

# Panick Kalambay, Ph.D.

Assistant Professor, Civil Engineering (Transportation)  
Kalambay Transportation (KaTrans) Research Group  
Texas Southern University  
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Dr. Panick Kalambay is an Assistant Professor of Civil Engineering and Transportation Studies at Texas Southern University. His primary areas of expertise are traffic safety and transportation planning. His research is multidisciplinary and transdisciplinary, addressing a broad range of transportation challenges through the integration of advanced statistical modeling, machine learning and deep learning techniques, and GIS/GeoAI applications. He leads the Kalambay Transportation (KaTrans) Research Group, which leverages data-driven and emerging computational approaches to better understand transportation systems, improve safety, and support effective transportation planning and decision-making.

- **Research Experience and Funding:** Serving as an Assistant Professor in the Department of Civil Engineering and Transportation Studies at Texas Southern University since Fall 2025, leading approximately \$357,000 in externally funded projects. Overall, has led approximately \$654,000 in sponsored research as PI or Co-PI.
- **Research Interests:** Focused on traffic safety and transportation planning, with methodological emphasis on (i) Data Science, (ii) Advanced Quantitative Modeling, (iii) Qualitative Systems Modeling, (iv) Geospatial Analytics and GeoAI, and (v) Emerging Computational Methods, toward safer and more sustainable transportation systems and improved planning and decision-making.
- **Publications:** 35+ publications (with 100+ citations), including peer-reviewed journal articles (23), conference papers (6), and technical reports (8).
- **Teaching Experience:** One year of consistent classroom teaching experience in courses including Fundamentals of Transportation, Computer Applications in Transportation, and Travel Demand Analysis. Additional teaching experience as a Postdoctoral Research Associate or Teaching Assistant spans several other courses, including Engineering Economics, Engineering Probability and Statistics, GIS for Civil Engineers, and Geometric Design of Highways and Streets. Previously taught university-level courses in French for two consecutive years. Completed two faculty development programs: KEEN/Engineering Unleashed's Integrating Curriculum with EM (Entrepreneurial Mindset) initiative (ICE 1.0) and Undergraduate Research Faculty Fellows program on Course-based Undergraduate Research Experiences (CUREs). Eager to contribute to the delivery of workshops, professional training, and core competency development programs.
- **National and Professional Service:** Broad professional and academic service spanning national transportation organizations, journal peer review, university service, and student engagement, including participation in Transportation Research Board (TRB) standing committees, reviewing for leading transportation engineering journals, departmental and college service, and advising student organizations.

## Education

- Ph.D. **Civil Engineering (Transportation Engineering Focus)**, University of North Carolina at Charlotte, Charlotte, NC, USA (2023)  
Dissertation: Pedestrian Safety Assessment and Prediction at Signalized Intersections and Locations with Rectangular Rapid Flashing Beacons Using Video Analytics
- M.E. **Civil Engineering (Transportation Engineering Focus)**, The University of Osaka, Osaka, Japan (2019)  
Thesis: Safety Performance Analysis of Unsignalized Mid-block Crosswalks: An Agent-based Approach for Pedestrian-Vehicle Interactions

B.S. **Civil Engineering (Structural and Pavement Engineering)**, University of Kinshasa, Kinshasa, DR Congo (2015)

Thesis: Design of a Reinforced Earth Retaining Abutment: A Case Study of Makelele Bridge

## Academic Appointments

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2025 – Present Assistant Professor, Civil Engineering and Transportation Studies, Texas Southern University (TSU), Houston, TX

2023 – 2025 Postdoctoral Research Associate, University of Washington Tacoma (UW Tacoma), Tacoma, WA

2021 – 2023 Graduate Research & Teaching Assistant, University of North Carolina at Charlotte (UNC Charlotte), Charlotte, NC

2016 – 2017 Faculty Assistant, University of Kinshasa, Kinshasa, DR Congo

## Awards

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2023 2nd Place Winner of the Excellence in Highway Safety Data Award Competition, Institute of Transportation Engineers (ITE) and the Federal Highway Administration (FHWA)  
Paper: Vehicle Crashes on Highway Segments with a Rail Grade Crossing: Insights into the Key Risk Factors in North Carolina

2017 African Business Education (ABE) Initiative Winner for DR Congo, Japan International Cooperation Agency (JICA)

2016 Selected as a Faculty Assistant in charge of Surveying, Road Geometry and Pavement Design courses, University of Kinshasa, DR Congo

## Licenses/Certificates

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2027 Professional Engineer (PE), Texas Board of Professional Engineers and Land Surveyors – In Progress

2027 Professional Traffic Operations Engineer (PTOE), Transportation Professional Certification Board – Planned

2027 Road Safety Professional (RSP), Transportation Professional Certification Board – Planned

## Technical Skills

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- Data Management, Querying, and Programming Tools: R, Python, Microsoft SQL, NLOGIT, NetLogo, SAS, SPSS
- Technical Software Tools: ArcGIS, PTV VISSIM, Highway Capacity Software (HCS), Synchro, Dedoose, AutoCAD, Civil 3D
- Web Development: Quarto, R Shiny, HTML, CSS, Website Design and Deployment
- Documentation Software: Microsoft Office and Microsoft Project

## Professional Service Activities

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2027 Member, Association of Pedestrian and Bicycle Professionals (APBP) - Planned

2027 Member, Young Professionals in Transportation (YPT) - Planned

2022 – Present Member, Institute of Transportation Engineers (ITE)

2022 – Present Member, American Society of Civil Engineers (ASCE)

2023 – Present Member, Transportation and Development Institute (T&DI) of ASCE

## Committee Memberships

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2022 – Present Member, ASCE T&DI Street and Highway Operations Committee

- 2022 – Present Member, ASCE T&DI Traffic Safety Committee
- 2025 – 2027 Member (Friend), Transportation Research Board (TRB) Standing Technical Committee on Integrated Transportation Safety Management (ACD11)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Safety Data, Analysis, and Performance (ACD12)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Human Factors (ACD16)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Pedestrians (ACD18)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Bicycle Transportation (ACD19)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Traffic Control Devices and Work Zone Management (ACF12)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Connected and Automated Vehicle Systems (ACF17)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Computational Methods and Analytics (AED12)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Geospatial and Visual Analytics (AED14)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Travel Data and Methods (AED17)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Transportation Planning Policy and Analysis (AEP11)
- 2025 – 2027 Member (Friend), TRB Standing Technical Committee on Transportation Network Analysis (AEP13)
- 2025 – 2027 Member (Friend), Standing Technical Committee on Geospatial Methods and Technologies (AKL19)

## Other Service Activities

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- 2025 – Present ASCE Faculty Co-Advisor, Texas Southern University
- 2022 – Present Reviewer: Transportation Research Part F: Traffic Psychology and Behaviour; Autonomous Transportation Research; Transportation Research Interdisciplinary Perspectives; Sustainable Futures; TRB Annual Meeting; Transportation Research Record; ASCE International Conference on Transportation & Development
- 2022 – 2023 ITE Student Chapter Secretary, University of North Carolina at Charlotte
- 2013 – 2014 Vice-President of the Civil Engineering Club, University of Kinshasa

## Funded Research Projects

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### AS PI/CO-PI

- 2027 (Co-PI-TSU) USDOT: Evaluating Human Safety Factors in Advanced Driver Assistance Systems Under Adaptive Traffic Signal Control: A Simulator-Based Vehicle-to-Infrastructure Study, National Center for Sustainable Transportation (NCST) (\$200000.00)
- 2026 – 2027 (PI-TSU) USDOT: Modeling Bicyclist Behavioral Patterns and Multi-Faceted Decision-Making Strategies in Urban Settings with Limited Infrastructure: Guidance for Future Development, NCST (\$45,000.00)
- 2026–2027 (Co-PI-TSU) USDOT: Optimizing External Human-Machine Interfaces (eHMI) Designs in Autonomous Vehicles to Improve Communication with Drivers and Bicyclists, NCST (\$102,970.00)

- 2026 (PI-TSU) Seed Grant: Where Community Gathers, Do Roads Get Safer?, TSU (\$9,383.86)
- 2023 – 2025 (Co-PI-UW Tacoma) USDOT: A Vision for Multidisciplinary Transportation Engineering, Rural Safe Efficient Advanced Transportation (R-SEAT) Center (\$101,727.00)
- 2023 – 2025 (Co-PI-UW Tacoma) USDOT: Autonomous Electric Pedestrian Ferries (Autoferry) - Efficient Connectors, R-SEAT Center (\$93,670.00)
- 2024 – 2026 (Co-PI-UW Tacoma) USDOT: Addressing Active Transportation Disparities in Low-Income Satellite Communities, R-SEAT Center (\$98,258.19)

## AS KEY RESEARCHER

- 2023 – 2025 (Postdoctoral Associate-UW Tacoma) USDOT: Exploring Shared Micromobility as an Alternative Transportation Option: Opportunities and Challenges in U.S. Mid-sized Cities and Small Towns, R-SEAT (\$104,603.28)
- 2023 – 2025 (Postdoctoral Associate-UW Tacoma) Foundation: Social and Infrastructure Factors Shaping Road Safety: A Multi-Level Analysis of Crashes in Ohio, Texas, and Washington, AAA Foundation for Traffic Safety (AAAFTS) (\$253,735.00)
- 2023 – 2024 (Postdoctoral Associate-UW Tacoma) State DOT: Determining the Effectiveness of Commercial Vehicle Alerts, Ohio Department of Transportation (ODOT) (\$200,636.00)
- 2021 – 2023 (Graduate Student researcher-UNC Charlotte) State DOT: IoT Solutions for Near Horizon Challenges in Smart City Pedestrian Travel, North Carolina Department of Transportation (NCDOT)
- 2022 – 2023 (Graduate Student Researcher- UNC Charlotte) USDOT: Exploring Traffic Speed Patterns for the Implementation of Variable Speed Limit Signs, Mineta Transportation Institute
- 2022 – 2023 (Graduate Student Researcher- UNC Charlotte) USDOT: Deep Learning or Machine Learning or Statistical Models for Weather-related Crash Severity Prediction?, Mineta Transportation Institute

## Publications

35+ publications; \* indicates student mainly supervised by Dr. Kalambay.

- Peer-Reviewed Journal Articles: 23. Key Publications in Accident Analysis & Prevention (IF: 7.4); Transportation Research Part F (IF: 5.0); Journal of Safety Research (IF: 4.3); Sustainable Cities and Society (IF: 13.3); Cities (IF: 7.0); Case Studies on Transport Policy (IF: 3.3); Transportation Research Record (IF: 2.3).
- Peer-Reviewed Technical Reports: 8. USDOT Reports: 5; State DOT Reports: 2; Other Reports: 1.
- Peer-Reviewed Conference Papers and Presentations: [Papers: 6; Presentations: 17]
- Under Review Papers: 10

## PEER-REVIEWED JOURNAL ARTICLES

- 2026 [J023] Ngereza, A., Kutela, B., Ibrahim, I., **Kalambay, P.**, Masanja, N., Kidando, E., & Kitali, A. (2026). Investigating the role of Advanced Driver Assistance Systems (ADAS) in reducing sideswipe collisions in rural Ohio. *Journal of Safety Research*, 98, 599–611. [doi](#) [Link](#)
- 2026 [J022] **Kalambay, P.**, Lipscomb, G.\*, Sanchez-Sossa, J.\*, Weber, G. F.\*, Obico, G. C. T.\*, Dillon, H., McCourt, M., Kitali, A. E., & Walters, J. (2026). Mapping locations for low-carbon autonomous electric passenger ferries: A data-driven analysis of socioeconomic and demographic neighborhood profiles. *Case Studies on Transport Policy*, 26, Article 101946. [doi](#) [Link](#)
- 2026 [J021] Ngereza, A.\*, **Kalambay, P.**, Kitali, A., Kidando, E., Walters, J., & Dillon, H. (2026). Influence of the factors associated with micromobility crashes on the injury sustained. *Journal of Transport & Health*, 50, Article 102371. [doi](#) [Link](#)

- 2026 [J020] Walters, J. P., **Kalambay, P.**, Balyagati, P. F., Owusu-Danquah, J., Kitali, A., Yazici, A., Ershad, A., Vasudeva, P., & Dillon, H. (2026). Transportation engineering 2.0: A vision for the future transportation engineering workforce. *Transportation Research Record*. Advance online publication. [doi](#) [Link](#)
- 2026 [J019] Balyagati, P. F., Ngereza, A. S., Kidando, E., Owusu-Danquah, J., Kitali, A., & **Kalambay, P.** (2026). Hierarchical Bayesian analysis of prehospital timelines for elderly adults in rural and urban motor-vehicle crashes. *Journal of Safety Research*, 97, 453–462. [doi](#) [Link](#)
- 2026 [J018] Ershad, A., Yazici, A., Walters, J. P., **Kalambay, P.**, Owusu Danquah, J., Ferdinand, P., Dillon, H., & Kitali, A. (2026). Transportation job ads: Do they align with the sector's technology-driven transformation? *Transportation Research Record*. Advance online publication. [doi](#) [Link](#)
- 2026 [J017] **Kalambay, P.**, Ford, M., Kitali, A., Ngereza, A.\*, Kidando, E., Walters, J. P., & Dillon, H. (2026). A Bayesian quantile-based analysis of micromobility usage and challenges. *Cities*, 174, Article 107065. [doi](#) [Link](#)
- 2026 [J016] **Kalambay, P.**, Mwebessa, M. E., Das, S., & Kitali, A. (2026). Older adults and comfort in sharing the road alongside autonomous vehicles: An examination of travel stress, labeling, and dedicated lanes. *Journal of Transport & Health*, 48, Article 102279. [doi](#) [Link](#)
- 2026 [J015] **Kalambay, P.**, Hossain, A., & Das, S. (2026). Whose safety should come first in case of an unavoidable crash involving a driverless passenger vehicle? A nationwide snapshot of public perceptions and expectations. *Transportation Research Part F: Traffic Psychology and Behaviour*, 118, Article 103553. [doi](#) [Link](#)
- 2026 [J014] **Kalambay, P.**, Novat, N., Kutela, B., Ogungbire, A., Kitali, A., & Kidando, E. (2026). Autonomous shuttles in the public eye: Mediators on the path to successful expansion. *Case Studies on Transport Policy*, 23, Article 101719. [doi](#) [Link](#)
- 2026 [J013] **Kalambay, P.**, Kasubi, F.\*, Lippu, C.\*, Kutela, B., Kitali, A., & Kidando, E. (2026). Young novice driver and police officer interactions: A study of sociodemographics, reasons for traffic stops, and outcomes. *Sustainable Futures*, 11, Article 101660. [doi](#) [Link](#)
- 2026 [J012] **Kalambay, P.**, Novat, N., Kidando, E., Kutela, B., & Kitali, A. (2026). How do socio-demographic and political factors affect public acceptance of autonomous passenger vehicle technology for large trucks? *Sustainability Analytics and Modeling*, 6, Article 100049. [doi](#) [Link](#)
- 2026 [J011] **Kalambay, P.**, Balyagati, P.\*, Kitali, A., & Kidando, E. (2026). Profiling crash-associated factors and injury risk patterns among lost-in-thought (daydreaming) drivers: A combined cluster-sequence analysis approach. *Accident Analysis & Prevention*, 225, Article 108315. [doi](#) [Link](#)
- 2025 [J010] Ngereza, A. S., Kutela, B., **Kalambay, P.**, Kitali, A. E., & Kidando, E. (2025). Understanding body injury patterns and associated severity of micromobility users using Bayesian networks and text mining. *Next Research*, 2(3), Article 100483. [doi](#) [Link](#)
- 2025 [J009] **Kalambay, P.**, Kitali, A., Ngereza, A.\*, Kidando, E., & Ogungbire, A. (2025). Autonomous taxis and ride-sharing vehicles: A social construct perspective for future mobility and infrastructure readiness. *Sustainable Cities and Society*, 118, Article 106060. [doi](#) [Link](#)
- 2024 [J008] Kutela, B., Novat, N., **Kalambay, P.**, Oviedo-Trespalacios, O., & Kitali, A. E. (2024). What drives the change in safety perception and willingness to re-ride shared automated passenger shuttles? *Transportation Research Part F: Traffic Psychology and Behaviour*, 106, 1–13. [doi](#) [Link](#)

- 2024 [J007] Kutela, B., Novat, N., Shita, H., Novat, N., **Kalambay, P.**, & Das, S. (2024). Exploring diversity of activities on shared-use paths: Factors and implications for planning and design. *Journal of Transportation Engineering, Part A: Systems*, 150(10), Article 04024061. [doi](#) [Link](#)
- 2024 [J006] **Kalambay, P.**, & Pulugurtha, S. S. (2024). Modeling pedestrian near-crash events at a rectangular rapid flashing beacon-controlled intersection using video analytics and long short-term memory neural network. *Transportation Research Record*, 2679(2), 935–948. [doi](#) [Link](#)
- 2024 [J005] Ogungbire, A., **Kalambay, P.**, & Pulugurtha, S. S. (2024). Exploring the effect of mountainous terrain on weather-related crashes. *IATSS Research*, 48(2), 136–146. [doi](#) [Link](#)
- 2024 [J004] **Kalambay, P.**, & Pulugurtha, S. S. (2024). Data-driven exploration of traffic speed patterns to identify potential road links for variable speed limit sign implementation. *Urban, Planning and Transport Research*, 12(1), Article 2319711. [doi](#) [Link](#)
- 2023 [J003] Kakanda, K., Zhu, H., Herman, M., **Kalambay, P.**, Han, Z., Bao, Y., Zhang, M., & Zhou, D. (2023). A homotopy analysis method for forced transverse vibrations of simply supported double-beam systems with a nonlinear inner layer. *AIP Advances*, 13(7), Article 075103. [doi](#) [Link](#)
- 2022 [J002] **Kalambay, P.**, & Pulugurtha, S. S. (2022). City-oriented and inclusive bicycle-vehicle crash frequency modeling through the integration of bicycle-sharing system and other surrogates. *Transportation Research Interdisciplinary Perspectives*, 16, Article 100714. [doi](#) [Link](#)
- 2022 [J001] **Kalambay, P.**, & Pulugurtha, S. S. (2022). A before-after impact assessment of COVID-19 outbreak on bike-sharing ridership in Washington, DC. *Urban, Planning and Transport Research*, 10(1), 181–203. [doi](#) [Link](#)

#### PEER-REVIEWED MAGAZINE ARTICLES

- 2025 [M001] Mrema, R., Kitali, A., Sando, T., & **Kalambay, P.** (2025). Development and implementation of a GIS-based active transportation infrastructure assessment and navigation tool. *ITE Journal*, 95(7), 34–39. [web](#) [Link](#)

#### PEER-REVIEWED TECHNICAL REPORTS

- 2025 [TR008] Kitali, A., Kidando, E., Walters, J. P., Dillon, H., **Kalambay, P.**, & Ngereza, A. S.\* (2025). Exploring shared micromobility as an alternative transportation option: Opportunities and challenges in U.S. mid-sized cities and small towns (Final Report, Grant No. 69A3552348321). Rural Equitable and Accessible Transportation (REAT) Center, U.S. Department of Transportation. [web](#) [Link](#)
- 2025 [TR007] Dillon, H., Kitali, A., Walters, J., **Kalambay, P.**, Lipscomb, G.\*, Weber, G. F.\*, & Sanchez-Sossa, J. (2025). Autonomous electric pedestrian ferries (Autoferry): Efficient connectors (Final Report, Grant No. 69A3552348321). Rural Safe Efficient Advanced Transportation (R-SEAT) Center, U.S. Department of Transportation. [web](#) [Link](#)
- 2025 [TR006] Walters, J. P., Owusu-Danquah, J. S., Kitali, A., Dillon, H., **Kalambay, P.**, & Balyagati, P. (2025). A vision for transdisciplinary transportation engineering (Final Report, Grant No. 69A3552348321). Rural Equitable and Accessible Transportation (REAT) Center, U.S. Department of Transportation. [web](#) [Link](#)
- 2025 [TR005] Kitali, A., **Kalambay, P.**, Mihayo, M., Sesko, A., Kidando, E., Lippu, C. O., Das, S., & Liu, J. (2025). Social and infrastructure factors shaping road safety: A multi-level analysis of crashes in Ohio, Texas, and Washington (Technical report). AAA Foundation for Traffic Safety. [web](#) [Link](#)

- 2024 [TR004] Kidando, E., Kitali, A. E., Jalayer, M., **Kalambay, P.**, L'Amoreaux, J., Ibrahim, A., Mihayo, M. P., Ngereza, A.\*, Patel, D., & Islam, M. S. (2024). Determining the effectiveness of commercial vehicle safety alerts (Report No. FHWA/OH-2024/25). Ohio Department of Transportation. [web](#) Link
- 2023 [TR003] Pulugurtha, S. S., & **Kalambay, P.** (2023). IoT solutions for near horizon challenges in smart city pedestrian travel (Task 1). In S. Tikkun, W. Wiener, S. Pulugurtha, & J. Thurman, IoT solutions for near horizon challenges in smart city pedestrian travel (Report No. FHWA/NC/2020-60, pp. 3–20). North Carolina Department of Transportation. [web](#) Link
- 2023 [TR002] **Kalambay, P.**, & Pulugurtha, S. S. (2023). Exploring traffic speed patterns for the implementation of variable speed limit (VSL) signs (Report No. 2318). Mineta Transportation Institute. [doi](#) Link
- 2023 [TR001] Ogungbire, A., **Kalambay, P.**, Gajera, H., & Pulugurtha, S. S. (2023). Deep learning, machine learning, or statistical models for weather-related crash severity prediction (Report No. 2320). Mineta Transportation Institute. [doi](#) Link

## PEER-REVIEWED CONFERENCE PAPERS

- 2026 [CP006] Chakraborty, R., Hossain, A., Das, S., Javed, S. A., & **Kalambay, P.** (2026). A data mining approach to understanding racial disparities in midblock pedestrian fatal and serious injury crashes. In *International Conference on Transportation and Development 2026*. [doi](#) Link
- 2026 [CP005] Ngereza, A. S.\*, Balyagati, P. F., Bikuba, C., **Kalambay, P.**, Kitali, A. E., & Kidando, E. (2026). Recognizing patterns of fatal and serious injury crashes in Ohio rural freeways using unsupervised machine learning models. In *International Conference on Transportation and Development 2026*. [doi](#) Link
- 2026 [CP004] Ngereza, A. S., Kutela, B., **Kalambay, P.**, Balyagati, P. F., Kidando, E., & Kitali, A. E. (2026). Influence of advanced driving assistance systems (ADAS) on rear-end crash severity in rural Ohio. In *International Conference on Transportation and Development 2026*. [doi](#) Link
- 2025 [CP003] Sanchez-Sossa, J., Hauger, N., Nuxoll, N., Wilson, C., McCourt, M. J., Donatelli, C., **Kalambay, P.**, & Dillon, H. (2025). Preliminary design and testing of an autonomous foot ferry prototype for the Salish Sea. In *Proceedings of the ASME International Mechanical Engineering Congress and Exposition 2025*. [doi](#) Link
- 2024 [CP002] Kidando, E., Balyagati, P. F., Ngereza, A. S., Kutela, B., **Kalambay, P.**, & Kitali, A. E. (2024). Integrated multi regime and Gaussian processes model for calibrating traffic fundamental diagram. In *2024 IEEE 27th International Conference on Intelligent Transportation Systems (ITSC)* (pp. 4282–4287). [doi](#) Link
- 2023 [CP001] Gajera, H., **Kalambay, P.**, & Pulugurtha, S. S. (2023). Identifying factors affecting fatal crashes involving at-fault and not-at-fault Level 1 and Level 2 automated vehicles. In *International Conference on Transportation and Development 2023*. [doi](#) Link

## PEER-REVIEWED CONFERENCE PRESENTATIONS

- 2026 [PR017] **Kalambay, P.**, Lipscomb, G.\*, Sanchez-Sossa, J.\*, Weber, G.\*, Obico, G. C.\*, Dillon, H., McCourt, M., Kitali, A., & Walters, J. (2026, January 11–15). Mapping locations for low-carbon autonomous electric passenger ferries: A data-driven analysis of socioeconomic and demographic neighborhood profiles. Transportation Research Board 105th Annual Meeting, Washington, DC, United States.
- 2026 [PR016] **Kalambay, P.**, Balyagati, P.\*, Kitali, A., & Kidando, E. (2026, January 11–15). Profiling crash-associated factors and injury risk patterns among lost-in-thought (daydreaming) drivers: A combined cluster-sequence analysis approach. Transportation Research Board 105th Annual Meeting, Washington, DC, United States.

- 2026 [PR015] Ngereza, A., **Kalambay, P.**, Kitali, A., Kidando, E., Walters, J., & Dillon, H. (2026, January 11–15). Influence of the factors associated with micromobility crashes on the injury sustained. Transportation Research Board 105th Annual Meeting, Washington, DC, United States.
- 2026 [PR014] Balyagati, P., Ngereza, A., Kidando, E., Owusu-Danquah, J., Kitali, A., & **Kalambay, P.** (2026, January 11–15). Hierarchical Bayesian analysis of rural-urban settings in EMS pre-hospital timelines for elderly crash victims. Transportation Research Board 105th Annual Meeting, Washington, DC, United States.
- 2025 [PR013] **Kalambay, P.**, Novat, N., Kidando, E., Kutela, B., & Kitali, A. (2025, January 5–9). How do demographic and socio-political factors affect public acceptance of autonomous passenger vehicle technology for large trucks? Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR012] Ngereza, A., Kutela, B., Ibrahim, I., **Kalambay, P.**, Masanja, N., Kidando, E., & Kitali, A. (2025, January 5–9). Investigating the role of advanced driver assistance systems in reducing sideswipe collisions in rural Ohio. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR011] Matyenyi, J., Mihayo, M., Kitali, A., Sando, T., **Kalambay, P.**, Kidando, E., & Kutela, B. (2025, January 5–9). Community perceptions of Vision Zero: A case study of Tacoma, Washington. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR010] Walters, J., Balyagati, P., **Kalambay, P.**, Owusu-Danquah, J., Kidando, E., Kitali, A., & Dillon, H. (2025, January 5–9). Bridging silos: A vision for a transdisciplinary transportation engineering workforce. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR009] **Kalambay, P.**, Novat, N., Kutela, B., Ogungbire, A., Kitali, A., & Kidando, E. (2025, January 5–9). Autonomous shuttles in the public eye: Mediators on the path to successful expansion. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR008] Ngereza, A.\*, Kutela, B., **Kalambay, P.**, Kitali, A., & Kidando, E. (2025, January 5–9). Understanding body injury patterns and associated severity of micromobility users using Bayesian networks and text mining. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR007] **Kalambay, P.**, Kasubi, F.\*, Lippu, C.\*, Kutela, B., Kitali, A., & Kidando, E. (2025, January 5–9). Young novice driver and police officer interactions: A study of socio-demographic disparities in traffic stop outcomes. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2025 [PR006] Chakraborty, R., Hossain, A., Das, S., Javed, S., & **Kalambay, P.** (2025, January 5–9). Examining racial disparities in fatal and severe pedestrian crashes at midblock locations. Transportation Research Board 104th Annual Meeting, Washington, DC, United States.
- 2024 [PR005] **Kalambay, P.**, & Pulugurtha, S. (2024, January 7–11). Modeling adjacent levels of pedestrian–vehicle conflict severity at fixed-cycle intersections using computer vision. Transportation Research Board 103rd Annual Meeting, Washington, DC, United States.
- 2024 [PR004] **Kalambay, P.**, & Pulugurtha, S. (2024, January 7–11). Modeling pedestrian near-crash events at rectangular rapid flashing beacons controlled intersection using video analytics and long short-term memory neural networks. Transportation Research Board 103rd Annual Meeting, Washington, DC, United States.
- 2024 [PR003] Kutela, B., Novat, N., Shita, H., Novat, N., **Kalambay, P.**, & Das, S. (2024, January 7–11). Optimizing shared use paths: Insights into user preferences for effective planning and design. Transportation Research Board 103rd Annual Meeting, Washington, DC, United States.

- 2024 [PR002] **Kalambay, P.**, Ogungbire, A., & Pulugurtha, S. (2024, January 7–11). Vehicle crashes on highway segments with a rail grade crossing: Insights into the key risk factors in North Carolina. Transportation Research Board 103rd Annual Meeting, Washington, DC, United States.
- 2023 [PR001] **Kalambay, P.**, Gajera, H., & Pulugurtha, S. (2023, January 8–12). Are risk factors associated with fatal crashes involving Level 0 vehicles and Level 1 and Level 2 automated vehicles the same? Transportation Research Board 102nd Annual Meeting, Washington, DC, United States.

## **✂ MANUSCRIPTS UNDER REVIEW**

- 2026 [UR010] Ogungbire, A., Alli, T., Ogungbire, A., Alaka, O., Bolaji, R., Tihamiyu, R., & **Kalambay, P.** (2026). Deepfake threats in autonomous vehicles: A cyber-security and legal-ethical survey.
- 2026 [UR009] **Kalambay, P.**, Qiao, F., Azimi, M., Ogungbire, A., & Qi, Y. (2026). Who wants an EV? Ownership, first-time and repeat purchase intentions across motivations.
- 2026 [UR008] **Kalambay, P.**, Das, S., Qiao, F., & Qi, Y. (2026). Neighborhood determinants of bus automated camera enforcement violations.
- 2026 [UR007] **Kalambay, P.**, Lwamba, I.\*, Kanu, P.\*, Balyagati, P.\*, Goodwin, G. C., & Kidando, E. (2026). Objective streetscapes, subjective perceptions, and urban crash risk: A distributional analysis of signalized intersections.
- 2026 [UR006] **Kalambay, P.**, Lwamba, I.\*, Balyagati, P. F.\*, Ngereza, A.\*, & Kidando, E. (2026). Beyond crash statistics: Patterns and correlates of community driving safety perceptions in the United States.
- 2026 [UR005] Soto Jaimes, C.\*, Qi, Y., & **Kalambay, P.** (2026). A multi-method explainability framework for XGBoost-based prediction of commercial motor vehicle crash severity at intersections.
- 2026 [UR004] Ngereza, A., **Kalambay, P.**, Bikuba, C., Lippu, C., Daniel, R., Kitali, A., & Kidando, E. (2026). How intersection traffic control reshapes pedalcyclist crash mechanisms, fault attribution, and injury severity: Evidence from Washington State crashes.
- 2026 [UR003] Ngereza, A., Bikuba, C., **Kalambay, P.**, Kidando, E., Keshari, S., & Kitali, A. (2026). Evaluating the interplay between advanced driver assistance systems and roadway safety metrics: A literature review.
- 2026 [UR002] Chhetri, G., **Kalambay, P.**, Jalayer, M., & Das, S. (2026). XRoads: Tiny vision–temporal explainable AI for crash detection.
- 2026 [UR001] Azim, A., Hossain, A., Maitra, S., & **Kalambay, P.** (2026). From canopy to collision: A hybrid predictive framework for identifying risk factors in tree-involved traffic crashes.

## **Invited Talks/Workshops**

- 2026 [IT003] February 28. "Introducing civil engineering and transportation studies to high school students." Career Day, Elkins High School, Missouri City, TX.
- 2024 [IT002] August 8. "Discussing current hot topics in civil engineering (transportation engineering) with prospective undergraduate students." Career Day, Highline College, Des Moines, WA.
- 2024 [IT001] March 7. "Introducing equity in transportation to high school students." PacTrans Summer Camp, University of Washington, Seattle, WA.

## **Courses Taught**

- 2026 TMGT 850: Travel Demand Analysis, Texas Southern University (Spring semester)
- 2025 TMGT 815: Computer Applications in Transportation, Texas Southern University (Fall semester)
- 2025 TMGT 810: Fundamentals of Transportation, Texas Southern University (Fall semester)

|             |                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------|
| 2025        | TCE 490: Technology and Data Driven Transportation, University of Washington Tacoma (Spring semester)                       |
| 2025        | TME 403: Engineering Economics, University of Washington Tacoma (Summer semester)                                           |
| 2024        | TME 351: Engineering Probability and Statistics (Co-instructor), University of Washington Tacoma (Spring semester)          |
| 2024        | TCE 327: Transportation Engineering (Co-instructor), University of Washington Tacoma (Spring semester)                      |
| 2024        | TCE 309: GIS for Civil Engineers (Co-instructor), University of Washington Tacoma (Autumn semester)                         |
| 2023 – 2024 | CEGR 3153: Road Geometry Design (Teaching Assistant), University of North Carolina at Charlotte (Fall and Spring semesters) |
| 2016 – 2017 | Surveying (Faculty Assistant), University of Kinshasa (Spring and Summer semesters)                                         |
| 2016 – 2017 | Road Geometry and Pavement Design (Faculty Assistant), University of Kinshasa (Spring and Summer semesters)                 |

## Mentoring

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### PH.D. STUDENTS

- [2] Philip Balyagati (Civil and Environmental Engineering), Cleveland State University (2023 – Present)
- [1] Abdul Ngerenza (Civil and Environmental Engineering), Cleveland State University (2023 – Present)

### M.S. STUDENTS

- [4] Israel Lwamba (Connected Computing), Vanderbilt University (2026 – Present)
- [3] Carolina Soto Jaimes (Civil Engineering and Transportation Studies), Texas Southern University (2026 – Present)
- [2] Princess Kanu (Civil Engineering and Transportation Studies), Texas Southern University (2026 – Present)
- [1] Clement Lippu (Civil and Environmental Engineering), Cleveland State University (2024 – 2025)

### UNDERGRADUATE STUDENTS

- [6] Jaziel Serano (Civil Engineering), University of Washington Tacoma (2024)
- [5] Robin Watkins (Civil Engineering), University of Washington Tacoma (2024)
- [4] Gian C. T. Obico (Mechanical Engineering), University of Washington Tacoma (2024)
- [3] Gauge F. Weber (Mechanical Engineering), University of Washington Tacoma (2024)
- [2] Jose Sanchez-Sossa (Mechanical Engineering), University of Washington Tacoma (2024)
- [1] Grant Lipscomb (Mechanical Engineering), University of Washington Tacoma (2024 – 2025)

## Industry Experience

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|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01/21 – 01/22 | <b>Luxos RDC</b> – Senior Consulting Engineer, Kinshasa, DR Congo <ul style="list-style-type: none"> <li>Provided technical oversight of infrastructure and site-development projects of “Cité des Merveilles”</li> </ul>                                                                     |
| 04/20 – 12/20 | <b>Luxos RDC</b> – Technical Director, Kinshasa, DR Congo <ul style="list-style-type: none"> <li>Led the overall design and site development of “Cité des Merveilles” over an area of 618 acres in the municipality of Maluku</li> </ul>                                                      |
| 09/18         | <b>Nippon Signal Co., LTD.</b> – Transportation Engineering Intern, Tokyo, Japan <ul style="list-style-type: none"> <li>Worked on the design of an automatic rail traffic supervision and detection system and the management of car parking information systems at the Kuki plant</li> </ul> |

- [08/18] **Tsuji Plastics Co., LTD.** – Transportation Engineering Intern, Tokyo, Japan
- Worked on the manufacturing process and installation of road studs for intersections, center-lines, stop-lines and bumps, and curbstone indicators
- 07/15 – 09/17 **African Build** – Project & Site Engineer, Kinshasa, DR Congo
- Managed local road design and construction of buildings in Kinshasa
- 10/14 – 06/15 **Bureau d'Etudes et de Développement** – Structural & Transportation Engineering Intern, Kinshasa, DR Congo
- Worked on the development of corridor projects in the provinces of Nord Kivu, Sud Kivu, and Province Orientale
  - Worked on the preliminary design for the rehabilitation of the Kananga–Lac Mukamba road section in Kasai Occidental
- 01/14 **Agence Congolaise des Grands Travaux** – Structural & Transportation Engineering Intern, Kinshasa, DR Congo
- Worked on the control and supervision of the construction and rehabilitation of the Cinquantenaire Hospital
  - Worked on geotechnical study and topographic surveys for the construction of the Nzolana road (UPN–Pompage road section)

*CV Updated on June 30, 2026*