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FIRST ANNOUNCEMENT

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14TH REAAA CONFERENCE 2013
26 - 28 MARCH 2013 KUALA LUMPUR, MALAYSIA



The Road Factor
in Economic
Transformation

Organised by:



Ministry of
Works
Malaysia



Public Works
Department
Malaysia



Malaysian
Highway
Authority



Construction
Industry
Development
Board



Road
Engineering
Association of
Malaysia



Road
Engineering
Association of
Asia & Australasia



Intelligent
Transport System
Association of
Malaysia



The Chartered
Institution of Highways
& Transportation
(Malaysian Branch)

MESSAGE FROM THE MINISTER OF WORKS, MALAYSIA



Dear Delegates,

It gives me great pleasure to extend this invitation to you to attend the 14th Road Engineering Association of Asia & Australasia (REAAA) Conference 2013, to be held on 26 - 28 March 2013 in Kuala Lumpur.

The event is made possible by the joint efforts of the Ministry of Works, Malaysia, the Public Works Department, Malaysia (JKR), the Construction Industry Development Board (CIDB), the Malaysian Highway Authority (MHA), and several associations from the road fraternity, namely, the Road Engineering Association of Malaysia (REAM), the Road Engineering Association of Asia & Australasia (REAAA), the Intelligent Transport System Association of Malaysia (ITS Malaysia) and the Chartered Institution of Highways and Transportation Malaysian Branch (IHT MB).

The conference theme, "The Road Factor in Economic Transformation", will allow highway and road authorities, experts and practitioners from around the globe to deliberate upon and exchange ideas on the topics of road and transportation infrastructure development as a stimulus for socio-economic advancement of a country. Delegates will also gain insight on the strategic road and transportation infrastructure development in Malaysia as part of the Government's Economic Transformation Plan. In short, the conference provides a great opportunity to analyse, discuss and deliberate on the role of road and transportation network in economic transformation.

I also hope that you will take the opportunity to extend your stay here and enjoy the sights and sounds of Malaysia, our diverse cultural charms, local cuisines and visit the many interesting attractions in and around Kuala Lumpur.

I very much look forward to meeting you in Kuala Lumpur and to a lively exchange of ideas.

See you in Kuala Lumpur in 2013.

A handwritten signature in black ink, appearing to read 'Shaziman'.

Dato' Seri Shaziman Abu Mansor

MESSAGE FROM THE CONFERENCE HOSTS



REAAA President



REAM President



Organising Chairman

We have the pleasure and privilege to welcome you (*Selamat Datang* in our national language) to Malaysia's vibrant and dynamic capital city of Kuala Lumpur playing host to the 14th REAAA Conference 2013. This Conference to be held from 26 to 28 March 2013 will be staged at the Kuala Lumpur City Centre where the iconic world's highest twin towers are located. We are indeed proud that this conference had made a full circle and returned to the shores of Malaysia after some 23 years when we first hosted this event in 1990. This conference is a much awaited and must-attend event for the road fraternity where delegates will have the opportunity to further enhance their knowledge and share their experiences.

Revolving around the theme, "The Road Factor in Economic Transformation", the programme for this conference will focus on the challenges that the transportation industry must overcome in order to achieve transformation and growth of a country in a sustainable way. Towards meeting the expectations of discerning delegates, world-class speakers and experts have been invited to share their thoughts, expose the recent cutting edge innovations and technologies and their experiences with the august audience. A comprehensive and flexible technical programme comprising three (3) plenary sessions, five (5) technical sessions, four (4) workshops and poster presentations have been planned to enable delegates to freely swap between the above streams. There will also be a conference exhibition with country pavilions showcasing the latest development in road and highway technologies.

For the benefit of the delegates, we have planned eight (8) technical tours. Amongst these must-visit sites are the world's first combined Stormwater Management and Road Tunnel (SMART) and the recently launched My Rapid Transit (MRT) under the nation's Economic Transformation Programme. We strongly encourage the delegates to join these tours to explore and witness first-hand the strides Malaysia has made in economic transformation.

For the accompanying persons, we have planned tours around Kuala Lumpur. KL, as it is popularly known, is a kaleidoscope of dazzling contrasts. Delegates will experience modern sophistication and nostalgic old-world charm in this single destination of ours.

We would like to take this opportunity to entice you to check-in to our city 'that never sleeps' just a few days earlier to savour the hotly contested world renowned Malaysian Formula 1 Grand Prix from 22 to 24 March 2013 which promises a reverberating and exciting experience. Finally, after the conference, relax and journey through Malaysia to discover the country's uniqueness and flair and be mesmerised by our natural attractions, fine heritage structures and monuments standing alongside in harmony with modern architectural buildings, multi-racial cultures and traditions and a wide variety of handicraft outlets and shopping malls.

We are eagerly looking forward to welcoming you in Kuala Lumpur in 2013 towards making this endeavour of ours a resounding success.

**Dato' Sri. Ir. Dr. Judin
Abdul Karim**

**Dato' Seri Ir. Haji Mohd Noor
Yaacob**

**Dato' Ir. Haji Baharanuddin
Che Zain**

CONFERENCE *background*

The Road Engineering Association of Asia & Australasia (REAAA) conferences have evolved into a premier regional platform for presenting research findings, discussing and exchanging ideas on innovative and cutting edge technologies relating to the development, construction, management and maintenance of roads and highways and their related infrastructure. The REAAA conferences, held every two to four years by the REAAA President's host country, is a much awaited and sought after event by all those involved in the finance, design, construction and maintenance of road and transportation engineering projects.

The REAAA Conference, currently fourteenth in its series was first held in Bangkok in 1976 followed by Manila (1978 & 2006), Taipei (1981 & 1995), Jakarta (1983), Adelaide (1986), Kuala Lumpur (1990), Singapore (1992), Wellington (1998), Tokyo (2000), Cairns (2003), and Incheon (2009). This is the second time Malaysia is accorded the privilege of hosting this conference after some 23 years.

REAAA *in brief*



The REAAA was established by road and traffic experts from the Asia and Australasia region in 1973. Its permanent Secretariat is currently located in Shah Alam in the suburbs of Kuala Lumpur.

Among the objectives of REAAA are to promote the science and practice of road engineering and related professions in the Asia Pacific region through developing professional and commercial links within and between countries in the region. This association's long-term vision is to be the most effective regional organisation providing members an avenue for sharing and transferring technology towards promoting a better future in road related engineering, with regional and technical co-operation as its underlying principles.

Currently REAAA, which has local chapters in Malaysia, Brunei, Korea, the Philippines, Australia and New Zealand has a total of 182 institutional members and 1,698 individual members from 36 countries in its register.

REAM *in brief*



The REAAA (Malaysian Chapter), renamed Road Engineering Association of Malaysia (REAM) to meet national aspirations was established in 1993. REAM currently has over 700 members, the highest in any REAAA member countries.

CONFERENCE *hosts*

Malaysia, elected as the REAAA chair in 2009 during the 13th REAAA Conference in Incheon, Korea has tasked REAM to spearhead and co-organise the hosting of the 14th REAAA Conference 2013 with the Ministry of Works, Malaysia, Public Works Department, Malaysia, Construction Industry Development Board, Malaysian Highway Authority, REAAA, Intelligent Transport System Association of Malaysia and the Chartered Institution of Highways and Transportation Malaysian Branch.

CONFERENCE *theme:* “The Road Factor in Economic Transformation”

Roads are the arteries of a nation facilitating the transportation of the required synergy for economic transformation. As such, the development and maintenance of an efficient road infrastructure is pivotal for sustained economic growth in developing countries. Weak and inefficient road network is envisaged to have a binding constraint to the demands for optimum economic enhancement.

Be that as it may, the primary bane of contention today is the degradation of the environment as a result of infrastructure development. To alleviate these concerns, development needs to meet the demands of the present without compromising the basic needs of the future. In this context, sustainable road infrastructure development has to integrate economic, social and environmental considerations into decisions regarding human mobility.

Irrespective of the obstacles such as the vagaries of climate and degradation of environment, fossil fuel cost fluctuations and economic constraints facing humanity pursuing economic transformation, the challenges can be met head-on with careful planning, cost efficient design, sustainable construction and regular maintenance.

The technical sessions in this conference have been formulated to find answers and to face such challenges. Come and be informed on the required quality road infrastructure of the future.

CONFERENCE *concurrent events*

This 14th REAAA Conference 2013 will be a key feature of the International Construction Week (ICW) - an annual programme of the Ministry of Works, Malaysia and organised by the Construction Industry Development Board (CIDB). The ICW, currently twelfth in its series, will gather all industry leaders and key players in the global construction industry in one venue to showcase the latest construction products and services in construction mechanisation and automation, green technology, ICT in construction and construction industry's achievements in building and infrastructure sectors. ICW 2013 will be the knowledge sharing platform through its various conferences, seminars and exhibition which will be simultaneously held during the event.

There will be other concurrent events which will be held during the duration of the 14th REAAA Conference. REAAA will be convening its 14th General Meeting and 96th and 97th REAAA Governing Council Meetings.

CALL for technical papers)

Papers are invited from local and international authors, among others, encompassing the following streams:

• Design and Construction	• Transportation	• Asset Management
• Geotechnical Innovations	• Pavement	• Intelligent Transport System
• Highway Planning	• Finance	• Safety and Environment

Papers shall be submitted in two stages, first as an abstract and then as a full paper after the abstract has been accepted. Papers submitted should be original and have not been published and/or presented elsewhere.

Format for abstracts:

- All submissions must be in **English** and about 300 words in length.
- Double spacing on A4 size paper (210mm X 297mm) in Microsoft Word (PC) or PDF format.
- Author/co-author/s name/s, date of birth (to facilitate automatic entry to the Katahira Awards), title/s, position/s, organisation/s and contact address/es (including email address/es) should be provided in the abstract.
- The presenting author's name must be underlined.
- Submission of email address/es is essential. Most, if not all correspondences, shall be carried out via email.
- **Deadline for abstracts: 30 August 2012**

Deadline for full paper

Authors will be informed of the acceptance of their abstracts via email by **30 September 2012**

Deadline for full paper submission is **30 November 2012**

Submission of abstracts and full papers

All abstracts and full papers must be submitted to the 14th REAAA Conference via email: technicalpaper@14reaaaconf2013.com

Disclaimer

The invitation to submit an abstract / full paper does not constitute an offer to pay travel, accommodation or registration costs associated with the conference. By submitting an abstract, you will be granting the Organising Committee permission to publish the abstract and the subsequent full paper in the Conference Proceedings.

KATAHIRA awards)

Awards for outstanding conference papers

The Katahira Awards will be awarded to outstanding technical papers relating to the road industry presented at the 14th REAAA Conference by young professionals. The winning entry/entries will receive cash award/s and certificate/s.

Among the terms and conditions of eligibility for the Katahira Awards are:

- The author must be below 40 years of age at the point of submission of paper/s (as at 30 November 2012). If there is more than one (1) author, only the author/s below 40 years of age is/are eligible.
- The author/s must be either an Ordinary/Associate member/s or employee/s of an Institutional member of REAAA at the point of submission of paper/s.
- The paper/s should not have been published elsewhere in the same form.

Abstracts selected to submit the subsequent full technical papers will be evaluated for the Katahira Awards.

Awards background in brief



The Katahira Awards was established in January 1991 in memory of the late Dr. Nobutaka Katahira from Japan who was the President of the Road Engineering Association of Asia and Australasia (REAAA) during the Fifth Council Term from 1983 to 1986. Dr. Katahira bequeathed three (3) million yen to REAAA towards encouraging keen participation among young engineering professionals in the promotion and advancement of science and technology in road development and road related engineering by way of writing, publishing and presenting technical papers.

KEYNOTE address

Economic Transformation Agenda: A Mission for Better Road and Transportation Infrastructure by **Dato' Seri Ir. Haji Mohd Noor bin Yaacob**, Director General, Public Works Department, Malaysia and President of Road Engineering Association of Malaysia.

GUEST speakers

No	Name	Title of paper
1	Dr. Sung-Hwan Kim , Executive Director of Construction, Korea Expressway Corporation	Intelligent Transport System in Korea
2	Gerard Waldron , Managing Director, Australian Road Research Board.	The Forever Open Roads
3	Professor Dr. Wong Shaw Voon , Director General, Malaysian Institute of Road Safety (MIROS)	Sustainable Investments In Road Safety Improvement Programmes

COUNTRY PAPER presenters

No	Name	Title of paper
1	Wu, Men – Feng , Director General, Directorate General of Highways, Ministry of Transportation and Communication, Taiwan	Hazard Prevention and Early Warning Systems of the Highways in Taiwan
2	Dong-Seon Ji , Deputy Director, Ministry of Land, Transport and Maritime Affairs, Republic of Korea	Intelligent Transportation System in Korea
3	Dr. Ir. A. Hermanto Dardak , MSc. Vice Minister, Ministry of Public Works, Indonesia	
4	Dr. Jamie A. Pacanan , Senior Engineer, Department of Public Works & Highways, Philippines	Road Development in the Philippines

PAPER presenters

Session	Topic / Presenter / Country
1.1	A Mixed Markov Hazard Model for Clarifying the Deterioration Process of Tunnel Luminaire by Daijiro Mizutani (Japan)
1.2	Field Study of Earth Pressure Behavior on Full Integral Abutments by Moon S. Nam (Korea)
1.3	Natural Ground Frost Heaving Prevention Effects of Insulating Layer Work in Expressway Tunnels in Cold Regions by Masato Kawashima (Japan)
1.4	The Emergency Restoration Work in 6 Days for the Artificial Earth Structure in the Expressway Seriously Damaged by the Tohoku Earthquake by Akitoshi Miyajima (Japan)
1.5	The use of Foamed Concrete as an Alternative for Approaches to Culverts over Soft Ground Area by Maziah Mohammad (Malaysia)
2.1	A Study to Improve Efficiency of Inspection and Judgement of Expressway Bridge Damages with ICT by Akira Mitsuishi (Japan)
2.2	Advanced Road Management with "ITS Spot Services" by Kazufumi Suzuki (Japan)
2.3	Applied ITS Technology for Mitigation of Traffic Accidents and Fuel Consumption at Urban Intersections in Suburb Bangkok by Weeradej Cheewapattananuwong (Thailand)
2.4	Feasibility Study of Green Mobility on Yeongdong Expressway II Using Cooperative ITS Strategy by Youn Su Jung (Korea)
2.5	Shin-Tomei Expressway, a Next-Generation Expressway Equipped with State-of-the-Art ITS Technology by Hiroshi Makino (Japan)
3.1	A Study on the Optimal Spacing for a Series of Speed Humps in Traffic Calming Areas by Jung-Gil Baek (Korea)
3.2	A Survey of Risks of Accidents in Malaysia by Nurul Huda (Malaysia)
3.3	Analysis of Inspection Items Importance for Automation of Road Transportation Safety Inspection by Juntae Park (Korea)
3.4	Development and Operation of Information Delivery Systems Applied to Sudden Weather Changes on Expressways in Winter by Hirohiko Hattori (Japan)
3.5	Effects of Traffic Safety Projects for Arterial Highways by Azuma Takemoto (Japan)
3.6	The Safety Benefits of Wide Centreline Treatments Utilising Audio-Tactile Line-Marking on Undivided Highways by Adam Whittaker (Australia)
3.7	Traffic Operation Guidelines for Dynamic Closure of Climbing Lane by Yoon-Hyuk Choi (Korea)
4.1	A Study for Introduction of Integrated Traffic Management on Expressways by Seung-Jun Lee (Korea)
4.2	Bridge Assessment Methods using Image Processing and Infrared Thermography Technology by Masato Matsumoto (Japan)
4.3	Delivering Enhanced Asset Management Outcomes Through Performance Based Contracting by Ian Greenwood (New Zealand)
4.4	Development of Life Cycle Assessment Methodology for Infrastructure by Sugabayashi Keita (Japan)
4.5	Effectiveness of Road Maintenance Contract Based on Performance Based on HDM-4 Calculation by Yusuf Adinegoro (Indonesia)
4.6	How can we Maximise the Life of our Road Network Cost Effectively? Adopting Asphalt Preservation as a Matter of Course may be the Answer by Paul Acock (United Kingdom)
4.7	The Singapore Experience: Managing Demand for Road Space by Clayton Lim (Singapore)
5.1	Warm Mix Asphalt: Paving the Green Way by Shu Wei Goh (Singapore)
5.2	Assessment of Behavior of Warm Mix Asphalts in the Low-Temperature Range by Jan Valentin (Czech Republic)
5.3	Discussion about Technical Problems on Producing WMA at Existing HMA Plants by Katsura Endo (Japan)
5.4	Performance of Low Energy Crumb Rubber Modified Bituminous Mixes by Ambika Behl (India)

Session	Topic / Presenter / Country
5.5	Performance of Warm Mix Asphalt using a New Premix Type Additives by Junichi Haga (Japan)
5.6	Bridging the Gap between Lab Fatigue Testing and Field Fatigue Performance by A.A.A. Molenaar (Netherland)
5.7	Determining Marshall Stability of Asphalt Concretes Reinforced using Steel Fiber with Artificial Neural Networks by Serdal Terzi Mehmet Saltan (Turkey)
6.1	The Dawning Of A New Era Of Pavement Design by Willem Vonk (Australia)
6.2	Studies on Reduction of Flexible Pavement Thickness by use of Polymer Modified Binder by P.K. Jain (India)
6.3	Effect of Soil Type and Moisture Content of Subgrade Soils on Permanent Deformation of Asphalt Pavements by Akane Ikeda (Japan)
6.4	Effect of New and Old Generations of Wide-Base Tires on HMA Rutting by Danial Moazami (Malaysia)
6.5	Effect of Heavy Vehicles Tire Inflation Pressure on Flexible Pavement for Malaysian Conditions by Haron, H.A. (Malaysia)
6.6	The Development and the Performance of the Asphalt Mixture for the Heavy Loading by Nagato Abe (Japan)
6.7	Cyclic-Load Triaxial Testing of Materials used in Computer Simulation of Low Volume Roads by Ales Florian (Czech Republic)
7.1	A New Countermeasure Against Traffic Congestion in Okazaki Area of the Tomei Expressway? Temporary One-Way Three-Lane Operation Utilising Hard Shoulder by Sayaka Ogawa (Japan)
7.2	About Travel Time Reliability Index in Level-of-Service Evaluation of an Expressway by Takuya Shimahara (Japan)
7.3	Joint Research Project between Indonesia and Japan for Traffic Volume Survey using Image Processing Technology (IPT) in Indonesia by Hiroataka Sekiya (Japan)
7.4	Promotion of Smart Interchange Construction Projects by Asami Yamamoto (Japan)
8.1	Development of Business Continuity Plan for Efficient Expressway Operation for Various Risks by Akira Okamoto (Japan)
8.2	Minimising Fraud & Corruption on Highway Projects by Michael Avery (United State of America)
8.3	The Financing Scheme of NEXCO-Central by Kunihiko Kojima (Japan)
9.1	An Insight into Traffic Environment Index: Choosing the Correct Indicators by Intan Suhana binti Mohd Razelan (Malaysia)
9.2	Renewal of Motor Vehicle Emission Factors of Carbon Dioxide and Nox, PM, using the Prediction of Effect on Road Project in Japan by Manabu Dohi (Japan)
9.3	The Characteristics and Durability of the Long Life Asphalt Mixture by Toshinobu Sakamoto (Japan)
9.4	Over-coming Differential Settlement in Soft Grounds Using 'Floating Semi-Rigid Pavement' by Francis Huang (Singapore)
10.1	Using 3D laser profiling sensors for the automated measurement of road surface conditions (ruts, macro-texture, ravelling, cracks) by John Laurent (Canada)
10.2	Applications of Micro surfacing Method in the Seoul Metropolitan Area by Bongju Kwon (Korea)
10.3	Development of New Evaluation Method for Recycled Aggregate in Japan by Atsushi Kawakami (Japan)
10.4	Layer Characteristics Affecting Tack Coat Resistance in Flexible Pavements by Jian-Shiuh Chen (Taiwan)
10.5	Applicability Study of Polysulfide Epoxy Thin Overlay on a Bridge Deck in Korea by Youn Su Jung (Korea)
10.6	Research on Skid Resistance Value, Texture Depth and Skid Number for Federal Roads in Malaysia by Muhd Ridhuan bin Sulaiman (Malaysia)
10.7	Development of the Surface Treatment Method with Hot Mix Asphalt which contribute to the Life Extension of Pavement by Junya Hasegawa (Japan)
11.1	Sustainability Through Innovation in Design and Construction – Case Study: Second Penang Bridge, Malaysia by Ismail bin Mohamed Taib (Malaysia)
11.2	Effect of Dunes Sand and Slag on Hydration and Hardening of the Portland Cement by Mohamed Nadjib (Algeria)
11.3	Improvement of the Performance of Steel Simple Girder Continuous Sections by the Deck Connection Work Method by Junnosuke Ito (Japan)
11.4	Optimising Construction Logistics for Earthmoving Operations using Earthmoving Planner (EMP) by Ruvinde Kooragamage (United Kingdom)
11.5	Replacement Construction of Concrete Slab at Igei Viaduct in the Okinawa Expressway by Kenji Miyamoto (Japan)
11.6	Stochastic Analysis of a No-Uniform Surface of Bridges by Samia Zouaoui (Algeria)
11.7	The design and construction of the composite pavement on the Shin-Tomei Expressway by Toshiyuki Oka (Japan)
12.1	Bus Rapid Transit: A Preferred Choice for Klang Valley Travelers? by Khoo Hooi Ling (Malaysia)
12.2	Determining the Empirical Roadway Capacity of Midblock U-Turn Facilities by Raha binti Abd. Rahman (Malaysia)
12.3	Developing an Assessment Criterion for Medium-Term Axle Load Bridge Capacity in Malaysia by C.C. Lim (Malaysia)
12.4	Korean Efforts for Developing the Next Generation Highway using Information, Communication and Sensor Technologies by Jin Ki Lee (Korea)
12.5	Motivation Analysis of Mode Choice: Application and Test of a Measurement Method by Jonghak Kim (Korea)
12.6	Traffic Flow Modeling for an Urban Arterial Road in Brisbane City by Hamdi Al-Nuaimi (Australia)
12.7	Unique Traffic Survey Approach for Development of Transportation Planning (Number Plate Survey Methodology in Foreign Country) by Michiya Kitayama (Japan)