

Iman Aghayan, Ph.D.

CURRENT EMPLOYMENT

Researcher, Institute for Physical Infrastructure & Transportation (IPIT), University of Wisconsin-Milwaukee

NWQ 4432, P.O. Box, Milwaukee, WI, aghayan@uwm.edu

EDUCATION (INSTITUTION, LOCATION, MAJOR, DEGREE, YEAR)

Ph.D. in Civil Engineering (Transportation Eng.), Eastern Mediterranean University, Cyprus, 2013

M.Sc. in Transportation Engineering, K. N. Toosi University of Technology, Iran, 2009

B.S. in Civil Engineering, Shahrood University of Technology, Iran, 2005

APPOINTMENTS (POSITION, ORGINZATION AND LOCATION)

Researcher

Dec 2022 – Present

Institute for Physical Infrastructure & Transportation (IPIT), University of Wisconsin-Milwaukee

Associate Professor/Assistant Professor

June 2013 – Dec 2022

Department of Civil Engineering, Shahrood University of Technology, Iran

Instructor

Jan 2012 – Jan 2013

Department of Civil Engineering, Eastern Mediterranean University, Cyprus

SELECTED AWARDS AND HONORS

- Distinguished Educator Award, Shahrood University of Technology, Iran, 2020
- Distinguished Research Award, Shahrood University of Technology, Iran, 2017

FUNDED RESEARCH ACTIVITIES

Selected Research Projects

1. Laboratory evaluation of the mechanical properties of roller compacted concrete pavement containing ceramic and coal waste (Grant No. 15027)
2. Performance evaluation of cold mix asphalt plant with MC-250 bitumen and hot mix asphalt on asphalt pavement cracks (Grant No. 50/5836)
3. Performance evaluation of cross-linked polyethylene waste in semi-flexible pavement (Grant No. 50/29621)

Book Chapter

Aghayan, I., Khafajeh, R. (2019). "Recycling of PET in Asphalt Concrete". Use of Recycled Plastics in Eco-efficient Concrete, 269-285. Elsevier.

Selected Papers Published

1. Bahrami Torkashvand, M., **Aghayan, I.**, Qin, X., Hadadi, F. (2022). "An extended dynamic probabilistic risk approach based on surrogate safety measure for rear-end collisions on two-lane roads", *Physica A: Statistical Mechanics and its Applications*, 603.
2. Khodanazari, H., Choupani, A.A., **Aghayan, I.** (2022). "The Contribution of Walking to School in Students' Physical Activity and Its Effect on Being Overweight", *BioMed Research International*, 2022.
3. Gholizadeh, M., **Aghayan, I.** Hadadi, F. (2022). "Modeling dynamic frequency response on slab track of Shinkansen railway based on finite element method", *Advances in Civil Engineering*, 2022.

4. Ataei, S.M., **Aghayan, I.**, Pouresmaeili, M.A., Babaie, M., Hadadi, F. (2022). "The emission factor adjustments of the passenger cars in multi-story car parks under drive modes", *Environmental Science and Pollution Research*, 29, 5105-5123.
5. Ganjali Khosrowshahi, A., **Aghayan, I.**, Kunt, M., Choupani, A.A. (2021). "Detecting crash hotspots using grid and density-based spatial clustering", *Proceedings of the Institution of Civil Engineers – Transport*, (Accepted).
6. Rezaei, D., **Aghayan, I.**, Hadadi, F. (2021). "Studying perturbations and wave propagations by lane closures on traffic characteristics based on a dynamic approach", *Physica A: Statistical Mechanics and its Applications*, 566.
7. **Aghayan, I.**, Khafajeh, R., Shamsaei, M. (2021). "Life cycle assessment, mechanical properties, and durability of roller compacted concrete pavement containing recycled waste materials", *International Journal of Pavement Research and Technology*, 14, 595-606.
8. Sadeghi, M., **Aghayan, I.**, Ghaznavi, M. (2021). "A cuckoo search based approach to design sustainable transit network", *Transportation Letters*, 13(9), 635-648.
9. Dabiri, A. R., **Aghayan, I.**, Hadadi, F. (2021). "A comparative analysis of the performance of turbo roundabouts based on geometric characteristics and traffic scenarios", *Transportation Letters*, 13(9), 674-685.
10. Khormani, M., Kalat Jaari, V.R., **Aghayan, I.**, Ghaderi, S.A., Ahmadyfard, A. (2020). "Compressive strength determination of concrete specimens using x-ray computed tomography and finite element", *Construction and Building Materials*, 256.
11. Shamsaei, M., Khafajeh, R., Ghasemzadeh Tehrani, H., **Aghayan, I.** (2020). "Experimental evaluation of ceramic waste as filler in hot mix asphalt", *Clean Technologies and Environmental Policy*, 22, 535-543.
12. Mohammadian Nameghi, I., **Aghayan, I.**, Behzadian R., Mosaberpanah, M.A. (2020). "Investigating the effect of using cross-linked polyethylene waste as fine aggregate on mechanical properties of hot mix asphalt", *International Journal of Transportation Engineering*, 7(3), 233-247.
13. Shahikhaneh, A., Ahmadi Azari, K., **Aghayan, I.** (2020). "Modeling the transport mode choice behavior of motorcyclists", *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 44, 175-184.
14. Najmi, A., Choupani, A.A., **Aghayan, I.** (2019). "Characterizing the driver behavior in dilemma zones at signalized roundabouts", *Transportation Research Part F: Psychology and Behaviour*, 63, 204-215.
15. Taghizadeh, S.A., Shafabakhsh, G., **Aghayan, I.** (2019). "Evaluation of aircraft emission at Imam Khomeini International Airport and Mehrabad International Airport", *International Journal of Environmental Science and Technology*, 16, 6587-6598.
16. Noii, N., **Aghayan, I.** (2019). "Characterization of elastic-plastic coated material properties by indentation techniques using optimisation algorithms and finite element analysis", *International Journal of Mechanical Sciences*, 152: 465-480.
17. Shamsaei, M., Khafajeh, R., **Aghayan, I.** (2019). "Laboratory evaluation of the mechanical properties of roller compacted concrete pavement containing ceramic and coal waste powders", *Clean Technologies and Environmental Policy*, 21, 707-716.
18. Pouresmaeili, M.A., **Aghayan, I.**, Taghizadeh, S.A. (2018). "Development of mashhad driving cycle for passenger car to model vehicle exhaust emissions calibrated using on-board measurements", *Sustainable Cities and Society*, 36, 12-20.
19. Tazik, M., **Aghayan, I.**, Sadeghi, M. (2017). "Application of multiple logistic regression, bayesian logistic and classification tree to identify the significant factors influencing crash severity", *Journal of Engineering Science and Technology*, 12(11), 3044-3056.

20. Shamsaei, M., **Aghayan, I.**, Akhavan Kazemi, K. (2017). “Experimental investigation of using cross-linked polyethylene waste as aggregate in roller compacted concrete”, *Journal of Cleaner Production*, 165, 290-297.
21. Pourzahedi, S., **Aghayan, I.** (2017). “An analysis of seismic behavior of two non-coplanar tunnels”, *Engineering Journal*, 21(2), 199-211.
22. Hatami, H., **Aghayan, I.** (2017). “Traffic efficiency evaluation of elliptical roundabout compared with modern and turbo roundabouts considering traffic signal control”, *PROMET Traffic & Transportation*, 29(1), 1-11.
23. Jalali Larijani, R., Dashti Nasserabadi, H., **Aghayan, I.** (2017). “Progressive collapse analysis of buildings with concentric and eccentric braced frames”, *Structural Engineering and Mechanics*, 61(6), 755-763.
24. Noii, N., **Aghayan, I.**, Hajirasouliha, I., Kunt, M. (2017). “A new hybrid method for size and topology optimization of truss structures using modified ALGA and QPGA”, *Journal of Civil Engineering and Management*, 23(2), 252-262.
25. Saeidi, H., **Aghayan, I.** (2016). “Investigating the effects of aging and loading rate on low-temperature cracking resistance of core-based asphalt samples using semi-circular bending test”, *Construction and Building Materials*, 126, 682-690.
26. Nasaj Moghadam, H., Keyhani, A., **Aghayan, I.** (2016). “Modelling of crack propagation in layered structures using extended finite element method”, *Civil Engineering Journal*, 2(5), 180-188.
27. **Aghayan, I.**, Hadji Hosseini, M., Kunt, M. (2015). “Application of support vector machine for crash injury severity prediction: A model comparison approach”, *Civil Engineering and Urbanism*, 5(5), 193-199.
28. Jalali Larijani, R., Celikag, M., **Aghayan, I.**, Kazemi, M. (2013). “Progressive collapse analysis of two existing steel buildings using a linear static procedure”, *Structural Engineering and Mechanics*, 48(2), 207-220.
29. Kazemi, M., Kunt, M., **Aghayan, I.**, Jalali Larijani, R. (2013). “Optimization model for fire station location based on GIS and Python: A case study in North Cyprus”, *Applied Mechanics and Materials*, Vol. 330, 1059-1064.
30. **Aghayan, I.**, Noii, N., Kunt, M. (2012). “Extended traffic crash modeling through precision and response time using fuzzy clustering algorithms compared with multi-layer perceptron”, *PROMET Traffic & Transportation*, 24(6), 455-467.
31. Kunt, M., **Aghayan, I.**, Noii, N. (2011). “Prediction for traffic accident severity: comparing the artificial neural network, genetic algorithm and combined genetic algorithm and pattern search methods”, *Transport*, 26(4), 353–366.

SYNERGISTIC ACTIVITIES

Associate Editor of *PLOS ONE*
Editorial Board of *The Open Transportation Journal*

Jan 2022 - Present
Mar 2019 – Dec 2020