2nd IRF Asia Regional Congress & Exhibition

Connecting Asia with Better Roads

Kuala Lumpur, Malaysia
October 16–20, 2016

Organized in collaboration with

Ministry of Works, Malaysia
Public Works Department, Malaysia
Malaysian Highway Authority
AZRB has always taken pride in being totally committed to ensure projects undertaken are given full compliment of technical resources and logistic, ensure projects completion are on schedule and with uncompromising quality, thereby achieving greater value for our clients.

We are looking forward for dynamic and experience professionals to join our team. AZRB believes in the integration of its people talent, be it in the area of knowledge, expertise, experience, skills with state-of-the-art technology, to deliver superior quality of services and products to its customers.

If you think you have the quality and drive to meet these challenges, please feel free to come and talk to us.
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For over 75 years, 3M has been at the forefront of road safety innovation and we are committed to new thinking and new technology so we can continue to make transportation safer for years to come.

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Bali, Indonesia
March 22-24, 2017
1st IRF Global Road Summit &
15th REAAA Regional Conference

MORE INFORMATION
AT BOOTH
C1-C2
http://grs.IRF.global
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Messages &amp; About the IRF</td>
<td>4-5</td>
</tr>
<tr>
<td>IRF Awards</td>
<td>6</td>
</tr>
<tr>
<td>Congress Format &amp; Business Networking</td>
<td>9</td>
</tr>
<tr>
<td>Schedule-at-a-Glance</td>
<td>8-9</td>
</tr>
<tr>
<td>Venue Floor Plan</td>
<td>12</td>
</tr>
<tr>
<td>Exhibit Floor Plan</td>
<td>13</td>
</tr>
<tr>
<td>Session Descriptions</td>
<td>14-37</td>
</tr>
<tr>
<td>Technical Site Visits</td>
<td>38</td>
</tr>
<tr>
<td>Social Program</td>
<td>39</td>
</tr>
<tr>
<td>Sponsors &amp; Supporting Organizations</td>
<td>40</td>
</tr>
<tr>
<td>Special Acknowledgements</td>
<td>41</td>
</tr>
<tr>
<td>Organizing Committee</td>
<td>42</td>
</tr>
</tbody>
</table>

Use hashtag #ASRC2 during the event

@IRFhq
FROM THE MINISTER OF WORKS:
MALAYSIA

Selamat Datang and Welcome to Malaysia!

Firstly, let me extend a warm welcome to all the delegates and exhibitors to the 2nd International Road Federation (IRF) Asia Regional Congress & Exhibition. As the premier congress in the field of road engineering, this event provides an important platform for key players in the industry including policy-makers, academicians and practitioners to exchange ideas, share best practices and update on new technologies in enabling better road infrastructure systems.

As the Minister of Works Malaysia, I would like to express our Government’s appreciation for being chosen as the host for the 2nd IRF Asia Regional Congress & Exhibition. The Congress, aptly themed ‘Connecting Asia with Better Roads’, echoes the efforts and cooperation amongst ASEAN countries in producing the Master Plan on ASEAN Connectivity which includes the completion of the ASEAN Highway Network (AHN). Through the various sessions set up by the organisers, delegates from around the world and ASEAN region can discuss the challenges and issues of the road industry to achieve connectivity through sustainable road infrastructure development.

In this context, I would like to urge all of you to be committed to growth, quality, enterprise and probity in creating a business environment that maximises profitability and growth for ASEAN whilst adhering to our core values of environmental care and our respective national economics imperatives in our collaborative efforts. The enhancement and empowerment of our communities are vital as it reflects the ASEAN spirit of inclusiveness in inculcating attitudes of commitment, achievement and responding positively to change. We must also identify, lead and exploit market trends and business opportunities regionally by regularly reviewing our administrative systems and procedures by installing new methods and technologies where appropriate.

Finally, I am hopeful all our distinguished participants at this congress will have beneficial and fruitful discussions in bringing a better quality of life for our citizens on a sustainable basis.

Dato' Sri Haji Fadillah bin Haji Yusof
Minister of Works
Malaysia

FROM THE PRESIDENT:
ROAD ENGINEERING ASSOCIATION OF MALAYSIA

On behalf of the Joint Organising Committee, I take great pleasure in welcoming all delegates to the 2nd IRF Asia Regional Congress & Exhibition 2016. This 4-day congress will see roundtable discussion sessions, technical and scientific sessions, workshops, exhibition and technical visits and social tours. The technical sessions will address challenging issues such as road financing, public private partnership, overloading and road management, building climate resilience in road infrastructure, preserving and enhancing road assets, congestion management and skills development in the transportation sector. Workshops have been scheduled as part of the Congress commitment as the leading provider of road sector knowledge.

Some 70 exhibitors, both local and international, will be showcasing the road industry’s innovative products and services, most of which will certainly be of interest to the delegates. Similarly, an array of enlightening technical visits has been arranged on the last day to enable delegates to view Malaysia’s efforts towards meeting accelerating demands for an efficient road and transportation infrastructure. The Congress is also offering an exciting range of social visits. Do take time off to enjoy the attractions, both traditional and modern and treat your palates with the mesmerising flavours and textures of local and international cuisines.

The Joint Organising Committee has worked hard over many months to meet the expectations of the attending delegates. I wish to take this opportunity to record my appreciation to all participating delegates, guest speakers, paper presenters, exhibitors and the hosts of the technical visits projects for making this Congress a resounding success.

Datuk Ir. Haji Adanan Bin Mohamed Hussein
President, Road Engineering Association of Malaysia / Malaysian National Committee
FROM THE CHAIRMAN:
INTERNATIONAL ROAD FEDERATION

On behalf of the International Road Federation’s volunteer leadership and global network of members, it gives me particular pleasure this year to welcome you to IRF’s flagship event in the region.

Asia is an incredibly important economic hub, and many of its transportation leaders have announced bold measures to fill the infrastructure gap that has so long plagued the region. This represents an extremely fertile environment to discuss measures and solutions that support this political agenda and help drive shared prosperity in Asia. Malaysia, our host country, is itself a remarkable example of this drive towards greater connectivity, with unprecedented effort to develop and modernize its transport infrastructure.

The Congress also comes at an opportune time for IRF and its members who now stand united behind a new vision and mission statement. Events such as this fully illustrate our collective ambition to be the leading global marketplace for ideas, best practices and industry solutions. Please take a moment to meet with IRF members during your stay in Kuala Lumpur to find out how our organization has helped them achieve their goals.

Together with the Road Engineering Association of Malaysia (REAM), we have brought together the world’s top practitioners, thought leaders, and academics with the sole purpose of discussing mobility and infrastructure solutions that are safe, sustainable, and result in positive economic progress. I am pleased to count on your participation and look forward to the key findings of this landmark event.

Abdullah A. Al-Mogbel
Chairman
International Road Federation

ABOUT:
INTERNATIONAL ROAD FEDERATION

The International Road Federation is a non-governmental, not-for-profit membership organization founded in Washington, DC in 1948 with the mission to encourage and promote development and maintenance of better, safer and more sustainable roads and road networks around the world.

The IRF has a major role to play in all aspects of road policy and development worldwide:

- For governments and financial institutions, the IRF provides a wide base of expertise for planning road development strategy and policy.
- For the private sector, the IRF is a business network, a link to multilateral institutions, such as United Nation agencies and the World Bank, and a platform to access government officials and decision makers.
- For the community of road professionals, including national road associations, engineering societies, advocacy groups, and institutes of higher learning, the IRF provides an invaluable information and knowledge platform.

Through the International Road Educational Foundation, the IRF awards grants to graduate engineers and other transportation professionals from around the world in support of full-time academic training. With this, the IRF actively supports future generations of industry leaders.

The International Road Federation also takes pride in honoring and recognizing road-industry projects demonstrating excellence and innovation in road development worldwide, via the Global Road Achievement Awards program. The competition, designed to elicit information on successful projects and programs from leading industry organizations, will draw attention to these leading projects and organizations, providing a road map for others to follow in continuously improving and advancing road development worldwide.

With a wide network spanning 118 countries across six continents, the IRF believes that it can make a difference by providing best practices and expert advice to face today’s multifaceted world of transport.

Visit www.IRF.global for more information.
AWARDS PROGRAM
The IRF Awards Programs are set up to gather information on the exemplary people and projects that place this industry at the forefront of social and economic development. By recognizing such individuals and groundbreaking projects, the IRF seeks to publicize the great positive impact that the road building industry has on the global quality of life. The IRF encourages all companies and organizations in the road development sector to get involved in our Awards Program. By promoting the innovative ideas and successes of our industry, we can provide a road map for others to follow.

GLOBAL ROAD ACHIEVEMENT AWARDS
The IRF Global Road Achievement Awards (GRAA) program is a competition to honor and recognize road-industry projects that demonstrate excellence and innovation in road development worldwide. The program, which is designed to elicit information on successful projects and programs from leading industry organizations, will draw attention to these leading projects and organizations, providing a road map for others to follow in continuously improving and advancing road development worldwide.

AWARD CATEGORIES
- Safety
- Research
- Design
- Excellence in Project Finance and Economics
- Technology, Equipment & Manufacturing
- Environmental Mitigation
- Construction Methodology
- Asset Preservation & Maintenance Management
- Traffic Management and ITS
- Program Management
- Quality Management
- Urban Planning & Mobility

PROFESSIONAL OF THE YEAR
The International Road Federation Professional of the Year Award is one of the most prestigious individual honors in the global road industry. The Award, which was established in 1951 and is open to both IRF members and non-members, recognizes eminent public, private and educational sector professionals who have demonstrated passion, leadership and commitment to the sector.

2015 GRAA WINNERS

PROFESSIONAL OF THE YEAR AWARD
Presented during the Opening Ceremonies
October 17

GLOBAL ROAD ACHIEVEMENT AWARDS
Presented during the Gala Dinner, held at the Sunway Putra Hotel
October 18
## CONNECTING ASIA WITH BETTER ROADS

Building on the 1st IRF Asia Regional Congress theme of “Building the Trans-Asia Highway”, the 2nd IRF Asia Congress will continue to discuss and advocate for building and maintaining a highway network that is efficient, safe, resilient, and sustainable. The prospects for growth in Asia and particularly in South Asia and ASEAN are tremendous, but the region’s true potential will not be unleashed unless there is a well-planned and efficient highway network that is part of a well-integrated road transport system. This can only be done through use of best practices, excellent policies, innovations in engineering and technology, and work force development. It is for this reason that IRF has brought the region's and the world's top policy makers, road builders & operators, manufacturers, and researchers together in Kuala Lumpur so that we can share experiences, witness innovations, and exchange knowledge that can make a well connected Asia a reality in the near future.

## CONGRESS FORMAT

### PLENARY SESSIONS
Plenary sessions will set the stage for, and are at the core of, activities for the 2nd IRF Asia Regional Congress & Exhibition.

### EXECUTIVE SESSIONS
Executive sessions take the form of round tables addressing key aspects of road and infrastructure development across the Asia region and the underlying challenges.

### APPLIED KNOWLEDGE SESSIONS*
An opportunity to share your business strategy insights and success stories with a local and regional audience.
- Bitumen & Asphalt Applications
- Road Safety Applications
- Inspection & Survey Applications
- Smart Bridges & Tunnels
- ITS Applications

### SAFER ROADS BY DESIGN™ SESSIONS
Developed and coordinated by the IRF, these sessions will introduce engineering concepts, best practices and state-of-the-art technologies tailored to the needs of highway agencies and road operators that can be used to prevent road crashes, and reduce the severity of accidents.

### PARTNER SESSIONS
These “by invitation” sessions focus on specific intervention areas developed by road stakeholder organizations.

### EXECUTIVE SESSIONS
Executive sessions take the form of round tables addressing key aspects of road and infrastructure development across the Asia region and the underlying challenges.

### CERTIFIED WORKSHOPS
As a leading provider of road sector knowledge, the IRF offers all registered delegates access to a program of certified training workshops before and during the event.

### TECHNICAL & SCIENTIFIC SESSIONS
The technical & scientific portion of the program is developed through the peer evaluation of abstracts and papers by a committee of recognized surface transportation experts and researchers. The best papers will be published in IRF’s technical quarterly journal, the IRF Examiner.

### INVESTORS SESSIONS*
Major projects and associated business opportunities in the host country and neighboring region will be presented by government officials and investment agencies.
- Infrastructure programs in Malaysia
- Doing Business in ASEAN

*Exclusive to IRF Members, Congress Exhibitors & Sponsors
### 18 October, Tuesday (Cont’d)

#### Exhibition Open: 09:00-18:30

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30</td>
<td>Refreshments &amp; Networking Break (Poster Session)</td>
</tr>
<tr>
<td>11:00</td>
<td>ES4 Dewan Tun Hussein Onn (1A) Preserving &amp; Enhancing Road Assets</td>
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<tr>
<td></td>
<td>SRD5 Dewan Tun Hussein Onn (1B) Speed &amp; Driver Behavior Management</td>
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<tr>
<td></td>
<td>TS1.3 Bilik Selangor</td>
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<td>TS2.3 Bilik Johor/Kedah</td>
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<td></td>
<td>TS4.2 Bilik Johor/Kedah</td>
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<td></td>
<td>AK1 Bilik Melaka ITS Applications for Big Data</td>
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<tr>
<td>12:30</td>
<td>Lunch只有</td>
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<tr>
<td>14:00</td>
<td>ES5 Dewan Tun Hussein Onn (1B) Congestion Management for Asian Highways</td>
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<td>SRD6 Dewan Tun Hussein Onn (1B) IRAP</td>
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<td></td>
<td>TS1.4 Bilik Selangor</td>
</tr>
<tr>
<td></td>
<td>TS3.2 Bilik Kelantan</td>
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<td></td>
<td>AK2 Bilik Melaka Innovations in Rubberized Asphalt (Sponsored by Consulpav)</td>
</tr>
<tr>
<td></td>
<td>WS2 Bilik Johor/Kedah Performance-Based Contracts</td>
</tr>
<tr>
<td>15:30</td>
<td>Refreshments &amp; Networking Break (Poster Session)</td>
</tr>
<tr>
<td>16:00</td>
<td>ES6 Dewan Tun Hussein Onn (1A) Delivering Successful Road Tolling Programs</td>
</tr>
<tr>
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<td>TS2.4 Dewan Tun Hussein Onn (1B)</td>
</tr>
<tr>
<td></td>
<td>TS4.3 Bilik Kelantan</td>
</tr>
<tr>
<td></td>
<td>TS5.1 Bilik Selangor</td>
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<tr>
<td>20:00</td>
<td>Gala Dinner &amp; GRAA Awards Ceremony - <a href="https://www.sunwayputrahotel.com/en/ballroom-9th-floor">Live Stream</a></td>
</tr>
</tbody>
</table>

#### 19 October, Wednesday

#### Exhibition Open: 09:00-15:30

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>ES7 Dewan Tun Hussein Onn Global Road Achievement Award Showcase</td>
</tr>
<tr>
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<td>SRD7 Bilik Johor/Kedah Application for Road Safety</td>
</tr>
<tr>
<td></td>
<td>TS2.5 Bilik Selangor</td>
</tr>
<tr>
<td></td>
<td>TS4.5 Bilik Melaka</td>
</tr>
<tr>
<td></td>
<td>AK4 Bilik Sarawak Innovations in Pavement Materials (Part1)</td>
</tr>
<tr>
<td></td>
<td>WS3 Bilik Kelantan Building and Maintaining Climate Resilient Low-Volume Roads</td>
</tr>
<tr>
<td>10:30</td>
<td>Refreshments &amp; Networking Break (Poster Session)</td>
</tr>
<tr>
<td>11:00</td>
<td>ES8 Dewan Tun Hussein Onn Skills Development in the Transportation Sector</td>
</tr>
<tr>
<td></td>
<td>PS4 Bilik Johor/Kedah Institute of Road Engineering: Research and Innovation from Indonesia</td>
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<tr>
<td></td>
<td>TS4.5 Bilik Selangor</td>
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<td>TS6.1 Bilik Melaka</td>
</tr>
<tr>
<td></td>
<td>AK5 Bilik Sarawak Innovations in Pavement Materials (Part2)</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch只有</td>
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<tr>
<td>14:00</td>
<td>Congress Outputs &amp; Closing</td>
</tr>
<tr>
<td>15:30</td>
<td>Refreshments &amp; Networking Break</td>
</tr>
<tr>
<td>17:00</td>
<td>Exhibition Tear Down</td>
</tr>
</tbody>
</table>

#### 20 October, Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30</td>
<td>Technical Site Visits</td>
</tr>
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<td>12:30</td>
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</tr>
</tbody>
</table>
For the past 50 years, UEM Group Berhad has strived to best serve our shareholders, employees, partners and clients, communities and countries.

We focused on developing infrastructure and delivering related services in the belief that facilitating easier physical connections for people stimulates trade and commerce, drives economies and ultimately fosters unity. We build and maintain expressways that traverse the nation; we build properties and townships for communities to live and grow; we build bridges, urban transits and airports so that people are better connected; and we build and service hospitals so that individuals are cared for.

For the next 50 years, our unwavering commitment remains — to connect families and friends; to drive growth in businesses and economies; to unite loved ones; and connecting communities to enhance learning and education.
For the past 50 years, UEM Group Berhad has strived to best serve our shareholders, employees, partners and clients, communities and countries. We focused on developing infrastructure and delivering related services in the belief that facilitating easier physical connections for people stimulates trade and commerce, drives economies and ultimately fosters unity. We build and maintain expressways that traverse the nation; we build properties and townships for communities to live and grow; we build bridges, urban transit and airports so that people are better connected; and we build and service hospitals so that individuals are cared for.

For the next 50 years, our unwavering commitment remains — to connect families and friends; to drive growth in businesses and economies; to unite loved ones; and connecting communities to enhance learning and education.

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A commitment that helped develop a nation.
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PUTRA WORLD TRADE CENTRE

REGISTRATION COUNTER
RIVERSIDE RESTAURANT
MAIN ENTRANCE
LEGAR PUTRA
ADJOINING ENTRANCE TO SERI PACIFIC
DEWAN TUN DR ISMAIL (LUNCH AREA)
DEWAN TUN HUSSEIN ONN

LEVEL 3
PUTRA WORLD TRADE CENTRE

SECRETARIAT & SPEAKER READY ROOM
REGISTRATION COUNTER
RIVERSIDE RESTAURANT
MAIN ENTRANCE
LEGAR PUTRA
ADJOINING ENTRANCE TO SERI PACIFIC
DEWAN TUN DR ISMAIL (LUNCH AREA)
DEWAN TUN HUSSEIN ONN

1. BILIK JOHOR/KEDAH
2. BILIK KELANTAN
3. BILIK MELAKA
4. BILIK SABAH
5. BILIK SARAWAK
6. BILIK TERENGGANU
7. BILIK SELANGOR
EXHIBITION AREA A
LEVEL 2: LEGAR PUTRA

EXHIBITION AREAS B & C
LEVEL 2
Connecting Asia with Better Roads: Building Regional Prosperity

October 17, 8:30 – 10:30 · Room: Dewan Tun Hussein Onn

PLENARY SESSION

Dato’ Sri Zohari bin Haji Akob, Secretary General, Ministry of Works, Malaysia
Roads and Malaysia’s Development Agenda

Sir Gordon Wu Ying Sheung
Chairman, Hopewell Holdings Ltd and IRF Professional of the Year (1994)
Roads, A Common Good across the Region

Kang Hee-up
Director, Road Policy Division, Ministry of Land, Infrastructure and Transport, Korea
Achieving Common Performance Standards for Safer Roads

Michael Dreznes, Executive Vice President, IRF
Advancing the Education of Road Professionals Since 1949: The IRF Fellowship Program

OPENING CEREMONIES

Dato’ Dr. Meor Aziz Osman, Chairman of Organising Committee
Welcome Address

C. Patrick Sankey
President & CEO, International Road Federation
Welcome Address

YB Dato’ Sri Haji Fadillah bin Haji Yusof
Honourable Minister of Works, Malaysia
Opening Address

AWARD PRESENTATION

2016 IRF Professional of the Year

Use hashtag #ASRC2 during the event

@IRFhq
Investors Roundtable (Part 1): Infrastructure Programs in Malaysia
October 17, 16:00 – 17:30 · Room: Bilik Kelantan

SUMMARY
The main purpose of this session will be to give an overview of major infrastructure investment programs in Malaysia. The panelists will discuss how national and international investors can be involved in these major projects.

MODERATOR
Bill Sowell, Vice President, Business Development, Eberle Design, Inc.

SPEAKERS
Dato’ Ir Ahmad Asri bin Abdul Hamid, Chief Executive of Construction Industry Development Board Malaysia (CIDB)
Professor Dr. Nazari Ismail, Professor, Faculty of Business, University of Malaya, Malaysia
Dato’ Sri Ir. Dr. Roslan bin Md Taha, Director General, Public Works Department Malaysia

Investors Roundtable (Part 2): Doing Business in ASEAN
October 18, 9:00 – 10:30 · Room: Bilik Melaka

SUMMARY
The main purpose of this session will be to give an overview of investment opportunities in Asia. A special focus will also be given to opportunities created by the new ASEAN market. Top officials from several Asian countries will be on-hand to discuss investment opportunities in their nations.

MODERATOR
Bill Sowell, Vice President, Business Development, Eberle Design, Inc.

SPEAKERS
Gregory M. Walters, Esq, International Trade and Government Affairs, 3M
Max Antameng, Director of Roads and Bridges, KPPIP, Indonesia
Shahid Ashraf Tarar, Chairman, National Highway Authority, Pakistan

Join us LIVE on Facebook during select sessions /IRFhq
Road Financing & PPPs: Experiences from Emerging Nations

October 17, 11:00 – 12:30 · Room: Dewan Tun Hussein Onn

SUMMARY

Public Private Partnerships are being increasingly utilized as an alternative to traditional public financing methods for road and surface transport. This panel will feature presentations and a discussion about successful Road PPP projects from around the world, followed by a discussion on best practices.

MODERATOR

Mehran Avini, Senior PPP Advisor

SPEAKERS

Sreejith Narayanan, Associate Vice President, IL&FS Transportation Networks Limited

Infrastructure Development in India: Issues & Challenges

YC Chang, Managing Director, Far Eastern Electronic Toll Collection Co., Ltd. (FETC)

Critical Success Factors of PPP Project Financing – Case Study of Taiwan ETC’s Total Solution

Robert Hardy, Technical Director Transport, Australian Government-Funded Indonesia Infrastructure Initiative

Indonesia’s New Annuity PPP Program

Azeem Tahir, General Manager (PPP), National Highway Authority, Pakistan

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Overloading and Road Management
October 17, 16:00 – 18:00 · Room: Dewan Tun Hussein Onn

ORGANIZERS
Organized jointly by Japan Road Association and Japan International Cooperation Agency (JICA) and in cooperation with Japan Road Contractors Association, Japan Bridge Association, Japan Prestressed Concrete Contractors Association

SUMMARY
Damages on the road system — such as pavement and bridges, including JICA project roads — brought about by overloading have been reported in some ASEAN countries. In addition to these, deterioration of roads has been accelerated by the introduction of modern large freight trucks, which is contributing to the development of industrial supply chain systems and economic development of the region. The panel will discuss these issues, attended by officials and experts from Japan and other Asian countries to exchange information and good practices.

MODERATOR
Yukinari Tanaka, Japan International Cooperation Agency (JICA)

PANELISTS
Japan
Yukinari Tanaka, Japan International Cooperation Agency (JICA)
Effect of the Overloading and Enlargement of Trucks on Pavement and Structures
Kazuyuki Kubo, National Institute for Land and Infrastructure Management
How to Strengthen Pavement and Bridge Decks in Japan
Akira Okamoto Ph.D, Nippon Expressway Corporation – West (NEXCO-W)
Takahiro Azuma, NEXCO-W Facilities
Overloading Control Using ‘Weigh In Motion’

Cambodia
Koichi Ogawa, Ministry of Public Works and Transport (MPWT)

Laos
Kiminari Takahashi, Ministry of Public Works and Transport (MPWT)

Malaysia
Madam Dr Jamilah Mohd Marjan, Ministry of Works Malaysia

Thailand
Montri Dechasakulsom, Ph.D., Department of Highways

Vietnam
Yoshiaki Matsuno, Ministry of Transport (MOT)
ES3

Building Climate Resilience in Road Infrastructure: A Cross-Sectoral Roundtable
October 18, 9:00 – 10:30  ·  Room: Dewan Tun Hussein Onn (1A)

SUMMARY
Using real world case studies taken from different fields of engineering, this roundtable seeks to identify promising applications as well as knowledge gaps that can be addressed through information and capacity strengthening programs that can help make Asia’s road infrastructure more Resilient to climatic change and extreme weather events.

MODERATOR
Gordon Keller, retired US Forest Service

SPEAKERS
Oliver Whalley, Project Engineer, The World Bank
Setting the Stage: Transport & Climate Resilience

Kamil Kaloush, Director, National Center of Excellence on SMART Innovations
Pavement Mitigation Strategies in Urban Areas

Frank van Steenbergen, Managing Director, MetaMeta
Making Roads Work for Water

Dr. Jasper Cook, Team Leader, Research in Community Access Partnership (ReCAP)

ES4

Preserving & Enhancing Road Assets
October 18, 11:00 – 12:30  ·  Room: Dewan Tun Hussein Onn (1A)

SUMMARY
Some countries excel at long term infrastructure asset management, while others have fallen behind. Emerging Asian economies have an excellent opportunity to begin planning for long term maintenance during the investment stage of their infrastructure. This panel will address the region’s commonly shared challenges, and discuss opportunities to build a framework for knowledge sharing and regional collaboration, highlighting best practices for infrastructure asset management.

MODERATOR
YDH Toh Paduka Setia Dato’ Ir. Dr. Safry Kamal bin Hj Ahmad, Former Perak State Director, Public Works Department, Malaysia; Territorial Chief, District of Mu’allim, Perak.

SPEAKERS
Ir. Zulakmal Bin Hj Sufian, Director, Public Works Department, Malaysia
Asset Management Challenges in Malaysia

Ben Gericke, Program Team Leader, Transport and ICT, The World Bank
The World Bank Experience in Emerging Nations

Sui Tan, Program Manager, Metropolitan Transportation Commission
Asset Management from a Municipal Perspective

Rowan Kyle, Principal Asset Manager, OPUS International Consultants
Asset Management Challenges in Emerging Countries
Congestion Management for Asian Highways
October 18, 14:00 – 15:30 · Room: Dewan Tun Hussein Onn (1A)

SUMMARY
The rapid development and growth of Asian economies has led to increasingly congested roads all across the region. This session will explore practical and cost effective solutions that can help alleviate congestion and improve the travel experience of Asian road users.

MODERATOR
Bill Sowell, Vice President, Business Development, Eberle Design, Inc.

SPEAKERS
Chris Sanders, Senior Vice President, Lindsay Transportation Solutions
An Introduction to Congestion Mitigation Strategies

Dr. Olga Landolfi, Secretary General, TTS Italia
Intelligent Demand Management as a Key Tool for Congestion Mitigation - Italian Experiences

Richard Wu, Chief Technology Officer, Far Eastern Electronic Toll Collection Co., Ltd. (FETC)
Electronic Tolling Solutions for Congestion Mitigation

Dato’ Noorizah binti Hj. Abdul Hamid, Managing Director/Chief Executive Officer, PLUS Malaysia Berhad

Delivering Successful Road Tolling Programs
October 18, 16:00 – 17:30 · Room: Dewan Tun Hussein Onn (1A)

SUMMARY
The electronic toll collection (ETC) market is characterized by a diversity of solutions and systems which are frequently based on legacy developments addressing different technical and regulatory criteria. Moreover, Capital Expenditure and Operational Expenditure remain a significant hurdle for many road agencies. For decision-makers considering the deployment of ETC systems, the diversity of solutions and financial models means that comparing relative whole-life costs and strengths is a daunting task. Using business cases from around the world, this session will review existing approaches with a focus on successful methodologies and risk mitigation tools that maximize opportunities to deliver a successful tolling project.

MODERATOR
Dato’ Noorizah binti Hj. Abdul Hamid, Managing Director/Chief Executive Officer, PLUS Malaysia Berhad

SPEAKERS
Essam Radwan, CATSS Director and Professor of Engineering, University of Central Florida
Congestion Pricing Strategies on Limited Access Highways

YC Chang, Managing Director, Far Eastern Electronic Toll Collection Co., Ltd. (FETC)
Advances in Free-Flow Tolling Systems

Sunny Ho, Portfolio Manager, ITS and Public Security, 3M
Best Practices Sharing and Challenges for Implementing RFID-Based ETC

Marc Ribo Pedragosa, Senior Economist at the Studies and International Affairs Dep’t, Abertis Group
A Manifesto for Road User Charging

Wei Ping Ong, Vice President and Managing Director, International Public Sector, Asia, Xerox Services
Road Tolling — Delivering Success
ES7

Global Road Achievement Award Showcase

October 19, 9:00 – 10:30  ·  Room: Dewan Tun Hussein Onn

SUMMARY
This session will feature presentations from current and previous winners of the prestigious IRF Global Road Achievement Awards. The presentations will focus on the key success factors of the projects, as well as give a status update on their progress.

MODERATOR
Magid Elabyad, Vice President, International Programs & Member Services, International Road Federation

SPEAKERS
Chris Sanders, Senior Vice President, Lindsay Transportation Solutions
Golden Gate Bridge Median Barrier

Sreejith Narayanan, Associate Vice President, IL&FS Transportation Networks Limited
RIDCOR PPP Highway Project

Jesper Damgaard, Managing Director for Europe, Louis Berger
Timisoara Lugoj Motorway, Romania

Martins Zaumanis, Postdoctoral Researcher, Swiss Federal Laboratories for Materials Science and Technology (EMPA)
100% Recycled Asphalt

ES8

Skills Development in the Transportation Sector

October 19, 11:00 – 12:30  ·  Room: Dewan Tun Hussein Onn

SUMMARY
Building capacity is an issue many emerging nations struggle with. This panel will discuss how to build local capacity, while also balancing the need for meeting the immediate demands of the public for better, safer, and more efficient transportation systems, which often will need the assistance of international expertise and labor.

MODERATOR
Dato’ Sri Prof Ir. Dr. Judin Bin Abdul Karim, Chairman, CIDB Holdings Sdn. Bhd.

SPEAKERS
Hatta Latief, Senior Transport Sector Consultant, Indonesia Infrastructure Initiative

Mark Argar, BD Manager Asia Pacific, Bechtel
Upskilling the Workforce in Transitioning Economies

Insoo Yeo, Korean Ministry of Land, Infrastructure and Transport
Presenting the International Road Center

Yohannes Abebe, Practice Lead, Millennium Challenge Corporation

Dr. Jasper Cook, Team Leader, Research in Community Access Partnership (ReCAP)

Use hashtag #ASRC2 during the event
Data Collection: Better, Faster, Stronger
The ARRB Group
October 17, 11:00 – 12:30 · Room: Bilik Johor/Kedah

SUMMARY
ARRB Group will discuss the latest development in road condition survey equipment and technology, and how it has helped improve data collection practices across the world. This session will share experience from both Australia and Malaysia, with insights direct from ARRB customers. The participant will receive information on the entire process, including planning, data collection, project management and data processing.

SPEAKERS
Harold Wong, General Manager, Gamlite IT (M) Sdn. Bhd.
Lee Sze Fang, Chief Data Officer, Ikram Paves Sdn. Bhd.
Ahmed Kamel Abdul Malik, Chief Operating Officer, Selia Selenggara Engineering Sdn. Bhd.
David Corcia, Senior Business Manager, ARRB Group Ltd.

Introducing the Asean Road Safety Centre
MIROS
October 17, 16:00 – 17:30 · Room: Bilik Johor/Kedah

SUMMARY
This session is aimed at highlighting the current initiatives carried out by MIROS as the ASEAN Road Safety Centre. Besides non-road related initiatives, the session will focus on the activities of International Road Assessment Programme (iRAP) in Malaysia as well as the development of ISO 39001: Road Traffic Safety Standards for Malaysia. Participants can expect to listen to some of the industry players in Malaysia sharing their experience after having implemented the ISO 39001 regulations in their operations.

SPEAKERS
Azhar Hamzah, MIROS
MIROS as ASEAN Road Safety Centre
Rabihah Ilyas, MIROS
Development of ISO 39001 in Malaysia
TBD
Benefits of ISO 39001 in the Transport & Logistics Industry

Korean Technology Showcase
Korea Road Association
October 18, 09:00 – 10:30 · Room: Bilik Johor/Kedah

SUMMARY
This session will highlight Korea’s current initiatives to promote overseas business and enhance international cooperation in the road sector. It will also provide a brief introduction of the Korea Road Association International Road Center and the duties they perform. Furthermore, several state-of-the-art technologies and products developed by road sector companies in Korea will be showcased.

SPEAKERS
Insoo Yeo, General Manager, Korea Road Association International Road Center, Korea Road Association
Bosong Lee, Overseas Business Department, MNTech, Retro-Reflective Sheeting of Korea
Dave Lee, Overseas Sales Manager, KSI Ltd., Road Safety Products in Korea
Research & Innovation from Indonesia
Institute of Road Engineering

October 19, 11:00 – 12:30 · Room: Bilik Johor/Kedah

SUMMARY
This session will highlight some of the innovative technologies that the Institute of Road Engineering has developed independently and also in partnership with major international research institutes. Many of these technologies are currently deployed in Indonesia and also in countries overseas.

SPEAKERS
- TBD, KOTI-KOREA
  IRODCO Project in Indonesia
- TBD, Posco-Korea
  Corrugated Steel Structure in Indonesia
- TBD, PT. Inti, Indonesia
  Simbagas for Bridge Health Monitoring System
- TBD, IRE- Indonesia
  Green Pavement with ECOPAL
- TBD, PT. LGM, Indonesia
  Smart Flyover
- TBD, PT. Panairsan, Indonesia
  BiMA - Fwd

Work Zone Safety

October 17, 11:00 – 12:30 · Room: Bilik Kelantan

SUMMARY
Work zones are hazardous both for motorists who drive through the complex array of signs, barrels, and lane changes and for workers who build, repair, and maintain streets, bridges, and highways. Panelists and participants will exchange international best practices on how to design a safe work zone using a combination of good practices and new technologies.

MODERATOR
- Alan Hay, Boylan Group

SPEAKERS
- Chris Sanders, Senior Vice President, Lindsay Transportation Solutions
  Using the “Zipper” to Make Japanese Work Zones Safer for All Road Users
- Felipe Almanza, Technical Engineering Director, TrafFix Devices
  Safer Work Zones Using Truck Mounted Attenuators (TMAs)
- Nigel Bullock, Highway Care
  Developments in Safety Barriers in Work Zones
- Russell Hood, Managing Director, Traffic Tech Pte. Ltd.
  Proper Terminal Connections for Work Zone Barriers
- Mauro Corsanici, Chief of R&D Department, AMS Italy
  New Developments for Work Zone Safety
Managing Road Traffic Injury Risk
October 17, 14:00 – 15:30  ·  Room: Dewan Tun Hussein Onn

SUMMARY
Governments across the world are challenged to manage road safety in a context where different government agencies share responsibility and stakeholder engagement is key. Initiatives such as the recent adoption of ISO 39001 now allow more active participation by a wider range of public and private sector actors.

This session will provide an overview of the role of proactive road safety management, with a focus on country programs that have proved their cost-effectiveness and can provide inspiration for Asian safety stakeholders.

MODERATOR
Mike Dreznes, Executive Vice President, International Road Federation

SPEAKERS
New Socioeconomic Analysis Tools for Road Safety Projects

Dr. Siti Zaharah Ishak, Director of Road Safety Engineering and Environment Research Centre, MIROS
Building Skills in Road Safety Audit in Malaysia and ASEAN Countries

Erling Rask, Managing Director, Consia Consultants
Accident Information Systems & Black Spot Programs

Peter Hartzell, Swedish Standards Institute
ISO 39001 Benefits & Applications

Jany Agustin, Indonesia Infrastructure Initiative
Delivering Safety on Indonesia’s Roads

Roadside Safety
October 17, 16:00 – 17:30  ·  Room: Bilik Melaka

SUMMARY
Roadside safety is a critical element of road safety. This session is designed to encourage practitioner-led exchanges on items used to create forgiving roads, as recommended in the Safe System Approach. Topics discussed will include longitudinal barriers, crash cushions, terminals and transitions, as well as the importance of site specific data to determine the appropriate product for a particular application.

MODERATOR
Patrick Clancey, Director of Business Development, Safetyverse Sdn. Bhd.

SPEAKERS
Russell Hood, Managing Director, Traffic Tech Pte. Ltd.
Standards; Pick One, Any One

Daren Hotchkin, CEO, Saferoads Pty. Ltd.
Forgiving Poles

Mauro Corsanici, Chief of R&D Department, AMS Italy
A Multipurpose Crash Cushion Designed to Save Lives

Felipe Almanza, Technical Engineering Director, TrafFix Devices
Cost Effective Crash Cushion Technology

Steve Johnson, Lindsay Transportation Solutions
Proper Use, Installation and Maintenance of Roadside Safety Features
Vulnerable Road User Safety
October 18, 9:00 – 10:30 · Room: Dewan Tun Hussein Onn (1B)

SUMMARY
Vulnerable road users are over-represented in serious and fatal traffic injuries throughout the ASEAN region. The session will discuss the reasons pedestrians, bicyclists, motorcyclists, public transportation vehicles and non-motorized vehicles are involved in these impacts, and what corrective actions can be taken to reduce their frequency.

MODERATOR
Philip Wijers, SensysGatso

SPEAKERS
Essam Radwan, University of Central Florida (USA)
Pedestrian Safety in an Urban Setting

Alexander Klein, Technical Director, Evonik
Traffic Separation Using Colored Pavement Markings to Protect Vulnerable Road Users

Dr. Kulanthayan KC Mani, Associate Professor, Universiti Putra Malaysia
Motorcycle Safety: Issues vs Solutions

Tulasi Sitaula, Secretary, Ministry of Physical Planning and Works
Enhancing Road Safety in Nepal: A Systematic Approach

Mohamed Shawky, Ph.D
Pedestrian Safety and Road Crossing Behavior: A Case Study of Abu Dhabi

Join the Conversation
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@IRFhq
**Speed & Driver Behavior Management**

**October 18, 11:00 – 12:30 · Room: Dewan Tun Hussein Onn (1B)**

**SUMMARY**
Speed has been identified as a key risk factor in road traffic injuries, influencing both the risk of a road crash as well as the severity of the injuries that result from crashes. This session will take a comprehensive look at cost-effective programs to enforce and manage driver speed.

**MODERATOR**
Russell Hood, Managing Director, Traffic Tech Pte. Ltd.

**SPEAKERS**
- Dr. Low Suet Fin, Director of Road User Behavioural Change Research Centre, MIROS
  Driving behaviour and Automated Enforcement System
- Ahmad Farhan Mohd Sadullah, USM
  Localising Management for Road Safety Outcomes: the Penang Experience
- Harish Banwari, Head, Asia Business and APAC Regional Resource Center, Traffic Safety and Security Division 3M Asia Pacific Pte Ltd
  Truck Conspicuity
- Philip Wijers, SensysGatso
  A Model for Public Private Partnerships (PPP) for Automated Enforcement Technologies
- Ashutosh Atray, Director, Ace Driving & Road Safety Education
  Effective, Low Cost Web Based Road Safety Training for the Masses
- Dr. Wafa M. Dabbas, Ministry of Planning (retired) (Jordan)
  Mobile Phones While Driving: Road Safety and Performance Issues

**iRAP’s Star Rating Road Designs**

**October 18, 14:00 – 15:30 · Room: Dewan Tun Hussein Onn (1B)**

**SUMMARY**
This session will take an in-depth look at how to use the iRAP tools to make sure your roads achieve at least 3-stars for all road users.

**SPEAKERS**
- Luke Rogers, Senior Road Safety Engineer, iRAP Strategic Projects
- Alvin Poi Wai Hoong, Research Officer, MIROS
- TBD
  Road Engineering Improvements for Malaysian Expressways

Join us LIVE on Facebook during select sessions /IRFhq
Smart ITS Applications for Road Safety
October 19, 9:00 – 10:30 · Room: Bilik Johor/Kedah

SUMMARY
This session will discuss new ITS technologies that are now available and that can help us achieve better, smarter and most importantly safer roads around the world. Presenters from several international countries, will present case studies on the use of new ITS technologies that have had a significant impact on road safety when deployed.

MODERATOR
Ashutosh Atray, Director, Ace Driving & Road Safety Education

SPEAKERS
Philip Wijers, SensysGatso
Maximizing the Subjective Chance of Apprehension

Brodie von Berg, Sales & Marketing Director, MiX Telematics
Pragmatic Road Hazard Assessment with the Aid of New Technology

Essam Radwan, University of Central Florida
Short Term Work Zone Safety and Efficiency

Chris Sanders, Senior Vice President, Lindsay Transportation Solutions
Using ITS to Mitigate Congestion

Alan Hay, Boylan Group
Using ITS to Improve Work Zone Safety

ITS Applications for Big Data
October 18, 11:00 – 12:30 · Room: Bilik Melaka

SUMMARY
Big Data and IoT have the potential to dramatically improve the safety, efficiency and carbon footprint of transportation systems around the world. This session will give an opportunity for ITS organizations to showcase new and innovative applications and uses for Big Data.

PANELISTS
Luke Cheng, Citilabs Regional Director – Asia
Transportation Planning in the Era of Cloud Computing and Big Data

Bill Sowell, Vice President, Business Development, Eberle Design, Inc.
The Application of Big (Traffic) Data to Transportation Operations and Planning in the Asia Pacific Region

Dr. Olga Landolfi, Secretary General, TTS Italia
ITS and Big Data for Smarter Cities: Applications in Italian Cities

Wei Ping Ong, Vice President and Managing Director, International Public Sector, Asia, Xerox Services
Data Analytics: The Key to Improved Urban Mobility

Lawrence Liew, Council Member, ITS Malaysia
Big Data Analytics Opportunities and Challenges in Malaysia
Innovations in Rubberized Asphalt
October 18, 14:00 – 15:30 · Room: Bilik Melaka

**SUMMARY**
This session will give an opportunity for material producers and equipment manufacturers to showcase their latest projects & research.

**PANELISTS**
- Kamil Kaloush, Director, National Center of Excellence on SMART Innovations
  Performance Tests and Environmental Issues
- Jorge Sousa, Chairman, Consulpav
  Rubberized Pavements in an Instant
- George Way, President, Consulpav
  Recycled Tire Rubber Roadways to the Future

Asset Management and Road Safety & Security Products
October 18, 16:00 – 17:30 · Room: Bilik Melaka

**SUMMARY**
This session will give an opportunity for Asset Management, Road Safety and Security Equipment, and Application providers to showcase new products and applications that can dramatically enhance road safety and security in Asia.

**PANELISTS**
- Chris Sanders, Senior Vice President, Lindsay Transportation Solutions
  Introducing the Road Zipper
- Darren Hotchkin, CEO, Saferoads Pty. Ltd.
  Forgiving Poles
- Ayse Akyol, Foreign Trade Manager, KIRAC A.S.
  Road Safety and Road Restraint Systems in Turkey
- Kim Leong Tan, Senior Technical Specialist, 3M ASIA PACIFIC PTE LTD.
  Widely Distributed Reflective License Plate Issuance for Asia Countries
- Yon Marcuerquaiga, Road Asset Management Area Director, Applus+ Energy & Industry Division
  Applus+ Energy & Industry, Roads Risk Management

Innovations in Pavement Materials (Part 1)
October 19, 09:00 – 10:30 · Room: Bilik Sarawak

**SUMMARY**
This session will give an opportunity for material producers and equipment manufacturers to showcase their latest projects & research.

**PANELISTS**
- Stephan Hotz, FAYAT Mixing Plants
  FAYAT-MARINI: ASPHALT and the role of CO2, VOC, Energy and Environmental
- Mai Kobayashi, TOA Road Corporation
  Application of Appropriate Repair Materials for Asphalt Pavement in Japan
- Vivek Kane, Executive Vice President, Zydex Industries
  Organo-Silane ‘Warm Compaction’ Technology for Green Roads
- Richard Koch, President, East Asia, Quasco LLC
  Resonant Rubblization as a Method to Rehabilitate Concrete Pavement
GALILEO
The new generation European GNSS, now ready for use!

First civilian open system with a worldwide coverage.

Reliable and accurate positioning information available in any type of environment for ITS market.

Jupiter

European Global Navigation Satellite Systems Agency

HORIZON 2020
Innovations in Pavement Materials (Part 2)
October 19, 11:00 – 12:30 · Room: Bilik Sarawak
SUMMARY
This session will give an opportunity for material producers and equipment manufacturers to showcase their latest projects & research.

PANELIST
Stephan Hotz, FAYAT Mixing Plants
FAYAT Road Building Division: Equipment and Technology for Every Stage of the Road Life Cycle

David Huddleston, International Business Development Manager, Forta Corporation
High Tensile Strength Fiber Reinforcement for Asphalt Pavement

Tim Morris, Regional Sales Manager, Crafco
Effective Treatment of Large Cracks in Asphalt PCC Pavements

Benefits of Galileo for ITS Applications
October 17, 11:00 – 15:30 · Room: Bilik Melaka
SUMMARY
The Galileo Global Navigation Satellite System is expected to create many new market opportunities for transportation market actors.

Galileo Early Services will be open end of Year 2016. Various ITS applications will benefit from this new GNSS constellation, to be used in conjunction with the other constellations (GPS, Glonass, Beidou). Amongst these applications, Autonomous driving and ADAS (Advanced Driver Assistance Systems), are of primary interest. In addition to Galileo signal specific features, which will provide enhanced performances in terms of accuracy and availability, Galileo will offer a Precise Point Positioning (PPP) service in real time, particularly fitted to support these demanding applications, combined with a authentication service to ensure better security.

This workshop will present the outcome of the JUPITER support actions, financed by the European GNSS Agency, showing different E-GNSS-based applications of relevance to transportation actors across the Asian continent. It will also provide an introduction to the expected cost benefit, as well as best practices, which are critical to foster the development of new E-GNSS market opportunities for intelligent transport systems.

Performance-Based Contracts
October 18, 14:00 – 17:30 · Room: Bilik Johor/Kedah
SUMMARY
This workshop includes a ½ day program of presentations and discussions about Performance-Based Contracts and how they can help road agencies meet their desired outcomes. Participants will engage in discussions with experts who are actively involved in maintenance contracting and asset management to discuss the application of best practices under different country conditions.

INSTRUCTORS
Rowan Kyle, Principal Asset Manager, OPUS International Consultants

Mehran Avini, Senior PPP Advisor

Ben Gericke, Program Team Leader, Transport and ICT, The World Bank
Building and Maintaining Climate Resilient Rural Roads

October 19, 09:00 – 13:00 · Room: Bilik Kelantan

SUMMARY
This workshop addresses the growing concern about climate change and its impacts on roads and other infrastructure. The impacts on roads from intense storms will be discussed and what mitigation measures can be used to lessen those impacts. Efforts include measures transportation agencies are implementing to help reduce greenhouse gases and their carbon footprint, and deal with climate extremes. Assessment methods to evaluate risk will be discussed. There are a number of design and maintenance measures that can be taken to reduce road damage and impacts from major storms, or to “storm proof” roads.

Specific measures include: Cleaning channels of debris that can plug culverts and bridges; Using trash racks; Preventing culvert diversion; Protecting structures against scour; Moving roads away from stream channels; Positive road surface drainage measures; Using low-water crossings that don’t plug rather than culverts; Strengthening marginally unstable slopes using Geosynthetics, biotechnical slope stabilization methods, and deep-rooted vegetation; and applying erosion control measures. Engineering “Best Practices” will reduce the damage from storms, protect our investment in the roads, as well as protect the environment.

LEARNING OUTCOMES
• Understanding the significance of global climate change on infrastructure.
• Recognizing the role transportation agencies have to minimize the problem.
• Addressing the role of climate resilience in roads infrastructure planning, design and maintenance.
• Learning tools to help assess the risks to infrastructure from storms.
• Learning the specific measures planners and engineers can implement to reduce their risk to road damage from storms.

INSTRUCTOR
Gordon Keller, retired US Forest Service

SPEAKER
Dr. Jasper Cook, Team Leader, Research in Community Access Partnership (ReCAP)

Kamil Kaloush, Director, National Center of Excellence on SMART Innovations

AGENDA
9:00-9:30
Introduction to Climate Resilient Roads and Engineering Best Practices
Gordon Keller

9:30-10:15
Climate Change-What We Know, Data Needs, and Vulnerability Assessment
Dr. Kamil Kaloush

10:15-11:00
Climate Resilience and Rural Roads
Dr. Jasper Cook

11:00-11:20
Recess

11:20-11:45
Transportation Sector Efforts to Reduce the Carbon Footprint, Minimize Climate Change, and Develop Climate Resilient Roads
Gordon Keller

11:45-12:45
Climate Resilient Road Mitigations- “Stormproofing” Rural Roads
Gordon Keller

12:45-13:00
Summary and Final Comments
All Participants
THE SOLUTION FOR MANAGED Lanes AND CONSTRUCTION

TRANSFORMING ROAD SAFETY THROUGH INNOVATIVE DESIGN

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Technical & Scientific Sessions

TS1.1 Safety Treatments
October 17, 14:00 – 15:30 · Room: Bilik Kelantan

PAPERS & PRESENTERS
004: Innovative Urban Signalized Junctions
Tarek Eweida

014: Safety Effectiveness of Surface Treatment: A Comparison of Empirical Bayes and Naive Before and After Study
Nasreen Hussein, Rayya Hassan

017: Safety Improvements To National Route Two Section 27 in Kwazulu-Natal, South Africa
Ridhwaan Mahomed

019: A Proactive and Systematic Approach to Investing in Road Safety Shows Measurable Results – A Case Study of Road Upgrade Project in Samar
Yohannes Abebe, Jason Jones

114: Weight Impact Tests of Light-Weighted Barriers on Expressways
Ryoji Okamoto, Koichi Sukioga

125: Experiences of Improving Road Safety in Brazil
Paolo Franchetti

TS1.2 Traffic Safety Culture
October 17, 16:00 – 17:30 · Room: Bilik Selangor

PAPERS & PRESENTERS
025: Protecting Vulnerable Road Users: Traffic Separation with Colored Pavement Markings
Viviana Steiner, Benjamin Schaefer

050: Study on Changes of Risk Awareness, Safety Behavior and Position
Naoki Meyama

061: Determining the Real Impact of Speed Limit Enforcement Cameras in the UK
John Lambert

077: Investigating the Characteristics of Drives with Multiple Crashes
Mohamed Shawky Ahmed, Iyad Sahnoon, Abdulla Al-Ghafl

089: The Impacts of Climate Change on Transportation Safety and Consequences
Emre Demir, Beste Cubukcuoglu

TS1.3 Safety Data Analysis
October 18, 11:00 – 12:30 · Room: Bilik Kelantan

PAPERS & PRESENTERS
063: Do Crash Rates Really Increase With Increases in Average Speed?
John Lambert

066: Probability of Crash Involvements Based on Drivers’ Characteristics and Traffic Rule Violation Records
Mohamed Shawky Ahmed, Iyad Sahnoon, Yousef Al-Badi

069: Characteristics of Severe Crashes During the Holy Month of Ramadan
Mohamed Shawky, Ahmed Mohamed Kishta, Ahmed Al Zaidi

085: Road Accidents in Urban and Rural Areas of Tanzania
Bruno Kinyaga

097: Motorcycles Gap Acceptance At Merging Point Of Egress And Ingress Of Exclusive Motorcycle Lane In Malaysia
Norfaizah Khaidir, Nusayba Megat Johari

TS1.4 Safety Management Initiatives
October 18, 14:00 – 15:30 · Room: Bilik Selangor

PAPERS & PRESENTERS
059: Cars – Motorcycles Collisions Prediction Model Based on Road Design Consistency
Joewono Prasetijo

100: Strategies for Road Safety in the Caribbean - Exploiting The Lowest Hanging Fruit
Terrence Fletcher

101: Evaluation of Authorised Left (Alt) Traffic Control: A Case Study in Kuala Lumpur
Jensim Ho

120: Investigating the Contributing Factors Affecting Traffic Crash Caused by Young Drivers
Nuha M. Albusaeedi, Mohammed Kishta, Mohamed Shawky Ahmed

124: Construction on Life Traffic, Dilemma Between Progress, Quality and User
Ir: Mohd Shuhaimi Bin Hassan
## Technical & Scientific Sessions

### Paving Materials & Technologies 1
October 17, 14:00 – 15:30 · Room: Bilik Selangor

**PAPERS & PRESENTERS**

<table>
<thead>
<tr>
<th>Paper No.</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>Evaluation of Long Term Performance of Warm Mix Asphalt Using Advanced 3-D Imaging Technique and Indirect Tensile Test</td>
<td>Meor Othman Hamzah, Sek Yee Tohe, Mohd Rosli Mohd Hasan</td>
</tr>
<tr>
<td>011</td>
<td>Design, Production, Construction and Performance Evaluation of Recycled Asphalt Concrete</td>
<td>Jian-Shiuh Chen, Cheng-Te Lee</td>
</tr>
<tr>
<td>020</td>
<td>Development of Development of Non-contact Wireless Power Supply Pavement</td>
<td>Nagato Abe, Masaya Tsukamoto</td>
</tr>
<tr>
<td>051</td>
<td>Sustainable Pavement Design - Delivering Sustainable Options Considering Existing Materials and Pavement Lifecycle</td>
<td>Trent McDonald, Ernesto Urbaez, Scott McIntyre</td>
</tr>
<tr>
<td>081</td>
<td>Structural Pavement Design for Saudi Arabian Roads: Outline of the Proposed Research</td>
<td>Ibrahim Aldubabe</td>
</tr>
</tbody>
</table>

### Paving Materials & Technologies 2
October 18, 09:00 – 10:30 · Room: Bilik Kelantan

**PAPERS & PRESENTERS**

<table>
<thead>
<tr>
<th>Paper No.</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>024</td>
<td>Resonant Rubblization as a Method to Rehabilitate Concrete Pavement</td>
<td>Richard Koch</td>
</tr>
<tr>
<td>032</td>
<td>Effect of Long-term Aging on Properties of Asphalt</td>
<td>Hirato Toshiki, Kobayashi Mai, Murayama Masato, Takahasi Shikegi</td>
</tr>
<tr>
<td>048</td>
<td>Engineering Properties of PAC Thin Surfacing for Pavement Rehabilitation</td>
<td>Min-Chih Liao, Yen-Yu Lin</td>
</tr>
<tr>
<td>083</td>
<td>Performance Evaluation of Developed Rejuvenators for Warm-in Place Recycling Asphalt Pavement</td>
<td>Chisu Lim</td>
</tr>
<tr>
<td>094</td>
<td>Energy Usage and Greenhouse Gas Emissions of Pavement Preservation Processes for Asphalt Concrete Pavements</td>
<td>Tim Morris</td>
</tr>
</tbody>
</table>

### Pavement Adaptation to Climate Change
October 18, 11:00 – 12:30 · Room: Bilik Selangor

**PAPERS & PRESENTERS**

<table>
<thead>
<tr>
<th>Paper No.</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>035</td>
<td>Geocells for Affordable Low Volume Pavements</td>
<td>Oliver Whalley</td>
</tr>
<tr>
<td>074</td>
<td>Road Pavement Design for the Pacific Region – Desk Research on the Use of Locally Available Materials</td>
<td>William Gray</td>
</tr>
<tr>
<td>078</td>
<td>Investigating the Impact of Various Climate Change Scenarios on Pavement Service Life</td>
<td>Shih-Hsien Yang, Shih Abdou</td>
</tr>
</tbody>
</table>

### Paving Materials & Technologies 3
October 18, 16:00 – 17:30 · Room: Dewan Tun Hussein Onn (B)

**PAPERS & PRESENTERS**

<table>
<thead>
<tr>
<th>Paper No.</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>095</td>
<td>The Effect of Rejuvenators on the Properties of Repetitive Recycled Asphalt</td>
<td>Michito Konno</td>
</tr>
<tr>
<td>098</td>
<td>Cracking Performance Evaluation of Asphalt Mixtures Using Semicircular Bending Test: Experimental Evaluation and Box-Behnken Optimization</td>
<td>Gourab Saha, Krishna Biligiri</td>
</tr>
<tr>
<td>107</td>
<td>Investigation on Engineering Properties of Bio-Based Binder Derived from Palm Oil Plantation as Replacement of Bituminous Binder</td>
<td>Mohab Alamawi</td>
</tr>
<tr>
<td>119</td>
<td>Performance Evaluation of HMA Mixtures Having Different Bitumen Binder Grade Using Simple Performance</td>
<td>Muhammad Irfan, Muhammad Junaid</td>
</tr>
<tr>
<td>127</td>
<td>The Project Delivery of the Long Span steel Bridge in the Construction of Southern Branch of the National Palace Museum</td>
<td>Jui-An Wu, Yu-Min Su</td>
</tr>
</tbody>
</table>

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Technical & Scientific Sessions

**Paving Materials & Technologies 4**
October 19, 09:00 – 10:30 · Room: Bilik Selangor

**PAPERS & PRESENTERS**
099: Statistical Evaluation of Crumb Rubber Modification Procedure in Asphalt Binder Modification
Veena Venudharan, Krishna Biligiri

102: Advanced Use of Solar Heat-blocking Pavement Technology
Masahiko Iwama

111: Cost Analysis of Fiber-Reinforced Pavements
Waleed Zeiada, Kamil Kaloush, Shane Underwood

126: Pilot Study of Permeability of Pervious Concrete in Conjunction with Ultrasonic Pulse Velocity and X-Ray Computed Tomography
Yu-Min Su, Krishna Prapoorna Biligiri, Ping-Ni Hou, Anush Chandrappa, Jui-An Wu

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**Mobility and Planning**
October 18, 09:00 – 10:30 · Room: Bilik Selangor

**PAPERS & PRESENTERS**
003: Optimizing Potential Value Added of Sunda Strait Bridge Construction in Accessibility Function Model
Dinihari Mulya Lestari

007: Intelligent Transport Planning System
Kevin Gu

010: A Review of Psychological Impact of Improving Bus Service Reliability on Passengers Experience
Seyed Moosavi, Amiruddin Ismail

055: The Influence of Trips Generated from New Projects Development to the Efficiency of the Road Network
Badrul Rahim, Jamilah Mohd Marjan

104: Urban Transport Solutions / BRT vs Tram
Maria Ortega

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**Smart Traffic Management Systems**
October 18, 14:00 – 15:30 · Room: Bilik Kelantan

**PAPERS & PRESENTERS**
015: Active Traffic Management with Congestion mitigation Tools in Japan
Jun Takeuchi, Toshiyuki Oka

058: The Italian its Logistics Platform for the Management of Dangerous Goods Transport and Parking Area for Heavy Trucks
Leonardo Domanico, Olga Landolfi, Rodolfo De Dominicis, Nicola Bassi

023: Decision Support in Real-Time Traffic Management
Johannes Schlaich

033: New Integrated System to support the London Streets Tunnels Operations Control Centre (LSTOC)
Olga Molina

034: Kuala Lumpur Integrated Control Centre - Monorail, LRT, BRT, High Speed and Mass Rapid Transit Systems
Javier Gomez

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**Infrastructure Management**
October 17, 14:00 – 15:30 · Room: Bilik Johor/Kedah

**PAPERS & PRESENTERS**
005: A New Approach for Estimating Pavement Rutting Progression
Nahla Alaswadk, Rayya Hassan, Bayar Mohammed

018: Calibration of HDM-4 Road Deterioration Models for Rural Arterials in Victoria
Bayar Mohammed, Rayya Hassan, Nahla Alaswadk

027: Asset Management on the Main Cables of Suspension Bridges
Masahiro Takeguchi, Muneo Okawa, Yoshiji Oura

029: Asset Management to Highway: Soil-Cement Stabilization Technique
Norehsan Abu Bakar, Zulkhairi Hasan, Mohd Mustaqim Mohd-Nordin

086: High Speed Data Collection and Automatic Crack Mapping at the Network Level on the Bundaberg Region
Pedro Yarza, Ernesto Urbaez, Hennie Roux, Peter Jensen
Technical & Scientific Sessions

**Infrastructure Maintenance Policies & Programs**
October 18, 11:00 – 12:30 · Room: Bilik Johor/Kedah

**PAPERS & PRESENTERS**
013: Sustainable Airport Pavement Management System: Effects of Delay in Maintenance Approach Based on Life-Cycle Cost Analysis and Life-Cycle Assessment
Peyman Babashamsi, Nur Izzi Yusoff, Halil Ceylan

080: Establishing Optimal Long Term Funding Allocation Systematic Approach based on Network Needs & Availability of Funds
Alan Roland, John Yeaman, Mark Porter

084: Maintenance of Infrastructures Using GIS and Point Cloud Data
Yoshifumi Nagata, Naruhiro Kawada, Kazuhiro Tsuno, Takuji Hiraoka

096: Long Segment Roads: The Indonesian Way to Adopt a Policy of Performance-Based Maintenance Contracts
Slamet Muljono, Max Antameng

117: Slope Maintenance Program in Designing and Constructing Slopes
Eddie Sunaryo, Djoko Purnomo

**Infrastructure Inventory & Inspection**
October 18, 16:00 – 17:30 · Room: Bilik Kelantan

**PAPERS & PRESENTERS**
008: Road Surface Condition Surveys at Traffic-Speed
Kars Paul Drenth, Feng Hua Ju, Jun Yew Tan

016: Development of Thresholds for Travel Quality Assessment in Colombian Urban Roads
Luis Fuentes

021: Development of the Three-Dimensional Road Surface Measurement Technology by the High-Speed Road Surface Measurement Vehicle
Shikegi Ando

043: Review of Estimation Method of Crack Depth in Asphalt Paving
Jin Hatakeyama, Yoshinharu Chisaka, Manabu Kouhei, Motoo Takahasi

072: Mobile Mapping Applications for Data Collection and Evaluation of the Rural Road Assets
Phisan Santitamnont, Chakree Bumroongwongse, Preecha Soparatana, Kawin Saipraserkit, Theeraruk Maneenart, Sittinun Thongbai, Thanachai Lorapibankul, Nutvara Jantarathaneewat

**Infrastructure Preservation**
October 19, 09:00 – 10:30 · Room: Bilik Melaka

**PAPERS & PRESENTERS**
046: Application Of Micro-Surfacing System – PLUS Experience along North South Expressway (NSE)
Abdul Rahim Mohd Shafie, Zulkhairi Hasan

052: Integrated Asset Management System for The Second Penang Bridge
Mohd Ashari Alias

053: Development of Sustainable and Customized Road Asset Management System In Vietnam
Bhoj Raj Pantha

092: Preliminary Report for Iri Changes after Kumamoto Earthquake Japan, by Using Smartphone Roughness Measurement
Koichi Yagi

122: The Fight Against Sand Encroachment
Humod Al-bdrani

**Asset Management in Practice 1**
October 19, 11:00 – 12:30 · Room: Bilik Selangor

**PAPERS & PRESENTERS**
028: Influence of Roadside Vegetation on Roughness Progression for Pavements Founded on Expansive Soils
Md Yeasin Ahmed, Robert Evans, Monzur Imteaz

030: Removal Method for Ceiling Board of the Hanshin Expressway’s Tunnels
Masahide Takahashi, Shorato Hirayama, Hideki Takada

105: Wheel Load Running Tests on the Embedded Expansion Joint Using High-Flexibility Stone Mastic Asphalt
Ayaka Ishii

106: Network Evaluation of Flood Impact for Rural Highways Management
Thanit Witthayamet

108: The Natural Frequency Measurement of Pedestrian Bridge Using Smartphone
Ba Hoang Nguyen, Tien Thuy Nguyen, Binh LeQuang
Asset Management in Practice 2
October 17, 11:00 – 12:30 · Room: Bilik Selangor

PAPERS & PRESENTERS
065: New Low-Activity Nuclear Gauge for Soil Wet Density Measurement with Low Regulatory Burden
Linus Dep, Robert Troxler, William Troxler
070: Doha Survey Project, Applus+ Energy & Industry Division
Yon Marcuerquiaga, Ahmed Al Kubaisi
067: Road Tunnel Inspection with High-Performance Devices
Fernando Sanchez-Dominguez, Jose Antonio Ramos Garcia
109: Requirements of an Asset Information Management System
Teh Hing Wan
112: Automated Detection Of Sealed Cracks Using 2D And 3D Road Surface Data
John Laurent, Jean-François Hébert, Mario Talbot

Technical & Scientific
TS4.7

Asset Management in Practice 3
October 18, 09:00 – 10:30 · Room: Bilik Terengganu

PAPERS & PRESENTERS
006: Lessons from Liberia: Monitoring and Supervision of a 10-Year Performance Based Road Contract
Rowan Kyle
079: 6 Critical Steps to Manage Your Pavement Assets without Breaking the Bank
Sui Tan
118: Performance Based Key Performance Indicators for Expressway Concessions in Malaysia
Suhaimi Abd Aziz, Zainuddin Abdullah, Abdullah Hashim
121: A New Bridge Condition Index Considering Potential of Evolution and Extent of Deterioration Process
Saleh Abu Dabous, Ghadeer Al-Khayyat, Daniel Liort

Technical & Scientific
TS5.1

Sustainable Transport Practices
October 18, 16:00 – 17:30 · Room: Bilik Selangor

PAPERS & PRESENTERS
022: Innovative Improvement to Restrooms in Rest Areas
Gaku Suzuki
042: GIS Mapping and Geospatial Database for Road Safety Management
Eriadi Eriadi
044: A Basic Study on Comparison of Lane Width Measured with Sensors
Jaehong Park, Dukgeun Yun, Chunjoo Yoon
045: The Needs of Life Cycle Cost Application for Malaysia Green Highway Projects
Muhammad Rahman
103: The Effective Use on Expressway to Reduce Traffic Accidents in Tokyo Metropolitan Area
Arata Motoki
115: Layout Design of Korean-Type Road Debris Remover Instrument
Jinguk Kim, Choongheon Yang

Technical & Scientific
TS6.1

Transport Financing & Economics
October 19, 11:00 – 12:30 · Room: Bilik Melaka

PAPERS & PRESENTERS
037: Managing Traffic Demand Risk in Road Sector PPPs Through the Use of Put and Call Option Agreements
George Nwangwu
057: Operators’ and Users’ Perspective on Service Quality Dimensions of Toll Road PPP
Harry Zuna, Max Antameng
040: Status of Electronic Toll Collection (ETC) and the Development of a New ETC-based Traffic Information Service in Korea
Hwanpil Lee, Sangmin Park

Join us LIVE on Facebook during select sessions /IRFhq
Technical Site Visits

OCTOBER 20, 8:30 – 12:30

Delegates are requested to register at the Technical Tour Desk during Congress session days. Due to limited seats, registration will be on ‘first come first served’ basis.

### Duta Ulu Kelang Expressway 2

**SUMMARY**

Duta Ulu Kelang Expressway 2 (DUKE 2) is a prominent element in the Kuala Lumpur Road Master Plan acting as an extension to the existing DUKE and is designed to be a dual-three lane tolled carriageway. It will connect the east and west of Kuala Lumpur via a 7-kilometer link from Sri Damansara and a 9-kilometer link from Jalan Tun Razak. The construction works for DUKE 2 commenced in 2014 and is expected to be completed by end of 2016.

### Mass Rapid Transit Line 1 - Sungai Buloh To Kajang

**SUMMARY**

The 51-kilometre MRT Sungai Buloh to Kajang Line (MRT Line 1) is the first of the three planned Klang Valley Mass Rapid Transit lines to be constructed. The line has a total of 31 stations consisting of 7 underground and 24 elevated stations. Divided into two phases. Phase One will become operational by the end of 2016, while Phase Two will be commissioned by July 2017.

### Rawang Bypass

**SUMMARY**

The Rawang Bypass project, which is 85% complete, involves the construction of new road alignment to bypass the busy Rawang town. The project cuts through a hilly and environmentally-sensitive forested heritage park which has been a traditional location for family outings, nature lovers and eco-tourists. Major mitigation initiatives were considered in its engineering design, including the construction of a viaduct and localized cutting of the slopes. Movement of wildlife is possible below the entire stretch of the viaduct.

### Maju Expressway 2 (MEX 2)

**SUMMARY**

MEX 2 with a total length of 18 kilometers, is an extension of the existing MEX 1 which was completed in 2007 and runs from KL to Putrajaya. When completed, MEX 2 will provide a fast and direct connection from KL and Putrajaya to the Kuala Lumpur International Airport (KLIA). MEX 2 is part of the Privatisation of the Dedicated Highway for KL – Putrajaya – KLIA approved by the Government of Malaysia through the Build-Operate-Transfer method in 1996. The construction works for MEX 2 will commence in 2016 and is expected to be completed by mid of 2019.

### Malaysian Highway Authority Traffic Management Centre

**SUMMARY**

The Traffic Management Centre (TMC) of Malaysian Highway Authority (MHA) was established to further enhance the implementation of Intelligent Transportation System (ITS) at all highway networks. The objective of TMC is to ensure smooth track movement as well as improving road safety aspects. TMC monitors track conditions at all highway networks and provides real time track information to highway users via variable message signboards (VMS), portal web, short messaging system (SMS) and multimedia messaging systems (MMS).
OVERVIEW

Malaysia is known for its rich and diverse flora and fauna, iconic monuments, intricate and colourful handicraft and as a nation steeped in history, culture and traditions. An exciting selection of destinations has been arranged for the discerning tastes of attending congress delegates. There is cost involved for participation in this programme. Interested delegates are requested to register at the Social Programme Desk during the congress.

Delegates are requested to register at the Social Tour Desk during Congress session days. Due to limited seats, registration will be on ‘first come first served’ basis.

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**SP1**

**Putrajaya**

**SUMMARY**

Putrajaya is Malaysia’s third and latest Federal Territory. Built on an expansive marshland and former oil palm estate in, the city spans an area of almost 5,000 hectares and lies 25 km from Kuala Lumpur. This city takes over the administrative functions of the capital city Kuala Lumpur and is part of the Multimedia Super Corridor project of the Malaysian government. Take a memorable trip down the serene Putrajaya Lake, an incredible man-made wonder spanning across 650 hectares of beautiful waters and exotic wetlands. Soak up the magical atmosphere that is Putrajaya; discover this enchanting garden city while cruising. This is where all the greens and modern architectural wonders intertwine seamlessly and form the largest landmark in Malaysia.

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**SP2**

**Kuala Lumpur Bird Park**

**SUMMARY**

Located in the serene and scenic Kuala Lumpur Lake Gardens, the park is home to more than 3,000 birds of approximately 200 species unique environment.

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**SP3**

**Kuala Lumpur Tower**

**SUMMARY**

Reaching 421 metres, this is the seventh tallest free standing tower in the world. It is said that one’s perspectives and views change as one moves higher. This tower holds true to this fact. Experience the lives and panoramic view of this metropolitan city at the height of 276 metres above ground level. There is a revolving restaurant providing diners with breath taking view of the city.

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**SP4**

**Kuala Lumpur Butterfly Park**

**SUMMARY**

This butterfly garden is the largest in the world with over 5,000 butterflies dancing nonchalantly over clumps of fern amidst scented multi-coloured flowers and flowering vines. Other attractions include Japanese Koi Fish, fresh water turtles, insects and a museum with a large collection of butterflies and insects from around the world.

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**SP4**

**Petronas Towers**

**SUMMARY**

Also known as the Petronas Twin Towers, they were the tallest buildings in the world from 1998 to 2004 and still ranked as the tallest twin towers. Towering at 451.9 metres with 88 storeys, the view is majestic by day and dazzling at night.
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APPRECIATION
For the spirited support towards the successful culmination of this Congress, the Joint Chairmen and Members of the Organizing Committee wish to place on record their heartfelt appreciation to:

The Honourable Dato’ Sri Haji Fadillah bin Haji Yusof, Minister of Works, Malaysia
The Honourable Datuk Rosnah binti Abdul Rashid Shirlin, Deputy Minister of Works, Malaysia
Dato’ Sri Zohari bin Haji Akob, Secretary General, Ministry of Works, Malaysia
Dato’ Sri Ir. Dr. Roslan bin Md. Taha, Director General, Public Works Department, Malaysia
Dato’ Ir. Haji Ismail bin Md. Salleh, Director General, Malaysian Highway Authority
Dato’ Ir. Ahmad Asri bin Abdul Hamid, Chief Executive, Construction Industry Development Board, Malaysia
Mr. C. Patrick Sankey, President & CEO, International Road Federation
Chairmen of Technical Sessions and Moderators
Guest speakers and paper presenters
Exhibitors
Invited guests
Congress delegates

And all others who have in one way or another supported towards the overwhelming success of this Congress.

ACKNOWLEDGMENTS
The Joint Organizing Committee also wishes to thank the following for their support, assistance and contribution towards the hosting of this Congress:

Ministry of Works, Malaysia
Public Works Department, Malaysia
Malaysian Highway Authority
Construction Industry Development Board, Malaysia
International Road Federation
ARRB Group
Japan Road Association
MIROS
Korea Road Association
Chartered Institution of Highways & Transportation (Malaysian Branch)
ITS Malaysia
Road Engineering Association of Asia & Australasia
iRAP
China Highway & Transportation Society

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• Learn how to create a road safety audit team and how to conduct a road safety audit
• Gain a clear understanding of methods to identify dangerous roadside hazards and understand how to make safer for the motorist, worker, and pedestrians
• Understand the issues facing pedestrian, bicyclist, public transport and non-motorized vehicle

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Course Outcomes

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- Understand the issues facing pedestrian, bicyclist, motorcyclist, public transport and non-motorized vehicle safety.
- Obtain an understanding of Work Zones & how they can be made safer for the motorist, worker, and pedestrians.
- Learn how to create a road safety audit team and how to conduct a road safety audit.
- Discuss how to collect data to assess the performance of roads, and how technology can be utilized to enhance operations and safety of roads.
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