



# Amit Agarwal

## Current Positions

**Assistant Professor** at Department of Civil Engineering, IIT Roorkee, India

**Joint Faculty** at Mehta Family School of Data Science and Artificial Intelligence, IIT Roorkee, India

### Address

Dept. of Civil Engg.  
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📄 [faculty.iitr.ac.in/~amitfce](http://faculty.iitr.ac.in/~amitfce)

🌐 [amit2011](https://www.linkedin.com/in/amit2011)

🌐 [teg-iitr](https://www.github.com/teg-iitr)

### Skills

Java, Python, R,  
QGIS, NLogit MATSim

### Research interests

Intelligent Transport  
Systems, Smart  
Mobility, Agent-Based  
Transport Simulation,  
Emission Modeling,  
Shared Mobility,  
Crowdsourced Data,  
Sustainable  
Transportation

### Languages

Hindi ★★★★★

English ★★★★★

German ★★★☆☆

### Scientific societies

TRG, IRC, IATBR  
IE(India), WCTR

### Personal details

DOB: June 07, 1985

Civil status: Married

Nationality: Indian

Gender: Male

## Projects (PI)

**2023 - 2026, PI – Sponsored Research Project funded by CSIR, ₹3.03 mil**

Title : Studying the Impact of Automation and Digitalization for Characterising and Accessing the Driver Behaviour in Naturalistic Driving Environment using Eye-Tracker

**2023 - 2024, PI – Sponsored Research Project funded by iHub IIIT Hyderabad, ₹1.0 mil**

Title: Ride2Safety: Identification & Quantification of Rash Riding among MTW Riders

**2021 - 2025, PI – Sponsored Research Project funded by IAHE (MoRTH), ₹49.4 mil**

Title : Advanced Transport Modeling and Simulation for National Highways in India

**2021 - 2024, PI – Sponsored Research Project funded by TIH IIT Roorkee, ₹ 4.0 mil**

Title : Deployment of T-CPS for Intelligent Mobility and Efficient Traffic Control in Smart Cities: A Promising Future

**2021, PI – Consultancy Project funded by UKMRC, Dehradun ₹0.5 mil**

Title : Impact Assessment of Ring Road in Haridwar and National Highway Connectivity on Haridwar-Rishikesh Metro Ridership

**Nov 2020 - Oct 2022, PI – Sponsored Research Project funded by SERB, ₹2.53 mil**

Title : Mapping Dynamic Air Pollution Information to the Choices of the Travelers : Towards Sustainable Transport

**Apr 2019 - Mar 2021, PI – Faculty Initiation Grant by IIT Roorkee, ₹2.0 mil**

Title : Scenario Calibration by Integrating Optimization Techniques

## Projects (Co-I)

**2023, Co-I – Sponsored Lab funded by SRIC, IIT Roorkee (SMILE), ₹18.0 mil**

Title: Understanding Human Factors in Transportation using a connected simulator set-up

Collaborators: Prof. Pushpa Choudhary (PI, IITR), Prof. Indrajit Ghosh (Co-I, IITR), Prof. S.P. Harsha (Co-I, IITR), Prof. Neetesh Kumar (Co-I, IITR)

**2023 - 2025, Co-I – Sponsored Research Project funded by TIH IIT Kharagpur, ₹3.2 mil**

Title: Embedding Crowding to Passenger Information System using Electronic Ticketing Data

Collaborators: Prof. Rishman Jot Kaur Chahal (PI, IITR)

**2023 - 2025, Co-I – Sponsored Research Project funded by TIH IIT Roorkee, ₹8.0 mil**

Title: Intelligent Predictive and Prescriptive Systems for Traffic and Pavement Condition Management in a Smart City

Collaborators: Prof. Indrajit Ghosh (PI, IITR), Prof. Neetesh Kumar (Co-I, IITR)

**2022 - 2024, Co-I – Sponsored Research Project funded by TIH ISI Kolkata, ₹5.29 mil**

Title : Networked Adaptive Traffic Signal Control in IoT-Enabled Smart Cities

Collaborators: Prof. Dhish Saxena (PI, IITR), Prof. Xuan Sharon Di (PI, Columbia University)

**Apr 2022 - July 2023, Co-I – Consultancy Project funded by MVNN, ₹2.0 mil**

Title : Technical Validation of ITMS works on 20 Intersections under Nagar Nigam Mathura Vrindavan

Collaborators: Prof. Rajat Rastogi (PI), Prof. Indrajit Ghosh, Prof. Pushpa Choudhary

**Apr 2022 - July 2023, Co-I – Consultancy Project funded by NNF, ₹1.75 mil**

Title : Technical Validation of ITMS works on 20 Intersections under Nagar Nigam Firozabad

Collaborators: Prof. Rajat Rastogi (PI), Prof. Indrajit Ghosh, Prof. Pushpa Choudhary

**2021, co-I – Consultancy Project funded by IIT Roorkee, ₹0.5 mil**

Title : Integrated Movement and Site Development Plan for New Faculty Housing Project at IIT Roorkee

Collaborators: Prof. Uttam K. Roy (PI)

**2021, co-I – Consultancy Project funded by PWD Delhi, ₹1.46 mil**

Title : Traffic Volume and Bankleman Beam Test for Strengthening of Road Under WR-22

Collaborators: Prof. M. Parida (PI), Prof. Indrajit Ghosh

**July 2019 - June 2020, Co-I – Consultancy Project funded by APCRDA, ₹5.01 mil**

Title : Prioritization of Infrastructure Works for Amaravati Capital City in Andhra Pradesh

Collaborators: Prof. Rajat Rastogi (PI) and others

**July 2019 - June 2020, Co-I – Sponsored Research Project funded by RTU Kota, ₹0.26 mil**

Title : Synthetic travel demand generation for Jaipur using an Agent-Based Transport Simulation Framework

Collaborators: Prof. I P Meel (SBCET, Jaipur)

## **Awards, nominations and recognition**

**Outstanding Young Faculty 2022**, Institute Research Fellowship (3 years)

**First Prize** in Graphical Abstract Competition, Data Science Symposium, Shaastra 2022, IIT Madras

**Winner** Smart Move Innovative Urban Mobility Challenge 2021; Initiative by NIUA, MoHUA, GiZ

**Regular Member of IRC Committee (G-7)** on Intelligent Transportation Systems, Indian Road Congress (IRC) (2021-2023)

**Best student paper award** at CTRG 2017

**Best paper award** at ABMTRANS 2015

**DAAD** PhD Scholarship for period 2013-2017

**NBCC award** of excellence 2012

**Nomination** for INAE Students Projects Award 2012

**DAAD** IIT Master Sandwich Scholarship 2011-2012

## Teaching

**CEC-101** Computer Programming in C++

**CEN-664** Transportation Planning

**CEN-563** Urban Mass Transit Systems

**AID-583** Data-driven Analytics for Smart Transportation Systems

**CEN-666** Transport Economics

**CEN-668** Multi-Agent Transport Simulation Framework

**Courses Developed** CEN-668, ICE-302, AID-583

## Teaching: Faculty Score (max 5)

**CEN-563** 2019-20 – 4.7

**CEN-666** 2019-20 – 4.09

**CEN-563** 2020-21 – 4.6

**CEN-668** 2020-21 – 4.5

**CEN-563** 2021-22 – 4.28

**CEN-103** 2021-22 – 4.1

**AID-583** 2021-22 – 4.44

**CEN-666** 2021-22 – 4.56

**CEN-563** 2022-23 – 4.25

**CEN-103** 2022-23 – 4.13

**CEN-664** 2022-23 – 4.32

## Course/ Conference Organized

**Coordinator**, 2<sup>nd</sup> Road Safety Auditors Certification Course at IIT Roorkee, July 2021

**Organizing Secretary**, 2<sup>nd</sup> International Conference on Transportation Infrastructure Projects Conception to Execution, Sep 2022

**Co-coordinator**, 1<sup>st</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> Road Safety Auditors Certification Course at IIT Roorkee

## Administrative Responsibilities

**Coordinator** CAD Lab @ Department of Civil Engineering **Major renovation for CAD Lab**

**OC MTech** @ Department of Civil Engineering

**Member** Departmental Academic Program Committee @ Department of Civil Engineering

**Faculty-in-Charge** Training and Placement @ Mehta Family School

**Member** School Faculty Search Committee @ Mehta Family School

**Member** School Research Committee @ Mehta Family School

**Member** Departmental Administrative Committee @ Department of Civil Engineering

**Member & Secretary** Departmental Research Committee @ Department of Civil Engineering

**Member** Departmental Purchase Committee @ Institute Computer Centre

**Nominated Member** Advisory Committee @ Institute Computer Centre

**Member** Departmental Faculty Search Committee @ Department of Civil Engineering

**Member** Institute Ranking Analytics Committee

**Member** Anti Ragging Committee

**Member** Web Management & Departmental Media Committee **Major designing for the departmental website**

**Member** Building & Maintenance @ Department of Civil Engineering

## Special/ Guest Lectures Delivered

**Faculty Development Program, NIT Warangal, Dec 2023** Monitoring of Exposure to Air Pollution using Low-Cost Sensors

**Mobility Quarterly Meet, iHub Data, IIT Hyderabad, June 2023** Navigating Urban Mobility Challenges: Perspectives of Passenger and Operator for Effective Solutions  
**PMGSY Training Course, IIT Roorkee, May 2022, June, July 2023** Intelligent Transportation System” in Training Course for Rural Engineering Department  
**RDATE, NIT Calicut, Mar 2023** Mapping Dynamic Air Pollution Information to the Choices of Travelers: Towards Sustainable Transport  
**AADCM workshop, SVNIT Surat, Mar 2022** Applications of Data Science in Transportation  
**PSPO, IIT, Delhi, Jan 2022** A Paradigm Shift in Urban Mobility: Policy Insights from Travel Before and After COVID-19 to Seize the Opportunity  
**PGCP by IIT Roorkee and Times Group, Dec 2021** Data Analytics in Transportation  
**Guest Lecture, MU Jaipur, Oct 202** Bicycle superhighway: An Application of Multi-Agent Transport Simulation Framework for Policy Testing  
**CTSEM, SVNIT Surat, June 2019** Policy testing using a multi-agent transport simulation framework  
**TEQIP-III, SBCET, Jaipur, June 2019** Agent-based simulations for traffic engineering and transport planning

## PhD Supervision

**Rajat Kumar, Reg.-Spring 2022-23**, Joint Supervision with Prof. Rishman Jot Kaur Chahal. “Computable General Equilibrium modelling for National Highways in India”  
**Nishtha Rawat, Reg.-Autumn 2022-23**. “Transit Occupancy Prediction using Deep-learning”  
**Kommoju Prathyusha, Reg.-Autumn 2022-23**, Joint Supervision with Prof. Indrajit Ghosh. “A Safety Performance Function for National Highways in India”  
**Anuj Nautiyal, Reg.-Autumn 2022-23**. “Urban Pervasive Data Model for Urban Agglomerations”  
**Rupam Fedujwar, Reg.-Autumn 2021-22**. “Crowding in Urban Mass Transit Systems”  
**Rashmi Choudhary, Reg.-Spring 2020-21**. “Mapping of Air Pollution Exposure to the Choices of Travellers”  
**Vikram Singh, Reg.-Spring 2019-20**. “Air Pollution Exposure Assessment of Travellers and Professional Drivers”  
**Nidhi Kathait, Reg.-Autumn 2019-20**. “Analysis of User Perception and Preferences towards Shared Micro-Mobility Services with an Emphasis on Bicycle-Sharing Systems”  
**Anurag Thombre Reg.-Spring 2018-19**, Joint Supervision with Prof. Indrajit Ghosh. “Understanding factors contributing to risky driving behavior of MTW riders”

## MTech Theses

**Jatin Bhandari, 2023** “Bus Demand Prediction using Historical Ticketing Data Delhi”. M. Tech in Data Science, IIT Roorkee.  
**Vineet Gupta, 2023** “Spatiotemporal Prediction of Dynamic Particulate Matter using Deep Learning Methods”. M. Tech in Data Science, IIT Roorkee.  
**Samsoor Mohmmand, 2022** “Estimation of Route-Level Transit OD Matrix Using Boarding and Alighting Data”. M. Tech in Transportation Engineering, IIT Roorkee.  
**Chinmay Agarwal, 2022** “Fusion of Real-Time Congestion Pattern to Land Use Regression Model for Air Pollution”. M. Tech in Transportation Engineering, IIT Roorkee.  
**Rajkumar Chotia, 2021** “Pedestrian movement in New Lecture Hall Complex”. M. Tech in Transportation Engineering, IIT Roorkee.  
**Kapil Kumar Meena, 2021** “Air Quality Perception of Commuters in Delhi”. M. Tech in Transportation Engineering, IIT Roorkee.

## Past experience

**Dec 2021 – Jan 2023, Visiting Faculty, Gati Shakti Vishwavidyalaya, Vadodara**

Taught course on Intelligent Transportation System at GSV (formerly National Rail and Transportation Institute).

**Aug 2018 – Dec 2018, Research Scientist, Robert Bosch, Singapore**

Worked on smart-city projects (e.g., CDR for Singapore), MATSim training, Generation of Emission profiles, etc.

**March 2017 – Aug 2018, Research Associate, TU Berlin, Germany**

Travel Demand Modeling, development of various modules/ policies in MATSim, etc., in the direction of sustainable transportation.

**June 2012 – Apr 2013, Dy. Manager, ICT, New Delhi, India**

Designed, tested to develop an application (RADaR) for recording and analysing road accident data effectively; Road safety audit for more than 400 km; planned and supervised several traffic surveys for DPR and other projects.

**Jan 2010 – May 2010, Lecturer, SBCET, Jaipur, India**

Delivered lectures in traffic engineering and soil mechanics.

**July 2009 – Dec 2009, Trader, Futures First, Jaipur, India**

Traded short term interest rate futures (Sterling) in LIFFE, UK.

## **Education**

**2013 – 2017, distinction**

PhD in Traffic and Transportation Engineering

Technische Universität (TU) Berlin, Germany

Thesis title - Mitigating Negative Transport Externalities in Industrialized and Industrializing Countries

**2010 – 2012, GPA 9.47/10**

Master of Technology in Transportation Engineering

Indian Institute of Technology (IIT) Delhi, India

Research project at Technische Universität Berlin, Germany

Thesis title - Agent Based Simulation of the travel demand for Patna City, India

**2005 – 2009, GPA 8.47/10**

Bachelor of Technology in Civil Engineering

Malaviya National Institute of Technology (MNIT) Jaipur, India

Thesis title - Use of Copper Slag in Bituminous Pavement



# Publications

## Patent

- Agarwal, A., M. Ikhlahk, and S. Mishra (Published 2023). “A system for wireless traffic signal control based on crowd sourced data”. Pat. 202211074732.
- Agarwal, Amit, Manan Gupta, Hemanth Vasireddy, and Aditya Kora (In-process, 2023). “Wireless edge computing-based real-time transit passenger counting system with cloud integration”. Pat.
- Agarwal, Amit, Karthik Krishnan O, Dhinesh Kumar Ravi, and Dhish Kumar Saxena (Filed, 2023). “Wireless edge computing-based adaptive traffic control system with real-time vehicle tracking and cloud integration”. Pat. 202311079549.

## Journal articles

- Choudhary, Rashmi and Amit Agarwal (2023b). “Impact of grid size on spatiotemporal prediction of fine Particulate Matter”. In: *Atmospheric Pollution Research* 14.11, p. 101887. DOI: [10.1016/j.apr.2023.101887](https://doi.org/10.1016/j.apr.2023.101887).
- Meena, Kapil Kumar, Vikram Singh, and Amit Agarwal (2023). “Perception of commuters towards air quality in Delhi”. In: *Journal of Transport & Health* 31, p. 101643. DOI: [10.1016/j.jth.2023.101643](https://doi.org/10.1016/j.jth.2023.101643).
- Thombre, A., I. Ghosh, and A. Agarwal (2023). “Examining factors influencing the severity of motorized two-wheeler crashes in Delhi”. In: *International Journal of Injury Control and Safety Promotion*. DOI: [10.1080/17457300.2023.2267040](https://doi.org/10.1080/17457300.2023.2267040).
- Choudhary, Rashmi, Siftee Ratra, and Amit Agarwal (2022b). “Multimodal routing framework for urban environments considering real-time air quality and congestion”. In: *Atmospheric Pollution Research* 13.9. DOI: [10.1016/j.apr.2022.101525](https://doi.org/10.1016/j.apr.2022.101525).
- Mittal, Vishesh, Suhas Sasetty, Rashmi Choudhary, and Amit Agarwal (2022). “Deep-learning spatiotemporal prediction framework for PM under dynamic monitoring”. In: *Transportation Research Record* 2676.8, pp. 56–73. DOI: [10.1177/03611981221082589](https://doi.org/10.1177/03611981221082589).
- Singh, Vikram, Kamini Gupta, Amit Agarwal, and Neelima Chakrabarty (2022). “Psychological impacts on the travel behaviour post-COVID-19”. In: *Asian Transport Studies* 8, p. 100087. DOI: [10.1016/j.eastsj.2022.100087](https://doi.org/10.1016/j.eastsj.2022.100087).
- Vardhan, Hash, Ishan Rai, Nidhi Kathait, and Amit Agarwal (2022). “Crowd-sourced web survey for household travel diaries”. In: *Transportation Research Procedia* 62, pp. 245–252. DOI: [10.1016/j.trpro.2022.02.031](https://doi.org/10.1016/j.trpro.2022.02.031).
- Agarwal, A. (2021). “Quantifying health & economic benefits of bicycle superhighway: evidence from Patna”. In: *Procedia Computer Science* 184C, pp. 692–697. DOI: [10.1016/j.procs.2021.03.087](https://doi.org/10.1016/j.procs.2021.03.087).
- Singh, Vikram, Kapil Kumar Meena, and Amit Agarwal (2021). “Travellers’ exposure to air pollution: a systematic review and future directions”. In: *Urban Climate* 38. DOI: [10.1016/j.uclim.2021.100901](https://doi.org/10.1016/j.uclim.2021.100901).
- Thombre, Anurag and Amit Agarwal (2021). “A paradigm shift in urban mobility: policy insights from travel before and after COVID-19 to seize the opportunity”. In: *Transport Policy* 110, pp. 335–353. DOI: [10.1016/j.tranpol.2021.06.010](https://doi.org/10.1016/j.tranpol.2021.06.010).
- Agarwal, A., D. Ziemke, and K. Nagel (2020a). “Bicycle superhighway: an environmentally sustainable policy for urban transport”. In: *Transportation Research Part A: Policy and Practice* 137, pp. 519–540. DOI: [10.1016/j.tra.2019.06.015](https://doi.org/10.1016/j.tra.2019.06.015).
- Agarwal, A., D. Ziemke, and K. Nagel (2020b). “Calibration of choice model parameters in a transport scenario with heterogeneous traffic conditions and income dependency”. In: *Transportation Letters: The International Journal of Transportation Research* 12.7, pp. 441–450. DOI: [10.1080/19427867.2019.1633788](https://doi.org/10.1080/19427867.2019.1633788).
- Suman, Hemant K., Amit Agarwal, and Nomes B. Bolia (2020). “Public transport operations after lockdown: how to make it happen?” In: *Transactions of the Indian National Academy of Engineering* 5.2, pp. 149–156. DOI: [10.1007/s41403-020-00121-x](https://doi.org/10.1007/s41403-020-00121-x).
- Agarwal, A. and I. Kaddoura (2019). “On-road air pollution exposure to cyclists in an agent-based simulation framework”. In: *Periodica Polytechnica Transportation Engineering* 48.2, pp. 117–125. DOI: [10.3311/PPtr.12661](https://doi.org/10.3311/PPtr.12661).
- Agarwal, A. and B. Kickhöfer (2018). “The correlation of externalities in marginal cost pricing: lessons learned from a real-world case study”. In: *Transportation* 45.3, pp. 849–873. DOI: [10.1007/s11116-016-9753-z](https://doi.org/10.1007/s11116-016-9753-z).

- Kickhöfer, B., A. Agarwal, and K. Nagel (2018). “Mind the price gap: how optimal emission pricing relates to the EU CO<sub>2</sub> reduction targets”. In: *International Journal of Sustainable Transportation* 13.5, pp. 378–391. DOI: [10.1080/15568318.2018.1472321](https://doi.org/10.1080/15568318.2018.1472321).
- Agarwal, A., G. Lämmel, and K. Nagel (2017). “Incorporating within link dynamics in an agent-based computationally faster and scalable queue model”. In: *Transportmetrica A: Transport Science* 14.5-6, pp. 520–541. DOI: [10.1080/23249935.2017.1364802](https://doi.org/10.1080/23249935.2017.1364802).
- Agarwal, A. and G. Lämmel (2016). “Modeling seepage behavior of smaller vehicles in mixed traffic conditions using an agent based simulation”. In: *Transp. in Dev. Econ.* 2.8. DOI: [10.1007/s40890-016-0014-9](https://doi.org/10.1007/s40890-016-0014-9).
- Lakshay, A. Agarwal, and N. B. Bolia (2016). “Route guidance map for emergency evacuation”. In: *Journal of Risk Analysis and Crisis Response* 6.3, pp. 135–144. ISSN: 2210-8505. DOI: [10.2991/jrarc.2016.6.3.3](https://doi.org/10.2991/jrarc.2016.6.3.3).
- Agarwal, A. and B. Kickhöfer (2015). “Agent-based simultaneous optimization of congestion and air pollution: A real-world case study”. In: *Procedia Computer Science* 52.C, pp. 914–919. ISSN: 1877-0509. DOI: [10.1016/j.procs.2015.05.165](https://doi.org/10.1016/j.procs.2015.05.165).
- Agarwal, A. and G. Lämmel (2015b). “Seepage of smaller vehicles under heterogeneous traffic conditions”. In: *Procedia Computer Science* 52.C, pp. 890–895. ISSN: 1877-0509. DOI: [10.1016/j.procs.2015.05.147](https://doi.org/10.1016/j.procs.2015.05.147).
- Agarwal, A., M. Zilske, K. R. Rao, and K. Nagel (2015). “An elegant and computationally efficient approach for heterogeneous traffic modelling using agent based simulation”. In: *Procedia Computer Science* 52.C, pp. 962–967. ISSN: 1877-0509. DOI: [10.1016/j.procs.2015.05.173](https://doi.org/10.1016/j.procs.2015.05.173).

## Book

- Agarwal, Amit, S. Velmurugan, and Akhilesh Kumar Maurya, eds. (2023). *Recent trends in transportation infrastructure, volume 2: select proceedings of TIPCE 2022*. Lecture Notes in Civil Engineering. Singapore, Singapore: Springer. ISBN: 978-981-99-2555-1. DOI: [10.1007/978-981-99-2556-8](https://doi.org/10.1007/978-981-99-2556-8).

## Conference/ Proceedings

- Agarwal, Amit, Anurag Thombre, Kabir Kedia, and Indrajit Ghosh (2024). “ITD: Indian traffic dataset for intelligent transportation systems”. In: *16th International Conference on COMMunication Systems & NETWORKS (COMSNETS)*.
- Bhandari, Jatin, Rupam Fedujwar, and Amit Agarwal (2024). “Occupancy prediction at transit stops using ANN”. In: *16th International Conference on COMMunication Systems & NETWORKS (COMSNETS)*.
- Kumar B V, Santhosh, Rupam Fedujwar, and Amit Agarwal (2024). “Travel time variability of bus routes in Delhi using real-time GTFS data”. In: *16th International Conference on COMMunication Systems & NETWORKS (COMSNETS)*.
- Meena, K. K., R. Taneja, and A. Agarwal (2024). “Impact of air pollution on informed decision-making for choice of a travel mode”. In: *16th International Conference on COMMunication Systems & NETWORKS (COMSNETS)*.
- Rawat, N., A. Rai, and A. Agarwal (2024). “Deep learning-based passenger counting system using surveillance cameras”. In: *16th International Conference on COMMunication Systems & NETWORKS (COMSNETS)*.
- Choudhary, Rashmi and Amit Agarwal (2023a). “Impact of grid size on spatiotemporal prediction of fine Particulate Matter”. In: *102<sup>nd</sup> Transportation Research Board Annual Meeting*.
- Choudhary, Rashmi and Amit Agarwal (2023c). “Spatiotemporal variability of PM<sub>2.5</sub> data collected through mobile monitoring”. In: *27th International Conference of Hong Kong Society for Transportation Studies*.
- Fedujwar, R. and A. Agarwal (2023). “Examining the spatiotemporal travel pattern of senior citizens: an observational study in Bhubaneswar”. In: *7th Conference of Transportation Research Group of India (CTRG)*. Surat, India.
- Kathait, N. and A. Agarwal (2023). “User intention to adopt public bicycle sharing system in an Indian city”. In: *102<sup>nd</sup> Transportation Research Board Annual Meeting*.

- Kathait, N., P. Choudhary, A. Agarwal, and R. Rastogi (2023). "Impact assessment of ring road in Haridwar and national highway connectivity on Haridwar-Rishikesh metro ridership". In: *Recent Trends in Transportation Infrastructure, Volume 2*. Ed. by Amit Agarwal, S. Velmurugan, and Akhilesh Kumar Maurya. Springer. Chap. 3. DOI: [10.1007/978-981-99-2556-8\\_3](https://doi.org/10.1007/978-981-99-2556-8_3).
- Kumar, Rajat, Parthasarathi Sahu, Amit Agarwal, and Rishamn Jot Kaur Chahal (2023). "Wider economic impact at electric vehicle penetration in India: a CGE analysis". In: *51st European Transport Conference*. Association for European Transport. Milan, Italy.
- Mohmmand, S., R. Fedujwar, and A. Agarwal (2023). "Estimation of transit OD matrix using boarding and alighting data: A case study of Haridwar-Rishikesh metro corridor". In: *Recent Trends in Transportation Infrastructure, Volume 2*. Ed. by Amit Agarwal, S. Velmurugan, and Akhilesh Kumar Maurya. Springer. Chap. 1. DOI: [10.1007/978-981-99-2556-8\\_1](https://doi.org/10.1007/978-981-99-2556-8_1).
- Prathyusha, K., I. Ghosh, and A. Agarwal (2023). "Sourcing of geometric data for safety performance function: a review and future directions". In: *7th Conference of Transportation Research Group of India (CTRG)*. Surat, India.
- Singh, Vikram and Amit Agarwal (2023). "Air pollution exposure in different microenvironments in Delhi". In: *27th International Conference of Hong Kong Society for Transportation Studies*.
- Thombre, Anurag, Jatin Bhandari, Amit Agarwal, and Indrajit Ghosh (2023). "Prediction of unknown striking vehicles in motorized two-wheeler hit-and-run crashes in Delhi". In: *International conference of the Eastern Asia society for transportation studies (EASTS) 2023*.
- Choudhary, Rashmi and Amit Agarwal (2022b). "Does PM<sub>10</sub> influence the prediction of PM<sub>2.5</sub>?" In: *8th Annual Smart Cities Symposium Prague*. IEEE. DOI: [10.1109/SCSP54748.2022.9792544](https://doi.org/10.1109/SCSP54748.2022.9792544).
- Choudhary, Rashmi, Siftee Ratra, and Amit Agarwal (2022a). "Fusing real-time congestion and air pollution in a multi-modal routing engine". In: *12th International Scientific Conference on Mobility and Transport (mobil.TUM 2022)*. WP-44. URL <http://faculty.iitr.ac.in/~amitfce/publications.html>.
- Fedujwar, Rupam and Amit Agarwal (2022). "A systematic review on crowding valuation in public transport". In: *15th International Conference on Advanced Systems in Public Transport (CASPT-2022)*. WP#49. URL <http://faculty.iitr.ac.in/~amitfce/publications.html>. Tel Aviv, Israel.
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