hok Tung Hui  
Shawn Hung  
Muhammad Iqbal  
Yosuke Ishihara  
Fattoush Jafar  
Serdar Jepbarov  
Jackeline Kafie Martinez  
Eirini Kastrouni  
Mubassira Khan  
Siew Hwee Kong  
Eleftheria Kontou  
Yohannes Lim  
Meng Ling  
Nien-Ping Liu  
Taylor Lochrane  
Stephanus Louw  
Trang Luong  
Uday RagHAVender Rao  
Manepalli  
Masato Matsumoto  
Mehran Mazari  
Jose Medina  
Dimitra Michalaka  
Leslie Mills  
Daniel Mogrovejo  
Eiji Ochiai  
Nicole Oneyear  
Juan Orozco  
Ibukunoluwa Oyelade  
Abdul Pinjari  
Juan Diego Porras-Alvarado  
Prabha Pratyaksa  
Laxmikanth Premkumar  
Teresa Qu  
Matthew Reed  
Berenice Salaices  
David Salgado  
Joseph Seidel  
Pedro Serigos  
Atif Sheikh  
Shigeru Shimeno  
Arpád Siposs  
Gavin Soward  
Jürg Sparmann  
Ryan Stevens  
Yu-Min Su  
Prajwol Tamrakar  
Peijia Tang  
Shiraz Tayabji  
Patrick Thompson  
Attila Tompos  
Finch Troxler  
Nevena Vajdic  
Kamilla Vasconcelos  
Jose Osiris Vidana  
Bencomo  
Chieh Wang  
Krzysztof Waszczuk  
Lingtao Wu  
Takumi Yamamoto  
Imen Zaabar  
Pedro Zavagna  
Joe Zietsman
NAMED FELLOWSHIPS: IRF MEMBERS

Yanlong Liang  
University of California Davis  
China

Shivesh Shrestha  
Virginia Tech  
Nepal

Anirban Chatterjee  
Georgia Institute of Technology  
India

Hernan Vargas  
Texas A&M University  
Panama

Takashi Omura  
University of Birmingham (UK)  
Japan

Yoshihiro Toki  
University of Pittsburgh  
Japan

Jianan Zhou  
University of Nebraska-Lincoln  
China

Helen Karla Ramalho de Farias Pinto  
Northwestern University  
Brazil

Taehoon Lim  
University of Texas  
South Korea

Michelle Mekker  
Purdue University  
United States of America

Ali Zalghout  
Arizona State University  
Lebanon

Gonzalo Arredondo  
Arizona State University  
United States of America
SUPPORTING ORGANIZATIONS

American Association of State Highway and Transportation Officials
Association of Chilean Roads and Transport
AIP Foundation
Amend - Road Safety in Africa
ARRB Group
Association of Southern African National Road Agencies
China Highway & Transportation Society
Argentina Road Association
Colombian Association of Concrete Products
Association of Turkish Consulting Engineers and Architects
Turkish Asphalt Contractors Association
Construction Industry Development Board Malaysia
Chartered Institution of Highways & Transportation
European Road Assessment Program
Global Road Safety Partnership
Intertraffic
International Road Safety Center
International Road Assessment Program
International Road Transport Union
Foundation for Education and Training on Tunneling and Underground Space Use
ITS Africa
ITS Japan
ITS Malaysia
ITS South Africa
Japan International Cooperation Agency

Japan Road Association

Korea Expressway Corporation

Korea Institute of Civil Engineering and Building Technology

Korea Road Association

McKinsey & Co.

Malaysian Institute of Road Safety Research

Indonesian Transportation Society

Road Engineering Association of Asia and Australasia

Road Engineering Association of Malaysia

Research for Community Access Partnership

Nigerian Institution of Highway Engineers

Society of Engineers - UAE

South African Road Federation

South-East Europe Transport Observatory

Sub-Saharan Africa Transport Policy

Turkish Contractors Association

Technological University of Panama

Italian ITS Association

University of Belgrade

International Association of Public Transport

Turkish Road Association
INDUSTRY PARTNERS

MINISTRIES AND STATE & FEDERAL AGENCIES

Belavtodor (Belarus)
Road Infrastructure Agency (Bulgaria)
Istanbul Metropolitan Municipality (Turkey)
National Department of Transport Infrastructure (Brazil)
Ministry of Public Works (Indonesia)
Public Works Department (Malaysia)
Azeravtoyol (Azerbaijan)
KazAutoZhol (Kazakhstan)
Ministry of Transport (Colombia)
Ministry of Transport and Communications (Oman)
Ministry of Transport and Mining (Jamaica)
Government of Malaysia
Montgomery County, Maryland DOT (USA)
National Transportation Safety Board (USA)
Ministry of Public Works (Panama)
Ministry of Transport and Communications (Peru)
Malaysian Highway Authority
Roads & Transport Authority (UAE)
Ministry of Transport (Saudi Arabia)
Ministry of Communications and Transport (Mexico)
Ministry of Transport, Maritime and Communications (Turkey)
Ministry of Infrastructure Development (UAE)
Ministry of Public Works (Kuwait)
A SPECIAL THANKS TO OUR SPONSORS