

AHADUL ISLAM

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EDUCATION

Utah State University

Master of Science in Civil Engineering, Cumulative GPA: 3.95 /4:00

Supervisors: Dr. Patrick A. Singleton and Dr. Michelle Mekker

Logan, UT

2019 – 2021

- Relevant Coursework: Transportation Data & Safety, Traffic Engineering, Urban & Regional Transportation Planning, GIS for Civil Engineers, Transportation Systems Analysis, Introduction to Data Science

Islamic University of Technology

Bachelor of Science in Civil Engineering, Cumulative GPA: 3.70 /4.00

Supervisor: Dr. Shakil Mohammad Rifaat

Gazipur, Bangladesh

2010 – 2013

- Relevant Coursework: Introduction to Transportation Engineering & Traffic Design, Highway Design and Railways, Surveying, Computer Programming and Applications, Engineering Economy

Standardized Test Score: IELTS Academic – Overall: 8.0 (Listening: 8.5, Reading: 8.5, Writing: 7.0, Speaking: 7.0)

RESEARCH INTEREST

Traffic Safety & Equity, Travel Behavior Analysis, Transportation Big Data Analytics, Connected and Autonomous Vehicle Technologies, Human Factors.

RESEARCH AND PROJECT EXPERIENCE

Faculty Member

Department of Civil Engineering, Military Institute of Science and Technology

Sep 2015 – Present

Dhaka, Bangladesh

- Feasibility study for construction of road/bridges/viaduct to connect Mirpur 12 with Uttara South Metro Station, sponsored by 34 Engineer Construction Brigade, *Co-Investigator*, Duration: May 2024 – Present
 - Currently assisting a team in travel demand forecasting and traffic microsimulation
 - Conducted topographic survey and currently assisting in road and intersection design
- Thesis supervision: Commuters' perception towards Mass Rapid Transit (MRT) in Dhaka City, Spring 2023 – Present
 - Currently advising an undergraduate student from formulation of proposal to thesis paper writing
 - This study is aimed at investigating factors affecting the mode choice between MRT and private vehicles and prioritizing quality attributes of MRT services that attracts car and motorcycle users.
- Feasibility study for development of Tangail Economic Zone, funded by Bangladesh Economic Zone Authority (BEZA), *Co-Investigator – Transport assessment*, Duration: July 2022 – Dec 2023
 - Assessed existing conditions of transportation infrastructure and forecasted travel demand
 - Recommended potential opportunities to make the site a multi-modal transport platform
- Topographic survey for flood control, drainage improvement and waterlogging mitigation project of Chittagong city, sponsored by 34 Engineer Construction Brigade, *Lead Investigator*, Duration: Dec 2022 – Jan 2023
 - Conducted topographic survey from Kalurghat – Madunaghat bridge using RTK technology
 - Analyzed data and created topographic maps using AutoCAD Civil 3D software
- Thesis supervision: University students' travel behavior and safety perceptions of commute mode, Spring – Fall 2022
 - Advised a group of 3 undergraduate students from formulation of proposal to thesis paper writing

- The research focused on investigating travel behavior of university students and their safety perceptions of different mode

Graduate Research Assistant

Utah State University, Civil and Environmental Engineering

2019 – 2021

Logan, UT

- Safety in numbers? Developing improved safety predictive methods for pedestrian crashes at signalized intersections in Utah using push button-based measures of exposure (UDOT Funded)
 - Examined the “safety in numbers” hypothesis for walking, which suggests that pedestrian crash rates decrease with increasing volumes of people walking
 - Developed improved pedestrian crash prediction models at signalized intersections using pedestrian push-button based measures of exposure
 - Developed new safety performance functions and crash modification factors utilizing UDOT’s ATSPM data as a measure of pedestrian exposure
- Safety in Numbers: Models of Pedestrian and Bicycle Crash Frequency and Severity at Signalized Intersections in Utah Using Innovative Measure of Exposure (MS Thesis)
 - Collected and processed road geometry data of signalized intersections of Utah
 - Estimated pedestrian and bicycle crash prediction models utilizing traffic signal and crowdsourced strava metro data
 - Investigated factors affecting frequency and severity of pedestrian and bicycle crashes for prioritization as potential countermeasure

Stamford University Bangladesh, Department of Civil Engineering

Lecturer

Dhaka, Bangladesh

Jan 2014 – Aug 2015

- Taught in transportation engineering laboratory classes and contributed lectures on traffic engineering hands-on sessions.
- Prepared lab setup for test on aggregates, bituminous materials, CBR and mix design, supervised students’ lab activities
- Supervised and coordinated students’ field survey sessions on curve setting and topographic survey
- Managed transportation engineering laboratory

PUBLICATION AND PRESENTATION

1. **Islam, A.**, Mekker, M., & Singleton, P. A. (2024) *Investigating Bicycle Crash Frequency, Severity, and Safety in Numbers at Signalized Intersections in Utah Using Crowdsourced Data* [Manuscript submitted for publication]. Department of Civil and Environmental Engineering, Utah State University.
2. Singleton, P. A., Mekker, M., Gaither, A., Subedi, A., & **Islam, A.** (2023). *Right-Turn Safety for Walking/Bicycling: Impacts of Curb/Corner Radii and Other Factors* (No. UT-23.09). Utah Department of Transportation. Published Date: 2023-09-01. URL: <https://rosap.nrl.bts.gov/view/dot/72595>.
3. **Islam, A.**, Mekker, M., & Singleton, P. A. (2022). Examining pedestrian crash frequency, severity, and safety in numbers using pedestrian exposure from Utah traffic signal data. Published in *Journal of transportation engineering, Part A: Systems*, 148(10), 04022084.
4. **Islam, A.**, Mekker, M., & Singleton, P. A. Evaluating Pedestrian “Safety in Numbers” at Signalized Intersections in Utah with Pedestrian Exposure Data from Traffic Signals. Presented at the Transportation Research Board 100th Annual Meeting, Virtual, 21-02609, 2021.
5. **Islam, A.**, Mekker, M., & Singleton, P. A. Safety in numbers? Developing improved safety predictive methods for pedestrian crashes at signalized intersections in Utah using push button-based measures of exposure. Presented at the 2020 National Travel Monitoring Exposition and Conference (NaTMEC), Virtual, 2020
6. Morshed, S. A., **Islam, A.**, & Chowdhury, T. R. (2016). Motorists’ and Pedestrians’ understanding of Traffic Signals and Road Markings in Dhaka City. Published in *3rd International Conference on Civil Engineering for Sustainable Development (ICCESD)*.

TEACHING EXPERIENCE

- Course development and instruction: CE 205, Numerical Methods for Engineers [Cr. Hr. 1.50], Fall 2023 (35 students in Section A & 34 students in Section B)
 - Teaching 2 sections of undergraduate students on topics: numerical integration and differentiation, numerical solution of ordinary and partial differential equation, and least square approximation.
 - Prepare lectures including case studies and demonstrate engineering applications of numerical methods using R software
 - Prepare homework and exam problems/solutions, and evaluate grades
- Course development and instruction: EWCE 351, Transportation Engineering & Planning [Cr. Hr. 1.00], Spring 2023; Spring 2022
 - Taught lectures (14 contact hour) on data collection and travel surveys and four step travel forecasting model
 - Prepared homework and exam problems/solutions using population and housing census – 2011 data of Bangladesh, and evaluated grades
- Coordinator & Instructor: CE 104, Practical Surveying [Cr. Hr. 1.50], Fall 2022; Fall 2021
 - Designed course and coordinated 3 weeks’ hands-on session at field
 - Supervised students’ planning and execution of topographic survey using total station and GPS
- Instructor: 5 days’ short course on GIS for professionals and researchers
 - The course included exposure to applications of spatiotemporal data analysis in research and pragmatic decision making
 - Presented one short teaching session on application of GIS in transportation planning.
 - Assisted a group to formulate and analyze a pedestrian safety project

ACADEMIC SERVICES

- Preparation of Self-Assessment Report for accreditation of undergraduate engineering program by Board of Accreditation for Engineering and Technical Education (BAETE), Institute of Engineers, Bangladesh (IEB)
 - Evaluated institutional policies and facilities to support students’ academic, extra-, and co-curricular activities as per criteria set by accreditation body – BAETE.
- Second international conference on advances in civil infrastructure and construction materials [[web link](#)], *Member (Organizing committee)*
 - Reviewed papers related to transportation planning topics for acceptance and award nomination
 - Scheduled technical sessions and coordinated with invited speakers and presenters
 - Moderated Plenary Session on Higher Studies in North America
- Reviewed 1 paper for International Journal of Sustainable Transportation
- Reviewed 3 papers for Transportation Research Board 100th Annual Conference

PROFESSIONAL TRAINING

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| <ul style="list-style-type: none"> • Remote sensing data computation using Google Earth Engine: applications in engineering and flood risk through a gender lens, mentored by HKV | Oct 2021 – Nov 2021 |
| <ul style="list-style-type: none"> • Professional software training: PTV Vissim - Multimodal Traffic Simulation Software by Mahmudul Hasan Shovon, Training Specialist at PTV Group | 12 – 14 Feb 2024 |

SKILLS & INTERESTS

Traffic & Planning: Vissim, Synchro, ArcGIS, Cube Voyager
 Roadway Design: AutoCAD
 Statistics & Programming: R, Python
 Interests: Traveling, Hiking, Trail running