

# R4TLI

Research for Transport and Logistics Industry  
Proceedings of the 7<sup>th</sup> International Conference

Organized by  
Sri Lanka Society of Transport and Logistics



Sri Lanka Society of  
**Transport and Logistics**

27<sup>th</sup> August 2022  
Colombo, Sri Lanka



# **Research for Transport and Logistics Industry Proceedings of the 7<sup>th</sup> International Conference**

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**Transport and Logistics**

*27<sup>th</sup> August 2022*  
Colombo, Sri Lanka

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## Message from the President

The Sri Lanka Society of Transport and Logistics (SLSTL) was established in the year 2014. Its main objective was to contribute to the national economic development by knowledge sharing with the industry, through its member's contributions from research and to share their research and developments with the entire world eventually. With its admission to the Eastern Asia Society for Transport Studies (EASTS) as the 19<sup>th</sup> Domestic Society on 15th September 2015, the SLSTL has been highly recognized in the industry with its excellent capacity to research, advisory services to the government and knowledge-sharing in the transportation and logistics sector in Sri Lanka. This was even more evident with the contributions that the society extended to the government of Sri Lanka for much-needed short-term plans expected by the Ministry of Transport of Sri Lanka when the SLSTL was invited to assist with mitigating the transportation and logistics sector issues experienced during the recent economic crisis in Sri Lanka.



We have also initiated interactions with the industry partners for research collaborations in the transportation sector, and recently commenced our Journal, (JSALT) with its high-quality research papers published 2 times a year to facilitate academic and technical knowledge sharing among the members and the other researchers from Sri Lanka and the South Asian region

Research for Transport & Logistics Industry (R4TLI) is the annual International Research Conference held for the 7<sup>th</sup> consecutive year since year 2016, with its main objective being, to promote research and development in the transport & logistics sector in Sri Lanka and the region that would help to identify the current issues and to bring innovative solutions for continuous development of the transport sector for a better future for the general public for uplifting their lifestyle with the modern world in a sustainable manner. I would like to record my appreciation for the continuous assistance by our industry partners and sponsors for encouraging the researchers by their contributions to the transport sector through R4TLI.

I warmly welcome our Chief Guest, Guest Speaker, Key Note Speakers, Judges, Presenters, Authors, Volunteers, and all participants, to witness the full-day's international research conference and enjoy the event under the theme of "Realigning the Transport and Logistics Sectors for Sri Lanka's Economic Revival". I am also thankful to the past presidents, conference chair, co-chairs, conference organizing committee, Exco Members and the all SLSTL members for their untiring effort to make the event a success.

### **Tissa U Liyanage**

*B.Sc. Hons. Eng. (Moratuwa) PhD, MEng, CEng, IntPE, FIESL, MCILT, MACE,  
Chairman/ CEO – Master Hellie's Engineering Consultants (Pvt.) Ltd  
President - SLSTL*

## Message from the Conference Chair

On behalf of the Organizing Committee, it is my great pleasure and honor to welcome all of you to the Research for Transport and Logistics Industry (R4TLI) 2022, the 7<sup>th</sup> International Conference. The 7<sup>th</sup> R4TLI conference is an online platform where more than 100 participants have already been registered representing Sri Lanka, India, Japan, and Thailand. We are delighted to see that R4TLI annual conferences keep expanding and becoming more substantial year by year.



I am excited about the recorded number of authors, and the wide range of ideas that scholars and practitioners will bring into our fold. This richness of ideas bodes well for the Sri Lanka Society for Transport & Logistics (SLSTL) and the Transport and Logistics Industry of the country.

The theme for this year's conference is 'Realigning the Transport and Logistics Sectors for Sri Lanka's Economic Revival'. Under the given theme, there are three keynote addresses that will be delivered by R4TLI members. First, is on 'Energizing the Economy through Industry 4.0 or 5.0: the New Industrial Revolution'; the second is on 'Smart Cities to Enrich the Quality of Life through Sustainable Transportation'; and the third is on 'Opportunities to Accelerate Transport & Logistics in the Century of Asia: A Post-COVID19 Restart'. I strongly believe that these sessions would provide deep insights on the means to cope with the current economic crisis through sustainable Transport and Logistics initiatives.

I would take this as an opportunity to thank all participants, presenters, session chairs, judges, keynote speakers, the chief guest, and the guest of honour for enriching the conference with your presence. As is a tradition with the conferences, I hope you will enjoy the content, renew old fellowships, make new fellowships, get new ideas, and above all, have a great deliberation. Further, I thank all those who worked to organize the conference at this scale.

**Dr Amila Jayasinghe**

*B.Sc. Hons T&CP. (Moratuwa), MPlan. Infrastructure (India) EngD. (Japan), MITP (Sri Lanka)*

*Vice President (Conferences) - SLSTL*

*Conference Chair - R4TLI 2022*

## Message from the Founding President of SLSTL

It's a pleasure to note the continuity that the 7th International Conference on R4TLI has achieved in spite of the many disruptions of the last few years. Transport & Logistics sector reforms are long overdue in Sri Lanka, and the current circumstances in which the country finds itself is an opportune time to set right the many long-standing policy shortfalls and improve sector management. The theme of the conference 'Realigning the Transport and Logistics Sectors for Sri Lanka's Economic Revival' is setting the right direction for a fresh professional outlook on the transport & logistics sector in Sri Lanka. I hope that the government will not neglect to flesh out the insights



coming out of the proceedings of the conference in the days to come, in finding innovative and sustainable solutions that will provide the backbone for the revival of Sri Lanka's economy. I also take the opportunity to thank the many researchers and especially the young researchers, who are sharing their findings and pray that the experience would be a blessing to you and all other participants. May you have a wonderful conference.

**Amal S. Kumarage**

*B.Sc. Hons Eng. (Moratuwa), Ph.D. (Calgary), FCILT, MIE(SL), CEng  
Founding President - SLSTL*

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*University of Moratuwa, Sri Lanka*

## Conference Summary



### Chief Guest

**Prof. Shinya HANAOKA**  
Professor,  
Department of Transdisciplinary Science and  
Engineering,  
School of Environment and Society,  
Tokyo Institute of Technology, Japan

*“Port Development and Competition between the  
Colombo and Hambantota Ports in Sri Lanka*



### Special Guest

**Dr. Amal Harsha De Silva**  
Secretary,  
Ministry of Sports & Youth Affairs,  
Sri Lanka

*“Importance and Relevance of Cycling for  
Economic Development of Sri Lanka at present  
Economic Crisis”*

## Keynote Speeches



Realigning  
the Transport and Logistics Sectors  
for Sri Lanka's Economic Revival

Sub Theme - 1

## Energizing the Economy Through Industry 4.0 or 5.0: The New Industrial Revolution



**Dr. Niles Perera**  
PhD [Sydney], BScHons (T&LM) [Moratuwa],  
GradCert [AIB], MIEEE  
Founding Director  
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**Dr. Amila Thibbotuwawa**  
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BScHons (T&LM) [Moratuwa], MIEEE  
Co-Founder and Deputy Director  
Center for Supply Chain, Operations and Logistics  
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University of Moratuwa



**Mr. Dilina Kosgoda**  
BScHons (T&LM) [Moratuwa]



Realigning  
the Transport and Logistics Sectors  
for Sri Lanka's Economic Revival

Sub Theme - 2

## Smart Cities to Enrich the Quality of Life through Sustainable Transportation”



**Prof. Jagath Munasinghe**  
Professor,  
Dept of T&CP,  
University of Moratuwa



**Dr. Tissa Liyanage**  
President,  
Sri Lanka Society for Transport  
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Realigning  
the Transport and Logistics Sectors  
for Sri Lanka's Economic Revival

Sub Theme - 3

## Opportunities to accelerate Transport & Logistics in the Century of Asia: A Post-COVID19 restart



**T. Sivakumar**  
University of Moratuwa,  
Sri Lanka



**Chathura De Silva**  
University of Moratuwa,  
Sri Lanka



**Gayasha S. Samarakoon**  
University of Moratuwa,  
Sri Lanka

### Tracks, Sessions, and Papers

Track	A1	A2	B1	B2	C1	C2	Total
Session	Urban Transport	Urban Transport	Supply Chain	Supply Chain	Transport Planning	Maritime and Logistics	
No. of Papers	6	5	6	6	4	4	31

## TABLE OF CONTENTS

<b>Urban Transport</b>	
<b>EXPLORING THE IMPACT OF COVID-19 ON MOBILITY IN COLOMBO METROPOLITAN REGION, SRI LANKA</b>	<b>16</b>
<i>Nesha N Ranaweera, Amila Jayasinghe</i>	
<b>A PROPERTY VALUATION MODEL TO IDENTIFY THRIVING REAL ESTATE OPPORTUNITIES, BASED ON TRANSPORT FACTORS</b>	<b>19</b>
<i>Sajani S. Senadheera, Emeshi Warusavitharana</i>	
<b>ANALYZING THE COMBINED INFLUENCE OF ACCESSIBILITY AND CAPACITY OF ROADS ON URBAN DENSITY, LAND USE MIX AND VITALITY</b>	<b>22</b>
<i>Vihangi Amesha Dilrukshi, Amila Jayasinghe</i>	
<b>PERCEPTION OF SAFETY AND VULNERABILITY TO DISEASE OF BUS PASSENGERS IN KANDY, SRI LANKA</b>	<b>25</b>
<i>M. Mavin De Silva, Tharindu Sehan Jayasinghe, Amal S. Kumarage, Buddhi Ayesha</i>	
<b>DEVELOPMENT OF A MICROSCOPIC TRAFFIC SIMULATION MODEL FOR GALLE ROAD, COLOMBO</b>	<b>28</b>
<i>Thenuwana Jayasinghe, T. Sivakumar, Amal S. Kumarage</i>	
<b>DETERMINING RELIABLE SECTION-WISE BUS TRAVEL TIMES USING GPS DATA: A CASE STUDY OF KANDY CITY</b>	<b>31</b>
<i>Pubudu R.L. Ubayasekara, Dineth D. Dhananjaya, Amal S. Kumarage</i>	
<b>MICROSCOPIC SIMULATION OF PARKING VIOLATIONS IN CURBSIDE WITH-FLOW BUS PRIORITY LANES USING SUMO TRAFFIC CONTROL INTERFACE (TraCI)</b>	<b>34</b>
<i>Gayasha Sathsarani Samarakoon, T. Sivakumar</i>	
<b>INVESTIGATION OF TOD-NESS OF SMALL AND MEDIUM TOWNS IN SRI LANKA</b>	<b>37</b>
<i>Therusha G.V. Piyumantha, P.K.S. Mahanama, Amila Jayasinghe</i>	
<b>LAND-USE CHANGE DYNAMICS AND AUTOMATED FEATURE EXTRACTION USING HIGH-RESOLUTIONS SATELLITE IMAGERY</b>	<b>40</b>
<i>Madumita Dey, Prakash P.S., Chandan Mysore Chandrashekar, Bharath H. Aithal</i>	
<b>PARKING DEMAND AND SUPPLY BEHAVIOR OF THE USERS IN A HILLY TERRAIN IN BANDARAWELA CITY</b>	<b>45</b>
<i>Hansika T. Deivendra, Gayashan Dalpethado, Tissa U. Liyanage</i>	
<b>THE UNSUSTAINABLE SPATIAL CHARACTERS OF NEW URBAN AREAS IN HANOI, VIETNAM</b>	<b>50</b>
<i>Ha Thai</i>	
<b>Supply Chain</b>	
<b>BENEFITS REALIZATION OF ROBOTIC PROCESS AUTOMATION (RPA) INITIATIVES IN SUPPLY CHAINS</b>	<b>56</b>
<i>Ashani Piyatilake, Imesha Denagama Vitharanage, M. Mavin De Silva, Amila Thibbotuwawa</i>	

<b>ASSESSING THE IMPACT OF LEAN AND AGILE SUPPLY CHAIN STRATEGIES ON EFFECTIVE COVID-19 MASS VACCINATIONS</b>	<b>59</b>
<i>Kasuni R.R. Gomes, H. Niles Perera</i>	
<b>IDENTIFYING BEST PRACTICES IN SUPPLIER SELECTION USING A COMPREHENSIVE BENCHMARKING FRAMEWORK</b>	<b>64</b>
<i>Nikila Dharmadasa, M. Mavin De Silva, Amila Thibbotuwawa</i>	
<b>TRANSPARENCY AND AUTHENTICITY OF TAILOR MADE ECOTOURIST SITES AND BLOCKCHAIN INNOVATION TO UPGRADE THE VALUE CHAIN</b>	<b>68</b>
<i>Kavindi B. Seenipatabendige</i>	
<b>CHALLENGES FOR CIRCULAR ECONOMY ADOPTION IN SUSTAINABLE FOOD SUPPLY CHAINS</b>	<b>73</b>
<i>Nimni Pannila, Madushan Madhava Jayalath, Amila Thibbotuwawa</i>	
<b>INFLUENCING FACTORS FOR DEMAND DISRUPTIONS OF FAST-MOVING CONSUMER GOODS DURING A PANDEMIC IN SRI LANKA</b>	<b>76</b>
<i>Dinithi Pathirawasam, Uthpalee Hewage</i>	
<b>TRANSPARENCY AND AUTHENTICITY OF HIGH VALUE SEAFOOD: CASE STUDY IN LOBSTER SUPPLY CHAIN OF SOUTH COAST OF SRI-LANKA</b>	<b>79</b>
<i>Ruwini Saranga Bandara, Achini De Silva</i>	
<b>FOOD LOGISTICS: A STUDY ON LOBSTER FISHERIES, SRI LANKA</b>	<b>82</b>
<i>Ruwini L. Basnayake, Achini De Silva, Srijanaranjana Ekanayake, Upul Liyanage</i>	
<b>TRANSPARENCY AND AUTHENTICITY OF BANANA VALUE CHAIN</b>	<b>85</b>
<i>Ruwini Dinesha, Achini De Silva</i>	
<b>ROADS TO THE INTERNATIONAL MARKET THROUGH RURAL TRANSPORT AND LOGISTICS IN THE PEPPER INDUSTRY IN SRI LANKA</b>	<b>88</b>
<i>Sulochana Senevirathne, S. Thilini Hansika, Achini De Silva</i>	
<b>A SMART DIGITAL PLATFORM FOR PROPER DISTRIBUTION OF FARMER HARVEST</b>	<b>92</b>
<i>D.L. Chamara, Amila B. Jayasinghe, Ranjana Raigama, Randini Prathiba, Chanchala Prasadani, Shaveen Tharinda</i>	
<b>MULTIPLE DISRUPTIONS ON VEGETABLE SUPPLY CHAIN: A CASE OF RURAL TRANSPORT &amp; LOGISTICS</b>	<b>98</b>
<i>Hansika S.T., Wickramarathne I. M, Sandamith W.M, De Silva D.A.M.</i>	
<b>Transport Planning</b>	
<b>THE DESIGN OF TRAVEL ROUTES IN WANG NAM KHIAO SUB-DISTRICT NAKHON RATCHASIMA PROVINCE BASED ON LOGISTICS PRINCIPLES AND TOURISTS' BEHAVIOR</b>	<b>102</b>
<i>Narucha Tanaiutchawoot</i>	
<b>SUITABILITY OF OSMAND MOBILE MAPPING APPLICATION FOR RURAL ROADS IN INDIA</b>	<b>106</b>
<i>H.K. Solanki</i>	



<b>A TRIP PURPOSE INFERENCE FRAMEWORK USING SPATIAL CLUSTERING AND BAYESIAN PROBABILITY</b>	<b>110</b>
<i>Dineth D. Dhananjaya, T. Sivakumar</i>	

<b>DETERMINING THE LEVEL OF SERVICE OF BUS TRANSPORTATION IN SRI LANKAN CONTEXT</b>	<b>113</b>
<i>Erandi B.K. Herath, T. Sivakumar</i>	

### Maritime and Logistics

<b>IDENTIFYING THE OPERATIONAL PROCESS OF A RORO TERMINAL USING SYSTEM DYNAMICS MODELLING</b>	<b>118</b>
<i>Amila Rukshan Manatunga, Buddhi A. Weerasinghe, H. Niles Perera, Phillip Kiessner</i>	

<b>BENEFITS OF USING UNMANNED AERIAL VEHICLES OF LAST-MILE VACCINE DELIVERY IN SRI LANKA</b>	<b>122</b>
<i>Kalani Venika Gunaratne, Amila Thibbotuwawa, Harsha Chamara Hewage, Alex Elkjaer Vasegaard</i>	

<b>INDICATORS TO EVALUATE SUSTAINABLE FREIGHT TRANSPORTATION STRATEGY: CASE STUDY ON GPS INSTALLATION TO FREIGHT VEHICLE</b>	<b>125</b>
<i>Ayodya Edirisinghe, Suvini Dayara, Ashen Fernando, Nathasha Madushani, Sabeen Sharic</i>	

<b>COMPARING DIFFERENT METAHEURISTIC METHODS IN SOLVING A REAL-WORLD APPLICATIONS OF VEHICLE ROUTING PROBLEM</b>	<b>129</b>
<i>Madushan Fernando, Amila Thibbotuwawa, H. Niles Perera</i>	