

Transport Research Forum 2023



Abstracts

08th December 2023

University of Moratuwa, Sri Lanka

Transportation Engineering Group

Department of Civil Engineering

University of Moratuwa

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Introduction

Transport Research Forum (TRF) is an annual conference organized by the Transportation Engineering Division of the Department of Civil Engineering, University of Moratuwa. The prime objective of this conference is to create a platform for researchers in the transportation field to build up their research careers and to share their research findings with other colleagues and the industry. Researchers and academics, including several international experts in highway engineering, transportation engineering and planning, are the participants in this event. In addition, representatives from the industry and related government institutions are also invited every year.

The Department of Civil Engineering conducted the first-ever Sri Lanka Transportation Forum in 1983, and since the late 90's, the Transportation Engineering Group has organized many Transport Research Conferences at local and international levels. Later, the Transport Research Forum (TRF) was established; two conferences were held initially, and since 2010, TRF has been held consecutively every year. TRF 2023 is the 16th Transportation Research Forum conducted by the Transportation Engineering Division. Many of the research findings presented in Transport Research Forums have been put into practice, and one of the main objectives of the Transport Research Forum is to come up with solutions to address transport-related problems in the country and disseminate them to the industry.

Message from the Conference Chair

Prof. J.M.S.J. Bandara
University of Moratuwa



Dear Participants and Esteemed Colleagues,

I extend a warm welcome to the Transportation Research Forum 2023.

Hosted by the Transportation Engineering Group at the Department of Civil Engineering, this year's conference promises to be a platform of intellectual exchange and collaborative exploration. Our program is planned in a manner to offer valuable insights, featuring keynote speakers from around the world and approximately 30 technical papers addressing pertinent issues in Sri Lanka's transport sector.

I am grateful for the support of Vice-Chancellor Prof. Niranjan Gunawardana, Dean, Faculty of Engineering, Prof. Udayanga Hemapala, and Head, Department of Civil Engineering, Prof. Chinth Jayasinghe, who share a clear commitment to advancing research in our community.

Special thanks to the committee for their invaluable contributions and to our academic and industry partners for their thorough reviews of the papers.

To our presenters, thank you for enriching the conference with your expertise. I encourage you to actively engage, connect with peers, and contribute to the depth of discussions.

In the spirit of collaboration, let's make the most of this opportunity to exchange ideas, foster new connections, and collectively contribute to the advancement of transportation research.

On behalf of the conference committee, I eagerly anticipate a fruitful and collaborative experience at the Transportation Research Forum 2023.

TRF 2023 Organising Committee

Conference Chair

Prof. J.M.S.J. Bandara

Conference Co-Chair

Prof. H. R. Pasindu

Conference Secretary

Mr. W. R. A. Nalaka Jayantha

Committee Members

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Dr. H.L.K. Perera

Dr. G. L. D. I. De Silva

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K. Umaluxman

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Mrs. Melani Jayakody

Mr. Thusitha Isanka

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| Dr. Amila Silva | Project Engineer, City of Edmonton, Alberta, Canada |
| Dr. Anuja Fernando | Department of Transport Management and Logistic Engineering, University of Moratuwa |
| Mr. Asoka Munasinghe | Sri Lanka Railways |
| Mr. B. M. Ifthikar | Director Operation, National Transport Commission |
| Dr. Chamali Hewawasam | Department of Town & Country Planning, University of Moratuwa |
| Dr. Chameera De Silva | Department of Town & Country Planning, University of Moratuwa |
| Mrs. Chamila Danthanarayana | Department of Economics, University of Colombo |
| Mr. Chamitha Punchihewa | Senior Engineer, Planning Division, Road Development Authority |
| Dr. Chamod Hettiarachchi | Sri Lanka Technological Campus |
| Mr. Chinthaka Jayasekara | Sri Lanka Railways |
| Dr. Danushika Gunathilake | University of South Florida, USA |
| Mrs. Darshika Jayasekara | Road Development Authority |
| Mr. Deshan Gamage | Consulting Engineers & Architects Associated |
| Dr. Indika Sigera | Department of Transport Management and Logistic Engineering, University of Moratuwa |
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| Dr. Ishani Dias | Faculty of Engineering, General Sir John Kotelawala Defence University |
| Dr. Isuru Gamlath | Sri Lanka Institute of Information Technology |
| Mr. Isuru Batuwita | National Engineering Research and Development Centre (NERD) |
| Dr. Kaushan Wimalasiri Devasurendra | Ministry of Transportation & Infrastructure, Victoria, British Colombia |
| Mr. Kelum Sandamal | Sri Lanka Institute of Information Technology |
| Dr. Loshaka Perera | Traffic Engineer, City of Rockingham, Australia |

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| Mr. Madhawa Premasiri | Sri Lanka Technological Campus |
| Dr. Mahinda Bandara | Edinburgh Napier University, UK |
| Mr. Nalin Jayaratne | Centre for Future Transport and Cities at Coventry University, UK |
| Dr. Namali Sirisoma | General Sir John Kotelawala Defence University |
| Prof. Niranga Amarasingha | Associate Professor, Faculty of Engineering, Civil Engineering, Sri Lanka Institute of Information Technology |
| Mr. Udaya Nishantha Mallawarachchi | Additional Director General, Department of National Planning |
| Dr. Nishantha Bandara | Lawrence Tech Transportation Institute, Michigan |
| Mr. Osanda Muthuhewa | Parsons Corporation, Dubai, UAE |
| Mrs. Oshadhi Weerasinghe | Urban Development Authority |
| Dr. Prageeth Gunarathne | Department of Transport and Planning, Melbourne |
| Mr. Pubudu Damsara | University of Calgary |
| Mr. R. M. Amarasekara | Road Development Authority |
| Dr. Ravindra Wijesundera | Kimley-Horn and Associates, USA |
| Dr. Ravindra Thilakarathne | University of Calgary |
| Dr. Sabeen Sharic | Dept. of Management and Finance, General Sir John Kotelawala Defence University |
| Dr. Sakitha Kumarage | KPMG Australia |
| Mr. Sasika Ranawaka | Yashodha Holdings |
| Dr. Shamain Saparamadu | Institute of Technology, University of Moratuwa |
| Mrs. Sherin Athukorala | National Transport Commission |
| Mrs. Shiromi Malkanthi | Road Development Authority |
| Mr. Suneth Thushara | Road Development Authority |
| Mrs. Udeshika Gopallawa | Road Development Authority |
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