

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

Ph.D. Thesis Supervised

Sl. No.	Name of the Ph.D. Scholar	Title of Ph.D. Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award/Sub mitted	Awarded/ Submitted/ Ongoing
1	Janani L	Application of Smartphone-Sensors in Pavement Functional Condition Assessment	Supervisor	2021	Awarded
2	Rejani V. U.	Decision Support System for Urban Pavement Maintenance Management	First Supervisor	2021	Awarded
3	Anusudha V	Performance Evaluation and Development of Design Guidelines for Coir Geotextile Reinforced Rural Roads	Co- Supervisor	2022	Awarded
4	Arjun Siva Rathan R. T	Development of Design Methodology for Interlocking Concrete Block Pavements	Supervisor	2022	Awarded
5	Chetan Ramesh Bhole	Studies on Performance Evaluation of Coir Geotextile Reinforced Low Volume Rural Roads	First Supervisor	2025	Submitted
6	Jegan Bharath Kumar. A	Experimental Investigation and Modelling of the Mechanical Response of Bituminous Mixes for Moisture Susceptibility and Compactability	First Supervisor	2026	Awarded
7	Borigarla Barhmaiah	Simulation-Based Modelling of Manoeuvring Delay at Urban Unsignalized Intersections Under Mixed Traffic Conditions	Supervisor	2026	Submitted
8	Chandra Prathap	Investigation of pavement damage due to overloading of vehicles	First Supervisor	-	Ongoing
9	Manjusha M	A Multi-Frame UAV Video Inpainting Approach for Vehicle Occlusion Removal in Pavement Distress Detection	Supervisor	-	Ongoing
10	Rekha K Nair	Influence of Geopolymer and Biochar Modification on the Conventional and Rheological Characteristics of VG30 and CRMB Binders	Supervisor	-	Ongoing
	Sonia B I	Decision support system for maintenance management of National Highways	Supervisor	-	Ongoing
11	Abhijith Muralidharan	Long-Term Microstructural Degradation and Resilient Modulus Evolution of Chemically Treated Coir Geotextiles	Supervisor	-	Ongoing

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

PG M. Tech Dissertation Details

Sl. No.	Title of Dissertation	Name of student	Year of Passing
1.	Study of Work Trip Pattern of Two Contrasting Residential Settlements in Tiruchirappalli City	Resmi R.	2007
2.	Regional Road Network Planning – A Case Study of Four Districts of Tamil Nadu	Swathi N.	2007
3.	Development of Performance Based Flexible Pavement Deterioration Models – A Case Study of NH–210	E. Karthick	2009
4.	Facility Based Regional Rural Road Planning	Arun Chandran	2009
5.	Genetic Algorithm Approach for Pavement Maintenance and Rehabilitation	P. Gauthaman	2009
6.	Application of Coir Geotextiles in Flexible Pavement	R. Sathya Prakash	2009
7.	GIS–GPS Based Pavement Management System	Mohammed Shinas S.	2010
8.	Pavement Distress Analysis using Image Processing Techniques	Pradyumna Sagar Sahoo	2011
9.	Urban Pavement Maintenance Management System for Tiruchirappalli City	R. Arichandran	2011
10.	Performance Study of Semi Dense Bituminous Concrete by adding Polymer Fibres	C.H Murali Krishna	2011
11.	Coir Geotextile Reinforced Rural Road Pavement Performance Study	Sudheer Kumar Raju	2011
12.	Experimental Study on Properties of Pervious Concrete and its Applicability in Pavement	Gourshetty Raju	2012
13.	Urban Pavement Maintenance Management System for Tiruchirappalli City	B. V. Bhargava Sai	2012
14.	Fatigue Behaviour Study of Sub-grade Soil with Performance Enhancers	K. Rama Devi	2012
15.	Experimental Analysis of Stone Matrix Asphalt with Additives	Naveen Kumar R.	2013
16.	Optimization of Pavement Management System for Urban Roads in Tiruchirappalli City	Navin Ganesh V.	2013
17.	Potential of Coir in Sub-grade Improvement and Pavement Performance Study	E. Venkatraman	2013
18.	Comparative Study of Soil Strength Estimation Models Developed Based on CBR, DCP and Geogauge Test Results	Kapirapu Srinivas	2013
19.	Residential Location Modelling for Tiruchirappalli City	Manju K. R.	2013
20.	Optimization of Maintenance Strategies of Urban Roads in Tiruchirappalli City	Cyril Santosh J.	2014
21.	Application of Jute and Coir Geotextiles in Flexible Pavement	Lijin Rajeev	2014
22.	Performance Studies on Bituminous Concrete Mixes Using Waste Plastics	Nizar M. U.	2014
23.	Effect of Flyash and Steel Slag in Sub-base Layer	K. Venu Madhav	2014
24.	Experimental Investigation on Material Properties of Various Types of Binders	Latha D.	2014

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

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25.	Pavement Management System for Urban Roads in Tiruchirappalli City using GAMS	Karthik K. R.	2015
26.	Evaluation of Performance Enhancers in Subgrade and Base Layers of Flexible Pavement	B. Anil Kumar	2015
27.	Experimental Investigation on the Properties of Modified Bitumen Binders	Puli Sridhar	2015
28.	Effect of Copper Slag as Replacement of Fine Aggregate in Sub-base Layer	K. Bhanu Prakash	2015
29.	Pavement Performance Model for PMGSY Roads in India	Praveen S. B.	2015
30.	Study on Effect of Coir Geotextile as Reinforcement in Flexible Pavement	M. Dhanunjaya	2016
31.	Cost Effective Rehabilitation Alternative for Flexible Pavements – Whitetopping	Shrey Agrawal	2016
32.	Evaluation of Properties of Subgrade Soil by In-situ and Laboratory Tests	T. Rajasekhar Rao	2016
33.	Mode Choice Modelling of Work Trips in Tiruchirappalli City Using Decision Tree	Bush B. Thomas	2016
34.	Laboratory Investigations on Reclaimed Asphalt Pavement	Prabeesha T. P.	2016
35.	Experimental Investigation on Rheological Properties of Modified Asphalt Binder Using Dynamic Shear Rheometer	Karan Salokhe	2016
36.	Experimental Investigation on the Rheological Properties of Bitumen	Pasupuleti Sandhya Rani	2017
37.	Mix Characterization and Fatigue Performance of RAP	Divya K. Sadasivan	2017
38.	Optimization of Pavement Maintenance Management of Urban Roads in Tiruchirappalli District	Parvathy M. R.	2017
39.	Analysis of Coir Geotextile Pavements Using Finite Element Method	Dommeti Bhaskar	2017
40.	Evaluation of Coir Geotextile Reinforced Flexible Pavements	Charutha Mohan T.	2017
41.	Evaluation of Marshall Stability Properties and Fatigue Behaviour of Bituminous Mixes Using Waste Plastic	Mohit	2017
42.	Experimental Study on Mixture Characteristics of Warm Mix Asphalt	Satyanjuli Koch	2018
43.	Pavement Maintenance Management System using Functional Characteristics of Pavement	Raunak Kumar Dixit	2018
44.	Effect of Overloading of Vehicles in Pavement Design	Varun Kumar Danda	2018
45.	Rheology of Binders at Pavement Service Temperature	Sidarth Sahu	2018
46.	Study of Drainage Characteristics on Flexible Pavements	Ratti Chandra Sekhar	2018
47.	Strategic Analysis for Urban Road Network Maintenance – A Case Study of Tiruchirappalli City	Kanchupati Venkateswarlu	2019
48.	Travel Demand Modelling for School Trips: A Case Study of Tiruchirappalli City	Suryansh Singh	2019
49.	Analysis of Flexible Pavement with Combination of Alternative Materials	Bhavnilal K	2019

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

Sl. No.	Title of Dissertation	Name of student	Year of Passing
50.	Effect of Short-Term Ageing on Asphalt Binders	Priyanka Pravin Suryawanshi	2019
51.	Experimental and Numerical Analysis of Coir Geotextile Reinforced Flexible Pavement	Chithu Babu	2019
52.	Prioritisation and Optimum Allocation of Funds for Pavement Maintenance and Rehabilitation	Manishita Das	2019
53.	Pavement Distress Detection using Smartphone and Image Processing	Nisha M Samuel	2019
54.	Road Roughness Assessment Using Smartphone Sensor	Rashmi Doley	2019
55.	Stress Strain Analysis on Granular Sub Base and Stabilized Sub Base	Dhanavath Srikanth	2020
56.	Dynamic Segmentation of Urban Roads for Pavement Maintenance and Rehabilitation	Jyothis V Lal	2020
57.	Pavement Distress Detection Using Low Cost Sensors and Image Processing	P Sarath Chandra	2020
58.	Investigating the Effects of WMA Additives on Rheology of Bitumen	Prachi Malviya	2020
59.	Preparation of Design Charts for Coir Reinforced Pavements by Back Calculating the Resilient Modulus	Sampuri Subhash	2020
60.	Study on Pervious Paver Blocks under Static Loading	Vadakupuram Aravinda Sai	2020
61.	Analysis of Structural Behaviour of Interlocking Concrete Block Pavement	Murshida P	2020
62.	Cost-Benefit and Life Cycle Cost Study of Flexible and Rigid Pavements	Vaddi Sai Prakash	2020
63.	Bus Passenger Origin Destination Matrix Estimation from Electronic Ticketing Machine Data	Susan Francis	2021
64.	Modelling the Attitude of Employees towards Public Transport using Structural Equation Approach	Shilpa Rajan	2021
65.	Impact of Covid-19 on Mode Choice Commuters	Sabavath Jawaharlal	2021
66.	Investigation of Moisture Damage of Hot Mix Asphalt using Artificial Neural Network	Mohit Singh Parihar	2021
67.	Two-Objective Optimization of Pavement Management System for Urban Roads	Bhupendra Sharma	2021
68.	Cycle-Time Study and Optimisation of Various Major Activities in Road Construction	Kavinraj K B	2021
69.	Investigation on the Performance of Warm Mix Asphalt with Reclaimed Asphalt Pavement	Nihil John	2022
70.	Performance Assessment of Plastic Waste Modified Bituminous Mix Pavements Constructed by Dry Process	Suneel Singh	2022
71.	Performance Assessment of Plastic Waste Modified Bitumen Pavement Constructed by Wet Process	Tejas Shrivastava	2022
72.	Study on the Effect of Geopolymer on Rheological Properties of Crumb Rubber Modified Binders	Tummala Venkata Ganesh	2022
73.	Cost-Benefit and Life Cycle Cost Study of Rigid and Flexible Pavements	Shreya Chitibhatta	2022
74.	Effect of Binder Content on Moisture Susceptibility of Bituminous Mixtures at Different Test Conditions	Anjumol M Sadhu	2022
75.	Development of Finite Element Response Model of Geocell Reinforced Pavements	Ankit Kumar Singh	2022
76.	Effect of Overloading on Flexible Pavement Performance	Kawaldeep Singh Bhatia	2022
77.	Effect of Binder Content on Moisture Susceptibility of Bituminous Mixtures at Different Test Conditions	Anjumol M Sadhu	2022

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

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78.	Development of Finite Element Response Model of Geocell Reinforced Pavements	Ankit Kumar Singh	2022
79.	Effect of Overloading on Flexible Pavement Performance	Kawaldeep Singh Bhatia	2022
80.	Investigation on the Performance of Warm Mix Asphalt with Reclaimed Asphalt Pavement	Nihil John	2022
81.	Performance Assessment of Plastic Waste Modified Bituminous Mix Pavements Constructed by Dry Process	Suneel Singh	2022
82.	Performance Assessment of Plastic Waste Modified Bitumen Pavement Constructed by Wet Process	Tejas Shrivastava	2022
83.	Study on the Effect of Geopolymer on Rheological Properties of Crumb Rubber Modified Binders	Tummala Venkata Ganesh	2022
84.	Cost-Benefit and Life Cycle Cost Study of Flexible VS Rigid Pavements	Shreya Chitibhatta	2022
85.	Influence of Geopolymers on the Volumetric and Moisture Sensitivity of CRMB Mixtures	G Sai Srikar Reddy	2023
86.	Performance Evaluation of Cement Concrete Pavements in Rural Roads	Muddam Ranjith	2023
87.	Estimation of Algorithms for Traffic Data Extraction using Unmanned Aerial Vehicle Data	Ramadasu Niveditha	2023
88.	Pavement Distress Detection using UAV and Image Processing	Rudhra A	2023
89.	Investigation of Micropore Structure of Dense Graded Asphalt Mix for Moisture Damage	Saurabh Upadhyay	2023
90.	Pavement Evaluation and Experimental Study to Investigate the Behaviour of Coir Geotextile Reinforced Roads	S Sakthivel	2023
91.	Case Study of Cost-Benefit and Life Cycle Cost Analysis of Flexible VS Rigid Pavement	Thimmareddy Tejasri	2023
92.	Optimization Strategy for Pavement Maintenance in National Highways	Akshay P T	2024
93.	Analysis of Biochar-Modified Bitumen: An Ecofriendly Pavement Material	Anindya Bandyopadhyay	2024
94.	Evaluating the Rheological Properties of Crumb Rubber Modified Bitumen with Geopolymer using Warm Mix Asphalt Additives	Anjali Jayan	2024
95.	Pavement Performance Prediction Model for Flexible Pavements of National Highways	Ashly Johnson	2024
96.	Effect of Overloading of Vehicles on the Flexible Pavement	Mahankali Rakesh	2024
97.	Performance Evaluation of RBI Grade 81 Base Layer in Flexible Pavement	Himanshu Yogi	2025
98.	Enhancing the Rheological Properties of Bitumen using Geopolymer	Marupaka Charan Teja	2025
99.	Mechanical Performance of Biochar Infused Crumb Rubber Modified Bitumen	Mellam Vinay Kumar	2025
100.	Clusterwise Pavement Deterioration Model for National Highways	Thananki Ganga Sai Kumar	2025
101.	Deep Learning Approaches and 3D Profiling for UAV based Pavement Distress Identification	Keerthi P	2025
102.	Evaluation and Performance Testing of Bio-Binders (Sugarcane Molasses) for Bituminous Mixes	Vedant Balasaheb Mogal	2025

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

PG MS Dissertation Details

Sl. No.	Title of Dissertation	Name of student	Year of Passing
1.	Experimental Investigation on the Partial Replacement of Fine Aggregate with Waste Granite Fines in Concrete Paving Block	Arjun Siva Rathan R. T.	2015
2.	Study on Effect of Modifiers on the Rheological Properties of Unaged Binder	Naguru Sai Rahul Reddy	2021

UG B. Tech Dissertation Details

Sl. No.	Title of Dissertation	Year of Passing
1.	Comparing the Clustering Techniques for National Highway Pavement Sections	2024
2.	Evaluation on the Influence of Moisture on the Pervious Concrete	2023
3.	Effect of Overloading on Flexible Pavement Performance	2022
4.	Effect of Overloading on Flexible Pavement Performance	2022
5.	Smartphone Based Pavement Distress Detection	2021
6.	Experimental Investigation of Waste Plastic Mixed Bitumen	2020
7.	Comparison of Simulated Models and Field Analysis of Overtaking Sight Distance for Heterogeneous Traffic	2019
8.	Fatigue Analysis of Binder in Intermediate Pavement Temperature	2018
9.	Challenges in Land Acquisition for Construction of Service Roads	2018
10.	Predictive Modelling on NH67 and Accident Analysis of Tiruchirappalli City	2017
11.	Comparative Study of Actuated Signals and Fixed Signal in Tiruchirappalli City	2017
12.	Household Trip Generation Model for Abhishekapuram Zone in Tiruchirappalli	2016
13.	Stabilization of Clay Soil by Adding Industrial Waste of Barium Carbide	2015
14.	Roughness Prediction Model for Urban Pavement	2013
15.	Deterioration Model for Urban Pavement	2012
16.	Bus Transport Efficiency Assessment	2011
17.	Locomotive Scheduling	2009
18.	Effect of Gradation on the Properties of Bituminous Concrete Mixes	2008

National Institute of Technology, Tiruchirappalli
Ph.D. / M.Tech. / B.Tech. Projects Guided – Dr. Sunitha V

Sl. No.	Title of Dissertation	Year of Passing
19.	Design of a Road Using MXRoad	2007
20.	Application of GIS in Real Estate	2007