NAME Robert C. Hampshire

hamp@umich.edu

RESEARCH AREAS I study how transportation impacts access to opportunities using the tools of data science, operations and systems research. This includes the management, operations and public policy of smart cities, on-demand transportation, connected and automated vehicle systems, pedestrian and bike safety models, smart parking systems, and shared mobility systems.

EMPLOYMENT/ APPOINTMENT HISTORY September, 2018 -

Associate Professor (with tenure) Executive Committee member

Gerald R. Ford School of Public Policy

Department of Industrial and Operations Engineering

University of Michigan

- Leadership/management:
 - o Executive Committee member
 - o Co-lead Diversity, Equity, and Inclusion
 - o Science, Technology, and Public Policy committee member
 - o Task Force on Resilient Teaching

September, 2018 -

Research Associate Professor Transportation Research Institute (UMTRI) Michigan Institute for Data Science (MIDAS) University of Michigan

September, 2014 – August, 2018 Research Assistant Professor Transportation Research Institute University of Michigan

January, 2007-2014 Assistant Professor of Operations Research and Public Policy H. John Heinz III College Carnegie Mellon University

June, 2012 – June, 2013 Dr. Martin Luther King, Jr., Visiting Assistant Professor Engineering Systems Division Massachusetts Institute of Technology **EDUCATION**

2001-2007

Princeton University

Ph.D. Operations Research and Financial Engineering.

Dissertation Title: Dynamic Queuing Models for the Operations

Management of Communication Services Thesis advisor: Prof. William A. Massey

1996-2001

University of Cincinnati,

Bachelor of Science in Electrical Engineering, Minor Degree-Mathematics

AWARDS/ HONORS

2019 EURO Award for the Best European Journal of Operational Research (EJOR) Paper – Innovative Applications of Operations Research

2018 Summer Fellow, Institute for Advanced Studies (IAS), Princeton University

oniversity

2017 - National Association of Mathematicians (NAM) Blackwell Lecture

2012 - National Science Foundation, CAREER Award

2012 - National Academies of Engineering, Frontiers in Engineering

2011 - Intelligent Transportation Society of America (ITS) Spotlight Award:

ParkPGH

2011 - National Academies of Engineering, Frontiers in Engineering

Education

2008 - INFORMS Telecommunications Dissertation Award Finalist

MEMBERSHIP IN SOCIETIES

Institute for Operations Research and Management Science (INFORMS) – Minority Issues Forum, Program Chair 2009-2012.

- Applied Probability Society

- Public Sector Applications, Program Chair, 2013.

Transportation Research Board (TRB)

- Member of AP020: Emerging and Innovation Transportation committee

Conference for African American Researchers in the Mathematical Sciences (CAARMS)

-Organizer of the 23rd Annual Meeting, June 21-25, 2017.

PUBLICATIONS

Peer-Reviewed Journal Papers - Under Review (* student advisee)

- A. Daw, J. Pender and R.C. Hampshire, Can Teleoperations Systems Efficiently Support Autonomous Vehicles? A Critical Staffing Question, *Management Science*, under review (2nd round)
- 2. S. Palomo and Jamol Pender, William Massey and Robert C. Hampshire, Flattening the Curve: Insights From Queueing Theory, *Probability Engineering and Information Science (PEIS)*, under review.

3. S. Li, Q. Luo, and R.C. Hampshire, Optimal Design of Bimodal Mobility Networks under Uncertainty: Connecting Micromobility with Mobility-on-Demand, *EURO Journal of Transportation and Logistics*.

Peer-Reviewed Journal Papers (* student advisee)

- 4. Li, S.*, Luo, Q*., and Hampshire, R.C., (2021). Design of a Hub-and-Spoke Multimodal Network for the On-Demand Mobility Ecosystem: Connecting Ride-Hailing and Micro-Mobility, *European Journal of Operational Research*, to appear.
- 5. Weinberger, R. R., Millard-Ball, A & Hampshire, R. C. (2021). Cruising Caused Congestion: Where is all the fuss?, *Transportation Research Part C*, to appear.
- 6. Fabusuyi, T., Twumasi-Boakye, R., Broaddus, A., Fishelson, J., & Hampshire, R. C. (2020). Estimating small area demand for online package delivery. *Journal of Transport Geography*, 88, 102864.
- 7. Fabusuyi, T., Hampshire, R., & Qian, Z. S. (2020). Profiling commuters' travel behavior in the pacific states of the continental US. *Transportation Research Procedia*, 48, 1644-1656.
- 8. Hampshire, R. C., Bao, S., Lasecki, W. S., Daw, A., & Pender, J. (2020). Beyond safety drivers: Applying air traffic control principles to support the deployment of driverless vehicles. *PLoS one*, 15(5), e0232837.
- 9. Luo, Qi*, Dou, Xuechun*, Xuan Di and R.C. Hampshire (2020). Multimodal Connections between Micro-Mobility and Microtransit: Conceptual Foundations and Empirical Evidence, *IEEE Intelligent Transportation Systems Magazine, to appear*.
- 10. Millard-Ball, A., Hampshire, R. C., & Weinberger, R. (2020). Parking behaviour: The curious lack of cruising for parking in San Francisco. *Land Use Policy*, *91*, 103918.
- 11. Shou, Z., Di, X., Ye, J., Zhu, H., Zhang, H., & Hampshire, R. (2020). Optimal passenger-seeking policies on E-hailing platforms using Markov decision process and imitation learning. *Transportation Research Part C: Emerging Technologies*, 111, 91-113.
- 12. Millard-Ball, A., Hampshire, R. C., & Weinberger, R. R. (2019). Map-matching poor-quality GPS data in urban environments: the pgMapMatch package. *Transportation Planning and Technology*, 42(6), 539-553.
- 13. Di, Xuan, C. Simek, T. Fabusuyi, X. Di, Xi Chen and Hampshire. R.C. (2019). Users' Switching Behavior in Response to Re-entry of Uber and Lyft: A Revealed Study in Austin, Texas. *Transport Findings*, DOI: 10.32866/7568.
- Turner, S., Hampshire, R.C., T. Redmon, & K. Fitzpatrick. (2019). Pedestrian and Bicyclist Scalable Risk Assessment Methods, International Transportation Engineering (ITE) Journal, April, 45-49.
- 15. Feng, F., Bao, S., Hampshire, R. C., & Delp, M. (2018). Drivers overtaking bicyclists—An examination using naturalistic driving data. *Accident Analysis & Prevention*, 115, 98-109.
- 16. Fabusuyi, T., & Hampshire, R. C. (2018). Rethinking performance based parking pricing: A case study of SFpark. *Transportation Research Part A: Policy and Practice*, 115, 90-101.
- 17. Hampshire, R. C., & Shoup, D. (2018). What share of traffic is cruising for parking?. *Journal of Transport Economics and Policy (JTEP)*, 52(3), 184-201.
- 18. Schuijbroek, J.*, Hampshire, R. C., & van Hoeve, W. J. (2017). Inventory rebalancing and vehicle routing in bike sharing systems. *European Journal of Operational Research*, 257(3), 992-1004.
- 19. Faghih-Imani, A.*, Hampshire, R. C., Marla, L., & Eluru, N. (2017). An empirical analysis of bike sharing usage and rebalancing: Evidence from barcelona and seville. *Transportation Research Part A: Policy and Practice*, 97, 177-191.
- 20. Hampshire, R. C., Jordon, D.*, Akinbola, O.*, Richardson, K.*, Weinberger, R., Millard-Ball, A., & Karlin-Resnik, J. (2016). Analysis of Parking Search Behavior with Video from Naturalistic Driving. *Transportation Research Record: Journal of the Transportation Research Board*, (2543), 152-158.

- 21. Millard-Ball, A., Weinberger, R. R., & Hampshire, R. C. (2014). Is the curb 80% full or 20% empty? Assessing the impacts of San Francisco's parking pricing experiment. *Transportation Research Part A: Policy and Practice*, 63, 76-92. (author ordered selected randomly)
- 22. Fabusuyi, T.*, Hampshire, R. C., Hill, V. A., & Sasanuma, K*. (2014). Decision Analytics for Parking Availability in Downtown Pittsburgh. *Interfaces*, 44(3), 286-299.
- 23. Millard-Ball, A., Weinberger, R., & Hampshire, R. (2013). Comment on Pierce and Shoup: Evaluating the impacts of performance-based parking. *Journal of the American Planning Association*, 79(4), 330-336. (author ordered selected randomly)
- 24. Nair, R., Miller-Hooks, E., Hampshire, R. C., & Bušić, A. (2013). Large-scale vehicle sharing systems: analysis of Vélib'. *International Journal of Sustainable Transportation*, 7(1), 85-106.
- 25. Fabusuyi, T., Hampshire, R.C, & Hill, V. (2013). Evaluation of a Smart Parking System. *Transportation Research Record: Journal of the Transportation Research Board*, (2359), 10-16.
- 26. Hampshire, R., & Gaites, C.* (2011). Peer-to-peer carsharing: Market analysis and potential growth. *Transportation Research Record: Journal of the Transportation Research Board*, (2217), 119-126.
- 27. Hampshire, R. C., Massey, W. A., & Wang, Q. (2009). Dynamic pricing to control loss systems with quality of service targets. *Probability in the Engineering and Informational Sciences*, 23(02), 357-383.
- 28. Hampshire, R. C., Jennings, O. B., & Massey, W. A. (2009). A time-varying call center design via Lagrangian mechanics. *Probability in the Engineering and Informational Sciences*, 23(02), 231-259.
- 29. Hampshire, R. C., & Massey, W. A. (2008). A note on the event horizon for a processor sharing queue. *Queueing Systems*, *59*(3), 185-190.
- 30. Hampshire, R. C., Harchol-Balter, M., & Massey, W. A. (2006). Fluid and diffusion limits for transient sojourn times of processor sharing queues with time varying rates. *Queueing Systems*, 53(1-2), 19-30.
- 31. Hampshire, R.C., Massey, W.A., Mitra, D. and Wang, Q. (2002). Provisioning for Bandwidth Trading. *Telecommunications Network Design and Economics and Management: Selected Proceeding of the 6th INFORMS Telecommunications Conference*, Kluwer Academic Publishers, Boston/Dordrecht/London, pp. 207-226. (27 Google Scholar citations)

Peer-Reviewed Conference Papers

- 32. Kaylla Cantelli, Shanna Daly, Matt Reed, & Hampshire, R.C., Strategies and Barriers to Addressing Equity in Transportation: Experiences of Transportation Practitioners (2021), Transportation Research Board 101th Annual Meeting.
- 33. Fabusuyi, T., Twumasi-Boakye, R., Broaddus, A., Fishelson, J., & Hampshire, R. (2020). Estimating Small Area Demand for Online Package Delivery, Transportation Research Board 100th Annual Meeting.
- 34. Yu, F., Luo, Q., Fabusuyi, T., & Hampshire, R. (2020). A Heuristic for Learn-and-Optimize New Mobility Services with Equity and Efficiency Metrics. Transportation Research Board 100th Annual Meeting.
- 35. Zhenyu Shou, Sharon Di, Jieping Ye, Zhu Hongtu, Robert C. Hampshire. (2019). Where to find next passengers on e-hailing platforms? A markov decision process approach. Transportation Research Board 98th Annual Meeting.
- 36. Yuan, H., Luo, Q., & Hampshire, R. (2018). Data-Driven Modeling of Ride-Hailing Trajectories. SIGIR Workshop on Intelligent Transportation Informatics. ACM.

- 37. Luo, Qi*, Dou, Xuechun*, Xuan Di and R.C. Hampshire, Multimodal Connections between Bikesharing and Ride-Hailing: An Empirical Study in New York City., accepted IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2018).
- 38. Millard-Ball, A., Hampshire, R. C., & Weinberger, R. R. (2018). *Map-Matching Poor-Quality GPS Data in Urban Environments: The pgMapMatch Package* (No. 18-04645), Transportation Research Board 97th Annual Meeting.
- 39. Cai, Y., Li, X., Fabusuyi, T., Molnar, L. J., & Hampshire, R. C. (2018). A Statewide Pedestrian Crash Risk Assessment for Michigan: An Application of the Model of Pedestrian Demand (MoPED) (No. 18-03445), Transportation Research Board 97th Annual Meeting.
- 40. Hampshire, R. C., Simek, C., Fabusuyi, T., Di, X., & Chen, X. (2018). *Measuring the impact of an unanticipated suspension of ride-sourcing in Austin, Texas* (No. 18-03105) Transportation Research Board 97th Annual Meeting.
- 41. Luo Qi*, Xinyu Wu*, Romesh Raigel and R.C. Hampshire (2017) A Statistical Method for Parking Spaces Occupancy Detection via Automotive Radars, 2017 IEEE 85th Vehicular Technology Conference.
- 42. Xinyu Wu*, Luo Qi*, Raigel, R. & Hampshire, R.C. (2017). Sensor Based Parking Simulation," *Transportation Research Board Annual Meeting*.
- 43. Weinberger, R. R., Millard-Ball, A & Hampshire, R. C. (2016). Parking Search Caused Congestion: Where's all the fuss? *Transportation Research Board Annual Meeting*.
- 44. Karlin-Resnick, J., Weinberger, R.R, A. Millard-Ball & Hampshire, R.C.(2015). Parking Search Caused Congestion: What We Learn From a Controlled GPS: Example With Applications to Big Data. *Transportation Research Board Annual Meeting*
- 45. Fabusuyi T.*, and Hampshire R.C. (2015). Addressing Parking Challenges in Downtown Pittsburgh. Proceedings of the 14th *Computers in Urban Planning and Urban Management* (CUPUM) Conference, Cambridge, MA.
- 46. Millard-Ball, A., R.Weinberger and Hampshire, R.C. (2013). Is the glass 85% full or 15% empty? Assessing the efficacy of San Francisco's parking experiment," *Transportation Research Board Annual Meeting*.
- 47. Hampshire, R.C. and L. Marla .(2012). An Empirical Analysis of Bike Sharing Programs," *Transportation Research Annual Meeting*.
- 48. Hampshire, R.C. and L. Marla.(2011). An Empirical Analysis of Bike Sharing Programs," *Sloan Industries Conference*, Pittsburgh, PA.
- 49. Hampshire, R. C., & Sinha, S. (2011, June). A simulation study of Peer-to-Peer carsharing. In *Integrated and Sustainable Transportation System (FISTS)*, 2011 IEEE Forum on (pp. 159-163). IEEE.
- 50. Hampshire, R. C., & Gaites, C. (2011). An analysis of person-to-person car sharing. In *Transportation and Development Institute Congress 2011: Integrated Transportation and Development for a Better Tomorrow* (pp. 938-947).
- 51. Hampshire, R.C. K, Sasanuma* & Larson, R.C. (2011). Congestion Pricing for On Street Parking," *Innovations in Pricing of Transportation Systems*.
- 52. Collier, B. C., & Hampshire, R. (2010, February). Sending mixed signals: Multilevel reputation effects in peer-to-peer lending markets. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work* (pp. 197-206). ACM. (15 percent acceptance rate).
- 53. Garman, S. R., Hampshire, R. C., & Krishnan, R. (2008). Person-to-Person Lending: The Pursuit of (More) Competitive Credit Markets. *Twenty Ninth International Conference on Information Systems* (p. 17). Paris: Association for Information Systems. (16 percent acceptance rate).

Peer-Reviewed Abstracts

1. Hampshire, R.C and W.A. Massey. (2005). Variational Optimization for Call Center Staffing," *Richard Tapia Celebration Of Diversity In Computing Proceedings of the 2005 conference on Diversity in computing*, Albuquerque, New Mexico, USA.

Technical Reports

- Turner, S., Sener, I., Martin, M., White, L. D., Das, S., Hampshire, R., & Wijesundera, R. (2018). Guide for Scalable Risk Assessment Methods for Pedestrians and Bicyclists (No. FHWA-SA-18-032).
- 2. Robert C. Hampshire, Lisa J. Molnar, Alex Cao, Yiming Cai, Xiao Li, Tayo Fabusuyi. (2018). *Developing Michigan Pedestrian and Bicycle Safety Models*, Michigan Department of Transportation, SPR-1651.
- 3. Turner, S., Sener, I., Martin, M., Das, S., Shipp, E., Hampshire, R., & Robinson, S. (2017). Synthesis of methods for estimating pedestrian and bicyclist exposure to risk at areawide levels and on specific transportation facilities (No. FHWA-SA-17-041).
- 4. Weinberger, R. R., Millard-Ball, A., & Hampshire, R. C. (2016). Parking-Cruising Caused Congestion. & Targeting Public Mitigation Investments, U.S. Department Of Transportation (USDOT) Small Business Innovative Research (SBIR), Final Report.

Books and Book Chapters

- 1. Fabusuyi T. & Hampshire R, (2017). The Mode most Traveled: Transportation Infrastructure Implications and Policy Responses. In: Geertman S. et al (eds) Planning Support Science for Smarter Urban Futures, Basel, Switzerland. Springer International Publishing.
- R. C. Hampshire and W. A. Massey (2010). A Tutorial on Dynamic Optimization with Applications to Dynamic Rate Queues. *TutORials in Operations Research*, 2010: Risk and Optimization in an Uncertain World, (Publication for tutorials presented at the INFORMS Annual Meeting in Austin TX, November 7-10, 2010) pp. 208-247. (28 Google Scholar citations)

Other Publications

- 1. Millard-Ball, A., Weinberger, R., & Hampshire, R.C. (2016). Solving Cruising for Parking: Lessons from San Francisco. *Access Magazine*.
- 2. Fabusuyi, T.* and Hampshire, R.C. (2013). Smart Parking Systems. The Parking Professional.

Working Papers

- 1. Hampshire, R.C. & Jordon, D. Inferring Parking Occupancy from Parking Meter Data using Particle Markov Chain Monte Carlo.
- Ryan Moya, Robert Hampshire, Siqian Chen, Susan Zielinski, and Peter Adriaens Data Commodity Swaps and Pooled Derivatives: Potential Impacts of Data Supply Chains on Monetization Models in the Smart Mobility Industry

Patents

- 1. Hampshire, R.C., Saigel, R., and Luo Qi, Sensor Based Parking Occupancy Detection And Communication Network, in progress.
- Grey, W., Hampshire, R. C., Liu, Z., & Shi, D. H. (2013). Option framework for managing on demand service offerings. U.S. Patent No. 8,458,005. Washington, DC: U.S. Patent and Trademark Office.
- 3. Flaxer, D., Greenstein, P. G., Hampshire, R. C., Nigam, A., & Vergo, J. G. (2009). Enterprise portfolio analysis using finite state Markov decision process. *U.S. Patent No.* 7,552,078. Washington, DC: U.S. Patent and Trademark Office. (48 Google Scholar Citations)

RESEARCH FUNDING

- Public Interest Technology: Strengthening PIT Career Pathways for Persons of Color: A Knowledge Network and Experiential Learning Approach, New Venture Fund, 1/21-6/22, \$180,000 Principal Investigator.
- 2. NSF RAPID: Improving Transportation Equity to Enhance Food Security for Families Vulnerable to COVID-19, National Science Foundation (6/1/20-12/31/20), \$160K, Principal Investigator.
- 3. Addressing the Need and Identifying the Root Causes of the Intersection of Food and Transportation Insecurity: The City of Detroit Food Delivery Program (Re)Design, Poverty Solutions, Project Development Grant, \$90K, Principal Investigator.
- 4. Public Interest Technology: Career paths and constraints face by persons of color, New Venture Fund, 10/19-12/31/2020, \$179,387, Principal Investigator.
- 5. Parking Cruising Analysis Methodology, Federal Highways Administration, 8/19/19-7/31/2021, \$194,703, Principal Investigator.
- 6. Automated Driving System Demonstration Grant, US DOT, \$7.5M, Co-PI
- RAISE: C-Accel Pilot Track A1 (Open Knowledge Network): Network for Equity in the Era of Driverless Vehicles, National Science Foundation, 9/1/19 – 5/31/20, \$948,182, Principal Investigator
- 8. Framework for Integrative Data Equity Systems (FIDAS), National Science Foundation, \$2M, Senior Personnel
- First/Last Miles Solutions for Crytocurrencies in the Developing World, Ripple (Internal grant), \$60K
- 10. Targeted Real world interaction Heatmap II, Mcity Leadership Circle Tailored Project, 7/18-12/18, \$247K, Principal Investigator.
- 11. Targeted Real world interaction Heatmap I, Mcity Leadership Circle Tailored Project, 2/17-4/17, \$83K, Principal Investigator.
- 12. Machine Learning, Human Factors and Security Analysis for the Remote Command of Driving: An MCity Pilot, Center for Connected and Automated (CCAT), 1/1/18-12/31/18, \$187K, Principal Investigator.
- 13. Value Added Activities for On-demand Shuttles, Ford Motor Company, 1/1/17-12/31/19, \$200K, Principal Investigator.
- 14. Virtual Reality Traffic Simulation, Ford, 1/1/17-12/31/19, \$200K, Principal Investigator.
- 15. RAPID/Collaborative Research: Measuring the Impact of the Re-entry of Ride Sourcing in Austin, Texas: A Natural Experiment, Texas, National Science Foundation, (9/1/17-8/31/18), \$25K, Principal Investigator.
- 16. First-last mile connections for ride-hailing services and bikeshare: A multimodal approach, DiDi, 7/17-6/18, \$150K, Principal Investigator.
- 17. Improving the completeness of pedestrian and bicycle exposure data in Michigan, Office of Highway Safety Planning, 9/17-8/18, \$99K, Principal Investigator.
- 18. An Analysis of the Para-transit Broker Service Ecosystem, Leadership Circle Tailored Project, 2/17-4/17, \$83K, co-Principal Investigator.
- 19. Driver and Bicyclist Interactions and Communications using Existing Large-scale Naturalistic Driving Data, Toyota Research Institute (TRI), (1/17-12/17), \$15K, co-Principal Investigator.
- RAPID/Collaborative Research: Measuring the Impact of An Unanticipated Disruption of On-Demand Ride Services in Austin, Texas, National Science Foundation, (9/1/16-8/31/17), \$25K, Principal Investigator.
- 21. Building a Transportation Data Ecosystem for Data Science Research and Applications, Michigan Institute for Data Science (MIDAS), (7/16 7/19), co-Principal Investigator, \$40K.
- 22. Reinventing Urban Transportation and Mobility, Michigan Institute for Data Science (MIDAS), (7/16-7/19), co-Principal Investigator, \$20K.
- 23. Pedestrian and Bike Scalable Risk Assessment Methodology, Texas A&M Transportation Institute/FHWA Safety IDIQ Task Order 16-04, (5/16-5/20), \$90K, co-Principal Investigator.

- 24. Pedestrian and Bicycle Safety Models, Michigan Department of Transportation, (3/16-4/18), \$200K \$362K, Principal Investigator.
- 25. Business Model Innovation and Operational Strategies for Shared Autonomous Vehicles, Mcubed, \$60K, (1/16-12/17), co-Principal Investigator.
- 26. Intelligent Parking Guidance System, Mobility Transformation Center, University of Michigan, (5/15-5/16, \$200K), co-Principal Investigator.
- Automated parking-cruising detection and measurement using Bluetooth AVI sensor networks,"
 U.S. Department Of Transportation (USDOT) Small Business Innovative
 Research (SBIR) Phase I., (3/15-9/15), \$150K, consultant.
- 28. Automated parking-cruising detection and measurement using Bluetooth AVI sensor networks," U.S. Department Of Transportation (USDOT) Small Business Innovative Research (SBIR) Phase II., (1/17-12/19), \$1M, consultant.
- 29. Parking-Cruising Caused Congestion & Targeting Public Mitigation Investments, U.S. Department Of Transportation (USDOT) Small Business Innovative Research (SBIR) Phase I., (3/15-9/15), \$150K, Principal Investigator.
- 30. Risk Management and Modeling for Healthcare Services and Sustainable Transportation, National Science Foundation, (4/14-9/17), \$400K, Co-PI.
- 31. Research Experience for Undergraduates, National Science Foundation, (6/15-8/15), \$10K, PI.
- 32. I-Corps: Prediction Services for the Smart City, National Science Foundation I-Corps, (4/15-1/16), \$50K, PI.
- 33. CAREER: Smart Mobility: Operations and Policy, National Science Foundation, (4/11-9/16), \$400K, PI.
- 34. Technologies for Safe and Efficient Transportation, US DOT University Transportation Center (Co-Pi), \$3.5M, TSET, TRT # DTRT12GUTC11, 2012.
 - a. Smart Parking Management with Vehicle-2-Vehicle Communications, \$120K, PI
- 35. ParkPGH.org Smart Parking system for downtown Pittsburgh, Hillman Foundation, (2010-2011), \$50K, PI
- 36. *MyRide* (PI): Real-Time Data for Transit: A Data Fusion Approach, Hillman Foundation, (2009-2010), \$10K, PI.
- 37. Innovation Oakland, Hillman Foundation, (2010-2011),\$10K, Co-PI.
- 38. Joint Pricing and Capacity Planning for On-Demand Services, IBM Faculty Research Grant, \$40K, 2009.

TEACHING/MENTORING

Dissertation Committees

- 1. Member James Fishelson Urban Planning, University of Michigan, successful defense date Jan 15, 2018.
 - a. Accepted position at Ford Motor Company.
- 2. Chair Tayo Fabusuyi, Engineering and Public Policy, Carnegie Mellon University, successfully defended November 2016.
 - Accepted research fellow position at University of Michigan Transportation Research Institute
- 3. Co-Chair Luo Qi Industrial and Operations Engineering, University of Michigan, defended.
 - i. Accepted postdoc at Cornell University
 - ii. Accepted faculty position at Clemson University
- 4. Chair Katsunobu Sasanuma Public Policy and Management, Carnegie Mellon University, successful defense date July 31, 2015.
 - Accepted faculty position at SUNY Buffalo School of Business

- 5. Member Shannon Harris, Katz School of Business, University of Pittsburgh, successful defense, July 2016.
- 6. Member Jean Kang-Ching, Mechanical Engineering, University of Michigan, successfully defended, 6/16.
 - Accepted research fellow position at University of Michigan Transportation Research Institute
- 7. Member Stephen Zoef member, Massachusetts Institute of Technology, Engineering Systems Division, successfully defended May 2015.
 - Accepted position at DOT Volpe
- Changmi Jung, member, Carnegie Mellon University, Public Policy and Management, defense date July 31, 2013
- 9. Sam Garman, chair, Carnegie Mellon University, Public Policy and Management, proposal date July 31, 2010.

Independent Study Supervision

- 1. (2017-) Mian Wei, Master of Business Administration, Ross School of Business, Tauber Institute
- 2. Kritika Rastogi, Master of Business Administration, Ross School of Business, Tauber Institute.
- 3. (2017-) Jai Hari Raju Jayakumar, Master of Business Administration, Ross School of Business
- 4. (2017-) Kunal Kapoor, Master of Business Administration, Ross School of Business
- 5. (2017-) Igor Gomes, Master of Business Administration, Ross School of Business
- 6. (2016-) Xiao Li, Master of Urban Planning, graduated 2016.
- 7. (2016-) Tian Tian, Master of Urban Planning
- 8. (2016-) Brian Hillbrands, Master of Urban Planning
- 9. (2016-) Yiming Cai, Master of Urban Planning
- 10. (2016) Xinyi Wu, Bachelor of Science in Industrial and Operations Engineering.
- 11. (2016) Kartik Balkumar, Master of Science in Industrial and Operations Engineering.
- 12. (2016) Caleb Bugg, Bachelor of Science in Mathematics
- 13. (2016) Damiete Samuel-Horsfall, Masters of Integrated Systems Design, ISD 503.
- 14. (2015) Wenyu Shi, UROP, Psychology
- 15. (2015) Hayder Jaber, UROP, Psychology.
- 16. (2015) Meridith Seewold, UROP, Psychology
 - University of Michigan UROP Mentor Honorable Mention Award.
- 17. (2015) Keanu Richardson (UM Electrical Engineering, 2018), REU, Smart Parking
- 18. (2015) Opeyemi Akinola (UM Mechanical Engineering, 2016), REU, Smart Parking
- 19. (2012-2014) Jasper Schuijbroek, Carnegie Mellon University, Master of Business Administration, 2013.
- 20. (2011) Craig Gaites, Carnegie Mellon University, Master of Business Administration, 2011.

Other Student Mentoring

List other students you are mentoring in research, their academic department, and the students level (e.g., graduate, undergraduate, doctoral candidate, etc.).

- 1. (2017-) Adam Hall, University of Michigan, Ph.D in statistics
- 2. (2015) Mehri Mohebbi, PhD candidate in Urban Planning, University of Cincinnati.

Classroom Teaching

- 1. Intermediate Management Science: Core course in the Public Policy program at Heinz College, Spring 2007,2008, 2009, 2010, 2011, 2012,14
- 2. Service Management: Elective course in the Public Policy and Information Systems program at Heinz College, Fall 2007, 2008, 2009, 2010,2011.

- 3. Smart Cities: Elective course in the Public Policy and Information Systems program at Heinz College, 2014.
- 4. Operation Research for the Public Sector: An elective course in the Public Policy program at Heinz College, Spring 2012, 2014.

SERVICE

Institutional Service – i.e., within UMTRI/U-M (List committees and subcommittees on which you are serving or have served and the years in which you served)

- 1. ADVANCE Faculty Leading Change Committee
- 2. UMRTI Promotions and Appointment Committee
- 3. UMTRI Library Committee
- 4. Met with 6 job candidates 2015.
- 5. M-STEM Academy Panel Participant August 2015.

External to UMTRI/U-M

Technical Committees/Journals (List your role, the name of the committee/journal, etc., and years served)

- 1. Public Sector Operations Research (PSOR), Best Paper Committee, INFORMS, 2020.
- 2. INFORMS Nicholson Best student paper Competition, committee, 2018-2020.
- 3. TRB: Member of the Transportation Research Board, AP020, Emerging and Innovation Transportation committee, 2016-2018.

Organizer/Chair of Conferences, Technical Sessions, etc

- 1. Session Co-Chair Autonomous Vehicle Symposium, Ypsilanti, MI, 2015,
- 2. TRB: Member of the Transportation Research Board, AP020, Emerging and Innovation Transportation committee, 2010-2015.
- 3. INFORMS Applied Probability Conference, Program Committee, 2013
- 4. Annual INFORMS Conference, Session Chair, 20012
- 4. Annual INFORMS Conference, Session Chair, 2011, Shared Mobility Cluster
- 5. Annual INFORMS Conference, Session Chair, 2009
- 6. INFORMS Applied Probability Conference, Program Committee, 2009
- 7. Research Paper Cluster Chair: INFORMS Minority Issues Forum, 2008
- 8. Annual INFORMS Conference, November 2008.
- 9. INFORMS Applied Probability Conference, Eindhoven Netherlands. July 2007.
- 10. Annual INFORMS Conference, November 2007

Advising

- Transportation Research Board (TRB) Panel SB-27 on "Public Transit and Bikesharing," which
 is being conducted under the Transit Cooperative Research Program (TCRP) Synthesis Studies,
 September 26, 2016
- 2. Scientific Advisory Board Member: Francisco Metropolitan Transportation Authority, SFPark.
- 3. Democratic Change Commission. Appointed by the Governor of Virginia and Chairman of the National Democratic Party

Organizer/Chair of Conferences, Technical Sessions, etc. (list role, years, and name of conference/session)

- 1. TRB: Member of the Transportation Research Board, AP020, Emerging and Innovation Transportation committee, 2010-2014.
- 2. INFORMS Applied Probability Conference, Program Committee, 2013
- 3. Annual INFORMS Conference, Session Chair, 20012
- 4. Annual INFORMS Conference, Session Chair, 2011, Shared Mobility Cluster
- 5. Annual INFORMS Conference, Session Chair, 2009
- 6. INFORMS Applied Probability Conference, Program Committee, 2009
- 7. Research Paper Cluster Chair: INFORMS Minority Issues Forum, 2008
- 8. Annual INFORMS Conference, November 2008.
- 9. INFORMS Applied Probability Conference, Eindhoven Netherlands. July 2007.
- 10. Annual INFORMS Conference, November 2007.

Peer-Reviewed Journals (List your role, journal name, and years served)

 Reviewer - INFORMS Journal of Computing, International Journal of Sustainable Transportation, IIE Transactions, Management Science, Manufacturing and Service Operations Management (MSOM). Operation Research, Performance Evaluation, Transportation Research Part A, Transportation Research Part B, Transportation Research Record

Contract/Grant Reviewer (List name of funding organization and years served)

- 1. 2019 TCRP SB35 Review Committee Micromobility and Transit
- 2. 2017 TCRP SB27 Review Committee Bikeshare and Transit
- 3. National Science Foundation, CMMI review committee