

# Reuben Tamakloe, PhD

## Research Professor

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### RESEARCH INTERESTS

Machine Learning, Advanced Econometric Analysis, Traffic Safety, Transportation Planning (Autonomous/Electric Vehicles), Emerging Logistics Delivery Modes

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### EDUCATION

<b>University of Seoul</b> <i>Ph.D. Transportation Engineering (Smart Cities minor)</i>	Seoul, South Korea Sep 2017 – Feb 2022
<b>University of Ghana</b> <i>BSc. Statistics with Mathematics (minor)</i>	Accra, Ghana Aug 2010 – Jul 2014

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### ACADEMIC APPOINTMENT

<b>University of Seoul</b> <i>Research Professor</i> Principal Investigator (PI) for a project funded by the National Research Foundation (NRF – 창의도전연구; KRW 210,000,000 ~ US\$160,000) of South Korea (Exploring the overall efficiency improvement potential of including shared autonomous vehicles in public transit networks)	Seoul, South Korea Mar 2022 – Present
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### SKILLS

<b>STATA</b> <b>NLOGIT/LIMDEP</b>	<b>R</b> <b>Python</b>	<b>Gephi</b> <b>ArcGIS</b>
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### INDUSTRIAL EXPERIENCE

<b>Dongil Engineering Consultants Co., Ltd.</b> <i>Assistant Researcher</i>	Seoul, South Korea 08.2017 – 12.2022
<b>Korea International Cooperation Agency (KOICA)</b> <i>Research Assistant and Administrator</i>	Accra, Ghana 09.2015 – 05.2017
<b>Enterprise Life Assurance Company</b> <i>Premium Admin Officer</i>	Accra, Ghana 08.2014 – 08.2015
<b>Ghana Revenue Authority (GRA)</b> <i>Internship</i>	Accra, Ghana 08.2009 – 08.2010

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### AWARDS

Recipient of <b>Research Grant (Principal Investigator)</b> <i>National Research Foundation (South Korea) - Creative Challenge Research (창의도전연구)</i>	2022-2025
Recipient of <b>Best Paper Award for Graduate Students</b> <i>University of Seoul Industry-Academic Cooperation Foundation</i>	2022
Recipient of <b>Best Paper Award for Graduate Students</b> <i>University of Seoul Industry-Academic Cooperation Foundation</i>	2021

Recipient of <b>Excellent Thesis Support for Graduate Students</b> <i>University of Seoul</i>	2021
Recipient of <b>University of Seoul Smart City Department Scholarship</b> <i>Smart City Department, University of Seoul</i>	2020
Recipient of participation certificate at the <b>Joint Online Training on Making Cities Resilient</b> <i>UNDRR GETI, UNOSSC &amp; PAHO</i>	2020
Awarded a <b>travel grant</b> <i>National Research Foundation of Korea</i>	2019
Recipient of the <b>University of Seoul International Student Scholarship</b> <i>University of Seoul</i>	2017 – 2020
Recipient of <b>Graduate Student Scholarship</b> <i>Dongil Engineering and Consultants Limited</i>	2017 – 2021
Recipient of the <b>University of Ghana Scholarship Recipient</b> <i>University of Ghana Student Financial Aid Office</i>	2013

## TEACHING EXPERIENCE

<b>University of Seoul</b>	Seoul, South Korea
<b>Department of Transportation Engineering</b>	
Logistics Management (Undergraduate course)	Spring 2023
Introduction to Transportation Engineering (Undergraduate course - core)	Spring 2023
<b>Big Data Analysis in Transportation (Undergraduate course)</b>	<b>Fall 2022</b>
<b>Advanced Discrete Choice Model I (Graduate course)</b>	<b>Fall 2022</b>

## MEMBERSHIPS

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

## PUBLICATIONS

### Journal papers under review (International)

\*corresponding author

- [8] \***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* (accepted: 2023.05.09).
- [7] \***Tamakloe, R.**, & Caesar, D. L. (2023). Factors associated with consumers who prioritize incentives when purchasing their electric vehicle: Insights from California Fuel Cell and Plug-in electric vehicle users. *Journal of Cleaner Production*
- [6] **Tamakloe, R.**, Lee, H., & Park D. (2023). Variability of Factors Driving Shared Autonomous Vehicle Adoption: a Cross-Group Analysis Based on Local Ride-Sharing Access and Historical Experience. *Sustainable Cities and Society*
- [5] \***Tamakloe, R.**, & Caesar, D. L. (2023). Decoding the patterns of critical factor associations collectively driving electric vehicle recommendations. *Transportation Research Part A - Policy and Practice*
- [4] Caesar, D. L., & \***Tamakloe, R.** (2023). Unraveling the Patterns of Critical Contributory Factors and Flag-State Associations Influencing Maritime Casualties: An Association Rule Mining Approach. *Reliability Engineering & System Safety*

- [3] \***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*.
- [2] \***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. *International Journal of Injury Control and Safety Promotion*.
- [1] \***Tamakloe, R.**, Adanu, E. K., Atandzi, J., Das, S., & Lord, D. (2023). Walking-along-the-road pedestrian crash injury severity outcomes under different lighting conditions: Insights from a correlated random parameters approach with heterogeneity in means and variances with out-of-sample predictions. *Accident Analysis & Prevention (ready to resubmit)*.

**Published journal articles (International: 2019 – present)**

- [24] **Tamakloe, R.**, & Park, D. (2023). Discovering latent topics and trends in autonomous vehicle-related research: A Structural Topic Modelling approach. *Transport Policy*.
- [23] **Tamakloe, R.** (2023). Risk Factors Influencing Fatal Powered Two-Wheeler At-Fault and Not-at-Fault Crashes: An Application of Spatio-Temporal Hotspot and Association Rule Mining Techniques. *Informatics*
- [22] Das, S., **Tamakloe, R.**, Zubaidi, H., Obaid, I., & Rahman, M. A. (2023). Bicyclist injury severity classification using a random parameter logit model. *International Journal of Transportation Science and Technology*.
- [21] Zubaidi, H., **Tamakloe, R.**, Al-Bdairi, N. S. S., Alnedawi, A., & Obaid, I. (2022). Exploring senior motorcyclist injury severity crashes: Random parameter model with heterogeneity in mean and variance. *IATSS Research*.
- [20] **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.
- [19] **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*, 26(4), 710-738.
- [18] **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.
- [17] 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.
- [16] **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*, 23(5), 308-314.
- [15] 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*.
- [14] **Tamakloe, R.**, Das, S., Aidoo, E. N., & Park, D. (2022). 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.
- [13] 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.
- [12] **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 characterised by time, pavement, and light conditions. *Accident Analysis & Prevention*, 159, 106268.
- [11] **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.
- [10] **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.
- [9] 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.
- [8] 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.
- [7] Hong, J., **Tamakloe, R.**, & Park, D. (2020). Discovering insightful rules among truck crash characteristics using apriori algorithm. *Journal of advanced transportation*, 2020, 1-16.
  - [6] **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.
  - [5] **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.
  - [4] 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.
  - [3] Hong, J., **Tamakloe, R.**, & Park, D. (2019). A comprehensive analysis of multi-vehicle crashes on expressways: a double hurdle approach. *Sustainability*, 11(10), 2782.
  - [2] 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.
  - [1] 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.

## CONFERENCE PROCEEDINGS

### *International*

- [7] **The TRB 102nd Annual Meeting - Transportation Research Board Annual Meeting**, *Washington DC, USA*: Qualitative Analysis of Urban Air Mobility as a Disruptive Technology
- [6] **The TRB 102nd Annual Meeting - 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
- [5] **The TRB 102nd Annual Meeting - Transportation Research Board Annual Meeting**, *Washington DC, USA*: Risk Factors Affecting Motorcycle-Barrier Crashes and Injury Severities: Insights from an Innovative Cluster-Regression Technique
- [4] **The TRB 101st Annual Meeting - 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
- [3] **The TRB 101st Annual Meeting - 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
- [2] **26th ITS World Congress**, Suntec Conference Center, *Suntec, Singapore*: Assessing the impacts of Land Use on Subway Ridership: Identifying a Suitable Sustainable Transport Policy
- [1] **The 13th UC-US-KU-TU International Joint Seminar**, China and France Center, Tongji University, *Shanghai, China*

### *Local (South Korea)*

#### *\*Student supervisions*

- [18] Road lighting condition, pedestrian maneuver and pedestrian injury severity: A joint analysis using an advanced econometric approach (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
- [17] Are electric vehicle users willing to recommend their vehicles to others? (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
- [16] \* Investigating how usage experience impacts consumer preference variability for shared autonomous vehicles (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
- [15] \* Learning about the variations in research interests regarding last-mile logistics among OECD and Non-OECD countries (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
- [14] \* Hybrid delivery system: A literature review and future directions (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
- [13] \* Trends and patterns in sustainable transportation research (2023.04). Korean Institute of ITS

- Conference, Yeosu, South Korea.
- [12] \* The determinants of factors affecting transit station efficiency before, during and after the COVID-19 pandemic (2023.04). Korean Institute of ITS Conference, Yeosu, South Korea.
  - [11] A structural topic modeling approach to exploring autonomous vehicle-related research (2023.02). The Korean Society of Transportation Conference, Gangnam, Seoul, South Korea.
  - [10] \* Variations in the determinants of bicycle-transit station efficiency pre- and post- COVID-19 pandemic (2023.02). The Korean Society of Transportation Conference, Gangnam, Seoul, South Korea.
  - [9] Drone delivery for urban logistics after COVID: How can we bolster its adoption? (2022.11). Korean Institute of ITS Conference, Jeju, South Korea.
  - [8] Performance of public transport stations through the pandemic: Are there any key patterns? (2022.11). Korean Institute of ITS Conference, Jeju, South Korea.
  - [7] How different are researcher perspectives regarding COVID-19 and transportation? (2022.06) Korean Institute of ITS Conference, Jeju, South Korea.
  - [6] A machine learning approach to identifying factors influencing motorcycle crashes at critical hotspot locations (2022). KITS International Conference, Jeju JDC Conference Center, Jeju, South Korea.
  - [5] Finding evacuation paths considering dynamic spatio-temporal vulnerability information and network structure (2020.11). The Korean Institute of ITS Conference, Online.
  - [4] An Application of Simar-Wilson Bootstrap Data Envelopment Analysis to Investigate the Efficiency of Shared-Bicycle Stations in Seoul (2019.11). The Korean Institute of ITS Conference, St. John's Hotel, Gangneung, South Korea.
  - [3] Topological Analysis of Multimodal Transportation Network in Seoul Based on Graph-Based Methods (2019.04). The Korean Institute of ITS Conference, Halla Convention center, Cheju Halla University, Jeju, South Korea.
  - [2] Comparing the characteristics of multivehicle crashes using Cragg's double-hurdle regression model (2018.11). The Korean Institute of ITS Conference, The Genesis Building, Kyung Sung University, Busan, South Korea.
  - [1] A Study for Conditional Mixed Process Model of Bus-related Crashes on Expressway (2018.04). The Korean Institute of ITS Conference, Halla Convention center, Cheju Halla University, Jeju, South Korea.

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## REVIEWING SERVICE

Accident Analysis and Prevention

Transport Policy

Cities

Transportation Research Part E: Logistics and Transportation Review

Transportation Research Part F: Traffic Psychology and Behaviour

Transport Geography

Transportation Research Record: Journal of the Transportation Research Board

KSCE Journal of Civil Engineering

International Journal of Urban Sciences

Sustainability

Sensors

Safety

International Journal of Environmental Research and Public Health

Processes

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## VOLUNTEER AND EXTRA-CURRICULAR ENGAGEMENTS

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