PROFORMA FOR BIO-DATA

1. Name and full correspondence address

   Dr. PATNALA PHANI KUMAR, Scientist C, Transport Planning and Environment Division, CSIR-Central Road Research Institute (CRRI), New Delhi, India - 110025

2. Email(s) and contact number(s): patnala[dot]crri[at]csir[dot]res[dot]in ; +919627953263

3. Institution: CSIR-Central Road Research Institute (CRRI)

4. Date of Birth: 13-04-1990

5. Gender: M

6. Category: OBC

7. Whether differently abled: No

8. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution	% of marks
1.	BTech	2011	Civil Engineering	Acharya Nagarjuna University, Guntur	82%
2.	MTech	2013	Transportation Engineering	IIT Roorkee	82%
3.	PHD	2021	Transportation Systems	IIT Roorkee	93%

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

   Title: Exploring the potential of neighborhoods for Metro rail-based Transit-oriented development

   Supervisor(s): Prof. Manoranjan Parida (IIT Roorkee), Dr. Chalumuri Ravi Sekhar (CSIR-CRRI)

   Institute: IIT Roorkee; Year: February 2021

10. Work experience (in chronological order).

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1	Assistant Professor	Echelon Institute	12-07-2013	22-12-2013	39,100-55,000
2	Assistant Professor	Vasireddy Venkatadri Institute of Technology	14-02-2014	26-12-2016	39,100-55,000
3	Assistant Professor	Thapar Institute of Engineering and Technology	01-07-2021	30-12-2021	Level 10
4	Postdoctoral fellow	University of Manitoba	17-01-2022	26-03-2026	Grade VII, Canada
5	Scientist C	CSIR-CRRI	30-03-2026	Till date	Level 11

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1	Best Poster Award	Eastern Asia Society for Transport Studies	Sept 2019
2	Engineering Intern	Engineers Geoscientists Manitoba	2024-2025
3	Ron Rice Award for Best Conference Paper	Canadian Transportation Research Forum	May 2026
4	Best Poster Award	The Canadian Association of Road Safety Professionals	June 2026

12. Publications *(List of papers published in SCI Journals, in year wise descending order).*

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Michael Olfert, Patnala Phani Kumar, Jonathan Regehr	Investigating Axle Load Data Quality from Portable Weigh-in-Motion Systems (PWIMs) on Canadian Roadways: Practical Lessons for Deployment and Post-Processing	ASCE: Journal of Transportation Engineering Part B: Pavements	NA	NA	2026
2	Nasim Deljouyi, Phani Kumar Patnala, Babak Mehran, & Jonathan Regehr	Application of Reliability theory for Crash Frequency Analysis: Implications for Network-wide Safety Performance	Canadian Journal of Civil Engineering	52	1	2025
3	Rillagoda Yasanthi, Babak Mehran, Phani Kumar Patnala, Jonathan Regehr, & Chaouki Regoui	Development of hazard-specific truck crash modification factors for cold-region rural highways	Canadian Journal of Civil Engineering	52	8	2025
4	Mysore Narasimhamurthy Sharath, Phani Kumar Patnala, Babak Mehran, & Jonathan Regehr	Effects of Covid-19 pandemic restrictions on zonal transit demand: Evidence from a low-density city	Research in Transportation Business & Management	57	101234	2024
5	Phani Kumar Patnala, Jonathan	Resilience for freight transportation	Canadian Journal of Civil Engineering	51	3	2024

	Regehr, Babak Mehran, & Chaouki Regoui	systems to disruptive events: a review of concepts and metrics				
6	Phani Kumar Patnala, Chalumuri Ravi Sekhar, & Manoranjan Parida	Gender differentials in travel behavior among TOD neighborhoods: Contributions of built environment and residential self-selection	Travel Behaviour and Society	31	333-348	2023
7	Saket Bral, P Phani Kumar, Tanuj Chopra	Prediction of International Roughness Index Using CatBooster and Shap Values	International Journal of Pavement Research and Technology	15	7	2022
8	Phani Kumar Patnala, Chalumuri Ravi Sekhar, & Manoranjan Parida	A decision framework for defining Transit-Oriented Development in an Indian city	Asian Transport Studies	6	100021	2021
9	Phani Kumar Patnala, Chalumuri Ravi Sekhar, & Manoranjan Parida	Identification of Neighborhood Typology for Potential Transit Oriented Development	Transportation Research Part D: Transport and Environment	78	102186	2020
10	Phani Kumar Patnala, Chalumuri Ravi Sekhar, & Manoranjan Parida	Residential Dissonance in TOD Neighborhoods	Journal of Transport Geography	72	166-177	2018

13. List of Conference papers in last three years

S.No	Title	Author's Name	Conference	Date and Location
1	Dilemma-Zone Risk at High-Speed Signalized Intersections with Advance Warning Signals: Data-Driven Analysis of Passenger Car and Heavy Vehicle Behaviors	Homa Motavallian Naeini, Patnala Phani Kumar, Babak Mehran, Jonathan Regehr	14th International Conference on Traffic and Logistics Engineering (ICTLE 2026)	Macau, China on August 21-23, 2026
2	Performance evaluation of AI-based vehicle	Janak Kharel, Patnala Phani Kumar, Alex	Canadian Transportation	Halifax, Nova Scotia, Canada on May 24-27,

	classification camera under varying illumination and weather conditions	Rogers, Babak Mehran, Jonathan Regehr	Research Forum	2026
3	Analyzing expected operating gross vehicle weight of battery electric trucks: Implications for regulatory and fleet electrification strategies	Jyoti Mandhani, Patnala Phani Kumar, Ahmed Lasisi, Babak Mehran, Jonathan Regehr, Carl Ho	Heavy Vehicle Transport and Technology (HVTT) 18th Symposium	Quebec, Canada on May 26-29, 2025
4	Are we ready for zero- and lower-emission trucks? Exploring the views of Manitoba trucking companies	Jyoti Mandhani, Patnala Phani Kumar, Ahmed Lasisi, Babak Mehran, Jonathan Regehr, David Linton	Heavy Vehicle Transport and Technology (HVTT) 18th Symposium	Quebec, Canada on May 26-29, 2025
5	Feasibility of Using Portable Weigh-in-Motion Systems (PWIMs) for Truck Axle Load Data Collection on Secondary Highways	Michael Olfert, Patnala Phani Kumar, Jonathan Regehr	103rd Annual Meeting of Transportation Research Board	Washington DC, United States on Jan 8-12, 2024.

14. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1	Towards Safer Streets: Reviewing the Impact of Transit-Oriented Development on Road Safety in North American Cities	Phani Kumar Patnala, Jonathan Regehr, & Babak Mehran	The Canadian Association of Road Safety Professionals	2024
2	Transit-Oriented Development to, for, and in Delhi	Phani Kumar Patnala, Chalumuri Ravi Sekhar, & Manoranjan Parida	Springer Singapore	2022
3	Transit-Oriented Development (TOD) as a Sustainable Transport Strategy for Metropolitan Cities	Phani Kumar Patnala, Chalumuri Ravi Sekhar, Robert Hrelja & Manoranjan Parida	Springer Singapore	2022

15. Any other Information (maximum 500 words)

I am a Scientist C in Transport Planning and Environment Division, CSIR-Central Road Research Institute, New Delhi, India. I hold a PhD in Transportation Systems, and a Master's in Transportation Engineering from IIT Roorkee. My PhD thesis was on 'exploring the potential for Metro rail-based transit-oriented development under the supervision of Prof. Manoranjan Parida, IIT Roorkee, and Dr. Chalumuri Ravi Sekhar, CSIR-CRRI. My Master's thesis was on 'performance evaluation of multimodal transportation systems' under the supervision of Prof. Manoranjan Parida, IIT Roorkee. My bachelor's project was on 'Application of plastic waste in pavement construction" under the supervision Dr. Muvvala Ramarao, RVRJC College of Engineering, Guntur.

I worked as a Postdoctoral Fellow in Urban Mobility and Transportation Informatics Group (UMTIG), University of Manitoba, under the supervision of Dr. Jonathan Regehr and Babak Mehran. In this role, I have led two major projects: (i) Improving Safety, Fluidity, and Resilience of Road Freight Transport in the Canadian Prairie Region, and (ii) Assessing the Feasibility of Zero/Low-Emission Vehicles in Manitoba.

These two projects involved collaboration with provincial agencies (MTI, MTA), federal organizations (NRC, NRCan), and industry partners (QuarterHill Inc., Miovision). My work duties include deploying and calibrating advanced traffic monitoring systems, evaluating road weather and truck movement data, conducting risk assessments, and delivering actionable recommendations to enhance commercial vehicle operations. This has given me a deep understanding of technical standards, and trucking regulations in practice, and ability to translate complex insights into clear, evidence-based advice for diverse stakeholders.

Alongside research, I am familiar with software tools such as PTV VISSIM, VISUM, ArcGIS, AutoCAD, Python, MATLAB, R, and SPSS in statistical computing, spatial analysis, traffic simulation, and travel demand modeling. I have four years of field experience in design and management of data collection programs under extreme weather conditions, ensuring reliable operation of RWIS systems, Miovision cameras, Wavetronix radar, and WIM stations on Manitoba highways. The resulting datasets are now part of the Canadian Logistics Data Vault, supporting broader freight policy and planning efforts.

In addition to my technical expertise, I offer over eight years of experience across academia, industry, and government partnerships, with a strong track record of producing high-quality publications, building collaborations, and engaging with multidisciplinary stakeholders.

With this technical and practical experience, I bring a strong technical foundation and applied research experience in Transportation engineering and commercial vehicle operations in India. My current research areas include Road freight transport network resilience and reliability, Zero/low emission heavy vehicles, and naturalistic driving behavior of heavy vehicles.