

CURRICULUM VITAE

1. PERSONAL

- (a) Name SATISH CHANDRA
(b) Date of Birth September 5, 1962
(c) Address Director,
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(d) Nationality Indian
(e) Marital Status Married

2. EDUCATIONAL QUALIFICATIONS

Name of Degree	Year of passing	University	Class	Subject/specialization
B.E.	1983	University of Roorkee	I	Civil Engineering
M.E.	1985	University of Roorkee	I (Hons)	Transportation Engg.
Ph.D.	1994	University of Roorkee (Now IIT Roorkee)	--	Transportation Engg.

3 EMPLOYMENT/RESEARCH EXPERIENCE

Position held	Employer	Period	Nature of duties
Director	CSIR-CRRI, New Delhi	18-1-2016 till date (on lien from IITR)	Administration
Professor	IIT Roorkee	May 11, 2006 till date	Teaching, Research and Consultancy
Associate Professor	IIT Roorkee	February 2001 to May 11, 2006	--do--
Assistant Professor	IIT Roorkee	April 1996 to Feb. 2001	--do--
Lecturer	University of Roorkee (Now IIT Roorkee)	November 1985 to April 1996	--do--
Research Scientist – B	University of Roorkee, (Now IIT, Roorkee)	June 1985 to Nov 1985	Work on sponsored research schemes R-23 & R-24
Research Associate	University of Roorkee, (Now IIT, Roorkee)	February 1985 to June 1985	Work on sponsored research schemes R-23 & R-24

4. SUMMARY OF PERFORMANCE

(a) Teaching Experience	From	to
(i) Undergraduate	Nov' 85	January 2016
(ii) Post graduate	Jan'86	January 2016
(iii) Short term courses conducted	19 (see annexure – II)	
(b) Publications		
(i) Research papers in referred journals	137 (Annexure – III)	
(ii) Papers in conferences/symposia	72 (Annexure – III)	
(iii) Books	03	
(iv) Review/research/Design Reports	about 60 reports prepared related to sponsored research and consultancy projects	
(c) Number of theses supervised	Completed	in progress
(i) Ph.D.	16	06
(ii) M. Tech	97	03
(d) Sponsored Research/Consultancy Projects	completed	in progress
(i) Sponsored Research Projects	08	02
	(List is given in Annexure – IV)	
(ii) Consultancy Projects	completed more than 100 projects	
(e) Prizes/awards	9 (list is given in Annexure – V)	

5. PROFESSIONAL MEMBERSHIPS

Member, ASCE
Life Member, Indian Roads Congress
Life Member, Indian Geotechnical Society
Fellow, Institution of Engineers (India)
Life Member, Indian Society for Construction Materials & Structures

6. ADMINISTRATIVE RESPONSIBILITIES

- Director, CSIR-CRRI, New Delhi	Since January 2016
- Coordinator, Transportation Engineering Group	2014 – 16
- Chairman, Departmental Research Committee (DRC),	2012 – 14
- Member, Departmental Purchase Committee	since 2012.
- Convener, Training, Tour and Placement	2012 – 14
- Convener, Central Facilities	2010 – 12
- Chairman, GATE 2012 and Organizing Chairman JAM	2012
- Vice Chairman, GATE 2011 and Vice Chairman JAM	2011

7. HONOURS:

- i) Chief Guest, Valedictory function of National conference on Recent Advances in Traffic Engineering (RATE) at SVNIT Surat on July 04, 2015.
- ii) Member, Research Council, NATPAC, Thiruvananthapuram
- iii) Member, Standing Advisory committee of National Rural Road Development Agency, (NRRDA), New Delhi to guide NRRDA on use of latest technology and materials in road construction.
- iv) Member, General Body of the National Rural Road Development Agency, (NRRDA), New Delhi
- v) Member, Expert Committee on Development of Road Maintenance Management System for UP Roads (from May 2010 - 2014)
- vi) Member, Traffic Engineering Committee of Indian Roads Congress, New Delhi (1997-2014)
- vii) Member, IMRA committee of Indian Roads Congress, New Delhi (2003 – 2014).
- viii) Member, Technical Evaluation committee for world bank aided Uttar Pradesh State Road Projects-II
- ix) Member, Technical Committee of ICORT-95 held at New Delhi
- x) Session reporter, ICORT-95 held at New Delhi in 1995.
- xi) Session Co-chairman, South Asian Countries Conference on Challenges to Architects and Civil Engineering during Twenty-First Century, Kathmandu, April 7-9, 1999.
- xii) Chaired a technical session on Recycle in 5th International conference on pavement and airfield pavement technology (ICPT) at Seoul during May 10-12, 2005.
- xiii) Chaired a technical session on APTF – The Status, during workshop on “Accelerated Pavement Testing Facilities – Benefits and Opportunities”, organized by CRRI, New Delhi, June 24, 2011.
- xiv) Chaired Technical Session on “Sustainable Urban Transportation” during National conference on sustainable urban & Transportation Planning Issues and Management Strategies, at NIT Surat, July 8, 2011.
- xv) Chaired technical session on Pavement Design during International Conference on Civil Engineering at Penang (Malaysia), December 6-7, 2012.

8. Keynote Lectures Delivered

	Title of the Lecture	Event	Date
13.	Traffic flow analysis on unsignalised intersections	National conference on Recent Advances in Traffic Engineering, SVNIT Surat	July 4, 2015.
12	Sustainable Road Construction for Hilly Regions	Workshop on Sustainable Construction for Hilly Regions by ICI Local Chapter, Dehradun	July 9, 2014
11	Complexities of PCU factors	Adjunct Faculty at IIT Bhubaneswar	20-05-2014
10	Performance prediction model for Bituminous Mixes	Adjunct Faculty at IIT Bhubaneswar	27-05-2014
9	Multi-dimensionality of PCU Factors	Invited lecture at College of Engineering, Trivandrum	20.12.2013
8	Effect of traffic mix on capacity of interurban highways in India	Invited lecture at College of Engineering, Trivandrum	21.12.2013
7	Effect of traffic Composition on Capacity of Multilane Highways in India	10 th international conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC 2012) at IIT Bombay	December 14, 2012
6	Determination of Equivalency Factors under mixed traffic conditions	National Conference on Recent Advances in Traffic Engineering (RATE 12) at SVNIT Surat	June 7-9, 2012
5	Capacity of two-lane roads and modeling of pedestrian flow.	INDO – HCM workshop at Central Road Research Institute, New Delhi	November 24-25, 2011
4	Capacity of Two-lane Roads and Uncontrolled Intersections	National conference on sustainable urban & Transportation Planning Issues and Management Strategies, SVNIT Surat	July 8, 2011
3	APTF Applications in Indian Road Sector	Workshop on “Accelerated Pavement Testing Facilities – Benefits and Opportunities”, organized by CRRI, New Delhi,	June 24, 2011
2	Capacity Research on Two-lane Roads and Uncontrolled Intersections	National Workshop on characterization of urban road traffic, IIT Madras, India,	March 9-10, 2007
1	Effect of type and width of shoulders on pavement performance	Invited paper during 67 th Annual session of Indian Roads Congress, Panchkula,	November 17-21, 2006

9. Major Consultancy Projects

- (i) Checking of Designs for Agra Inner Road – Agra Development Authority, Agra, 2014
- (ii) Traffic Management Plan for Dariba Smelter Plant at Udaipur, M/S Hindustan Zink Limited, Dariba (Rajasthan) – 2012
- (iii) Evaluation of EIRR on Roads under UP State Road Project, Chief Engineer, WB (Roads), PWD, Lucknow, 2011.
- (iv) Evaluation of Thiopave with different types of Aggregates and Additives, M/s Shell Research Limited, UK. 2010
- (v) Design of Intersections in Rishikesh, PWD, Rishikesh, 2010.
- (vi) Evaluation of Asphalt Modifier with different types of aggregates, M/s Shell Global Solutions, Gurgaon, India. 2009.
- (vii) Traffic Management Plan for Ambuja Cement Plant at Ropar, M/S Ambuja Cement Limited, Ropar, 2008.
- (viii) Design of causeway at Noorpur – Mirjapur Road, PWD, Saharanpur, 2008.

SIGNIFICANT CONTRIBUTIONS

- i) Completed large number of consultancy projects sponsored by various state PWDs related to Pavement Evaluation, Material Testing, Mix Designs and Quality Control.
- ii) Worked on Level of Service concept for Signalized Intersections under mixed traffic conditions at IIT Bombay under INSA visiting fellowship program.
- iii) Developed the concept of dynamic PCU at roads and intersections.
- iv) Developed the concept of stream equivalency factor (SEF) for converting mixed traffic flow in to equivalent flow in pcu/hr without making use of PCU factors for individual vehicles.
- v) Evolved a method for estimating the critical gap of a vehicle at uncontrolled intersections under mixed traffic conditions.
- vi) As member of Traffic Engineering Committee of Indian Roads Congress, contributed in the revision of IRC Codes (IRC:67, 2000 on road signs and IRC:SP:55, 2001 on safety in road construction zones).
- vii) As member of Technical Evaluation Committee of World Bank Aided Projects, contributing immensely in the development of highways in the State of Uttar Pradesh.
- viii) Trained more than 600 field engineers of U. P., Uttarakhand and Bihar for construction of rural roads through various training courses.
- ix) Developed guidelines for planning pedestrian walk and crossing facilities under mixed traffic conditions in India. The results have been incorporated in the IRC code on pedestrians IRC:103, 2012.

Annexure – II

Short Term/Specialist Course Conducted (20)

Sponsoring Agency	Title of the course	Jointly with	Year
Rural Engineering Department, UP	First training course for Rural Engineering Department	Dr. Praveen Kumar	24-07-2014
Rural Engineering Department, UP	Second training course for Rural Engineering Department	Dr. Praveen Kumar	21-08-2014
Rural Engineering Department, UP	Third training course for Rural Engineering Department	Dr. Praveen Kumar	11-09-2014
Rural Engineering Department, UP	Fourth training course for Rural Engineering Department	Dr. Praveen Kumar	16-10-2014
Field Engineers of UP	Training Course for Rural Engineering Department	Dr. Praveen Kumar	Oct. 3-5, 2013
Rural Engineering Services, UP	Construction of roads under Ambedkar Program	Dr. Praveen Kumar	Jan 21 – 23, 2011 March 22-24, 2011
AICTE, New Delhi	Planning, design, construction and maintenance of rural roads	Dr. Praveen Kumar	Feb 10 – 14, 2007
Uttanchal Rural Road Development Authority	Training course on PMGSY for PWD Engineers	Dr. Praveen Kumar	July 21-23, 2006
MHRD, New Delhi & IPR Cell of IIT Roorkee	IPR Teaching	Dr. P. K. Ghosh	March 20-24, 2006
NABARD, Mumbai	Quality Control in Rural Infrastructure Projects	Dr. A. K. Jain Dr. C. S. P. Ojha	October 3-7, 2005
Uttanchal Rural Road Development Authority	Training course on PMGSY for PWD Engineers	Dr. Praveen Kumar	August 4-6 2005
Rural Engineering Services, Uttar Pradesh	Training course on PMGSY for field engineers	Dr. Praveen Kumar	March 21-23, 2005 June 1-3, 2004 July 1-3, 2004 Nov. 15-17, 2004
Rural Engineering Services, Uttar Pradesh	Training course on PMGSY for field engineers	Dr. Praveen Kumar	Jan 27 – Feb 01, May 26 – 30, June 9–13, 2003 Dec 11-13, 2003
Public Works Departments, Uttranchal	World bank aided Rural Road Projects	Dr. Praveen Kumar	Jan 7 – 11, 2003
Rural Engineering Services, Uttar Pradesh	Training course on PMGSY for field engineers	Dr. Praveen Kumar	July 5-11, 2002
Institute of Research Development & Training Center, Kanpur	Highway Lab Practices	Dr. R. M. Vasan	September 1998
Institute of Research Development & Training Center, Kanpur	Graphics in Civil Engineering	Dr. A. M. Chandra	August 1998
Director of Technical Education, Kanpur	Civil Engineering Drawing practices	Dr. A. M. Chandra	November 1996

LIST OF PUBLICATIONS

a. REFERRED JOURNALS (137)

i. INTERNATIONAL JOURNALS (46)

1. Mohapatra, S. S, Dey, P. P. and Chandra, S. (2016), “**Conflicting volume for U-turns at uncontrolled median openings**” **Transport**, Proceedings of the Institution of Civil Engineers, UK, <http://dx.doi.org/10.1680/jtran.14.00089>
2. Mohapatra, S. S, Dey, P. P. and Chandra, S. (2016), “Modeling the Critical Position of U-turning Vehicles at Uncontrolled Median Openings, **KSCE Journal of Civil Engineering**, 20(1), 411-420, 2016.
3. Nokandeh, M. M., Indrajit Ghosh, and Satish Chandra, “Determination of Passenger Car Units on Two-Lane Intercity Highways under Heterogeneous Traffic Conditions” **Journal of Transportation Engineering**, **ASCE**, accepted and available online.
4. Abdullah Ahmed, Rastogi, R. and Satish Chandra, “Estimation of critical gap on a roundabout by minimizing the sum of absolute difference in accepted gap data”, **Canadian Journal of Civil Engineering**, 42, pp 1011–1018, 2015.
5. Praveena P., Ghosh, I. and Satish Chandra, “Evaluation of Performance Measures for Two-Lane Intercity Highways under Mixed Traffic Conditions” **Journal of Transportation Engineering**, **ASCE**, Vol. 141(10), October 2015.
6. Behl, A. Satish Chandra, Agarwal, VK and Gangopadhyay, S. “Zero Shear Viscosity of Bitumen-Filler Mastics of Warm-Mix Binders” **Journal of Materials in Civil Engineering**, **ASCE**, Vol. 27(10), 2015, 1-6.
7. Satish Chandra, Rajat Rastogi, Vivek R Das and T. Ilango, “Pedestrian behaviour under varied traffic and spatial Conditions”, **European Transport**, Issue 55, (4), 2014, pp 1-13.
8. Ashish Dhamaniya and Satish Chandra, “Speed Based Capacity Model for Urban Arterial Roads”, **Traffic Engineering and Control**, Vol. 55(2), 2014, pp 75-78.
9. Haider Habeeb, Satish Chandra and Yassir Nashaat, “Estimation of Moisture Damage and Permanent Deformation in Asphalt Mixture from Aggregate Gradation”, **KSCE Journal of Civil Engineering**, 18(6), 1655-1663, 2014. DOI 10.1007/s12205-014-1356-7.
10. Arpan Mehar, Satish Chandra and S. Velmurugan, “Highway Capacity through VISSIM Calibrated for Mixed Traffic Conditions”, **KSCE Journal of Civil Engineering**, 18(2), 639-645, 2014. DOI 10.1007/s12205-014-0440-3.

11. Satish Chandra, Rajat Rastogi and Vivek R Das, “Descriptive and Parametric Analysis of Pedestrian Gap Acceptance in Mixed Traffic Conditions”, **KSCE** Journal of Civil Engineering, 18(1), 284-293, 2014.
12. Arpan Mehar, Satish Chandra and S. Velmurugan, “Passenger Car Units at Different Levels of Service for Capacity Analysis of Multilane Interurban Highways in India”, **Journal of Transportation Engineering**, **ASCE**, Vol. 140(1), January 2014, 81-88.
13. Arpan Mehar, Satish Chandra and S. Velmurugan, “Speed and Acceleration Characteristics of Different Types of Vehicles on Multi-Lane Highways”, **European Transport**, December 2013, Issue 55, pp 1-12.
14. Rajat Rastogi. T. Ilango and Satish Chandra, “Pedestrian Flow Characteristics for Different Pedestrian Facilities and Situations”, **European Transport**, April 2013, Issue 53, Paper No. 6, pp 1-21.
15. Ashish Dhamaniya and Satish Chandra, “Concept of Stream Equivalency factor for heterogeneous traffic on urban arterial roads”, **Journal of Transportation Engineering**, **ASCE**, Vol. 139(11), November 2013, 1666-1673.
16. Satish Chandra and Rajan Choudhary, “Performance Characteristics of bituminous concrete with industrial wastes as filler”, **Journal of Materials in Civil Engineering**, **ASCE**, 139(5), 2013, 467-475.
17. Satish Chandra, Ravisekhar, Ch., Anish Kumar Bharti and B. Kangadurai, “Relationship between pavement roughness and distress parameters for Indian Highways”, **Journal of Transportation Engineering**, **ASCE**, 139(5), 2013, 467-475.
18. Satish Chandra, Rajat Rastogi and Vivek R. Das, “Risk Analysis and Pedestrian Crossing Behaviour”, **Traffic Engineering and Control**, Vol. 53, No. 10, 2012, pp 383-386.
19. Rajat Rastogi, Satish Chandra, J. Vamsheedhar and Vivek R. Das, “Parametric study of pedestrian speeds at midblock crossings”, **Journal of Urban Planning and Development**, **ASCE**, 137(4), December 2011, 381-389.
20. Ashalatha, R. and Satish Chandra, “Critical gap through clearing behavior of drivers at unsignalised intersections”, **KSCE** Journal of Civil Engineering, 15(8), 1427-1437, 2011.
21. Rajat Rastogi, Ilango, T. and Satish Chandra, “Design Implications of Walking Speed for Pedestrian Facilities”, **Journal of Transportation Engineering**, **ASCE**, 137(10), 2011, 687-696.
22. Ashalatha, R. and Satish Chandra, “Service delay analysis at TWSC intersections through simulation”, **KSCE** journal of Civil Engineering, 15(2), 413-425, 2011.
23. Vishal Sharma, Satish Chandra and Rajan Chodhary, “Characterization of fly ash bituminous concrete mixes”, **Journal of Materials in Civil Engineering**, **ASCE**, Vol. 22, No. 12, December 2010

24. Kotkar K. Laxman, Rajat Rastogi and Satish Chandra, “Pedestrian flow characteristics in mixed traffic conditions”, **Journal of Urban Planning and Development**, **ASCE**, 136(1), 2010, 23-33.
25. Satish Chandra, Abhishek J. Aggarwal and Ashalatha R., “Microscopic analysis of service delay at uncontrolled intersections in mixed traffic conditions”, **Journal of Transportation Engineering**, **ASCE**, 135(6), 2009, 323-329.
26. Dey, P. P. and Chandra, Satish, “Desired time gap and time headway in study state car following on two-lane roads”, **Journal of Transportation Engineering**, **ASCE**, 135(10), 2009, 687-693.
27. Dey, P. P., Satish Chandra and Gangopadhyay, S., “Simulation of Mixed Traffic Flow on Two-Lane Roads”, **Journal of Transportation Engineering**, **ASCE**, 134(9), 2008, 361-369.
28. Satish Chandra, Viladkar, M. N. and Nagrale, P. P., “Mechanistic approach for fibre-reinforced flexible pavements”, **Journal of Transportation Engineering**, **ASCE**, vol. 134 (1), 2008, 15-23.
29. Prashant P. Nagrale, Satish Chandra and M. N. Viladkar, “Finite element analysis of fiber reinforced flexible pavement”, **International Journal of Pavements**, 5(1-2-3), 2006, 50-61.
30. Pawan Kumar, Satish Chandra and Sunil Bose, “Laboratory investigations on SMA mixes with different additives”, **International Journal of Pavement Engineering**, Vol. 8(1), 2007, 11 – 18.
31. Kumar, P., Satish Chandra and R. Vishal, “Comparative study on different subbase materials”, **Journal of Materials in Civil Engineering**, **ASCE**, vol. 18(4), July/August, 2006, 576 - 580.
32. Partha, P. P., Satish Chandra and Gangopadhaya, S., “Lateral distribution of mixed traffic on two lane roads”, **Journal of Transportation Engineering**, **ASCE**, vol. 132 (7), 2006, 597.
33. Dey, P. P., Satish Chandra and Gangopadhaya, S. “Speed distribution curves under mixed traffic conditions”, **Journal of Transportation Engineering**, **ASCE**, vol. 132 (6), 2006, 475-481.
34. Pawan Kumar, Satish Chandra and Sunil Bose, “Strength Characteristics of polymer modified mixes”, **International Journal of Pavement Engineering**, Vol. 7(1), 2006, 63 – 71.
35. Satish Chandra, Mehndiratta, H. C. and Uday Kiran Ch., “Structural adequacy of flexible pavements with type and width of shoulders”, **Journal of Transportation Engineering**, **ASCE**, vol. 132(1), 2006, pp. 69-75.
36. Kamel, M. A., Satish Chandra and Praveen Kumar, “Behaviour of subgrade soil reinforced with geogrid”, **International Journal of Pavement Engineering**, Vol. 5(4), 2004, pp. 201.
37. P. Kumar, P. K. Sikdar, S. Bose and Satish Chandra, *Use of jute fibre in stone matrix asphalt*, **International Journal of Road Materials and Pavement Design**, Vol. 5(2), 2004, pp. 239-249.
38. Satish Chandra, *Effect of road roughness on capacity of two lane roads*, **Journal of Transportation Engineering**, **ASCE**, vol. 130(3), 2004, pp. 360-64.
39. Satish Chandra and Upendra Kumar, *Effect of lane width on capacity under mixed traffic conditions in India*, **Journal of Transportation Engineering**, **ASCE**, Vol. 129(2), 2003, pp. 155-160.

40. Satish Chandra, Kumar, P. and Feyissa, B.A., *Use of Marble dust in road construction*, **International journal of road materials & pavement design**, Vol. 3(3), 2002, pp. 317-330.
41. Satish Chandra and Sinha, S. *Effect of directional split and slow moving vehicles on two lane capacity*, **Road & Transport Research**, 10(4), 2001, **ARRB, Australia**, pp. 33 – 41.
42. Satish Chandra and Kumar, R., *Headway modelling under mixed traffic on urban roads*, **Road & Transport Research**, 10(1), 2001, **ARRB, Australia**, pp. 61-71.
43. Satish Chandra and Sikdar, P. K., *Factors Affecting PCU in Mixed Traffic on Urban Roads*, **Road & Transport Research**, 9(3), 2000, **ARRB, Australia**, pp. 40-50.
44. Satish Chandra, Sikdar, P. K. and Virendra Kumar, *Analysis of Mixed Traffic at Signalized Intersections*, **Jl. of REAAA**, vol. 7, 1996, pp. 16 – 23.
45. Satish Chandra, Sikdar, P. K. and Kumar, V., *Right Turn Saturation Flow at Signalized Intersections*, **Road & Transport Research**, 3(1), 1994, **ARRB, Australia**, pp. 60-73.
46. Satish Chandra, Verma, V. S., *Capacity of Urban Roads Using Areal Density Concept*, **Jl. of REAAA**, vol. 5, 1995, pp. 14-20.

ii. NATIONAL JOURNALS (91)

1. Satish Chandra, “Highway Capacity Research on Inter-urban Highways in India”, Invited paper for the journal of Transportation in Developing Economies (TiDE), 1(1), 2015, 20-24
2. Satish Chandra, Haider Habeeb and Yassir Nashaat, “Prediction of Rut Depth in Bituminous Mixes based on creep and Aggregate Gradation Data”, Highway Research Journal, Vol. 7(1), 2014, HRB, Indian Roads Congress, New Delhi, 1-8.
3. Dhamaniya, A. and Satish Chandra, “Midblock Capacity of Urban Arterial Roads in India”, Indian Highways, 42(7), 2014, Indian Roads Congress, New Delhi, 75-81.
4. Bharti, A. K., Satish Chandra and Ch. Ravi Sekhar, “Relation between Pavement Serviceability and Roughness for Flexible Pavement”, Indian Highways, 42(5), 2014 Indian Roads Congress, New Delhi, 9-18.
5. Rajat Rastogi, Satish Chandra and Mithun Mohan, “Development of Level of Service Criteria for Pedestrians”, Journal of the Indian Roads Congress, 74(1), 2014, New Delhi, pp 61 – 70.
6. Sinha, A. K., Satish Chandra and Praveen Kumar, “Finite element analysis of flexible pavement with different subbase materials”, Indian Highways, 42(2), 2014, Indian Roads Congress, New Delhi, 57-68.
7. Satish Chandra, G. S. Rao, and Ashish Dhamaniya, “Effect of pedestrian cross flow on capacity of urban arterials”, Indian Highways, 42(1), 2014, Indian Roads Congress, New Delhi, 51-58.

8. Satish Chandra, Rajat Rastogi and Vivek R. Das, "Crossing behavior of pedestrians at midblocks in mixed traffic", Paper Number 593, Journal of the Indian Roads Congress, 73(4), April-June 2013, New Delhi, pp 100 – 110.
9. Satish Chandra, and Rajat Rastogi, "Mixed traffic flow analysis on roundabouts", Paper Number 573, Journal of Indian Roads Congress, 73(1), March 2012, New Delhi, pp 69-77.
10. Satish Chandra, Rajat Rastogi and Vivek R. Das, "Pedestrian Delay during Crossing at Uncontrolled Locations", Indian Highways, 40(2), 2012, Indian Roads Congress, New Delhi, 33-41.
11. Dhamaniya, A. and Satish Chandra, "Future challenges for traffic engineers", Indian Highways, 40(6), 2012 Indian Roads Congress, New Delhi, 75-81.
12. Ilango, T. Chandra, S. and Rastogi, R. "Comparison of pedestrian characteristics of North and South India", Indian Highways, 40(4), 2012 Indian Roads Congress, New Delhi, 29-37.
13. Vishal Sharma and Satish Chandra, "Characterization of Indian Fly ashes for Use in Bituminous Construction, Highway Research Journal, Vol. 4(1), 2011, HRB, Indian Roads Congress, New Delhi, 1-12.
14. Satish Chandra, Santosh Khusnure and Vivek R Das, "Modeling Untidiness of Mixed Traffic Using Fuzzy Logic", Highway Research Journal, Vol. 4(1), 2011, HRB, Indian Roads Congress, New Delhi, 43-50.
15. Shalinee Shukla and Satish Chandra, "Simulation of Mixed Traffic Flow on Four-lane Divided Highways", Journal of Indian Roads Congress, 72(1), 2011, New Delhi, 55-71.
16. Satish Chandra, Ashalatha, R. and Gaurav H. Pandey, "Traffic Flow Analysis on Intermediate Lane Roads", Indian Highways, 38 (12), Indian Roads Congress, 2010, New Delhi, 17-23.
17. Shalinee Shukla and Satish Chandra, "Placement Characteristics of Mixed Traffic on Four-lane Divided Highways", Indian Highways, 38(8), 2010, Indian Roads Congress, New Delhi, 43-52.
18. Satish Chandra and Daniel Molla, "Change in vehicular Interaction and Saturation Flow at Signalized Intersections over Time", Highway Research Journal, Vol. 3(1), 2010, HRB, Indian Roads Congress, New Delhi, 69-76.
19. Satish Chandra and Bezabih, A. G., "Estimation of Axle Load Distribution from Individual Vehicle Counts", Highway Research Journal, Vol. 3(1), 2010, HRB, Indian Roads Congress, New Delhi, 83-92.
20. Kumar, P., Satish Chandra and MDA, Sajid, "Performance Study of PMGSY Roads", Indian Highways 38(6), Indian Roads Congress, New Delhi, June 2010, pp. 47-58.
21. Bezabih, A. G. and Satish Chandra, "Comparative study of flexible and rigid pavements for different soil and traffic conditions", Journal of Indian Roads Congress, 70(2), 153-164, 2009.
22. Sinha, A. K., Praveen Kumar and Satish Chandra, "Behaviour of industrial waste materials under cyclic loading", Highway Research Journal, Vol. 1(2), 2008, HRB, Indian Roads Congress, New Delhi, 21-28.
23. Choudhary R. and Satish Chandra, "Mechanistic evaluation of bituminous concrete with different fillers", Highway Research Journal, Vol. 1(1), 2008, HRB, Indian Roads Congress, New Delhi, 21-30.

24. Dey, P. P., Satish Chandra and Gangopadhaya, S., "Acceleration characteristics of vehicles on Indian roads", Highway Research Journal, Vol. 1(1), 2008, HRB, Indian Roads Congress, New Delhi, 43-48.
25. Dey, P. P., Satish Chandra and Gangopadhaya, S., "Modeling of vehicle arrival on two-lane roads", Highway Research Journal, Vol. 1(1), 2008, HRB, Indian Roads Congress, New Delhi, 71-80.
26. Satish Chandra, "Passenger car units for Indian roads", Journal of Indian Roads Congress, 69(2), 2008, New Delhi, 177-185
27. Dey, P. P., Satish Chandra and Gangopadhaya, S., "Speed studies on two-lane roads", Indian Highways 36(6), Indian Roads Congress, New Delhi, June 2008, pp. 9-20.
28. Nagrale, P. P., Satish Chandra and Viladkar, M. N., "Elasto-plastic analysis of fiber reinforced flexible pavements", Journal of The Institution of Engineers (India), 89, November 2008, pp. 49-54.
29. Ashalatha R. and Satish Chandra, "Capacity of uncontrolled intersections under mixed traffic conditions", HRB – 77, Indian Roads Congress, New Delhi, October 2007, pp. 73 – 80.
30. Dey, P. P., Satish Chandra and Gangopadhaya, S., "PCU factors for two-lane roads", HRB – 77, Indian Roads Congress, New Delhi, October 2007, pp. 111– 119.
31. Nagrale, P. P., Satish Chandra and Viladkar, M. N., "Modeling of flexible pavement resting on fiber reinforced subgrade soils", HRB – 77, Indian Roads Congress, New Delhi, October 2007, pp. 47 – 53.
32. Satish Chandra and Vishnu Prasad, N. "Capacity of multilane divided urban roads under mixed traffic conditions", HRB – 75, Indian Roads Congress, New Delhi, 2006, pp. 97 – 103.
33. Dey, P. P., Satish Chandra and Gangopadhaya, S., "Lateral placement of vehicles under mixed traffic conditions", Indian Highways, vol. 34(9), Indian Roads Congress, New Delhi, September 2006, pp. 9 – 17.
34. Nagrale, P. P., Satish Chandra and Viladkar, M. N., "Strength characteristics of fiber reinforced subgrade soil", HRB – 74, Indian Roads Congress, New Delhi, September 2006, pp. 49 – 57.
35. Satish Chandra, Tanuja Srivastava, Shaline Shukla and Satya Marayan, "Modeling of vehicle arrivals at uncontrolled intersections", HRB – 74, Indian Roads Congress, New Delhi, September 2006, pp. 97 – 103.
36. Satish Chandra and Deepak Kumar, "Capacity model for uncontrolled intersections", HRB – 74, Indian Roads Congress, New Delhi, September 2006, pp. 73 – 79.
37. Nagrale, P. P., Satish Chandra and Viladkar, M. N. "Benefits of fiber reinforced subgrade soils in flexible pavements", Journal of The Institution of Engineers (India), 87, May 2006, pp. 53-57.
38. Kamel M. A., Chandra S. and Kumar, P. "Modified AASHTO method for design of geogrid reinforced flexible pavements", Indian Highways, 34 (1), Indian Roads Congress, 2006, New Delhi, 49 – 55.
39. Ashalatha, R., Satish Chandra and Prasanth, K. "Critical gap at uncontrolled intersections using maximum likelihood technique", Indian Highways, 33 (10), Indian Roads Congress, 2005, New Delhi, 67-74.
40. Kamel M. A., Chandra S. and Kumar, P. "Resilient behavior of reinforced subbase materials", HRB – 72, 2005, Indian Roads Congress, New Delhi, 13–26
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SPONSORED RESEARCH PROJECTS HANDLED

Title	Sponsoring agency	Amount (Rs) (Lakh)	PI	Status
Development of specifications for WMA for Indian Conditions	DST, New Delhi	13.50	Satish Chandra	Started 2014
Development of Indian Highway Capacity Manual (INDO-HCM)	CSIR – CRRI, New Delhi	100.00	Satish Chandra	On-going since 2012
Pedestrian behavior under varied traffic and spatial conditions	CSIR, New Delhi	15.46	Satish Chandra	completed in 2011
Use of industrial wastes as filler in Bituminous construction	DST, New Delhi	11.226	Satish Chandra	Completed 2010
Development of capacity norms for non urban roads	CSIR, New Delhi	14.12	Satish Chandra	Completed 2008
Capacity of uncontrolled intersections under mixed traffic conditions	MHRD, New Delhi	8.00	Satish Chandra	Completed (2006)
Development of design procedure for reinforced flexible pavement	MHRD, New Delhi	9.00	Praveen Kumar	Completed (2006)
Importance of highway shoulders in respect of pavement performance and traffic safety	UGC, New Delhi	4.24	Satish Chandra	Completed (2003)
Capacity of two lane roads under mixed traffic conditions	AICTE, New Delhi	5.00	Satish Chandra	Completed (2001)
Capacity of urban roads under mixed traffic conditions	UGC, New Delhi	4.70	Satish Chandra	Completed (1994)

List of awards/Prizes/Honors

1. Awards/Prizes

- (i) Outstanding teacher award by IIT Roorkee for the year **2014**
- (ii) IRC commendation certificate on research paper titled “Mixed traffic flow analysis on roundabouts”, published in the Journal of Indian Roads Congress, in 2012.
- (iii) Bihar PWD Medal on research paper titled “Simulation of mixed traffic flow on four-lane divided highways” published in the *Journal of Indian Roads Congress* in **2011**.
- (iv) Outstanding teacher award by IIT Roorkee for the year **2006**.
- (v) Was judged star performer by IIT Roorkee for the academic year 2003-04 & 2004-05
- (vi) IRC Commendation certificate – 2002 on paper “Headway modeling on urban roads using artificial neural network”, published in HRB 65.
- (vii) Khosla commendation certificate – 2002 on paper “Effect of directional split and slow moving vehicles on two lane capacity”, published in Road & Transport Research, Australian Road Research Board, Vol. 10(4), pp. 33-41.
- (viii) The Institution of Engineers (India) award for 2001 on research paper entitled "Investigation on bituminous mixes with blended modifiers"
- (ix) Khosla commendation certificate – 2001 on paper “Factors affecting PCU in mixed traffic situations on urban roads”, published in Road & Transport Research, Australian Road Research Board, Vol. 9(3), pp. 40-50.
- (x) ISCMS-JP Award – 2001 for the paper “Structural Behaviour of High Strength SFRC Pavements”, published in the Indian Concrete Journal, Vol. 73 (11), November 1999.
- (xi) IRC Commendation certificate on paper titled "Load Carrying Capacity of thin SFRC Pavements over WBM Base" for 1999.
- (xii) The Institution of Engineers (India) award for 1996-97 on research paper entitled "Level of Service for Mixed Traffic at Signalized Intersections".
- (xiii) Awarded INSA Visiting Fellowship for three months to work at IIT Bombay during 1993-94
- (xiv) First prize in Technical Quiz Competition organized by the Institution of Engineers (India) Roorkee Local Chapter, 1982-83

2. HONOURS

- (i) Member Research Council, National Transportation Planning & Research Centre (NATPAC), Thiruvananthapuram since February 2013.
- (ii) Chairman, **Bitumen Tar and their Products Committee, PCD 6 of BIS, New Delhi**
- (iii) Member, Traffic Engineering Committee of Indian Roads Congress, New Delhi 1997-2014.
- (iv) Member, IMRA Committee of Indian Roads Congress, New Delhi, 2003-2014.
- (v) Member, Technical Evaluation committee for world bank aided Uttar Pradesh State Road Projects-II
- (vi) Member, Technical Committee of conferences in India and Abroad
- (vii) Session Chair for Technical sessions in various conferences in India and Abroad

LIST OF DISSERTATIONS GUIDED

A. Ph. D. Dissertations

Sl. No.	Candidate	Topic of thesis	Year of award
1.	M. P. S. Chauhan	Strength Characteristics of Composite Pavements	2001
2	Som Nath	Speed Flow Relationships and Capacity Analysis for an Identified Intercity Road Network	2004
3	Mostafa A Kamel	Development of Design Procedure for Reinforced Flexible Pavement	2005
4	Pawan Kumar	Development of High Performance Bituminous Mixes	2005
5	Partha Pratim Dey	Simulation of Mixed Traffic on Two-Lane Roads	2006
6	Prashant P Nagrale	Modeling of Fiber Reinforced Flexible Pavements	2006
7	Ashalatha R.	Critical Gap and Delay Characteristics at Uncontrolled Intersections.	2007
8.	Shalinee Shukla	Traffic Flow Modeling on Multilane Divided Highways	2008
9	Rajan Choudhary	Evaluation of Bituminous Mixes with Different Types of Fillers	2008
10.	Abdhesh K. Sinha	Study on Subbase Materials for Rural Roads	2009
11.	T. Ilango	Modeling of pedestrian behavior in urban areas	2011
12.	Vivek R Das	Crossing behavior of pedestrians in mixed traffic conditions	2011
13.	Haider Habbeb Aodah	Performance prediction model for Bituminous Mixes	2014
14.	Arpan Mehar	Capacity of Multilane Intercity Roads Under Mixed Traffic Conditions	2014
15.	Ashish Dhamaniya	Capacity of urban Roads under Mixed Traffic Conditions	2014
16.	Ambika Behl	Performance Characteristics of Warm Asphalt Mixes	2016
17.	Anish Bharti	Travel Time Reliability for performance measurement of urban roan network	Started 2011
18	Subhash Chand	Analysis of traffic flow at signal controlled intersections	Started 2013
19	Mithun Mohan	Analysis of mixed traffic flow at uncontrolled intersections	Started 2013
20.	Arpita Saha	Measurement and Analysis of Delay at Signalised Intersections	Started 2014
21.	Rajiv Kumar	Development of Warm Stone Matrix Asphalt	Started 2014
22.	Subhadip Biswas	Capacity Analysis of urban streets sunder Mixed Traffic Conditions	Started 2014

B. M. Tech. Dissertations

1. Field Determination of Modulus of Elasticity of Pavements by Vibration Method. (1986)
2. Efficacy of Anti-stripping Agents for Road Aggregates. (1987)
3. Parametric Study on Unbound Pavement Material Using Cyclic Triaxial Tests. (1987)
4. Comparative Study of Overlaying and Recycling of Bituminous Pavement. (1989)

5. Evaluation of Reinforced Flexible Pavements. (1989)
6. Analysis of Mixed Traffic Flow Through Controlled Intersection for Estimation of Capacity. (1990)
7. Some Aspects of Flexible Pavement Reinforced with Geotextiles.(1990)
8. Strength Characteristics of lime Fly Ash Soil Cement Mixed Under Different Test Conditions. (1990)
9. Relationship of Capacity Factors for Controlled Urban Intersections. (1990)
10. Computer Aided Design of Flexible Pavement Based on IRC -37, 1984. (1991)
11. Effect of Approach Width on saturation Flow Through Signalised Intersection. (1992)
12. Dynamic PCU and Estimation of Capacity of Urban Roads. (1992)
13. Effect of Right Turning Traffic on Saturation Flow Through Signalised Intersections. (1992)
14. Traffic Diversion on Alternate Route Link. (1993)
15. Level of Service for Mixed Traffic Flow at Signalized Intersections. (1994)
16. Capacity of Urban Roads Using Areal Density Concept. (1994)
17. Use of Geofabric in Construction of Road on Poor Subgrade Soil. (1994)
18. Development of Monograms for PCU on Urban Roads. (1995)
19. Development of Correlation Between CBR and Mini SPT Values of Subgrade Soil (1995)
20. Effect of Vehicle Size on Saturation Flow at Signalized Intersections (1996)
21. Parameters of Speed Distribution Curve Under Mixed Traffic Conditions. (1996)
22. Effect of Shoulder Width and Condition on Traffic Operation (1996)
23. Use of GIS in Highway Route Alignment (1996)
24. Development of Correlation Between CBR and Mini DCPT Values (1997)
25. Development of Software for Three Layer Flexible Pavement Analysis (1997)
26. Headway Modelling Under Mixed Traffic on Urban Roads (1997)
27. Development of Aggregate Gradation Curve for Bituminous Mixes (1998)
28. Effect of Shoulder Condition on Speed-Volume Relationship (1998)
29. Laboratory Investigations on Wet Mix Macadam (1999)
30. Mode Choice Analysis Using Neural Network. (1999)
30. Structural Behaviour of Composite Pavements Under Cyclic Loading (1999)
31. Correlation Between CBR and Mini SPT Values of Stabilized Soil (1999)
32. Analysis of Urban Road Traffic Through Simulation (1999)
33. Computer Aided Design of Flexible Pavement Overlays Based on IRC:81, 1997. (1999)
35. Utilization of RHA and Lime Sludge in Road Construction (2000)
36. Effect of Type and Width of Shoulder on Structural Capacity of Flexible Pavement (2000)
37. Strength Characteristics of Bituminous Mixes Using Modified Binders (2000)
38. Effect of Gradient on Capacity of Two Lane Roads (2000)
39. Mixed Traffic Headway Modeling on Urban Roads Using Neural Network. (2000)
40. Strength Characteristics of Bituminous Concrete with Different Types of Filler (2001)
41. Computer Aided Design of Bituminous Mixes for Pavements (2001)
42. Parametric Study on Dry Lean Concrete as a Base Course Material (2001)
43. Effect of Directional Split and Slow Moving Vehicles on Capacity of 2-Lane Roads. (2001)
44. Effect of Lane Width and Surface Condition on Capacity of Two-Lane Roads. (2001)
45. Effect of Roadside Development on Speed and Service Volume of Two-Lane Roads. (2002)
46. Placement of Vehicles on Single and Two-Lane Roads. (2002)
47. Effect of Surface Unevenness on Speed Profile of Two-Lane Roads. (2002)
48. Computer Aided Design of Flexible Pavement Based on IRC:37, 2001. (2002)
49. Development of Graphical Interface for Rural Road Accessibility Planning (2002)
50. Strength Parameters of Stabilized Fly Ash. (2002)
51. Resilient Behaviour of Reinforced Sub Base Material (2003)
52. Accident Analysis on Two-Lane Roads (2003)
53. A Comparative Study on Modified Bituminous Mixes Using Crumb Rubber of Cars and Trucks. (2003)
54. A Study on Structural Adequacy of Flexible Pavement with Different Types of Shoulders (2004).
55. Modeling of Vehicle Arrivals at Uncontrolled Intersections (2004).

56. Estimation of Departure Headway at Uncontrolled Intersection (2004).
57. Comparative Study on Different Sub-base Materials (2004).
58. Capacity Analysis of Multilane Divided Urban Roads (2004).
59. Laboratory Studies on Fiber Reinforced Soils (2004).
60. Overtaking Behavior on a Two Lane Road (2005).
61. Estimation of Critical Gap at Uncontrolled Intersections (2005).
62. Delay at Uncontrolled intersections (2006).
63. Modeling of mixed traffic on a two-lane road using cellular automata (2006).
64. Traffic flow analysis on roundabouts (2007)
65. Performance study of PMGSY Roads (2007)
66. Performance evaluation of bituminous concrete with different fillers. (2007)
67. Behavior of granular materials under cyclic loading (2007).
68. Overtaking behaviour on multilane highways (2007).
69. Comparative study of flexible and rigid pavements for different soil and traffic conditions (2008)
70. Speed flow characteristics of intermediate lane roads (2008)
71. Vehicular interactions at signalized intersections (2008)
72. Pedestrian flow characteristics in urban areas (2008)
73. Pedestrian Crossing behaviour under uncontrolled traffic conditions (2009)
74. Placement characteristics of mixed traffic on multi-lane divided roads (2009)
75. Use of flyash in bituminous construction (2009)
76. Analysis of Pedestrian Risk during Crossing (2010)
77. Development of Level of Service Criteria for Pedestrian Movements (2010)
78. Evaluation of a Bitumen Modifier with Different Additives (2010)
79. Effect of Geometry on the Traffic Capacity of Roundabouts (2010)
80. Concept and Performance of Open Grade Asphalt in India, Germany and the US (2011)
81. Pedestrian Crossing Behavior at Intersections (2011)
82. Evaluation of Relationships between Pavement Distress Parameters (2011)
83. Estimation of LOS at Pedestrian Crossings at Midblocks (2011)
84. Effect of Side Friction on capacity of urban roads (2012)
85. Effect of Aggregate Gradation and Binder on durability and performance of Bituminous Mixes (2012)
86. Rheology of bitumen with different warm mix additives (2012)
87. Zero Shear Viscosity of bitumen-filler mastic (2013)
88. Effect of Approach width on saturation flow at signal controlled intersections (2013)
89. A study on LOS parameters for two-lane roads in mixed traffic conditions (2014)
90. Effect of bus stop on capacity of urban arterial road (2014)
91. Traffic flow analysis on two-lane roads (2014)
92. Traffic flow analysis on single and intermediate lane roads (2014)
93. Effect of turning-lane use on saturation flow at signal controlled intersection (2015)
94. Estimation of free flow speed on two-lane roads (2015)
95. Analysis of operational performance measures for multilane interurban highways (2015)
96. Traffic flow analysis on limited priority junctions (2015)
97. Revalidation of $Q = KV$ for mixed traffic flow (2015)