

Mohammad Tayarani

PhD Candidate; Civil Engineering, MSC01 1070; 1 University of New Mexico; Albuquerque,
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EDUCATION

2013-2018

PhD, Civil Engineering, Transportation Planning, *University of New Mexico*, Albuquerque, NM

Dissertation: “Achieving Public Health and Climate Change Goals: What Do We Need to Know about the Transportation System?”

Advisor: Dr. Gregory Rowangould

2010-2013

Master of Science, Transportation Engineering, *Sharif University of Technology*, Tehran, Iran

Dissertation: “Network Reconstruction for Emergency Response Following a Major Earthquake: Definition and a Solution Algorithm”

Advisor: Dr. Hossain Poorzahedy

2005-2009

Bachelor of Science, Civil Engineering, *Tabriz University*, Tabriz, Iran

RESEARCH INTERESTS

- Vehicle emission and exposure modeling
 - Air quality and public health concerns
 - Impact of autonomous vehicles on traffic and travel demand
 - Integrated land use and travel demand modeling
 - Meta heuristics algorithm
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PEER REVIEWED PAPERS

1. **Tayarani, M.**, Nadafianshahamabadi, R., Poorfakhraei, A., and Rowangould, G., (Accepted) *Evaluating the Cumulative Impacts of a Long Range Regional Transportation Plan: Air Pollutant Exposure, Greenhouse Gas Emissions, and Transportation System Performance*, Transportation Research Part D: Transport and Environment.
 2. **Tayarani, M.**, Poorfakhraei, A., Nadafianshahamabadi, R., and Rowangould, G., (Accepted) *Can Regional Transportation and Land-Use Planning Reduce GHG Emissions?* Transportation Research Part D: Transport and Environment.
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3. **Tayarani, M.** Nadafianshahamabadi, R. (Submitted) *Association between exposure to traffic related air pollution and mortality: a meta-analysis*, International Health.
4. Shabanpour, R., Golshani, N., **Tayarani, M.**, Auld, J., Mohammadian, A., *Analysis of telecommuting behavior and impacts on travel demand and the environment*, Transportation Research Part D: Transport and Environment, Volume (62), 2018, Pages 563-576.
5. Poorfakhraei, A., **M. Tayarani**, and G. Rowangould. *Evaluating Health Outcomes from Vehicle Emissions Exposure in the Long Range Regional Transportation Planning Process*. Journal of Transport & Health, Volume 6, September 2017, Pages 501-515.
6. **Tayarani, M.**, Poorfakhraei, A., Nadafianshahamabadi, R., and Rowangould, G., *Evaluating Unintended Outcomes of Regional Smart Growth Strategies: Environmental Justice and Public Health Concerns*. Transportation Research Part D: Transport and Environment, Volume 49, December 2016, Pages 280-290.
7. Rowangould, G., and **Tayarani, M.**, *The Effect of Bicycle Facilities on Travel Mode Choice Decisions*. Journal of Urban Planning and Development, Volume 142, December 2016.
8. Nadafianshahamabadi, R. **Tayarani, M.** Rowangould, G., *Differences in Expertise and Values: Comparing Community and Expert Assessments of a Transportation Project*. Sustainable Cities and Society, Volume 28, January 2017, Pages 67-75.

SCHOLARLY PRESENTATIONS

1. **Tayarani, M.**, Nadafianshahamabadi, R., Poorfakhraei, A., and Rowangould, G., *Evaluating the Cumulative Air Quality Impacts of a Long Range Regional Transportation Plan*, Transportation Research Board Annual Meeting, January 2018, Washington, D.C.
2. Shabanpour, R., Golshani, N., **Tayarani, M.**, Auld, J., Mohammadian, A., *Developing an Integrated Framework for Assessing Potential Impacts of Telecommuting*, Submitted for Transportation Research Board Annual Meeting, January 2018, Washington, D.C.
3. Rowangould, G. Nadafianshahamabadi, R. Poorfakhraei, A. and **Tayarani, M.** *Is Long-Range Regional Transportation Planning in the United States Effective?* Smart Cities- Governing Accessibility, Air Pollution and Equity, University of São Paulo (USP) – School of Public Health, 2017, São Paulo, Brazil.
4. **Tayarani, M.**, *Achieving Public Health and Climate Change Goals: What do we Need to Know about Transportation System?* Shared Knowledge Conference, April 2017, Albuquerque, NM.
5. **Tayarani, M.**, Rowangould, G., Poorfakhraei, A., *Can Regional Transportation and Land Use Planning Reduce GHG Emissions?* Transportation Research Board Annual Meeting, January 2017, Washington, D.C.
6. **Tayarani, M.**, Rowangould, G., Poorfakhraei, A., *Quantifying the Air Quality, Congestion, and Health Benefits of Bicycles*, TRB Summer Conference on Transportation Planning and Air Quality, August 2016, Minneapolis, MN.

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7. Rowangould, G., **Tayarani, M.**, Poorfakhraei, A., *Can Regional Transportation and Land Use Planning Reduce GHG Emissions?* (Phase I) TRB Summer Conference on Transportation Planning and Air Quality, August 2016, Minneapolis, MN.
8. **Tayarani, M.**, Poorfakhraei, A., Nadafianshahamabadi, R., and Rowangould, G., *A Large Scale, High Resolution, Air Quality Modeling Framework to Evaluate Environmental Justice in Long Range Transportation Planning*. Transportation Research Board Annual Meeting, January 2016, Washington, D.C.
9. **Tayarani, M.**, Poorfakhraei, A., Nadafianshahamabadi, R., and Rowangould, G., *Smart Growth, Environmental Justice and Exposure to Toxic Air Pollutants: Competing Regional Transportation Planning Objectives*. 53rd Paving and Transportation Conference, January 2016, Albuquerque, NM.
10. Nadafianshahamabadi, R. **Tayarani, M.** Rowangould, G. *Differences in Expertise and Values: Comparing Community and Expert Assessments of a Transportation Project*. Transportation Research Board Annual Meeting, January 2016, Washington, D.C.
11. **Tayarani, M.** Rowangould, G. *Quantifying the Air Quality and Congestion Benefits of Bicycle Facilities: A Case Study from Albuquerque New Mexico*. Transportation Research Board, January 2015. Washington, D.C.
12. Rowangould, G., and **Tayarani, M.** *The Effect of Bicycle Paths on the Decision to Commute by Bicycle*. Transportation Research Board Annual Meeting, January 2015, Washington D.C.
13. Rowangould, G., Poorfakhraei, A., and **Tayarani, M.** *Rising Transportation Sector Greenhouse Gas Emissions in Metropolitan Areas, can they be Stopped?* The Air & Waste Management Association Annual Conference, June 2015, Raleigh, NC.
14. **Tayarani, M.** Poorfakhraei, A., and Rowangould, G., *Increasing Sustainability through Provision of Cycling Facilities: A Case Study in Albuquerque, New Mexico*. TRB Sustainability Conference, May 2015, Washington D.C.
15. **Tayarani, M.**, and Nadafianshahamabadi, R. *Exploring the Influence of New Bicycle Facilities on Commuting Mode Choice by Agent Based Modeling*, the 14th International Conference on Traffic and Transportation Engineering, March 2015, Tehran, Iran.

OTHER PUBLICATIONS AND REPORTS

1. Rowangould, G., **M. Tayarani**, A. Poorfakhraei, S. Lee, M. Tremble, and J. Vaivai (December 2014) *Central New Mexico Climate Change Scenario Planning Project: Draft Final Report*. Report prepared by the University of New Mexico and Ecosystem Management Inc. for the U.S. Department of Transportation VOLPE Center, Cambridge, MA.
2. Rowangould, G., **M. Tayarani**, and A. Poorfakhraei (November 2014) *Central New Mexico Climate Change Scenario Planning Project: Analysis of Additional Greenhouse Gas Mitigation Strategies*. Report prepared by the University of New Mexico for the U.S. Department of Transportation VOLPE Center, Cambridge, MA.

LECTURES

1. Guest lecturer, Achieving Public Health and Climate Change Goals: What Do We Need to Know about Transportation System?, New Mexico Section Institute of Transportation Engineers, March 2018.
2. Guest lecturer, Transportation Engineering (CE382), University of New Mexico, Albuquerque, NM, October 2017.
3. Guest lecturer, Urban Transportation Planning (CE481/581), University of New Mexico, Albuquerque, NM, April 2017.

MAJOR PROJECTS

1. Autonomous Vehicle Traffic Impact Scenario Analysis: Central New Mexico Case Study, New Mexico Department of Transportation (NMDOT), August 2017 - Current.
2. Science to Achieve Results Research Program - Early Career Award: Evaluating the Timeline of Particulate Matter Exposure from Urban Transportation and Land-Use Greenhouse Gas Mitigation Strategies Using Novel Modeling Framework, U.S. Environmental Protection Agency, January 2016 – Current.
3. Central New Mexico Climate Change Scenario Planning Project, U.S. Department of Transportation, March 2014- December 2015.

JOB EXPERIENCES

1. **Teaching Assistant**, *University of New Mexico, Albuquerque, NM*, Department of Civil & Environmental Engineering, Fall 2016, CE382: Transportation Engineering.
2. **Grant Assistant and Member of Grants Committee**, *University of New Mexico, Albuquerque, NM*, GPSA, January 2016 - Current.
3. **Research Assistant**, *University of New Mexico, Albuquerque, NM*, Department of Civil & Environmental Engineering, Fall 2013 - Current.

SKILLS IN COMPUTER AND PROGRAMMING

CUBE Voyager, Travel Demand Model	Python
US EPA AERMOD, Air Dispersion Model	R & Stata & SPSS
UrbanSim: Microsimulation Land Use Model	C#
US EPA BenMAP, Health Impact Model	ArcGIS
US EPA MOVES, Vehicle Emission Model	Visual Basic

AWARDS AND RECOGNITION

1. **Young Professional Runner-Up Best Paper Award**, Environmental Management Group, Air & Waste Management Association 107th Annual Conference, Raleigh, NC, 2014.
2. **Civil Engineering Department Award** (\$1000), Fall 2017.
3. **Student Travel Grant** (\$1000), Department of Civil Engineering, University of New Mexico, Spring 2015, Fall 2016.

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4. **Student Research Grant** (\$1500), University of New Mexico, Albuquerque, NM, Fall 2014, Spring 2016, Fall 2016.
 5. **Professional Development Grant** (\$1000), University of New Mexico, Albuquerque, NM, Spring 2016, Spring 2017.
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ACADEMIC SERVICE

- Reviewer: Transportation Research Part D, Transport and Environment, Elsevier.
- Reviewer: Journal of sustainable Cities and Societies, Elsevier.
- Reviewer: Environmental Engineering and Management Journal.
- Reviewer: Transportation Research Board:
 - *Standing Committee on Transportation and Air Quality*
 - *Standing Committee on Transportation Planning Applications*
 - *Standing Committee on Environmental Justice in Transportation*
 - *Standing Committee on Transportation and Sustainability*
 - *Standing Committee on Public Involvement in Transportation*