

**PUBLICATIONS BASED ON TRC RESEARCH
PROJECTS DURING 2012-2025**



Journals

1. Loui, T. R., Satyakumar, M., Padmakumar, R., & Aavani, P. (2014). Finite Element Analysis of Coir Geotextiles Modified Flexible Pavements Based on Fatigue Failure Criterion. *International Journal of Advanced Research in Engineering & Technology*, 5(1), 112-122.
2. Satyakumar, M., & Loui, T. R. (2014). Experimental investigations on effect of coir geotextile on rutting characteristics in asphalt overlays. *Indian Highways*, 42(7).
3. Leema Peter, Jayasree, P.K., Balan, K. and Alaka Raj, S. (2014). "Laboratory Investigation in the Improvement of Subgrade Characteristics of Expansive Soil Stabilized with Coir Waste", *Transportation Research Procedia*, Elsevier
4. Jayasree, P. K., Balan, K., Leema, P. and Nisha, K. K. (2015). "Volume Change Behaviour of Expansive Soil Stabilized with Coir Waste", *ASCE Journal of Materials in Civil Engineering*, Vol. 27, No. 6, Jun 2015, pp 04014195-1 to 8.
5. Ashalatha R, Salini S and Sreelekshmi S. (2018) Calibration and validation of Vissim for urban heterogeneous traffic. *Journal of Indian Highways*, Indian Roads Congress, Vol 46 (1), pp. 13-26.
6. Akhilesh J., Anusha S.P. (2019) Travel Time Prediction under Mixed Traffic Conditions Using RFID and Bluetooth Sensors, *Periodica Polytechnica Transportation*, 48, (3), <https://doi.org/10.3311/PPtr.13779>
7. Jayan, A. and Anusha, S.P., 2020. Travel Time Prediction under Mixed Traffic Conditions Using RFID and Bluetooth Sensors. *Periodica Polytechnica Transportation Engineering*, 48(3), pp.276-289.
8. Jinit J. M. D'Cruz, Anu P. Alex, V. S. Manju and Leema Peter. (2020). "Impact Assessment of Short-Term Management Measures on Travel Demand" *ARCHIVES OF TRANSPORT*, ISSN (print): 0866-9546 Volume 53, Issue 1, 2020
9. Leema Peter, Jayasree, P.K. and Balan, K. (2020). "Optimization, quantification of Strength and Design Benefits of Flexible Pavements Resting on Soft Soil Subgrades Treated with Coir Waste and Lime" *Journal of Natural Fibers*
10. Praveen, P. S., & Ashalatha, R. (2020). Identification of platoon dispersion pattern under heterogeneous traffic conditions. *Case studies on transport policy*, 8(1), 101-111.

11. Muhammed Hafiz, A.N., Anusha, S.P. Real-Time Delay Estimation Model for Mixed Traffic Conditions Using RFID Detections as Data Source. *Transp. in Dev. Econ.* 8, 22 (2022). <https://doi.org/10.1007/s40890-022-00157-4>
12. Deepa Paul, Bindhu K.R., Ana Mafalda Matos, João Delgado, ‘Eco-friendly concrete with waste glass powder: A sustainable and circular solution’, *Construction and Building Materials*, Volume 355, 14 November 2022, 129217, ISSN 0950-0618, <https://doi.org/10.1016/j.conbuildmat.2022.129217> Impact factor: 7.693, SJR 1.662, Indexing: SCIE/SSCI, Scopus.
13. Anu P. Alex, Manju, V. S., Hima, V., & Peter, L. (2023). Assessment of sustainable mobility indicators for an emerging satellite city in India. *Environment, Development and Sustainability*, 25(9), 10447-10463. <https://doi.org/10.1007/s10668-022-02466-5>
14. Ghosh, T., Anusha, S.P., Babu, A. and Vanajakshi, L.D., 2023. Performance evaluation of a dynamic signal control system for mixed traffic conditions using sparse data. *Transportation research record*, 2677(10), pp.797-807.
15. Deepa Paul, Bindhu K.R., ‘Strength, durability and bond characteristics of hybrid glass powder concrete for applying as an overlay’, *Science and Technology Asia*, Vol.28, No.3, 26 September 2023. <https://ph02.tci-thaijo.org/index.php/SciTechAsia/article/view/249565>
16. Deepa Paul, Bindhu K.R. ‘Utilisation of glass powder in reinforced concrete beams for a green environment’, *International Journal of Sustainable Building Technology and Urban Development*. Vol.14, No.4, 2023, Impact factor 0.44, SJR 0.16, Indexing: Scopus <https://doi.org/10.22712/susb.20230034>
17. Mary, L., & Koshy, B. I. (2023). Detection and classification of vehicles using audio visual cues. *Multimedia Tools and Applications*, 82(28), 44087-44106.

Conferences

1. M Satyakumar, R Satheesh Chandran, Anil.R and Jayasankar Shaji (2014) “Interlocking Concrete Block Pavements: A case study”. Paper Id:202 Colloquium on Transportation Systems Engineering and Management CTR,CED, NIT Calicut India May 12-13,2014.
2. Salini, S., Manu, O Kuttan., and Ashalatha, R. (2014). Impact of pedestrians on capacity of urban arterials, *Proceedings of Colloquium on Transportation Systems Engineering and Management (CTSEM)*, NIT Calicut.
3. Experimental investigation on effect of coir geotextiles on creep characteristics of bituminous concrete, 13th national conference on technological trends NCTT2012 -

4. Dr.Priya R, Development of Pavement Deterioration Model for the Road Networks in Trivandrum City”, Soumya R. S, (NCTT-2012)
5. Dr.Priya R., Evaluation of Effect of Surface Drainage on Pavement Performance” Nimisha Mathew, (NCTT-2013)
6. Manu, O Kuttan.,Salini, S., and Ashalatha, R. (2013). Influence of Pedestrians on Capacity of Urban Arterials, National Conference on Technological Trends, College of Engineering, Trivandrum.
7. Finite element analysis of effect of coir geotextiles on fatigue life of bituminous pavements International conference on modeling and simulation in civilengineering. (ICMSC 2013) Pp 451-457
8. Cynthia Baby Daniel, Manju V.S, ‘WebGIS enabled Route Planning System for Tourists -A Case Study’, International conference, ICETEST18.3
9. M.Satyakumar, Anil R. and Aiswarya P.G. (2014) “Emergency Information System for Thiruvananthapuram City” International conference on Sustainable Civil Infrastructure(ICSCI2014) Jointly organised by American Society of Civil Engineers(ASCE) India session and IIT Hyderabad during Oct 17- 18, 2014.
10. Study on Open Graded Friction Course Mixes with Surface Treated Coir Fibre and Natural Rubber,Modified Bitumen. NationalConference on Technological Trends. NCTT 2014 Pp 271-276
11. Laboratory Evaluation On The Performance of Modified Bitumen In Wearing Course, National Conference on Technological Trends (NCTT)- 2014Collegeof EngineeringTrivandrum, NCTT 2014 Pp 265-270
12. Bhageerathi K. P., Anu P. Alex, Manju V. S., Raji A. K., “Utilisation of Medical Plastic Waste in Road Construction”, National Conference on Changing Climatic Scenarioand Sustainable Resource Management (CSSR 2014), 17-19 January 2014, NSS College of Engineering, Palakkad.
13. “Effect of Road Characteristics on Road Safety: Study in Trivandrum Rural Highways” Arun Moonjely, Padmakumar R. (NCTT, 2014)
14. “Identification of Hot Spots for Road Crashes In Trivandrum City” Joe Joseph, Padmakumar R (NCTT, 2014)
15. “Hot Spot Identification Using GIS" RoseMary Xavier.,R. Padmakumar (NCTT, 2014)

16. 'Development of Vehicular Emission Inventory for Trivandrum City', National Conference on Technological Trends (NCTT), 2014 August
17. "Effect on Addition of Sub Nano Sized Quick Lime on the Properties of Bitumen" Maneeta Sukumaran, Dr. Priya R (NCTT- 2014)
18. Rashid A and Ashalatha R. (2014). Laboratory experiments on reclaimed asphalt pavements, Fifteenth National Conference on Technological Trends, College of Engineering, Trivandrum.
19. Aswathy, P., Preethi, P., Ashalatha, R. (2014). Modelling Right Turn Adjustment Factor of Saturation flow at Signalized Intersection, Proceedings of 15th National Conference on Technological Trends, College of Engineering Trivandrum, 538-542.
20. Sethu Parvathy K.S and Ashalatha R. (2015). Effect of Warm Mix Asphalt on Reclaimed Asphalt Pavements By Sethu Parvathy K.S 16th National Conference on Technological Trends, College of Engineering, Trivandrum- 2015
21. "Application of Artificial Intelligence for the Development of Pavement Deterioration Model for the Major Road Stretches of Trivandrum City" Sreeji P. Sreekumar, Dr. Priya R (NCTT-2015)
22. Effect of temperature on rutting potential of a geotextile modified bituminous pavements, 3rd international Conference on Modeling and Simulation in Civil Engineering ICMSC 2015, 9-11 Dec 2015
23. Effect of temperature on rutting potential of a geotextile modified bituminous pavements, 16th national conference on technological trends (NCTT- 2015)
24. Sreelekshmi S and Ashalatha R (2015). Calibration of VISSIM for Simulating Bus Stops on Indian Urban Roads. Proceedings of 16th National Conference on Technological Trends, College of Engineering-NCTT Trivandrum, Thiruvananthapuram.
25. Remya, Y. K., Leema Peter., Jayasree, P. K. and Balan, K. (2015). "Influence of Coir Waste and Lime On Strength Characteristics of Soft Soil Subgrade", Proc. of National Conference on Technological Trends, College of Engineering Trivandrum, pp 497-503, September 2015
26. Performance Evaluation of coir geotextile reinforced bituminous overlays-A case study, Coir Kerala 2016 proceedings of international seminar, February 2016
27. Praveen P. S. and Ashalatha R. Platoon Diffusion along Signalized Corridors, In abstracts of the Proceedings of Global Colloquium in Recent Advancement and Effectual Researches in Engineering, Science and Technology (RAEREST 2016),

Palai, Kottayam, India, April 22- 23, 2016.

28. Automated Pothole detection using Kinect Sensor, Sanjeev S. Kumar, Dr.Priya R - NCTT-2016
29. “Development of GIS Based Data Base and Pavement Performance Analysis for Road Networks within Trivandrum Corporation”Jeswin J, Dr.Priya R (NCTT-2016)
30. National Conference on Emerging Trends in Engineering and Technology (NCETET’16). Lourdes Matha College of Science and Technology, Thiruvananthapuram, Vol.3, Special Issue 3, August 2016.
31. Praveen P. S. and Ashalatha R. Characterization of platoondispersion variables under heterogeneous traffic, The ASCE International Conference on Transportation & Development (ICTD 2016), Houston, Texas, USA, June 26-29, 2016.
32. “Hospital Transport Accessibility” National conference on Technological Trends (NCTT),2016 August
33. “Assessment of Surrogate Safety Measures as a Crash Prediction Technique in HeterogenousTraffic”, National conference on TechnologicalTrends (NCTT), August 2016
34. Saranya Mohan I and Dr. Swarnalatha K, ‘Human health risk assessment of inhalation exposure to air pollution in Thiruvananthapuramcity’, International Conference on InformationSystems, Energy, Environment and Safety- Emerging Scenarios (ISEES), 29-30 September 2016, Government Engineering College, Barton Hill, Thiruvananthapuram.
35. Neethu Mariam Johns., Preethi, P., Ashalatha, R. (2016). Control Delay Variability under heterogeneous Traffic Conditions, Proceedings of17th National Conference on Technological Trends, College of Engineering Trivandrum, Thiruvananthapuram, 807- 811
36. Reshma S Kumar and Dr. Swarnalatha K, ‘Estimation of Vehicular Emission based on road traffic parameters’, InternationalConference on Information Systems, Energy, Environment and Safety- Emerging Scenarios (ISEES), 29-30 September 2016, Government Engineering College, Barton Hill, Thiruvananthapuram.
37. “Evaluation of Pavement Distress Using Non-Destructive Methods”, National conference on Technological Trends (NCTT), 2016 August.
38. Jayan, A. and Anusha, S.P., 2019. Evaluation of effectiveness of RFID and bluetooth sensors for travel time studies under mixed traffic conditions (No. 19-04397). Transportation Research Board 98th Annual Meeting

39. Praveen P. S. and Ashalatha R. Development of Adjustment Factors for Robertson's Platoon Dispersion Model, 15th World Conference on Transport Research - WCTR 2019, Mumbai, India, May 26-31, 2019. *(This paper received Best Paper Award in the topic area - Transport in Developing and Emerging Countries)*
40. Praveen P. S. and Ashalatha R. Passenger Car Equivalency Factors under Platooning Conditions, 4th Conference of the Transportation Research Group of India (CTRG-2017), Mumbai, India, December 17- 20, 2017.
41. Praveen P. S. and Ashalatha R. Characterising Platoon Dispersion Model Along Urban Arterials under Heterogeneous Traffic, 18th Crossroads World Road Meeting 2017(IRF-WRM 2017), Delhi, India, November 14-17, 2017.
42. Praveen P. S. and Ashalatha R. Characterising Identification of Critical Inter Arrival Time at Signalized Intersections, 3rd International Conference on Materials Mechanics and Management (IMMM 2017), Trivandrum, India, July 13-15, 2017.
43. Reshma S Kumar and Dr. Swarnalatha K, 'Prediction of Vehicular Exhaust Emission for Thiruvananthapuram city', 3rd International Conference on Materials, Mechanics and Management (IMMM), 13-15 July 2017, College of Engineering Trivandrum, Thiruvananthapuram.
44. Reshma S Kumar and Dr. Swarnalatha K, 'Ambient air quality status of major traffic intersections in Thiruvananthapuram city', 18th National Conference on Technological Trends (NCTT), 21-22 July 2017, College of Engineering Trivandrum, Thiruvananthapuram.
45. Harees A.M, Reshma S Kumar, Dr. Swarnalatha K and Dr. Binu Sara Mathew, 'Identification of plant varieties for development of Green belt in Thiruvananthapuram city', ASCE India Conference 2017, 12-14 December 2017, IIT Delhi, New Delhi.
46. Shwaetha Radha Devi and Preethi P (2017). Effect of exclusive bus lanes on performance of signalised intersections, Proceedings of 18th National Conference on Technological Trends, College of Engineering Trivandrum, Thiruvananthapuram, 652-656.
47. Navathy M K and Preethi P (2017). Impact of right turn lane on performance of signalised intersections under heterogeneous traffic conditions, Proceedings of 18th National Conference on Technological Trends, College of Engineering Trivandrum, Thiruvananthapuram, 646-651.
48. Aswana Sara Thomas and Binu sara Mathew, "Experimental Investigation on Properties of Bituminous Concrete Modified Using Nanoclay", 18th National Conference on Technological Trends (NCTT), 21-22 July 2017, College of

49. Harees A. M and Dr. Swarnalatha K, 'Traffic noise attenuation using hedges in Thiruvananthapuram city', 18th National Conference on Technological Trends (NCTT), 21-22 July 2017, College of Engineering Trivandrum, Thiruvananthapuram.
50. Rahul R and Binu Sara Mathew "Stress Strain Analysis of Short Panelled Concrete Pavements" 18th National Conference on Technological Trends (NCTT), 21-22. July 2017, College of Engineering Trivandrum, Thiruvananthapuram
51. Akhilesh J., Anusha S.P., 2018, Model based estimation of queue at signalized intersections under mixed traffic conditions, Kerala Technological Congress (KETCON) 2018 Human Computer Interface.
52. Anil.R and Jesh.J (2018) "Travel time estimation model for emergency vehicles under heterogeneous traffic conditions in India - a case study of emergency information and management system for trivandrum city" has been submitted at the 21st IEEE International Conference on Intelligent Transportation Systems, to be held on November 4-7, 2018 at Maui, Hawaii, USA.
53. "A Study on Correlation of Shear Modulus of Soil with California Bearing Ratio and Dynamic Cone Penetration Value" International Conference on emerging trends to engg science and technology. ICETEST 2018 at GEC THRISSUR. Jan 18-20, 2018.
54. Ashalatha R, Salini S and Sreelekshmi S. (2018) Calibration and validation of Vissim for urban heterogeneous traffic. Journal of Indian Highways, Indian Roads Congress, Vol 46 (1), pp. 13-26.
55. Anil.R, M. Satyakumar and Ameena Salim, (2019) " Emergency Vehicle Signal Pre-emption System for Heterogeneous Traffic Condition A Case Study in Trivandrum City," 2019 4th IEEE International Conference on Intelligent Transportation Engineering (ICITE), Singapore, 2019 <https://ieeexplore.ieee.org/document/8880151>
56. Akhilesh J., Anusha S.P., R. Padmakumar, Evaluation of effectiveness of RFID and Bluetooth sensors for travel time studies under missed traffic conditions, 98th Transportation Research Board Annual Meeting, Washington, D. C., USA, January 2019.
57. Nithin A V, Mini Soman and Deepa Raj S," A Review on Ambient cured Geopolymer Concrete", International Conference on Materials, Mechanics and Structures 2020 (ICMMS2020) 14-15 July 2020, NITC, Kerala, India.

58. Abhilasha Santhosh Kumar, Dr. Anu P Alex, Dr. Manju V S and Gopika Vinayakumar. "Determination of Level of Service of pedestrian facilities-A case study", 7th Conference on Transportation Systems Engineering and Management, December 2020. Pg: 62-65.
59. Gauri Nair, Devi Priya B, Theerdha B S, Varsha B, Dr. Anu P Alex, Dr. Manju V S "Emission Inventory At Kazhakuttom Using GIS". 7th Conference on Transportation Systems Engineering and Management, December 2020. Pg 71-74
60. Swetha C V, Dr. Manju V S, Dr. Anu Alex and Leema Peter. "Estimation Of Accessibility By Non – Motorised Transportation Using GIS", 7Th Conference on Transportation Systems Engineering and Management, December 2020. Pg:75-77
61. Cijin Jayakumar, Dr. Manju V S, Dr. Anu P Alex and Dr. Leema Peter. "Modelling Of Pollutants – A Case Study" 7Th Conference on Transportation Systems Engineering and Management, December 2020. Pg 78-82
62. Hafiz, M., Babu, A. and Anusha, S.P., 2021. *Comparative Study of Estimation Models and Sensor Data Application for Delay Estimation at Pre-Timed Signalized Intersections under Mixed Traffic Conditions*, Transportation Research Board 100th Annual Meeting, Washington, U.S.A.
63. Babu, A. Hafiz, M., and Anusha, S.P., 2021. Evaluation of effectiveness of RFID sensors for delay estimation under mixed traffic conditions, Presented in 13th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC) during 10 and 11 December 2020.
64. Hafiz, M., Babu, A. and Anusha, S.P., 2021. Delay estimation model for a pre-timed signalized intersection under mixed traffic conditions, Presented in 13th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC) during 10 and 11 December 2020.
65. Dhanya B. S., Bino I. Koshy, Jisha K. V., Aisu Jayamohan, Neethu Mathew, Evaluation of the mechanical performance of M25 grade recycled aggregate concrete, Proceedings of the 5th international conference on modelling and simulation in civil engineering, TKMCE, Kollam, Dec. 2019
66. Dhanalakshmi Renganathan, Leena Mary, and Anu George, "Detection and classification of vehicles from heterogeneous traffic video data collected using a probe vehicle," in *3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology*, Bengaluru, , pp. 1979–1982, 2018.
67. Anuja Prasad and Leena Mary, "A comparative study of different features for vehicle

classification,” in *2019 International Conference on Computational Intelligence in Data Science (ICCIDS)*, Chennai, pp. 1–5, IEEE, 2019.

68. Jissy Joseph, Anuja Prasad, Jithina T. S. and Leena Mary, “A Study on Localization Techniques for Automatic License Plate Recognition System,” in *2nd IEEE International Conference on Intelligent Computing, Instrumentation and Control Technologies(ICICICT)*, Kannur, vol.1, pp.1090-1094, 2019.
69. Jayita V Mohan, Dr.Anil R. “Coir Geotextile in Rural Road Construction - A brief Review”, 9th Conference on Transportation Engineering System and Management 2023
70. Assessing the Performance of Instance Segmentation Algorithms for Indian Roads in 2024 IEEE 12th Region 10 Humanitarian Technology Conference (R10-HTC)
71. A Comprehensive Review of Image Segmentation Architectures” in 2024 11th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI) (accepted for presentation)
72. Renju M,, Deepa Raj S and Mini Soman ”Experimental study on the durability properties of Geopolymer Concrete with optimum dosage of quarry dust. International Conference on Advances in Materials, Modeling and Analysis for Sustainable and Resilient Infrastructure. AMMA SRI -2025 (Accepted for publication)
73. Anoop, K. S., Chandrathejas, K. K., & Anusha, S. P. (2025, June). Real-Time Two-Stage Detection of Indian Traffic Signboards Using YOLO11 on Jetson Orin Nano. In 2025 International Conference on Advancements in Power, Communication and Intelligent Systems (APCI) (pp. 1-6). IEEE.
74. Harish Kumar, Abhilash Suryan, Anu P Alex. Energy-Efficient Cooperative Aerial Path-Planning for Urban Logistics Autonomy" at the 10th Asian Joint Workshop on Thermophysics and Fluid Science, held in Zhangjiajie, China, from November 9–12, 2024.
75. Harish Kumar, Abhilash Suryan “Energy-Efficient UAV Navigation: A Bio-Mimetic Approach for Dense Urban Skies”. 16th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows held in Prague, Czech Republic (15-19 September 2025)
76. Harish Kumar, Abhilash Suryan “Enhancing UAV Performance with Hybrid Fuel Cell Systems: A Genetic Algorithm Approach for Dynamic Energy Management”. 16th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows held in Prague, Czech Republic (15-19 September 2025)

77. Reeba Susan Thomas, Sethulakshmi M, P.S. Malavika, Anit Antony and Thushara V. T. “Effect of Curing Time and Varying Constituent Dosage on Moisture Susceptibility of Full Depth Reclamation (FDR) Mixes”, Accepted for conference proceedings of 8th Conference of Transportation Research Group of India (CTRG-2025) to be held at IIT Guwahati, Assam, during 17–20 December 2025.

