

CURRENT POSITION

- April 2022 – Present **Assistant Professor**
Transportation Research and Injury Prevention Centre, Indian Institute of Technology
Delhi, New Delhi, India
- May 2021 – April 2022 **Visiting faculty**
Transportation Research and Injury Prevention Centre, Indian Institute of Technology
Delhi, New Delhi, India

Research interests:

- Health impact modeling of transport including pathways of air pollution, CO₂, injuries, and physical activity
- Use of innovative data sources to estimate population-level travel patterns and traffic exposure
- Travel behavior and its social and built environment determinants
- Epidemiology of road traffic injuries

POST DOCTORAL RESEARCH

- May 2017 – May 2021 **Research Associate**
Public Health Modelling Group, MRC Epidemiology Unit, University of Cambridge, UK

EDUCATION

- 2011 – 2017 **TRANSPORTATION RESEARCH AND INJURY PREVENTION PROGRAMME (TRIPP), INDIAN INSTITUTE OF TECHNOLOGY DELHI, INDIA**
Doctoral Degree in Transportation Planning
- 2008 - 2010 **TEXAS A&M UNIVERSITY, COLLEGE STATION, TEXAS, USA**
Master of Science in Transportation Engineering
 - Awarded Civil Engineering Departmental Fellowship
- 2004 - 2008 **INDIAN INSTITUTE OF TECHNOLOGY DELHI, INDIA**
Bachelor of Technology in Civil Engineering

JOURNAL ARTICLES

- 41) Banerjee, A., Jha, A., Farooq, B., Mohan, D., Tiwari, G., Bhalla, K., & **Goel, R.** (2023). Developing a national database of police-reported fatal road traffic crashes for road safety research and management in India. *International Journal of Injury Control and Safety Promotion*. <https://doi.org/10.1080/17457300.2023.2210546>
- 40) Maulida, R., **Goel, R.**, Labib, S. M., Oni, T., & van Sluijs, E. M. (2023). Environmental correlates of adolescent active travel to school in Asia: An ecological study. *Health & Place*, 81, 103024.
- 39) **Goel, R.** (2023). Gender gap in mobility outside home in urban India. *Travel Behaviour and Society*. <https://doi.org/10.1016/j.tbs.2023.01.004>.
- 38) **Goel, R.** (2023). Population-level estimate of bicycle use and fatality risk in a data-poor setting. *International Journal of Injury Control and Safety Promotion*. <https://doi.org/10.1080/17457300.2023.2172737>.
- 37) Woodcock, J., Khreis, H., & **Goel, R.** (2022). Transport and health on the path to a net zero carbon world. *BMJ*, 379.
- 36) Tatah, L., Pearce, M., **Goel, R.**, Brage, S., Woodcock, J., & Dake, F. A. (2022). Physical Activity Behaviour and Comparison of GPAQ and Travel Diary Transport-Related Physical Activity in Accra, Ghana. *International Journal of Environmental Research and Public Health*, 19(12), 7346.
- 35) **Goel, R.**, Guttikunda, S. & Tiwari, G. (2022). Health modelling of transport in low-and-middle income countries—a case study of New Delhi, India. *Active travel studies*. 2 (1). <https://doi.org/10.16997/ats.1231>
- 34) Heydari, S. Asgharian, M. Kelly, F. J. & **Goel, R.** (2022). Potential Health Benefits of Eliminating Traffic Emissions in Urban Areas. *Plos One*. 17 (3).
- 33) **Goel, R.**, Mohan, D., Saini, G., Jha, A., Tiwari, G., & Bhalla, K. (2022). A systematic review and meta-analysis of the impact of curbs on crash outcomes. *Traffic Injury Prevention*, 1-6.
- 32) **Goel, R.**, Oyeboode, O., Foley, L., Tatab, L., Millett, C., & Woodcock, J. (2022). Gender differences in active travel in major cities across the world. *Transportation* <https://doi.org/10.1007/s11116-021-10259-4>.

- 31) Jackson, C. Johnson, R. de Nazelle, A. **Goel, R.** de Sa, T. Tainio, M., & Woodcock, J. (2019). A guide to Value of Information methods for prioritising research in health impact modelling. *Epidemiologic Methods*.
- 30) Thondoo, M., **Goel, R.**, Tatah, L., Naraynen, N., Woodcock, J., & Nieuwenhuijsen, M. (2021). The Built Environment and Health in Low- and Middle-Income Countries: a Review on Quantitative Health Impact Assessments. *Current Environmental Health Reports*. doi.org/10.1007/s40572-021-00324-6
- 29) Salvo, D. Garcia, L. Reis, R.S. Stankov, I. **Goel, R.** Schipperijn, J. Hallal, P.C. Ding, D. and Pratt, M. (2021). Physical Activity Promotion and the United Nations Sustainable Development Goals: Building Synergies to Maximize Impact. *Journal of Physical Activity and Health*. (10.1123/jpah.2021-0413)
- 28) Garcia, L. Johnson, R. Johnson, A. Abbas, A. **Goel, R.** Tatah, L. Demesere-Derry, J. Kyere-Gyeabour, E. Tainio, M. Hérick de Sá, T. & Woodcock, J. (2021). Health impacts of changes in travel patterns in Greater Accra Metropolitan Area, Ghana. *Environmental International*, Vol 155 (10.1016/j.envint.2021.106680).
- 27) Mohan, D. **Goel, R.** (2021). What and how of effective police enforcement (pp. 85-103). In Tiwari, G. Mohan, D. (Eds.) *Transport and Safety: Systems, approaches, and implementation*, Springer.
- 26) **Goel, R.** Goodman, A. Aldred, R. Nakamura, R. Tatah, L. Garcia, L.M.T., Zapata-Diomed, B. De Sa, T.H., Tiwari, G. De Nazelle, A. Tainio, M. Buehler, R. Götschi, T. & Woodcock, J (2021). Cycling behaviour in 17 countries across 6 continents: levels of cycling, who cycles, for what purpose, and how far? *Transport Reviews*.
- 25) **Goel, R.** (2021). A new model to estimate pedestrian deaths from speed-related interventions. *Traffic injury prevention*, Vol 22 (4), 330-335.
- 24) **Goel, R.** Miranda, J. J., Gouveia, N., & Woodcock, J. (2020). Using satellite imagery to estimate heavy vehicle volume for ecological injury analysis in India. *International journal of injury control and safety promotion*, 1-10.
- 23) **Goel, R.** Mohan, D. (2020). Investigating the association between population density and travel patterns in Indian cities—An analysis of 2011 census data. *Cities*, Vol 100.
- 22) Elvik, R. **Goel, R.** (2019). Safety-in-numbers: An updated meta-analysis of estimates. *Accident Analysis and Prevention*, Vol. 129, 136-147.
- 21) **Goel, R.** Garcia, L.M.T. Goodman, A. Johnson, R. Aldred, R. Murugesan, M. Brage, S. Bhalla, K. Woodcock, J. (2018). Estimating city-level travel physical activity and motor vehicle volume using Google Street View (GSV) — a case study of Great Britain. *Plos one*, Vol 13(5): e0196521.
- 20) **Goel, R.** (2018). Modelling of road traffic fatalities in India. *Accident Analysis and Prevention*. Vol 112, 105-115.
- 19) **Goel, R.** (2018). Distance-decay functions of travel to work trips in India. *Data in Brief*. Vol 21, 50-58.
- 18) Aldred, R. **Goel, R.** Woodcock, J. & Goodman, A. (2018). Contextualising Safety in Numbers: a longitudinal investigation into change in cycling safety in Britain, 1991–2001 and 2001–2011. *Injury Prevention*, Vol 25(3), 236-241.
- 17) **Goel, R.** Jain, P. & Tiwari, G. (2018). Correlates of fatality risk of vulnerable road users in Delhi. *Accident Analysis and Prevention*. Vol. 111, 86-93.
- 16) Mohan, D. Tiwari, G., **Goel, R.** & Lahkar, P. (2017). Evaluation of the odd-even day traffic restriction experiments in Delhi, India. *Transportation Research Record: Journal of the Transportation Research Board*, Vol 2627(1), 9-16.
- 15) **Goel, R.** & Pant, P. (2016). Vehicular pollution mitigation policies in Delhi. *Economic and Political Weekly*, Vol. 51 (9), 41-45.
- 14) **Goel, R.** & Tiwari, G. (2015). Access-egress and other travel characteristics of metro users in Delhi and its satellite cities. *IATSS Research*, 39(2), 164-172.
- 13) **Goel, R.** Gani, S. Wilson, D. Guttikunda, S.K. & Tiwari, G. (2015). On-road exposure of fine particulate matter in multiple transport micro-environments in Delhi. *Atmospheric Environment*. Vol. 123 (A), 129-138.
- 12) Pant, P. Baker, S.J. **Goel, R.** Guttikunda, S.K. Goel, A. Shukla, A. & Harrison, R.M. (2015). Analysis of size-segregated winter season aerosol data from New Delhi, India. *Atmospheric Pollution Research*, Vol. 7(1), 100-109.
- 11) **Goel, R.** Mohan, D. Guttikunda, S. K. & Tiwari, G (2015). Assessment of motor vehicle use characteristics in three Indian cities, *Transportation Research Part-D*, Vol. 44, 254-265.
- 10) **Goel, R.** & Guttikunda, S. K. (2015). The role of urban growth, technology, and judicial interventions on vehicle exhaust emissions in Delhi for 1991-2014 and 2014-2030 periods. *Environmental Development*, Vol. 105, 78-90.
- 9) **Goel, R.** & Guttikunda, S. K. (2015). Evolution of on-road vehicle exhaust emissions in Delhi. *Atmospheric Environment*. Vol. 105, 78-90.
- 8) **Goel, R.** Guttikunda, S. K. Mohan, D. & Tiwari, G. (2015). Benchmarking vehicle and passenger travel characteristics in Delhi for on-road emissions analysis. *Travel Behavior and Society*, Vol. 2, No. 2, 88-101.

- 7) Guttikunda, S. K. **Goel, R.** Mohan, D. Tiwari, G. & Gadepally, R. (2014). Particulate and gaseous emissions in two coastal cities— Chennai and Visakhapatnam, India. *Air Quality, Atmosphere & Health*. Vol.8 (6), 559-572.
- 6) Guttikunda, S. K. **Goel, R.** & Pant, P. (2014). Nature of air pollution, emission sources, and management in the Indian cities. *Atmospheric Environment*, Vol. 95, 501-510.
- 5) Guttikunda, S. K. & **Goel, R.** (2013). Health impacts of particulate pollution in a megacity—Delhi, India. *Environmental Development*, Vol. 6, 8-20. *Awarded best research paper certificate by the journal.*
- 4) Tiwari, G. & **Goel, R.** (2013). Metro Rail in Indian Cities: Feasibility and Impacts. Shelter, Housing and Urban Development Corporation Ltd, New Delhi, India, Vol. 14, No. 2, 14-22
- 3) Verma, A. & **Goel, R.** (2013). Combined model for feeder route generation and schedule within an integrated mass transit planning framework. *Indian Journal of Transport Management*, Vol. 37, No.1, 54-74.
- 2) **Goel, R.** & Burris, M. (2012). HOT lane policies and their implications, *Transportation*, Springer, Vol. 39, 1019-1033
- 1) Verma, A. Upadhyay D. & **Goel, R.** (2011). An integrated approach for optimal rail transit corridor identification and scheduling using geographical information system, *Journal of King Saud University Science*, Elsevier, Vol. 23, No.3, 255–271

REPORTS

- Tiwari, G. **Goel, R.** & Bhalla, K. (2022). Road Safety in India: Status Report 2021. Transportation Research and Injury Prevention Centre, Indian Institute of Technology Delhi, New Delhi, India.
- Tainio, M., Totaro Garcia, L. M., Zapata-Diomed, B., & **Goel, R.** (2017). Report on development of guidance on the relations between physical activity and air pollution. Prepared for World Health Organisation.
- Garcia, L. M. T., Tatah, L., Kyere-Gyeabour, E., **Goel, R.**, Tainio, M., & Woodcock, J. (2017). Health impacts of transportation choices and alternative scenarios in Accra, Ghana: interim report - data availability and suitability. Prepared for World Health Organisation.
- Mohan, D. **Goel, R.** Guttikunda, S. & Tiwari, G. (2014). Assessment of motor vehicle use characteristics in three Indian cities. Promoting low carbon transport in India. UNEP Risø Centre on Energy, Climate and Sustainable Development, Technical University of Denmark.
- Goel, R.** & Tiwari, G. (2014). Case study of metro rails in Indian cities. Promoting low carbon transport in India. UNEP Risø Centre on Energy, Climate and Sustainable Development, Technical University of Denmark.

CONFERENCE PRESENTATIONS

- Mohan, D. & **Goel, R.** (2019). Effective police enforcement: what works. International Symposium on Safety of Vulnerable Road Users, 2019 Changsha, China. Changsha, China: ICoRSI, 273-285.
- Goel, R.** (2018). Using imagery data to assess travel patterns and motor vehicle use, 15th World Conference on Transportation Research, Mumbai, India.
- Goel, R.** (2019). Who hits whom? A city-level study of traffic fatalities covering low, middle and high-income settings. 15th World Conference on Transportation Research, Mumbai, India.
- Goel, R.** (2018). Estimating city-level travel patterns using street imagery: a case study of using Google Street View in Britain, 7th International Society for Physical Activity and Health Congress, London, UK.
- Goel, R.** (2018). Who hits who? A city-level study of traffic fatalities covering low, middle and high-income settings, 3rd Meeting of the Safer City Streets Network, Rome, Italy.
- Goel, R.** (2018). Estimating city-level travel patterns using street imagery: a case study of using Google Street View in Britain, 3rd Meeting of the Safer City Streets Network, Rome, Italy.
- Goel, R.**, Totaro Garcia, L. M., Bhalla, K., Brage, S., Gouveia, N., Miranda, J., . . . Woodcock, J. (2017). Towards an Integrated Global Transport and Health Assessment Tool (TIGTHAT). Poster session presented at the meeting of Big Data, Small Area Symposium, London.
- Goel, R.**, Totaro Garcia, L. M., Bhalla, K., Brage, S., Gouveia, N., Miranda, J., . . . Woodcock, J. (2017). Towards an Integrated Global Transport and Health Assessment Tool (TIGTHAT). Poster session presented at the meeting of International Conference of Transport & Health 2017, Barcelona, Spain.
- Goel, R.**, Guttikunda, S., & Tiwari, G. (2017). Public Health Burden of Transport in Delhi. In *Journal of Transport & Health* Vol. 5 (pp. S57). doi:10.1016/j.jth.2017.05.350.

Goel, R. (2016). Assessment of vehicular characteristics for emission analysis in Indian cities, Workshop on Improving inspection and maintenance systems for vehicles in India organised by TERI, New Delhi, India.

INVITED TALKS

Goel, R. (2018). Using imagery data to assess travel patterns and motor vehicle use, Workshop on Using images at scale to understand environments and behaviours organized by Cambridge Digital Humanities, University of Cambridge, UK.

Goel, R. (2018). Modelling Health Impacts of Transport, Centre For Transport Studies, University of Cape Town, South Africa.

Goel, R. (2018). Area level harmonization of data. Workshop on using existing data for a better future—opportunities and challenges of harmonizing activity data, Cambridge, UK.

Goel, R. (2018). Health impact modelling of transport scenarios, Bloomberg Cities Exchange, Rome, Italy.

Goel, R. (2016). Assessment of vehicular characteristics for emission analysis in Indian cities, Workshop on Improving inspection and maintenance systems for vehicles in India organised by TERI, New Delhi, India.

Goel, R. (2016). Revisiting safety-in-numbers for cyclists using longitudinal data, MRC Epidemiology Unit, Cambridge, UK

Goel, R. & Pathak, P. (2016). Using digital technologies integrated with geographic information in exploring transportation systems within National Capital Region of Delhi (NCR), Indo-Taiwan joint workshop on ‘Digital Technologies on Societal Use’.

Goel, R. (2015). Health Burden of Urban Transport in Delhi, Public Health Foundation of India, Gurgaon.

Goel, R. (2015). Road transport in Delhi: Characteristics, population exposure and emission trends, Integrated Research for Action and Development (IRADe), New Delhi.

Goel, R. (2015). Road transport in Delhi: Characteristics, population exposure and emission trends, Centre for Development Economics and Department of Economics, Delhi School of Economics

PROFESSIONAL EXPERIENCE

2015 – 2017	Assistant Professor , Civil Engineering, Shiv Nadar University, Gautambudh Nagar, Uttar Pradesh, India
2011 – 2015	Research Associate , Transportation Research and Injury Prevention Programme, Indian Institute of Technology, New Delhi, India
Jan – Jul 2011	Transport Simulation Engineer , Medulla-Soft Technologies Private Limited, New Delhi, India
May – Dec 2010	Senior Research Fellow , Center for Infrastructure, Sustainable Transportation and Urban Planning, Indian Institute of Science, Bangalore, India
2008 – 2010	Graduate Research Assistant , Texas Transportation Institute, Texas A&M University, College Station, Texas, USA