

# Dr.P.Vedagiri

Assistant Professor  
Transportation Systems Engineering  
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## EDUCATION

**Ph.D.** Transportation Engineering, Indian Institute of Technology Madras, Chennai, 2009.

**M.E.** Transportation Engineering, College of Engineering-Guindy, Anna University, Chennai, 2004

**B.E.** Civil Engineering, College of Engineering-Guindy, Anna University, Chennai, 2002

## AREAS OF RESEARCH INTEREST

- Pedestrian Flow Modeling
- Traffic Flow Modeling and Simulation
- Traffic Monitoring Management and Control.
- Road Safety Audit
- Public Transit System Design and Operations.
- Intelligent Transportation Systems

## PROFESSIONAL EXPERIENCE

**Assistant Professor** in the Department of Civil Engineering, Indian Institute of Technology Bombay, October 2009 - till date.

**Project Officer** in the Department of Civil Engineering, Indian Institute of Technology Madras, from February 2009 - September 2009.

**Half Time Teaching and Research Associate** in the Department of Civil Engineering, Indian Institute of Technology Madras, from July 2004 - January 2009.

## TEACHING

### UG Courses :

- CE 415 Transportation Engineering-II
- CE 328 Transportation Engineering Lab-I
- CE 310 Transportation Engineering-I
- CE 434 Traffic Analysis and Design

### PG Courses :

- CE 740 Traffic Engineering Lab
- CE 742 Pavement Systems Engineering Lab
- CE 753 Traffic Design & Studio

## PUBLICATIONS

### International Journals

1. V.Thamizh Arasan and **P.Vedagiri**, "Bus Priority on Roads Carrying Heterogeneous Traffic: A Study Using Computer Simulation". *European Journal of Transport and Infrastructure Research* (ISSN 1567-7141). Volume 8, No. 1, 2008, pp.45-64
2. **P.Vedagiri** and V.Thamizh Arasan, "Modelling Modal Shift Due to Enhanced Level of Service of Bus". *Journal of Transport*. Volume 24, No 2. 2009, pp 121-128.
3. V.Thamizh Arasan and **P.Vedagiri**, "Simulating Heterogeneous Traffic Flow on Roads With and Without Bus Lanes". *Journal of Infrastructure Systems, American Society of Civil Engineers (ASCE)*, Volume 15, No 4, 2009, pp 305 -312.
4. **P.Vedagiri** and V.Thamizh Arasan, "Estimating Modal Shift from Car to Bus on Introduction of Bus Priority System". *Journal of Transportation Systems Engineering and Information Technology*, Volume 9, No 6, 2009 pp 120-129
5. V.Thamizh Arasan and **P.Vedagiri**, "Micro-Simulation Study of the Effect of Exclusive Bus Lanes on Heterogeneous Traffic Flow". *Journal of Urban Planning and Development, American Society of Civil Engineers (ASCE)*, Volume 136, No 1, 2010, pp 50-58.

6. V.Thamizh Arasan and **P.Vedagiri**,“Modelling Modal Shift from Personal Vehicles to Bus on Introduction of Bus Priority Measure”. *Journal of Asian Transportation Studies. Volume 1, Issue 3 (2011), 288-302*
7. V.Thamizh Arasan and **P.Vedagiri**, “Study of the Impact of BRT System under Highly Heterogeneous Traffic Conditions” *Journal of Public Transport: Planning and Operations. Vol 2, 2010 pp 135-155.*
8. V.Thamizh Arasan, **P.Vedagiri** and M.Gopala Krishna,“Effect of Traffic Segregation on Roads Carrying Highly Heterogeneous Traffic”. *Road and Transport Research Journal, Australia. (Under Review).*

### **National Journals**

1. V. Thamizh Arasan, **P. Vedagiri** and S.Manu, Development of Speed-Flow Relationship for Heterogeneous Traffic Using Computer Simulation? *Journal of the Institution of Engineers (India). Vol 89, Feb 2009. pp 3-7.*

### **International Conference Proceedings**

1. **P.Vedagiri** and S. Lakshmi,“Evaluation of Bus Operations in Regional Routes-A Case Study of Kanyakumari District in Tamilnadu, India”. Proceedings of the International Conference on, Transportation Systems Planning and Operation, Indian Institute of Technology Madras, **India**, 18-20, February 2004, pp 479 - 488.
2. V. Thamizh Arasan and **P. Vedagiri**,“Estimation of Saturation Flow of Heterogeneous Traffic Using Computer Simulation”. Proceedings of the 20<sup>th</sup> European Conference on Modelling and Simulation, Bonn-Rhein-Sieg University of Applied Sciences, Bonn,**Germany**,28 -31 May 2006, pp 393 - 398.
3. V. Thamizh Arasan and **P. Vedagiri**,“Study of the Impact of Provision of Exclusive Bus Lanes on Urban Roads Using Computer Simulation”. International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007), Bengal Engineering and Science University, Howrah, West Bengal, **India**, 11-14, January 2007, Full paper in CD-ROM.
4. V. Thamizh Arasan and **P. Vedagiri**,“Impact Assessment of Bus Lane Using Simulation”. 11<sup>th</sup> World Conference on Transportation Research, University of California, Berkeley, **USA**, 24-28, June 2007, H-6, ID 332, Full paper in CD-ROM (30 pages).
5. V. Thamizh Arasan and **P. Vedagiri**,“Operational Analysis of Exclusive Bus Lanes on Urban Roads Using Computer Simulation”. World

Congress on Urban Infrastructure in Developing Countries, New Delhi, **India**, 12-14 November 2007, pp III 43-52.

6. V. Thamizh Arasan and **P. Vedagiri**, "Micro-Simulation Study of Bus Priority on Roads Carrying Highly Heterogeneous Traffic". 22<sup>nd</sup> European Conference on Modeling and Simulation (ECMS), June 3-6, 2008, Nicosia, **Cyprus**. pp 447-453
7. V. Thamizh Arasan and **P. Vedagiri**, "Provision of Exclusive Lanes for Buses on Roads Carrying Heterogeneous Traffic". 4<sup>th</sup> International Symposium on Travel Demand Management, July 16-18, 2008, Vienna, **Austria**. pp 21-30.
8. V. Thamizh Arasan and **P. Vedagiri**, "Provision of Exclusive Lanes for Buses on Urban Roads". International Conference on Best Practices to Relieve Congestion on Mixed-Traffic Urban Streets in Developing Countries". September 12-14, 2008, Chennai, **India**. pp 221-231.
9. V. Thamizh Arasan and **P. Vedagiri**, "Planning for Dedicated Bus Lanes on Roads Carrying Highly Heterogeneous Traffic". 50<sup>th</sup> Annual Transportation Research Forum, USA, March 16-18, 2009, Portland, Oregon, **USA**. Paper No: 53, pp 1-20. On-line proceedings available on: <http://www.trforum.org>
10. V. Thamizh Arasan and **P. Vedagiri**, "Study of the Impact of Exclusive Bus Lanes Under Highly Heterogeneous Traffic Conditions". 11<sup>th</sup> International Conference on Advanced Systems for Public Transport, **Hong Kong**, July, 2009, Paper No MS 84, Pages 1-23, (CD Rom)
11. V. Thamizh Arasan and **P. Vedagiri**, "Modelling Modal Shift from Personal Vehicles to Bus on Introduction of Bus Priority Measure". Proceedings of the Eastern Asia Society for Transportation Studies, **Indonesia**, 16-19 November, 2009.
12. **P. Vedagiri**, "Public Transit Trip Planner" International Workshop on *Transportation Planning Methodologies and Implementation for Developing Countries (TPMDC-2010) towards sustainability*, IIT Bombay 15 - 17 December, 2010.
13. **P. Vedagiri**, Jatin Solanki, and Rahul Ajmera, "Road Safety Audit for Indian Roads". Proceedings of International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011) *NIT Calicut, India, 28-30 September 2011*.

14. Ayyappa Rao Janga, **P Vedagiri** and Tom V Mathew, “ Public transit trip planner based on reliability and route Choice concepts” Proceedings of International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011) *NIT Calicut, India, 28-30 September 2011.*

### **National Conference Proceedings**

1. **P.Vedagiri**, “Road Accidents - Causes and Preventive Measures”. Proceedings of the National Conference on Safety in Public Transport, College of Engineering, Guindy Anna University, India, 11 - 12, March 2003. pp 80-86.
2. **P.Vedagiri**, “Study of Road safety Audit in India”. Proceedings of the National conference in Civil Engineering, Periyar Manniammai College of Engineering, Thanjavur, India, 13 - 14, December 2003. pp 41-45.
3. **P.Vedagiri** and S.Lakshmi, “Road Accidents Due to Human Factors- Causes and Preventive Measures”. Proceedings of the National Conference on Strategies in Traffic Engineering and Management” M.S Rammaiya Institute of Technology, Bangalore. India, 13- 17, February 2004, pp 93-100.
4. **P.Vedagiri** and S. Lakshmi, “Bus Route Rationalization Using GIS-A Case Study of Nagercoil”. National Conference on ‘Applications of GIS and GPS in Civil Engineering’ held on 03.07. 2004, at Jaya Engineering College, Thiruninravur, India. pp 131-137.
5. V. Thamizh Arasan and **P.Vedagiri**, “Approach to Verification, Validation and Calibration of Traffic Simulation Models”. National Conference on Characterization of Urban Road Traffic, IIT Madras, Chennai, India, 9-10 March, 2007 pp93-106.
6. **P.Vedagiri** and Krishnakumar Subramanian, “Evaluation of Displaced Right-Turn Intersection using Computer Simulation”, Sustainable Urban & Transportation Planning Issues & Management Strategies (SUTRIMS 11), NIT Surat, July 08-10, 2010.

### **ACADEMIC RESEARCH**

#### **Ph.D Thesis Supervision**

1. Kishore Sasane, Modeling Sustainable Urban Mobility System (2010-to date). (with Prof.S.L.Dhingra)

2. Shekhar Babu, Development of Accident Prediction Model (2011-to date)
3. Ayyappa Rao. J, Public Transit Trip Planner (2011- to date) (with Prof.Tom V. Mathew)

### **M.Tech Project Supervision**

1. Dileep D. A study on pedestrian flow characteristics and Level of service model at mid-block sections. (2010-2011)
2. Ayyappa Rao. J, Evaluation of Transit Trip Planner (2010-2011)
3. **Nagraj R**, A study on pedestrian flow characteristics and Level of service model at Intersections. (2011-to date)
4. Pradhan Kumar, Road Safety (2011-to date)

### **B.Tech Project Supervision**

1. Aseem Awad, Cost-Benefit Analysis of implementation of Intelligent transportation System in Indian Environment, IIT Bombay, (2010)
2. Sharbanee Prusty, Micro simulation of heterogeneous traffic flow at intersections sections, NIT, Rourkela, Summer Research Fellowship Programme 2010 (Indian Academy of Sciences)
3. Varsha Gidwani, Micro simulation of heterogeneous traffic flow at mid block sections, Malaviya National Institute of Technology, Summer Research Fellowship Programme 2010 (Indian Academy of Sciences)
4. Krishnakumar S. Evaluation of Displaced Right-Turn Intersection using Computer Simulation, NIT Calicut, Summer Research Fellowship Programme 2011 (Indian Academy of Sciences)
5. Shweta P Pai, Development of Accident Prediction Models, NITK Surathkal, Summer Research Fellowship Programme 2011 (Indian Academy of Sciences)
6. Soumya Rajan, Application of Remote Sensing and GIS in Traffic Engineering, Summer Project, Birla Institute Of Technology (BIT) , Mesra.

### **SPONSORED RESEARCH PROJECTS**

Pedestrian flow characteristics and level of service in mixed traffic condition, IIT Bombay, 2009-2012.

Real-time Transit Trip Planner and Route Information System Department of Information Technology, Government of India. (with Tom V Mathew, A. Ranade, K V Krishna Rao, and CDAC(T), 2009-12.

### **MEMBERSHIP IN PROFESSIONAL BODIES**

World Conference on Transportation Research Society (WCTRS)

Indian Roads Congress, New Delhi - Life Member

Institution of Engineers India- Associate Member

### **WORKSHOPS & SHORT-TERM COURSES CONDUCTED**

QIP Short Term Course on "*Innovations in Traffic Flow Modeling*" 05-09 July 2010, Indian Institute of Technology Bombay.(With Prof. Tom V Mathew)

Member of organizing committee for International Workshop on *Transportation Planning Methodologies and Implementation for Developing Countries (TPMDC-2010) towards sustainability*, IIT Bombay 15 - 17 December, 2010.

### **HONORS /FELLOWSHIPS AND GRANTS**

1. Qualified for the Half-time Teaching and Research Assistantship (HTRA) to pursue Doctoral Programme at IIT Madras from Ministry of Human Resource Development (MHRD), Government of India.
2. Received 11<sup>th</sup> World Conference on Transportation Research Society Fellowship, from University of California, Berkeley, USA.
3. Recognized Road Safety Auditor, Certified by IRF (India) and ARRB Australia.
4. Reviewer: Journal of Transport, Journal of Public Transport, ASCE Journal of Computing in Civil Engineering, Journal of Advanced Transportation. Cities : The International Journal of Urban Policy and Planning.
5. Received International Travel grant from Department of Science and Technology (DST), India.
6. Received International Travel grant from Council for Scientific and Industrial Research (CSIR) India.
7. Received International Travel grant from Tamil Nadu State Council for Scientific Technology (TNSCST) India.
8. Received international travel grant from IITM Alumni Association.

### **ACADEMIC AND CORPORATE ACTIVATES**

1. Delivered an invited presentation on “BRTS for Mumbai-Why we must ...and how we can! Organized by Observer Research Foundation Mumbai in association with EMBARQ, March 2010.
2. Delivered a guest lecture on “*Planning Bus Priority System under Heterogeneous Traffic Conditions*”, at BITS Pilani, February 2010.
3. Delivered an invited presentation on “Exclusive Bus lanes on Chennai City Roads”, SHAASTRA, Annual Technological Festival, IIT Madras, October 2008.
4. Delivered an invited presentation on “Heterogeneous Traffic Flow Modeling and Simulation” at College of Engineering Guindy, Anna University, August 2007.
5. Up-gradation and maintenance of highway material testing laboratory, Civil Engineering Department, IIT Bombay.
6. Served as Examiner for various M.Tech/B.Tech thesis/reports at various stages in the Institute.
7. Member Ambiance Improvement Committee Civil Engineering Department, IITB.
8. Guide & Mentor, Science Academics Summer Research Fellowship Programme 2010 & 2011. Indian Academy of Sciences, Bangalore.
9. Organized 'Idea Generation Workshop' to generate proposals for animations of Concepts in Civil Engineering in association with department of computer Science and Engineering , IITB.
10. Institute representative for GATE, JEE
11. Faculty In-charge, Civil Engineering Association, Department of civil Engineering, IIT Bombay
12. Faculty In-charge, AAKKAR-2010, National Civil Engineering Students Technical Symposium. Civil Engineering Department, IIT Bombay.
13. Faculty adviser of B. Tech 2010 Batch of Civil Engineering, IIT Bombay
14. Member of the departmental post graduate committee (DPGC), IIT Bombay.