

Reuben Tamakloe, PhD

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EMPLOYMENT

Research Professor, Univ. of Seoul, Dept. of Transportation Eng.

Mar 2022 – Present

Principal Investigator (PI) for project funded by the National Research Foundation (NRF) of South Korea

Research project: Integrating Autonomous Vehicles into the Public Transportation Network

EDUCATION

• Ph.D. Transportation Engineering, University of Seoul, South Korea

Sep 2017 – Feb 2022

• BSc. Statistics with Mathematics (minor), University of Ghana, Ghana

Aug 2010 – Jul 2014

RESEARCH INTERESTS

Transportation safety

- Employing data mining/machine learning, spatial analysis, and advanced econometric modelling techniques for transport safety big data analysis.

Transportation planning

- Application of big data analysis and machine learning tools for disaster simulation, evacuation planning, and autonomous vehicle optimization.
- Performing sustainable transport-related analysis on integrated multimodal transport networks using artificial intelligence and social network analysis techniques.

PEER-REVIEWED PAPERS

Selected published journal articles

- **Tamakloe, R.,** Hong, J., Kim, J., & Park, D. (2022). Factors affecting fatal PTW at-fault crash outcome metrics at intersections and non-intersections in South Korea. **Journal of Transportation Safety & Security**, 1-36.
- **Tamakloe, R.,** Sam, E. F., Bencekri, M., Das, S., & Park, D. (2022). Mining groups of factors influencing bus/minibus crash severities on poor pavement condition roads considering different lighting status. **Traffic Injury Prevention**, 1-7.
- **Tamakloe, R.,** & Park, D. (2022). Factors influencing fatal vehicle-involved crash consequence metrics at spatio-temporal hotspots in South Korea: application of GIS and machine learning techniques. **International Journal of Urban Sciences**, 1-35.
- **Tamakloe, R.,** Park, D., & Chang, H. (2022). Discovering research topics, trends, and perspectives in COVID-19-related transportation journal articles. **International Journal of Urban Sciences**, 1-29.
- **Tamakloe R.,** Das, S., Aidoo E. N., Park, D. (2021). Factors affecting motorcycle crash casualty severity at signalized and non-signalized intersections in Ghana: insights from a data mining and binary logit regression approach. **Accident Analysis & Prevention**, 165, 106517.
- **Tamakloe R.,** Lim, S., Sam, E. F., Park, S. H., Park, D. (2021). Investigating factors affecting bus/minibus accident severity in a developing country for different subgroup datasets characterized by time, pavement, and light conditions. **Accident Analysis & Prevention**, 159, 106268.
- **Tamakloe, R.,** Hong, J., Tak, J., & Park, D. (2021). Finding evacuation routes using traffic and network structure information. **Transportation Research Part D: Transport and Environment**, 95, 102853.
- Das, S., **Tamakloe, R.,** Zubaidi, H., Obaid, I., & Alnedawi, A. (2021). Fatal pedestrian crashes at intersections: Trend mining using association rules. **Accident Analysis & Prevention**, 160, 106306.

- **Tamakloe, R., Hong, J., & Tak, J. (2021).** Determinants of transit-oriented development efficiency focusing on an integrated subway, bus, and shared-bicycle system: Application of Simar-Wilson's two-stage approach. *Cities*, 108, 102988.
- **Tamakloe, R., Hong, J., & Park, D. (2020).** A copula-based approach for jointly modeling crash severity and number of vehicles involved in express bus crashes on expressways considering temporal stability of data. *Accident Analysis & Prevention*, 146, 105736.
- **Tamakloe, R., & Hong, J. (2020).** Assessing the efficiency of integrated public transit stations based on the concept of transit-oriented development. *Transportmetrica A: Transport Science*, 16(3), 1459-1489.
- **Hong, J., Tamakloe, R., & Park, D. (2020).** Application of association rules mining algorithm for hazardous materials transportation crashes on expressway. *Accident Analysis & Prevention*, 142, 105497.
- **Hong, J., Tamakloe, R., Tak, J., & Park, D. (2020).** Two-Stage Double Bootstrap Data Envelopment Analysis for Efficiency Evaluation of Shared-Bicycle Stations in Urban Cities. *Transportation Research Record*, 2674(6), 211-224.
- **Hong, J., Tamakloe, R., & Park, D. (2020).** Discovering insightful rules among truck crash characteristics using Apriori algorithm. *Journal of Advanced Transportation*, 2020.
- **Hong, J., Tamakloe, R., Lee, G., & Park, D. (2019).** Insight from scientific study in logistics using text mining. *Transportation research record*, 2673(4), 97-107.

Selected journal articles under review (*first author and corresponding author)

- ***Tamakloe, R., Adanu, E. K., Das, S., & Park, D. (2023).** Key factors affecting motorcycle-barrier crash severity: an innovative cluster-regression technique. *Transportmetrica A: Transport Science*.
- ***Tamakloe, R., Adanu, E. K., Atandzi, J., Das, S., & Park, D. (2023).** Exploring clusters of factors associated with fatal distracted driving pedestrian-involved crashes in Ghana. *Accident Analysis & Prevention*.
- ***Tamakloe, R., & Park, D. (2023).** Discovering latent topics and trends in autonomous vehicle-related research: A Structural Topic Modelling approach. *Transport Policy*.
- ***Tamakloe, R., Atandzi, J. & Park, D. (2023).** Examining urban delivery service user profiles and perceptions of drone delivery adoption in Ghana considering usage before and after the COVID-19 pandemic. *Transport Policy*.
- ***Tamakloe, R., Adanu, E. K., Atandzi, J., Das, S., & Lord, D. (2023).** Evidence of the variability in pedestrian injury severity outcomes in walking along the road manoeuvre crashes under different light conditions in Ghana. *Accident Analysis & Prevention (submitted)*.

ORAL/POSTER CONFERENCE PRESENTATIONS

- Transportation Research Board Annual Meeting, *Washington DC, USA: Qualitative Analysis of Urban Air Mobility as a Disruptive Technology* Jan 2023
- Transportation Research Board Annual Meeting, *Washington DC, USA: Perceptions of Drone Delivery Adoption in Ghana Considering Online Delivery Usage Before and After the Incidence of the COVID-19 Pandemic* Jan 2023
- Transportation Research Board Annual Meeting, *Washington DC, USA: Risk Factors Affecting Motorcycle-Barrier Crashes and Injury Severities: Insights from an Innovative Cluster-Regression Technique* Jan 2023
- Korean Institute of ITS Conference. **How different are researcher perspectives regarding COVID-19 and transportation?** 2022
- Transportation Research Board Annual Meeting, *Washington DC, USA: Investigating Chains of Risk Factors Influencing Fatal Powered Two-Wheeler Crashes at Spatio-Temporal Hotspot Locations in South Korea* Jan 2022
- Transportation Research Board Annual Meeting, *Washington DC, USA: Investigating Chains of Factors Influencing Motorcycle Crash Casualty Severity at Signalized and Non-Signalized Intersections in a Developing Country* Jan 2022
- The Korean Transportation Conference, *Jeju JDC Conference Center: A machine learning approach to identifying factors influencing motorcycle crashes at critical hotspot locations* Nov 2021
- The Korean Transportation Conference, *Online: Dynamic network topology-based evacuation routing in disaster situations* Oct 2020

- The 2019 Korean Institute of ITS Conference, *St. John's Hotel, Gangneung*, South Korea: **An Application of Simar-Wilson Bootstrap Data Envelopment Analysis to Investigate the Efficiency of Shared-Bicycle Stations in Seoul** Nov 2019
- 26th ITS World Congress, Suntec Conference Center, *Suntec, Singapore*: **Assessing the impacts of Land Use on Subway Ridership: Identifying a Suitable Sustainable Transport Policy** Oct 2019
- The 2019 Korean Institute of ITS Conference, Halla Convention center, Cheju Halla University, *Jeju, South Korea*: **Topological Analysis of Multimodal Transportation Network in Seoul Based on Graph-Based Methods** Apr 2019
- The 2018 Korean Institute of ITS Conference, The Genesis Building, Kyung Sung University, *Busan, South Korea*: **Comparing the characteristics of multivehicle crashes using Cragg's double-hurdle regression model** Nov 2018
- The 13th UC-US-KU-TU International Joint Seminar, China and France Center, Tongji University, *Shanghai, China* Aug 2018
- The 2018 Korean Institute of ITS Conference, Halla Convention center, Cheju Halla University, *Jeju, South Korea*: **A Study for Conditional Mixed Process Model of Bus-related Crashes on Expressway** Apr 2018

SKILLS

Software

- Extensive experience with Stata, R, Python, LIMDEP/NLOGIT, Gephi, ArcGIS

Language

- English (Full professional proficiency – Academic IELTS)
- Korean (Intermediate proficiency)
- French (beginner)

AWARDS/SCHOLARSHIPS

- Recipient of **Research Grant (Principal Investigator – KRW 210,000,000)** 2022-2025
Provider – National Research Foundation (South Korea)
- Recipient of the **Best Paper Award for Graduate Students** 2022
Provider – University of Seoul Industry-Academic Cooperation Foundation
- Recipient of the **Best Paper Award for Graduate Students** 2021
Provider – University of Seoul Industry-Academic Cooperation Foundation
- Recipient of the **Excellent Thesis Support for Graduate Students** 2021
Provider – University of Seoul
- Recipient of the **University of Seoul Smart City Department Scholarship** 2020
Provider – Smart City Department, University of Seoul
- Recipient of certificate of participation in the **Joint Online Training on Making Cities Resilient** 2020
Provider – UNDRR GETI, UNOSSC & PAHO
- Awarded a **travel grant** 2019
Provider – National Research Foundation of Korea
- Recipient of the **University of Seoul International Student Scholarship** 2017 – 2020
Provider – University of Seoul

- Recipient of **Graduate Student Scholarship** 2017 – 2021
Provider – Dongil Engineering and Consultants Limited
- Recipient of the **University of Ghana Scholarship Recipient** 2013
Provider – University of Ghana Student Financial Aid Office

TEACHING EXPERIENCE

Univ. of Seoul, Dept. of Transportation Eng.

- Logistics Management (전공선택) Spring 2023
- Introduction to Transportation Engineering (전공필수) Spring 2023
- Big Data Analysis in Transportation (전공선택) Fall 2022
- Advanced Discrete Choice Model I (전공선택) Fall 2022

PROFESSIONAL EXPERIENCE

Graduate researcher, Univ. of Seoul, Dept. of Transportation Eng.

2018 – Present

Selected research projects

Research project: “Exploring the risk-factors influencing crashes at hotspot road segments in Korea” – Funded by University of Seoul

- Led in preparing and analyzing data to identify hotspots and finding common influential factors of crashes in those regions.
- Proposed policies to enhance roadway safety in hotspot regions.

Research project: “Finding evacuation routes using traffic and network structure information” – Funded by Ministry of Land, Infrastructure and Transport of the Korean Government

- Developed a dynamic traffic simulation algorithm to mimic vehicle-based disaster evacuation situations and investigated the possibilities of improving vehicle-based evacuations.
- Led in field data collection for estimating traffic volume at disaster-prone locations.
- Published research results in a top peer-reviewed journal and presented them at local conferences.

Research project: “Examining the efficiency of integrated public transportation and shared-bicycle networks in Seoul” – Funded by Ministry of Land, Infrastructure and Transport of the Korean Government

- Collaborated in collecting and preparing network data for examining the efficiency of public transport and shared bicycle efficiency in Seoul, South Korea.
- Analyzed data collected and published research papers using the outcome of the study.

Dongil Engineering Consultants Co., Ltd.

Research Assistant

Seoul, South Korea
2017 – Present

Korea International Cooperation Agency (KOICA)

Research Assistant and Administrator

Accra, Ghana
09.2015 – 05.2017

Enterprise Life Assurance Company

Premium Admin Officer

Accra, Ghana
08.2014 – 08.2015

Ghana Revenue Authority (GRA)

Internship

Accra, Ghana
08.2009 – 08.2010

PROFESSIONAL CONTRIBUTIONS AND AFFILIATIONS

Academic obligations

- **Journals refereed** – Cities, Transportation Research Part E: Logistics and Transportation Review, Transport Policy, Transport Geography, Transportation Research Record: Journal of the Transportation Research Board, KSCE Journal of Civil Engineering, International Journal of Urban Sciences, Sustainability 2019 – Present

Volunteer and extra-curricular engagements

- **New Student Mentoring Volunteer** – International Student Office, University of Seoul Jan 2021 – Jun 2021
- **Organizing Secretary** – Ghanaian Students in Korea and Associates, South Korea 2020 – Present
- **University Representative (University of Seoul)** – Ghanaian Students in Korea and Associates, South Korea 2019 – 2020
- **Leader, Program Planning Team** – Ghana Association of Statistics Students, University of Ghana 2013 – 2014

Affiliations

- **Member** – Korean Transportation Association
- **Member** – Ghana Transportation Professionals Forum
- **Member** – KSCE CELeN Student
- **Member** – Korean Society of Hazard Mitigation
- **Member** – Korea Institute of Intelligent Transport Systems