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:
  - Executive Committee member
  - Co-lead Diversity, Equity, and Inclusion
  - Science, Technology, and Public Policy committee member
  - 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 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)

1. 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.
14. 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

1. 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.
2. 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.
2. 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.
2. 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

1. 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
7. 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
9. 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.
20. 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.
27. 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
8. 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
1. 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)
1. 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

Senate Commerce Committee Nominee Questionnaire, 117ʰ Congress

Instructions for the nominees: The Senate Committee on Commerce, Science, and Transportation asks you to provide typed answers to each of the following questions. It is requested that the nominee type the question in full before each response. Do not leave any questions blank. Type "None" or "Not Applicable" if a question does not apply to the nominee. Return printed answers to Committee. Begin each section (i.e., "A", "B", etc.) on a new sheet of paper.

A. BIOGRAPHICAL INFORMATION AND QUALIFICATIONS

1. Name (Include any former names or nicknames used):

Robert Cornelius Hampshire

2. Position to which nominated:

Assistant Secretary for Research and Technology, Department of Transportation

3. Date of Nomination:

4. Address (List current place of residence and office addresses):

My current residence and office address are the same:

█████████████████████

5. Date and Place of Birth:

8/30/78 Lima, OH

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

Alexandra K. Murphy, Assistant Professor, University of Michigan
No children

7. List all college and graduate degrees. Provide year and school attended.

2001-2007
Princeton University
Ph.D. Operations Research and Financial Engineering.

1996-2001
University of Cincinnati,
Bachelor of Science in Electrical Engineering

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

- 2000 Bell Laboratories – Lucent Technologies – Research Intern
- 2003 T.J Watson Research Labs – IBM – Research Intern
- 2004 T.J Watson Research Labs – IBM – Research Intern
- Fall 2006 – 2012, 2012-2014 – Carnegie Mellon University – Assistant Professor – Heinz College of Public Policy and Management
- 2012-2013 – Massachusetts Institute of Technology – Visiting professor – Engineering Systems Division.
- 2014-2018 University of Michigan, Transportation Research Institute, Research Assistant Professor
- 2018-Jan 19, 2021 University of Michigan, Gerald R. Ford School of Public Policy, Associate Professor

9. Attach a copy of your resume.

See attached

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years.
None

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

Go-Op LLC, partner , 2010-2013

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization. (For this question, you do not have to list your religious affiliation or membership in a religious house of worship or institution.). Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

Institute of Operations Research and Management Science (INFORMS): 2001-present member

Transportation Research Board – 2007-present, member

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt.

No

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities.

   • 2008 and 2012 – Volunteered for organizing, canvassing, and phone banking, Barack Obama Presidential Campaign in Pennsylvania.
   • 2020 – Volunteered for the Michigan Democratic Party to count mail-in and absentee ballots in Michigan.

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of $200 or more for the past ten years.

All entries here are the result of electronic searches (e.g., FEC.gov) and reflect the best of my recollection. Should any additional contributions be identified, I will promptly let the Committee know.

2011 – Barack Obama, US Presidency: $200
2019 - Morgan Harper, US Congress, Ohio: $100
2020 - Gary Peters, Senate, Michigan: $50

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

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

17. Please list each book, article, column, Internet blog posting, or other publication you have authored, individually or with others. Include a link to each publication when possible. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Publications

Please see my CV for the most up-to-date list of publications – to the best of my ability. If additional publications are identified following the submission of this questionnaire, I will promptly let the Committee know.

Speeches

Please see my CV for the most up-to-date list of speeches and non-congressional hearings I have been able to compile – to the best of my ability. If additional speeches or remarks are identified following the submission of this questionnaire, I will promptly let the Committee know.

18. List digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an "alias" or "handle" you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

- Twitter - https://twitter.com/roberthampshire
- Facebook - https://www.facebook.com/robert.c.hampshire
- LinkedIN - https://www.linkedin.com/in/robert-c-hampshire-285345107/ and linkedin.com/in/robert-hampshire-553b181a0
- Instagram - roberthampshire

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

None

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

I believe that my background as a researcher and professor working in the field of innovative transportation systems and policy qualifies me for this appointment. I have conducted research and published articles on many of the areas of responsibility for the Office of Research and Technology including: connected and automated vehicles, car sharing, ridesharing, and bike sharing; pedestrian and bicycle safety models and equity analysis of transportation systems. Furthermore, I am familiar with and have been associated with 2 US DOT funded University Transportation Centers (UTCs).

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting

controls, and what experience do you have in managing a large organization?

If confirmed, it is my responsility to ensure that the Office of Research and Technology is complaint with all of the relavant statues governing budgeting, accounting, performance management, and financial responsibility. I have led many funded research project teams over my career as a professor and researcher. This included responsibility for financial management and compliance. This experience includes large project teams with members from academy, non-profits, and the public sector.

22. What do you believe to be the top three challenges facing the department/agency, and why?

The Department of Transportation's number one priority is the safety of the traveling public. Hence, the top challenge for the Department of Transportation is reducing the number of people that die in crashes. Reducing crashes is more difficult than it seems. For example, the fatal crash rate increased during COVID despite many fewer people travelling.

The second challenge is ensuring that the transportation system connects all people and communities to opportunity. This is a difficult challenge to overcome due to the many unique and diverse needs and circumstances of the America people; from rural to urban communities.

The third challenge is creating jobs and supporting economic growth. We must ensure that our formula and discretionary grant programs, research and innovation, and regulatory activities are targeted to both improve the performance of the transportation system and to have the highest benefit for equitable economic growth and job creation.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

I maintain retirement accounts from Carnegie Mellon University and the University of Michigan. Neither I or these institutions will contribute to these accounts during the term of my Federal employment.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain.

I am currently on leave from my tenured faculty position at the University of Michigan. The University is not paying me, nor contributing to my retirement account while I serve in my current role within DOT.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest.

   In connection with the nomination process, I have consulted with the Office of the Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement I have entered into with DOT's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

   None

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group?

No

   If yes:
   a. Provide the name of agency, association, committee, or group;
   b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
   c. Describe the citation, disciplinary action, complaint, or personnel action;
   d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain.

No

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain.

No

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain.

No

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

No

10

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination.

None

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees, and that your department/agency endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority?

Yes

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures?

Yes

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee?
Yes

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so?

Yes

(Nominee is to include this signed affidavit along with answers to the above questions.)

F. AFFIDAVIT

Robert C. Hampshire being duly sworn, hereby states that he/she has read and signed the foregoing Statement on Biographical and Financial Information and that the information provided therein is, to the best of his/her knowledge, current, accurate, and complete.

_____
Signature of Nominee

Subscribed and sworn before me this _ day of ____ 20__

_____
Notary Public

BALJIT SINGH KAHLON
Notary Public - State of Michigan
County of Wayne
My Commission Expires Sep 22, 2025
Acting in the County of _____