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Education

PhD in Civil Engineering (Transportation) **January 2021 - Present**
Lyles School of Civil Engineering
GPA: **3.92** *on a 4.00 scale base (continuing)*
Dissertation title: Designing a resilient infrastructure for electric vehicles

M.Sc. in Civil Engineering (Transportation) **September 2017 - January 2020**
Bangladesh University of Engineering & Technology
CGPA: **3.92** *on a 4.00 scale base*
Dissertation title: Road Accident Analysis in Bangladesh Using System Based Sociotechnical Approach

B.Sc. in Civil Engineering **February 2013 - September 2017**
Bangladesh University of Engineering & Technology
CGPA : **3.97** *on a 4.00 scale base (Class position:* **2nd** *out of 234 students)*
Dissertation title: Comparative Study of Rigid and Flexible Pavements Construction in Bangladesh

Research Experience

Graduate Research Assistant **January 2021 - Present**
Urban Mobility, Networks and Intelligence Lab, Lyles School of Civil Engineering, Purdue University

- PI: Professor Dr. Satish V. Ukkusuri

Co-Investigator **August 2017 - January 2021**
"Socio-Technical Approach to Road Safety" project by National Institute for Health Research, UK

- CI: Professor Dr. Neville A. Stanton; PI: Professor Dr. Md. Shamsul Hoque

Sponsored Research

Funding: Indiana Department of Transportation, USA **October 2023 - October 2025**
SPR 4811: Simulating current and future EV growth scenarios in Indiana

- My Role: **Project Lead**; PI: Dr. Satish V. Ukkusuri; co-PI: Dr. Konstantina (Nadia) Gkritza

Funding: National Science Foundation, USA **September 2023 - August 2026**
SAI: Large-scale Planning for Electric Vehicle Public Charging Infrastructure

- My Role: **Project Lead**; PI: Dr. Xinwu Qian; co-PI: Dr. Satish V. Ukkusuri

Funding: Indiana Department of Transportation, USA **October 2022 - August 2024**
SPR 4706: Electric Vehicles: Public Perceptions, Expectations, and Willingness-to-Pay Across Highway User Groups (Vehicle Classes)

- My Role: **Project Co-Lead**; PI: Dr. Konstantina (Nadia) Gkritza; co-PI: Dr. Satish V. Ukkusuri

Funding: National Institute for Health Research, UK **August 2017 - August 2021**
Socio-Technical Approach to Road Safety (STARS)

- My Role: **Project Lead**; Chief Investigator: Dr. Neville A. Stanton; PI: Dr. Md. Shamsul Hoque

Peer-Reviewed Journal Articles

1. **Hamim**, **O. F.**, & Ukkusuri, S. V. (2024). Towards safer streets: A framework for unveiling pedestrians' perceived road safety using street view imagery. *Accident Analysis & Prevention*, *195*, 107400.
2. Shafie, I. K., Das, R. C., **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2024). Exploring improvisations in road safety in a low-income setting. *Ergonomics*, *67*(2), 168–181.
3. **Hamim**, **O. F.**, Kancharla, S. R., & Ukkusuri, S. V. (2023). Mapping sidewalks on a neighborhood scale from street view images. *Environment and Planning B: Urban Analytics and City Science*, 23998083231200445.
4. Al Momin, K., Barua, S., **Hamim**, **O. F.**, & Roy, S. (2022). Modeling the behavior in choosing the travel mode for long-distance travel using supervised machine learning algorithms. *Komunikácie*, *24*(4).
5. **Hamim**, **O. F.**, Hasanat-E-Rabbi, S., Debnath, M., Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2022). Taking a mixed-methods approach to collision investigation: Accimap, stamp-cast and pcm. *Applied Ergonomics*, *100*, 103650.
6. **Hamim**, **O. F.**, Hossain, M. S., & Hadiuzzaman, M. (2022). Developing empirical model with graphical tool to estimate and predict capacity of rural highway roundabouts. *International Journal of Transportation Science and Technology*, *11*(4), 726–737.
7. **Hamim**, **O. F.**, & Ukkusuri, S. V. (2022). Determining prominent factors across system hierarchies to improve road safety in lmics: A case study of bangladesh. *Safety science*, *150*, 105709.
8. Das, R. C., Shafie, I. K., **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2021). Why do road traffic collision types repeat themselves? look back before moving forward. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *31*(6), 652–663.
9. Debnath, M., Hasanat-E-Rabbi, S., **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2021). An investigation of urban pedestrian behaviour in bangladesh using the perceptual cycle model. *Safety science*, *138*, 105214.
10. **Hamim**, **O. F.**, Aninda, S. S., Hoque, M. S., & Hadiuzzaman, M. (2021). Suitability of pavement type for developing countries from an economic perspective using life cycle cost analysis. *International Journal of Pavement Research and Technology*, *14*, 259–266.
11. **Hamim**, **O. F.**, Debnath, M., Hasanat-E-Rabbi, S., Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2021). Resolving the differences between system development and system operation using stamp: A road safety case study in a low-income setting. *Ergonomics*, *64*(7), 839–855.
12. Hasanat-E-Rabbi, S., **Hamim**, **O. F.**, Debnath, M., Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2021). Exploring the relationships between demographics, road safety attitudes, and self-reported pedestrian behaviours in bangladesh. *Sustainability*, *13*(19), 10640.
13. **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2020a). Representing two road traffic collisions in one accimap: Highlighting the importance of emergency response and enforcement in a low-income country. *Ergonomics*, *63*(12), 1512–1524.
14. **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2020b). A sociotechnical approach to accident analysis in a low-income setting: Using accimaps to guide road safety recommendations in bangladesh. *Safety Science*, *124*, 104589.
15. Hossain, M. I., & **Hamim**, **O. F.** (2020). Evaluation of cast-in-situ pile condition using pile integrity test. *International Journal of Geotechnical and Geological Engineering*, *14*(7), 150–155.

Peer-Reviewed Conference Presentations/Proceedings

16. Momin, K. A., Barua, S., Jamil, M. S., & **Hamim**, **O. F.** (2023). Short duration traffic flow prediction using kalman filtering. *AIP Conference Proceedings*, *2713*(1).
17. Momin, K., & **Hamim**, **O. F.** (2022). Pavement management system using deflection prediction model of flexible pavements in bangladesh. *Advances in Civil Engineering: Select Proceedings of ICACE 2020*, 363–370.
18. **Hamim**, **O.**, & Hoque, M. (2019). Prediction of pavement life of flexible pavements under the traffic loading conditions of bangladesh. *International Airfield and Highway Pavements Conference 2019*, 21–31.
19. **Hamim**, **O. F.**, Hoque, M. S., McIlroy, R. C., Plant, K. L., & Stanton, N. A. (2019). Applying the accimap methodology to investigate the tragic mirsharai road accident in bangladesh. *MATEC Web of Conferences*, *277*, 02019.

Publications Under Review

20. Al Momin, K., **Hamim**, **O. F.**, McIlroy, R. C., & Hoque, M. S. (2024). Investigating the impact of exclusive ride-hailing services on user's travel behavior using econometric modeling. *Manuscript under review.*
21. Chen, X., **Hamim**, **O. F.**, & Ukkusuri, S. V. (2024). Electric vehicle trips detection and synthesis using sequential generative adversarial networks. *Manuscript under review.*
22. **Hamim**, **O. F.**, Mashrur, S. M., Jahan, M. I., & Hoque, M. S. (2024). Investigating the impact of exclusive ride-hailing services on user's travel behavior using econometric modeling. *Manuscript under review.*

Teaching Experience

Assistant Professor **November 2020 - January 2021**
Department of Civil Engineering, Bangladesh University of Engineering and Technology

- Courses: CE 102: Computer Aided Drafting, CE 206: Engineering Computation Sessional, CE 391: Transportation Engineering, CE 454: Transportation Engineering Sessional II: Pavement Design and Traffic Studies

Lecturer **December 2017 - November 2020**
Department of Civil Engineering, Bangladesh University of Engineering and Technology

- Courses: CE 102: Computer Aided Drafting, CE 104: Practical Surveying, CE 200: Details of Construction, CE 204: Computer Programming Sessional, CE 206: Engineering Computation Sessional, CE 290: Details of Construction, CE 291: Engineering Materials, CE 316: Concrete Structures Design Sessional I, CE 320: Steel Structures Design Sessional, CE 324: Concrete Structures Design Sessional I, CE 391: Transportation Engineering, CE 392: Transportation Engineering Sessional, CE 452: Transportation Engineering Sessional I: Highway Materials and Traffic Engineering Design, CE 454: Transportation Engineering Sessional II: Pavement Design and Traffic Studies

Professional Experience

Consultant **June 2018 - January 2021**
Bureau of Research, Testing and Consultation (BRTC), Bangladesh University of Engineering and Technology

- Routinely involved in laboratory and field testing. Testing services include different routine and conventional laboratory tests for civil engineering materials, field testing services include load test and integrity test of piles, CBR test of soil etc.

- Participated as a consultant in the team of BUET Consultants for "Development of Master Plan for Payra Port".

Technical Skills

Programming Languages/Tools	C, C++, Java, LaTeX, Python, R
Artificial Intelligence	Machine Learning, Deep Learning, Computer Vision
Data Analytics and Visualization	Pandas, NumPy, Scikit-Learn, Geopandas, Matplotlib, ggplot, Contextily
Computer Aided Design & Drafting	AutoCAD, Civil3D
Simulation Software	METS-R ABM Simulation for EVs, SUMO, SCANeR™ studio by AV Simulation, MATLAB, VISSIM, SUMO, ETABS, SAP
Office Software	Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Visio

Honors and Awards

Edward J. Cox Memorial Transportation Scholarship Award *2024-2025*
Awarded by ITE Indiana Section to help each my educational goals *USA*

Kinnier Health and Wellbeing Scholarship Award *2023-2024*
Awarded by Lyles School of Civil Engineering, Purdue University *USA*

United States Permanent Residency *2023*
Individual with Exceptional Ability in the National Interest *USA*

Study Tour Grant (STG) 2019 *2019*
Awarded by Japan Society of Civil Engineers to represent Bangladesh in Japan *Japan*

University Grants Commission (UGC) Scholarship *2016*
1st position in Civil Engineering Faculty, BUET till Level-3/Term-II *Bangladesh*

University Merit Scholarship *2014-2017*
Top 10% rank during all Levels & Terms in Civil Engineering Department, BUET *Bangladesh*

Dean's List *2014-2017*
CGPA>3.75 during all Levels in Civil Engineering Department, BUET *Bangladesh*

Peer-Reviewer Experience

Conference Review

- Transportation Research Board Annual Meeting 2024
- Transportation Research Board Annual Meeting 2021
- Institution of Engineers, Bangladesh (IEB) 5th Annual Paper Meet and 2nd Civil Engineering Congress 2022

Journal Review

- Safety Science
- IEEE Internet of Things
- Applied Ergonomics
- Geospatial Information Science
- Ergonomics

- BMC Public Health
- Transportation Research Record
- Transportation in Developing Economies

Memberships

American Society of Civil Engineers (ASCE)	Student Member (2024 - Present)
Institute of Transportation Engineers (ITE)	Purdue University Student Chapter Member (2021 - Present) Webmaster (2021 - 2022)
Civil Engineering Students' Association, BUET	Student Member (2013 - 2020)

Extracurricular Activities

- 2nd Runner-up in "CECON", Flagship Competition of 1st Bangladesh Civil Engineering SUMMIT – 2016
- Member of the Editorial Body of the undergraduate conference 1st Bangladesh Civil Engineering SUMMIT – 2016 arranged by CESA, BUET
- Participated in "Fashion Show" of Civil Fest, BUET - 2016
- Winner of FIFA 11 in Gigabyte Gaming Contest – 2013, FIFA 10 & FIFA 09
- Champion of Call of Duty 4: Modern Warfare in World Cyber Games 2012 as a member of team 'voiD'
- Participated in "Spelling Bee Competition" arranged by Dhaka Residential Model College, Dhaka in the year 2009

References

Dr. Satish V. Ukkusuri — *PhD Supervisor*
Reiley Professor of Civil Engineering — *January 2021 - Present*
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Dr. Md. Shamsul Hoque — *B.Sc. and M.Sc. Thesis Supervisor*
Professor — *August 2016 - January 2020*
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