

ANGELA KITALI, Ph.D.

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University of Washington Tacoma
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EDUCATION

Ph.D. in Civil Engineering (Transportation)

Fall 2020

Florida International University (FIU), *Miami, FL*

Dissertation: *Strategies to Identify and Mitigate Secondary Crashes in Real-time*

Committee: Dr. Priyanka Alluri (Chair), Dr. Albert Gan, Dr. Mohammed Hadi,
Dr. Xia Jin, Dr. Wensong Wu, Dr. Thobias Sando

Master of Science in Civil Engineering

Spring 2017

University of North Florida (UNF), *Jacksonville, FL*

Thesis: *Bayesian Approach on Quantifying the Safety Effects of
Pedestrian Countdown Signals to Drivers*

Committee: Dr. Thobias Sando (Chair), Dr. Donna Mohr, Dr. Don Resio,
Dr. O. Patrick Kreidl

Bachelor of Science in Civil and Transportation Engineering

Summer 2015

University of Dar es Salaam, *Dar es Salaam, Tanzania*

Thesis: *Strategies to Improve the Accessibility of Public Roads for
People with Disabilities in Tanzania*

PROFESSIONAL EXPERIENCE

- *Assistant Professor*, University of Washington Tacoma, 2021-Present
- *Postdoctoral Research Associate*, Lehman Center for Transportation Research, FIU, 2020-2021
- *Graduate Research Assistant*, Lehman Center for Transportation Research, FIU, 2017-2020
- *Graduate Research Assistant*, Center for Accessibility and Safety for an Aging Population, UNF, 2015-2017

SPONSORED RESEARCH PROJECTS

As Co-Principal Researcher

1. *Performance Evaluation of Connected Vehicle (CV) and Transportation Systems Management and Operations*, Florida Department of Transportation, \$149,652, 2020-2022.
2. *Guidelines for Installing Pedestrian Treatments at Midblock Locations*, Traffic Engineering and Operations Office, Florida Department of Transportation, \$150,000, 2019-2020.
3. *Strategies to Identify and Mitigate Secondary Crashes using Real-time Traffic Data on Florida's Turnpike System*, Traffic Engineering and Operations Office, Florida Department of Transportation, \$220,000, 2018-2021.
4. *Developing Florida-specific Mobility Enhancement Factors (MEFs) and Crash Modification Factors (CMFs) for TSM&O Strategies*, Traffic Engineering and Operations Office, Florida Department of Transportation, \$215,000, 2018-2020.
5. *Evaluation of Photo Red Light Enforcement Program in the City of Miami Beach*, City of Miami Beach, \$13,500, 2018-2018.
6. *Evaluation of Incident Response Improvements for Statewide Application: Learning from the New Regional Traffic Management Center in Jacksonville, FL*, Traffic Engineering and Operations Office, Florida Department of Transportation, \$180,000, 2017-2018.

PUBLICATIONS

Journal Papers under Review

1. Ali, S., **Kitali, A.**, Alluri, P., and Sando, T. (3rd Review). “Quantifying the Safety Benefits of Transit Signal Priority Using Full Bayes Before-After Study,” *Journal of Transportation Engineering, Part A*.
2. Kutela, B., Kidando, E., **Kitali, A.**, Mwende, S., and Langa, N. (3rd Review). “Exploring Pre-Crash Gate Violations Behaviors of Drivers at Highway-Rail Grade Crossings,” *International Journal of Injury Control and Safety Promotion*.
3. **Kitali, A.**, Alluri, P., and Sando, T. (2nd Review). “Incident Impact Area Estimation Approaches and Their Effect on Secondary Crash Frequency: Case Study of Florida Turnpike,” *Advances in Transportation Studies*.
4. Kodi, J., **Kitali, A.**, Alluri, P., and Sando, T., and Ponnaluri, R. (2nd Review). “Does Adaptive Signal Control Technology Impact Safety at Intersections?,” *Journal of Transportation Engineering, Part A: Systems*.
5. Kodi, J., **Kitali, A.**, Kidando, E., and Alluri, P. (2nd Review). “Impacts of COVID-19 on the Operational Performance of Express Lanes and General-Purpose Lanes,” *Transportation Research Record: Journal of the Transportation Research Board*.
6. Andrew, L., **Kitali, A.**, Sando, T., and Musagasa, J. (2nd Review). “Operational Evaluation of the Bus Rapid Transit System in Dar es Salaam,” *Journal of Public Transportation*.
7. **Kitali, A.**, Haule, H. J., Alluri, P., and Sando, T. (1st Review). “Examining the Influence of Work Zones on the Propensity of Secondary Crashes: Case Study of Florida Turnpike,” *Journal of Safety Research*.
8. Kutela, B., Novat, N., Kidando, E., **Kitali, A.**, Langa, N., and Mwende, S. (1st Review). “One Year of COVID-19 Pandemic: A Review of the Impact of COVID-19 on Transportation using Text Mining Approach,” *Transport Policy*.
9. Kutela, B., Kidando, E., **Kitali, A.**, Langa, N., Mwende, S., and Novat, B. (1st Review). “Modeling Distracted Driving Related Crashes to Examine In-Vehicle Distraction Sources,” *Journal of Transportation Safety and Security*.
10. Kadeha, C., Ernest, E., **Kitali, A.**, and Mbatta, G. (1st Review). “Impact of Rainfall on the Severity of Traffic Crashes in Dar es Salaam, Tanzania,” *Transportation Research Record: Journal of the Transportation Research Board*.
11. **Kitali, A.**, Wang, H., Alluri, P., and Sando T. (1st Review). “Real-Time Secondary Crash Prediction Algorithm,” *Transportation Research Record: Journal of the Transportation Research Board*.
12. Soto, F., **Kitali, A.**, Alluri, P., and Raihan A. (1st Review). “Influence of Built Environment on Pedestrian Crashes A Case Study of Miami-Dade County,” *Transportation Research Record: Journal of the Transportation Research Board*.
13. Kadeha, C., **Kitali, A.**, Salum, J., and Alluri, P. (1st Review). “Safety Performance of Midblock Pedestrian Crossing Treatments,” *Transportation Research Record: Journal of the Transportation Research Board*.
14. Kodi, J., Kidando, E., **Kitali, A.**, Alluri, P., and Sando, T. (1st Review). “Assessment of Mobility Impacts of Adaptive Traffic Control System (ATCS) Using Flexible Regression Models,” *Transportation Research Record: Journal of the Transportation Research Board*.
15. Kutela, B., **Kitali, A.**, Kidando, E., Langa, N., Novat, N., and Mwende, S. (1st Review). “Dockless Bike-sharing System in Seattle: Understanding the Patterns of Residents’ Perceptions across Gender,” *Transportation Research Record: Journal of the Transportation Research Board*.

16. **Kitali, A.**, Kadeha, C., Kutela, B., Kidando, E., Semu, D., and Novat, N. (1st Review). “Factors Influencing Likelihood of Severe Crashes Involving Bus Rapid Transit (BRT) Buses in Tanzania,” *Transportation Research Record: Journal of the Transportation Research Board*.
17. Mokhtarimousavi, S., **Kitali, A.**, Anderson, J., Alluri, P., and Mehrabi, A. (1st Review). “Impact of COVID-19 on Injury Severity of Drivers Involved in Run-Off-Road Crashes,” *Transportation Research Record: Journal of the Transportation Research Board*.
18. Molina, J., **Kitali, A.**, and Alluri, P. (1st Review). “Is there a Relationship Between Daylight Saving Time and Traffic Crashes?,” *Transportation Research Record: Journal of the Transportation Research Board*.
19. **Kitali, A.**, Alluri, P., and Sando T. (1st Review). “What are the Leading Causes of Multiple Secondary Crashes on Toll Roads? Evidence from Bayesian Network Model,” *Transportation Research Record: Journal of the Transportation Research Board*.
20. Kutela, B., **Kitali, A.**, Kidando, E., Mbuya, C., and Langa, N. (1st Review). “Dissimilarity of Crash Severities and the Associated Factors for Single- and Multi-occupant Vehicles Crashes: A Case Study of Crashes at Highway-rail Grade Crossings,” *Transportation Research Record: Journal of the Transportation Research Board*.

Refereed Journal Papers

1. Kidando, E., **Kitali A.**, Kutela B., Ghorbanzadeh, M., Karaer, A., Koloushani, M., and Ozguven, E. “Use of Real-Time Traffic and Signal Timing Data in Modeling Occupant Injury Severity at Signalized Intersections,” *Transportation Research Record: Journal of the Transportation Research Board*. Accepted for Publication.
2. Lalika, L., **Kitali, A.**, Haule, H., Kidando, E., Sando, T., and Alluri, P. (2021). “What are the Leading Causes of Fatal and Severe Injury Crashes Involving Older Pedestrian? Evidence from Bayesian Network Model,” *Journal of Safety Research*. Accepted for Publication.
3. Salum, J., Kutela, B., **Kitali, A.**, and Kidando, E. (2021). “Stated Preference Analysis of Autonomous Vehicles Among California Residents Using Probabilistic Inferences,” *Transportation Research Record: Journal of the Transportation Research Board*. Accepted for Publication.
4. **Kitali, A.**, Kidando, E., Raihan, A., Kutela, B., Alluri, P., and Sando, T. (2021). “Exploring A Need to Model Two- and Multiple-vehicle Crashes Separately,” *Transportation Research Record: Journal of the Transportation Research Board*. Accepted for Publication.
5. Monyo, D., Haule H., **Kitali, A.**, and Sando, T. (2021). “Are Older Drivers Safe on Interchanges? Analyzing Driving Errors Causing Crashes,” *Transportation Research Record: Journal of the Transportation Research Board*. Accepted for Publication.
6. Haule, H., Ali, S., **Kitali, A.** (2021). “Factors Influencing the Severity of Crashes Near Exit Ramps in North Carolina,” *Institute of Transportation Engineers (ITE) Journal*. Accepted for Publication.
7. Salum, J. H., **Kitali, A.**, Sando, T., and Alluri, P. (2021). “Evaluating the Impact of Road Rangers in Preventing Secondary Crashes,” *Accident Analysis and Prevention*, 156, 106129.
8. Kodi, J., **Kitali, A.**, Ali, S., Alluri, P., and Sando, T. (2021). “Estimating Safety Effects of Adaptive Signal Control Technology Using the Full Bayesian Approach”, *Transportation Research Record: Journal of the Transportation Research Board*.
9. Ali, S., **Kitali, A.**, Kodi, J., Alluri, P., and Sando, T. (2021). “Safety Effects of Transit Signal Priority Using the Full Bayesian Approach,” *Transportation Research Record: Journal of the Transportation Research Board*.
10. Kutela, B., Langa, N., Kidando, E., **Kitali, A.**, and Bansal, P. (2021). “A Text Mining Approach to Elicit Perceptions of Residents on Docked and Dockless Bike-sharing, Case Study in Seattle, Washington,” *Travel Behaviour and Society*, 24, 113-123.

11. **Kitali, A.**, Kidando, E., Kutela, B., Kadeha, C., Alluri, P., and Sando, T. (2021). "Safety Evaluation of High Occupancy Toll Facilities Using Bayesian Networks," *Journal of Transportation Engineering, Part A*, 147(5), 04021018.
12. **Kitali, A.**, Soto, F., Alluri, P., and Raihan, A. (2021). "A Before-After Full Bayes Multivariate Intervention Model to Estimate the Safety Effectiveness of Red Light Cameras," *Traffic Injury and Prevention*, 22(2), 127-132.
13. Kidando, E., **Kitali A.**, Kutela B., Ghorbanzadeh, M., Karaer, A., Koloushani, M., Moses, R., Ozguven, E., and Sando, T. (2021). "Prediction of Vehicle Occupants Injury at Signalized Intersections using Real-Time Traffic and Signal Data," *Accident Analysis and Prevention*, 149, 105869.
14. **Kitali, A.**, Mokhtarimousavi, S., Kadeha, C., and Alluri, P. (2021). "Using Support Vector Machine Algorithms for Crash Injury Severity Analysis on Express Lane Facilities," *Traffic Injury and Prevention*, 22 (1), 79-84.
15. Kidando, E., **Kitali, A.**, Kutela, B., and Sando, T. (2020). "A Comparative Study of Parametric Regression Models to Detect Breakpoint in Traffic Fundamental Diagram," *arXiv:2009.00536*.
16. Kidando, E., Karaer, A., Kutela, B., **Kitali, A.**, Moses, R., Ozguven, E., and Sando, T. (2020). "A Novel Approach for Calibrating Freeway Highway Multi-Regimes Fundamental Diagram," *Transportation Research Record: Journal of the Transportation Research Board*, 0361198120930221.
17. Salum, J. H., Sando, T., Alluri, P., and **Kitali, A.** (2020). "Operational Evaluation of Freeway Service Patrols: A Case Study of Florida's Road Rangers," *Journal of Transportation Engineering, Part A*, 146 (9), 04020094.
18. Kidando, E., **Kitali, A.**, Moses, R., and Ozguven, E. (2020). "Real-time Visualization of Operational Performance Measures of Arterial Highway Using Open Crowdsourced Data," *Advances in Transportation Studies*, 51, 47-62.
19. **Kitali, A.**, Kidando, E., Alluri, P., Sando, T., and Salum, J. (2020). "Modeling Severity of Motorcycle Crashes with Dirichlet Process Priors," *Journal of Transportation Safety and Security*, 1-22.
20. **Kitali, A.**, Alluri, P., Sando, T., and Wu, W. (2019). "Identification of Secondary Crash Risk Factors using Penalized Logistic Regression Model," *Transportation Research Record: Journal of the Transportation Research Board*, 2673(11), 901-914.
21. **Kitali, A.**, Alluri, P., and Sando, T. (2019). "Impact of Primary Incident Spatiotemporal Influence Thresholds on the Detection of Secondary Crashes," *Transportation Research Record: Journal of the Transportation Research Board*, 2673(10), 271-283.
22. Salum, J., **Kitali, A.**, Bwire, H., Sando, T., and Alluri, P. (2019) "Severity of Motorcycle Crashes in Dar es Salaam, Tanzania," *Traffic Injury Prevention*, 20(2), 189-195.
23. Kidando, E., **Kitali, A.**, Moses, R., Lyimo, S., Kwigizile, V., Sando, T., and Chimba, D. (2019). "Applying a Probabilistic Model to Quantify the Influence of Rainy Weather on a Stochastic and Dynamic Transition of Traffic Conditions," *Journal of Transportation Engineering, Part A*, 145 (5): 04019017.
24. Haule, H., Sando, T., **Kitali, A.**, and Richardson, R. (2018). "Investigating Proximity of Crash Locations to Aging Pedestrian Residences," *Accident Analysis and Prevention*. 122, 215-225.
25. **Kitali, A.**, Alluri, P., Sando, T., Haule, H., Kidando, E., and Lentz, R. (2018). "Likelihood Estimation of Secondary Crashes Using Bayesian Complementary Log-Log Model," *Accident Analysis and Prevention*, 119, 58-67.
26. **Kitali, A.**, Kidando, E., Martz, P., Alluri, P., Sando, T., Moses, R., and Lentz, R. (2018). "Evaluating Factors Influencing the Severity of Three-plus Multiple-vehicle Crashes Using Real-

Time Traffic Data,” *Transportation Research Record: Journal of the Transportation Research Board*, 2672(38), 128–137.

27. **Kitali, A.**, Sando, T, Castro, A., Kobelo, D., and Mwakalonge, J. (2017). “Appraisal of Safety Effects of Pedestrian Countdown Signals to Drivers using Crash Modification Factors,” *Journal of Transportation Engineering, Part A*, 144 (5): 04018011.
28. **Kitali, A.**, Kidando, E., Sando, T., Moses, R., and Ozguven, E. (2017). “Evaluating Aging Pedestrian Crash Severity with Bayesian Complementary Log–Log Model for Improved Prediction Accuracy,” *Transportation Research Record: Journal of the Transportation Research Board*, 2659, 155-163.
29. **Kitali, A.**, and Sando, T. (2017). “A Full Bayesian Approach to Appraise the Safety Effects of Pedestrian Countdown Signals to Drivers,” *Accident Analysis and Prevention*, 106, 327-335.
30. **Kitali, A.**, Sando, T., Moses, R., and Ozguven, E. (2017). “Understanding Factors Associated with Severity of Aging Population-Involved Pedestrian Crashes in Florida,” *Advances in Transportation Studies*, 42 (3), 85-98.

Full-Paper Refereed Conference Proceedings

1. Kodi, J., **Kitali, A.**, Kidando, E., and Alluri, P. (2021). “Impacts of COVID-19 on the Operational Performance of Express Lanes and General-Purpose Lanes,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
2. **Kitali, A.**, Kidando, E., Raihan, A., Kutela, B., Alluri, P., and Sando, T. (2021). “Exploring A Need to Model Two- and Multiple-vehicle Crashes Separately,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
3. Kidando, E., **Kitali A.**, Kutela B., Ghorbanzadeh, M., Karaer, A., Koloushani, M., and Ozguven, E. (2021). “Use of Real-Time Traffic and Signal Timing Data in Modeling Occupant Injury Severity at Signalized Intersections,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
4. Pierre, R., Kobelo, D., Kisabanzira, N., Kodi, J., **Kitali, A.**, and Sando, T. (2021). “Investigating Changes in Florida Traffic Crash Trends Due to COVID-19 Pandemic,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
5. Monyo, D., Haule H., **Kitali, A.**, Sando, T. (2021). “Are Older Drivers Safe on Interchanges? Analyzing Driving Errors Causing Crashes,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
6. **Kitali, A.**, Alluri, P., and Sando, T. (2021). “Influence of Incident Spatiotemporal Estimation Method in Secondary Crash Identification,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
7. Kodi, J., **Kitali, A.**, Ali, S., Alluri, P., and Sando, T., (2021). “Estimating Safety Effects of Adaptive Signal Control Technology Using the Full Bayesian Approach,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
8. Kutela, B., Kidando, E., **Kitali, A.**, Langa, N., and Mwendu, S. “A Bayesian Multinomial Logit Approach for Modeling Distracted Driving Related Crashes to Examine In-Vehicle Distraction,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
9. Romeo-Garcia, A., Kodi, J., **Kitali, A.**, and Alluri, P. (2021). “Impacts of COVID-19 Pandemic on Traffic Crashes in Florida,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
10. Salum, J., Kutela, B., **Kitali, A.**, and Kidando, E. (2021). “Stated Preference Analysis of Autonomous Vehicles Among California Residents Using Probabilistic Inferences,” Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.

11. Ali, S., **Kitali, A.**, Kodi, J., Alluri, P., and Sando, T. (2021). "Safety Effects of Transit Signal Priority Using the Full Bayesian Approach," Proceedings of the 100th Annual Meeting of the Transportation Research Board, Washington, DC.
12. **Kitali, A.**, Mokhtarimousavi, S., Kadeha, C., and Alluri, P. (2020). "Using Support Vector Machine Algorithms for Crash Injury Severity Analysis on Express Lane Facilities," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
13. **Kitali, A.**, Kidando, E., Kutela, B., Kadeha, C., Alluri, P., and Sando, T. (2020). "Factors Contributing to Single-Vehicle and Multiple-Vehicle Crashes on Express Lane Facilities," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
14. Kutela, B., Mbuya, C., Kidando, E., **Kitali, A.**, and Langa, N. (2020). "Revisiting Crash Fatality Classification for Modelling Highway-Rail Grade Crossings Crashes Severity," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
15. Owens, J., Kobelo, D., Lalika, L., Sando, T., and **Kitali, A.** (2020). "Understanding Factors Influencing Aging Pedestrian Fatalities using Bayesian Networks," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
16. Kidando, E., Karaer, A., Kutela, B., **Kitali, A.**, Moses, R., Ozguven, E., and Sando, T. (2020). "A Novel Approach for Calibrating Freeway Highway Multi-Regimes Fundamental Diagram," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
17. Salum, S., Sando, T., Alluri, P., and **Kitali, A.** (2020) "Do Road Rangers Help in Preventing Secondary Crashes?," Proceedings of the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
18. **Kitali, A.**, Alluri, P., Sando, T., and Wu, W. (2019). "Identification of Secondary Crash Risk Factors using Penalized Logistic Regression Model," Proceedings of the 98th Annual Meeting of the Transportation Research Board, Washington, D.C.
19. **Kitali, A.**, Alluri, P., and Sando, T. (2019). "Impact of Primary Incident Spatiotemporal Influence Thresholds on the Detection of Secondary Crashes," Proceedings of the 98th Annual Meeting of the Transportation Research Board, Washington, D.C.
20. **Kitali, A.**, Kidando, E., Alluri, P., Sando, T., and Salum, J. (2019). "Evaluating Factors Influencing the Severity of Motorcycle Crashes using Dirichlet Multinomial Logit Model," Proceedings of the 98th Annual Meeting of the Transportation Research Board, Washington, D.C.
21. **Kitali, A.**, Kidando, E., Martz, P., Alluri, P., Sando, T., Moses, R., and Lentz, R. (2018). "Evaluating Factors Influencing the Severity of Three-plus Multiple-vehicle Crashes Using Real-Time Traffic Data," Proceedings of the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
22. **Kitali, A.**, Kidando, E., Sando, T., Moses, R., and Ozguven, E. (2018). "Predicting the Likelihood of Aging Pedestrian Severe Crashes Using Dirichlet Random-Effect Bayesian Logistic Regression Model," Proceedings of the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
23. Kidando, E., Moses, R., **Kitali, A.**, Lyimo, S., Kwigizile, V., Sando, T., and Chimba, D. (2018). "Exploring the Influence of Rainfall on a Stochastic Evolution of Traffic Conditions," Proceedings of the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
24. Haule, H., Sando, T., **Kitali, A.**, Angel, M., and Ozguven, E. (2018). "Influence of Intersection Characteristics on Elderly Drivers Crash Involvement," Proceedings of the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
25. Salum, J., **Kitali, A.**, Bwire, H., Sando, T., and Alluri, P. (2018) "Factors Influencing the Severity of Motorcycle Crashes in Dar es Salaam," Proceedings of the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.

26. **Kitali, A.**, Sando, T, Castro, A., Kobelo, D., and Mwakalonge, J. (2017). “Developing Crash Modification Factors to Quantify Impacts of Pedestrian Countdown Signals to Drivers,” Proceedings of the 96th Annual Meeting of the Transportation Research Board, Washington, D.C.
27. **Kitali, A.**, Kidando, E., Sando, T., Moses, R., and Ozguven, E. (2017). “Evaluating Aging Pedestrian Crash Severity using Bayesian Complementary Log-Log Model for Improved Prediction Accuracy,” Proceedings of the 96th Annual Meeting of the Transportation Research Board, Washington, D.C.
28. **Kitali, A.**, Sando, T, Castro, A., Machumu, K., Kobelo, D., and Mwakalonge, J. (2017). “Impact of Pedestrian Countdown Signals on Vehicle Approach Speed for Drivers of Different Age at Signalized Intersections,” Proceedings of the 96th Annual Meeting of the Transportation Research Board, Washington, D.C.
29. Matata, F., **Kitali, A.**, Sando, T., and Bwire, H. (2017). “Operational Characteristics of the Newly Introduced Bus Rapid Transit in Dar es Salaam,” Proceedings of the 96th Annual Meeting of the Transportation Research Board, Washington, D.C.
30. Machumu, K., Sando, T., Mtoi, E., and **Kitali, A.** (2017). “Simulation-Based Comparative Performance Measures for I-295 Express Lanes in Jacksonville, Florida,” Proceedings of the 96th Annual Meeting of the Transportation Research Board, Washington, D.C.

Final Research Reports

1. Alluri, P., Sando, T., **Kitali, A.**, Monyo, D., and Wang, H. (2020). *Strategies to Identify and Mitigate Secondary Crashes using Real-time Traffic Data on Florida’s Turnpike System*, Florida Department of Transportation, Tallahassee, FL. Draft report.
2. Alluri, P., Kadeha, C., Wu, W., and **Kitali, A.** (2020). *Guidelines for Installing Pedestrian Treatments at Midblock Locations*, Florida Department of Transportation, Tallahassee, FL. Draft report.
3. Alluri, P., Sando, T., Kadeha, C., Haule, H., Salum, J., Ali, M.S., Kodi, J., and **Kitali, A.** (2020). *Developing Florida-specific Mobility Enhancement Factors (MEFs) and Crash Modification Factors (CMFs) for TSM&O Strategies*, Final Research Report, Florida Department of Transportation, Tallahassee, FL.
4. Sando, T., Alluri, P., Chuan, C., Haule, H., **Kitali, A.**, Lentz, R., and Huq, A. (2018). *Evaluation of Incident Response Improvements for Statewide Application: Learning from the New Regional Traffic Management Center in Jacksonville, Florida*, Final Research Report, Florida Department of Transportation, Tallahassee, FL.
5. Alluri, P., **Kitali, A.**, and Soto, F. (2018). *Evaluation of Photo Red Light Enforcement Program in the City of Miami Beach*, Final Research Report, City of Miami Beach, FL.

Technical Articles and Short Report

1. **Kitali, A.**, “Technology and the Future of the Transportation System,” *2020 National Engineers Week Blog*, ITE International, February 2020.
2. **Kitali, A.**, and Alluri, P. (2019). “A Journey Toward Active Lifestyle,” *FLITE Magazine*, Florida Puerto Rico District Institute of Transportation Engineers, Vol. 61, No. 2, pp. 33-34, October 2019.

PRESENTATIONS

Abstract-reviewed Conference Presentations

1. **Kitali, A.**, and Alluri, P. (2020). “*Real-time Prediction of Secondary Crash Risk using Probabilistic Reasoning Approach.*” Proceedings of the 99th Annual Meeting of the Transportation Research Board, January 12th, 2020, Washington, DC. (Podium Session).
2. **Kitali, A.**, and Alluri, P. (2020). “*Real-time Prediction of the Likelihood of Secondary Crashes on Freeways.*” Proceedings of the 99th Annual Meeting of the Transportation Research Board, January 13th, 2020, Washington, DC. (Hybrid Session).

3. Kadeha, C., and **Kitali, A.** (2020). “*An Integrated Work Zone Safety System for Connected and Automated Vehicles.*” Proceedings of the 99th Annual Meeting of the Transportation Research Board, January 13th, 2020, Washington, DC. (Traffic Control Device Challenge).
4. Kadeha, C., and **Kitali, A.** (2020). “*Could Emerging Technologies Make Work Zones Safer?*” 7th Florida Automated Vehicle Summit, November 20-22, 2019, Miami, FL.
5. **Kitali, A.** (2019). “*Real-time Prediction of Secondary Crash Risk using a Bayesian Dynamic Updating Approach.*” Florida Puerto Rico Institute of Transportation Engineers District Annual Meeting, November 6-8, 2019, San Juan, Puerto Rico (Poster Session).
6. Kadeha, C., **Kitali, A.** (2019). “*Safety Impacts of Dynamic Message Signs (DMSs) on Florida Freeways.*” Florida Puerto Rico Institute of Transportation Engineers District Annual Meeting, November 6-8, 2019, San Juan, Puerto Rico (Poster Session).
7. Kadeha, C., and **Kitali, A.**, Alluri, P. (2019). “*Safety Impacts of Dynamic Message Signs (DMSs) on Florida Freeways.*” Road Safety and Simulation International Conference, October 14-17, 2019, Iowa City, Iowa (Poster Session).
8. **Kitali, A.** (2019). “*Technology-based Multitasking Transportation Infrastructure.*” Florida Puerto Rico ITE District - Florida’s I3 Transportation Showcase, June 23-26, 2019, Orlando, Florida (Shark-tank Presentation).
9. **Kitali, A.**, and Alluri, P. (2019). “*Safety Performance of Express Lanes.*” The 2019 Florida International University Graduate Student Appreciation Week Scholarly Forum, April 1-2, 2019, Miami, FL (Poster Session).
10. **Kitali, A.**, Soto, F., and Masaki, J. (2018). “*Use of Connected Vehicle Technology to Improve Safety and Mobility of Pedestrian and Bicyclists at Signalized Intersections.*” 6th Florida Automated Vehicle Summit, November 26-27, 2018, Tampa, FL (Poster Session).
11. **Kitali, A.** (2018). “*Impact of Primary Incident Spatiotemporal Influence Thresholds on the Detection of Secondary Crashes.*” 2018 Florida Section Institute of Transportation Engineers and WTS Florida Annual Meeting, October 29-31, 2018, Fort Lauderdale, FL (Poster Session and Shark-Tank Presentation).
12. **Kitali, A.**, and Haule, H. (2018). “*A Framework to Identify Secondary Crashes on Freeways.*” Managing Roadways and Transit Conference, September 25-27, 2018, Bellevue, WA (Poster Session).
13. **Kitali, A.** (2018). “*Secondary Crashes: Insights on their Contributing Factors and Mitigation Strategies.*” 2018 Florida Section Institute of Transportation Engineers Summer Meeting, June 14-16, 2018, Ponte Vedra, FL (Podium Session).
14. **Kitali, A.**, and Alluri, P. (2018). “*Effects of Daylight Savings Time on Vehicle Crashes.*” 2018 Lifesavers Conference, April 22-24, 2018, San Antonio, TX (Poster Session).
15. **Kitali, A.**, Rezwana, S., and Alluri, P. (2018). “*Daylight Savings Time Transitions and Traffic Crashes.*” Florida International University Civil and Environmental Engineering Department Graduate Poster Session, February 23rd, 2018, Miami, FL (Poster Session).
16. **Kitali, A.** (2018). “*Identifying Secondary Crashes on Freeways Using Real-Time Traffic Data.*” 2017 Florida Section Institute of Transportation Engineers and ITS Florida Annual Meeting, November 1-3, 2017, Orlando, FL (Podium Session).
17. **Kitali, A.**, Alluri, P., and Sando, T. (2017). “*Real-Time Estimation of Secondary Crashes using a Bayesian Network Model.*” 5th Annual UTC Conference for the Southeastern Region, November 16-17, 2017, Gainesville, FL (Poster Session).
18. **Kitali, A.**, Alluri, P., and Sando, T. (2017). “*Identifying Secondary Crashes on Freeways using Real-Time Traffic Data.*” 2017 Florida Section Institute of Transportation Engineers and Intelligent Transportation Society Annual Meeting, November 1-3, 2017, Orlando, FL (Podium Session).

19. **Kitali, A.** (2017). “*Identification of Secondary Crashes: A Case Study of I-95 in Jacksonville.*” 2017 Florida Section Institute of Transportation Engineers and Intelligent Transportation Society Annual Meeting, November 1-3, 2017, Orlando, FL (Poster Session).
20. **Kitali, A.,** and Machumu, K. (2016). “*Using Naturalistic Driving Data to Analyze the Effects of Drivers’ Deceleration on Safety and Travel Time.*” 5th International Naturalistic Driving Research Symposium, Blacksburg Virginia (Podium Session).
21. **Kitali, A.,** Kwayu, K, and Sando, T. (2016). “*Modeling and Comparative Analysis of Injury Severity Sustained by Children, Adult, and Older Pedestrian in Florida.*” 15th Annual Showcase of Osprey Advancements in Research and Scholarship (Poster Session).
22. Lwambagaza, L., Machumu, K., Sando, T., and **Kitali, A.** (2016). “*Modeling Older Drivers Behavior on Merging Ramps.*” 15th Annual Showcase of Osprey Advancements in Research and Scholarship (Poster Session).

Project/Invited Presentations

1. “Full Bayes: A Method for Analyzing Traffic Safety Data,” FIU Engineering Center, Miami, Florida, September 5th, 2019. Presented to civil engineering faculty and graduate students at Florida International University
2. “The Future of Transportation in the World of Real-time Traffic Data and Emerging Technologies,” Transportation Camp, Co-presented with Ms. Cecilia Kadeha, Mr. Henrick Haule, and Mr. MD Sultan Ali, Transportation Camp Florida, Miami, FL, May 9-10, 2019 (Unconference Session).
3. “ITS and TSM&O Strategies to Improve Pedestrian and Bicycle Safety in South Florida,” NOCoE Transportation Technology Tournament Final Presentation, Co-presented with Mr. Fabio Soto and Ms. Jaqueline Masaki, ITE International Annual Meeting, Minneapolis, MN, August 21st, 2018.
4. “Evaluation of Incident Response Improvements for Statewide Application: Learning from the New Regional Traffic Management Center in Jacksonville,” FDOT Project Workshop, Webinar, November 06th, 2017.

TEACHING EXPERIENCE

Guest Lectures

- Course: CVE 448/548 Geometric Design of Highways 03/25/2021
Topic: Why is Roadside Design Important? Safety Perspective, Cleveland State University
- Course: CGN 6939 Graduate Seminar 03/05/2021
Topic: Improving Highway Safety and Traffic Operations Using Big Data, FIU
- Course: TTE 5107 Highway Safety Analysis 11/24/2020
Topic: Use of Alternative Data in Highway Safety Analysis, FIU
- Course: CGN 6939 Graduate Seminar 09/25/2020
Topic: A Before-After Full Bayes Multivariate Intervention Model to Estimate the Safety Effectiveness of Red Light Cameras, FIU
- Course: CGN 4980 Fundamentals of Engineering (FE) Seminar Spring 2020
Topic: Probability and Statistics, FIU
- Course: TTE 5107 Highway Safety Analysis 11/20/2019
Topic: Highway Safety Analysis: This Time Tomorrow, FIU
- Course: CGN 6939 Graduate Seminar 09/27/2019
Topic: The Future of Transportation in the World of Real-time Traffic Data and Emerging Technologies, FIU
- Course: CGN 6939 Graduate Seminar 01/26/2018
Topic: Identifying Secondary Crashes on Freeways Using Real-time Traffic Data, FIU

STUDENT ADVISING**Mentorship**

Student/Program Name	Grade	Year	Topic
Gold Coast Chapter of the Institute of Transportation Engineers (GCCITE) High School Engineering Mentorship Program	High School	Spring 2018	Intersection operational analysis
Jimoku Salum Hinda	Since in undergrad	Summer 2016	Highway safety analysis
Angelique Castro	Undergraduate	2016-2017	Highway safety and operational data collection and preparation
Fabio Soto	Masters	2018	Spatial analysis and advanced highway safety analysis
Hector Vargas	Undergraduate	2018	Traffic data collection
Liana Roque	Undergraduate	2018	Traffic data collection
Henrick J. Haule	Masters	Spring 2016	Highway safety modeling using R
Hendry Nyanza Imani	Masters	2019	Traffic data visualization using ArcGIS
John Kodi	Since in masters	2019-present	Highway safety and operation data manipulation using ArcGIS, Python, and R
Md Sultan Ali	Ph.D.	2019-2020	Highway safety data collection and analysis
Cecilia Kadeha	Ph.D.	2019	Real-time traffic data processing and highway safety analysis
Amy Romeo-Garcia	Undergraduate	2019-2020	Transportation engineering
Kristina Broderick	Undergraduate	2019	Transportation engineering
Norah Massenat	Undergraduate	2019-2020	Transportation engineering
Luciano Lalika	Masters	2019-2020	Advanced highway safety modeling
Denis Monyo	Masters	2019-2020	Advanced highway safety modeling
Matheus Louly Caixe	Undergraduate	2020	Traffic Data Collection
Pierangiolo Bicchi	Masters	2021	Spatial Analysis and advanced highway safety modeling
Jesus Molina	Undergraduate	2021	Highway safety data collection and analysis

M.S. Project Committee Member

1. Mr. Pierangiolo Bicchi (Summer 2021): *Impact of COVID-19 On Pedestrian And Bicyclist Safety in Miami-Dade County.*

PROFESSIONAL SERVICE AND MEMBERSHIPS**Professional Service**

- Editorial Board Member: *Advances in Transportation Studies* (2020-present)

- *Peer Reviewer*, for:
 - Advances in Transportation Studies (2016-present)
 - Journal of Transportation Engineering (JTE), Part A: Systems (2017-present)
 - Transportation Research Record: Journal of the Transportation Research Board (2017-present)
 - Journal of Transport Geography (2018-present)
 - Traffic Injury and Prevention (2019-present)
 - Accident Analysis and Prevention (2019-present)
 - IET Intelligent Transport Systems (2019-present)
 - Reliability Engineering and System Safety (2019-present)
 - Journal of Transport and Health (2019-present)
 - IEEE Access (2020-present)
- *Leadership Experience*
 - *President*, FIU Women's Transportation Seminar (WTS), 2019-2020
 - *Co-Chair*, 2020 FLPRITE Student Leadership Summit, 2019-2020
 - *Team Leader*, Unconference session in the Transportation Camp, 2019
 - *Student Advisor*, Transportation Technology Tournament-FIU Team, 2019
 - *Team Leader*, Transportation Technology Tournament-FIU Team, January 2018-August 2018
 - *Team Leader*, Florida Section Institute of Transportation Engineers (FSITE) ITE Collegiate Traffic Bowl Competition (FIU Team), Ponte Vedra, Florida, June 2018
 - *Treasurer*, FIU Institute of Transportation Engineers Student Chapter, Fall 2017-Fall 2018
 - *Treasurer*, UDSM Student Government, October 2013-October 2014
 - *Collaborator* with several schools, including Florida State University, University of Wisconsin, University of Dar es Salaam
 - *Author/Co-Author*, several unfunded projects

Professional Memberships

- *Member*, Institute of Transportation Engineers (ITE) Committee on Data (2021 - present)
- *Young Member*, Committee on Standing Committee on Freeway Operations (ACP20), Transportation Research Board of the National Academies (2021 - present)
- Chi Epsilon – The Civil Engineering Honor Society (inducted November 2019)
- Tau Beta Pi - The Engineering Honor Society (inducted April 2019)
- Phi Kappa Phi Honor Society (inducted April 2017)
- ITE International (2017-present)
- FIU-ITE Student Chapter (2017-present)
- FIU-WTS Chapter (2017-present)
- American Society of Civil Engineers (ASCE) (2017-present)
- WTS International (2016-present)
- National Society of Black Engineers (NSBE), UNF Chapter (2015-2017)
- American Society of Highway Engineers (ASHE), UNF Chapter (2015-2017)

Volunteering Experience

- *Notetaker*, TRB "Workshop "Adapting Managed Lanes in the Era of Transformational Technologies and Unforeseen Events, Jan 2021
- Created the 2020 FLPRITE Traffic Bowl Software, 2020
- *Judge*, Future City Competition, January 2020
- *Volunteer*, FIU Tau Beta Pi Honor Society Induction Ceremony, December 2019
- *Volunteer*, ITE International Annual Meeting, Minneapolis, August 2018
- *Volunteer*, GCCITE High School Engineering Mentorship Program, Jan 2018-April 2018
- *Presenter*, Florida International University Engineering Expo, January 2018
- *Volunteer*, 2015 Florida Automated Vehicles (FAV) Summit, Jacksonville, December 2015
- *Member-Exhibition Committee*, Student Exhibitions during the UDSM College of Engineering and Technology Undergraduate Students' Open Day, November 01st, 2014
- *Exhibitor*, Student Exhibitions during the UDSM College of Engineering and Technology Undergraduate Students' Open Day, November 09th, 2013

- *Volunteer*, Receiving 1st-year undergraduate students at UDSM during the orientation week, 12th October-19th October 2013

Honors, Awards, Scholarships & Competitions

- *1st Place Winners* (Henrick J. Haule, Md. Sultan Ali, & **Angela Kitali**), Excellence in Highway Safety Data Award Competition
- *Recipient*, FIU College of Engineering and Computing Outstanding Doctoral Student Award (2020)
- *Recipient*, Eno Fellowship (2020)
- *Recipient*, Florida International University Dissertation Year Fellowship (2020)
- *Recipient*, 2019 FIU Graduate and Professional Student Committee (GPSC) Scholarship
- *Runner-up*, 2019 FLPRITE Student Poster Competition
- *Runner-up*, Jack E. Leisch Fellowship (2019)
- *Winner*, International WTS Helene M. Overly Memorial Scholarship (2019)
- *Winner*, South Florida WTS Helene M. Overly Memorial Scholarship (2019)
- *Winner*, Fang Zhao Women in Engineering Leadership Scholarship (2018)
- *1st Place Winners* (**Angela Kitali** & Henrick J. Haule), Best Student Paper Award, Managing Roadways, and Transit Meeting and Conference, Bellevue, WA, September 25-27, 2018
- *Finalists*, NOCoE Transportation Technology Tournament (FIU Team Leader), 2018. The tournament involved proposing ITS technologies and TSM&O solutions for a real-world problem facing state DOTs.
- *Participant*, 2018 FSITE ITE Collegiate Traffic Bowl Competition (FIU Team Leader), Ponte Vedra, FL, June 2018
- *Recipient*, 2018 LifeSavers Traffic Safety Scholarship, San Antonio, Texas, April 2018
- *Winner*, NOCoE TRB 2018 ePortfolio Competition. The competition involved students' demonstration of their desire to work in the TSM&O industry
- *Recipient*, 2018 FIU Graduate and Professional Student Committee (GPSC) Scholarship
- *Recipient*, 2017 FIU Graduate and Professional Student Committee (GPSC) Scholarship
- *1st Place Winner*, 2017 FSITE Student Poster Competition
- *Runner-up*, Mobility Miami FasTrack Ideation Challenge (Team Member), 2017. The Challenge required teams to propose measures to relieve traffic congestion in Miami
- Research Recognition Award & UNF Statewide Symposium Representative, 2017
- *Recipient*, 2017 UNF Graduate Research Grant Recipient
- *Recipient*, 2016 UNF Graduate Research Grant Recipient
- *Recipient*, American Association of State Highway and Transportation Officials (AASHTO) Transportation Research Fellowship, 2015
- *Recipient*, Florida Department of Transportation (FDOT) Graduate Research Fellowship, 2015
- *3rd Place Winner*, Tanzania Women Engineers Convention Exhibition Poster Competition, 2015
- *1st Place Winners* (**Angela Kitali** & Nickson Moses), Powering Africa Research Competition, 2015. The competition required undergraduate students to forecast the changes in gross domestic product, social, and economic activities depending on different power demand and supply scenarios.

Professional Certification

- Passed F.E. – Civil in Texas (Verifiable link: <https://account.ncees.org/rn/2083689-1270550-6d548a6>)
- Road Safety 101. Awarded by the Highway Safety Research Center at the University of North Carolina, March 08th – April 26th, 2018