

ANNUAL REPORT 2022



<http://civil.iisc.ernet.in/~ashishv/beta/index.php>

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MESSAGE FROM IST LAB CONVENOR

Dear IST Lab Collaborators and Friends

In the new year 2023, it is a good time to reflect into 2022 and see how our IST Lab productivity was during the whole year. In this regard, I am happy to present to you all the annual activity report of IST Lab.

Thanks

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INTRODUCTION

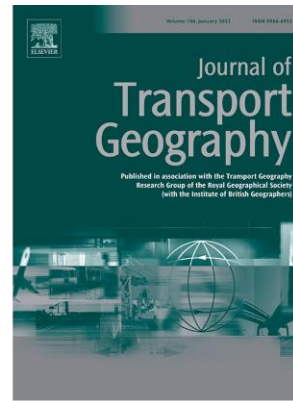
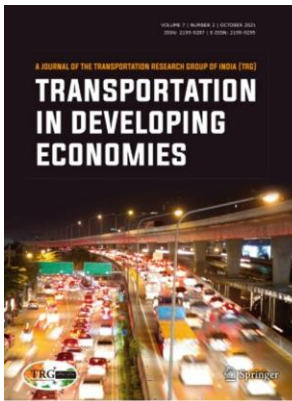
Dr. Ashish Verma, after joining IISc Bangalore in 2009 as Assistant Professor in the department of Civil Engineering established the Transportation Systems Engineering (TSE) lab. With almost twelve years of impactful research work he revamped the lab's image with a new name and an official website. The lab is now named IISc Sustainable Transportation Lab (IST Lab). With this new image Prof Ashish Verma announced the first ever alumni meet on 9th January 2021 and created the 'IST Lab Alumni Group'. The third annual alumni meet was held on 28th January 2023. In this meeting, 2022 alumni group convenor Mr. Pragun Vinayak and co-convenors Mr. Divyakant Tahlyan and Ms. Malvika Dixit presented about the various alumni activities conducted in 2022, and Prof. Ashish released the IST Lab. Annual alumni report and described his views about the upcoming year 2023. He gave the role of alumni group convenor to Mr. Vivek Yadav and co-convenors to Ms. Aparna P M and Mr. Punyabeet Sarangi. He assigned the role of coordinator to one of his lab students, Mr. Rohit Singh Nitwal.

The purpose of the report is to give the details of various activities and work done by the lab members and the achievements procured by the IST Lab in 2022. The report also showcases details about the alumni activities such as IST Lab alumni webinars, interview, and breakout sessions.

IST LAB. RESEARCH CONTRIBUTIONS

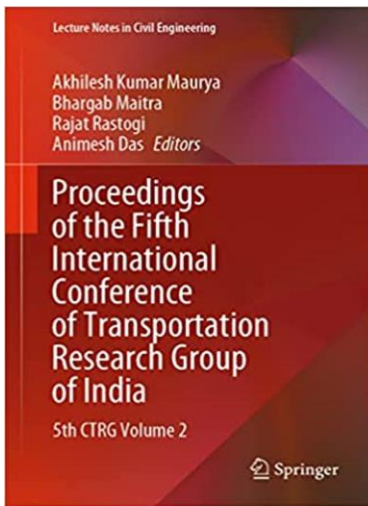
JOURNAL publications in 2022

In the year 2022, IST Lab members published their works in various reputed journals. A total of 13 journal papers are published in Transportation in Developing Economies, Journal of Urban Planning and Development, Journal of Transport Geography, Territory Politics Governance, Safety Science, Physica A: Statistical Mechanics and its Applications, International Journal of Tourism Policy, and Transportation Research Part A: Policy and Practice.



CONFERENCE/ SYMPOSIUM acceptance & participation in 2022

In the year 2022, IST Lab members accepted/presented/published their works in different conferences. A total of 18 papers are presented or published in various conference proceedings including proceedings of Fifth or Sixth International Conference of Transportation Research Group of India, 14th Conference of Transportation and Granular Flow, 13th Research Symposium on Urban Transport - 15th Urban Mobility India Conference 2022, and 2023 TRB Annual Meeting.



102nd Annual Meeting
Washington, DC



Traffic & Granular Flow
15 - 17 October 2022
Indian Institute of Technology Delhi, India



PROJECTS

In 2022, the lab worked in three projects: India EV charging infrastructure modelling under Innovative for Clean Air (IfCA) programme, Accelerate Vigyan scheme in Karyashala (High-end workshop) theme offered by SERB, and Institutionalizing Gender SMART and Gender Astute Mobility a sponsored Project funded by Directorate of Urban Land Transport (DULT). Two other projects have been accepted. A project titled “New Methodological Framework for People oriented Transportation Planning and towards the achievement of larger sustainable development goals for the Indian cities” has been accepted in DULT ASPIRE 2022. Also, initial steps have been taken to setup the India-UK Sustainable Transport Center.

India EV charging infrastructure modelling

The Innovating for Clean Air (IfCA) programme is a joint initiative between India and UK to pilot air quality improvement initiatives in Bengaluru. Launched in May 2019, the IfCA programme ran for 22 months and was funded by the UK government’s Newton Fund. The goal of the

programme was to work with innovative businesses, local authorities, academics, and civil society organisations to develop interventions which have the potential to improve air quality.

One of the program's key objectives is Clean Air Street (CAS), i.e., promoting pedestrian-only streets in the Central Business District (CBD) of Bengaluru. This initiative evaluated the benefits of pedestrianizing a busy street, focusing on all three main pillars of sustainability: environment, social, and economy. The programme also focussed on supporting the government of India's FAME scheme to accelerate the adoption of electric vehicles. The IfCA programme commenced with extensive engagement activities and workshops with Indian stakeholders to identify some of the critical EV and air quality challenge areas for Bengaluru.

This project developed a tool that would help stakeholders like BESCO in Bengaluru, India to better plan for the infrastructural requirements of electric vehicles, thereby facilitating their adoption and leading to a more sustainable transportation system for the city with reduced greenhouse gas emissions and improvements in air quality.

Accelerate Vigyan Karyashala (High-end Workshop)

The workshop provided insights on crowd modeling, dynamics, and disasters. The Karyashala workshop was a five-day workshop, where speakers from various universities and different domains presented and shared their knowledge. The workshop was structured to give an exposure to theoretical concepts, case studies, and software and statistical packages used in the field. Specifically, application of conventional discrete choice models and machine learning techniques in pedestrian modeling and image processing using neural networks was covered as a part of this course. Expert lectures were delivered by Dr. Shalini dixit from National Institute of Advanced Studies (NIAS), Dr. Meghna Verma from Ramaiah Institute of Management (RIM), Prof. K Ramachandra Rao from IIT Delhi, Prof. Akhilesh Kumar Maurya from IIT Guwahati, Prof. Andreas Schadschneider from Institute of Physics Education (University of Cologne, Germany), Dr. Anirban Chakraborty from Computational & Data Sciences. There were hands-on sessions on data visualization and modeling, which participants learnt and applied during the last session on data analysis of the experimental data.

Sponsored Project: Institutionalizing Gender SMART and Gender Astute Mobility

The project "Institutionalizing Gender SMART and Gender Astute Mobility" funded by Directorate of Urban Land Transport (DULT) was a joint collaboration between Indian Institute

of Science (IISc) Bangalore and Ramaiah Institute of Management, Bangalore to derive comprehensive insights on specific travel challenges faced by women in the city of Bengaluru across transport modes.

The project carefully introduced various policy bundles and tested their impact on the modal split. The main objective in testing these policy bundles was to identify which combination of policies would help people (women, in particular) shift towards sustainable transportation modes. Moreover, the project developed specific formats/templates and survey protocols for collecting data disaggregated by gender. The toolkit can be employed in other cities of Karnataka by DULT. The replicability of methodology developed during the project will enable the policy makers and government agencies to carry out longitudinal studies to implement better gender inclusive policies and develop continuous engagement mechanism. Moreover, it would also aid in the ongoing master plan preparation in Karnataka and enhancement of existing policies and plans by incorporating data driven gender inclusive (equitable) interventions.

Sponsored Project: DULT ASPIRE 2022

Project titled “New Methodological Framework for People oriented Transportation Planning and towards the achievement of larger sustainable development goals for the Indian cities” has been accepted in DULT ASPIRE 2022. This is a 6 months project to develop a methodological framework for evaluating sustainable transport measures towards fulfilling the larger development goals at urban level in the city of Bengaluru, which can be used to measure the progress made in the sustainable development goals using Bengaluru’s transportation system. Also, to form an Urban Indicator Framework that will help NITI Aayog to include transport-related indicators for preparing Sustainable Transportation Urban Index for Indian Cities. And enhancement of existing transport policies and plans by conducting an urban level policy analysis for the city of Bengaluru as a case study.

NITI Aayog handles the supervision of the Agenda 2030 in India and has been working to monitor the progress towards sustainable development goals, focusing on enhancing liveability and Quality of Life of the city. This is done at national and urban level by mapping the government schemes and policies. NITI Aayog has released the first Sustainable Development Goals (SDG) Urban India Index. This index is formed using 77 indicators out of which only one transport related indicator is used, i.e., “Death rate due to road traffic accidents per 1,00,000

population”. Because of the relevance of transport in achieving these sustainable development goals, more transport indicators should be included in calculating progress towards the larger development goals of sustainable transportation. Such index when formed with inclusion of transport indicators would provide true progress made towards achieving sustainable transportation and Quality of Life of Indian cities. This would help to incorporate the mobility of people in the formation of the index.

We aim to develop a comprehensive urban indicator framework with transport indicators to aid NITI Aayog in choosing appropriate indicators. We also aim to develop a methodological framework to form an urban index that acts as an alternative to the conventional V/C ratio for assessing the transportation status of Indian cities. Potential policies will be analyzed to test the feasibility of using the framework taking Bengaluru as a case study.

Indo-UK Virtual Center

Meeting with the IISc Director and concerned members was held on 9th December 2022 to discuss the India - UK Sustainable Transport Systems Centre, which is a joint collaboration between the UK Energy Systems Catapult and IISc and DULT in Bengaluru.





The centre will address transport system decarbonization challenges and industry needs by carrying out joint applied research into specific clean transport issues and enabling the piloting, support and scale-up of new sustainable solutions. The centre will take a whole systems approach to challenges, considering all aspects from consumer acceptance to business models, policy, to supporting infrastructure. It will build on the successful collaboration seen in the Innovating for Clean Air (IfCA) programme to date. The centre forms one pillar of the wider UK - India Net Zero centre, which will form a unique coalition of UK and Indian innovation policymakers, R&D companies, start-ups, investors, and research groups, joining forces to accelerate both countries' pathway to net zero. As well as transport, the Net Zero centre will focus on manufacturing and city twinning.

IST LAB ACTIVITIES IN 2022

In 2022, there have been different activities conducted in IST Lab ranging from half-yearly review meetings, organizing research symposium in UMI 2022, etc., alumni activities and festival celebrations. This section briefly mentions all these activities.

- The **first half-yearly review meeting was held on 4th March 2022** at The Golden Palms, Bengaluru. The lab members presented their research progress from the starting of the Ph.D./M.Tech./Project till the meeting date with details of the timeline of their future works.

The IST Lab team reached the venue at 8:45 AM followed by the buffet breakfast. The meeting started at 9:40 AM with a brief by Prof. Ashish Verma followed by presentations from Ms. Karthika PS, Ms. Hemanthini Allirani, and Mr. Nipun Choubey in the 1st session. After the session, a refreshment break was taken by the lab members where everyone played various indoor and outdoor games/sports like Carrom, Chess, Foosball, Badminton, Table Tennis, Squash, Mini Cricket, Snooker, etc,. It was followed by session 2 where Mr. Furqan Bhat, Mr. Aitichya Chandra and Mr. Rohit Singh Nitwal gave their work presentations after which we had a lunch break. Session 3 comprised of presentations of Ms. Almas Siddiqui, Mr. Harendra Pratap Singh and Mr. Ashutosh Dumka. It was followed by another activity-break session. During this break, the IST Lab members played musical chairs and dumb sheraz. Mr. Ramesh Babu won the chair race and Mr. Furqan Bhat was the first runner-up. It was a fun time playing and watching the race. The last session of the day had the presentations of Mr. Gaurav Yash Tiwari, Mr. Ubaid Illahi and the whole team of Electric Vehicle (EV) consisting of interns Ms. Anusha, Mr. Vaibhav, Ms. Purna, Mr. Athsish, Ms. Deeksha and Ms. Bhumika, and the project staff Mr. Rameshbabu K and Mr. Saransh Sahu. Mr. Tarun Khandelwal also joined us, who completed his master's in research from lab during those days. The day ended with high tea and group photographs.





- The **second half-yearly review meeting** was held on **12th October 2022** at Royal Orchid Resorts and Convention Center, Bengaluru. All members were instructed to present their research progress from the start till the completion of their PhD/M. Tech./Project work with details of the timeline of their future works. The IST Lab team reached the venue at 8:45 AM followed by the buffet breakfast. The meeting started with a brief by Prof. Ashish Verma followed by presentations from Ms. Karthika PS, Mr. Nipun Choubey, Ms. Hemanthini Allirani in the 1st session. The activity break after 1st session involved an active participation by the lab members in various indoor and outdoor activities such as Carom, Chess, Foosball, Badminton, Table Tennis, Mini Cricket, Mini Football, Air hockey, etc. Post-break, session 2 witnessed the presentations of Mr. Rohit Singh Nitwal, Mr. Furqan Bhat, and Mr. Yash Seth. After the lunch break, session 3 started during which Mr. Aitichya Chandra, Ms. Almas Siddiqui, and Mr. Kiran Naik presented their work. It was followed by another activity-break session. During this break, the IST Lab Trivia Quiz was conducted by Mr. Aitichya Chandra and Mr. Nipun Choubey. The winners of the quiz were Mr. Furqan Bhat and Mr. Abdul Aziz. The first runners-up were Ms. Hemanthini Allirani and Mr. Kiran Naik. After the quiz, a talent show was conducted where Ms. Maneesha, Mr. Veera, and Ms. Karthika PS showed distinct cultural performances. The last session of the day had the presentations of Mr. Harendra Pratap Singh, Ms. Maneesha, Mr. Veera Prabhu, and Mr. Abdul Aziz. The day ended with high tea and group photographs.





- The thirteenth **Research Symposium on “Azadi@75 Sustainable AtmaNirbhar Urban Mobility”** was held as part of the **15thUrban Mobility India Conference cum Exhibition 2022** scheduled from **4th - 6th November 2022** in **Kochi, Kerala, India**. The event is held under the aegis of the **Ministry of Housing and Urban Affairs, Government of India** and was coordinated this year by **IISc Sustainable Transportation Lab. (IST Lab.)**, **Indian Institute of Science (IISc) Bangalore** in association with **Cochin University of Science and Technology (CUSAT)**. This was the second time that **IST Lab** was invited to coordinate the symposium. The symposium is a platform to highlight the current research activities in urban transport carried out by academic and research institutes, especially by young researchers. The purpose of the research symposium is to:
 - Encourage the idea of developing solutions for Indian conditions and challenges indigenously.
 - Encourage young researchers working in various facets of urban transport to present their research work and provide them an opportunity for networking with fellow researchers and professionals.

- Enhance capacity building of young researchers in the field of urban transport, and contribute towards building up of research data base, its dissemination and identification of research thrust in the country.

As part of the research symposium, abstracts of research papers were invited on the following broad themes: (i) Smart City & Smart Mobility, (ii) Sustainable Transportation Planning & Policy, (iii) Public Transport & Non- Motorized Transport (NMT), (iv) Road Safety for Vulnerable Road Users (VRUs), and Urban Transport Infrastructure Design for All, (v) Sustainable Mobility & Land Use (LU), (vi) Sustainable Urban Freight, (vii) Electric Urban Mobility and (viii) Urban Transport Governance.



71 abstracts were received pertaining to different urban mobility themes as defined above. Out of the 71 abstracts received, 6 were desk rejected for either not following the submission guidelines or for not being relevant to any of the themes and the remaining 67 abstracts were sent to reviewers for further scrutiny. Further 4 papers were rejected based on reviewer suggestions. Based on the review comments and reviewer decisions, 60 abstracts were selected and invited to submit their full manuscripts. A total of 40 full papers were received for second round of review. A double-blind review process, which is followed by most of the peer reviewed journals, was adopted throughout and it was made sure that all the papers were reviewed by at least two reviewers. The review scores and comments for the full papers were sent to the authors. Subsequently 37 papers were provisionally selected under the condition that the review comments are addressed satisfactorily. Following the addressal of review comments, the authors were asked to submit their presentations which are being presented in this research symposium. These papers were presented in 8 sessions with 4 to 5 papers being presented in each of the sessions. There was one session each on electric and clean urban mobility; sustainable transport planning;

urban transport planning; smart city, smart mobility and urban freight; traffic engineering; safety and emissions and two sessions on public transport and NMT.



The two-day research symposium witnessed the participation of six IST lab members including the convenor Prof. Ashish Verma. The papers presented by the lab members covered a wide spectrum of topics related to the sustainable, safe, and efficient transportation. The research symposium started with Mr. Furqan Ahmad Bhat presenting his paper titled “What drives the Adoption of Electric Four-Wheelers in India? An Investigation of the Reasons For and Against” in the session Electric and Clean Urban Mobility chaired by Prof. Ashish Verma. In the session on Sustainable Transport Planning chaired by Prof. Vinay Maitri, Mr. Aitichya Chandra and Prof. Ashish Verma presented their papers titled “Investigating the Effects of Individual and City Tier Characteristics on Motorized Two-Wheeler Usage Behaviour: A Multilevel Modelling Approach” and “Choice modelling-based policy evaluation for gender-inclusive mobility”. In another parallel session on Urban Transport Governance chaired by Prof. P. K. Sarkar, Prof. Ashish Verma and Mr. Rohit Singh Nitwal presented their papers titled “A critical review of India’s Urban Governance reforms and its impact on transport sector: Case Studies of Bangalore and Jaipur” and “Review of Transportation Relevant UN SDG targets and their association with Sustainable Transport Indicators”. On the second day of the research symposium, Mr. Nipun Choubey and Mrs. Karthika PS presented their papers titled “Detecting social groups using low mounted camera in mass religious gatherings” and “An experimental study on the behavior of social groups in pedestrian bidirectional flow” in the session on Safety and Emissions chaired by Prof. Manoj M.

The research symposium concluded with Prof. Verma delivering a vote of thanks.



Core Committee Members from IST Lab, IISc Bangalore

Convenor: Prof. Ashish Verma

Student Working Committee cum rapporteurs: Mr. Furqan Ahmad Bhat (Coordinator),
Ms. Hemanthini AR, Mr. Aitichya Chandra, Ms. Almas Siddiqui



- Organised One Week Offline Karyashala Workshop titled: "Pedestrian Flow and Risk Modelling" under the scheme Accelerate Vigyan 2021, sponsored by SCIENCE & ENGINEERING RESEARCH BOARD(SERB) during 16-20 May 2022 in Center for Continuing Education, IISc Bangalore.

- Conducted VRITIKA (Training and Skill Internship) sponsored by the Science & Engineering Research Board (SERB), Department of Science and Technology (DST), Govt of India, under Accelerate Vigyan Vritika scheme for 4 post graduate students pursuing their master's degree in Transportation Engineering.
- Visit of Prof Paul Monks, Chief Scientific Advisor, BEIS, UK to IISc



- IST Lab. is pleased to be "Academic Partner" again for TrafficInfraTech Expo-2022 to be held at Mumbai during 16-18 Nov. 2022







- **IST Lab Alumni Activities**

In the year 2022 various alumni activities were conducted including seven Alumni Webinar Series, four Three-minute thesis, one Alumni Workshop Series, one Alumni Interview Series, and one Alumni Ice Breaking Session.


- **Alumni Webinar Series and Three-minute thesis**

S. No.	Speaker	Date	Speaker's name & affiliation	Title of the webinar
1		26 Feb 2022	Mr. Nathan Keltch, Mobility Specialist, Department of Transportation, Louisville, Kentucky, USA	Complete Streets Coalition - Louisville Metro Government
			3 Minute Thesis by Mr. Furqan Ahmad Bhat, 3 rd Year, PhD Student	Developing decision support framework for electric vehicle adoption and infrastructure planning
2		21 May 2022	Dr. Chetan Doddamani, Senior Researcher, Indian Institute of Technology Delhi	Modelling Residential Mobility Decision and its Impact on Car Ownership and Travel Mode
			3 Minute Thesis by Mr. Aitichya Chandra, 3 rd Year, PhD Student	Operations Planning, Modeling and Optimization of Air Transportation System in India
3		11 Jun 2022	Dr. Manoj M, Assistant Professor, Indian Institute of Technology Delhi	COVID-19 and sedentary and physical activity time use
			3 Minute Thesis by Mr. Nipun Choubey, 4 th Year, PhD Student	Sensing and Data Analytics of large and unstructured crowds

4		25 Jun 2022	Mr. Siddhartha Gulhare, PhD candidate, University of Florida	Can Artificial Neural Networks replace Discrete Choice Models in the travel mode choice analysis
			3 Minute Thesis by Mr. Ashutosh Dumka, 2 nd Year, M. Tech Student	Developing Quality of Life Index Framework to Evaluate Transport Policies at Local Level
5	Five Speakers	27 Aug 2022	Ms. Malvika Dixit, Mr. Divyakant Tahlyan, Mr. Pragun Vinayak, Dr. Siddhartha Gulhare, & Dr. Sai Kiran Mayakuntla	Job Interview, Tips and Techniques
6		22 Oct 2022	Dr. Malvika Dixit	Transit Performance Assessment and Route Choice Modelling Using Smart Card Data
7		17 Dec 2022	Mr. Vivek Yadav	Understanding Exploratory Modeling and Analysis Tool (EMAT)


*Moderated by *Mr. Divyakant Tahlyan, Co-Convenor, IST Lab Alumni Group, PhD student at Northwestern University* and *Mr. Pragun Vinayak, Convenor, IST Lab Alumni Group, Mobility and Transportation Analytics Consultant, Cambridge Systematics Inc. (Los Angeles)*

○ **Alumni Workshop Series**

S. No.	Speaker	Date	Speaker's name & affiliation	Workshop topic
1		09 Apr 2022	Mr. Siddhartha Gulhare, Phd student at University of Florida	Tutorial on apollo package in R programming

*Moderated by *Mr. Divyakant Tahlyan, Co-Convenor, IST Lab Alumni Group, PhD student at Northwestern University*

- Alumni Interview Series

S. No.	Alumni Interviewee	Date	Interviewee's name & affiliation
1		16 Apr 2022	Dr. Hitendra Trivedi, Director, Hita Energy Private Limited

*Moderated by *Mr. Divyakant Tahlyan, Co-Convenor, IST Lab Alumni Group, PhD student at Northwestern University, and Ms. Malvika Dixit, Co-Convenor, IST Lab Alumni Group, PhD student at Delft University of Technology.*

- Alumni Ice Breaking Session

S. No.	Date	Sessions
1	07 May 2022	One-Hour Informal Student-Alumni Ice-Breaking Session

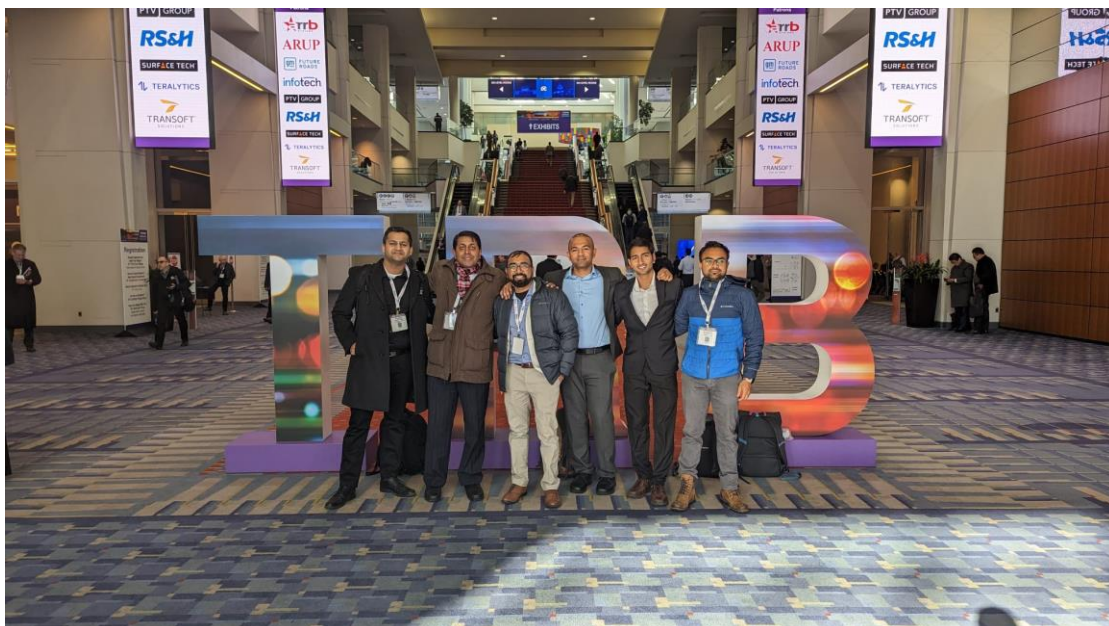
*Moderated by *Mr. Divyakant Tahlyan, Co-Convenor, IST Lab Alumni Group, PhD student at Northwestern University.*

- Interactive session with Ms. Prithvi Bhat Beeramoole and Mr. Chintan Sanjeev Advani, IST Lab. Alumni & Research Students from QUT, Australia, during their visit to IST Lab on 28th November 2022





- IST Lab Alumni lunch with Mr. Divyakant Tahlyan, Mr. Vivek Yadav, Mr. Siddhartha Gulhare, and Mr. Shubayan Ukil during their participation in TRB 2023 Annual meeting held in Washington D. C. on 9th January 2023.



- Festival celebrations in 2022
 - Eid-UI-Fitr celebration, 4th May 2022

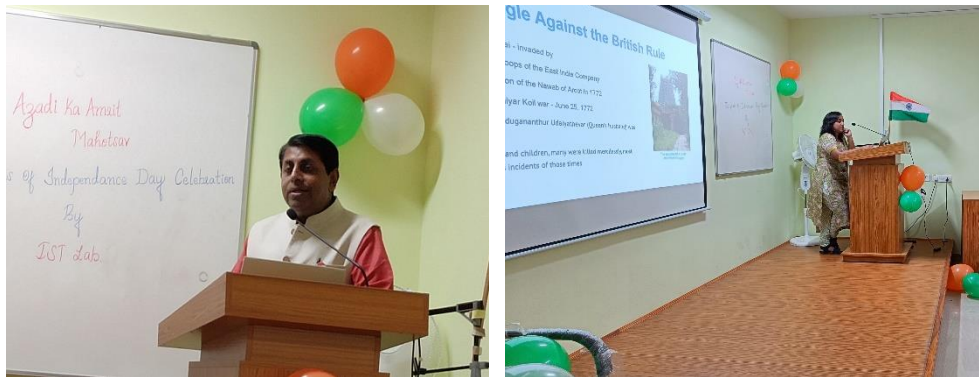
The auspicious festival of Eid-UI-Fitr was celebrated by the lab members with Ms. Almas Siddiqui and her parents, Mr. Naseem Ahmad Siddiqui and Mrs. Fareeda Siddiqui on 4th May 2022. Almas gave a brief summary about the Ramadan month, and why and how the festival is celebrated amongst Muslims. She and her mother cooked sewaiya for all the lab members which is eaten the most as the special dish on Eid by Muslims. The celebrations ended with exchanging thoughts and views with them and a group photograph.



- Celebrated 75th Independence Day Azadi ka Amrit Mahotsav, 12th August 2022

The day was celebrated with pride to remember the honor of our nation. The day kickstarted with remembering all our freedom fighters who didn't shine in limelight.

Each Lab member came up with unsung heroes of their state and represented their struggles, hardships and sacrifice to the nation. In the later part of the day, we did focused group discussion. The objective of the FGD is to have collate thoughts of IST Lab Members about '**Opportunities and Challenges for India to become Developed Economy by 2047**'. Every IST lab member actively shared their perspectives and brought up unnoticed challenges and possible solutions were also discussed for the same. As a tone of national integrity and patriotism, our lab members Gayathri, Maneesha, Veera sang patriotic songs of the nation.





○ **Ganesh Chaturthi and Onam festival, 7th September 2022**

The festivals of Onam and Ganesh Chaturthi was celebrated with much aplomb and enthusiasm by the lab members on the 7th of September. A flower rangoli was created as per the Onam tradition while the celebrations started with Ganapati Puja. Lab member Kiran, gave a brief summary about the Ganesha Chaturthi festival and Maneesha brought a little bit of Onam cheer with videos of celebrations across Kerala. The celebrations ended with Ganpati Visarjan and a delicious south Indian meal.



○ Also, **Ayudha Pooja** was celebrated on 4th October 2022.

IST LAB ACHIEVEMENTS IN 2022

In 2022 our lab members have received multiple awards and post-doc fellowships. Some of these major achievements are presented below:

- **Prof. (Dr.) Ashish Verma**, Convenor (IST Lab.) got elected as "**Hony. Secretary**" of **Institute of Urban Transport (India)**
- **Dr. Gayathri Harihara Subramanian** has been awarded the **Postdoctoral Industrial Fellowship** by Indo-German Science and Technology Centre (IGSTC) to work with accurate GmbH, Munich, Germany.
- **Dr. Ubaid Illahi** has been awarded the **Postdoctoral Fellowship** by the Department of Civil, Structural & Environmental Engineering at Trinity College Dublin to work on the project called TRACT (TRANsport behaviour Change Trials).
- IST Lab members received the first and the second-best prize for their research papers presented at 13th UMI-Research Symposium 2022 held at Kochi as a part of 15th Urban Mobility Conference 2022, organized by the Ministry of Housing and Urban Affairs (MoHUA), Government of India and Institute of Urban Transport (IUT), India and coordinated by the IST Lab.

Best Research Paper Award (1st Prize)

Authors: **Furqan A. Bhat** and **Ashish Verma**

Title: What drives the Adoption of Electric Four-Wheelers in India? An Investigation of the Reasons for and Against



Best Research Paper Award (2nd Prize)

Authors: Ubaid Illahi, Gayathri H.S., Ashish Verma

Title: Choice modelling-based policy evaluation for gender-inclusive mobility



The second prize was received by Ms. Karthika P S on behalf of Mr. Ubaid and Ms. Gayathri.

- IST Lab Alumni, Dr. Malvika Dixit received young researcher of the year award in ITF 2022.



REPORT SUMMARY

This report captured the main IST Lab activities and achievements in 2022. Details are provided starting from the vision of Prof. Ashish Verma to revamp the Lab image to IST Lab activities to Alumni activities to various achievements bagged by our lab. The report consists of four sections starting from introduction, IST Lab research contribution, IST Lab activities in 2022, including the details about IST Lab alumni activities and various festival celebrations of the year 2022. Finally, the report showcased the IST Lab's achievements in 2022.

We thank all the alumni and current lab members who, with their hard work and research contribution, have made a positive impact in the field of sustainable transportation and mobility. Their contributions have brought several recognitions and laurels to the IST Lab. The future goal will be to continue this strive for excellence and improve the quality of life and transportation system in our society.