

Ardeshir FAGHRI, Ph.D., P.E., Fellow(ASCE)

Professor

Department of Civil & Environmental Engineering

University of Delaware

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Areas of Teaching and Research

Civil/transportation systems engineering (planning, design, operations and maintenance of roadways, airports, seaports, general terminals, pedestrian and bicycle facilities; ADA compliance; international consulting); geographical information and global positioning systems; soft computing; applied probability theory

Education

Ph.D., Civil Engineering/Transportation Systems, University of Virginia (1987)

Dissertation: Computerization of Heuristic-Based Decision-Making Problems in Transportation Engineering

M.S., Civil Engineering/Transportation Systems, University of Virginia (1985)

Thesis: Rail-Highway Grade Crossing Hazard Models: Evaluation and New Approach

M.S., Civil Engineering/Applied Mathematics, University of Washington (1983)

Thesis: Auto-stress Design Deformation Measurements by Surveying and Photogrammetry

B.S.C.E. (Honors) Civil Engineering, University of Washington (1981)

Minor: Mathematics

Professional Licensure:

Professional Engineer License, USA, State of Wyoming, #18143

Professional Engineer License, International

Honors and Awards

Fellow, American Society of Civil Engineers (ASCE) (2014)

National Science Foundation (NSF) Innovations in Pricing of Transportation Systems
Conference Paper Award (2010)

Best Paper Award, 7th International Conference on Computing, Communications and Control
Technologies, CCCT, Orlando, Florida (2009)

Special Merit Award, Dean of Engineering, University of Delaware (2004, 1999)

Excellence in Teaching Award, College of Engineering, University of Delaware (2004)

NASA/ASEE Faculty Fellowship Award, NASA–Goddard Space Flight Center (2002)

National Science Foundation (NSF) Integrative Graduate Education & Research in
Transportation Award (2000)

Eisenhower Transportation Faculty Research Award, United States Department of Transportation
(1999)

Best Paper Award, American Railway Engineers Association (1997)

American Society of Highway Engineers Service Appreciation Award (1996)

United Nations Development Program Award, for Conducting Research and Training in
Transportation Engineering in Developing Countries (1996)

Excellence in Teaching Award, University of Delaware (1996)

Excellence in Academic Advising Award, University of Delaware (1995)

Who is who? In Frontiers of Science and Technology (1993)

Best Paper Award, Institute of Transportation Engineers (ITE) (1987)

Best Paper Award, Institute of Transportation Engineers (ITE) (1986)

Best Paper Award, Institute of Transportation Engineers (ITE) (1985)

Tau Beta Pi Engineering Honor Society (1977–present)

Chi Epsilon Civil Engineering Honor Society (1977–present)

Professional Experience

University of Delaware, Department of Civil & Environmental Engineering

Interim Director (2018-present) Doctoral Program in Engineering & Public Policy

**Director (2014-2020) Mid-Atlantic Transportation Sustainability University
Transportation Center MATS-UTC**

Professor with Tenure (2002-present)

Director (2001–2016) Delaware Center for Transportation

Associate Chair (2001-2006)

Associate Professor with Tenure (1996–2002)

Interim Director (1995–1997) Delaware Center for Transportation

Assistant Professor, Tenure-Track (1990–1996)

University of Delaware, Biden School of Public Policy & Administration

Professor (2011-present)

Government & Private Sector

Senior Transportation Systems Analyst (1988–1990)

KLD Associates, Inc. Long Island, NY

Transportation Planning Engineer (1987-1988)

Virginia Department of Transportation, Central Office, Richmond, VA

Research Scientist Assistant (1984-1987)

Virginia Transportation Research Council, Charlottesville, VA

Patents

“Computer-Implemented System and Method for Simulating Mixed Motor Vehicle and Bicycle Traffic” Approved US Patent Number 60,950,788 (2005). <https://patents.google.com/patent/US6950788B2/en>

Editorial Activities

International Journal of Sustainability, Special Editor, “Sustainable Transportation and Infrastructure Systems” (2020-2022)

International Journal of Computer-Aided Civil and Infrastructure Engineering, Guest Editor, “Application of Advanced Technologies in Transportation” (2009)

International Symposium on Uncertainty Modeling and Analysis, Local Organizing Committee IEEE Computer Society (2003)

International Journal of Computer-Aided Civil and Infrastructure Engineering Guest Editor, “Applications of Advanced Computer and Communication Technologies in Transportation Planning and Control” (2001)

European Symposium on Artificial Intelligence Applications in Transportation Systems and Science Program Committee, Helsinki University of Technology (1999)

Journal Publications

1. Karimi Kasra, Faghri, Ardeshir; The Issue of Roadside Litter, A Review Paper. Journal of Current Urban Studies (2021) DOI: [10.4236/cus.2021.94046](https://doi.org/10.4236/cus.2021.94046)
2. Li Ming, Faghri Ardeshir, et al; A New Heuristic Algorithm Based on the Lagrangian Relaxation for a Real-World High-Speed Railway Timetabling Problem. Transportation Research Board, National Research Council TRBAM-22-00046 (2021)
3. Karimi Kasra, Faghri Ardeshir, Vaughan Michael; Study of Farm Vehicle Crashes in Delaware. Journal of Safety Science and Technology, Volume 11 (104-119) (2021) DOI: [10.4236/ojsst.2021.113008](https://doi.org/10.4236/ojsst.2021.113008)
4. Karimi Kasra, Faghri Ardeshir, Vaughan Michael; Farm Vehicle Crashes on U.S. Public Roads: A Review Paper. Journal of Safety Science and Technology, Volume 11 (34-54) (2021) <https://doi.org/10.4236/ojsst.2021.112004>
5. Faghri Ardeshir, Vaughan Michael, Berihun Abebaw; Utilization and Usability of Delaware Traffic Management Products: A Survey and Challenges. Journal of Transportation Technologies, Volume 11 (335-356) (2021)

<https://doi.org/10.4236/jtts.2021.113022>

6. Faghri Ardeshir, Vaughan Michael, Berihun Abebaw. Comparative Analysis and Assessment of States' Traffic Management Center Programs. *Journal of Transportation Technologies*, Volume 11 #2 (231-249) (2021)
DOI: [10.4236/jtts.2021.112015](https://doi.org/10.4236/jtts.2021.112015)
7. Calloway Diane, Faghri Ardeshir; A Case Study of Complete Streets Application in a Small Town. *Journal of Current Urban Studies* 10.4236.cus (545-562) (2020)
<https://doi.org/10.4236/cus.2020.84030>
8. Li Mingxin, Yue Yixiang, Zhong Mingxuan, Faghri Ardeshir, Croope Silvana; Mesoscopic Simulation Method for Evaluating the Capacity of Railway Passenger Stations. Transportation Research Board, National Research Council TRBAM-21-04056 (2020)
9. Calloway Diane, Faghri Ardeshir; Complete Streets and Implementation in Small Towns. *Journal of Current Urban Studies* 8 (484-508) (2020) <https://doi.org/10.4236/cus.2020.83027>
10. Pavlick Drew, Faghri Ardeshir, DeLucia Samantha, Gayen Saumabha; Human Health and the Transportation Infrastructure. *Journal of Human Resource and Sustainability Studies* 8 (219-249) (2020) <https://doi.org/10.4236/jhrss.2020.83013>
11. Ford James, Faghri Ardeshir, Yuan Dian, Gayen Saumabha; An Economic Study of the US Post-9/11 Aviation Security. *Open Journal of Business and Management* 8 (1923-1945) (2020) <https://doi.org/10.4236/ojbm.2020.85118>
12. Yuan Dian, Ardeshir Faghri, Katherine Partridge; *A Study on Applications and Case Studies Regarding Bluetooth Technology for Travel Time Measurement*. *Journal of Transportation Technologies* 10 (65-87) (2020) https://www.scirp.org/pdf/jtts_2020011011025464.pdf

13. Yifan Wang, Ardeshir Faghri, Dian Yuan; *Pedestrian Facilities Capacity and Level of Service at Intersections in a Connected and Autonomous Vehicles Environment*. Journal of Transportation Technologies 9 (423-438) (2019) https://www.scirp.org/pdf/JTTs_2019091714540500.pdf
14. Peraino, Nathan; Ardeshir Faghri; Dian, Yuan; Yifan, Wang; Michael Vaughan; Ming Li; *Feasibility of Powering All Vehicles with Electricity from Solar and Wind Energy*. Journal of Energy and Natural Resources 8(4), 127-136 (2019) [file:///C:/Users/faghri/Downloads/10.11648.j.jenr.20190804.11%20\(6\).pdf](file:///C:/Users/faghri/Downloads/10.11648.j.jenr.20190804.11%20(6).pdf)
15. Li, M., Faghri, A., Dian, Y., Li, W., Li, Q., Wang, Y; *A GIS-Based Approach for Snow and Ice Removal Route Optimization to Improve Winter Maintenance Operations Management*. Transportation Research Board, National Research Council (2019) <https://annualmeeting.mytrb.org/interactiveprogram/Details/11338>
16. Ozden, Abdulkadir; Ardeshir Faghri; *Evaluation of the Utilization of Smartphone Applications in Active Probe Vehicle Traffic Data Collection*. Eurasian Journal of Civil Engineering and Architecture, volume 2 issue 1 (2019) <https://dergipark.org.tr/en/download/article-file/535119>
17. Nerwinski Zachary, Ardeshir Faghri and Ming Li, *Modeling Bicycle Conflict on Non-Motorized Paths on Suburban College Campuses*, Journal of Transportation Technologies, Volume 8, Number 4, (2018) (<https://www.scirp.org/journal/PaperInfoForCitation.aspx?PaperID=88170>)
18. Taromi Reza and Ardeshir Faghri, *Using Available Land and Transport Data for Future Land-Use Planning*, Washington, D.C., Transportation Research Board, National Research Council, #308, (2018) (<https://trid.trb.org/view/1496647>)
19. Mohammadi-Ziazi Rezvan and Ardeshir Faghri, *the Impact of Sea Level Rise on Non-Motorized Transport*, Washington, D.C., Transportation Research Board, National Research Council, #508, (2018) (<https://trid.trb.org/view/1496469>)
20. Li Ming and Ardeshir Faghri, *A Novel Nanostructured Fertilizer for Sustainable Roadside Landscapes*, Washington, D.C., Transportation Research Board, National Research Council, #647, (2018) (<http://amonline.trb.org/2017trb-1.3983622/t008-1.3999787/647-1.4126049/p18-20297-1.4122168/p18-20297-1.4126059?qr=1>)
21. Li Ming and Ardeshir Faghri, *A Framework for Analyzing the Economic Feasibility of Cycling Facilities*, Bicycle Urbanism, Routledge Publishing, (2018) (<https://www.taylorfrancis.com/books/e/9781315569338/chapters/10.4324/9781315569338-9>)

22. Shahpar Amir, Ardeshir Faghri and Ming Li, *Emission and Life Cycle Assessment of Alternative Fuel Buses as Related to DART*, International Journal of Sustainable Development and World Ecology (2017) (<https://www.tandfonline.com/doi/full/10.1080/13504509.2017.1390794>)
23. Vaughan Michael, Ardeshir Faghri and Ming Li, *An Interactive Expert System Based Decision Making Model for the Management of Transit System Alternative Fuel Vehicle Assets*, Journal of Intelligent Information Management, (2017) (<http://www.scirp.org/journal/CTA.aspx?paperID=72995>)
24. Li, M., Faghri, A., Ozden, A., & Yue, Y. Economic Feasibility Study for Pavement Monitoring Using Synthetic Aperture Radar-Based Satellite Remote Sensing: Cost–Benefit Analysis. *Transportation Research Record: Journal of the Transportation Research Board*, (2645), 1-11. (2017) (<https://journals.sagepub.com/doi/abs/10.3141/2645-01>)
25. Scott, M., Kelly, C., Collins, E., Lewis, J., Faghri, A., & Li, M. Research of Viable Attributes and Potential to Integrate Curbside Intercity Buses. *Transportation Research Board*, NRC 17-06609. (2017) (<https://trid.trb.org/view.aspx?id=1439648>)
26. Wahed, M. A., Faghri, A., & Li, M. An Innovative Simulation Model for the Operations of a Multipurpose Seaport: A Case Study from Port of Wilmington, USA. *International Journal of Simulation and Process Modeling*, 12(2), 151-164.(2017)(<http://www.inderscienceonline.com/doi/abs/10.1504/IJSPM.2017.083530>)
27. Vaughan, M. L., Faghri, A., & Li, M. Knowledge-Based Decision-Making Model for the Management of Transit System Alternative Fuel Infrastructures. *International Journal of Sustainable Development & World Ecology*, 1-11. (2017). (<http://www.tandfonline.com/doi/abs/10.1080/13504509.2017.1333541>)
28. Li, M., Faghri, A. Applying Problem-Oriented and Project-Based Learning in a Transportation Engineering Course. *ASCE Journal of Professional Issues in Engineering Education and Practice*, 142(3), 04016002. (2016). ([http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EI.1943-5541.0000274](http://ascelibrary.org/doi/abs/10.1061/(ASCE)EI.1943-5541.0000274))
29. Laghaei, J., Faghri, A., & Li, M. Impacts of Home Shopping on Vehicle Operations and Greenhouse Gas Emissions: Multi-Year Regional Study. *International Journal of*

Sustainable Development & World Ecology, 23(5), 381-391. (2016). (<http://www.tandfonline.com/doi/abs/10.1080/13504509.2015.1124471>)

30. Ozden, A., Faghri, A., Li, M., & Tabrizi, K. Evaluation of Synthetic Aperture Radar Satellite Remote Sensing for Pavement and Infrastructure Monitoring. *Procedia Engineering*, (145), 752-759. (2016). (<https://www.infona.pl/resource/bwmeta1.element.elsevier-5a33fac4-3468-3de8-b8ad-9f89a627ee0f>)
31. Vaughan, M. L., Faghri, A., & Li, M. An Interactive Expert System Based Decision Making Model for the Management of Transit System Alternate Fuel Vehicle Assets. *Intelligent Information Management*, 9(01), 1. (2016). (http://file.scirp.org/pdf/IIM_2016122615335587.pdf)
32. Ozden, A., Faghri, A., & Li, M. Using Knowledge-Automation Expert Systems to Enhance the Use and Understanding of Traffic Monitoring Data in State DOTs. *Procedia Engineering*, 145, 980-986. (2016). (<http://www.sciencedirect.com/science/article/pii/S1877705816301333>)
33. Eshragh, S., Faghri, A. Simplified Roundabout Network Design Problem for Hurricane Evacuation: Georgetown, Delaware. *Transportation Research Board, National Research Council* 16-3711. (2016). (<https://trid.trb.org/view.aspx?id=1393366>)
34. Taromi, R., DuRoss, M., Chen, B., Faghri, A., Li, M., & DeLiberty, T. A Multi-Objective Land Development Optimization Model: The Case of New Castle County, Delaware. *Transportation Planning and Technology*, 38(3), 277-304. (2015). (<http://www.tandfonline.com/doi/abs/10.1080/03081060.2014.997450>)
35. Hamad, K., Faghri, A., & Li, M. Forecasting Model for Vehicular Demand: An Alternative Methodology in The Context of Developing Countries. *The Journal of Developing Areas*, 49(2), 125-143. (2015). (<https://muse.jhu.edu/article/558488/summary>)
36. Li, M., Faghri, A. Problem-Oriented and Project-Based Learning as an Innovative Approach for Teaching Highway Capacity Concepts. *Transportation Research Board, National Research Council* 15-4544. (2015). (<https://trid.trb.org/view.aspx?id=1338688>)

37. Boekhold, J., Faghri, A., & Li, M. Evaluating Security Screening Checkpoints for Domestic Flights Using a General Microscopic Simulation Model. *Journal of Transportation Security*, 7(1), 45-67. (2014). (<https://link.springer.com/article/10.1007/s12198-013-0129-8>)
38. Frey, R., Faghri, A., & Li, M. The Development of an Expert System for Effective Countermeasure Identification at Rural Unsignalized Intersections. *International Journal of Information Science and Intelligent System*, 3(1), 23-40. (2014). (https://www.researchgate.net/profile/Mingxin_Li/publication/276275085_The_Development_of_an_Expert_System_for_Effective_Countermeasure_Identification_at_Rural_Unsignalized_Intersections/links/5554be4e08aeaaff3bf452be.pdf)
39. Li, M., Faghri, A. Cost-Benefit Analysis of Added Cycling Facilities. *Transportation Research Record, National Research Council* (2468), 55-63. (2014). (<http://trrjournalonline.trb.org/doi/abs/10.3141/2468-07>)
40. Suarez, R., Faghri, A., & Li, M. Evaluation of the Accuracy and Automation of Travel Time and Delay Data Collection Methods. *Journal of Transportation Technologies*, (2014). (http://file.scirp.org/Html/7-3500162_42380.htm)
41. Berzina, L., Faghri, A., Shourijeh, M. T., & Li, M. Development of a Post-Processing Automation Procedure for the GPS-Based Travel Time Data Collection Technique. *Journal of Transportation Technologies*, (2014). (http://file.scirp.org/Html/6-3500163_42377.htm)
42. Lichliter, A., Faghri, A., & Li, M. Assessing Airport Snow and Ice Removal and Its Economic Implications for Sustainable Airport Management. *Journal of Airport Management*, 8(2), 174-188. (2014). (<http://www.ingentaconnect.com/content/hsp/cam/2014/00000008/00000002/art00008>)
43. Shourijeh, M., Faghri, A., & Stevanovic, A. Simulation-Based Planning Framework for Choosing Where to Implement Bus Signal Priority in Mixed-Mode Operations. *Transportation Research Record, National Research Council* (2352), 31-40. (2013). (<http://trrjournalonline.trb.org/doi/abs/10.3141/2352-04>)

44. Humphrey, S., Faghri, A., & Li, M. Health and Transportation: The Dangers and Prevalence of Road Rage Within the Transportation System. *American Journal of Civil Engineering and Architecture*, 1(6), 156-163. (2013). (<http://pubs.sciepub.com/ajcea/1/6/5/>)
45. Berzina, L., Faghri, A., Shourijeh, M. T., & Li, M. Evaluation of Travel Time Data Collection Techniques: A Statistical Analysis. *International Journal of Traffic and Transportation Engineering*, 2(6), 149-158. (2013). (<http://article.sapub.org/10.5923.j.ijtte.20130206.03.html>)
46. Eshragh, S., Faghri, A., & DuRoss, M. Roundabout Performance Evaluation in a Network Evacuation: A Case of Intelligent Decomposed Network Simulations. *Transportation Research Record, National Research Council* (2376), 63-70. (2013). (<http://trrjournalonline.trb.org/doi/abs/10.3141/2376-08>)
47. Shourijeh, M. T., Kermanshah, M., Mamdoohi, A. R., Faghri, A., & Hamad, K. A Mathematical Optimization Model for Locating Telecenters. *Journal of Applied Mathematics* Vol.3, No. 3 (2012) (http://file.scirp.org/Html/10-7400737_18100.htm)
48. Shahpar, A. H., Aashtiani, H. Z., & Faghri, A. Development of a Delay Model for Unsignalized Intersections Applicable to Traffic Assignment. *Transportation planning and technology*, 34(5), 497-507. (2011). (<http://www.tandfonline.com/doi/abs/10.1080/03081060.2011.586119>)
49. Shahpar, A., Faghri, A. Life Cycle Assessment of Alternative-Fuel Buses: A Case Study of The Delaware Authority for Regional Transit (DART). *Transportation Research Board, National Research Council*. (2011). (https://www.researchgate.net/publication/49968909_Life_cycle_cost_and_emissions_assessment_of_alternative_fuel_buses_a_case_study_of_the_Delaware_Authority_for_Regional_Transit_DART)
50. Shourijeh, M. T., Laghaei, J., Nii Odartey Mills, L., Best, E., Faghri, A., & Hamad, K. Risk Analysis of Oil Spill in Delaware River and Bay. *Transportation Research Board, National Research Council* 11-1426. (2011). (<https://trid.trb.org/view.aspx?id=1091936>)

51. Eshragh, S.; S.A. Zargari; A. Faghri; E. Lee, “*Bus Network Modeling Using Ant Algorithms*”, *Journal of Systemics, Cybernetics and Informatics*, Volume 8 #1, 80-83 (2010) https://pdfs.semanticscholar.org/70cf/85fe169dd5474785951d7873e3bd9c8c884a.pdf?_ga=2.163819391.1909297410.1584385893-2072542072.1584385893
52. Faghri, A., “*Introduction to Advanced Computer and Information Technologies in Transportation Systems Engineering*” *International Journal of Computer-Aided Civil and Infrastructure Engineering*, #25, Page 77-78 (2010) <https://onlinelibrary.wiley.com/toc/14678667/2010/25/2>
53. Faghri, A., Guest Editor, “*Advanced Computer and Information Technologies in Transportation Systems Engineering*” *International Journal of Computer-Aided Civil and Infrastructure Engineering*, #25, pp 77-148 (2010) <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1467-8667.2009.00641.x>
54. Shahpar, A.; A. Faghri, “*Development of Delay Model for Unsignalized Intersections Applicable to Traffic Assignment*”, #11-3244 *Journal of Transportation Research Board*, National Research Council (2010) <https://trid.trb.org/view/1108858>
55. Mensah, S.; A. Faghri, “*Critical Gap Analysis for Modern Roundabouts*”, #11-6455 *Journal of Transportation Research Board*, National Research Council (2010) <https://trid.trb.org/view/911127>
56. Laghaei, J.; A. Faghri, “*Vehicular Effect of Home Shopping – An Eight Year Study*”, 1-3423 *Journal of Transportation Research Board*, National Research Council (2010) <https://trid.trb.org/view.aspx?id=911087>
57. Mensah, S., Eshragh, S., & Faghri, A. A Critical Gap Analysis of Modern Roundabouts. *Transportation Research Board Annual Meeting*, 11-6455. (2010). <https://www.semanticscholar.org/paper/A-Critical-Gap-Analysis-for-Modern-Roundabouts-Mensah-Eshragh/504b50e69b61663fd645e9b867f2bbc25f0596b1>
58. Eshragh, S., Zargari, S. A., Faghri, A., & Lee, E. R. Bus Network Modeling Using Ant Algorithms. *Journal of Systemics, Cybernetics and Informatics*, (8), (No. 1). (2010). <https://www.ingentaconnect.com/content/doi/16904532/2010/00000008/00000001/art00031?crawler=true>

59. Taromi, R., Zargari, S. A., Faghri, A. Urban Street Design Using Genetic Algorithms. *Journal of Transportation* https://www.academia.edu/24653898/Optimizing_Configuration_of_Urban_Streets_Using_Genetic_Algorithms
60. DuRoss, M.; R. Taromi; A. Faghri; S. Thompson-Graves, "Spatial Allocation Effects of Forecast Land Uses on Statewide Mobile Source Emissions", *Transportation Planning/Land Use and Air Quality*, 45-50 ASCE(2009) <https://ascelibrary.org/doi/10.1061/41059%28347%297>
61. Hamad, K., Shourijeh, M. T., Lee, E., & Faghri, A. Near-Term Travel Speed Prediction Utilizing Hilbert–Huang Transform. *Computer-Aided Civil and Infrastructure Engineering*, 24(8), 551-576. (2009). (<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8667.2009.00620.x/full>)
62. Markowski, M., Faghri, A. Simulating Relaxed Pedestrian Behavior. *Transportation Research Record: Journal of the Transportation Research Board*, (2140), 137-144. (2009). <https://journals.sagepub.com/doi/abs/10.3141/2140-15>
63. Bassan, S.; A. Polus; A. Faghri, "Experimental Investigation of Spatial Breakdown Evolution on congested Freeways", *Journal of Civil Engineering and Environmental Systems*, Volume 24, #4, pp. 260-274 (2008) <https://www.tandfonline.com/doi/abs/10.1080/10286600701395593>
64. Bassan, S.; A. Polus; A. Faghri, "Modeling of Freeway Breakdown Process with Log-Periodic Oscillations", *Canadian Journal of Civil Engineering*, #34, pp. 1577-1586 (2008) <https://go.gale.com/ps/anonymous?id=GALE%7CA182664920&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=03151468&p=AONE&sw=w>
65. Capparuccini, D.; A. Faghri; R. Suarez; A. Polus, "Fluctuation and Seasonality of Hourly Traffic and Accuracy of Design Hourly Volume Estimates", *Journal of Transportation Research Record*, National Research Council, #2049, pp. 63-70 (2008) <https://journals.sagepub.com/doi/10.3141/2049-08>

66. Vlahos, E.; A. Faghri; P. Ranjitkar; A. Polus; D. Lacombe, "Evaluating the Conversion of All-Way Stop Controlled Intersections into Roundabouts", *Journal of Transportation Research Record*, National Research Council, #2078, pp. 80-89 (2008) <https://journals.sagepub.com/doi/abs/10.3141/2078-11>
67. Catherine, A., Faghri, A. Application of Care-Sharing in Small Cities in the United States – Framework for Implementation and Analysis. *Transportation Research Board, National Research Council*, 08-1806. (2008) <https://trid.trb.org/view/848220>.
68. Bassan, S., DeLiberty, T., & Faghri, A. GIS Temporal Application to Spatial Breakdown Evolution. *Traffic engineering & control*, 49(2), 70-74. (2008). (<http://cat.inist.fr/?aModele=afficheN&cpsidt=20079544>)
69. Bassan, S.; A. Polus, A. Faghri, "Time Dependent Analysis of Density Fluctuations and Breakdown Thresholds on Congested Freeways", *Journal of Transportation Research Record*, National Research Council #1965, pp. 40-47 (2008) <https://journals.sagepub.com/doi/10.1177/0361198106196500105>
70. Hamad, K., Faghri, A., & Nanda, R. A Behavioral Component Analysis of Route Guidance Systems Using Neural Networks. *Computer-Aided Civil and Infrastructure Engineering*, 18(6), 440-453. (2003). (<http://onlinelibrary.wiley.com/doi/10.1111/1467-8667.00329/full>)
71. Hamad, K., Faghri, A. An Innovative Methodology for Vehicular Demand Forecasting in Developing Countries. *Transportation Research Board Annual Meeting*. (2003). <http://onlinepubs.trb.org/onlinepubs/am/2002PrelimProgram.pdf>
72. Boliang, L., Faghri, A. Designing Optimal Train Connection Service and Routing Plan in a Large-scale Network by Simulated Annealing. *Journal of Transportation Research Record*, 1-30. (2003). <http://onlinepubs.trb.org/onlinepubs/am/2002PrelimProgram.pdf>
73. Faghri, A., Hamad, K. and DuRoss, M. Statistical Analysis of an Integrated GIS/GPS System for Travel Time and Delay Analysis. *Scientia Iranica, Vol. 10, #2, 153-163*. https://iranjournals.nlai.ir/article_516340_05b5acdd4fbb6bc984dd4553c507f704.pdf.

74. Faghri, A., Lang, A., Hamad, K., & Henck, H. Integrated Knowledge-Based Geographic Information System for Determining Optimal Location of Park-and-Ride Facilities. *ASCE Journal of urban planning and development*, 128(1), 18-41. (2002). [https://ascelibrary.org/doi/abs/10.1061/\(ASCE\)0733-9488\(2002\)128:1\(18\)](https://ascelibrary.org/doi/abs/10.1061/(ASCE)0733-9488(2002)128:1(18))
75. Faghri, A., Hamad, K. Application of GPS in Traffic Management Systems. *GPS solutions*, 5(3), 52-60. (2002). (<https://link.springer.com/article/10.1007%2FPL00012899?LI=true>)
76. Faghri, A., Hamad, K. Travel Time, Speed, and Delay Analysis Using an Integrated GIS/GPS System. *Canadian Journal of Civil Engineering*, 29(2), 325-328. (2002). (<http://www.nrcresearchpress.com/doi/abs/10.1139/I02-014#.WUA3NFXyviU>)
77. Faghri, A., Hamad, K. An Innovative Approach to Forecasting Traffic Demand in Developing Countries. *Transportation Research Board, National Research Council*, 1-30. (2002). <https://www.semanticscholar.org/author/Khaled-Ardeshir-Mingxin-Faghri/1485991115>
78. Faghri, A., Wahed, M. A. Development of a Computer Simulation Model to Optimize the Operations of a Multipurpose Seaport. *Transportation Research Board*, DTI 135. (2002). (<https://trid.trb.org/view.aspx?id=724334>)
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Catherine, A.; A. Faghri, "Application of Care-Sharing in Small Cities in the United States – Framework for Implementation and Analysis", Transportation Research Board, National Research Council, #08-1806 (2008)

Bassan, S.; A. Polus, A. Faghri, "Time Dependent Analysis of Density Fluctuations and Breakdown Thresholds on Congested Freeways", Journal of Transportation Research Record, National Research Council #1965, pp. 40-47 (2008)

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Technical Reports

Barkley, Alaine; Rebecca Calderon; Ardeshir Faghri; Architectural & Operational Optimization at the DE Hospital for the Chronically Ill; DE Department of Health & Social Services (2020)

Tima, Sama; Chris Evans; Ardeshir Faghri; DE Department of Health & Social Services Transportation Optimization; DE Department of Health & Social Services (2019)

Tima, Sama, Chris Evans; Ardeshir Faghri; ADA & DE Department of Health & Social Services; DE Dept. of Health & Social Services (2019)

Faghri, Ardeshir; Dian, Yuan; et al; FY17 Fall GPS (Task 41-1717) Processing of DelDOT Bluetooth Data for Travel Time Measurement; DE Department of Transportation (2019)

Faghri, Ardeshir; Dian, Yuan; et al; FY18 Bluetooth Faghri (Task 80-1717) Processing of DelDOT Bluetooth Data for Travel Time Measurements; DE Department of Transportation (2019)

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Li, M., Faghri, A., & Fan, R. Determining Ideal Locations for Radar Speed Signs for Maximum Effectiveness: A Review of the Literature. University of Delaware. (2017)

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Faghri, A. Trade-off Analysis with Time and Cost Estimation. Task E Report, Applications of Artificial Intelligence to Urban Congestion Problems. Federal Highway Administration DTFH61-87-C00034, KLD Report # 228 (1989).

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Faghri, A. Representation and Control Strategy Selection Criteria for Building Expert Systems in Transportation. KLD Technical Report. (1988).

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Faghri, A. and M. J. Demetsky. Transportation Engineers and Knowledge-Based *Expert* Systems. Virginia Department of Transportation, Virginia Transportation Research Council (1987).

Faghri, A. and M. J. Demetsky. Evaluation of Methods for Predicting Rail-Highway Grade Crossing Hazards. Virginia Department of Transportation, Virginia Transportation Research Council (1987).

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Faghri, A., Demetsky, M. J. Evaluation of methods for predicting rail highway crossing hazards (No. VHTRC86-R32). (1986).

Grant Proposal Reviews

National Science Foundation, Division of Civil & Mechanical Engineering, NSF, Arlington,
Virginia

City University of New York Transportation Center, CUNY, New York, New York

University of Maryland, Department of Civil Engineering Transportation Center, College Park,
Maryland

University Transportation Center (UTC) program, Research & Innovative Technology
Administration (RITA), U.S. Department of Transportation

Funded Grants & Contracts

Sponsor(s): **Federal Highway Administration, Delaware Dept. of Transportation**
Title: Devel. & Analysis of Methods to Support Eval. of Health & Social Impacts(II)
Amount: \$30,000.00
Duration: 2021-2023
Role: Principal Investigator

Sponsor(s): **University of Sharjah**
Title:

Amount:
Duration: 2020-
Role: Co-Principal Investigator

Sponsor(s): Federal Highway Administration, Delaware Dept. of Transportation
Title: Devel. & Analysis of Methods to Support Eval. of Health & Social Impacts(I)
Amount: \$87,823.15
Duration: 2020-2022
Role: Principal Investigator

Sponsor(s): DE Dept. of Health & Social Services, UD COE
Title: Operational Optimization at the DE Hospital for the Chronically Ill (DHCI)
Amount: \$5000.00
Duration: 2019-2021
Role: Principal Investigator

Sponsor(s): DE Dept. of Health & Social Services, UD COE
Title: ADA Compliance & Transportation Optimization at DHSS
Amount: \$8000.00
Duration: 2019-2020
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, DE Dept. of Transportation
Title: How much can Off-Peak Freight Delivery Reduce Emissions & Congestion
Amount: \$87,000
Duration: 2019-2021
Role: Co-Principal Investigator, Mingxin Li (PI)

Sponsor(s): Federal Highway Administration, DE Dept. of Transportation
Title: Safety & Operational Impacts of Tractors on Delaware's Rural Roads
Amount: \$78,000
Duration: 2019-2021
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, DE Dept. of Transportation
Title: The Source, Extent and Problems Associated with Litter on Delaware Roads
Amount: \$78,000
Duration: 2019-2021
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, DE Dept. of Transportation
Title: Bluetooth Data & Information Extraction
Amount: \$110,000

Duration: 2017-2020
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, DE Dept. of Transportation
Title: What Innovative Applications of TMC Data Can Be Implemented ?
Amount: \$90,000
Duration: 2017-2019
Role: Co-Principal Investigator

Sponsor(s): DART First State
Title: How can “Big Data” be Utilized to Enhance the Transit Planning Process ?
Amount: \$110,000
Duration: 2017-2019
Role: Co-Principal Investigator

Sponsor(s): US-Department of Transportation
Title: MATS-UTC University of Delaware
Amount: \$4,500,000
Duration: 2014-September 2019
Role: Principal Investigator(UD)

Sponsor(s): Federal Highway Administration, Delaware Dept. of Transportation
Title: Assessment of DART Transit Efficiency & Sustainability
Amount: \$30,000
Duration: 2009-2011
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, Delaware Dept. of Transportation
Title: Roundabouts Index Development and Evaluation
Amount: \$60,000
Duration: 2006-2012
Role: Principal Investigator

Sponsor(s): Federal Transit Administration
Title: Automotive-Based Hydrogen Fuel Cell Transit Buses
Amount: \$12,000,000.00
Duration: 2004-2011
Role: Co-Principal Investigator (With Professor Ajay Prasad, UD Mechanical Engineering)

Sponsor(s): Federal Highway Administration

Title: Tier II Transportation Research Center

Amount: \$2,000,000.00

Duration: 2005-2011

Role: Principal Investigator (Managed by Professor Sue McNeil, UD Civil & Environmental Engineering)

Sponsor(s): Federal Highway Administration, SPR, DelDOT

Title: Statistical Analysis of Traffic Monitoring in the State of Delaware

Amount: \$81,000

Duration: 2003-2006

Role: Principal Investigator

Sponsor(s): NASA – Goddard Space Flight Center

Title: A Study of Logistics and Transportation Operations at NASA

Amount: \$20,000

Duration: 2001– 2005

Role: Principal Investigator

Sponsor(s): Federal Highway Administration, SPR, DelDOT

Title: Development and Monitoring of a Statistically Reliable Counting Program

Amount: \$69,000

Duration: 2001-2005

Role: Principal Investigator

Sponsor(s): Delaware Solid Waste Authority

Title: Optimization of Transportation of Solid Waste in Delaware

Amount: \$81,000

Duration: 2001–2005

Role: Principal Investigator

Sponsor(s): Maryland Department of Transportation, Cecil County, MD

Title: GPS Travel Time Data Collection & Analysis

Amount: \$65,000

Duration: 2001–continuing

Role: Principal Investigator

Sponsor(s): Federal Highway Administration, SPR, DelDOT

Title: Travel Time and Delay Measurements Using Satellite and Global Positioning Systems Technology

Amount: \$950,000

Duration: 1996–Continuing
Role: Principal Investigator

Sponsor(s): Edwards & Kelcey International Consulting Engineers
Title: Graduate Intelligent Transport Systems Research and Education
Amount: \$74,000
Duration: 2000–2001
Role: Co-Principal Investigator (with Holly Rybinski, PE, PTOE)

Sponsor(s): Edwards & Kelcey International Consulting Engineers
Title: Sussex Traffic Data Collection & Pattern Analysis
Amount: \$35,000
Duration: 2000–2001
Role: Co-Principal Investigator (with Holly Rybinski, PE, PTOE)

Sponsor(s): National Science Foundation
Title: Integrative Graduate Education & Research Training Award, for the
Project: An Innovative Method for Conducting Transportation Planning in
Developing Countries
Amount: \$10,000
Duration: 1999–2000
Role: Principal Investigator (with Ph.D. Student, K. Hamad)

Sponsor(s): Federal Highway Administration, SPR, DelDOT
Title: Application of ITS in Delaware. Transportation Management and Control
Laboratory, Research and Training
Amount: \$307,000
Duration: 1999–present
Role: Co-Principal Investigator (with Professor Shinya Kikuchi)

Sponsor(s): Edwards and Kelcey International, FHWA, DelDOT
Title: ITS/TMC Program Development for DelDOT
Amount: \$50,000
Duration: 1999–2004
Role: Co-PI/Sub-Contractor (PI: Holly B. Rybinski, PE, Edwards & Kelcey)

Sponsor(s): Delaware Transportation Institute, DelDOT

Title: Context-Sensitive Design Speed Selection Process
Amount: \$40,750
Duration: 1999–2001
Role: Principal Investigator

Sponsor(s): National Highway Institute, US Department of Transportation
Title: Eisenhower Faculty Research Award
Amount: \$5,000
Duration: 1998–99
Role: Principal Investigator

Sponsor(s): Port of Wilmington, City of Wilmington, Delaware Department of Transportation (DelDOT)
Title: Intermodal Transportation Issues at the Port of Wilmington, Delaware
Amount: \$32,000
Duration: 1997–99
Role: Principal Investigator

Sponsor(s): National Science Foundation, University of Delaware
Title: Institute for Transforming Undergraduate Education—Science and Engineering Scholars Program for 5 Undergraduate Student Research Assistants
Amount: \$20,000
Duration: 1997–2000
Role: Principal Investigator

Sponsor(s): Delaware Department of Transportation
Title: Intersection Signal Control Using Simulation, Evaluation and Optimization Models
Amount: \$38,000
Duration: 1996–98
Role: Principal Investigator

Sponsor(s): New Jersey DOT, Maryland DOT, Pennsylvania DOT, DelDOT, Federal Highway Administration
Title: I-95 Vehicle Classification & WIM Statistical Accuracy Analysis
Amount: \$13,000
Duration: 1996–98
Role: Principal Investigator

Sponsor(s): American Society of Highway Engineers
Title: Student Fellowships in Transportation and Construction Engineering
Amount: \$27,000

Duration: 1996–2002
Role: Principal Investigator

Sponsor(s): United Nations Development Program (UNDP)
Title: Transportation Engineering Training & Research in Developing Countries
Amount: \$20,000
Duration: 1996
Role: Principal Investigator

Sponsor(s): Delaware Department of Transportation
Title: Delaware Transportation Institute Administration and Management
Amount: \$71,000
Duration: 1996–97
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, FHWA/MD, NJ, DE, PA
Title: Statistical Accuracy Analysis of the I-95 Multi-State WIM & AVC
Amount: \$35,087 (\$21,087 Phase I, \$13,000 Phase II)
Duration: 1995–97
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, FHWA/DE
Title: AI in Traffic Signal Control Operation, and Analysis of Ex-Per. Sig.
Amount: \$90,000 (\$45,000 for Project I; \$45,000 for Project II)
Duration: 1994–96
Role: Principal Investigator

Sponsor(s): DelDOT/Delaware Transportation Center (DTC)
Title: Evaluation of GIS Applications to Transportation Engineering
Amount: \$56,000 (\$25,000 Phase I; \$31,000 Phase II)
Duration: 1993–95
Role: Principal Investigator

Sponsor(s): Delaware Department of Transportation/DTC
Title: An Analysis of Delaware's Rail-Highway Crossing Safety Program
Amount: \$63,000 (\$31,000 Phase I, \$32,000 Phase II)
Duration: 1992–94
Role: Principal Investigator

Sponsor(s): The Nissan Motor Corporation
Title: Modeling of Driver Perception/Reaction Patterns
Amount: \$30,000
Duration: 1992–93
Role: Co-Principal Investigator (with Professor Shinya Kikuchi)

Sponsor(s): Delaware Department of Transportation/DTC
Title: Enhancement of ENGEST, and Analysis of Sign Blockage by Trucks
Amount: \$33,000 (\$23,000 for Project 1, \$10,000 for Project II)
Duration: 1992–93
Role: Principal Investigator

Sponsor(s): University of Delaware Research Foundation, UDRF
Title: Evaluation of Neural Networks Application in Traffic Engineering
Amount: \$15,000
Duration: 1991–92
Role: Principal Investigator

Sponsor(s): Federal Highway Administration, FHWA/DE
Title: Demonstration of LOS through Videotape, and Multilane Design Alter.
Amount: \$60,000 (\$18,000 for Project I, and \$42,000 for Project II)
Duration: 1991–92
Role: Principal Investigator

Sponsor(s): National Cooperative Highway Research Program, (NCHRP)
Title: Use of Shoulders and Narrow Lanes to Increase Freeway Capacity
Amount: \$250,000
Duration: 1990–92
Role: Co-Principal Investigator (with Edward Lieberman, P.E.)

Sponsor(s): American Traffic Safety Services Association
Title: Steady-Burn Warning Lights – Evaluation and Alternatives
Amount: \$100,000
Duration: 1989–1991
Role: Co-Principal Investigator (with Gerhard King, P.E.)

Delaware Center for Transportation (DCT), Department of Civil & Environmental Engineering, University of Delaware (Summary)

Year 2001, Arde Faghri, Director, Wanda Taylor, Assistant to the Director, Total Center Budget ~ \$600,000, graduate students supported: 5, undergraduate students supported: 3

Year 2002, Arde Faghri, Director, Wanda Taylor, Assistant to the Director, Jerome Lewis (School of Urban Affairs & Public Policy), Associate Director, Larry Klepner, Coordinator, Technology Transfer program, Total Center Budget ~ \$1,100,000, graduate students supported: 7, undergraduate students supported: 4

Year 2003, Arde Faghri, Director, Wanda Taylor, Assistant to the Director, Jerome Lewis, Associate Director, Larry Klepner, Tⁿ Coordinator, Sandi Wolfe, Secretary, Total Center Budget ~ \$1,500,000, graduate students supported: 9, undergraduate students supported: 4

Year 2004, Arde Faghri, Director, Wanda Taylor, Assistant Director, Jerome Lewis, Associate Director, Larry Klepner Tⁿ Coordinator, Sandi Wolfe, Secretary, Total Center Budget ~ \$1,700,000, graduate students supported: 11, undergraduate students supported: 5

Year 2005, Arde Faghri, Director, Wanda Taylor, Assistant Director, Jerome Lewis, Associate Director, Larry Klepner, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Manager UTC Federal Program, Total Center Budget ~\$2,000,000, Also obtained a Federal Grant for ~\$12,000,000 from the Federal Transit Administration, graduate students supported: 20, undergraduate students supported: 5

Year 2006, Arde Faghri, Director, Wanda Taylor, Assistant Director, Jerome Lewis, Associate Director, Larry Klepner, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator UTC Federal Program, Matt Carter, Circuit Rider Engineer, Stephen Mensah, Post Doc. Total Center Budget ~\$4,000,000, graduate students supported: 25, undergraduate students supported: 6

Year 2007, Arde Faghri, Director, Wanda Taylor, Assistant Director, Jerome Lewis, Associate Director, Rusty Lee, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator UTC

Federal Program, Matt Carter, Circuit Rider Engineer, Stephen Mensah, Post Doc. Total Center Budget ~\$5,000,000, graduate students supported: 30, undergraduate students supported: 6

Year 2008, Arde Faghri, Director, Ellen Pletz, Assistant Director, Jerome Lewis, Associate Director, Rusty Lee, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator UTC Federal Program, Matt Carter, Circuit Rider Engineer, Stephen Mensah, Post Doc. Total Center Budget ~\$5,000,000, graduate students supported: 30, undergraduate students supported: 5

Year 2009, Arde Faghri, Director, Ellen Pletz, Assistant Director, Jerome Lewis, Associate Director, Rusty Lee, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator UTC Federal Program, Matt Carter, Circuit Rider Engineer, Stephen Mensah, Post Doc. Total Center Budget ~\$4,000,000, graduate students supported: 30, undergraduate students supported: 5

Year 2010, Arde Faghri, Director, Ellen Pletz, Assistant Director, Jerome Lewis, Associate Director, Rusty Lee, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator, UTC Federal Program, Matt Carter, Circuit Rider Engineer, Stephen Mensah, Post Doc. Total Center Budget ~\$4,000,000, graduate students supported: 30, undergraduate students supported: 5

Years 2010-2016 (annual average), Arde Faghri, Director, Ellen Pletz, Assistant Director, Jerome Lewis, Associate Director, Rusty Lee, Tⁿ Coordinator, Sandi Wolfe, Secretary, Sue McNeil, Coordinator, UTC Federal Program, Matt Carter, Circuit Rider Engineer, Ming Li, Post Doc. Total Center Budget ~\$3,000,000, graduate students supported: 30, undergraduate students supported: 6

Teaching

- . Recipient of the University of Delaware (UD) Excellence in Teaching Award (1996)**
- . Recipient of the UD College of Engineering Excellence in Teaching Award (2004)**
- . Nominated for an Excellence in Teaching Award by the Faculty Senate-2016**

Undergraduate Courses:

CIEG 101, Introduction to Engineering (co-taught)

CIEG 161, Civil Engineering Freshman Design (co-taught)

CIEG 351, Introduction to Transportation Engineering

CIEG 451, Transportation Engineering Laboratory

CIEG 482, Systems Design and Optimization

CIEG 415/615, Reliability Based Design of Civil Engineering Systems (With C.Y. Yang)

CIEG 452/652, Transportation Facilities Planning and Design

CIEG 467/667, Traffic Flow Theory

CIEG 467/667, Roadway Geometric Design

CIEG 466, Undergraduate Independent Study/ Research

Graduate Courses:

CIEG 667, Intelligent Transportation Systems (ITS)

Operations Research 803, Applications of Operations Research

CIEG 615/415, Reliability-Based Design of Civil Engineering Systems (With C.Y. Yang)

CIEG 667–13, Transportation Industry: Policy & Regulation

CIEG 667–11, Computing Methods in Transportation and Traffic

CIEG 867 , Transportation Graduate Seminar

Short Courses

Context-Sensitive Geometric Design, College of Engineering

Introduction to Expert Systems and Neural Networks, University of Delaware

Fundamentals of Engineering (FE), Engineering Economics

Guest Lectures

CIEG 125 Introduction to Civil Engineering

CIEG 667 Reliability Based Design of Civil Engineering Systems

CIEG 895 Soft Computing in Civil Engineering

GEOG 695 Seminars in Geography

OR 667 Engineering Applications of Operations Research & Optimization

Summary of Teaching Evaluations

F-2018 CIEG-657-Contemporary Topics in Transport. Q1-4.5; Q2-4.67; Q3-4.5; Q4-4.33; Q461-4.33
S-2018 CIEG-351-Intro. To Transportation Engr. Q1-4.19; Q2-4.33; Q3-3.76; Q4-3.58 (Mode=4);
Q461-3.60 (Mode=4)
S-2018 CIEG-161-Freshman Design Co-Taught with Allen Jayne and Tom Tsu

F-2017 CIEG-452/652-Transp. Facilities Design Q1-4.75; Q2-4.55; Q3-4.75; Q4-4.5; Q461-4.75
S-2017 CIEG-657- Contemporary Topics in Transport. Q1-5; Q2-4.5; Q3-5; Q4-5; Q461-5

F-2016 CIEG-452/652-Transp. Facilities Design Q1-5; Q2-5; Q3-4.33; Q4-4.67; Q461-4.33
S-2016 CIEG-351-Intro. To Transportation Engr. Q1-4.46; Q2-4.75; Q3-4.32; Q4-4.14; Q461-3.98

F-2015 CIEG-452/652-Transp. Fac. Design Q1-4.5; Q2-5; Q3-4; Q4-4.5; Q461-4.5
S-2015 CIEG-667-Contemp. Topics in Tr. Q1-4.33; Q2-4.33; Q3-4.33; Q4-4.67; Q461-4.33

F-2014 CIEG-452/652-Transp. Fac. Design Q1-4.25; Q2-4.63; Q3-4; Q4-4; Q461-4.33
S-2014 CIEG-451-Transportation Lab. Q1-4.24; Q2-4.38; Q3-3.9; Q4-3.95; Q461-3.9
S-2014 CIEG-351-Intro. To Trans. Engr. Q1-4.26; Q2-4.56; Q3-4.01; Q4-3.81 (Mode=4);
Q461-3.59 (Mode=4)

F-2013 EGGG-101-Intro. To Engr. Co-Taught with Michael Vaughan and other faculty
F-2013 CIEG-467/667-Contemp. Topics in Transport Q1-4.71; Q2-4.71; Q3-4.53; Q4-4.35; Q461-4.35

F-2012 EGGG-101-Intro. To Engr. Co-Taught with Michael Vaughan and other faculty
S-2012 CIEG-351-Intro. To Transp. Engr. Q1-4.36; Q2-4.51; Q3-4.24; Q4-3.99(Mode=4);
Q461-3.68(Mode=4)

F-2011 CIEG-865-Grad. Seminar Q1-4.5; Q2-4.30; Q3-4.50; Q4-4.25; Q461-4
S-2011 CIEG-451-Transp. Lab. Q1-4.3; Q2-4.6; Q3-4.1; Q4-4.1; Q461-4

Spring 2010 – CIEG-452/652 Transportation Facilities Planning & Design

Q1 – 4.67, (Department Average – 4.38), (College Average – 4.37)

Q2 – 4.75, (Department Average – 4.49), (College Average – 4.54)

Q3 – 4.56, (Department Average – 4.04), (College Average – 4.01)

Q4 – 4.33, (Department Average – 3.98), (College Average – 3.88)

Q461 – 4.11, (Department Average – 3.77), (College Average – 3.65)

Sample Students' Comments: "Instructor is very good and makes a strong effort to get all of his students involved and interested in the course." "Good class, interesting subject matter."

Fall 2009 – CIEG-451 Transportation Engineering Laboratory

Q1 – 4.75, (Department Average – 4.35), (College Average – 4.37)

Q2 – 5, (Department Average – 4.51), (College Average – 4.52)

Q3 – 4.75, (Department Average – 4.03), (College Average – 4.09)

Q4 – 4.5, (Department Average – 4.01), (College Average – 4.02)

Q461 – 4.5, (Department Average – 3.8), (College Average – 3.63)

Sample Students' Comments: "Learned about Intelligent Transportation Systems." "One of the best courses I've taken in my undergraduate career." "Faghri was passionate about subject and willing to answer all questions students had."

Spring 2009 – CIEG-452/652 Transportation Facilities Planning and Design

Q1 – 4.75, (Department Average – 4.39), (College Average – 4.33)

Q2 - 5, (Department Average – 4.51), (College Average – 4.51)

Q3 – 4.75, (Department Average – 4.1), (College Average – 3.92)

Q4 – 4.5, (Department Average – 3.99), (College Average – 3.82)

Q461 – 4.5, (Department Average – 3.76), (College Average – 3.82)

Sample Students' Comments: "Dr. Faghri has always been one of my favorite professors over the years." "I thought Dr. Faghri did a good job of relating real life examples of the types of things we talked about."

Fall 2008 – CIEG-451 Transportation Engineering Laboratory

Q1 – 4.33, (Department Average – 4.25), (College Average – 4.31)

Q2 – 4.67, (Department Average – 4.42), (College Average – 4.47)

Q3 – 4.56, (Department Average – 3.98), (College Average – 3.95)

Q4 – 4.22, (Department Average – 3.82), (College Average – 3.84)

Q461 – 3.89, (Department Average – 3.68), (College Average – 3.50)

Sample Students' Comments: "Exposure to transportation software was very beneficial."

Spring 2008 – CIEG-452/652 Transportation Facilities Planning and Design

Q1 – 4.4, (Department Average – 4.39), (College Average – 4.28)

Q2 – 4.8, (Department Average – 4.57), (College Average – 4.47)

Q3 – 4.2, (Department Average – 4.04), (College Average – 3.90)

Q4 – 4.2, (Department Average – 4), (College Average – 3.79)

Q461 – 4, (Department Average – 3.72), (College Average – 3.55)

Sample Students' Comments: "I learned so much from this class and I really enjoyed all the topics covered."

Fall 2007 – CIEG-451 Transportation Engineering Laboratory

Q1 – 5, (Department Average – 4.33), (College Average – 4.37)

Q2 – 5, (Department Average – 4.52), (College Average – 4.55)

Q3 – 4.5, (Department Average – 3.92), (College Average – 3.85)

Q4 – 4, (Department Average – 3.85), (College Average – 3.85)

Q461 – 4.25, (Department Average – 3.57), (College Average – 3.52)

Sample Students' Comments: "Excellent instructor. Talks about topics in the field that stimulate students' interest and tries to link Lab., work with applications."

Spring 2007 – CIEG-452/652 Transportation Facilities Planning and Design

Q1 – 4.33, (Department Average – 4.15), (College Average – 4.28)

Q2 – 4.33, (Department Average – 4.34), (College Average – 4.42)

Q3 – 4.33, (Department Average – 3.75), (College Average – 3.87)

Q4 – 4, (Department Average – 3.63), (College Average – 3.78)

Q461 – 4, (Department Average – 3.4), (College Average – 3.54)

Sample Students' Comments: "Dr. Faghri definitely knows his material." "Lectures were very interesting."

Fall 2006 – On Sabbatical

Spring 2006 – CIEG – 452/652 Transportation Facilities Planning and Design

Q1 – 4.5, (Department Average – 4.23), (College Average – 4.25)

Q2 – 4.67, (Department Average – 4.46), (College Average – 4.46)

Q3 – 4.5, (Department Average – 3.85), (College Average – 3.84)

Q4 – 4.67, (Department Average – 3.82), (College Average – 3.77)

Q461 – 4.17, (Department Average – 3.46), (College Average – 3.49)

Sample Students' Comments: "Notes were very helpful." "Interesting class, good use of videos and examples..."

Fall 2005 – CIEG – 451 Transportation Engineering Laboratory

Q1 – 4.56, (Department Average – 4.44), (College Average – 4.45)

Q2 – 4.89, (Department Average – 4.65), (College Average – 4.64)

Q3 – 4.56, (Department Average – 3.97), (College Average – 3.98)

Q4 – 4.5, (Department Average – 3.88), (College Average – 3.92)

Q461 – 4.17, (Department Average – 3.52), (College Average – 3.68)

Sample Students' Comments: "Nice guy that shows a genuine interest in ITS technologies and has lots of experience and knowledge in the field."

Spring 2005 – CIEG – 452/652 Transportation Facilities Planning and Design

Q1 – 4.67, (Department Average – 4.35), (College Average – 4.55)

Q2 – 4.67, (Department Average – 4.56), (College Average – 4.55)

Q3 – 4.33, (Department Average – 3.97), (College Average – 4.00)

Q4 – 4.33, (Department Average – 3.88), (College Average – 3.90)

Q461 – 4.17, (Department Average – 3.52), (College Average – 3.62)

Sample Students' Comments: "Dr. Faghri is one of the most sincere professors I've had in UD."

Academic Advisement

- **Recipient of the University of Delaware Excellence in Undergraduate Advising Award (1995)**
- **Nominated for the University of Delaware Excellence in Undergraduate Advising Award (2014)**

Undergraduate Advisement:

Advisor to ~ 35 Undergraduate Civil Engineering Students Annually

Undergraduate Research Training & Internship

Advisor to Wilmington Charter High School Senior Students

Graduate Advisement:

PH.D. DISSERTATION ADVISOR:

Jiuyi Hua. Traffic Signal Control Optimization by Artificial Neural Networks (1995)

Nanda Raman. Development of a Comprehensive Route Guidance System with Behavioral and Information Supply Strategy Components (1997)

Khaled Hamad. Evaluation of Hilbert Huang Modeling Applications in Short-Term Forecasting of Traffic Volumes (2004)

Shy Bassan. Experimental Modeling of Spatial Breakdown in Congested Freeways (2005)

Sepideh Eshragh. Dynamic Traffic Assignment Involving Roundabouts (2012)

Morteza Tabatabaei. Preemption and Priority Signal Optimization (2012)

Reza Taromi. Land-Use/Transportation Modeling & Optimization (2012)

Kadir Ozden. Web-2.0 & General Internet for Transport Planning (2014)

Michael Vaughan (2015)

Yifan Wang (2020)

Dian Yuan (2020)

Diane Calloway (2020)

MASTER'S THESIS ADVISOR:

Wiley, Dallas MS

Alhathloul, Omar MS

Ambrose, Kimberly MS

Berihun, Abebaw MS

Brander, Zachary MS

Calloway, Diane MS & PHD

Carter, Mathew MS

Clem, James MS
Cronin, John MS
Disko, Michael MS
Eshragh, Sepideh MS & PHD
Frey, Rebecca MS
Humphrey, Sean MS
Konzelman, Kevin MS
Li, Zhengming MS
Li, Pengyu MS
Lichliter, Andreas MS
Malkin, Austin MS
Mohammadizi, Rezvan MS
Nerwinski, Zach MS
Ozden, Abdulkadir MS & PHD
Pavlick, Drew MS
Peraino, Nathan MS
Rahaim, Nathan MS
Suarez, Robert MS
Tabatabaie Shourijeh, Morteza MS & PHD
Taromi, Reza MS & PHD
Vaughan, Michael PHD
Wang, Yifan MS & PHD
Wang, Ning MS
Xiong, Xiangyuan MS

Yuan, Dian MS & PHD

Zhang, Bai MS

Joshua Schwartz. Non-Thesis DelDOT Masters Program (2011)

Julio Seneus. Non-Thesis DelDOT Masters Program (2011)

Abdulrahman Suleiman. Non-Thesis Masters Program (2011)

Amirhossein Shahpar. Quantitative Analysis of DART Operations (2010)

Reza Taromi. Genetic Algorithms Applications to Urban Street Directional Optimization (2010)

Jamshid Laghaei. Impact of Internet Shopping on Transportation-An 8-Year Study (2010)

Robert Suarez. Comparative Analysis of GPS Hardware Applications (2010)

Anuar Amanzholov. Development of Off-Peak Traffic Signal Strategy (2009)

Michael Fry. Regional Airports' Impact on Air-Transport Demand (2007)

Yost Van Boekhold. Contemporary Security Issues at U.S. Airports – A Simulation Approach (2006)

Evy Vlahos. Environmental Evaluation of Roundabouts (2006)

Stefan Rukowicz. Alternative Fuels for Public Transit Vehicles (2005)

Adam Catherine. Car Sharing in Mid-size US Cities (2005)

David Capparuccini. Statistical Analysis of Traffic Monitoring Programs (2004)

Laura Berzina. Automation of GPS Travel Time & Delay Measurements (2004)

Shilpa Malem. Route Optimization Using GPS (2004)

Soma Chattopadhyay. DSWA Operational Efficiency Analysis (2003)

Tim Anderson Non-thesis master's Student (2003)

Tania Cvetek. Evaluation of the Effects of e-Commerce on Transportation (2001)

Adam Lang. A KBES/GIS for Optimally Locating Park and Ride Facilities (2000)

Kevin Hunt. Determination of the Optimum Location of Toll Booths in the ITS Era (2000)

Hamad, Khaled. Development of an Innovative Method for Conducting Transportation Planning in Developing Countries (2000)

Mir Wahed. Development of a Computer Simulation Model for the Port of Wilmington, Delaware (1999)

Mark Harbeson. A GIS-Based Expert Systems for Evaluating the Design Consistency of Horizontal Alignments (1998)

Heather Dorsey. Paratransit Scheduling Optimization by GIS and Database Management System (1998)

Alex Faghri. Applications of Global Positioning System to Travel Time and Delay Measurements (1998)

Erika Egyhaziova. A Simulation Model for Mixed Auto and Bicycle Traffic (1996)

Marcel Klik. Estimation of Pass-by Trips Using ANNs (1995)

Austin Chang. Intersection Sight Distance Analysis Using Virtual Reality (1995)

Martin Glaubitz. GIS Applications in Port Planning and Evaluation (1995)

Mark Parker. Development of an off-peak Signal Timing Str. for Newark (1995)

Sandeep Aneja. Trip Production Modeling Using ANNs (1995)

Sriram Panchanathan. A Knowledge-Based GIS for Rail/Highway Crossings (1995)

Ramesh Buddharaju. Evaluation of Flashing Green Traffic Signal Control Strategy (1994)

Ken Chu. Application of Markov Chains in Signal Optimization (1993)

Puvvada Sivaramavittal. Reliability and Risk Analysis of Route Guidance Systems (1993)

Dissertation and Thesis Committee Membership

Carla Morris. A Study of Applied Stochastic Processes in Observations and Least Squares. UD Mathematical Sciences Department, Ph.D. 2001

Hironori Suzuki. Development of a Neural Kalman Filter for OD Travel Time Estimation, Asian Institute of Technology, Thailand, Ph.D. 2000

Willem Everett Meyer, A Genetic Algorithm Approach to the Dynamic Fleet Assignment Problem University of Stellenbosch, South Africa. Ph.D. 1998

In-Dong Kim Airport Capacity Analysis by Fuzzy Set Theory, Ph.D. 1998

Mitsuru Tanaka. Traffic Flow Simulation of Automated Highway Systems M.S. 1997

Tappio Luttinen. Evaluation of Stochastic Models in Traffic Flow, Helsinki University of Technology, Ph.D. 1996

Yasushi Tanaka. Development of a Matrix of Evaluation for ITS Technologies for Local Governments, M.S. 1996

Christine Haas. Neural Network Application in Paratransit, M.S. 1995

Paul Agnelo. Congestion Pricing in Delaware, M.S. 1994

Partha Chakroborty. Car Following Theory Using Fuzzy Sets, Ph.D. 1993

Vijaykumar Perinchery. Analysis of Large-Scale Systems by FST, Ph.D. 1993

Janaki Parameswaran. Fuzzy Set Theory Applications in Public Transport, M.S. 1992

Natasa Vukadinovich. Fuzzy Set Theory Applications in Special Transport, M.S. 1992

Nanda Raman. ANN and Fuzzy Set Applications in Public Transport, M.S. 1991

PH.D. EXAMINATION COMMITTEE MEMBERSHIP

In-Dong Kim, Civil Engineering (1995)

Jiuyi Hua, Civil Engineering (1994)

Partha Chakroborty, Civil Engineering (1993)

Vijaykumar Perrinchery, Civil Engineering (1993)

Nanda Raman, Civil Engineering (1993)

POST-DOCTORAL FELLOWS SUPPORTED

Ming Li (Ph.D. University of Utah) 2009

Stephen Mensah (Ph.D. University of Delaware) 2008

Mehdi Fallah-Tafti (Ph.D. Cardiff University, UK) 2000

Prakash Ranjitkar (Ph.D. Hokkaido University, Japan) 2006

VISITING PROFESSORS SUPPORTED

Manouchehr Vaziri (Sharif University of Technology) 1995

Li Boliang (Jiao-Tong University of Technology, China) 2001

Avi Polus (Technion, Israel) 2004

UNDERGRADUATE RESEARCH ASSISTANTS SUPPORTED

About 3 per year during 2010-2020

Joseph Cramwell, Sophomore, Civil Engineering, 2010

Robert Suarez, Senior, Civil Engineering, 2007

Julie Trick, Freshman, Civil Engineering, UD. 2005

Danielle Pollet, Freshman, Civil Engineering, UD. 2005

Melissa Quinones, Sophomore, Civil Engineering UD. 2002-2004

Brittany Hackman, Sophomore, Civil Engineering UD. 2002-2004

Richard Kee, Exchange Student, Junior, Civil Engineering, Imperial College, London, England,
Project: Applications of Virtual Reality in Traffic Simulation, 2001

David Capparuccini, Junior, Civil & Environmental Engineering, Project: Evaluations of Safety
Procedures for Pedestrians and Bicyclists in Delaware, Winter 2001

David Petrucci, Junior, Civil & Environmental Engineering, Project: Evaluation of Safety
Procedures for Pedestrians and Bicyclists, June 2000–January 2001

J. R. Stokes, Junior, Civil & Environmental Engineering, Project: Global Positioning Systems
for Traffic Delay Data Collection, September 2000–December 2000

Christian Mategrau, Junior, Civil & Environmental Engineering, Project: Global Positioning
Systems for Traffic Delay Data Collection, September 2000–December 2000.

Heather Henck, Junior, Civil & Environmental Engineering, Project: Transportation Planning for Disaster Management, December 1999–January 2001

Don Kerr, Junior, Mechanical Engineering, Project: Global Positioning Systems for Traffic Delay Data Collection, June 1998–June 2001

Denny Hehman, Junior, Civil & Environmental Engineering, Project: Volume, Classification and Weight Data Analysis, August 1997–August 1999

Monique Hite, Junior, Civil & Environmental Engineering, Project: Volume, Classification and Weight Data Analysis, June 1997–September 1997

Dennis Moore, Junior, Civil & Environmental Engineering, Project: Satellite Global Positioning Systems Applications in Traffic Analysis, Summer 1997

Joshua Moss, Sophomore, Civil & Environmental Engineering, Project: Global Positioning Systems Traffic Delay Data Collection, Summer 1996

Professional Affiliations

American Society of Civil Engineers (ASCE), (1976–present). Member of the Committee on Planning (1990–present). Member of the Committee on Computation (1990–present)

Institute of Transportation Engineers (ITE) (1984–present)

Transportation Research Board (TRB), National Research Council (NRC). Member of the Artificial Intelligence Committee. Chair, NN Subcommittee. Member of the Traffic Signal Control Devices Committee. (1985–present)

American Society of Highway Engineers (ASHE) (1994–present)

American Society of Engineering Education (ASEE) (1998–present)

Scientific/ Professional Activities

Chair. Transportation Research Board, Session on Hybrid AI Systems, Committee on Artificial Intelligence, Washington, D.C., 2001 -

Chair. Transportation Research Board, Session on Neural Nets, Committee on Artificial Intelligence, Washington, D.C., 2000 -

Presenter, Tutorial on Applications of Neural Networks in Transportation Engineering, Transportation Research Board, Washington, D.C., 2000 -

Member, Steering Committee, International Conference on Artificial Intelligence and Mathematical Methods in Pavement Systems, Newark, Delaware, 2000

Member, Program Committee, 11th European Conference on AI in Transportation Systems and Science, Helsinki, Finland, 1999

Chair. Session on Traffic Flow Theory and Artificial Intelligence. Transportation Research Board, National Research Council, Washington, D.C. 1999

Member, ITS I-95 Consortium of Universities (1999 -

Presenter. Poster Session/Tutorial. Fundamental of Neural Networks with Applications in Transportation Engineering. Transportation Research Board, National Research Council, Washington, D.C., 1998

Chair, Scholarship Coordination Liaison, American Society of Highway Engineers First State Section (1996 -

Reviewer for Journal of Transportation Research (Part C) (1994 -

Chair. Neural Network Subcommittee, Artificial Intelligence Committee, Transportation Research Board, National Research Council (1992 -

Chair. Artificial Neural Networks Session. International Conference on Artificial Intelligence Applications in Transportation Engineering, Engineering Foundation Ventura, California (1992)

Reviewer for ASCE Journal of Transportation Engineering (1992 -

Chair. Transportation and Traffic Engineering Session. The 9th National Conference on Microcomputers in Civil Engineering, American Society of civil Engineers (ASCE) (1991)

Correspondent. ASCE, Urban Transportation Division (UTD) Executive Committee (1991–1994)

Moderator. Session on Applications of Neural Networks and Fuzzy Set Theory in Transportation Engineering. 72nd Annual Meeting, Transportation Research Board, National Research Council, Washington, D.C. (1991, 1993)

Reviewer for ASCE Journal of Engineering Mechanics (1991 -

Reviewer for ASCE Journal of Port & Coastal Engineering (1991 -

Reviewer for Journal of Advanced Transportation (1991 -

Reviewer for TRB Traffic Flow Theory Committee (1991 -

Reviewer for TRB Traffic Signal Control Committee (1988 -

Reviewer TRB Artificial Intelligence Committee (1987 -

Reviewer for ASCE Journal of Computing in Civil Engineering (1987 –

Reviewer for ASCE Journal of Transportation Engineering (1987 -

Member of Promotion and Tenure Committee for various National and International Universities
(1991 -

University, College, and Departmental Services

University of Delaware Services (University Level)

Member, U. of D. President's Commission on Diversity (2005 -

Member, U. of D. Faculty Senate Committee on Promotions and Tenure, 2001, 1996-1998

Member, U. of D. Provost Task Force on Middle States Educational Program & Curriculum, 2000 -

Member, Provost's New Faculty Orientation Program, 1999 -

Member, University of Delaware Faculty Senate Rules Committee, 1999

President, Asian Americans & Pacific Islanders Caucus (AAPIC) (1998–2001)

Member, DTI Technical & Scientific Advisory Committee (TSAG), 1998 -

Fellow, Institute for Transforming Undergraduate Education, 1997 -

Member, Asian Americans and Pacific Islanders Caucus, 1996–present

Member, University of Delaware Faculty Senate Curriculum (CURC) Committee (1996–1998)

Member, University of Delaware Faculty Senate, Committee on Committees (COCAN) (1996–1999)

Member, University of Delaware Faculty Senate Undergraduate Studies Committee (1996–1998)

Member, University of Delaware Faculty Senate P & T Committee (1996–1998)

Member, Undergraduate Research in Science & Engineering Scholars Program (1995–present)

Interim Director, Delaware Transportation Institute (1995–97)

Member, University of Delaware Faculty Senate (1993–94 and 1994–95)

Member, Provost's Scholarship Evaluation Committee for the University of Delaware (1992–93, 1993–94, 1994–95, 1995–96, 1998)

College of Engineering Services (College Level)

Chair, Industrial Advisory Committee, Resources to Insure Successful Engineers (2000 -

Member, Dean of Engineering Search Committee, 1999

Member, Mt. Pleasant High School Lecture Presenter on Behalf of the College of Engineering, 1999

Member, College Task Force on Admissions, 1999

Member, high school teachers' workshop. Title of presentation: Applied Statistics in Traffic Engineering, 1998

Member, LAIRD Graduate Scholarship Committee, 1998

Member, CE Chair Search Committee, 1996

Presented Short Courses for the OUTREACH Program. 1995-1997, 2001

Presented FE classes in Engineering Economics, College of Engineering (1991–97)

Secretary, Faculty Meetings, College of Engineering, University of Delaware (1991–93).

Participated in the University of Delaware College of Engineering Advising of freshmen, honors and transfer students (1991–present)

Department of Civil & Environmental Engineering Services (Departmental Level)

Associate Chair (2001-2006)

Director, Delaware Center for Transportation Studies (2001 -

Coordinator, Internship Program (1998–2006)

Member, Faculty Search Committee 1999

Chair, Undergraduate Recruitment Committee (1996 -

Member, P & T Committee (1996 -

Member, Assistant Professors 2–year & 4-year review committee (1996 -

Secretary, Faculty Meetings, Department of Civil Engineering, University of Delaware (1993–95)

Member of the U. of D. Civil Engineering Computation Committee (1991–96)

Member of the University of Delaware Civil Engineering Undergraduate Recruitment Committee (1991–present)

Advisor to Undergraduate Civil Engineering Students, University of Delaware (1991–present)

Participant in the University of Delaware Civil Engineering Open House for High School Students (1990–present)

Presenter, Talks in Numerous Local High Schools on University of Delaware Civil Engineering Program (1990–present)

Member of the University of Delaware Civil Engineering Undergraduate Committee (1990–present)

Professional Consulting

NASA – Goddard Space Flight Center

Edwards & Kelcey, International Consulting, Inc.

State of New Jersey Court House as Expert Witness,

Beth El Temple, Newark, Delaware

Government of Greece, Olympic Committee, Athens, Greece

United Nations Development Program, UNDP

ASCI Corporation, Washington, D.C.

Pennsylvania Department of Transportation

New Jersey Department of Transportation

Maryland Department of Transportation

Virginia Department of Transportation, Richmond, Virginia