Reuben Tamakloe, PhD

163 Seoulsiripdae-ro, Dongdaemun-gu, Seoul, 02504, South Korea
E: drtamakloe@uos.ac.kr W: https://drtamakloe.github.io/

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

Published Journal Articles

- **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**., 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.
- Das, S., **Tamakloe, R**., Kutela, B., & Hossain, A. (2022). Pattern recognition from injury severity types of frontage roadway crashes. **Journal of Transportation Safety & Security**, 1-22.
- Obaid, I., Alnedawi, A., Aboud, G. M., **Tamakloe, R**., Zuabidi, H., & Das, S. (2022). Factors associated with driver injury severity of motor vehicle crashes on sealed and unsealed pavements: random parameter model with heterogeneity in means and variances**. International journal of transportation science and technology**.
- **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.
- Obaid, I., Alnedawi, A., Aboud, G. M., **Tamakloe, R.**, Zuabidi, H., & Das, S. (2022). Factors associated with driver injury severity of motor vehicle crashes on sealed and unsealed pavements: random parameter model with heterogeneity in means and variances. **International journal of transportation science and technology**.
- **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.
- Hong, J., **Tamakloe, R.**, Park, D., & Choi, Y. (2019). Estimating incident duration considering the unobserved heterogeneity of risk factors for trucks transporting HAZMAT on expressways. ***Transportation Research Record***, 2673(2), 232-242.
- Hong, J., **Tamakloe, R.**, Lee, S., & Park, D. (2019). Exploring the topological characteristics of complex public transportation networks: focus on variations in both single and integrated systems in the Seoul metropolitan area. ***Sustainability***, 11(19), 5404.
- Hong, J., **Tamakloe, R.**, & Park, D. (2019). A comprehensive analysis of multi-vehicle crashes on expressways: a double hurdle approach. ***Sustainability***, 11(10), 2782.

ORAL CONFERENCE PRESENTATIONS

- 한국 ITS 학회 학술대회. **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, Kyungsung 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. Fall 2022

- Big Data Analysis in Transportation

- Advanced Discrete Choice Model Ⅰ

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. Seoul, South Korea
Research Assistant 2017 – Present

Timeless Ghana Accra, Ghana
Chief Executive Officer 2015 – Present

Korea International Cooperation Agency (KOICA) Accra, Ghana
Research Assistant and Administrator 09.2015 – 05.2017

Enterprise Life Assurance Company Accra, Ghana
Premium Admin Officer 08.2014 – 08.2015

Ghana Revenue Authority (GRA) Accra, Ghana
Internship 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