Minal Chandra, PhD
Principal Scientist, CSIR- CRRI, New Delhi
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EDUCATION

- **Doctor of Philosophy in Engineering (Ph.D.)** *(Awarded: October, 2020)*
  Academy of Scientific and Industrial Research (AcSIR), CSIR- Central Road Research Institute, India
  Thesis Title: "*Integrated Travel Demand Modelling for Evaluation of Sustainable Transport System*"

- Master of Technology (M.Tech.)- Transportation Engineering, 2012-2014,
  Academy of Scientific and Industrial Research (AcSIR), CSIR- Central Road Research Institute, India Thesis Title: "*Mode Choice Analysis Using Neuro- Fuzzy Model*"

- Bachelor of Technology (B.Tech)
  Civil Engineering, 2007-2011
  School of Engineering**,** Cochin University of Science & Technology, India.
  Thesis Title: "*Stone Matrix Asphalt Stabilized with Polypropylene Fiber*"

RESEARCH and EMPLOYMENT EXPERIENCE

- **June, 2024 to Present**: Principal Scientist, Transport Planning & Environment Division, CSIR-Central Road Research Institute (CSIR-CRRI) New Delhi, India
- **June, 2020 to June 2024**: Senior Scientist, Transport Planning & Environment Division, CSIR-Central Road Research Institute (CSIR-CRRI) New Delhi, India
- **October, 2022 to September 2024:** Postdoc Researcher, EV Research Center, **Institute of Transportation Studies**, **University of California-Davis,** CA, USA
- **2016 to 2020:** Scientist, Transport Planning & Environment Division, CSIR-Central Road Research Institute (CSIR-CRRI) New Delhi, India
- **2012 to 2016:** Trainee Scientist, Transport Planning & Environment Division, CSIR-Central Road Research Institute (CSIR-CRRI) New Delhi, India
- **2011-2012:** Assistant System Engineer, Tata Consultancy Services, India

SELECTED SCI PUBLICATIONS *My Scholar Profile*

- **Chandra,M.***; Busch, P.; Parés Olguín, F. and Tal, G., (2025), "Paths of progress: Forecasting global electric vehicle demand amidst demographic and economic growth", Transportation Research Part D: Transport and Environment, Vol. 147, https://doi.org/10.1016/j.trd.2025.104928.
- Parés, F; Busch, P.; **Chandra, M**. and Tal, G. (2024), "Shifting manufacturing: Electric Vehicle Supply Strategy using the Model for International EV Trade", Journal of Cleaner Production (Accepted) https://doi.org/10.1016/j.jclepro.2024.144357
- Busch, P., Parés, F; **Chandra, M**. and Tal, G.(2024), "Future of Global Electric Vehicle Supply Chain: Exploring the Impact of Global Trade on Electric Vehicle Production and Battery Requirements", Transport
  Research Record, https://doi.org/10.1177/03611981241244797
- **Chandra, M.*** (2022) "Investigating the impact of policies, socio-demography and national commitments on electric vehicle demand: Cross-country study", Journal of Transport Geography, 103 (2022) https://doi.org/10.1016/j.jtrangeo.2022.103410

- Vansola, B, **Minal** *, Shukla, R. (2022), “Set cover model-based optimum location of electric vehicle charging stations”, Current Science, Vol. 123(12), 10.18520/cs/v123/i12/1448-1454
- Saiyad, G.*, **Minal**, Rathwa, D, (2022), “Exploring determinants of feeder mode choice behavior using Artificial Neural Network: Evidences from Delhi metro”, Physica A: Statistical Mechanics and its Applications, Vol. 598, pp. 127363. https://doi.org/10.1016/j.physa.2022.127363
- **Minal***; Gajrani, K.K and Ch. Ravi Sekhar, (2018), “Impact of road rationing on modal shift and transport sustainability in Delhi, India”, Transport, 175(1):12–21, DOI: 10.1680/jtran.18.00023
- **Minal***; Ch., RaviSekhar; Madhu, E. (2022), “Estimation of Value of Travel Time based on Mixed Land Use of Trip Origin and Destination”, Case Studies on Transport Policy, Vol. 10(2), pp. 12071222. https://doi.org/10.1016/j.cstp.2022.04.009
- Bhatt, D., **Minal***, (2022), “GIS and Gravity Model-Based Accessibility Measure for Delhi Metro”, Iranian Journal of Science and Technology, Transactions of Civil Engineering. https://doi.org/10.1007/s40996021-00795-5
- **Minal***; Ch. Ravi Sekhar and Errampalli Madhu (2021), “Multimodal Travel Choice Determinants in Context of Travel Time Reliability”, ICE Proceedings Transport . DOI:https://doi.org/10.1680/jtran.20.00091
- Saiyad, G., **Minal**, Kumar, R., Rathwa, D, (2021), “Assessment of Transit Accessibility Through Feeder Modes and Its Influence on Feeder Mode-Choice Behaviour”, AJSE, https://doi.org/10.1007/s13369021-06082-9
- Chandra, S. and **Minal***, (2019), “Challenges of Electric Vehicle Adoption in India”, Indian Highways, Vol.47(8),pp.42-45
- **Minal***; Ch. Ravi Sekhar and Errampalli Madhu, (2018), “Development of Neuro-Fuzzy based Multimodal Mode Choice Model for Commuter in Delhi”, IET Intelligent Transport Systems**,** Vol.13(2), pp. 243-251, DOI: 10.1049/iet-its.2018.5112
- **Minal*** and RaviSekhar, Ch., (2018), “Web Survey Data And Commuter Mode Choice Analysis Using Artificial Neural Network”, International Journal for Traffic And Transport Engineering, Vol. 8(3): Pp. 359371, DOI:http://dx.doi.org/10.7708/ijtte.2018.8(3).08
- **Minal*** and Ch. Ravi Sekhar, (2016), “Commuter’s Sensitivity in Mode Choice: an Empirical Study of New Delhi”, Journal of Transport Geography, Elsevier**,** Vol 57C, 2016, Pp. 207-217 https://doi.org/10.1016/j.jtrangeo.2016.11.001
- Ch. Ravi Sekhar, **Minal*** and Errampalli Madhu, (2016), "Multimodal Choice Modeling Using Random Forest Decision Trees", International Journal for Traffic And Transport Engineering, Vol 6(3), Pg.356-367, *DOI: 10.7708/ijtte.2016.6(3).10*
- **Minal*** and Ch. Ravi Sekhar, (2014), “Mode Choice Analysis: The Data, The Models and Future Ahead”, International Journal for Traffic and Transport Engineering, Vol 4(3), Pg.269-285. DOI:*http://dx.doi.org/10.7708/ijtte.2014.4(3).03.*

**Corresponding Author*

Non-SCI Peer-Reviewed Journals (Publications)

10. *Indian Highways (Indian Roads Congress, India)*, "Impact of Socio-Demographic Factors on EV Ownership in New Delhi" (2023)
11. *Bharatiya Vaigyanik evam Audyogik Anusandhan Patrika (NISCAIR, India)*, "भारत में स्मार्ट सिटीज का विकास)Development of Smart Cities in India)" (2020)

Conferences Presentations and Proceedings

1. *EVS36 (California, USA, 2023)* – "India-led EV Two-Wheeler Transition in Global South"

2. *TRB Annual Meeting (Washington, D.C., USA, 2024)* – "Global EV Demand Forecasting & Economic Shifts"
3. *TRB Annual Meeting (Washington, D.C., USA, 2025)* – "EU EV Production & Pooling Strategies"
4. *8th International Conference on Transportation Systems (India, 2021)* – "GIS Model for Optimal EV Charging Locations"
5. *WCTR 2019 (Mumbai, 2020)* – "Trip Generation & Analysis for Cycle Rickshaws"
6. *TPMDC 2022 (IIT Mumbai, 2024)* – "Sustainability Integration Index for Metro & Bus Transport"
7. *EVS36 (California, USA, 2023)* – "Implications of Global EV Targets on Mexico's Auto Industry"
8. Bahtia, U., RaviSekhar, Ch., Minal, & Errampalli, M. (2018, January). *Impact of congestion pricing on mode choice and route choice behaviour: An experimental study of Delhi*. Presented at the Transportation Research Board Conference (TRB), Washington D.C., USA. CD-ROM. TRB.
9. Saiyad, G., Minal, & Kumar, R. (2019, May). *Trip generation and trip rate analysis for cycle rickshaws in Delhi: A step towards sustainable transportation*. In *World Conference on Transport Research - WCTR 2019*, Mumbai (Vol. 48, pp. 2296–2312). https://doi.org/10.1016/j.trpro.2020.08.287
10. Bhatt, D., Minal, & Ravi Shankar, A. U. (2019, May). *Comparative analysis of Delhi Metro travel demand post Phase 2 expansion*. Presented at the *World Conference on Transport Research - WCTR 2019*, Mumbai. Accepted. WCTRS.

Contribution to Books (Book Chapters)

1. *Springer (Singapore, 2023)* – "GIS-Based Model for Optimum EV Charging Stations"
2. *Springer (Singapore, 2024)* – "Sustainability Integration Index for Metro & BusTransport"

AWARDS AND HONOURS

- ✓ **Government of India-Department of Science & Technology, AWSAR Award 2018**: The Ph.D. popular science story was chosen for AWSAR award 2018
- ✓ The Fellow is a member in the **Bureau of Indian Standards (BIS)** committee on "Transport & Logistics Services" - SSD-II-1 **in IS 19225: 2025, Indian Standard Public Bus Transport Services - Guidelines**

SPONSORED RESEARCH PROJECTS and MAJOR COLLABORATIONS

(2020-2025)

- **EV-Charge Software Development (FTT, Co-PL)** – Designed optimization framework, co-built software (Rs. 50 lakhs)
- **Charging Station Reliability (R&D, PL)**: evaluating performance of EV charging station (Rs. 14 lakhs)
- **Bharatpur Mobility Plan (Sponsored, member)** –charging station placement, signal design, and city policy discussions.
- **Kota Traffic & Pavement Studies (Sponsored, member)** –traffic projection analysis for 2030 & 2035.
- **Jaipur BRTS Evaluation (Sponsored, member)** – Analyzed user perception, travel characteristics, road safety, and metro integration strategies.
- **Urban Transport Policies & Emissions (R&D, member)** – Estimated freight VKT (ongoing data analysis).
- **Global EV Demand Modeling (R&D, Co-PL, UC Davis)** – Forecasted EV demand for 190 countries under economic scenarios, contributing to multiple publications.
- **EV Transition & Targets (R&D, Co-PL, UC Davis)** – Modeled EV adoption rates across 63 countries, analyzing policy impacts on electrification.
- **EV Access in Underserved Communities (Sponsored, member, UC Davis)** –mobility needs and EV accessibility in DAC in California.

- **ZEV Incentive Equity (R&D, PL, UC Davis)** – Secured $180K USDOT funding to assess dealership EV equity concerns.
- **EU EV Market & Regulations (Sponsored, PL, UC Davis)** – Modeled automaker compliance with EU emission standards and production strategies.
- **Ahmedabad Traffic Studies (Sponsored, PL)**. (Rs. 55 Lakhs)
- **Ahmedabad Mobility Plan (Sponsored, member)** –travel demand models, and survey designs for the study.
- Optimum Location of Charging Infrastructure for Electric Vehicles, Sponsor: CSIR-CRRI (2020-2022)
- Development of Sustainable Integration Index (SII) for Public Transport Modes, Sponsor: Delhi Research Implementation and Innovation (DRIIV) of Delhi Science & Technology Cluster (2021-2022)
- Development of Trip generation manual for Indian Cities, Sponsor: Council of Scientific and Industrial Research, India (2020-2022)

(2016-2020)

- Development and Application of the Technologies for Sustainable Transportation (SUSTRANS), 12th Five Year Plan Network Project (2016-2017)
- MEGACITY LOGISTICS: Metric Tools & Measures for Sustainability (MEGALOG), Sponsor: World Bank; TU Delft, Netherlands and TNO Netherlands (2018-2019)
- Multimodal Travel Demand Model for Evaluation of Sustainable Transport System, Sponsor: CSIR-CRRI (2017-2019)
- Traffic Studies for Identified Intersections Improvements at Vadodara city, Sponsor: Vadodara Municipal Corporation (2018)
- Quantification of the Reduction of Air Pollution Due to Vehicular Traffic on Eastern Peripheral Road, Sponsor: Department of Environment, Government of NCT Delhi (2018-2019)
- Comprehensive Mobility Plan for Ahmedabad City, Sponsor: Ahmedabad City Police (Traffic) (2019-2020)
- Traffic Study for Feasibility of Mineral Transportation due to Expansion of Guali Iron Ore Mine, Odisha, Sponsor: The Odisha Mainlining Corporation Ltd, Government of Odisha (2021)