

# Cole D. Fitzpatrick, Ph.D.

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## EDUCATION

*University of Massachusetts Amherst* Amherst, MA  
Ph.D., Civil & Environmental Engineering (Transportation Emphasis) 2014-2016

- Advisor: Dr. Michael A. Knodler
- Dissertation: Evaluating the Impacts of Driver Behavior in the Speed Selection Process and the Related Outcomes

*University of Massachusetts Amherst* Amherst, MA  
M.S., Civil & Environmental Engineering (Transportation Emphasis, GPA 4.0) 2011-2013

- Advisor: Dr. Michael A. Knodler
- Thesis: The Effect of Roadside Elements on Driver Behavior and Run-off-the-Road Crash Severity

*Oregon State University* Corvallis, OR  
B.S., Civil Engineering, Emphasis in Transportation 2007-2011

## RESEARCH EXPERIENCE

*Post-Doctoral Researcher, UMass Amherst* 2017-present

1. Knodler (PI), Riessman (Co-PI), **Fitzpatrick (Investigator)** “Crash Data Audit” *Executive Office of Public Safety* **\$123,648**
2. Knodler (PI), Riessman (Co-PI), **Fitzpatrick (Investigator)** “2017 Statewide Observational Safety Belt Survey” *Executive Office of Public Safety* **\$89,055**
3. Knodler (PI), Riessman (Co-PI), Fitzpatrick (Investigator) “Investigation of an Improved Linkage Strategy for Crash Data” *Executive Office of Public Safety* **\$124,209**
4. Knodler (PI), Riessman (Co-PI), **Fitzpatrick (Investigator)** “Tools for Improving Crash Report Reviews” (Proposal Accepted, Contract under development) *Executive Office of Public Safety* **\$166,768**
5. Knodler (PI), Riessman (Co-PI) “Massachusetts Revised Crash Report Form E-Manual and Evaluation” *Executive Office of Public Safety* **\$118,019**
6. Ahmadjian (PI), **Fitzpatrick (Investigator)** “Measuring the Effectiveness of Competency Models for Job Specific Professional Development of Engineers & Engineering Technicians” *New England Transportation Consortium* **\$100,000**
7. Brierley-Bowers (PI, Donahue Institute), Jenn Whitehill (Co-PI), **Fitzpatrick (Investigator)** “Marijuana Baseline Health Study” *Massachusetts Department of Public Health through the UMass Donahue Institute* **\$250,000**
8. Knodler (PI), Samuel (Co-PI), **Fitzpatrick (Investigator)** “Examining Distracted Drivers’ Underestimation of Time and Overestimation of Speed” *United States Department of Transportation* **\$45,000**
9. Knodler (PI), Riessman (Co-PI), **Fitzpatrick (Investigator)** “Strategic Highway Safety Plan, Phase 2” *Massachusetts Department of Transportation* **\$199,196**
10. Knodler (PI), Riessman (Co-PI), **Fitzpatrick (Investigator)** “Strategic Highway Safety Plan, Phase 3” (Proposal Accepted, Contract under development) *Massachusetts Department of Transportation* **\$419,000**

*Graduate Research Assistant, UMass Amherst* 2014-2016

- UMass Transportation Center Fellowship recipient
- Conducted driving simulator studies to study roadside safety and time pressures
- Represented Civil Engineering graduate students in the Graduate Student Senate
- NSF I-Corps, Entrepreneurial Lead (Oct 2014 – Dec 2014)

- Graduate Research Assistant, UMass Amherst** 2011-2013
- UMass Transportation Center Fellowship Recipient
  - Managed six undergraduate students during the annual direct observation seat belt study
- Undergraduate Research Assistant, Oregon State University** 2010-2011
- Analyzed video data to measure gap acceptance
  - Reviewed potential publications and assisted with literature reviews

## WORK EXPERIENCE

- Civil Engineer I, Town of Agawam, MA** 2013-2014
- Performed field surveys and designed roadways
  - Managed traffic sign database and placed new orders when necessary
  - Reviewed submitted plans and inspected construction work in the town
- Innovative Data LLC, Belchertown, MA** 2012-present
- Performed turning movement counts (TMCs), installed Automatic Traffic Recorders (ATRs), and conducted parking facility observations

## ACADEMIC AWARDS AND ACHIEVEMENTS

- Dwight D. Eisenhower Graduate Fellowship, 2016
- New England University Transportation Center Student of the Year, 2015
- Eno Fellow, Dr. Thomas D Larsen Fellowship, 2015
- Eugene M. Isenberg Scholar, 2015, 2016
- ITE Northeastern District Student Paper Award, 2013, 2015
- New England ITE Thomas S. Desjardins Scholarship, 2014
- UMass Transportation Center Student of the Year, 2013
- New England ITE Emerging Professional Award, 2013
- UMass Transportation Center Student Service Award, 2013
- University Transportation Center Fellowship, UMass Amherst, 2011-2013, 2014-present
- Diversity Achievement Scholarship, Oregon State University, 2007-2011

## PROFESSIONAL REGISTRATION

Engineer-in-Training, obtained April 2011

## PUBLICATIONS AND PRESENTATIONS

### *Journal Publications*

1. **Fitzpatrick, C.,** Samuel, S., and M. Knodler (2017) "The Use of a Driving Simulator to Determine how Time Pressures Impact Driver Aggressiveness" *Accident Analysis & Prevention*. Volume 108, pp 131-138.
2. **Fitzpatrick, C.,** Rakasi, S., and M. Knodler (2017) "An investigation of the speeding-related crash designation through crash narrative reviews sampled via logistic regression" *Accident Analysis & Prevention*. Volume 98, pp 57-63.
3. **Fitzpatrick, C.,** Samuel, S. and M. Knodler. (2016) "Evaluating the Effect of Vegetation and Clear Zone Width on Driver Behavior Using a Driving Simulator" *Transportation Research Part F*. Issue 42, pp 80-89.
4. **Fitzpatrick, C.,** Gomez, R., Pires, M., & Knodler, M. A. (2016) "The Prevalence of Distracted Walking and its Effect on Driver Behavior" *Advances in Transportation Studies*. Issue 39, pp 89-98.

5. **Fitzpatrick, C.**, McKinnon, I. A., Tainter, F. T., & Knodler, M. A. (2016) "The Application of Continuous Speed Data for Setting Rational Speed Limits and Improving Roadway Safety" *Safety Science*. Volume 85, pp 171-178.
6. **Fitzpatrick, C.**, Harrington, C., Knodler, M., and Romoser, M. (2014) "The Influence of Clear Zone Size and Roadside Vegetation on Driver Behavior" *Journal of Safety Research*. Volume 49, pp 97-104.
7. **Fitzpatrick, C.**, and McKinnon, I., (2013) "There's an App for that!" *ITE Journal*. October Issue. pp 42-45.
8. **Fitzpatrick, C.**, Abrams, D., Tang, Y. and M. Knodler (2013) "Spatial and Temporal Analysis of Driver Gap Acceptance Behavior at Modern Roundabouts" *Transportation Research Record*. Issue 2388, pp 14-20.
9. Wenners, K., Knodler, M., Kennedy, J. and **C. Fitzpatrick** (2013) "Large-Scale Observation Study of Drivers' Cell Phone Usage" *Transportation Research Record*. Issue 2365, pp 49-57.

### ***In Progress***

1. Tainter, F., Ryan, A., **Fitzpatrick, C.**, and M. Knodler (2017) "*Evaluation of Downstream Merge Behaviors Resulting from Driver Lane Choice: A Driving Simulator Study*" Submitted to Transportation Research Board, accepted for presentation and under consideration for publication.
2. Keklikoglou, A., **Fitzpatrick, C.**, and M. Knodler (2017) "*Investigation of Time and Speed Perception Using a Driving Simulator*" Submitted to Transportation Research Board, accepted for presentation and under consideration for publication.

### ***Presentations***

1. "Overview of Transportation Safety" Presenter. Summer Transportation Institute (high schoolers). June 2017.
2. "The Use of Driving Simulation to Determine How Perception of Time Impacts Driver Aggressiveness" Presenter. Doctoral Student Research in Transportation Operations and Control, Transportation Research Board Annual Meeting, January 2017.
3. "How to Succeed in Graduate School: Advice from Outstanding Students" Panelist. Graduate Student Orientation, September 2016.
4. "The Effect of Roadside Vegetation and Clear Zone Design on Driver Behavior" Co-Presenter. SaferSim Webinar, April 2016.
5. "Evaluation of the False Sense of Security for Pedestrians at Varied Crosswalk Treatments" Presenter. European Transport Conference, September 2015, Frankfurt, Germany.
6. "An Overview of the SaferSim Research Consortium" Presenter. Northeastern Transportation Safety Conference, September 2014, Providence, RI.
7. "The Influence of Clear Zone Size and Roadside Vegetation on Driver Behavior" Invited. Road Safety and Simulation International Conference, October 2013, Rome, Italy.

8. “There’s an App for that!” Presenter. ITE International Annual Meeting, August 2013, Boston, MA.
9. “The Transportation Profession – Staying Current” Session Moderator. ITE Northeastern District Annual Meeting, May 2013, Northampton, MA.

### **Conference Proceedings**

1. **Fitzpatrick, C.**, McKinnon, I., Tainter, F., Wengers, K., and M. Knodler (2016) “*The Application of Continuous Speed Data for Setting Speed Limits and Establishing Enforcement Thresholds*” Transportation Research Board of the National Academies, Washington D.C. 95<sup>th</sup> Annual Meeting Conference Proceedings.
2. Dube, C., **Fitzpatrick, C.**, and M. Knodler (2016) “*Improved Identification of Distraction-Related Crashes and the Impact of Distraction-Free Driving Laws*” Transportation Research Board of the National Academies, Washington D.C. 95<sup>th</sup> Annual Meeting Conference Proceedings.
3. **Fitzpatrick, C.**, McKinnon, I., Gomez, R., Pires, M., and M. Knodler (2015) “*Evaluation of the False Sense of Security for Pedestrians at Varied Crosswalk Treatments*” European Transport Conference, September 2015, Frankfurt, Germany.
4. Tainter, F., **Fitzpatrick, C.**, Knodler, M., and E. Christofa (2015) “*Analysis of Driver Performance and Operations at Intersection Auxiliary Lanes*” Road Safety & Simulation Conference, October 2015, Orlando, Florida.
5. Dube, C., **Fitzpatrick, C.**, and M. Knodler (2015) “*An Observation Evaluation of Safety Resulting from Driver Distraction*” Road Safety & Simulation Conference, October 2015, Orlando, Florida.
6. Hajiseyedjavadi, F., McKinnon, I., **Fitzpatrick, C.**, and M. Knodler (2015) “*Application of Microsimulation to Model the Safety of Varied Lane Configurations at Toll Plazas*” Transportation Research Board of the National Academies, Washington D.C. 94<sup>th</sup> Annual Meeting Conference Proceedings
7. Harrington, C., Knodler, M., Freeman, J., and **C. Fitzpatrick** (2015) “*Conceptual Framework for Identification of Locations for Variable Speed Limit Implementation*” Transportation Research Board of the National Academies, Washington D.C. 94<sup>th</sup> Annual Meeting Conference Proceedings
8. Tupper, S., Knodler, M., **Fitzpatrick, C.** and D. Hurwitz (2013) “*Estimating Critical Gap: Comparison of Methodologies Using Robust, Real-World Data Set*” Transportation Research Board of the National Academies, Washington D.C. 92<sup>nd</sup> Annual Meeting Conference Proceedings

## **TEACHING EXPERIENCE**

### **Instructor**

ENGIN 197E: Introduction to General Engineering (Planned Fall 2017)

### **University of Massachusetts Teaching Assistant**

ENGIN 111: Introduction to Civil & Environmental Engineering (2011, 2012)

- Taught computer lab sessions, graded homework, exams and final project.
- Guest lab instructor (Fall 2017)

CEE 121: Introduction to Civil & Environmental Engineering Measurements (2013, 2015)

- Taught surveying lab sessions, graded surveying projects and homework.

***Oregon State University Tutoring***

ENGR 211: Statics (2010, 2011)

- Held sessions (10-50) students for questions on homework and exams.

**PROFESSIONAL AFFILIATIONS**

***Institute of Transportation Engineers***

Student Chapter President (2014-2015)

Student Chapter Vice President (2012-2013)

Student Chapter Treasurer (2011-2012)

***Transportation Research Board***

Traffic Control Devices Committee (AHB50), Member (2017-Present)

Traffic Control Devices Committee (AHB50), Friend (2013-2016)

Student Affiliate (2012-present)