Xingan David Kan, Ph.D.

Civil Engineering Program, Ingram School of Engineering, Texas State University
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Research Interests

Connected and Automated Vehicles (CAV)
Electric Vehicles (EV)
Advanced Driver Assistance Systems (ADAS)
Traffic Operations and Management
Intelligent Transportation Systems (ITS)
Traffic Simulation and Modeling
Traffic Flow Theory

Education

August 2017 **University of California at Berkeley**
Doctor of Philosophy (Ph.D.) in Civil and Environmental Engineering
Dissertation: *Increasing Freeway Capacity by Efficiently Timing its Nearby Arterial Traffic Signals*
Minors: City and Regional Planning, Industrial Engineering and Operations Research
Advisor: Prof. Alexander Skabardonis

May 2014 **University of California at Berkeley**
Master of Science (M.S.) in Civil and Environmental Engineering, Transportation Engineering

May 2013 **University of Illinois at Urbana Champaign**
Bachelor of Science (B.S.) in Civil Engineering
Graduated with High Honors

Academic Work Experience

Texas State University

2025-present *Assistant Professor*, Ingram School of Engineering

Florida Atlantic University

2019-2025 *Assistant Professor*, Department of Civil, Environmental, and Geomatics Engineering

University of California at Berkeley

2017-2019 *Post-doctoral Researcher and Lecturer*, Department of Civil and Environmental

Engineering, Partners for Advanced Transportation TecHnology (PATH)

Coordination of Freeway Ramp Metering and Arterial Traffic Signals Phase IIB – Field Implementation (Caltrans)
Field implementation of arterial traffic signal control to prevent freeway on-ramp spillback
Study Site: Interstate 680 corridor in San Jose, California

Evaluation of Different Coordinated Ramp Metering Systems in California (Caltrans)
Field study of coordinated ramp metering algorithms

Systems and Modeling for Accelerated Research in Transportation (SMART) Mobility Phase I Task 7A1.2 – Traffic Microsimulation (Department of Energy)
Modeling vehicle fuel consumption and emissions of connected and automated vehicles and advanced traffic management systems

2014-2017 *Graduate Student Researcher and Graduate Student Instructor*, Department of Civil and Environmental Engineering

2016-2017 Using Cooperative Adaptive Cruise Control (CACC) to Form High-Performance Vehicle Streams (FHWA Exploratory Advanced Research)
Developing microscopic simulation and car following models for CACC vehicles

2014-2016 Coordination of Freeway Ramp Metering and Arterial Traffic Signals Phase IIA – Site Selection and Simulation Development (Caltrans)
Developing arterial traffic signal control strategies to prevent freeway on-ramp spillback

2013-2014 *Independent Study*, University of California Transportation Center Fellowship
Person-based passive transit signal priority (TSP)

University of Illinois at Urbana Champaign

2012-2013 *Undergraduate Research Assistant*
Microscopic simulation calibration for freeway work zones under non steady-state traffic conditions

University of Texas at Austin

2012 *Summer Undergraduate Researcher*
Sub-network selection for reducing computation time in Dynamic Traffic Assignment (DTA)

Awarded Research Projects

2023-2033	Master University Agreement with **Florida Department of Transportation (FDOT)**, $100,000 to $200,000 annually

Total: ~$830,000 (PI Kan's share)

2023-2025	(PI). Rethinking Traffic Flow in the Era of Electric Vehicles with Driver Assistance and Automation (**National Science Foundation, NSF**), ~200,000
2023-2025	(PI). Solving the Data Accuracy Problem of Intelligent Transportation Systems devices in District 4 (**FDOT**), ~$54,000
2023-2025	(PI). Connected Vehicle Data Fuel Traffic Decision-Making in District 4 (**FDOT**), ~$63,000
2022	(PI). Developing Coordinated Arterial Traffic Signal Timing Plans near Freeway Ramp Signals, Florida Department of Transportation (**FDOT**), ~$42,000
2022	(PI). Traffic Incident Management (TIM) Performance Targets for FDOT District 4, Florida Department of Transportation (**FDOT**), ~$41,000
2022	(PI). Developing Evaluation Plan for SR-710 CAV Pilot Project, Florida Department of Transportation (**FDOT**), ~$55,000
2021-2022	(PI). Performance Measures-Based Framework for SW 10th Street Smart Work Zone, Florida Department of Transportation (**FDOT**), ~$45,000
2021-2022	(PI). Development of System-wide Traffic Responsive Ramp Signal System (RSS), Florida Department of Transportation (**FDOT**), ~$59,000.
2021-2022	(PI). Update of District Four Benefit-Cost Analysis Procedure, Florida Department of Transportation (**FDOT**), ~$41,000.
2020-2021	(PI). I-95 Express Lane Operation: Impacts of Ramp Signaling and Tolling Rates and Strategies Phase I, Florida Department of Transportation (**FDOT**), ~$68,000.
2020-2021	(PI). Recommendations for Transportation System Management and Operation (TSM&O) Performance Measure Management Plan, Florida Department of Transportation (**FDOT**), ~$32,000.
2020	(PI). Identification and Application of Implementable Research Outcomes from FAU TSM&O Projects, Florida Department of Transportation (**FDOT**), ~$75,000.
2019-2020	(PI). Multiresolution Analysis of the Impacts of Complete Streets on Efficiency, Safety and Environment of Urban Corridors, Florida Department of Transportation (**FDOT**), ~$55,000.

Publications (* indicates students or postdoc under my supervision)

Peer Reviewed Journal Publications

1. Zare, A., Shang, M., **Kan, X.,** Stern, R. 2025. A Generalized Multi-phase Car-following Model for Electric Vehicles with Adaptive Cruise Control. *Transportmetrica B: Transport Dynamics*, (accepted).
2. *Lapardhaja, S., Godier, J., Cassidy, M., **Kan, X.** 2024. ACC, Queue Storage, and Worrisome News for Cities. *Transportation Research Part C: Emerging Technologies*, 167: 104809.
3. *Lapardhaja, S., *Gong, Y., *Murshed, M., **Kan, X.** 2024. Impact of Commercially Available Adaptive Cruise Control (ACC) Vehicles on Freeway Bottleneck Capacity. *International Journal of Transportation Science and Technology*, (In Press).
4. *Yang, M., *Chon Kan, P., *Lapardhaja, S., *Gong, Y., *Imran, M., *Murshed, M., *Yagantekin, K., *Khan, M., **Kan, X.,** *Lee, C. 2024. MicroSimACC: An Open Database for Field Experiments on the Potential Capacity Impact of Commercial Adaptive Cruise Control (ACC). *Transportmetrica A: Transport Science*, 1-30.
5. *Lapardhaja, S., *Yagantekin, K., *Yang, M., *Majumder, T., **Kan, D.,** *Mohamed Rawoof, M. 2023. Unlocking potential capacity benefits of electric vehicles (EVs) with adaptive cruise control (ACC). *Transportmetrica B: Transport Dynamics*, 11(1): 1894-1911.
6. Liu, H., Shladover, S. E., Lu, X., and **Kan, X.** 2021. Freeway Vehicle Fuel Efficiency Improvement via Cooperative Adaptive Cruise Control. *Journal of Intelligent Transportation Systems*, 25(6): 574-586.
7. **Kan, X.,** Lin, X., Liu, H., Wang, M., Schakel, W., Lu, X., van Arem, B., Shladover, S. E., and Ferlis, R. A. 2019. Cross-comparison and Calibration of Two Microscopic Traffic Simulation Models for Complex Freeway Corridors with Dedicated Lanes. *Journal of Advanced Transportation*, 2019.
8. **Kan, X.**, Lu, X., and Skabardonis, A. 2018. Increasing Freeway Capacity by Efficiently Timing its Nearby Arterial Traffic Signals. *Transportation Research Record: Journal of the Transportation Research Board*, 2672(18): 27-34.
9. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A. 2018. Impact of Cooperative Adaptive Cruise Control (CACC) on Multilane Freeway Merge Capacity. *Journal of Intelligent Transportation Systems,* 22(3): 263-275.
10. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A. 2018. Modeling the Effectiveness of Cooperative Adaptive Cruise Control for Multi-Lane Freeway with Mixed Traffic Flow. *Transportation Research Part C: Emerging Technologies,* 95: 261-279.
11. *Gong, Y., *Chon Kan, P. *Lapardhaja, S., *Murshed, M., **Kan, X.** 2024. Field Experiment and Open Database for Mixed Traffic – Interaction between Commercial Adaptive Cruise Control (ACC) and Human Driven Vehicles. *Transportmetrica B: Transport Dynamics,* (under review).
12. *Imran, M., *Chon Kan, P., *Murshed, M., **Kan, X.** 2024. Impact of Adaptive Cruise Control

(ACC) Reaction Time on Signalized Intersections. *International Journal of Transportation Science and Technology*, (under review).

13. *Yang, M., *Gong, Y., **Kan, X.**, Liu, H., Lu, X. 2024. Impact of Adaptive Cruise Control (ACC) on Fuel Consumption at Freeway Merge Bottlenecks. *IET Intelligent Transport Systems*, (under review).
14. *Yang, M., **Kan, X.**, Lu, X. 2024. Mitigating Environmental Impact through Capacity Enhancing Strategies: Case Study of Freeway Ramp Metering. *Journal of Advanced Transportation*, (under review).
15. *Yang, M., **Kan, X.**, Liu, H., Lu, X. 2024. Full Speed Range Variable Headway Model for Microscopic Simulation of Commercial Adaptive Cruise Control (ACC) – Comparison of Internal Combustion Electric Powertrains. *Transportation Research Part C: Emerging Technologies*, (under review).
16. *Yang, M., *Mohamed Rawoof, M., **Kan, X.** 2024. Modeling Commercial Adaptive Cruise Control (ACC) at Multi-lane Freeway Bottlenecks. *Transportation Research Part C: Emerging Technologies*, (under review).

Peer Reviewed Journal Publications – in preparation

17. *Lapardhaja, S., Yagantekin, K., Yang, M., **Kan, X.,** *Chon Kan, P., *Gong, Y., *Imran, M., *Murshed, M. Comparing the Fundamental Diagrams of Commercial Adaptive Cruise Control (ACC) with Different Powertrains: Internal Combustion Engine (ICE) vs. Fully Electric Vehicles (EVs). *Journal of Intelligent Transportation Systems*, (in preparation).
18. *Natrajan, S., *Lee, C., **Kan, X.,** *Yagantekin, K. Field Experiment of Mixed Autonomy Traffic – Human Driven Vehicle Interaction with Adaptive Cruise Control (ACC) Equipped Vehicles. *Transportation Research Procedia,* (in preparation).
19. *Abdullah, S., *Mohamed Rawoof, M, *Yang, M., Kan, X. Mixed Powertrain Traffic and its Impact on Bottleneck Capacity: Case Study for Adaptive Cruise Control (ACC). *Journal of Intelligent Transportation Systems*, (in preparation).

Peer Reviewed Conference Publications (Full Paper)

1. *Yang, M., **Kan, X.,** *Mohamed Rawoof, M. 2024. Modeling Commercial Adaptive Cruise Control (ACC) on Multi- Lane Facilities by Incorporating Receiving-lane-change Car-following. *27th IEEE International Conference on Intelligent Transportation Systems,* 24-27 September, Edmonton, Canada. Paper No. 926.
2. *Lapardhaja, S., *Yang, M., Yagantekin, K., **Kan, D.** 2024. Unlocking The Potential Congestion Relief from Electric Vehicles (EVs) - Field Experiments, Open Database, And Simulations of EVs with Adaptive Cruise Control (ACC). 4th *IEEE Forum for Innovative Sustainable Transportation Systems,* 26-28 February, Riverside, CA.
3. Zare, A., Shang, M., **Kan, X.,** Stern, R. 2024. The Electric Vehicle Model (EVM): A Novel Car-

Following Model for Electric Adaptive Cruise Control Vehicles. 4th *IEEE Forum for Innovative Sustainable Transportation Systems,* 26-28 February, Riverside, CA.

4. *Yang, M., **Kan, X.,** *Mohamed Rawoof, M. 2024. Modeling Commercial Adaptive Cruise Control (ACC) on Multi- Lane Facilities by Incorporating Receiving-lane-change Car-following. *Transportation Research Board 103rd Annual Meeting,* 7-11 January, Washington, D.C. Paper No. 24-04607.
5. Zare, A., Shang, M., Stern, R., **Kan, X.** 2024. Modeling Electric Adaptive Cruise Control Vehicle Car-following Behavior with Experimental Data. *Transportation Research Board 103rd Annual Meeting,* 7-11 January, Washington, D.C. Paper No. 24-03034.
6. *Yang, M., **Kan, D.,** *Lapardhaja, S. 2023 MicroSIM ACC: An Open Database for Field Experiments on the Potential Capacity Impact of Commercial Adaptive Cruise Control (ACC). *26th IEEE International Conference on Intelligent Transportation Systems,* 24-28 September, Bilbao, Spain. Paper No. 869.
7. Zare, A., Shang, M., Stern, R., **Kan, X.** 2023. Modeling Car-following Behavior of Electric Adaptive Cruise Control Vehicles using Experimental Testbed Data. *26th IEEE International Conference on Intelligent Transportation Systems,* 24-28 September, Bilbao, Spain. Paper No. 1435.
8. *Lee, C., *Majumder, T., *Yagantekin, K., **Kan, X.,** *Yang, M. 2023. Field Experiment on the Capacity Impact of Vehicle Automation on Electric Vehicles (EVs) – Case Study of Adaptive Cruise Control (ACC). *Transportation Research Board 102nd Annual Meeting,* 8-12 January, Washington, D.C. Paper No. 23-04398.
9. *Yang, M., **Kan, X.,** *Yagantekin, K. 2023. Modeling Car Following Behaviors of Adaptive Cruise Control (ACC) Equipped Vehicles under Heterogeneous Desired Speeds. *Transportation Research Board 102nd Annual Meeting,* 8-12 January, Washington, D.C. Paper No. 23-04056.
10. *Yang, M., *Lee, C., **Kan, X.,** *Khan, M., *Yagantekin, K. 2023. Field Experiments on Adaptive Cruise Control (ACC) Car Following Behavior – Impact of Lane Changes. *Transportation Research Board 102nd Annual Meeting,* 8-12 January, Washington, D.C. Paper No. 23-04245.
11. *Chon Kan, P., *Imran, M., *Murshed, M., **Kan, X.** 2022. Field Experiment on the Impact of Automated Vehicles on Arterial Capacity – Case Study of Adaptive Cruise Control (ACC). *Transportation Research Board 101st Annual Meeting,* 9-13 January, Washington, D.C. Paper No. 22-03854.
12. *Gong, Y., *Chon Kan, P. *Lapardhaja, S., *Murshed, M., **Kan, X.** 2022. Field Experiment of Mixed Traffic – Interaction between Adaptive Cruise Control (ACC) and Human Drivers. *Transportation Research Board 101st Annual Meeting,* 9-13 January, Washington, D.C. Paper No. 22-03779.
13. *Imran, M., *Chon Kan, P., *Murshed, M., **Kan, X.** 2022. Impact of Adaptive Cruise Control (ACC) Reaction Time on Signalized Intersections. *Transportation Research Board 101st Annual Meeting,* 9-13 January, Washington, D.C. Paper No. 22-03943.

14. *Yang, M., *Gong, Y., **Kan, X.**, Liu, H., Lu, X. 2022. Impact of Adaptive Cruise Control (ACC) on Fuel Consumption at Freeway Merge Bottlenecks. *Transportation Research Board 101st Annual Meeting,* 9-13 January, Washington, D.C. Paper No. 22-02503.

15. *Yang, M., *Lapardhaja, S., *Chon Kan P., **Kan, X.**, Liu, H., Lu, X. 2022. Modeling CAV Car Following on Freeways and Arterials – Case Study of Adaptive Cruise Control (ACC) Equipped Vehicles. *Transportation Research Board 101st Annual Meeting,* 9-13 January, Washington, D.C. Paper No. 22-02452.

16. *Lapardhaja, S., *Gong, Y., *Murshed, M., **Kan, X.** 2021. Impact of Commercially Available Automated Vehicles on Freeway Bottleneck Capacity. *Transportation Research Board 100th Annual Meeting,* 5-29 January, Washington, D.C. Paper No. 21-02087.

17. *Chon Kan, P., *Lapardhaja, S., **Kan, X.** 2021. Field Experiments of Commercially Available Automated Vehicles on Freeways. *Transportation Research Board 100th Annual Meeting,* 5-29 January, Washington, D.C. Paper No. 21-03778.

18. *Murshed, M., *Imran, M., *Munoz, P., **Kan, X.,** Stevanovic, A. 2021. Freight Signal Priority (FSP): Assessment of Environmental and Mobility Impact and Feasibility for Implementation. *Transportation Research Board 100th Annual Meeting,* 5-29 January, Washington, D.C. No. 21-04252.

19. **Kan, X.**, Skabardonis, A., and Liu, H. 2020. Improving Arterial Operations using Cooperative Adaptive Cruise Control (CACC). *Transportation Research Board 99th Annual Meeting,* 12-16 January, Washington, D.C. Paper No. 20-03352.

20. *Yang, M., **Kan, X.**, and Lu, X. 2020. Reducing Fuel Consumption and Emissions at Freeway Merge by Metering its On-ramp. *Transportation Research Board 99th Annual Meeting,* 12-16 January, Washington, D.C. Paper No. 20-01388.

21. **Kan, X.**, Lu, X., and Skabardonis, A. 2019. Impact of Ramp Metering Queue Override on the Capacity of an Isolated Freeway Merge. *Transportation Research Board 98th Annual Meeting,* 13-17 January, Washington, D.C. Paper No. 19-05057.

22. **Kan, X.**, Lin, X., Liu, H., Wang, M., Schakel, W., Lu, X., van Arem, B., Shladover, S. E., and Ferlis, R. A. 2018. Cross-comparison and Calibration of Two Microscopic Traffic Simulation Models for Complex Freeway Corridors with Dedicated Lanes. *Transportation Research Board 97th Annual Meeting,* 7-11 January, Washington, D.C. Paper No. 18-05153.

23. **Kan, X.**, Lu, X., and Skabardonis, A. 2018. Increasing Freeway Capacity by Efficiently Timing its Nearby Arterial Traffic Signals. *Transportation Research Board 97th Annual Meeting,* 7-11 January, Washington, D.C., Paper No. 18-05441.

24. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A. 2018. Impact of Cooperative Adaptive Cruise Control (CACC) on Multilane Freeway Merge Capacity. *Transportation Research Board 97th Annual Meeting,* 7-11 January, Washington, D.C. Paper No. 18-03570.

25. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A. 2018. Quantifying Influences of Cooperative Adaptive Cruise Control (CACC) Vehicle String Operation Strategies on Mixed Traffic Flow. *Transportation Research Board 97th Annual Meeting,* 7-11 January, Washington,

D.C. Paper No. 18-03576.

26. Lu, X., **Kan, X.**, Shladover, S. E., Wei, D., and Ferlis, R. A. 2017. An Enhanced Microscopic Traffic Simulation Model for Application to Connected Automated Vehicles. *Transportation Research Board 96th Annual Meeting,* 8-12 January, Washington, D.C., Paper No. 17-05126.

27. **Kan, X.**, Ramezani, H., and Benekohal, R. F. 2014. Calibration of VISSIM for Freeway Work Zones with Time-Varying Capacity. *Transportation Research Board 93rd Annual Meeting,* 12-16 January, Washington, D.C., Paper No. 14-3615.

Other Publications (Non-refereed)

1. **Kan, D.**, XY. Lu and A. Skabardonis, 2021. Coordination of Freeway Ramp Metering and Arterial Traffic Signals-Phase IIB: Field Implementation. PATH Research Report UCB-ITS-PRR-2021-02.

2. **Kan, X.**, 2017. Increasing Freeway Capacity by Efficiently Timing its Nearby Arterial Traffic Signals. Ph.D. Dissertation, University of California, Berkeley.

3. **Kan, X.,** Liu, H., Shladover, S. E., Lu, X., and Ferlis, R. A., 2017. Using Cooperative Adaptive Cruise Control (CACC) to Form High-Performance Vehicle Streams. Microscopic Traffic Model Calibration and Validation for FHWA Exploratory Advanced Research Program Cooperative Agreement No. DTFH61-13-H-00013.

4. **Kan, D.**, XY. Lu and A. Skabardonis, 2016. Coordination of Freeway Ramp Metering and Arterial Traffic Signals-Phase IIA: Site Selection and Simulation Development. PATH Research Report UCB-ITS-PRR-2016-02.

5. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A., 2017. Using Cooperative Adaptive Cruise Control (CACC) to Form High-Performance Vehicle Streams. Final Report for FHWA Exploratory Advanced Research Program Cooperative Agreement No. DTFH61-13-H-00013.

6. Liu, H., **Kan, X.**, Shladover, S. E., Lu, X., and Ferlis, R. A., 2017. Using Cooperative Adaptive Cruise Control (CACC) to Form High-Performance Vehicle Streams. Simulation Results Analysis for FHWA Exploratory Advanced Research Program Cooperative Agreement No. DTFH61-13-H-00013.

Presentations (* indicates students or postdoc under my supervision)

1. **Kan, D.,** 2024. MicroSIM ACC Electric Edition: Trajectory Data, Modeling, and Simulations. *27th IEEE International Conference on Intelligent Transportation Systems Workshop: Vehicle Trajectory Data Camp: Bridging Traffic and Vehicular Research,* 24 September, Edmonton, Canada.

2. *Abdullah, S., **Kan, X.**, 2024. Mixed Powertrain Traffic and its Impact on Bottleneck Capacity: Case Study for Adaptive Cruise Control (ACC). *Florida Automated Vehicles Summit*, 5

September, Tampa, FL.

3. *Khan, M., **Kan, X.**, 2024. Unveiling the Influence of Automated Vehicles on the Fundamental Diagram: A Study of Commercial Adaptive Cruise Control (ACC). *Florida Automated Vehicles Summit*, 5 September, Tampa, FL.

4. **Kan, D.,** 2024. *Transportation Technology Research Symposium Mobility Session Panel Discussion,* 2 May, Lakeland, Florida.

5. **Kan, D.,** 2023. The Electric Vehicles (EVs) Discussion Beyond Affordability and Charging Infrastructure: What EV means for Traffic Flow and Operations. *26th IEEE International Conference on Intelligent Transportation Systems 5th Workshop on Autonomous, Connected and Electrified Mobility Systems: Towards Human-centered Paradigms,* 24 September, Bilbao, Spain.

6. **Kan, D.,** 2023. New Assumptions for Next Generation Transportation Network - How EVs will Reshape Traffic Operations. *26th IEEE International Conference on Intelligent Transportation Systems 3rd Workshop on Next Generation Transportation Networks: Emerging Technologies, Data Analytics and Perspectives,* 24 September, Bilbao, Spain.

7. *Lapardhaja, S., *Yagantekin, K., *Yang, M., *Majumder, T., **Kan, X.,** *Mohamed Rawoof, M. 2023. Field Experiment on the Capacity Impact of Electric Vehicles (EVs) with Automation – Case Study of Adaptive Cruise Control (ACC). *2023 ASCE International Conference on Transportation and Development Poster Session,* 14-17 June, Austin, TX.

8. **Kan, D.**, 2023. Reimagining Traffic in the Era of Increasingly Automated Electric Vehicles. *Transportation Research Board (TRB) Committee on Traffic Flow Theory and Characteristics ACC Webinar Series*, 24 March, Virtual.

9. **Kan, D.,** 2023. *Federal Highway Administration (FHWA) Panel Discussion for Electric Vehicle (EV) Analysis, Modeling, and Simulation (AMS),* 10, March, Virtual.

10. **Kan, D.,** 2023. Reimagining Traffic in the Era of Electric Vehicles (EVs). *Central Northeast Florida Institute of Transportation Engineers (ITE) Section Monthly Technical Meeting,* 7 March, Orlando, FL.

11. **Kan, D.**, 2023. Field Experiment on the Capacity Impact of Vehicle Automation on Electric Vehicles (EVs) – Case Study of Adaptive Cruise Control (ACC). *Transportation Research Board 102nd Annual Meeting Highway Capacity Manual and Quality of Service Uninterrupted Flow Subcommittee Meeting*, 8 January, Washington, D.C.

12. **Kan, D.**, 2022. Modeling Traffic Flow in the Era of Vehicle Automation and Electrification. *INFORMS Workshop on Modeling and Control of Traffic in a Smart Cities Environment*, 17 October, Indianapolis, IN

13. **Kan, D.**, 2022. Breakout Session – Inconsistency of AV Traffic Flow Impact: Predictions in Literature: Modeling Traffic Flow of AVs, and What if They also EVs? *Automated Road Transportation Symposium*, 18 July, Garden Grove, CA.

14. **Kan, D.**, 2022. Field Experiment of Mixed Traffic - Interaction between Adaptive Cruise

Control (ACC) and Human Drivers. *7th Annual UTC Conference for the Southeast Region*, 24 March, Boca Raton, FL.

15. **Kan, D.**, 2022. Understanding and Modeling Traffic Flow in Era of Increasingly Automated Vehicles. *Transportation Research Board (TRB) Committee on Traffic Flow Theory and Characteristics ACC Webinar Series*, 4 March, Virtual.

16. **Kan, D.** 2022. Understanding and Modeling Traffic Flow in Era of Increasingly Automated Vehicles. *University of Minnesota Transportation Seminar*, 4 February, Minneapolis, MN.

17. **Kan, D.**, 2021. Traffic Operations in the Era of ITS and CAV. *UC Berkeley Guest Lecture*, 28 April, Virtual.

18. *Imran, M., *Munoz, P., *Murshed, M., **Kan, D.**, 2020. Impact of Commercially Available Automated Vehicles on Arterial Operation. *Workshop on Traffic Simulation and CAV Modeling*, 16-18 Nov, Virtual.

19. *Lapardhaja, S., *Gong, Y., *Murshed, M., **Kan, D.**, 2020. Impact of Commercially Available Automated Vehicles on Freeway Capacity and Operations. *Workshop on Traffic Simulation and CAV Modeling*, 16-18 Nov, Virtual.

20. *Imran, M., *Munoz, P., *Murshed, M., **Kan, D.**, 2020. Impact of Commercially Available Automated Vehicles on Arterial Operation. *Automated Vehicles Symposium*, 29 July, Virtual.

21. **Kan, D.**, 2020. Impact of Dedicated Lanes for Commercially Available Automated Vehicles on Freeway Fuel Efficiency. *Automated Vehicles Symposium*, 28 July, Virtual.

22. Woo, S., *Yang, M., Skabardonis, A., **Kan, D.**, 2020. Environmental Impact of Production-ready Connected and Automated Vehicles (CAVs) on Arterials. *Automated Vehicles Symposium*, 28 July, Virtual.

23. *Lapardhaja, S., *Gong, Y., *Murshed, M., **Kan, D.**, 2020. Impact of Commercially Available Automated Vehicles on Freeway Capacity and Operations. *Automated Vehicles Symposium*, 27 July, Virtual.

24. **Kan, D.**, 2020. Traffic Operations in the Era of Connected and Automated Vehicles (CAV). *UC Berkeley Guest Lecture*, 1 May, Virtual.

25. *Murshed, M., **Kan, D.**, 2019. Applications of Vehicle-to-Infrastructure (V2I) Communication in Commercial Vehicles. *Florida Automated Vehicles Summit*, 21 November, Miami, FL.

26. **Kan, D.** 2019. Center for Urban Transportation Research (CUTR) Friday Transportation Seminar Series, University of South Florida, 13 September, Tampa, FL.

27. **Kan, D.**, Skabardonis, A., Lu, X., 2019. Impact of Cooperative Adaptive Cruise Control (CACC) Vehicle Strings on Arterial Corridors. *Automated Vehicles Symposium*, 15 July, Orlando, FL.

28. **Kan, D.** 2019. Breakout Session – New Innovations in Intersection Control with Cooperative Automation: Modeling the Impact of Cooperative Adaptive Cruise Control (CACC) on Arterials

with Signalized Intersections. *Automated Vehicles Symposium*, 15 July, Orlando, FL.

29. **Kan, D.** 2018. Breakout Session #11 New Innovations in Intersection Control with Cooperative Automation: Integrating Freeway and Arterial Traffic Control under a Vehicle-to-Infrastructure Communications Environment. *Automated Vehicles Symposium*, 9 July, San Francisco, CA.

30. **Kan, D.** 2017. Institute of Transportation Studies Seminar Series, University of California, Berkeley, 5 May, Berkeley, CA.

31. **Kan, X.** 2017. Doctoral Student Research in Transportation Operations and Control: Increasing Freeway Capacity by Efficiently Timing its Nearby Arterial Traffic Signals. *Transportation Research Board 97th Annual Meeting*, 8 January, Washington, D.C.

32. **Kan, X.** 2016. Coordination of Freeway Ramp Metering and Arterial Traffic Signal. *2nd University of California Center for Economic Competitiveness in Transportation Student Conference*, 12 February, Riverside, CA.

33. **Kan, X.** 2015. Coordination of Freeway Ramp Metering and Arterial Traffic Signal. *1st University of California Center for Economic Competitiveness in Transportation Student Conference*, 27 February – 1 March, Santa Barbara, CA.

34. **Kan, X.** 2014. Evaluation of Transit Signal Priority Strategies for Low Density Urban Networks. *20th University of California Transportation Center (UCTC) Student Conference*, 17-18 April, Pomona, CA.

Other Research Deliverables

1. MicroSimACC (Internal Combustion Edition Edition): Field tests of Advanced Driver Assistance Systems (ADAS): Adaptive Cruise Control – 22,000 miles of trajectory data collected in South Florida, https://github.com/microSIM-ACC/ICE

2. MicroSimACC (Electric Edition): Field tests of Advanced Driver Assistance Systems (ADAS) on Electric Vehicles (EVs): Adaptive Cruise Control – 3,000 miles of trajectory data collected in Dixon, California and San Jose, California, https://github.com/microSIM-ACC/EV

Teaching Experience

Texas State University

Fall 2025 **Introduction to Transportation Engineering (CE3360)**
Course Instructor
Junior level undergraduate course in geometric design, traffic flow theory, traffic operations, transportation planning, and traffic signal systems.

Florida Atlantic University

Fall 2024	**Sustainable Public Transportation (TTE 6651)** *Course Instructor* Graduate level course in planning, design, operations, and management of public transportation systems.
Fall 2023	**Highway Traffic Characteristics and Measurements (TTE 6505)** *Course Instructor* Graduate level course in traffic flow theory, traffic operations, traffic modeling, traffic data collection, traffic control, and traffic management. *Instructor Evaluation: 1.08 (1 – highest, 5 – lowest)*
Spring 2023	**Transportation Systems Analysis (TTE 6501)** *Course Instructor* Graduate level course in transportation systems, logistics, transportation economics, travel demand modeling, and transportation networks *Instructor Evaluation: 1.11 (1 – highest, 5 – lowest)*
Spring 2022	**Intelligent Transportation Systems (TTE 6272)** *Course Instructor* Graduate level course in intelligent transportation systems, emerging technologies in transportation, and connect and automated vehicles. *Instructor Evaluation: 1.00 (1 – highest, 5 – lowest)*
Summer 2020 Fall 2021	**Transportation Operation and Logistics Management (TTE 4105/CGN 5935)** *Course Instructor* Senior level undergraduate/graduate level course in transportation systems, logistics, transportation economics, travel demand modeling, and transportation networks *Instructor Evaluation: 1.41 (1 – highest, 5 – lowest)*
Fall 2022 Spring 2020 Spring 2021 Spring 2025	**Highway Engineering (TTE 4810/6815)** *Course Instructor* Senior level undergraduate/graduate level course in traffic flow theory, traffic operations, traffic modeling, traffic control, and traffic signal systems. *Instructor Evaluation: 1.10 (1 – highest, 5 – lowest)*
Fall 2019 Fall 2020 Spring 2023 Fall 2023 Spring 2024 Fall 2024	**Introduction to Transportation Engineering (TTE 3004)** *Course Instructor* Junior level undergraduate course in geometric design, traffic flow theory, traffic operations, transportation planning, and traffic signal systems. *Instructor Evaluation: 1.16 (1 – highest, 5 – lowest)*

University of California at Berkeley

Spring 2019 **Public Transportation Systems (CE 259)**
Lecturer
Revised course content; Developed new assignments and projects; Taught lectures; Held office hours; Advised course projects; Graded course projects

Intelligent Transportation Systems (CE 253)
Co-Instructor; Prof. Alexander Skabardonis
Developed new assignments and projects; Taught lab section; Held office hours; Advised course projects; Graded course projects

Spring 2018 **Highway Traffic Operations (CE 255)**
Co-Instructor; Prof. Alexander Skabardonis
Developed new assignments and projects; Taught discussion section; Held office hours; Advised course projects; Graded course projects

Spring 2017 **Intelligent Transportation Systems (CE 253)**
Graduate Student Instructor; Prof. Alexander Skabardonis
Taught lab section; Held office hours; Advised course projects; Graded course assignments and projects

Spring 2016 **Highway Traffic Operations (CE 255)**
Graduate Student Instructor; Prof. Alexander Skabardonis
Taught discussion section; Held office hours; Graded course assignments and written reports

Advising and Student Mentoring

Florida Atlantic University

Graduate Students

1. **Sheik Muhammad Habib Abdullah** – Ph.D., Spring 2026 (expected), *primary advisor*
2. **Mahede Hassan Khan** – M.S., Summer 2023; Ph.D., Spring 2026 (expected), *primary advisor*
3. **Tasnim Anika Majumder** – M.S., Summer 2023; Ph.D., Spring 2026 (expected), *primary advisor*
4. **Kemal Yagantekin** – M.S., Spring 2023, *primary advisor*
5. **Swarna Natrajan** – M.S., Fall 2022, *primary advisor*
6. **Pablo Chon Kan Munoz** – M.S., Summer 2021, *primary advisor*
7. **Md. Ashraful Imran** – M.S., Spring 2021, *primary advisor*
8. **Md. Tausif Murshed** – M.S., Spring 2021, *primary advisor*

9. Attilio Reginato Jr. – M.S., Summer 2024, thesis committee member
10. Anika Azad – M.S. Spring 2024, thesis committee member
11. Jayisha Das Jaya – M.S., Summer 2023, thesis committee member
12. Vasileia Antonogolou – M.S., Summer 2022, thesis committee member
13. Alexis Schauer – M.S., Fall 2021, thesis committee member
14. Aline Machado – M.S., Summer 2021, thesis committee member
15. Katerina Koliou – M.S., Spring 2021, thesis committee member
16. Anika Tabassum – M.S., Spring 2021, thesis committee member
17. Taraneh Ardalan – M.S., Spring 2020, thesis committee member
18. Panagiota Goulianou – M.S., Spring 2020, thesis committee member

Postdoctoral Researchers

1. Dr. Mohamed-Badhrudeen Mohamed-Rawoof – July 2022 to January 2024
2. Dr. Choungryeol Lee – Sept 2021 to July 2022
3. Dr. Yaobang Gong – May 2020 to May 2021

University of California at Berkeley

Master of Engineering (MEng.) Students

2024 – 2025	Samuel Dolan, Shiao Hu, Victor Pouderous, Yihan Shao *Capstone Project:* Emissions modeling for signalized arterials
2023 – 2024	Josemaria Gabriel Fadri, Amine Turki, Yihao Zhang *Capstone Project:* Impact of Electric Vehicles on Traffic Operations
2018 – 2019	Farah Hassan, Xiaoran Wang, Leon Wu, Gaoge Xu, Simon Zhu *Capstone Project:* Mobility, safety, and emissions impact of connected and automated vehicles on urban arterials
2017 – 2018	Hongbei Cheng, Olabode Flaeye, Ran Jiang, Xuya Jiang, Jiangying Liang, Zuwa Oriakhi *Capstone Project:* Micro-simulation of connected and automated vehicles on freeways

Undergraduate Researcher

2019 – 2020	Kevin Taylor

Service Activities

University, College, and Departmental Services

Florida Atlantic University

- Institute of Transportation Engineers (ITE) Florida Atlantic University (FAU) student chapter faculty advisor (2022 – 2025)
- Standing Committee on Undergraduate Program, College of Engineering and Computer Science (2024 – 2025)
- Standing Committee on Undergraduate Program, Department of Civil, Environmental, and Geomatics Engineering (2019 – 2023, 2024 – 2025)
- Standing Committee on Graduate Program, College of Engineering and Computer Science (2023 – 2024)
- Standing Committee on Graduate Program, Department of Civil, Environmental, and Geomatics Engineering (2022 – 2024)
- Faculty Search Committee for Structural Engineering and Transportation Engineering (Fall 2023 – Spring 2024), Department of Civil, Environmental, and Geomatics Engineering
- Faculty Search Committee for Environmental Engineering and Transportation Engineering (Spring 2023), Department of Civil, Environmental, and Geomatics Engineering
- Faculty Search Committee for Structural Engineering and Transportation Engineering (Spring 2022), Department of Civil, Environmental, and Geomatics Engineering
- Faculty Search Committee for Transportation Engineering (Spring 2020), Department of Civil, Environmental, and Geomatics Engineering

University of California at Berkeley

- Transportation Engineering Spring 2019 Preliminary Exam Committee Member, Department of Civil and Environmental Engineering
- Reviewer – Research Reports, Institute of Transportation Studies, Department of Civil and Environmental Engineering

Membership

Institute of Electrical and Electronics Engineers (IEEE)

- ET3 Emerging Transportation Technology Testing Committee, member

Transportation Research Board (TRB):

- ACP30 Vehicle Highway Automation Committee Paper Review Coordinator, 2023-present
- ACP30 Vehicle Highway Automation Committee, friend
- ACP40 Highway Capacity and Quality of Service Committee, friend

Journal Referee

Accident Analysis and Prevention

IEEE Open Journal of Intelligent Transportation Systems, reviewer
IEEE Transactions on Intelligent Transportation Systems, reviewer
IEEE Transactions on Intelligent Vehicles, reviewer
Journal of Advanced Transportation
Journal of Frontier, guest editor
Journal of Transportation Engineering Part A: Systems, reviewer
Transportation Research Part C: Emerging Technologies, reviewer
Transportation Research Record, reviewer
Transportmetrica Part A: Transport Science, reviewer
Transportmetrica Part B: Transport Dynamics, reviewer

Proposal Referee

NSF CIVIC Track B Panel 242423
NSF CIS ERI Panel 250902

Conference Referee

IEEE International Conference on Intelligent Transportation Systems
IEEE Forum for Innovative Sustainable Transportation Systems
Transportation Research Board Annual Meeting

- ABH15 Intelligent Transportation Systems Committee
- ABH30 Vehicle Highway Automation Committee
- ABH25 Traffic Signal Systems Committee
- ACP40 Highway Capacity and Quality of Service
- AMS10 Air Quality and Greenhouse Gas Mitigation Committee

Freight Mobility Research Institute 7th Annual UTC Conference for the Southeast Region