Dr. (Eng.) Thillaiampalam SIVAKUMAR

Senior Lecturer (Grade I)
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Areas of interest	• Transport Planning, Urban Transport, Public Transportation • Transport Demand Modelling and Traffic Simulation • Traffic Engineering • Road safety, Transport surveys, Users behavior analysis • Demand, Supply & land-use management
Personal Information	• Name **:** Thillaiampalam Sivakumar • Gender **:** Male • Marital Status **:** Married • Nationality **:** Sri Lankan • Date of Birth **:** 10.07.1975 • Address **:** No.29 1/5, 36th lane, Colombo-06, Sri Lanka
Educational Qualifications	• Oct 2004 - Sep 2007: Japan **Doctor of Engineering (D.Eng)** in Transportation Engineering, Yokohama National University, Japan. Thesis: "A systematic approach for transport survey for grasping users preference on alternative transit system in developing countries" • Sep 2002 - Apr 2004: Thailand **Master of Engineering (M.Eng)** in Transportation Engineering, Asian Institute of Technology (AIT), Thailand. Thesis: "Optimization of Airline Scheduling by Trade-Off between Buffer Time and Delay Cost" • Sep 1996 - Jan 2001: Srilanka **B.Sc.(Hons) Eng., Civil Eng., University of Peradeniya**, Sri Lanka. Project: "Bearing Capacity of Strip Foundation on Ground Improved by Sand Column and Sand Replacement"

Contribution to the university	At Department of Transport Management & Logistics Engineering, Faculty of Engineering, University of Moratuwa	
	Senior Lecturer Grade I	2017 Jan – to date
	Senior Lecturer Grade II	2008 Sep to 2017 Jan
	Senior Lecturer Grade II (Contact Basis)	2008 Feb to 2008 Sep
	Head of the Department	2011 to 2017
	Research Coordinator	2021 - 2023
	Faculty Student Emergency Management Committee	2016 - 2024
	Acting Head of the Department	Jun 2009, Aug 2009, Sep 2009, May 2010, May 2011, Mar 2019, Oct 2019

Major Responsibilities at Work (University of Mortauwa, Sri Lanka)	• Name of Assignment or Project: Academic / Administration • Year: Feb 2008 to date • Location: Sri Lanka • Employer: Department of Transport and Logistics Management / University of Moratuwa • Position(s) held: Senior Lecturer • Activities performed: Teaching, researching and consultation in the field of Transport engineering with special interest on, Transportation Demand Modeling, Public Transport Layouts, Public Transportation Terminal Designs, Multi model Transport System Studies, Passenger demand Management, Transport Facility management, Road Safety.

	• Name of Assignment or Project: Academic / Administration • Year: Aug 2011 to Jul 2017 • Location: Sri Lanka • Employer: Department of Transport and Logistics Management / University of Moratuwa • Position(s) held: Head of Department • Activities performed: Besides the Teaching, researching and consultation, given an overall leadership to develop and promote the academic activities of the department including HR management of staff and students. I Participated all higher-level decision-making meeting like Head of the Departments (HOD) meeting at faculty level, Senate at university level, Leave and Award committee, Curriculum and evaluation committee, etc.
	• Name of Assignment or Project: Academic / Administration • Year: Aug 2021 to 2023 • Location: Sri Lanka • Employer: Department of Transport and Logistics Management / University of Moratuwa • Position(s) held: Research Coordinator • Activities performed: Monitored the departmental postgraduate students' profile, scheduling presentation of proposal, progress and final, reporting to faculty of Graduate Studies. Promoted the research culture in the department and improved the no of publications.
Honors and Awards	• Teaching, Learning and Assessment award from Staff and Educational Development Association (**SEDA**) **UK**, 2010 • Certificate of Teaching in Higher Education, 2010 • Mombu(kagaku)sho PhD Scholarship, **Government of Japan** (2004-2007) • AIT Scholarship, **Government of Japan** (Student Fellowship for Master degree) (2002- 2004) • Mahapola Scholarship, Government of Sri Lanka (1996-2000) • Awarded for Teaching Excellence for the year 2019. • Award of Excellence in recognition of the Outstanding Research Performances
Professional Memberships	• Associate Member of Institute of Engineers Sri Lanka (AMIESL) • Chartered Member, Institute of Logistics and Transport (UK) • Regular Member of Sri Lanka Society of Transport & Logistics (SLSTL) • CPD member of Sri Lanka Association for Improving Higher Education Effectiveness (SLAIHEE)
National Contribution	• Participated in a **professional adviso**ry meeting on "Road Safety" called by Clean Sri Lanka task force at Presidential Secretariate office on 22nd Jan 2025. • **Member of 'Public Expenditure Review Committee'** of the Ministry of Transport & Highways. Contributed to develop a review report submitted to the cabinet Ministers and tabled in the parliament with budget speech of 2024 by the minister of Finance, Economic Stabilization and National Policies. • Participated as the resource person and presented "Navigating the Transport and Logistics in the Digital Era" at guest lecture series organized by the EDURA Global Education Fest 2024held on 2nd to 4th February 2024, at the Maris Stella College premises in Negombo, Sri Lanka. • **Committee member of the Expert Committee** Appointed to Review the Draft National Transport Policy-2019 by the Ministry of Transport in reviewing and proposing new policy framework. • **Board of Director** of the Uni-Consultancy Services (UNIC) www.uniconsultancy.com
Consultancy Projects	• Name of assignment or project: **Bus Sector Improvement & Modernization Program- Bus Priority Lane (BPL) Project** • Year: 2018 Aug to 2019 May • Location: Sri Lanka • Employer: Ministry of Megapolis & Western Development • Position(s) held: **Team Leader / Transportation Consultant** • Activities performed: Bus Sector Improvement & Modernization Program- Bus Priority Lane (BPL) Project. Feasibility Study and detailing of Bus Lanes for Galle Road, Parliament Road etc. Analysis for economic gains of introducing Bus Priority Lane and its outcomes as an overall travel time gain of the Traffic stream.

Preparation of analysis Report

- Name of assignment or project: **Strategic Cities Development Project (SCDP) Kandy**
- Year: 2015 March to 2018 July
- Location: Sri Lanka
- Employer: Ministry of Megapolis & Western Development (WB Funded Project)
- Position(s) held: **Deputy Team Leader** (Counter part of the international team leader) / Transportation Engineer
- Activities performed: Strategic Cities Development Project (SCDP) Kandy, Prefeasibility study for proposed Multimodal Transport Terminals at Kandy by integrating bus terminals, Railway terminals and other Para transit transport modes to facilitate the public passenger improvements at Kandy City. Project Management & Preparation of Feasibility Study reports.

- Name of assignment or project: **Bus Rapid Transit Feasibility Study** for Galle Road & Revised Master plan for western Province
- Year: 2014 Jun to 2015 March
- Location: Sri Lanka
- Employer: Ministry of Transport
- Position(s) held: **Traffic Engineer / Demand Modeler**
- Activities performed: Bus Rapid Transit Feasibility Study for Galle Road and Review & improvement of the Urban Transport Master Plan, Modernization for bus transportation and suitability for BRT for main road corridors in Colombo. Project management, Transport Demand Modelling, Traffic simulation and Preparation of Analysis Reports

- Name of assignment or project: **Safety Improvement and Congestion Reduction Study (SICRS)** on Selected Trunk Roads in Western Province
- Year: 2013 Mar to 2014 Oct
- Location: Sri Lanka
- Employer: Road Development Authority
- Position(s) held: **Transportation Engineer / Consultant**
- Activities performed: Traffic volume counts, pedestrian count at crossings, and accident count along two major roads A004 & A001. Road infrastructure inventory and road safety audits. Analyzed the data to identify top 10 locations based on hot-spots (from traffic counts) and black spots (from accident counts).

- Name of assignment or project: **Urban Transport System Development Project for Colombo Metropolitan Region and Suburbs**
- Year: 2013 Jan to 2013 Apr
- Location: Sri Lanka
- Employer: Japan International Cooperation Agency (JICA) and the Ministry of Transport
- Position(s) held: **Chief Supervisor/ Transportation Engineer**
- Activities performed: Chief Supervisor/ Consultant, Urban Transport System Development Project for Colombo Metropolitan Region and Suburbs. Transport Demand analysis, Road network analysis, Public transport terminal capacity and demand analysis, Transport Demand Modeling / JICA STRADA, PTV Vissim.

- Name of assignment or project: **Development of Transport Database And Transport Demand Analysis for Colombo Metropolitan Region (CMR)**
- Year: 2011 Feb to 2012 May
- Location: Sri Lanka
- Employer: Road Development Authority (RDA)
- Position(s) held: **Team Leader / Transportation Engineer**
- Activities performed: Development of Transport Database And Transport Demand Analysis for Colombo Metropolitan Region (CMR), Road traffic network analysis, public transport studies and behavior analysis. Impact studies, Transport data collection and Data base management, Statistic analysis and data analysis and preparation of Traffic and Transport analysis outcomes and preparation of Final Reports, Presentation to the client and the stakeholders.

- Name of assignment or project: **Hambantota International Transport Hub Development Project**
- Year: 2010 Jun to 2011 January
- Location: Sri Lanka
- Employer: Road Development Authority (RDA)

- Position(s) held: **Transport Planner/ Project Coordinator**
- Activities performed: Hambantota International Transport Hub Development Project. Road network traffic demand analysis, Traffic forecasting for proposed road network, Terminal passenger and freight demand analysis and economic benefit analysis. Demand estimations for traffic to Hambantota with the Southern Expressway Extension connection to Hambantota from Matara.

- Name of assignment or project: **Economic & Technical Feasibility Study of Electronic Road Pricing for CBD and Bus Rapid Transit for Colombo City**
- Year: 2009 Mar to 2009 December
- Location: Sri Lanka
- Employer: Ministry of Transport
- Position(s) held: **Project Manager/ Consultant**
- Activities performed: Economic & Technical Feasibility Study of Electronic Road Pricing for CBD and Bus Rapid Transit for Colombo City, Road Pricing stated preference analysis, Optimum road pricing analysis for road transport demand setup in CBD, Transport System analysis for BRT and private passenger transportation demand in CBD, Benefit and cost analysis and economic evaluation of different transport scenarios and preparation of feasibility study reports and assisting the Team Leader for finalizing the project reports.

- Name of assignment or project: **Traffic Impact Assessment (TIA) for Construction of house of Justice**
- Year: 2023
- Location: Colombo, Sri Lanka
- Employer: Ministry of Justice, Prison Affairs and Constitutional Reforms
- Position(s) held: **Team Leader / Consultant**
- Activities performed: Site visits, Traffic Survey design and execution, analyze classified vehicle count around the site, explored the structural drawings, and counted the No of parking slot provided, checked that with the required No of parking according to the functions of each floor and Urban Development Authority (UDA) guideline. Developed the TIA report and Presented to the clients and UDA.

- Name of assignment or project: **Feasibility study and Detailed Design of Kandy Suburban Railway Project (KSRP): Traffic Modelling and Demand Forecasting Study**
- Year: 2023
- Location: Sri Lanka
- Employer: Ministry of Transport & Highways
- Position(s) held: **Team Leader / Consultant**
- Activities performed: Led the team on 'Traffic Modelling and Demand Forecasting Study', planned and collected relevant traffic data from both passengers and Goods from Kandy area. Developed a Travel Demand Model using Cube software from Bentley. Predicted future traffic. Created a final project report and presented it to all stakeholders in Kandy.

Research Papers/Reports	
	• T. Yokarasa and **T. Sivakumar**, "Evaluating Pedestrian Behaviors and Safety Risks at Unsignalized Mid-Block Crossings in Colombo," *2025 Moratuwa Engineering Research Conference (MERCon)*, Moratuwa, Sri Lanka, 2025, pp. 705-710, doi: 10.1109/MERCon67903.2025.11217106.

- Ranasinghe, R.A.D.S.K. and **Sivakumar, T**. (2025) 'Optimising Multimodal Integration: Global Best Practices for Seamless Connectivity and Their Applicability in Sri Lanka', *Journal of South Asian Logistics and Transport*, 5(2), p. 97-116. Available at: https://doi.org/10.4038/jsalt.v5i2.112.

- S. Sathruhan, O. K. Herath, **T. Sivakumar** and A. Thibbotuwawa, "Emergency Vehicle Detection using Vehicle Sound Classification: A Deep Learning Approach," *2022 6th SLAAI International Conference on Artificial Intelligence (SLAAI-ICAI)*, Colombo, Sri Lanka, 2022, pp. 1-6, doi: 10.1109/SLAAI-ICAI56923.2022.10002605.

- Fernando, P.M., Sugathadasa, R., De Silva, M.M., Thibbotuwawa, A., **Sivakumar, T**. (2024). Real-Time Driver Drowsiness Detection Using Transfer Learning. In: Ivanov, V., Trojanowska, J., Pavlenko, I., Rauch, E., Pitel', J. (eds) Advances in Design, Simulation and Manufacturing VII. DSMIE 2024. Lecture Notes in Mechanical Engineering. Springer, Cham. https://doi.org/10.1007/978-3-031-61797-3_36

- Keerthika Eswaranathan, T. **Sivakumar**, M. Mavin De Silva, Amal S. Kumarage, Modelling the factors influencing carbon efficiency of consumer choice to promote energy-efficient vehicles, Transport Economics and Management, Volume 2, 2024,

- Pages 130-142, ISSN 2949-8996, https://doi.org/10.1016/j.team.2024.05.002.
- Thenuwan Jayasinghe, Thillaiampalam **Sivakumar**, Amal S. Kumarage; Microscopic traffic simulation model for bus transport operations under heterogeneous traffic conditions. *AIP Conf. Proc.* 5 March 2024; 3034 (1): 050005. https://doi.org/10.1063/5.0194655
- Yovianto, M. D., Ahyudanari, E., & **Sivakumar, T**. (2023). Exploring the Cargo Potential: A Comprehensive Analysis of Kertajati Airport. *Jurnal Teknologi Transportasi Dan Logistik, 4*(2), 147-162. https://doi.org/10.52920/jttl.v4i2.27
- Gunaruwan T.L, **Sivakumar** T., Transport policy priorities for Sri Lanka's socio-economic development and sustenance: Revelations through recent policy statements and propositions, 12th International Conference of Sri Lanka Forum of University Economists (SLERC), 2023
- Jayasinghe, T., Munasinghe, A. and **Sivakumar**, T., 2023. A microscopic traffic simulation framework to evaluate the performance of bus priority lanes. *Journal of South Asian Logistics and Transport*, 3(1), p.1-19.DOI: https://doi.org/10.4038/jsalt.v3i1.57
- DD Dhananjaya, FW Madushan, MD Silva, T **Sivakumar**, "Passenger car units for different midblock sections in Sri Lanka under mixed traffic condition", Journal of Applied Engineering Science 21 (2), 375-383. DOI: 10.5937/jaes0-36600
- DD Dhananjaya, D Indeewara, T **Sivakumar**, Extracting large-scale POI data for a defined land area through APIs", 2022 International Conference on Data Analytics for Business and Industry (ICDABI), DOI: 10.1109/ICDABI56818.2022.10041653
- DD Dhananjaya, T **Sivakumar**, "Enhancing the POI data for trip purpose inference using machine learning techniques", 2022 IEEE 25th International Conference on Intelligent Transportation Systems (ITSC). DOI: 10.1109/ITSC55140.2022.9922534
- Oshadhi Kaushalye HERATH, Praveen PERERA, Buddhi AYESHA, Thillaiampalam **SIVAKUMAR**, Amal S. KUMARAGE, Amal Shehan PERERA, "A Comparison of Speed Data by Different Speed Detection Techniques", Proceedings of the Eastern Asia Society for Transportation Studies 13, 2021
- DD Dhananjaya, T **Sivakumar**, "Inferring the purposes of taxi trips using GPS and POI data considering the destination context", 2021 International Conference on Data Analytics for Business and Industry (ICDABI). DOI: 10.1109/ICDABI53623.2021.9655943
- T Jayasinghe, T **Sivakumar**, AS Kumarge, "Calibration of SUMO microscopic simulator for Sri Lankan traffic conditions", Proceedings of the Eastern Asia Society for Transportation Studies. 2021
- S Chandrasena, T. **Sivakumar**, "TRIPS-IN-MOTION TIME MATRIX TO IDENTIFY TIME WINDOWS AS AN INPUT FOR TIME-OF-DAY MODELLING", Journal of South Asian Logistics and Transport 1 (1), 83-98. DOI: 10.4038/jsalt.v1i1.28
- A.S. PERERA, W.W.P.M. FERNANDO, D. D. DHANANJAYA, J.A MUNASINGHE, Amal S. KUMARAGE, T. **SIVAKUMAR**, "Post-Processing of GPS Data for Bus Link Speed Determination based on GIS", Journal of the Eastern Asia Society for Transportation Studies 14, 1179-1192
- GS samarakoon, T **Sivakumar**, "Investigating the Effect of Pedestrian Characteristics, Land Use and Level of Vehicle Traffic on Crosswalk Speed of Pedestrians, Proceedings of the Eastern Asia Society for Transportation Studies 13
- OK Herath, P Perera, T **Sivakumar**, B Ayesha, AS Kumarage, AS Perera, "Use of videography for traffic surveys in Sri Lanka"
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- A.J. Munasinghe, Dhananjaya D.D., W.W.P.M. Fernando, A.S. Kumarage, T. **Sivakumar**, A.S. Perera, "Bus Travel Time Estimation using GPS Data: A Case-Based Study for the Kandy City", Proceedings of the National Engineering Research Symposium (NERS 2020) 1, 95-102
- OK Herath, T **Sivakumar**, "Use of Image Processing as an Alternative to Manual Traffic Counts", 4th International Conference on Advances in Computing and Technology (ICACT–2019), Faculty of Computing and Technology, University of Kelaniya, Sri Lanka.
- URI: http://repository.kln.ac.lk/handle/123456789/20379
- W Chamath, **S Thillaiampalam**, "A Systematic Approach to Identify Congestion Charging", Proceedings of the Eastern Asia Society for Transportation Studies 12
- C Nalaka, T **Sivakumar**, "Development of relationships between traffic volume, number of accidents and road infrastructure improvements", Sri Lanka Society for Transport and Logistics

	• T Rathnayake, T **Sivakumar**, "Use of stated preference survey to determine design parameters of a rideshare system: a case study from Sri Lanka", Sri Lanka Society for Transport and Logistics
	• T **Sivakumar**, D Amarathung, "Development of Traffic Accident Prediction Models Using Traffic and Road Characteristics: A Case Study from Sri Lanka", EASTS 2015 Conference
	• T Jayasinghe, T **Sivakumar**, "Applicability of ridesharing using paratransit: a case study from a university community in Sri Lanka"
	• **Sivakumar** Thillaiampalam, A systematic approach for transport survey for grasping users preference on alternative transit system in developing countries, PhD Dissertation, https://ci.nii.ac.jp/naid/500000442938/?l=en
	• **Sivakumar**, T., Okamura, T., and Nakamura, "A Systematic Approach for Questionnaire Design on New Transit System Implementation in Developing Countries", Eastern Asia Society for Transportation Studies 6
	• Thillaiampalam **SIVAKUMAR**, Toshiyuki OKAMURA, Tsutomu YABE, Fumihiko NAKAMURA, SURVEY DESIGN TO GRASP AND COMPARE USER'S ATTITUDES ON BUS RAPID TRANSIT (BRT) IN DEVELOPING COUNTRIES, IATSS Research, Volume 30, Issue 2, 2006, Pages 51-58, ISSN 0386-1112, https://doi.org/10.1016/S0386-1112(14)60169-2
International Contribution	• Board of Director of the Eastern Asia Society for Transportation Studies (EASTS) for the year 2023/2024
Computer Literacy	• Logit model - GAUSS • Transport Demand Forecasting – CUBE software from Bentley. • Traffic Simulation – SUMO opensource application • MS office, Office automation using Macro/VBA
Courses Attended	• Successfully completed a course of study titled "Making Teaching Effective (MaTE 2019) conducted by the Centre of Excellence in Teaching, Learning & Innovation (CETLI) from July to October 2019 facilitated by Prof. Suki Ekaratne, Director CETLI and received a certificate in Colombo on 28th July 2020Da
Data Analysis Workshops delivered as resource person	• A Training Course on "Application on Advance Excel" was organized by the Human Resource Development Division of Road Development Authority and held on 15th May 2024 at division's Lecture Hall, No, 216, Denzil Kobbekaduwa Mawatha, Koswatta, Battaramulla, Sri Lanka. • A CPD course on "Essential Excel Skills for Engineers" was organized by The Institution of Engineers, Sri Lanka (IESL) and held on 20th Jan & 03rd Feb 2024 from 0900 to 1600 at IESL Members Lounge, Colombo 7, Sri Lanka. • A technical talk on "Automate Your Routine Tasks Using Excel VBA/Macro" was organized by the IESL Vadakkin Chapter and held on 16th November 2022 from 1630 to 1830 at Road Development Department (RDD), Conference Hall, Jaffna, Sri Lanka. • A workshop on "Make your Work Productive with Excel Automation using Macro/VBA" was organized by the Industrial Laison and Career Guidance Cell, Department of Engineering Technology, Faculty of Technology, University of Jaffna in collaboration with Rotary Club of Kilinochchi Town and held on 29th September 2022 at Lecture Hall #5 of Faculty of Technology, Kilinochchi, Sri Lanka. • A Webinar on "MS Excel for Data Analysis & Logical Problem Solving" was organized by the Ceylon National Chamber of Industries (CNCI) and held on 27th April 2023 from 0930 to 1230 online. • A Seminar on "MS Excel for Data Analysis and Logical Problem Solving with Advanced Tips & Tricks" was organized by the Ceylon National Chamber of Industries (CNCI) and held on 13th December 2023 from 0900 to 1630 online.