

# SABYASACHI BISWAS

## Assistant Professor

Specialization: Transportation Engineering Dept. of Civil Engineering  
National Institution of Technology Jamshedpur (NIT Jsr)  
Jamshedpur –831014 , Jharkhand



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## RESEARCH INTEREST AREA

Traffic operation,  
Urban Transport and Planning, ITS,  
Traffic Simulation,  
Pedestrian behavior and Drivers Behavioral studies,  
Road Traffic Safety and  
Pavement Engineering

## PERSONAL INFORMATION

- Nationality: Indian
- Religion: Hinduism
- Language known: Bengali, English and Hindi

## ACADEMIC PROFILE

### *I. Doctor of Philosophy in Civil Engineering*

Specialization of Transportation Engineering  
From Indian Institution of Technology (IIT) Roorkee, Uttarakhand, India  
Thesis Topic: **Investigation of Traffic Efficiency and Violations at Signalized Intersections**  
Supervisor: **Dr. Indrajit Ghosh**

Year	Grade
January 2014- September 2017	(Awarded)

### *II. Master of Technology in Transportation System Engineering*

Form Indian Institute of Technology (IIT) Guwahati, Assam, India  
Thesis Topic: **Road Safety Audit of Guwahati City Roads**  
Supervisor: **Dr. Akhilesh Maurya**

June 2012	8.93
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### *III. Bachelor of Engineering in Civil Engineering*

From Indian Institution of Engineering science and Technology (IEST)  
Shibpur, (Formerly Bengal Engineering and Science University Shibpur)  
West Bengal, India

June 2010	75.55% (8.305)
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## RESEARCH EXPERIENCE

### Research Project

1. **DST-SERB**, Govt. of India sponsored project, Entitled of “Effect of Countdown Display on Traffic Flow Characteristic and Driver Behaviour at Signalised Intersections” during 9th September 2013 to 1st March 2016.
2. “Developing adjustment factor model for various influencing parameters on Saturation flow” in **Development of Indo-HCM** project funded by Planning Commission, GOI, under 12th Five Year Plan Period - January 2016 - August 2016.

### Ph.D. Research

#### *I. Investigation of traffic efficiency and violation at signalized intersection*

- ✓ Proposed a methodology to estimate the PCU values by minimizing the variance of saturation flow at signalized intersection.
- ✓ In addition, the research introduced the concept of Stream Equivalency Factor (SEF) to avoid the profound understanding of the PCU estimation. Its equation has been developed using data from six different study approaches.
- ✓ The purpose of this work is to develop a stop and go prediction model that illustrates the drivers' decision during the yellow time at signalized intersections.

### M.Tech

The traffic pattern in developing countries like India can be characterized as heterogeneous traffic. Road safety Audit is very important for a nation. With the development of global economics, the original road, traffic, infrastructure may not meet the need of the society, and this present condition can lead to great economics loss. Thus Road Safety Audit becomes more and more important. Basically audit conducted in existing condition and suggestion for remedial measure for Road Safety improvement.

## ACADEMIC EXPERIENCE

- Dedicated 1 academic year teaching experience in Trinity College of Engineering & Research, Pune University (**23rd July 2012 -10th April 2013**)

## ACADEMIC ACHIEVEMENT

- ✓ **MHRD Scholarship for PhD** (March 2016 – July 2017)
- ✓ Prestigious **DST-SERB research fellowship** (September 2013-March 2016)
- ✓ Selected for **IIT Roorkee Heritage Foundation** fellowship to participate in the **Transportation Research Board (TRB)** 95th Annual Meeting held at the Walter E. Washington Convention Center, in Washington, D.C., United States of America in January 10–14, 2016.
- ✓ Selected for **IIT Roorkee Alumni** fellowship to participate in the **Transportation Research Board (TRB)** 96th Annual Meeting held at the Walter E. Washington Convention Center, in Washington, D.C., United States of America in January 11–15, 2017.
- ✓ **GATE** (Graduate Aptitude Test of Engineering) Scholarship by MHRD, Government of India for **M.Tech** (July 2010 – April 2012)
- ✓ Received **National** Scholarships during B.E

## EXTRA CURRICULUM ACTIVITIES

- ✓ Secure 1<sup>st</sup> place in departmental football tournament in IIT Roorkee
- ✓ Diploma in Fine arts (drawing) from Bankim-Parishad

## SKILLS/INTEREST

### *I. Software*

MATLAB, VISSIM, Trans Cad

### *II. Interest*

Any outdoors games

Travelling

## REFERENCES

### 1. Dr. Indrajit Ghosh

Assistant Professor

Department of Civil Engineering

Indian Institution of Technology (IIT) Roorkee 247667, Uttarakhand, India

Email ID: [indrafce@iitr.ac.in](mailto:indrafce@iitr.ac.in) Ph.: +91-9536932669

### 2. Dr. Satish Chandra

Director

CSIR-Central Research Road Institution (CRRI) New Delhi, New Delhi -110025, India

Email ID: [satisfce@iitr.ac.in](mailto:satisfce@iitr.ac.in)

### 3. Dr. Akhilesh Maurya

Associate Professor

Department of Civil Engineering

Indian Institution of Technology (IIT) Guwahati, Assam, India

Email ID: [maurya@iitg.ernet.in](mailto:maurya@iitg.ernet.in)

## LIST OF PUBLICATIONS

### *Paper in International Journals*

- Biswas, S., I. Ghosh and S. Chandra (2015).** Effect of traffic signal countdown timers on pedestrian crossings at signalized intersection. (Paper accepted for publication in Transportation in Developing Economies, TRG, Springer, Manuscript number TIDE-D-15-00038)
- Biswas, S., I. Ghosh and S. Chandra (2016).** Influence of signal countdown timer on efficiency and safety at signalized intersections. (Paper accepted for publication in Canadian Journal of Civil Engineering, Manuscript number cjce-2016-0267)
- Biswas, S. and I. Ghosh (2018).** Modeling of the Drivers' Decision-Making Behavior During Yellow Phase (Paper accepted for publication in KSCE, Manuscript number KSCE-D-17-00666R1)
- Biswas, S., S. Chakraborty, I. Ghosh and S. Chandra (2018).** Saturation Flow Model for Signalized Intersection under Mixed traffic condition. (Paper accepted for publication in Transportation Research Record ).

### *Papers published in Peer reviewed Journals*

- Jeevitha, D., **Biswas, S., and I. Ghosh (2015).** The Effect of Countdown Timer on the Approach Speed at Signalised Intersections, 4th International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications, London, United Kingdom (Procedia Computer Science 52, pp. 920-925).

### *Papers published in International Conference Proceedings*

- Biswas, S., I. Ghosh and S. Chandra (2018).** Saturation Flow Model for Signalized Intersection under Mixed traffic condition. (Paper accepted in 97th Annual Meeting of Transportation Research Board 2018).
- Biswas, S., and I. Ghosh (2017).** Estimation of the passenger car units and stream equivalency factor at signalized intersections under heterogeneous traffic condition. (Paper accepted in 96th Annual Meeting of Transportation Research Board 2017).
- Biswas, S., S. Pandey, K.S. Maurya, S. Choudhury and I. Ghosh (2017).** Drivers' Decision-Making Behavior during Yellow Phase: A Weighted Average Based Approach. (Paper accepted in 96th Annual Meeting of Transportation Research Board, 2017).
- Biswas, S., I. Ghosh and S. Chandra (2016).** Effect of countdown timers on traffic characteristics and driver behaviors at signalized intersections. (Paper accepted in 96th Annual Meeting of Transportation Research Board 2016, Paper ID 16-5771).
- Biswas, S., I. Ghosh and S. Chandra (2015).** Impact of traffic signal countdown timers on pedestrian behavior at signalised intersection. (Paper accepted in 3rd Conference of Transportation Research Group of India, Paper ID 578)
- Biswas, S., I. Ghosh, S. Chandra and J. Sing (2015).** Comparison of passenger car unit values for urban mixed traffic at signalized intersections. (Paper accepted in 3rd Conference of Transportation Research Group of India, Paper ID 571).

*Paper under Review after Revision*

**Biswas, S., I. Ghosh and S. Chandra (2017).** Conceptual Method for Computing Stream Equivalency Factor at Signalized Intersections under Heterogeneous Traffic Condition (Paper under review for publication in Journal of Transportation Engineering, ASCE, Manuscript number TEENG-4551R1 **Date of Submission:16/09/2017)**

**Biswas, S., and I. Ghosh (2017).** Reliability model on drivers' decision during amber phase at signalized intersection. (Paper under review for publication in Current science, **Date of Submission: 05/10/2017)**

**Biswas, S., and I. Ghosh (2017).** Reliability model on drivers' decision during amber phase at signalized intersection. (Paper under review for publication in Current science, **Date of Submission: 05/10/2017)**

Mehta, A and **Biswas, S.** (2018). Influence of NaOH concentration and RHA content on compressive strength predicted by Multi-Linear Regression and Kriging techniques (Paper under review for publication in Journal of Hazardous Materials, **Date of Submission: 11/04/2018)**

**Biswas, S., I. Ghosh and T. Gates (2018).** Conceptual Method for Computing Start Up Loss Time at Signalized Intersections under Mixed Traffic Condition (Paper under review for publication in Journal of Transportation Research Record, Date of Submission : 1/08/2018)