

# VASUDEVAN N.

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**Contact Information** Assistant Manager (Transportation Planner/Engineer),  
Smart City Thiruvananthapuram Limited (SCTL),  
Thiruvananthapuram, Kerala.

**Objective** To successfully utilize and disseminate my knowledge, for the betterment and the enlargement of the organizations/institutes thereby the societies and also to enhance my skills and experience further in the field of "Transportation Engineering and Planning".

**Research Interest** Urban and Regional Transportation Systems Planning, Public Transportation Planning, Research Analytical Methods, Traffic management and Road safety, Non-motorized transport, Highway Geometric Design.

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**Education** **Sardar Vallabhbhai National Institute of Technology**, Surat, India  
**PhD in Civil Engineering (Specialization: Transportation Engineering and Planning)** Dec 2015- January 2020 (Thesis submitted).

Thesis topic: "Modeling Habit of Travel Mode Choice in context of Transit in Metropolitan Cities"

This study is intended to understand the inculcated habit of using personalized modes of two-wheeler and car, which resists the shift to public transportation in context with metropolitan cities in India. The presence of habit of using personalized modes is identified through choice modelling and quantified based on user's perception. The study suggests a tool, as an application, to understand the effectiveness of the present transit oriented policies relating with the existing habit behaviour. Also, various sustainable transit supportive policies have been suggested with an aim to break the habit of using personal modes and is evaluated based on users' responses.

Supervisors: **Dr. Gaurang J. Joshi** (gjsvnit92@gmail.com)  
**Dr. Shrinivas S. Arkatkar** (sarkatkar@gmail.com)

Courses: Transit Economics, Generalized Cost in Transportation, Traffic Flow Theory, Choice Modelling, Structural Equation modelling, Effective Road Safety Practices

**Sardar Vallabhbhai National Institute of Technology**, Surat, India.  
**Master of Technology**, Civil Engineering (Specialization:  
**Transportation Engineering and Planning**) 2012-2014  
**CGPA: 9.35 / 10**

Dissertation topic: “Study of travel mode preference behaviour of heterogenous travellers in a fast-growing metropolitan city in India”.

Supervisor: **Dr. Gaurang J. Joshi** (gjsvnit92@gmail.com)

Courses: Urban Transport Planning, Traffic Engineering and Road Safety, Regional Transport Planning, Public Transport Planning, Analytical Techniques in Transportation Engineering, Pavement Analysis and Design.

**University of Kerala, Thiruvananthapuram, India**

**Bachelor of Technology, Civil Engineering, 2008-2012**

**CGPA: 7.86 / 10**

Thesis topic: “Conversion of MBCET campus using Green Concept”

**Board of Higher Secondary Examinations, Thiruvananthapuram, India**

Class XII, Computer Science, 2006-2008

Aggregate Percentage: 92 %

**Kerala Board of Public Examinations, Thiruvananthapuram, India**

Class X, March 2006

Aggregate Percentage: 90.92 %

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**Academic  
Experience**

**Indo-Highway Capacity Manual Development Project, Collaboration with CSIR- CRRI**

- Contributed in Pedestrian Crosswalks

**Research Assistantship and Consultancy**

**Sardar Vallabhbhai National Institute of Technology, Surat, India**

Dec 2015-January 2020.

- Complete urban street design guidelines for Surat city provided by Surat Municipal Corporation, Gujarat, India.
- Urban Transportation Systems Planning, Regional Transportation Systems Planning, Public Transport Planning, Transport Economics, Research Analytical Methods-PG level.
- Basic Civil Engineering, Surveying, Basic Transportation Systems, Geomatics Surveying-UG level.
- Expert lecture on “Mode preference behavior of Travellers of Surat city” in “Comprehensive Transportation Planning and Practice” training program conducted by SVNIT, 2016.

**Assistant Professor**

**Sreepathy Institute of Management and Technology, Palakkad, India**

Sept 2015- Nov 2015

- Research Analytical Methods - PG level

### Teaching Assistant

**Sardar Vallabhbhai National Institute of Technology, Surat, India**  
Dec 2014 - May 2015

- Estimation and Cost Analysis - UG level.
- Regional Transport System Planning – PG level

### Post Graduate Student

**Sardar Vallabhbhai National Institute of Technology, Surat, India**  
July 2012 – July 2014

Includes M.Tech Research, Master's level coursework and associated lectures, projects and presentations.

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### Internships Underwent

**Indian Institute of Technology, Madras, India**

45 days summer internship to capture the lateral, longitudinal and manoeuvring characteristics of vehicles in heterogenous traffic condition.

**C-DAC, Technopark, Thiruvananthapuram, India.**

10 days internship to understand the concept of Green Building Technology with the help of Ajit associates, the consultant of C-DAC building

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### Published Technical Papers

**Vasudevan N., Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi.** "Determining Mode Shift Elasticity Based on Household Income And Travel Cost". Research in Transport Economics (In press).

**Vasudevan N., Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi.** "Re-orientation of Para-Transit When Confronted by Mass Transit System: An approach through user's and operator's perception". *Journal of the Eastern Asia Society for Transportation Studies* (In press).

Rupali Zope, **Vasudevan N.,** Shriniwas Arkatkar and Gaurang Joshi (2019). "Benchmarking: A Tool for Evaluation and Monitoring Sustainability of Urban Transport System in Metropolitan Cities of India". *Sustainable Cities and Society*, Vol.45, pp. 48-58. <https://doi.org/10.1016/j.scs.2018.11.011>

Rupali Zope, **Vasudevan N.,** Shriniwas Arkatkar and Gaurang Joshi., (2017). "Benchmarking for Sustainable Urban Transport Systems: A Comparative Study in Indian Metro Cities". *Journal of the Eastern Asia Society for Transportation Studies*, Vol.12, pp.331-342. [doi.org/10.11175/easts.12.331](https://doi.org/10.11175/easts.12.331)

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### Published Book Chapter

Dawda N., Joshi G., Arkatkar S., **Vasudevan N.** (2019) Multimodal of Lateral Transport System: A Case Study of Successful Cities Worldwide. In: Deb D., Balas V., Dey R., Shah J. (eds) *Innovative Research in Transportation Infrastructure*. Lecture Notes in Intelligent Transportation and Infrastructure. Springer, Singapore

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**Peer  
Reviewed  
Conference  
Papers**

**Vasudevan N.**, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. Understanding habit of travel by personal modes in context of transit usage. Presented at 99th Annual Meeting of *Transportation Research Board*, Washington D.C., USA, 12-15, January, 2020.

**Vasudevan N.**, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. Investigating habit in travel mode preferences for heterogeneous travelers in a transit deficient metropolitan city. Presented at 5th *International Conference of Transportation Research Group of India*, Bhopal, 18-21, December 2019. (Received Best paper award in the theme of Transport Planning and Policy)

**Vasudevan N.**, Ninad Gore, Shriniwas Arkatkar and Gaurang Joshi. Is habit of travel resistive to use public transport? An assessment of acquaintance behavior of travelers in a transit deficient metropolitan city. Presented in Research Symposium of 12th *Urban Mobility India Conference and Expo*, 2019, Lucknow, 15-17th November, 2019. (Received Best paper award in the theme of Transportation Planning)

**Vasudevan N.**, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. "Re-orientation of Para-Transit When Confronted by Mass Transit System: An approach through user's and operator's perception". Presented at the 13<sup>th</sup> International Conference of *Eastern Asia Society for Transportation Studies (EASTS)*, at Colombo, Sri Lanka, 9-12 September 2019.

**Vasudevan N.**, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. "Is habit of travel resistive to use public transport? An assessment of acquaintance behaviour of travellers in a transit deficient metropolitan city". *Colloquium on Transportation Systems Engineering and Management*, SVNIT Surat, India, 2019.

**Vasudevan N.**, Vaibhav Gaurkar, Shriniwas Arkatkar and Gaurang Joshi. What Happens to Para-Transit When Confronted by Mass Transit System: A Case of Surat. *National Conference on Roads and Transport-NCORT 2017*, IIT Roorkee, India, 2017.

**Vasudevan N.**, Shiriniwas Arkatkar and Gaurang Joshi. Travel Demand Elasticity Analysis for Work Purpose Trips by Heterogeneous Travellers in Indian Metropolitan City, Surat. 3<sup>rd</sup> *Conference on Transportation Systems Engineering and Management*. BMS College of Engineering, Bangalore, India, 2016.

**Vasudevan N.**, Shiriniwas Arkatkar and Gaurang Joshi. Travel Demand Elasticity Analysis for Non-voluntary Purpose Trips by Heterogeneous Travellers in Indian Metropolitan City, Surat. Presented at the 14<sup>th</sup> *World Conference on Transport research*, WCTRS, Shanghai, China, 2016.

**Vasudevan N.**, Shiriniwas Arkatkar and Gaurang Joshi. Influence of Variation in Travel Expenditure for Non-Voluntary Trips by Heterogenous Travellers in a Transit Deficient Metropolitan City. *Colloquium on Transportation Systems Engineering and Management*, NIT Calicut, India, 2014.

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Omkar Bidkar, Nimit Palsanawala, **Vasudevan N.**, Shriniwas Arkatkar and Gaurang Joshi. Trip Chaining Behaviour of Fast Growing Metropolitan City- Surat, Presented at the 13<sup>th</sup> International *Conference of Eastern Asia Society for Transportation Studies (EASTS)*, at Colombo, Sri Lanka, 9-12 September 2019.

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Aman Thakar, **Vasudevan N.**, Sanjay Dave, and Dipak Rathva. Mode Shift Behaviour of Travellers for Work Trips in a Stated Preference Context- A Case Study of Ahmedabad City. *Colloquium on Transportation Systems Engineering and Management*, SVNIT Surat, India, 2019.

Rupali Zope, **Vasudevan N.**, Shriniwas Arkatkar and Gaurang Joshi. Application of system dynamic model for transport mode behaviour analysis of Urban Transport system: A case study of Indian metro cities. Presented at the 15<sup>th</sup> *World Conference on Transport Research, WCTRS*, IIT Mumbai, India, 2019.

Gaurang Joshi, Vinayaraj V.S., **Vasudevan N.**, Sanskruti Joshi and Shiriniwas Arkatkar. Operational Analysis and Schedule Development of Surat BRTS Phase I Stage II Corridor. The 23<sup>rd</sup> *International Conference of Hong Kong Society for Transportation Studies*, Hong Kong, 2018.

Nandan Dawda, Gaurang Joshi, Shriniwas Arkatkar and **Vasudevan N.** Multimodal of Lateral Transport System: A Case Study of Successful Cities Worldwide. First *International Conference on Innovations in Infrastructure*, IITRAM, Ahmedabad, India, 2018.

Rupali Zope, **Vasudevan N.**, Shriniwas Arkatkar and Gaurang Joshi. Development of Household Travel Survey Instrument for Sustainable Transportation Planning. 4<sup>th</sup> *International Conference of Transportation Research Group of India (CTRG)*, IIT Mumbai, India, 2017.

Prince R. Chaplot, Sharad A. Lad, Omkar S. Bidkar, **Vasudevan N.** Influence of Accessibility Factors on Travel Mode Choice in an Emerging Metropolitan City, Surat. 5<sup>th</sup> *Colloquium on Transportation Systems Engineering and Management (CTSEM2018)*, NIT Warangal, 2018.

Bijul Raveendran, **Vasudevan N.**, Shriniwas Arkatkar and Lelitha Devi Vanajakshi. Image processing-based traffic data extraction with perspective view correction. *ASCE India Conference 2017, Urbanization Challenges in Emerging Economies: Moving Towards Resilient Sustainable Cities and Infrastructure*, IIT Delhi, India, 2017.

Omkar Bidkar, **Vasudevan N.**, Shriniwas Arkatkar and Gaurang Joshi. Trip Chaining Behaviour of Fast Growing Metropolitan City- Surat. *Urban Mobility of India*, Hyderabad, India, 2017.

Rupali Zope, **Vasudevan N.**, Shriniwas Arkatkar and Gaurang Joshi. Benchmarking for Sustainable Urban Transport Systems: A Comparative Study in Indian Metro Cities. *International Conference of Eastern Asia Society for Transportation Studies*, Ho-Chi minh City, Vietnam, 2017.

Vinayaraj V.S., **Vasudevan N.**, A.R. Chaudhari, Shiriniwas Arkatkar and Gaurang Joshi. Modelling of Pedestrians Gap Acceptance Behavior at Midblock Crosswalks Sections in Indian Metropolitan Cities. 3<sup>rd</sup> *Conference on Transportation Systems Engineering and Management*. BMS College of Engineering, Bangalore, India, 2016.

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<b>Technical Papers Under Review/Preparation</b>	<p>Rupali Zope, <b>Vasudevan N.</b>, Shriniwas Arkatkar and Gaurang Joshi. "Development of Household Travel Survey Instrument for Sustainable Transportation Planning". <i>Transportation in Developing Economies</i>, A Journal of the Transportation Research Group of India (TRG), Springer Publication.</p> <p><b>Vasudevan N.</b>, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. "Habit of travel-The latent travel attribute in mode preference behavior in context of a transit deficient metropolitan city".</p> <p><b>Vasudevan N.</b>, Ninad Gore, Rupali Zope, Shriniwas Arkatkar and Gaurang Joshi. "Modeling habit of travel by personal modes in context of transit usage".</p> <p>Rupali Zope, <b>Vasudevan N.</b>, Shriniwas Arkatkar and Gaurang Joshi. "Appraisal of urban built environment challenges using system dynamics approach: Experiences from emerging economies"</p>
<b>Memberships</b>	<p><b>Indian Road Congress</b> Life Member (LM-250601)</p> <p><b>The Institute of Engineers (India)</b> Associate Member (AM 166242-5)</p> <p><b>Indian Society for Technical Education</b> Life Member (LM-110767)</p>
<b>Computer Skills</b>	<p>Statistical Packages: well versed with SPSS; STATISTICA; and some experience in MATLAB and R Studio.</p> <p>Planning and Forecasting: CUBE 6.0</p> <p>Econometric Modelling: NLOGIT 5.0</p> <p>Simulation: Well versed with VISSIM</p> <p>Highway Design software: MX ROAD, AUTOCAD CIVIL 3D.</p> <p>Image processing: TRAZER SUITE</p> <p>Languages: Basic programming in C++</p> <p>Applications: Common Windows and Office packages including MICROSOFT OFFICE and AUTOCAD</p> <p>Operating Systems: WINDOWS</p>
<b>Scholarships</b>	<p>Ministry of Human Resource Development Scholarship for Pursuing Doctoral degree (2015 – 2020)</p> <p>Ministry of Human Resource Development Scholarship for GATE qualified students for pursuing Post Graduation (2012 – 2014)</p>
<b>Other Achievements</b>	<p><b>Student Co-ordinator of Workshop on Road Safety Audit and Engineering Measures.</b></p> <p>Worked as student co-ordinator for 1<sup>st</sup> and 2<sup>nd</sup> AIIB workshop on Road Safety Audit and Engineering Measures under the project component of Mukhyamantri Gram Sadak Yojana (MMGSY), Govt. of Gujarat, held at SVNIT Surat, August, September 2019.</p> <p>Worked as student co-ordinator for 2<sup>nd</sup> and 3<sup>rd</sup> AITD workshop on Road Safety Audit and Engineering Measures held at SVNIT Surat, July, and September 2018.</p>

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**Student Co-ordinator of 3<sup>rd</sup> National Conference on Recent Advances In Traffic Engineering (RATE) 2018.**

Worked in organizing team for 3<sup>rd</sup> National Conference on Recent Advances In Traffic Engineering (RATE) 2018, held at SVNIT Surat, August 2018.

**Student Co-ordinator of GIAN Course on ‘Effective Road Safety Practices-Prevention is better than cure’, August 2018.**

Worked in organizing team for GIAN Course on ‘Effective Road Safety Practices-Prevention is better than cure’, held at SVNIT Surat, August 2018.

**Member of working committee in 4<sup>th</sup> International Conference of Transportation Research Group of India, 2017.**

Worked as part of working committee for the 4<sup>th</sup> International Conference of Transportation Research Group of India, held at IIT Bombay, December 2017.

**Volunteer for the National workshop on “Methodology for Indian Highway Capacity Manual” in SVNIT Surat, 2013.**

Worked as volunteer for the national workshop on “Methodology for Indian Highway Capacity Manual” for Development of Indo-Highway Capacity Manual (Indo-HCM) sponsored by Planning Commission, Govt. of India, (XII<sup>th</sup> Five-year plan funded project through CSIR-CRRI) in January, 2013.

**Secretary and member of Civil Engineering Student’s Association (CESA) in MBCET, 2008-2012.**

Worked as Secretary as well as member of Civil Engineering Student’s Association in UG level in which various seminars, workshops and events were conducted.

Worked as coordinator of social service unit “Thanal”, by means of providing shelter for needy.

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**DECLARATION**

I do hereby declare that the particulars of information and facts stated herein above are true, correct and complete.

Date : 20-02-2020

Signature

Place : Thiruvananthapuram