DONALD W. MACKENZIE

Curriculum Vitæ

Civil and Environmental Engineering
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EDUCATIONAL HISTORY

Massachusetts Institute of Technology, Cambridge, MA
Ph.D., Engineering Systems
June 2013
"Fuel Economy Regulations and Efficiency Technology Improvements in U.S. Cars Since 1975"

Massachusetts Institute of Technology, Cambridge, MA
S.M., Technology & Policy
June 2009
"Trends and Drivers of the Performance – Fuel Economy Tradeoff in New Automobiles"

University of British Columbia, Vancouver, BC, Canada
B.A.Sc., Chemical & Biological Engineering (Environmental Option)
May 2001
"Preparation of Cobalt Catalysts on Activated Carbon Supports"

EMPLOYMENT HISTORY

University of Washington
Seattle, WA, USA
Associate Professor, Civil and Environmental Engineering, 2019 – present
Assistant Professor, Civil and Environmental Engineering, 2013 – 2019

McKinsey & Company
Boston, MA, USA
Summer Associate, 2008

Union of Concerned Scientists
Washington, DC, USA
Senior Analyst, 2007
Vehicles Engineer, 2004 – 2007

Syntec Biofuel
Vancouver, BC, Canada
Research Engineer, 2002 – 2004

AWARDS AND HONORS

Faculty Appreciation for Career Education & Training (FACET) Award, 2020, University of Washington

Distinguished Teaching Award Nomination, 2018, University of Washington.

Barry McNutt Award, 2014, Energy and Alternative Fuels Committees of the Transportation Research Board.

Eni-MIT Energy Fellowship, 2013, Massachusetts Institute of Technology

Singapore Global Challenge, 2013, Global Young Scientists Summit@one-north (1st Place)

Student Paper Award, 2012 North American Conference, US Association for Energy Economics / International Association for Energy Economics

William Asbjornsen Albert Memorial Fellowship, 2009, Massachusetts Institute of Technology

William Asbjornsen Albert Memorial Fellowship, 2007, Massachusetts Institute of Technology

AFFILIATIONS AND OTHER APPOINTMENTS

Affiliated Faculty, Interdisciplinary Ph.D. Program in Urban Design and Planning, University of Washington. 2016 – present.

PUBLICATIONS

[1] Current/former graduate students for whom I am/was primary advisor
[2] Current/former undergraduate students
[3] Post-docs for whom I am/was major advisor

Refereed archival journal publications

1. Ge, Y.[1] & MacKenzie, D. Charging Behavior Modeling of Battery Electric Vehicle Drivers on Long-distance Trips. *Transportation Research Part D: Transport and Environment* (accepted).
2. Aemmer, Z.[1] & MacKenzie, D. Generative Population Synthesis for Joint Household and Individual Characteristics. *Computers, Environment and Urban Systems 96*(101852), 1-13, (2022). https://doi.org/10.1016/j.compenvurbsys.2022.101852
3. Tu, Y.[1], Jabbari, P.[1], Khan, N., & MacKenzie, D. Effects of Trip-level Characteristics on Autonomous Vehicle Ownership: A U.S. Analysis. *Transportation Research Part D: Transport and Environment 108*(103321), 1-16, (2022). https://doi.org/10.1016/j.trd.2022.103321
4. Zou, T.[1], Guo, H., Khaloei, M. [1], MacKenzie, D., & Boyle, L.N. Examining the Relationships between Multimodal Environments and Multitasking Driving Behaviors. *Transportation Research Record: Journal of the Transportation Research Board.* https://doi.org/10.1177/03611981221110223
5. Zou, T.[1], Aemmer, Z.[1], MacKenzie, D., & Laberteaux, K. A Framework for Estimating Commute Accessibility and Adoption of Ridehailing Services under Functional

Improvements from Vehicle Automation. *Journal of Transport Geography 102*(103357), 1-19, (2022). https://doi.org/10.1016/j.jtrangeo.2022.103357

6. Jabbari, P. [1], MacKenzie, D., & Auld, J. How Do Perceptions of Safety and Car Ownership Importance Affect Autonomous Vehicle Adoption? *Travel Behavior and Society 28*, 128-140. https://doi.org/10.1016/j.tbs.2022.02.002

7. Khedri, B.[1], Malarkey, D., & MacKenzie, D. Emerging Practices in Multimodal Design and Performance Measurement: A Review of Recent Literature and Practical Documents. *Transportation Research Record: Journal of the Transportation Research Board* (2022). https://doi.org/10.1177/03611981221082545

8. Aemmer, Z. [1], Ranjbari, A., & MacKenzie, D. Measurement and Classification of Transit Delays Using GTFS-RT Data. *Public Transport*. https://doi.org/10.1007/s12469-022-00291-7

9. Hassanpour, A., Bigazzi, A., & MacKenzie, D. Equity of Access to Uber's Wheelchair Accessible Service. *Computers, Environment and Urban Systems 89.* (2021) https://doi.org/10.1016/j.compenvurbsys.2021.101688

10. Wu, X.[1] & MacKenzie, D. Assessing the VMT Effect of Ridesourcing Services in the US. *Transportation Research Part D: Transport and Environment 94*. (2021). https://doi.org/10.1016/j.trd.2021.102816

11. Khaloei, M.[1], Ranjbari, A., Laberteaux, K., & MacKenzie, D. Analyzing the Effect of Autonomous Ridehailing on Transit Ridership: A Competitor or A Desirable First/Last Mile Connection? *Transportation Research Record: Journal of the Transportation Research Board 2675*(11),1154-1167. (2021) https://doi.org/10.1177/03611981211025278

12. Lewis, E.O.[1], MacKenzie, D., & Kaminsky, J. Exploring equity: How equity norms have been applied implicitly and explicitly in transportation research and practice. *Transportation Research Interdisciplinary Perspectives 9*, 100332. (2021) https://doi.org/10.1016/j.trip.2021.100332

13. Wen, X.[1], Ranjbari, A., Qi, F.[1], Clewlow, R., & MacKenzie, D. Challenges in Credibly Estimating the Travel Demand Effects of Mobility Services. *Transport Policy 103*, 224-235. (2021)

14. Wu, X.[1] & MacKenzie, D. The evolution, usage and trip patterns of taxis & ridesourcing services: evidence from 2001, 2009 & 2017 US National Household Travel Survey. *Transportation 49*(1), 293-311. (2021) https://doi.org/10.1007/s11116-021-10177-5

15. Jabbari, P.[1] & MacKenzie, D. Ride Sharing Attitudes Before and During the COVID-19 Pandemic in the United States. *Transport Findings*. November. (2020) https://doi.org/10.32866/001c.17991

16. Wang, X.[1], MacKenzie, D., Zhou, Y., & Ding, F. Predicted Network Equilibrium Model of Electric Vehicles with Stationary and Dynamic Charging Infrastructure on the Road Network. *IEEE Intelligent Transportation Systems Magazine 14*(2). (2022) http://dx.doi.org/10.1109/MITS.2020.3014145

17. Zou, T.[1], Khaloei, M.[1], & MacKenzie, D. Effects of Charging Infrastructure Characteristics on Electric Vehicle Preferences of New and Used Car Buyers in the United States. *Transportation Research Record: Journal of the Transportation Research Board 2674*(12), 165-175. (2020)

18. Ranjbari, A.[3], Dalla Chiara, G., Machado, J., MacKenzie, D., & Goodchild, A. Testing Curbside Management Strategies to Mitigate the Impacts of Ride-Hailing Services on

Traffic. *Transportation Research Record: Journal of the Transportation Research Board 2675*(2), 219-232. (2020)

19. Ge, Y.[1], Knittel, C., MacKenzie, D., & Zoepf, S. Racial Discrimination in Transportation Network Companies. *Journal of Public Economics 190,* 104205, pp. 1-10. (2020)

20. MacKenzie, D. & Cho, H.[2] Travel Demand and Emissions from Driving Dogs to Dog Parks. *Transportation Research Record: Journal of the Transportation Research Board 2674* (6), pp. 291-296. (2020)

21. Hassanpour, A., Bigazzi, A., & MacKenzie, D. What Can Publicly-Available API Data Tell Us about Supply and Demand for New Mobility Services? *Transportation Research Record: Journal of the Transportation Research Board 2674* (1), pp. 178-187. (2020)

22. Peters, L.[1] & MacKenzie, D. The Death and Rebirth of Bikesharing in Seattle: Implications for Policy and System Design. *Transportation Research Part A: Policy and Practice 130*, pp. 208-226. (2019).

23. Ge, Y.[1], Ranjbari, A.[3], Lewis, E.O.[1], Barber, E.[1], & MacKenzie, D. Defining Psychometric Variables Related to Use of Autonomous Vehicles. *Transportation Research Record: Journal of the Transportation Research Board 2673*(12), 655–669. (2019)

24. Gao, J.[1], Ranjbari, A.[3], & MacKenzie, D. Would Being Driven by Others Affect the Value of Travel Time? Ride-hailing as an Analogy for Automated Vehicles. *Transportation 46* (6), pp. 2103-2116. (2019)

25. Pan, L., Yao, E., MacKenzie, D., & Zhang, R. Environmental Assessment of EV Penetration Considering Traffic Status. *Journal of Transportation Engineering, Part A: Systems 145* (11): 04019048. (2019)

26. Pan, L., Yao, E., & MacKenzie, D. Modeling EV charging choice considering risk attitudes and attribute non-attendance. *Transportation Research Part C: Emerging Technologies 102*, pp. 60-72. (2019)

27. Lewis, E.O. [1], MacKenzie, D., & Clewlow, R. Private Shuttles and Public Transportation: Effects of Shared Transit Stops on Travel Time and Reliability in Seattle. *Transportation Research Record: Journal of the Transportation Research Board 2672*, 8, pp. 210-219. (2018)

28. Ge, Y.[1], MacKenzie, D., & Keith, D. Gas anxiety and the charging choices of plug-in hybrid electric vehicle drivers. *Transportation Research Part D: Transport and Environment 64*, pp. 111-121. (2018)

29. Namazu, M., MacKenzie, D., Zerriffi, H., & Dowlatabadi, H. Is carsharing for everyone? Understanding the diffusion of carsharing services. *Transport Policy 63*, pp. 189-199. (2018)

30. Lewis, E.O.[1], & MacKenzie, D. UberHOP in Seattle: who, why, and how? *Transportation Research Record: Journal of the Transportation Research Board*, No. 2650, pp. 101-111. (2017)

31. Jabbari, P.[1], Chernicoff, W., & MacKenzie, D. Analysis of electric vehicle purchaser satisfaction and rejection reasons. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2628, pp. 110-119. (2017)

32. Ge, Y.[1], Jabbari, P.[1], MacKenzie, D., & Tao, J. Effects of a public real-time multi-modal transportation information display on travel behavior and attitudes. *Journal of Public Transportation 20*(2), pp. 40-65. (2017)

33. Hughes, R.[1] & MacKenzie, D. Transportation network company wait times in Greater Seattle, and relationship to socioeconomic indicators. *Journal of Transport Geography 56*, pp. 36-44. (2016)

34. Yu, H.[1] & MacKenzie, D. Modeling charging choices of small-battery plug-in hybrid electric vehicle drivers using instrumented vehicle data. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2572, pp. 47-55. (2016)

35. Wen, Y.[1], MacKenzie, D., & Keith, D. Modeling charging choices of battery electric vehicle owners using stated preference data. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2572, pp. 56-65. (2016)

36. Wadud, Z., MacKenzie, D., & Leiby, P. Help or hindrance? The travel, energy and carbon impacts of highly automated vehicles. *Transportation Research Part A: Policy and Practice 86*, pp. 1-18. (2016)

37. MacKenzie, D., Lester, D., Manson, R., & Yeh, C. Do suicides from the Golden Gate Bridge cluster*? Psychological Reports 118*(1) pp. 70–73. (2016)

38. MacKenzie, D. & Heywood, J. Quantifying efficiency technology improvements in U.S. cars from 1975-2009. *Applied Energy 157*, pp. 918-928. (2015)

39. MacKenzie, D., Zoepf, S., & Heywood, J. Determinants of U.S. passenger car weight. *International Journal of Vehicle Design 65*(1), pp. 73-93. (2014)

40. Zoepf, S., MacKenzie, D., Keith, D., & Chernicoff, W. Charging choices and fuel displacement in a large-scale demonstration of plug-in hybrid electric vehicles. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2385, pp. 1-10. (2013)

41. MacKenzie, D. Applying the Anderson-Darling test to suicide clusters: Evidence of contagion at U.S. universities? *Crisis: The Journal of Crisis Intervention and Suicide Prevention 34*(6), pp. 434 – 437. (2013)

42. MacKenzie, D., & Heywood, J. Acceleration performance trends and the evolving relationship among power, weight, and acceleration in U.S. light-duty vehicles: A linear regression analysis. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2287, pp. 122-131. (2012)

Conference proceedings and other non-journal articles (fully refereed)

1. Tu, Y.[1], Khaloei, M.[1], Arefin, N., & MacKenzie, D. Effect of trip attributes on ridehailing driver trip request acceptance. *TRB Paper No. 23-01092*. Transportation Research Board 102nd Annual Meeting. January, 2023.

2. Coenen, S.[1], Malarkey, D., & MacKenzie, D. Estimating Electrical Energy and Capacity Demand for Regional Electric Flight Operations at Two Mid-Size Airports in Washington. *TRB Paper No. 23-02419*. Transportation Research Board 102nd Annual Meeting. January, 2023.

3. Jabbari, P.[1], Khan, N., & MacKenzie, D. Evidence for Modal Inertia in Multimodal Tours – An Integrated Choice and Latent Variable Modeling Approach. *TRB Paper No. 23-04195*. Transportation Research Board 102nd Annual Meeting. January, 2023.

4. Aemmer, Z.[1], Ranjbari, A., & MacKenzie, D. Synthetic Controls Evaluation of Transit Performance at Camera Enforced Intersections. *TRB Paper No. 23-04046*. Transportation Research Board 102nd Annual Meeting. January, 2023.

5. Zou, T.[1] & MacKenzie, D. Bike Lanes and Ability to Summon an Autonomous Scooter Can Increase Willingness to Use Micromobility. *TRB Paper No. 23-04793*. Transportation Research Board 102nd Annual Meeting. January, 2023.

6. Zou, T.[1], Steinberg, W. [2], & MacKenzie, D. What Are the Determinants and Impacts of Shared Micromobility? A Review of Recent Literature. *TRB Paper No. 22-03270*. Transportation Research Board 101st Annual Meeting. January, 2022.

7. Zou, T.[1], Guo, H., Khaloei, M. [1], MacKenzie, D., & Boyle, L.N. Investigating How Multimodal Environments Affect Multitasking Driving Behaviors. *TRB Paper No. 22-04660*. Transportation Research Board 101st Annual Meeting. January, 2022.

8. Khaloei, M.[1], Tu, Y.[1], Zou, T.[1], & MacKenzie, D. How Will Eliminating Drivers from Autonomous Ridehailing Services Affect Pooled Ridehailing? *TRB Paper No. 22-04947*. Transportation Research Board 101st Annual Meeting. January, 2022.

9. Tu, Y.[1], Jabbari, P.[1], MacKenzie, D., & Auld, J. Prospective Effects of Trip-level Characteristics on Autonomous Vehicle Ownership Choices in the US. *TRB Paper No. 22-03607*. Transportation Research Board 101st Annual Meeting. January, 2022.

10. Jabbari, P.[1], Ranjbari, A., Leiby, P., & MacKenzie, D. Insights from Carsharing and Ridehailing Mode Choices for Inferring Value of Travel Time in Automated Vehicles. *TRB Paper No. 22-00876*. Transportation Research Board 101st Annual Meeting. January, 2022.

11. Aemmer, Z.[1] & MacKenzie, D. Generative Population Synthesis for Joint Household and Individual Characteristics. *TRB Paper No. 22-01151*. Transportation Research Board 101st Annual Meeting. January, 2022.

12. Aemmer, Z.[1], Malarkey, D., & MacKenzie, D. Emissions Reductions from Electrifying High-Mileage Vehicles. *TRB Paper No. 22-02767*. Transportation Research Board 101st Annual Meeting. January, 2022.

13. Arabkhedri, B.[1], Malarkey, D., & MacKenzie, D. Emerging Practices in Multimodal Design and Performance Measurement: A Review of Recent Literature and Practical Documents. *TRB Paper No. 22-02733*. Transportation Research Board 101st Annual Meeting. January, 2022.

14. Aemmer, Z.[1], Ranjbari, A., & MacKenzie, D. Measurement and Classification of Transit Delays Using GTFS-RT Data: Converting GPS Coordinates to Performance Metrics. *TRB Paper No. 21-02885*. Transportation Research Board 100th Annual Meeting. January, 2021.

15. Jabbari, P.[1] & MacKenzie, D. How Do Safety Perceptions and Car Dependency Affect Autonomous Vehicle Adoption? *TRB Paper No. 21-03639*. Transportation Research Board 100th Annual Meeting. January, 2021.

16. Khaloei, M.[1], Ranjbari, A., Laberteaux, K., & MacKenzie, D. Analyzing the Effect of Autonomous Ridehailing on Transit Ridership: A Competitor or A Desirable First/Last Mile Connection? *TRB Paper No. 21-04383*. Transportation Research Board 100th Annual Meeting. January, 2021.

17. Pathak, C.[1], Arabkhedri, B.[1], & MacKenzie, D. Crowd-sourcing Micro-mobility Parking Violation Reporting – User Interface Design Motivation and Analytical Opportunities from Data Collected. *TRB Paper No. 21-01420*. Transportation Research Board 100th Annual Meeting. January, 2021.

18. MacKenzie, D. & Cho, H.[2] Driving Fido: Travel Demand and Emissions from Dog Park Trips in Seattle, USA. *TRB Paper No. 20-05537*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

19. Pathak, C.[1] & MacKenzie, D. An Agent-Based Modeling Framework to Forecast Electric Vehicle Infrastructure Utilization and Planning. *TRB Paper No. 20-05737*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

20. Hassanpour, A., Bigazzi, A., & MacKenzie, D. What Can Publicly-Available API Data Tell Us about Supply and Demand for New Mobility Services? *TRB Paper No. 20-05519*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

21. Ranjbari, A.[3], Dalla Chiara, G., Machado, J., MacKenzie, D., & Goodchild, A. Testing Curbside Management Strategies to Mitigate the Impacts of Ride-Hailing Services on Traffic. *TRB Paper No. 20-05344*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

22. Jabbari. P.[1], Ranjbari, A.[3], & MacKenzie, D. How will Automated Vehicles Change Your Travel Patterns? Analyzing Mode Choices in a Home-to-Home Tour-based Model. *TRB Paper No. 20-05991*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

23. Ge, Y.[1] & MacKenzie, D. Charging Behavior Modeling of Battery Electric Vehicles on Long-distance Trips. *TRB Paper No. 20-02989*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

24. Ge, Y.[1] & MacKenzie, D. Modeling Battery Electric Vehicle Owners' Decisions on Vehicle Choice for Long-distance Trips. *TRB Paper No. 20-02720*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

25. Wu, X.[1] & MacKenzie, D. The Evolution, Usage and Trip Patterns of Taxis & Ridesourcing Services. *TRB Paper No. 20-02732*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

26. Wu, X.[1] & MacKenzie, D. Assessing the VMT Effect of Ridesourcing Services in the US -- Evidence from 2017 National Household Travel Survey. *TRB Paper No. 20-02750*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

27. Zou, T.[1], Khaloei, M.[1], & MacKenzie, D. Effects of Charging Infrastructure Characteristics on Electric Vehicle Preferences of U.S. Private Car Owners: A Comparative Analysis between New and Used Car Buyers. *TRB Paper No. 20-05154*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

28. Khaloei, M.[1], Ranjbari, A.[3], & MacKenzie, D. Analyzing the Shift in Travel Modes' Market Shares with the Deployment of Autonomous Vehicle Technology. *TRB Paper No. 20-02918*, Transportation Research Board 99th Annual Meeting. Washington, DC. January, 2020.

29. Ge, Y. [1] & MacKenzie, D. Calculated choices or quick decisions? Modeling the effect of public charging opportunities on plug-in electric vehicle use and charging choices. *TRB Paper No. 19-03239*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

30. Barber, E.[1], Chernicoff, W., & MacKenzie, D. Fleet Right-sizing: The Corporate Average Fuel Economy Effect of a Transition to a Shared Autonomous Fleet. *TRB Paper No. 19-03931*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

31. Gao, J.[1], Ranjbari, A.[3], & MacKenzie, D. Would being driven by others affect the value of travel time: taking ride-hailing service as an example. *TRB Paper No. 19-02360*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

32. Jabbari, P.[1], Barber, E.[1], Laberteaux, K., & MacKenzie, D. Where will your magic carpet take you? Analyzing accessibility effects of automated vehicles and mobility services. *TRB Paper No. 19-05259*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

33. Jabbari, P.[1], Khaloei, M.[1], & MacKenzie, D. Estimating potential demand for long-distance electric vehicle travel in Washington State. *TRB Paper No. 19-05264*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

34. Ge, Y.[1], Ranjbari, A.[3], Lewis, E.O.[1], Barber, E.[1], & MacKenzie, D. Identifying psychometric factors influencing the adoption and use of autonomous vehicles. *TRB Paper No. 19-03095*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

35. Wen, X.[1], Ranjbari, A.[3], Ge, Y.[1], Namazu, M., & MacKenzie, D. A randomized encouragement experiment to measure the causal effect of shared mobility services on travel behavior and car ownership. *TRB Paper No. 19-05968*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

36. Lewis, E.O.[1] & MacKenzie, D. The Nirvana Terms of Transportation: what do they really mean, how do they relate to one another, and what is their practical utility in transportation planning? *TRB Paper No. 19-01758*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

37. Wang, X.[1] & MacKenzie, D. Network equilibrium model of electric vehicles with stationary and dynamic charging infrastructure on the road network. *TRB Paper No. 19-04198*, Transportation Research Board 98th Annual Meeting. Washington, DC. January, 2019.

38. Ge, Y. [1], & MacKenzie, D. Modeling Vehicle Choices and Charging Behavior of Plug-In Electric Vehicle Owners Jointly Using Dynamic Discrete Choice Model. *TRB Paper No. 18-05951*, Transportation Research Board 97th Annual Meeting. Washington, DC. January, 2018.

39. Lewis, E.O. [1], MacKenzie, D., & Clewlow, R. Private Shuttles and Public Transportation: Effects of Shared Transit Stops on Travel Time and Reliability in Seattle. *TRB Paper No. 18-05768*, Transportation Research Board 97th Annual Meeting. Washington, DC. January, 2018.

40. Namazu, M., MacKenzie, D., Zerriffi, H., & Dowlatabadi, H. Understanding Early Adopters of Carsharing and Expansion to the Whole Population. *TRB Paper No. 17-04885*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

41. Lewis, E.O.[1], & MacKenzie, D. UberHOP in Seattle: what is it, who rides, and what is it replacing? *TRB Paper No. 17-03920*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

42. Wang, X.[1], MacKenzie, D., & Cui, Z. Complement or Competitor? Comparing car2go and Transit Travel Times, Prices, and Usage Patterns in Seattle. *TRB Paper No. 17-06234*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

43. Wilhelm, E., MacKenzie, D., Zhou, Y., Cheah, L., & Tippenhauer, N.O. Evaluation of transport mode using wearable sensor data from 43,000 students. *TRB Paper No. 17-02421*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

44. Jabbari, P.[1], Chernicoff, W., & MacKenzie, D. Analysis of electric vehicle purchaser satisfaction and rejection reasons. *TRB Paper No. 17-04996*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

45. Jabbari, P.[1], & MacKenzie, D. EV Everywhere or EV Anytime? Co-locating multiple DC fast chargers improves both operator cost and access reliability. *TRB Paper No. 17-05991*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

46. Ge, Y.[1] & MacKenzie, D. Dynamic discrete choice modeling of the charging choices of plug-in hybrid electric vehicle drivers. *TRB Paper No. 17-06510*, Transportation Research Board 96th Annual Meeting. Washington, DC. January, 2017.

47. Wen, Y.[1], MacKenzie, D., & Keith, D. Modeling charging choices of battery electric vehicle owners using stated preference data. *TRB Paper No. 16-5618*, Transportation Research Board 95th Annual Meeting. Washington, DC. January, 2016.

48. Ge, Y.[1], MacKenzie, D., & Keith, D. Role of gas anxiety in charging choices of plug-in hybrid electric vehicle drivers. *TRB Paper No. 16-6283*, Transportation Research Board 95th Annual Meeting. Washington, DC. January, 2016.

49. Yu, H.[1] & MacKenzie, D. Modeling charging choices of small-battery plug-in hybrid electric vehicle drivers using instrumented vehicle data. *TRB Paper No. 16-3807*, Transportation Research Board 95th Annual Meeting. Washington, DC. January, 2016.

50. Hughes, R.[1] & MacKenzie, D. Transportation network company wait times in Greater Seattle, and relationship to socioeconomic indicators. *TRB Paper No. 16-6875*, Transportation Research Board 95th Annual Meeting. Washington, DC. January, 2016.

51. MacKenzie, D., Wadud, Z., & Leiby, P. A First-order estimate of energy impacts of automated vehicles in the United States. *TRB Paper No. 14-2193*, Transportation Research Board 93rd Annual Meeting. Washington, DC. January, 2014.

52. Zoepf, S., MacKenzie, D., Keith, D., & Chernicoff, W. Charging choices and fuel displacement in a large-scale plug-in hybrid electric vehicle demonstration. *TRB Paper No. 13-0533*, Transportation Research Board 92nd Annual Meeting. Washington, DC. January, 2013.

53. MacKenzie, D. Do automotive fuel economy standards increase rates of technology change? *USAEE/IAEE North American Conference*. Austin, TX. November, 2012.

54. MacKenzie, D., & Heywood, J. Acceleration performance trends and the evolving relationship among power, weight, and acceleration in U.S. light-duty vehicles: A linear regression analysis. *TRB Paper No. 12-1475*, Transportation Research Board 91st Annual Meeting. Washington, DC. January, 2012.

Conference proceedings and other non-journal articles (refereed by abstract only)

1. Donohoo, P., MacKenzie, D., McAulay, J., Pertuze, J., & Stark, A. The Seeds of a Sustainable Biofuel Future: Building on the 2007 Energy Bill. *Science & Technology in Society: An International, Interdisciplinary Graduate Student Conference.* Washington, DC. April, 2008.

Abstracts, letters, non-refereed papers, technical reports

Reports

1. Holmes, B.J., Parker, R.A., Stanley, D., McHugh, P., Burns, J., Olcott, J., German, B., and MacKenzie, D. *NASA Strategic Framework for On-Demand Air Mobility, Part 2:*

Alignments Between ODM and UAS Airspace Management Needs and Contributions from Current R&D Activities and Plans. Prepared for National Aeronautics and Space Administration. August, 2017.

2. MacKenzie, D., Ge, Y. [1], Jabbari, P. [1], and Tao, J. [1] *Evaluation of Effects of Real Time-Multi-Modal Transportation Information Displays*. Prepared for Seattle Department of Transportation. University of Washington. February, 2016.

3. Heywood, J. & MacKenzie, D. (Eds.). (2015). *On the Road toward 2050: Potential for Substantial Reductions in Light-Duty Vehicle Energy Use and Greenhouse Gas Emissions.* Cambridge, MA: Massachusetts Institute of Technology. November, 2015. ISBN: 978-0-9962185-0-4.

4. Heywood, J., Baptista, P., Berry, I., Bhatt, K., Cheah, L., de Sisternes, F., Karplus, V., Keith, D., Khusid, M., MacKenzie, D., & McAulay, J. *An Action Plan for Cars: The Policies Needed to Reduce US Petroleum Consumption and Greenhouse Gas Emissions.* MIT Energy Initiative Report, Massachusetts Institute of Technology. December, 2009.

5. MacKenzie, D. *Automaker Rankings 2007: The Environmental Performance of Car Companies.* Union of Concerned Scientists, 2007.

6. MacKenzie, D., Bedsworth, L., & Friedman, D. *Fuel Economy Fraud: Closing the Loopholes that Increase U.S. Oil Dependence*. Union of Concerned Scientists, 2005.

7. Greene, Nathanael, Celik, F.E., Dale, B., Jackson, M., Jayawardhana, K., Jin, H., Larson, E.D., Laser, M., Lynd, L., MacKenzie, D., Mark, J., McBride, J., McLaughlin, S., Saccardi, D. *Growing Energy: How Biofuels Can Help End America's Oil Dependence.* Natural Resources Defense Council, 2004.

8. Friedman, D., MacKenzie, D., & Goldberg, M. *Creating Jobs, Saving Energy and Protecting the Environment: An Analysis of the Potential Benefits of Investing in Efficient Cars and Trucks*. Union of Concerned Scientists, 2004.

9. Friedman, D. & MacKenzie, D. *Automaker Rankings 2004: The Environmental Performance of Car Companies*. Union of Concerned Scientists, 2004.

Papers

1. Cheah, L., Pereira, F., Wilhelm, E., MacKenzie, D., McAulay, J., & Zoepf, S. *Towards an Adaptive Urban Transportation System.* A white paper for the Global Young Scientists Summit@one-north Singapore Challenge 2013.

2. Donohoo, P., MacKenzie, D., McAulay, J., Pertuze, J., & Stark, A. *Growing Towards a Sustainable Biofuel Future: A Comprehensive Policy Strategy for Navigating Tradeoffs and Stakeholder Interests in U.S. Agriculture*. ESD Working Paper ESD-WP-2008-12. Massachusetts Institute of Technology, March, 2008.

Other (Websites, software, etc.)

Websites and Apps

1. Sustainable Transportation Lab website and blog. https://sites.uw.edu/stlab
2. TransitVis: a toolbox for collecting and visualizing transit speed and reliability data from General Transit Feed Specification – Realtime feeds. https://www.transitvis.com/
3. ChargEVal: an agent-based tool for evaluating potential new investments in electric vehicle fast-charging stations

   a. Infrastructure designer. https://stlab.shinyapps.io/evides2/
   b. Results viewer: https://stlab.shinyapps.io/resview/

4. MisplacedWheels: a location-sensitive mobile web app for reporting illegally parked bikeshare and scootershare vehicles. misplacedwheels.com
5. MisparkedRepo: a respository and visualization tool for data collected via the MisplacedWheels web app. https://misparkrepo.com/
6. New mobility market screening tool: https://stlab.shinyapps.io/new_mobility_market/

Software

1. TransitVis: https://github.com/zackAemmer/transit_vis
2. MisplacedWheels: https://github.com/s-t-lab/MisplacedWheels
3. MisparkRepo: https://github.com/s-t-lab/MisparkedRepo
4. ChargEVal: https://github.com/chintanp/chargeval

Data Sets

1. MacKenzie, Don; Jabbari, Parastoo; Ranjbari, Andisheh, 2021, "“COVID-19 Disruption on Travel Patterns data”", https://doi.org/10.7910/DVN/FN8RZK, Harvard Dataverse, V2, UNF:6:fgUAVTCUVHefvfcxb+zxHQ== [fileUNF]
2. MacKenzie, Don, 2020, "2019 EV infrastructure and purchase choice survey", https://doi.org/10.7910/DVN/MOT6PN, Harvard Dataverse, V1, UNF:6:iF5Wsmi0GYlXEJg25J3/Ew== [fileUNF]
3. Peters, L.[1] & MacKenzie, D. *Seattle bikeshare survey*. Mendeley Data V1 (2019), 10.17632/9zfrh6r4p9.1

MISCELLANEOUS

Outside Professional Work for Compensation (1460s)

Name of Organization	Start Date	End Date	Number of Days	Description of Activity
Maritz	6/1/2022	5/31/2022	8	Transportation Electrification Board member
MDRC	03/15/2021	12/31/2022	TBD	King County Metro Cashless Fare Evaluation

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

1. University of California, Davis. *Planning EV Infrastructure: Theory and Practice*. April 22, 2022. (hybrid, ~25 live attendees)
2. Georgia Institute of Technology. *Interactions between transit and ridehailing*. November 30, 2021. (~15 attendees)

3. University of Tennessee Knoxville. *Disentangling the impacts of ridehailing services*. November 29, 2021. (hybrid, ~20 live attendees)
4. Norwegian University of Science & Technology. *ChargEVal: An agent-based tool for evaluating EV charging network changes*. (Online). May 27, 2021. (~20 attendees)
5. Chalmers University of Technology. *What can today's mobility services today tell us about travel demand with tomorrow's autonomous vehicles?* (Online). May 18, 2021. (~25 attendees)
6. Washington State Department of Transportation. *ChargEVal: An agent-based tool for evaluating charging network changes.* (Online). November 18, 2020. (107 attendees)
7. German Aerospace Center (DLR). *Electric vehicle charging choice and infrastructure evaluation.* (Online). November 6, 2020. (~30 attendees)
8. C2SMART Webinar Series. *Development of a mobile web app for micromobility parking management.* (Online). October 15, 2020.
9. NBER Energy Use in Transportation Conference. *Discussant: "Effects of Internalizing Air Emissions Externalities on Optimal Ride-Hailing Fleet Technology Composition and Operations."* (Online). June 12, 2020.
10. Modeling the Energy and Environmental Impacts of New Mobility. *Discussant: "Travel Demand."* MIT Center for Energy and Environmental Policy Research. Cambridge, MA. October 11, 2019.
11. Stanford Energy Global Council. *Energy Implications of Automation & Mobility Services*. Stanford University. Palo Alto, CA. August 22, 2019.
12. NBER Economics of Energy Use in Transportation Conference. *Discussant: "Effect of on-demand ridesourcing on vehicle ownership, travel, energy, and environmental outcomes in the United States."* Washington, DC. May 3, 2019.
13. Center for Climate and Energy Decision Making. *How might automated vehicles affect energy use and emissions?* Carnegie Mellon University. Pittsburgh, PA. April 15, 2019.
14. Institute for Pure and Applied Mathematics. *How might automated vehicles affect energy use and emissions?* University of California, Los Angeles. Los Angeles, CA. February 28, 2019.
15. Environmental & Ecological Engineering. *Environment, Economy, and Equity: Evidence on the Sustainability of Emerging Transportation Technologies*. Purdue University. West Lafayette, IN. June 29, 2018.
16. Clean Energy Research Centre. *When Technology Isn't Enough: Understanding behavior to make transportation more sustainable.* University of British Columbia. Vancouver, Canada. November 2, 2017.
17. Institute of Transportation Studies Berkeley. *Environment, Economy, and Equity: New Mobility Services and Sustainability*. University of California, Berkeley. Berkeley, CA. September 22, 2017.
18. Autonomous Driving: Technology Potential and Implications for Society and Economy. *Help or hindrance? The travel, energy and carbon impacts of highly automated vehicles*. ETH Zürich, Switzerland. January 31, 2017. (via video conference)
19. Tsukuba Global Science Week. *Economic, Environmental, and Equity Dimensions of Transportation Sustainability*. Tsukuba, Japan. September 19, 2016.
20. Electric Power Research Institute, National Electric Transportation Infrastructure Working Council. *EV Everywhere or EV Anytime? Co-locating multiple DC fast chargers improves both operator cost and access reliability.* Seattle, WA. June 8, 2015.
21. Electricity Policy Research Group (Cambridge) and Center for Energy & Environmental Policy Research (MIT) European Energy Policy Conference. *Quantifying Efficiency Technology Improvements in U.S. Cars Since 1975*. Helsinki, Finland. June, 2013.

Presentations given at conferences (presenter names in bold)

1. Ge, Y. & **MacKenzie, D.** "Static and Dynamic Approaches to Modeling Electric Vehicle Use and Charging Behavior." *2019 INFORMS Annual Meeting*. Seattle, WA. October, 2019.
2. Barber, E., Chernicoff, W., & **MacKenzie, D**. "Fleet Right-sizing: The Corporate Average Fuel Economy Effect of a Transition to a Shared Autonomous Fleet." *Transportation Research Board 98th Annual Meeting*. Washington, DC. January, 2019.
3. **MacKenzie, D.** "Harvesting API data to make mobility more efficient and equitable." *IEEE World Congress on Computational Intelligence*. Rio de Janeiro, Brazil. July, 2018.
4. **MacKenzie, D.** (moderator). "Energy and Environmental Impacts of Connected and Automated Vehicles" *Transportation Research Board 97th Annual Meeting*. Washington, DC. January, 2018.
5. **MacKenzie, D.** (moderator). "Hands-on Tools for Assessing Travel Demand, Energy, and Environmental Impacts of Emerging Mobility Technologies" *Transportation Research Board 97th Annual Meeting*. Washington, DC. January, 2018.
6. **MacKenzie, D.** "Role of Connected and Automated Vehicles in Cities." *Transportation Research Board 96th Annual Meeting*. Washington, DC. January, 2017.
7. **MacKenzie, D.** "Effects of Vehicle Automation on Energy and Carbon Intensity." *Transportation Research Board 96th Annual Meeting*. Washington, DC. January, 2017.
8. **MacKenzie, D.** Discussant: "Vehicle Automation and the Future of Cities." *Policies for the Three Transportation Revolutions of Shared, Automated, and Electrified Vehicles*. Davis, CA. November 15, 2016.
9. **MacKenzie, D.** "Scaling of platooning energy benefits with compatible vehicle adoption." *Automated Vehicles Symposium*, San Francisco, CA, July, 2016.
10. Yu, H. & **MacKenzie, D.** "Modeling Charging Choices of Small-Battery Plug-in Hybrid Electric Vehicle Drivers Using Instrumented Vehicle Data", *Transportation Research Board 95th Annual Meeting*, Washington, DC, January 2016.
11. Wen, Y., **MacKenzie, D.**, & Keith, D. "Modeling charging choices of BEV owners using stated preference data", *Electric Vehicle Symposium 28*, KINTEX, Korea, May 2015.
12. Yu, H. & **MacKenzie, D.** "Charging choices of small-battery PHEV drivers using instrumented vehicle data", *Electric Vehicle Symposium 28*, KINTEX, Korea, May 2015.
13. **MacKenzie, D.** (moderator). "Advanced Vehicle Technologies and Energy Use: Uncertainty and Individual Differences." *Transportation Research Board 94th Annual Meeting*. Washington, DC. January 13, 2015.
14. **MacKenzie, D.** (moderator). "Travel Demand and Land Use Impacts of Vehicle Automation." *Global Symposium on Connected Vehicles and Infrastructure*. Ann Arbor, MI. April 24, 2014.
15. **MacKenzie, D.**, Wadud, Z., & Leiby, P. "Energy and Environmental Implications of Automated Vehicles: Challenges and Opportunities." *Transportation Research Board 93rd Annual Meeting*. Washington, DC. January, 2014.
16. Zoepf, S., **MacKenzie, D.**, Keith, D., & Chernicoff, W. "Charging Choices and Fuel Displacement in a Large-Scale Plug-in Hybrid Electric Vehicle Demonstration." *Transportation Research Board 92nd Annual Meeting*. Washington, DC. January, 2013.
17. **MacKenzie, D. "**Do Automotive Fuel Economy Standards Increase Rates of Technology Change?" *US Association for Energy Economics / International Association for Energy Economics North American Conference.* Austin, TX. November, 2012.
18. **MacKenzie, D.** & Heywood, J. "Acceleration Performance Trends and the Evolving Relationship Among Power, Weight, and Acceleration in U.S. Light-Duty Vehicles: A Linear Regression Analysis." *Transportation Research Board 91st Annual Meeting.* Washington, DC. January, 2012.

19. **MacKenzie, D. "**Suicide Contagion and Seasonal Effects at Two U.S. Universities: Insights from a Poisson Model." *Canadian Association for Suicide Prevention 2011 National Conference.* Vancouver, BC. October, 2011.
20. **MacKenzie, D.** "Drivers of the Performance – Fuel Consumption Tradeoff in Vehicle Design." *Technology Management Policy Graduate Consortium.* Vancouver, BC. June, 2009.
21. Donohoo, P., **MacKenzie, D.**, **McAulay, J.**, Pertuze, J., & Stark, A. "The Seeds of a Sustainable Biofuel Future: Building on the 2007 Energy Bill." *Science & Technology in Society: An International, Interdisciplinary Graduate Student Conference.* Washington, DC. April, 2008.

Professional society memberships

- Transportation Research Board, 2010 – present
- American Economic Association, 2012 – present
- U.S. Association for Energy Economics, 2012 – 2015
- SAE International / Society of Automotive Engineers, 2004 – 2007

Referee / Reviewer

Publication	**Reviews Completed**	**Years Active**
Findings	4 articles	2021-2022
Transportation Research Part A	4 articles	2014-2022
International Journal of Sustainable Transportation	5 articles	2016-2022
Transportation Research Board / Transportation Research Record	72 articles	2012-2022
Research in Transportation Economics	2 articles	2018-2021
Energy Policy	3 articles	2019-2021
IEEE International Intelligent Transportation Systems Conference	1 article	2021
Transportation Research Part D	26 articles	2014-2022
Transportation Research Part C	12 articles	2015-2020
Journal of Transportation Engineering, Part A: Systems	4 articles	2017-2020
Transportation	6 articles	2016-2019
Journal of the Assoc. of Environmental and Resource Economists	1 article	2019
IEEE Transactions on Smart Grid	3 articles	2016-2019
Journal of Planning Education and Research	1 article	2018
Journal of Intelligent Transportation Systems	1 article	2018
Journal of Transport Geography	2 articles	2017-2018
Resource and Energy Economics	1 article	2018
Nature Sustainability	1 article	2018
Environmental Science & Technology	1 article	2018

IEEE Transactions on Intelligent Transportation Systems	2 articles	2018
Joule	1 article	2018
Journal of Cleaner Production	1 article	2018
TRB-AUVSI Automated Vehicles Symposium	110 abstracts	2014-2018
Edward Elgar Publishing	1 book chapter	2017
The Professional Geographer	1 article	2016
Accident Analysis & Prevention	2 articles	2014-2016
System Dynamics Review	1 article	2016
Indiana University School of Public & Environmental Affairs	1 report	2016
TRB Conference on Innovations in Travel Modeling 2016	1 research brief	2015
Transportation Letters	1 article	2015
Council on Foreign Relations	1 article	2015
MIT Press	1 book	2015
TRB Second Annual Workshop on Road Vehicle Automation	~20 abstracts	2013

GRADUATE STUDENTS

Chaired Doctoral Degrees

Student	**My Role**	**Finish Date**	**Dissertation Title**	**First Employer**
Parastoo Jabbari	Chair	Winter 2022	*Users' behavior toward Automated Vehicles and Mobility Services using Revealed and Stated Preference Data*	Joby Aviation
Chintan Pathak	Chair	Spring 2021	*Electric Vehicle Infrastructure Decision Support System*	BattGenie
Xiasen Wang	Chair	Winter 2021	*Optimal Deployment of Public Charing Infrastructures in Transportation and Power Network*	Facebook
Yanbo Ge	Chair	Winter 2019	*Discrete choice modeling of plug-in electric vehicle use and charging behavior using stated preference data*	National Renewable Energy Laboratory

Current Doctoral Students

Student	**My Role**	**Status**	***Title* or Topic**
Mohammad Oshanreh	Chair	Pre-qualifying exam	Under development

Zack Aemmer	Chair	Pre-qualifying exam	Under development
Tianqi Zou	Co-Chair (Qing Shen)	Passed general exam 2022 (Urban Planning)	Micromobility demand and access
Moein Khaloei	Chair	Passed qualifying exam 2020	Electric vehicle infrastructure and adoption
Elyse O'Callaghan Lewis	Co-chair (Jessica Kaminsky)	Passed general exam 2022	Social equity in transit and new mobility services

Chaired Masters Degrees

Student	**My Role**	**Finish Date**	**Thesis / Project** ***Title***	**First Employer**
Hans Lu	Chair	Summer 2021	Project *A Study on the Effects of Agency Spending Behavior on Unlinked Passenger Trips*	IBI Group
Zack Aemmer	Chair	Spring 2021	Thesis *Generative Population Synthesis for Joint Household and Individual Characteristics*	Continued to PhD
Borna Arabkhedri	Chair	Spring 2021	Thesis *Emerging practices and data sources for multimodal transportation planning, design, and performance monitoring*	Transpo Group
Jingyun Hu	Chair	Autumn 2020	Project *Investigating the accuracy of Google Popular Times histogram based on BART transit data*	Pinduoduo
Farshid Khorasanian	Chair	Spring 2020	Project *Is E-bikeshare a Green Transportation System?* *E-bikeshare Net CO2 Emission in Seattle.*	Mott MacDonald
Ollie Yang	Chair	Spring 2020	Project *An Empirical Study of the Impact of Light Rail and TNCs on Bus Ridership in Seattle between 2015 and 2017*	Amazon
Lu Yu	Chair	Spring 2020	Project *The Relationship Between Transit Stations and Neighborhood Crime:*	Returned to Tongji (dual MS)

			The Case of San Francisco, California	
Qi Chen	Chair	Spring 2020	Project *Analyzing the rate of severe injury in bike-involved mid-block collision in Seattle using collision data from 2012 through 2019*	Ada County Highway District
Audrey Tay	Chair	Spring 2020	Project *Analyzing the Effects of Flashing Yellow Arrows on Safety in the City of Bellevue*	HNTB
Xiatian Wu	Chair	Summer 2019	Project *The evolution, usage and trip chain patterns of taxi & ridesourcing services: Evidence from 2001, 2009 & 2017 US NHTS Survey*	Continued to PhD (UC Davis)
Catherine Oseguera	Chair	Fall 2018	Project *Safety analysis of Seattle's 2nd Avenue two-way cycle track: A before-after comparison*	Concord Engineering
Luke Peters	Chair	Fall 2018	Project *Pronto post mortem: A case study on Seattle's docked and dockless bike share systems*	Luke Peters Music
Sijie Chen	Chair	Summer 2018	Project *Shared mobility system implementation in POLARIS framework*	Amazon
Jingya Gao	Chair	Summer 2018	Project *Would driven by others affect the value of travel time: Take ride-hailing service as an example*	Returned to Tongji (dual MS)
Fan Qi	Chair	Spring 2018	Project *Comparing different question designs to evaluate impacts of new mobility services*	WHPacific
Xiao Wen	Chair	Spring 2018	Project *The effects new shared mobility services have on travel behavior and car ownership*	Continued to PhD (UMass Lowell)
Eric Barber	Chair	Spring 2018	Thesis *Exploring the impact of shared mobility: An in-depth look at how bike share services and shared automated vehicles will impact our transportation systems*	Cal Poly

Parastoo Jabbari	Chair	Winter 2018	Thesis *The role of market scale in electric vehicle adoption: consumer and infrastructure perspectives*	Continued to PhD
Elyse O'Callaghan Lewis	Chair	Fall 2017	Thesis *Seattle's Expanded Mobility Portfolio: an evaluation of two commute-focused pilot programs*	Continued to PhD
Mingqi Yao	Chair	Spring 2017	Project *Analysis of Car2Go Vehicle Idle Durations in City of Seattle: Applying Demand Oscillation Factors and Time-varying Demographic-based Covariates into Proportional Hazard Models*	Continued to PhD (UC Irvine)
Riley Kimball	Chair	Summer 2016	Project *Car2Go in the City: Utilizing Hazard Models and Exogenous Variables to Anticipate User Behavior*	Amazon
Thomas Steckel	Chair	Summer 2016	Project *An Examination of the Frictional Impact between General Purpose Lanes and Adjacent HOT/Express Toll Lanes Facilities*	Gray & Osborne
Jackson Lester	Chair	Spring 2016	Thesis *Demographic and Geographic Heterogeneity between Subgroups of Cyclists*	Central Oregon Intergovernmental Council
Jeffrey Conor	Chair	Spring 2016	Project *The Relationship Between Time of Day and Day of Week on Transfer Rates: Lessons From the ORCA Smart Card System*	Seattle DOT
Jordan Toy	Chair	Summer 2015	Project *Delivery by drone: An evaluation of UAV technology in reducing CO2 emissions in the delivery service industry*	San Francisco Municipal Transportation Agency
Ryan Hughes	Chair	Summer 2015	Project *Transportation Network Company Wait Times: Spatial and Temporal Distribution Analysis and Relationships with Socioeconomic Indicators*	Clark Dietz
Haixiao Yu	Chair	Spring 2015	Project	Concord Engineering

			Modeling charging choices of small-battery plug-in hybrid electric vehicle drivers using instrumented vehicle data	
Yuan Wen	Chair	Spring 2015	Project *Modeling charging choices of Battery Electric Vehicle owners using stated preference data*	Concord Engineering

Current Masters Students

Student	**My Role**	**Status**	**Thesis / Project *Title* or Topic**
Rubina Singh	Chair	began 2022	Thesis Topic under development
Steffen Coenen	Chair	began 2021	Thesis Topic under development
Preston Sahabu	Chair	began 2019	Project Topic under development
Yingying Huang	Chair	began 2017	Project Topic under development

Other significant student supervision

Ph.D. Committees

- Lamis Ashour (Urban Design & Planning)
- Gabriela Giron
- Kathy Jung (Economics, 2022)
- Jose Machado-Leon (2022)
- Boyang Sa (Urban Design & Planning, 2022)
- Huizhong Guo (2021)
- Rebeca de Buen Kalman (Evans School, 2021)
- Haena Kim (2021)
- Wenbo Zhu (2019)
- Xingwei Wu (2018)
- Kristian Henrickson (2018)
- Erika Miller (2018)

Graduate School Representative

- Yanbo Qi (ChemE, 2019)
- Mushfiqur Sarker (EE, 2016)

Visiting Students

- Miguel Monsalve, Universidad Nacional de Colombia (visiting Ph.D. student at UW, 2019)
- Long Pan, Beijing Jiaotong University (visiting Ph.D. student at UW, 2017-18)
- Michiko Namazu, University of British Columbia (visiting Ph.D. student at UW, 2015-16)

Undergraduates

- Amelia Bryant, undergraduate researcher, 2022 – present

- Will Steinberg, undergraduate researcher, 2018 – 2022
- Haley Cho, undergraduate researcher, 2016 – 2018

RESEARCH ACTIVITIES

Total research funding: $ 5.54 M
Total of my portions: $ 3.20 M

Funded Research

Funding Agency	***Title***	**Your role with other PI's and co-PI's**	**Total Amount, Your Amount, (Subcontracts if any, University Matching if any)**	**Dates (start - finish)**
PacTrans	*Using Computer Vision Data to Evaluate Bicycle and Pedestrian Improvements*	PI Co-PI: Lowry, U Idaho	Total $180k My amount $147k	12/2021-12/2022
WSDOT	*Assessment of Potential Investments Needed to Deliver Electricity for Electric Aviation at Paine Field and Grant County International Airport*	PI	Total $50k My amount $50k	4/2022 – 10/2022
WSDOT	*Analysis and Tools to Set Priorities for EV Charging Stations Locations on WSDOT Corridors*	PI	Total $250K My amount $250k	9/2021-6/2023
C2SMART	*Evaluating Remote Repositioning for Shared Scooters*	PI	Total $85k My amount $85k	3/2021-12/2022
WSDOT	*Assessing and Improving the Application of Multimodal Performance Measures in WSDOT Projects*	PI	Total $120k My amount $120k	12/2020-12/2021
US Department of Energy	*Micromobility Screening for City Opportunities Online Tool (SCOOT)*	PI	Total $300k My amount $300k	10/2020-12/2022

Uber	*Equitable Congestion Pricing*	PI	Total $50k My amount $50k	TBD
US Department of Energy	*SMART Mobility Laboratory Consortium 2.0*	Co-PI Lead: Argonne National Lab	My amount $240k	9/2020 – 10/2022
Mobility Innovation Center	*Develop Strategies to Understand and Reduce Interactions between Passenger/Delivery Vehicles and Transit Operations along Transit Corridors*	PI Co-PI: A. Ranjbari	Total $180k My amount $120k	1/2020-6/2021
FHWA	*Investigating How Multimodal Environments Affect Multitasking Driving Behaviors*	PI Co-PI: L. Boyle	Total $408k My amount $204k	4/2020 – 9/2022
PacTrans	*Analyzing the Long-term Impacts of COVID-19 Disruption on Travel Patterns*	PI Co-PI: A. Ranjbari	Total $10k My amount $10k	5/2020 – 12/2020
WSDOT	*Tech Transfer: Simulation environment to optimize public investments in electric vehicle charging infrastructure*	PI	Total $10k My amount $10k	12/2020 – 6/2021
PacTrans	*Success Stories: Simulation Environment to Optimize Public Investments in Electric Vehicle Charging Infrastructure*	PI	Total $10k My amount $10k	TBD
C2SMART	*Crowdsourcing parking data for micromobility vehicles*	PI	Total $83k my amount $83k	3/2019 – 8/2020
Oak Ridge National Laboratory	*Estimating VoTT: Insights on Time Value for Choices Between Driving (Car-sharing) and Riding (Ride-Hailing)*	PI	Total $60k My amount $60k	11/2019 – 3/2020

Toyota North America	*Unlocking real estate through automated driving (Part 4)*	PI	Total $98k my amount $98k	3/2019 – 2/2020
WSDOT	*Simulation Environment to Optimize Public Investments in Electric Vehicle Charging Infrastructure*	PI	Total $100k my amount $100k	4/2018 – 6/2019
Toyota North America	*Unlocking real estate through automated driving (Part 3)*	PI	Total $107k my amount $107k	3/2018 – 2/2019
PacTrans	*How does charging network design affect electric vehicle adoption?*	PI	Total $40k my amount $40k	3/2018 – 3/2019
Toyota Mobility Foundation	*Centralized and informal transit in Latin American cities*	PI	Total $25k my amount $25k	9/2017 – 9/2019
Toyota North America	*Unlocking real estate through automated driving (Part 2)*	PI	Total $91k my amount $91k	3/2017 – 2/2018
NASA	*NASA/NIA Strategic Framework for Thin Haul, On-Demand Air Mobility (ODM) - Airspace Capabilities Assessment*	Co-PI PI: B. Holmes, Airmarkets Corporation	Total IDIQ my amount $6k	4/2017 – 6/2017
US-China Clean Energy Research Center	*Smart Mobility Data Collection and Analysis (Connected & Automated Vehicles Thrust Area)*	Co-PI PI: A. Rousseau, Argonne Other co-PIs: P. Van Hentenryck, Michigan C. Samaras, CMU	Total $2.5M my amount $444k	4/2017 – 9/2021
C2SMART	*Designing and Managing Infrastructure for Shared Connected Electric Vehicles*	PI	Total $115k my amount $115k	4/2017 – 8/2018
PacTrans	*Locating fast charging stations for safe and reliable intercity electric vehicle travel in Washington*	PI	Total $20k my amount $20k	1/2017 – 9/2017
Toyota North America	*Unlocking real estate through automated driving (Part 1)*	PI	Total $50k my amount $50k	10/2016 – 2/2017

Toyota North America	*Unrestricted Gift*	PI	Total $25k my amount $25k	4/2016
SDOT	*Research & Evaluation of Effects of Real Time-Multi-Modal Information Displays*	PI	Total $38k my amount $38k	2/2015 – 12/2015
UW RRF	*Social equity implications of peer economy transportation services*	PI	Total $33k my amount $33k	3/2015 – 1/2016
NSF	*Dynamic discrete choice modeling of plug-in electric vehicle use and charging using stated preference data*	PI	Total $264k my amount $264k	9/2014 – 8/2017

Unsponsored research
Causal effect of shared-use transportation services on travel behavior. 2015 – 2020.

Charging behavior of plug-in electric vehicle drivers. 2013 – 2016.

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations
Students rated the courses on a scale of 0-5 [0 = very poor, 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent]. Key items on the survey were:
Item 1, "The course as a whole was";
Item 3, "The instructor's contribution to the course was";
Item 4, "The instructor's effectiveness in teaching the subject matter was".

Reported scores are adjusted medians, which have been corrected by *IASystem* to control for differences in class size, expected grade, and reason for enrollment, based on regression analyses of ratings over the previous two academic years in all classes at the University of Washington.

Course	**Title**	**Qtr**	**Crdt Hrs**	**Size**	**Evals? Response**	**Item 1**	**Item 3**	**Item 4**	**Overall**
CEE 441	Transportation Capstone	SP 2022	5	26	Yes 3/26	2.8	2.5	2.5	2.6
CET 583	Transportation Energy & Sustainability	SP 2022	3	15	Yes 10/15	4.0	4.7	4.7	4.4

CET 589	Transit Systems Planning	AU 2021	3	12	Yes 11/12	3.9	4.0	4.0	4.0
CEE 441[1]	Transportation Capstone	SP 2020	5	35	Yes 32/35	3.8	3.6	3.6	3.7
CET 583[1]	Transportation Energy & Sustainability	SP 2020	3	12	Yes 12/12	4.3	4.5	4.9	4.8
CET 589	Transit Systems Planning	AU 2019	3	20	Yes 10/20	3.7	4.2	4.1	3.9
CEE 441[2]	Transp. & Construction Capstone	SP 2019	5	68	Yes 20/68	3.8	3.3	3.3	3.6
CET 583	Transportation Energy & Sustainability	SP 2019	3	16	Yes 12/16	3.2	3.2	3.5	3.4
CET 584	Analytical Methods in Transportation	WN 2019	3	16	Yes 11/16	4.3	4.5	4.0	4.3
CEE 441[2]	Transp. & Construction Capstone	SP 2018	5	63	Yes 46/63	3.8	3.6	3.5	3.7
CET 583	Transportation Energy & Sustainability	SP 2018	3	18	Yes 15/18	3.9	4.2	4.3	4.1
CET 584	Analytical Methods in Transportation	WN 2018	3	28	Yes 25/28	3.2	3.3	2.5	3.1
CEE 441[3]	Transp. & Construction Capstone	SP 2017	5	59	Yes 7/59	3.3	2.3	3.0	3.1
CEE 583	Transportation Energy & Sustainability	SP 2017	3	11	Yes 11/11	4.6	4.6	4.7	4.6
CEE 584	Analytical Methods in Transportation	WN 2017	3	36	Yes 32/36	3.9	3.8	3.7	3.9
CEE 441[2]	Transp. & Construction Capstone	SP 2016	5	55	Yes 29/55	3.9	3.6	3.6	3.7
CEE 583	Transportation Energy & Sustainability	SP 2016	3	5	Yes 4/5	4.9	5.0	5.1[4]	5.0
CEE 584	Analytical Methods in Transportation	WN 2016	3	25	Yes 22/25	3.8	3.8	2.9	3.6
CEE 599	Transportation Energy & Sustainability	SP 2015	3	10	Yes 9/10	4.1	4.8	4.7	4.5

CEE 584	Analytical Methods in Transportation	WN 2015	3	23	Yes 21/23	4.0	4.4	3.9	4.0
CEE 599	Transportation Energy & Sustainability	SP 2014	3	13	Yes 12/13	4.1	4.2	3.9	4.0

[1] Course was taught fully online
[2] Co-taught with Professor Steve Muench
[3] Co-taught with Professor Amy Kim
[4] Because of the *IASystem* regression procedure, adjusted scores may fall outside the 0-5 range.

Online courses for which evaluations are not conducted

Course	Title	Qtr	Crdt Hrs	Size
CET 566	Statistics Lab	SP 2022	1	15
CET 565	Statistics Lab	WN 2022	1	15
CEE 564	Statistics Lab	FA 2021	1	16
CEE 561	Research Methods Module	FA 2021	1	12
CET 566	Statistics Lab	SP 2021	1	16
CET 565	Statistics Lab	WN 2021	1	18
CEE 564	Statistics Lab	FA 2020	1	15
CEE 561	Research Methods Module	FA 2020	1	21
CET 566	Statistics Lab	SP 2020	1	10
CET 565	Statistics Lab	WN 2020	1	11
CEE 564	Statistics Lab	FA 2019	1	10
CEE 561	Research Methods Module	FA 2019	1	21
CET 566	Statistics Lab	SP 2019	1	12
CET 565	Statistics Lab	WN 2019	1	13
CEE 564	Statistics Lab	FA 2018	1	13
CEE 561	Research Methods Module	FA 2018	1	11

CET 566	Statistics Lab	SP 2018	1	14
CET 565	Statistics Lab	WN 2018	1	11
CEE 564	Statistics Lab	FA 2017	1	10
CEE 561	Research Methods Module	FA 2017	1	14

Peer Teaching Evaluations

Course	Quarter	Reviewer
CEE 441	Spring 2022	Steve Muench
CET 583	Spring 2020	Jeff Ban
CET 583	Spring 2019	Joe Mahoney
CEE 584	Winter 2018	Linda Boyle
CEE 584	Winter 2017	Faisal Hossain
CEE 583	Spring 2016	Yinhai Wang
CEE 584	Winter 2015	Linda Boyle
CEE 599	Spring 2014	Anne Goodchild

List of other teaching contributions

New Courses Developed
CEE 583: Transportation Energy & Sustainability

Instructional Seminars (STEM Development)
1. Washington State Academic RedShirts (STARS). Seminar: *Interdisciplinarity in Engineering*. Seattle, WA. February 6, 2020. (28 students)
2. Washington State Academic RedShirts (STARS). Seminar: *Interdisciplinarity in Engineering*. Seattle, WA. May 16, 2019. (33 students)
3. Washington Aerospace Scholars. Seminar: *Transportation Engineering Today.* Seattle, WA. June 20, 2018.
4. Washington State Academic RedShirts (STARS). Seminar: *Interdisciplinarity in Engineering*. Seattle, WA. February 8, 2018. (40 students)
5. Summer Math Academy, University of Washington. Statistics module: *Technology, behavior, sustainability, and statistics.* July 20, 2017. (30 students)
6. Washington State Academic RedShirts (STARS). Seminar: *Interdisciplinarity in Engineering*. Seattle, WA. April 6, 2017.
7. Summer Math Academy, University of Washington. Statistics module: *Technology, behavior, sustainability, and statistics.* July 27, 2016.
8. Washington State Academic RedShirts (STARS). Seminar: *Interdisciplinarity in Engineering*. Seattle, WA. April 7, 2016.
9. South Carolina Governor's School for Science and Mathematics. Webinar: *Transportation Engineering Today.* October 22, 2015.
10. Washington State Academic RedShirts (STARS). Seminar: *Transportation Engineering*. Seattle, WA. January 26, 2015.

SERVICE

Departmental Service
Member, Search Committee, MSCTL Director & Teaching Professor, 2022
Member, Justice, Equity, Diversity, & Inclusion Committee, 2021 – present.
Member, Diversity, Equity, Inclusion, & Climate Committee, 2018 – 2020.
Member, Admissions Committee, Master of Sustainable Transportation program, 2017 – present.
Member, Curriculum Committee, Master of Sustainable Transportation program, 2017 – present.
Member, Departmental Affairs Committee, 2017 – 2018.
Member, Search Committee, Transportation Associate Professor, 2014-15
Member, Faculty Affairs Committee, 2014 – 2017.
Chair, Faculty Affairs Committee, 2015-2016.

Professional society and other service
Transportation Research Part D: Transport and Environment
- Editorial board member (9/2020 – present)

Transportation Research Board
- Standing Committee on Transportation Energy (AMS 30, formerly ADC70). Member (4/2014 – present).
- Subcommittee on Energy and Demand Implications of Connected and Automated Vehicles (ADC70-3). Chair (2016-2020).
- Organizing Committee, Automated Vehicles Symposium (2014-2020).
- Organizing Committee, 2014 Global Symposium on Connected Vehicles & Infrastructure (2013-14).
- Organizing Committee, Second Annual Workshop on Road Vehicle Automation (2013).
- Workshop Organizer (Plug-in Electric Vehicles), 92nd Annual Meeting (2012 – 2013).

MIT Energy Conference
- Assistant Director (2009 – 2010)
- Press Relations Lead (2008 – 2009)
- Content Team Lead (2007 – 2008)

Community Service
Policymaker Engagement
1. Washington State Senate Environment, Energy, and Technology Committee. *Testimony on HB 1287*. March 18, 2021.
2. Pacific Coast Collaborative. *EVI-DSS: Electric Vehicle Infrastructure Decision Support System for Fast Charging Investments in Washington State*. (Webinar) June 4, 2020. (21 attendees)
3. Washington State Department of Transportation. *Shared Mobility Principles for Livable Cities.* (Webinar) December 16, 2019.
4. Legislative Energy Horizon Institute. *Electric Vehicles, the Grid, and Human Behavior.* Richland, WA. July 7, 2019.
5. Legislative Energy Horizon Institute. *Transportation Technologies, Individual Behavior, and Energy Use.* Richland, WA. July 8, 2018.
6. Washington State Academy of Sciences, Deep Decarbonization Planning Meeting. *Ground Transportation, Low Carbon Fuels*. Seattle, WA. April 3, 2018.

7. Washington State Department of Commerce. *Energy Use & Efficiency in Transportation*. Olympia, WA. April 19, 2018.
8. Washington State Department of Commerce. *Transportation, Energy, & Behavior*. Olympia, WA. February 5, 2018.
9. National Association of Clean Air Agencies. *Will self-driving cars help or hurt efforts to cut emissions?* Seattle, WA. September 27, 2017.
10. Legislative Energy Horizon Institute. *Electric Vehicles, the Grid and Human Behavior.* Richland, WA. July 9, 2017.
11. White House roundtable: Harnessing connected and automated vehicle technology to achieve positive environmental outcomes. Washington, DC. November 28, 2016.
12. Energy Horizons Seminar Series, U.S. Department of Energy & U.S. Environmental Protection Agency. Webinar: *Will self-driving cars help or hurt efforts to cut greenhouse gas emissions?* March 21, 2016.
22. Zero Emission Market Acceleration Partnerships: Olympia Regional Roundtable. Presentation: *Modeling charging choices of plug-in electric vehicle drivers.* Tumwater, WA. November 18, 2015.
23. Washington State EV Working Group. Presentation: *Modeling charging choices of plug-in electric vehicle drivers*. Seattle, WA. October 19, 2015.
24. UC Davis Policy Institute for Energy, Environment, and the Economy. ZEV Actionable Science Webinar Series. *Modeling charging choices of plug-in electric vehicle drivers.* May 28, 2015. https://youtu.be/MfU5Smv2Mps

Public Engagement

1. *Electric Vehicles: Current Trends and Market Challenges*. Woodinville Rotary Club (Webinar). August 18, 2020. (15 attendees)
2. *Applying public data to make mobility more efficient and equitable.* Meeting of the Minds Webinar: How Cities Can Use Real-Time Information from Mobility Operators to Optimize City Streets. January 23, 2019. (451 attendees)
3. OpEd. *With SUVs in demand, what does the future hold for electric vehicles?* Detroit Free Press. January 11, 2019. (with David R. Keith and Stephen Zoepf) https://www.freep.com/story/opinion/contributors/2019/01/11/electric-cars-evs/2535200002/
4. Faculty Forum Online. *Autonomous Vehicles*. MIT Alumni Association webinar. July 24, 2018. (275 attendees)
5. Academic Minute. *Driverless Cars*. WAMC Northeast Public Radio. June 13, 2016. http://academicminute.org/2016/06/don-mackenzie-university-of-washington-driverless-cars/
6. *EV charging research at the University of Washington*. Presentation to Seattle Electric Vehicle Association, February 9, 2016. Seattle, WA.
7. Google Hangouts On Air: *EV charging research at the University of Washington*. Online webinar-style presentation targeting EV owners. December 15, 2015. https://youtu.be/dTrKuRMCoXE
8. Faculty Forum Online, Alumni Edition: *Is Diesel Dead?* MIT Alumni Association webinar. November 12, 2015. https://youtu.be/kif1STNXbKs
9. *The Future of Mobility: Is Personal Car Ownership a Thing of the Past?* EnergyCollective webinar. November 4, 2015. www.theenergycollective.com

Industry Engagement

1. DKS Associates. Briefing: *ChargEVal:Underlying models of travel demand, EV use, and charging choices*. November 18, 2020. (Online).
2. King County Bar Association. *Continuing Legal Education: Artificial Intelligence.* Panelist: "Designing the ethical and legal autonomous vehicle." October 23, 2019. Seattle, WA.
3. KPMG. *2018 KPMG Global Energy Conference*. June 7, 2018. Houston, TX.

4. Washington State Transit Association. *41st Public Transportation Conference, Expo, & Roadeo* [sic]. August 7, 2017. Everett, WA.
5. Washington State Transit Association. *Transit, New Mobility Services, and Social Equity.* 4th Quarter Board Meeting. November 29, 2016. Bellingham, WA.
6. Toyota Motor North America. Briefing: *Modeling Charging Choices of Small-Battery Plug-in Hybrid Electric Vehicle Drivers Using Instrumented Vehicle Data.* September 30, 2015. Seattle, WA.

Non-profit Engagement

1. Union of Concerned Scientists. *Will self-driving cars help or hurt efforts to cut greenhouse gas emissions?* November 28, 2016. Washington, DC.

International, national or governmental service

- Commenter, Request for Information: Development of Guidance for Electric Vehicle Charging Infrastructure Deployment, Federal Highway Administration, Docket FHWA-2021-0022-0001 (2022).
- External reviewer for National Center for Sustainable Transportation: 6 proposals (2018-2022)
- Application Review Panelist, Clean Energy Fund (CEF4), Washington State Department of Commerce & Washington State Academy of Sciences (2021).
- Application Review Panelist, Electrification of Transportation Systems program, Washington State Department of Commerce (2020)
- Working Member, Infrastructure and Systems Subcommittee, Autonomous Vehicles Work Group, Washington Transportation Commission (2018 – 2020)
- Review panelist for internal review of University of British Columbia's proposals to the Canada Foundation for Innovation. (2019)
- Member, System Planning Task Force, Washington State Public Transportation Plan (2017)
- External reviewer for Pacific Southwest Region University Transportation Center: 2 proposals (2017-18)
- Research Council of Norway: 1 proposal (2018)
- External reviewer for Urban Mobility & Equity Center: 4 proposals (2017)
- Review panelist for National Science Foundation
    - Partnerships for Innovation: Building Innovation Capacity in Smart Service Systems (2017)
    - Environmental Sustainability (2016)
- Ad hoc reviewer for National Science Foundation
    - Environmental Sustainability, 3 proposals (2015-2017)
    - Science, Technology, & Society, 1 proposals (2015)
    - Computational and Data-Enabled Science and Engineering, 1 proposals (2014)
- External reviewer for U.S. Department of Energy's *Quadrennial Technology Review 2015*
- External reviewer for University of California Center on Economic Competitiveness in Transportation: 4 proposals (2015)
- External reviewer for European Research Council: Environment, Space, and Population (2014)
- Testimony before U.S. House Committee on Government Reform, Subcommittee on Energy and Resources. July 20, 2006.