

# Michael A. Knodler Jr., Ph.D.

University of Massachusetts  
Dept. of Civil & Environmental Engineering  
142B Marston Hall  
130 Natural Resource Road  
Amherst, MA 01003

Phone:(413) 545-0228  
Fax: (413) 545-9569  
E-mail:mknodler@ecs.umass.edu

---

## CURRENT APPOINTMENTS

### **University of Massachusetts – Amherst.** Amherst, MA, 01003

Associate Professor, Department of Civil and Environmental Engineering, January, 2011.  
Assistant Professor, Department of Civil and Environmental Engineering, 2005 to 2011.  
Associate Director, Human Performance Laboratory, January, 2005

### **University of Massachusetts Traffic Safety Research Program,** Amherst, MA, 01003

Director, June, 2006  
Research Fellow, September, 2004 to 2005.

## EDUCATION

### **University of Massachusetts - Amherst,** Amherst, MA, 01003

Doctor of Philosophy in Civil Engineering, September 2004  
Emphasis: Transportation Engineering  
Master of Science in Civil Engineering, May 2002  
Emphasis: Transportation Engineering

### **University of Massachusetts - Dartmouth,** N. Dartmouth, MA, 02747

Bachelor of Science in Civil & Environmental Engineering, 1999

## ACADEMIC AWARDS AND ACHIEVEMENTS

- Team-Based Learning Fellow, UMass-Amherst, 2011-2012
- Harvey B. Boutwell Award, Northeastern District of ITE, 2011
- James L. Tighe Distinguished Teaching Award, 2011
- William P. McNamara Distinguished Service Award, New England Section of ITE, 2010
- UMass ASCE – Teacher of the Year, 2010
- New England ITE Service Award, 2009
- Civil & Environmental Engineering Advisory Council Faculty Service Award, 2006
- Young Engineer of the Year Award, New England Section of ITE, 2005
- Nominated for the Distinguished Teaching Award, 2005 & 2009
- University Transportation Center Fellowship, University of Massachusetts – Amherst, 2000-2001
- Thomas Desjardins Memorial Scholarship, New England Section of ITE, 2000
- Eno Foundation, Leadership Development Conference Fellow, 2000
- Foster Award, Outstanding Civil & Environmental Engineering Student, University of Massachusetts – Dartmouth, 1999

## PROFESSIONAL REGISTRATION

Engineer-in-Training in Massachusetts, No. 18602

## PUBLICATIONS AND PRESENTATIONS

### *Refereed Journal Publications*

1. Wenners, K. E., Knodler, M. A., Kennedy, J. R. and C. D. (Accepted). Fitzpatrick. Large-Scale Observational Study of Drivers' Cell Phone Usage. *Transportation Research Record*.
2. Turochy, R. E, Fricker, J. D., Hawkins, H. G., Hurwitz, D. S., Ivey, S., M. A. Knodler and R. K. Young. (Accepted) Assessment of Introductory Transportation Engineering Course and General Transportation Engineering Curriculum. *Transportation Research Record*.
3. Samuel, S., Romoser, M. R., Gerardino, L. R., Hamid, M., Gomez, R. A., Knodler, M.A, Collura, J. C., and D. L. Fisher (Accepted). Effect of Advance Yield Markings and Symbolic Signs on Vehicle-Pedestrian Conflicts: Field Evaluation. *Transportation Research Record*.
4. Abrams, D., Fitzpatrick, C., Tang, Y. and M. A. Knodler (Accepted). Spatial and Temporal Analysis of Driver Gap Acceptance Behavior at Modern Roundabouts. *Transportation Research Record*
5. Muttart, J., Hurwitz, D., Pradhan, A., Fisher, D. and M. A. Knodler (2012). Warning System for Backing Crashes Developed from Acceleration and Response Time to an Audible Warning. *Journal of Transportation Safety & Security*. Volume 3, Issue 1, 38-58.
6. Hurwitz, D. Wang, H., Knodler M.A., Ni, D. and D. Moore (2012). Fuzzy Sets to Describe Driver Behavior in the Dilemma Zone of High-Speed Signalized Intersection. *Transportation Research: Part F*, Vol 15F, pp.132-143.
7. Hurwitz, D., Knodler, M. A. and B. Nyquist (2012). Evaluation of Advanced Sensor Detection in Type II Dilemma Zones at High-Speed Signalized Intersections. *ITE Journal*. Vol 82, No. 3, pp. 24-28.
8. Gomez, R., Samuel, S., Gerardino, L., Romoser, M., Collura, J., Knodler, M. and D. Fisher. (2011) Do advance yield markings increase safe driver behaviors at unsignalized, marked midblock crosswalks: A driving simulator study. *Transportation Research Record* 2264, pp.27-33.
9. Hurwitz, D., Knodler, M. A. and B. Nyquist (2011). Evaluation of Driver Behavior in Type II Dilemma Zones at High-Speed Signalized Intersections. *Journal of Transportation Engineering*, Vol 137, No. 4 pp. 277-286.
10. Heaslip, K., Collura, J. and M. A. Knodler (2011). Evaluation of Work Zone Design Features to Aid Older Drivers. *ITE Journal*. Vol 81, No. 3, pp. 36-40.
11. Chan, E., Pradhan, A. K., Knodler Jr., M. A., Pollatsek, A. and D. L. Fisher (2010). Evaluation on a Driving Simulator of the Effect on Drivers' Eye Behavior from Distractions Inside and Outside the Vehicle. *Transportation Research: Part F*, Vol 13F, Issue 5, pp.343-353.
12. Garay, L., Pradhan, A. K., Schmidt-Nielsen, B., Harsham, B., Weinberg, G., Shen, Y., Divekar, G., Romoser, M., Knodler, M. and D. L. Fisher (2010). Evaluation of Different Speech and Touch Interfaces to In-Vehicle Music Retrieval Systems. *Accident Analysis & Prevention*, Vol 42, Issue 3, pp. 913-920.
13. Hurwitz, D., Pradhan, A., Fisher, D., Knodler, M. A., Muttart, J., Menon, R. and U. Meissner (2010). Backing Collisions: A Study of Drivers' Eye and Backing Behavior Using Combined Rear View Camera and Sensor Systems. *Injury Prevention*, Vol 16, Issue 2, pp.79-84.
14. Pradhan, A. K., Pollatsek, A., Knodler, M. and D. L. Fisher (2009). Can younger drivers be trained to scan for information that will reduce their risk in roadway scenarios that are hard to identify as hazardous? *Ergonomics*, 52, pp. 657-673.
15. Muttart, J. W., Fisher, D. L., Knodler, M. and A. Pollatsek (2007). Driving Without a Clue: Evaluation of Driver Simulator Performance During Hands-Free Cell Phone Operation in a Work Zone. *Transportation Research Record* 2018, pp. 9-14.
16. Knodler Jr., M. A, Noyce, D. A., and D. L. Fisher (2007). Evaluating Effect of Two Allowable Permissive Left-Turn Indications. *Transportation Research Record* 2018, pp. 53-62.
17. Fisher, D. L., Pradhan, A. K., Pollatsek, A. and M. A. Knodler Jr. (2007). Empirical Evaluation of Hazard Anticipation Behaviors in the Field and on a Driving Simulator Using Eye Tracker. *Transportation Research Record* 2018, pp. 80-86.
18. Knodler Jr., M. A, Noyce, D. A., Kacir, K. C. and C. L. Brehmer (2006). Potential Application of the Flashing Yellow Arrow Permissive Indication in Separated Left-Turn Lanes. *Transportation Research Record* 1973, pp. 10-17.

19. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and C. L. Brehmer (2006). An Analysis of Driver and Pedestrian Comprehension for Permissive Left-Turn Applications. *Transportation Research Record*, 1982, pp. 65-75.
20. Benavente, M., Knodler Jr., M. A. and H. Rothenberg (2006). A Case Study Assessment of Crash Data Challenges: Linking Databases for Analyzing Injury Specifics and Crash Compatibility Issues. *Transportation Research Record* 1953, pp. 180-186.
21. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and C. L. Brehmer (2005). An Evaluation of the Flashing Yellow Arrow Permissive Indication for use in Simultaneous Indications. *Transportation Research Record* 1918, pp. 46-55.
22. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and C. L. Brehmer. (2005). An Evaluation of Traffic Signal Displays for Protected-Permissive Left-Turn Control Using Driving Simulator Technology. *Journal of Transportation Engineering*, Volume 131 No. 4, pp. 270-278.
23. Rothenberg, H. Riessman, R. and M. A. Knodler Jr. (2005). Applying User Feedback to Improve Data Access and Usability: Massachusetts Beta Test Results *Journal of Safety Research*. Vol. 6, Issue 5, pp. 469-471.

**Conference Proceedings (peer reviewed by paper)**

1. Swansen, E. McKinnon, I. A. and M. A. Knodler (2013). Integration of Crash Report Narratives for Identification of Work Zone-Related Crash Classification. Annual Meeting of the Transportation Research Board, Washington DC.
2. Berthoume, A. and M. A. Knodler (2013). Hazardous Bicycle Maneuvers at Single-Lane Roundabouts in Massachusetts: A Conflict and Events Study. Annual Meeting of the Transportation Research Board, Washington DC.
3. Tupper, S., Knodler, M. A., Fitzpatrick, C. D. and D. S. Hurwitz (2013). Estimating Critical Gap: Comparison of Methodologies Using Robust, Real-World Data Set. Annual Meeting of the Transportation Research Board, Washington DC.
4. Hurwitz, D. S., Tuss, H., Olsen, M. J., Roe, G. and M. A. Knodler (2013). Transportation Applications for Mobile Lidar Scanning: State-of-the-Practice Questionnaire. Annual Meeting of the Transportation Research Board, Washington DC.
5. Rothenberg, H., Knodler, M. A., Kennedy, J. R. and D. L. Fisher (2013). Evaluation of Motorcyclist Responsibility in Crash Causation as a Function of Behavior and Age. Annual Meeting of the Transportation Research Board, Washington DC.
6. Hurwitz, D.S., Knodler, M. A., Tuss, H., Swake, J. and D. Moore, Derek (2012). Evaluation of Effects Associated with Advanced Vehicle Detection Systems on Dilemma-Zone Protection. Annual Meeting of the Transportation Research Board, Washington DC.
7. Peabody, D. and M. Knodler (2012) Application of Spatial Crash Analyses and Road Safety Investigations to Increase Older Driver Safety: A Segment Based Analysis.
8. Swansen, E. and M. Knodler (2012). An Analysis of Linked Crash and Citation Data for use in Determining Causation for Work Zone Crashes. Annual Meeting of the Transportation Research Board, Washington DC.
9. Tupper, S., Knodler, M. and D. Hurwitz (2011) Connecting Gap Acceptance Behavior with Crash Experience. Road Safety and Simulation, Indianapolis, IN.
10. Peabody, D. and M. Knodler (2011) An Application of Spatial Crash Analyses and Road Safety Investigations to Increase Older Driver Safety. Road Safety and Simulation, Indianapolis, IN.
11. Muttart, J., Hurwitz, D., Pradhan, A., Fisher, D and M. A. Knodler (2010). Backing Acceleration and Response Time to an Audible Warning in a Field Test. Annual Meeting of the Transportation Research Board, Washington D.C.
12. Heaslip, K. Collura, J. and M. A. Knodler (2009). Evaluation of Work Zone Design Features to Aid Older Drivers. Annual Meeting of the Transportation Research Board, Washington D.C.

13. Chan, E., Pradhan, A. K., Knodler Jr., M. A., Pollatsek, A. and D. L. Fisher (2008). Empirical Evaluation on a Driving Simulator of the Effect of Distractions Inside and Outside the Vehicle on Drivers' Eye Behaviors. Annual Meeting of the Transportation Research Board, Washington D.C.
14. Knodler, M., Hurwitz, D. and H. Rothenberg (2008). An Evaluation of Rationally Implemented Speed Limits on Collector Roadway. Annual Meeting of the Transportation Research Board, Washington D.C.
15. Moriarty, K., Collura, J., Knodler, M., Ni, D. and K. Heaslip (2008). Using Simulation Models to Assess the Impacts of Highway Work Zone Strategies; Case Studies along Interstate Highways in Massachusetts and Rhode Island. Annual Meeting of the Transportation Research Board, Washington, D.C.
16. Noyce, D. A. and M. A. Knodler Jr. (2007). Implementation of the Flashing Yellow Arrow Permissive Left-Turn Indication in Signalized Intersections. Road Safety on 4 Continents, Bangkok, Thailand.
17. Fernandez, W., Rothenberg, H. and M. Knodler (2007). Prevalence and correlates of self-reported safety belt non-use among US high school students. Society of Academic Emergency Medicine Annual Meeting; abstract published in Academic Emergency Medicine.
18. Hurwitz, D. and M. Knodler (2007). Static and Dynamic Evaluation of the Driver Speed Perception and Selection Process. Driving Assessment, Olympia, WA.
19. Rothenberg, H, Benavente, M., Knodler, M. A. and Kennedy, J. (2007). An application of CODES Data Linkages for Crashworthiness Computations. Society of Automotive Engineers World Congress, Detroit, MI.
20. Louisell, W; Collura, J., Knodler, M. and K. Heaslip (2006). A Simplified Algorithm to Assess the Impacts of Driver Behavior on Delay and Safety in Work Zone Areas, Annual Meeting of the Transportation Research Board, Washington, D.C.
21. Hurwitz, D., Knodler Jr., M. and D. Dulaski (2005). Speed Perception Fidelity in a Driving Simulator Environment. Driving Simulation Conference - North America, Orlando, FL.
22. Knodler Jr., M. A. and Noyce, D. A. (2005). Tracking Driver Eye Movements at Permissive Left-Turns. Driving Assessment, Rockport, ME.
23. Knodler Jr., M. A., Noyce, D. A. and Kacir, K.C. (2003). An Application of Driving Simulator Technology: An Evaluation of Traffic Signal Displays for Protected-Permissive Left-Turn Control. Driving Simulator Conference – North America, Dearborn, MI.
24. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and Brehmer, C. L. (2002). The Use of a Full-Scale Driving Simulator in Evaluating Driver Comprehension of Traffic Signals. 7<sup>th</sup> International Conference on Applications of Advanced Technology in Transportation, American Society of Civil Engineers, Cambridge, MA.

***Conference Proceedings (peer reviewed by abstract)***

25. Swansen, E., Knodler, M. A. and J. Kennedy (2012) Determining Work Zone Crash Causation using Linked Crash and Citation Data. Institute of Transportation Engineering: Technical Conference, Pasadena, CA.
26. Dutta, N., Peabody, D. and M. A. Knodler (2011) Spatial System for the Identification and Analysis of High Crash Roadway Segments. Institute of Transportation Engineers Annual Meeting. Orlando, FL.
27. Rothenberg, H. and M. A. Knodler Jr. (2008). Beyond Crash Data: Applications of Multiple Data Sets for Traffic Safety Analyses. Institute of Transportation Engineers Technical Conference, Miami, FL.
28. Hurwitz, D., Chase, M. and M. Knodler, M. (2007). Development of a Traffic Impact and Access Study Decision Matrix. Institute of Transportation Engineers Annual Meeting and Exhibition, Pittsburgh, PA.
29. Benavente, M. Knodler Jr., M. A. and H. Rothenberg. (2007). Analysis of the Relationship between Aggressive Driving and Roadway Characteristics Using Linked Data. Institute of Transportation Engineers Annual Meeting and Exhibition, Pittsburgh, PA.
30. Langone, M., Knodler, M. A. and D. L. Fisher (2007). A Simplified Methodology for Location-Based Crash Analysis. Institute of Transportation Engineers Annual Meeting and Exhibition, Pittsburgh, PA.
31. Rothenberg, H., Knodler, M. A., Kennedy, J. Metzger, S. A., and M. Benavente (2007). Evaluation of the impact of congestion on crash frequency, severity, and crash characteristics. Institute of Transportation Engineers Technical Conference and Exhibit, San Diego, CA.

32. Pradhan, A. K., Fisher, D. L., Knodler, M., Pollatsek, A. and M. Langone (2006). Field Evaluation of a Risk Awareness and Perception Training Program for Younger Drivers. Human Factors and Ergonomics Society 50th Annual Meeting, San Francisco, CA.
33. Benavente, M., Rothenberg, H. and M. Knodler (2006). Evaluation of Frequency and Injury Outcomes of Lane Departure Crashes. Institute of Transportation Engineers Annual Meeting, Milwaukee, WI.
34. Gadiel, G. and M. A. Knodler Jr. (2006). Conflict Analysis of In-Pavement Roadway Lights. Institute of Transportation Engineers Spring Conference, San Antonio, TX.
35. Knodler Jr., M. A. and D. Dulaski (2005). An Initial Evaluation of the Driver Speed Selection Process on Posted and Unposted Roadways Varying in Functional Classification. Institute of Transportation Engineers Spring Conference, Las Vegas, NV.
36. Bonney, A. K., Knodler Jr., M. A. and C. Sicinski (2004). Evaluation of a Rational Speed Limit Setting and Enforcement Demonstration Project on Collector Roadways. Institute of Transportation Engineers Annual Meeting and Exhibit, Lake Buena Vista, FL.
37. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and C. L. Brehmer (2002). Comparison of the Green Ball and Flashing Yellow Permitted Indications. Institute of Transportation Engineers Annual Meeting, Philadelphia, PA.
38. Knodler Jr., M. A., Noyce, D. A., Kacir, K. C. and C. L. Brehmer (2001). Driver Understanding of the Green Ball and Flashing Yellow Arrow Permitted Indications: A Driving Simulator Experiment. Institute of Transportation Engineers Annual Meeting, Chicago, IL.

### ***Research Reports***

1. Knodler, Michael A. Jr., Heather Rothenberg and Robin Riessman (2011). "Improving Crash Data Quality in Massachusetts" Massachusetts Executive Office of Transportation & Public Works, Boston, MA.
2. Knodler, Michael A. Jr. and John Collura (2009). "Massachusetts Traffic Safety Toolbox" *Report UMTC 08-1* Massachusetts Executive Office of Transportation & Public Works, Boston, MA.
3. Knodler, Michael A. Jr. and Heather Rothenberg (2008). "Development of a Scenic Roads Database in Massachusetts" *Report UMTC 07-9* Massachusetts Executive Office of Transportation & Public Works, Boston, MA.
4. Knodler, Michael A. Jr. and Jeffrey Muttart (2008). "Pavement Sensors for Monitoring Winter Roadway Conditions along the Maurice J. Tobin Bridge" *Report UMTC 07-4* Massachusetts Executive Office of Transportation & Public Works, Boston, MA.
5. Hymoff, Caroline, Michael Knodler, David Hurwitz, and Heather Rothenberg (2007). "Rational Speed Limit Demonstration Project". Massachusetts Governor's Highway Safety Bureau and Federal Highway Administration.
6. Noyce, David A., Michael A. Knodler, Jr., Andrea R. Bill, Kristal Metro and Christine M. Sicinski (2001). "An Evaluation of Driver Behaviors at Blood Alcohol Concentrations of 0.00 to 0.08" *Report 2002-01*; Massachusetts Safety Highway Research Program (MassSAFE), Governor's Highway Safety Bureau, Boston, MA.
7. Noyce, David, A., Christine M. Sicinski, Michael A. Knodler Jr., Matthew C. Blume and Anne L. Roberts (2001). "The Effects of Enforcement Strategies on Safety Belt Use and Vehicle Operating Speeds." *Report 2001-01; Project Number 5-22319* Massachusetts Safety Highway Research Program (MassSAFE), Governor's Highway Safety Bureau, Boston, MA 2001.
8. Hawkins, H.G. Jr., Dale L. Picha, Deborah C. Kreis, and Michael A. Knodler (1999). "Evaluation of Alternative Traffic Signs for Use in Texas Border Areas." *Research Report 1274-3*, Texas Transportation Institute, College Station, TX.

## **SPONSORED RESEARCH**

### *As Principal Investigator (Awarded, Active or Completed)*

1. Knodler, Michael A. Jr., (Principal Investigator) Massachusetts Executive Office of Public Safety. "2013 Statewide Observational Safety Belt Surveys". \$100,000 " March 2013 to August 2013.
2. Knodler, Michael A. Jr., (Principal Investigator) Federal Motor Carrier Safety Administration. "Commercial Driver License Training Program" \$300,000 September 2012 to August 2014.
3. Knodler, Michael A. Jr., (Principal Investigator) Massachusetts Executive Office of Public Safety. "2012 Statewide Observational Safety Belt Surveys". \$100,000 " April 2012 2011 to August 2012.
4. Knodler, Michael A. Jr., (Principal Investigator) Massachusetts Executive Office of Public Safety. "2011 Statewide Observational Safety Belt Surveys" May 2011 to August 2011. \$75,000 (Awarded)
5. Knodler, Michael A. Jr. National Cooperative Highway Research Program via the University of Wisconsin. "Evaluation of the FYA Permissive Left-Turn and Yellow Arrow Change Indications in PPLT Control" \$20,867 (Awarded).
6. Knodler, Michael A. Jr. and John Collura. New England Transportation Consortium. "Exploring the Potential of Intelligent Intersections Deployment in New England" \$100,000 (Awarded).
7. Knodler, Michael A. Jr. and Robin Riessman. Massachusetts State Police. "Commercial Motor Vehicle Crash Data Improvement Project: Part 2" \$112,967 April 2011.
8. Knodler, Michael A. Jr. and Robin Riessman. Massachusetts State Police. "Commercial Motor Vehicle Safety Belt Use Survey & Project Evaluation" \$207,201 April 2011.
9. Knodler, Michael A. Jr. University of Massachusetts Transportation Center "An Evaluation of Traffic Operations and Safety Impacts Related to Gap Acceptance" \$75,000 March 2011.
10. Knodler, Michael A. Jr., (Principal Investigator) Massachusetts Executive Office of Public Safety. "2010 Statewide Observational Safety Belt Surveys" May 2010 to August 2010. \$70,000
11. Michael Knodler (Principal Investigator) Submitted to Massachusetts Department of Transportation. "Summer Transportation Institute" July 2010 to June 2011. \$34,440
12. Knodler, Michael A. Jr. and Robin Riessman. Massachusetts Registry of Motor Vehicles. "Commercial Motor Vehicle Crash Data Quality Improvement Project" \$175,068 January 2010.
13. Knodler, Michael A. Jr. and John Collura. Massachusetts Executive Office of Transportation and Public Works. "Coping with the Older Driving Population" \$185,872 December 2009.
14. Knodler, Michael A. Jr. and John Collura. University of Massachusetts Transportation Center "Development of a Transportation Safety Technical Assistance Center for Integrated Analyses" \$79,962 November 2009.
15. Knodler, Michael A. Jr. and Robin Riessman. Massachusetts State Police. "Development of Commercial Motor Vehicle Toolkit" \$292,000 August 2009.
16. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation "2009 Summer Transportation Institute" \$38,096 July 2009.
17. Knodler, Michael A. Jr. Massachusetts Executive Office of Public Safety and Security. "2008 Statewide and Sub-Sample Observational Safety Belt Surveys" \$100,000 March 2009.
18. Knodler, Michael A. Jr. and Donald Fisher. University of Massachusetts Transportation Center "Development and Evaluation of an Attention Maintenance Training Program" \$74,965 October 2008.
19. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation via UMass-Boston. "2008 Summer Transportation Institute" \$40,000 June 2008.
20. Knodler, Michael A. Jr. Massachusetts Executive Office of Public Safety and Security. "2008 Statewide and Sub-Sample Observational Safety Belt Surveys" \$93,000 March 2008.
21. Knodler, Michael A. Jr. New England University Transportation Center. "Development of an Older Driver Crash Prediction Model" \$99,805 March 2008.
22. Knodler, Michael A. Jr. Federal Highway Administration "Follow-up Speed Data Collection for Rational Speed" \$15,000 October 2007.
23. Knodler, Michael A. Jr. Massachusetts Highway Department "Massachusetts Technical Assistance" \$75,000 August 2005.

24. Knodler, Michael A. Jr., and John Collura. Massachusetts Executive Office of Transportation and Public Works. "Development of a Traffic Safety Toolbox" \$55,000 September 2007.
25. Knodler, Michael A. Jr. Massachusetts Executive Office of Public Safety and Security. "Massachusetts Police Surveys" \$54,716 June 2007.
26. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation via UMass-Boston. "2007 Summer Transportation Institute" \$24,936 May 2007.
27. Knodler, Michael A. Jr. Massachusetts Executive Office of Public Safety. "2007 Statewide and Sub-Sample Observational Safety Belt Surveys" \$75,000 February 2007.
28. Knodler, Michael A. Jr. Federal Motor Carrier Safety Administration and Massachusetts State Police. "Massachusetts Commercial Motor Vehicle Data Quality", \$218,592, December 2006.
29. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation. "Improving Massachusetts Crash Data Quality", \$123,449, November 2006.
30. Knodler, Michael A. Jr. Massachusetts Governor's Highway Safety Bureau. "Development and Pilot of Web-Based Police Crash Report Training" \$68,954, November 2006.
31. Knodler, Michael A. Jr. National Highway Traffic Safety Administration. "Massachusetts Crash Outcome Data Evaluation System (CODES)" \$315,000 March 2006. (Original PI: Heather Rothenberg)
32. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation. "An Application of Pavement Weather Sensors for the Tobin Memorial Bridge \$42,000 March 2006.
33. Knodler, Michael A. Jr. Massachusetts Executive Office of Transportation. "Scenic Roads – Phase II" \$54,000 February 2006.
34. Knodler, Michael A. Jr. Vermont Agency of Transportation. "An Evaluation of Dilemma Zone Protection Practices for Signalized Intersection Control" \$53,000 July 2005.
35. Knodler, Michael A. Jr. and Donald L. Fisher. New England University Transportation Center. "An Evaluation of Driver Comprehension Related to Solid Yellow Change Indications & the Potential Impact of the Flashing Yellow Arrow Permissive Indication" \$41,785 July 2005.
36. Knodler, Michael A. Jr. Massachusetts Executive Office of Public Safety. "Statewide and Sub-Sample Observational Safety Belt Surveys" \$63,000 April 2005.
37. Knodler, Michael A. Jr. New England University Transportation Center. "Interdisciplinary Traffic Safety Curriculum" \$30,000 September 2005. (original PI: Kathleen Hancock).

***As Co-Principal Investigator (Awarded, Active or Completed)***

38. Civjan, Scott, Brena, Sergio and Michael A. Knodler Jr. New England Transportation Consortium. "Enhancing the Reflectivity of Concrete Barriers" \$48,064 (Awarded).
39. Fisher, Donald and Michael A. Knodler Jr. Mitsubishi Electronics Research Lab. "User-Paced vs. System-paced Voice User Interfaces" \$49,919 June 2009.
40. Fisher, Donald and Michael A. Knodler Jr. Children's Hospital of Philadelphia, Nissan, and NSF. "An Evaluation of Back-up Camera Systems in Vehicles" \$54,972 July 2007.
41. Fisher, Donald and Michael A. Knodler Jr. Mitsubishi Electronics Research Lab. "Distraction and New In-vehicle Technologies: Evaluation Using an Advanced Driving Simulator" \$38,995 July 2007.
42. Ni, Daiheng and Michael A. Knodler Jr. New England University Transportation Center. "Understanding the Potential Safety and Mobility Benefits for Elderly Drivers by Simulation and Sensor Technology" \$41,683 November 2006.
43. Collura, John, Knodler, Michael A. Jr. and Daiheng Ni. New England Transportation Consortium. "Modeling Traffic Flow Impacts in Work Zones" \$100,000 November 2005.
44. Fisher, Donald L. and Michael A Knodler Jr. New England Transportation Consortium. "Driver-Eye-Movement-Based Investigation for Improving Work-Zone Safety" \$75,000 April, 2005.
45. Fisher, Donald L., Pollatsek, Aleksander, Knodler, Michael A. Jr. and David A. Noyce. Calspan "Simulator Evaluation of countermeasures for Left-Turn-Across-Path/Opposite Direction (LTAP/OD) conflicts" \$120,000 April 2005.
46. O'Conner Barbara and Michael A. Knodler Jr. National Highway Traffic Safety Administration. "Cooperative Agreement for Pedestrian Enforcement Programs" \$75,000 September 2005.

## TEACHING EXPERIENCE -

### *University of Massachusetts –Amherst Courses*

#### *CEE 310 – Transportation Systems*

Designed for junior level undergraduates and is a required course in the Civil Engineering curriculum. The course introduces students to transportation operations, planning, and design with an emphasis on the highway mode. Topics include: vehicle, operator, and roadway characteristics; traffic control; capacity; geometric design objectives and plan formulation; and demand forecasting.

#### *CEE 450 – Highway Location & Geometric Design and CEE 516 - Transportation Design*

Designed for senior level undergraduates and transportation graduate students and taught fundamental principles of highway location and geometric design for streets and highways with emphasis on safety.

#### *CEE 511 - Traffic Engineering*

Designed for senior level undergraduates and transportation graduate students and taught fundamental principles of traffic flow and intersection traffic operations including traffic data collection methods, traffic control devices, traffic signal design, and analysis techniques. Emphasizes quantitative and computerized techniques for designing and optimizing intersection signalization.

#### *CEE 614 – Advanced Concepts in Traffic Safety*

Designed for transportation graduate students and focused on the science of transportation safety. Course curriculum included traditional approaches to highway safety engineering, transportation safety statistics, road safety reviews/audits, and crash reconstruction practices.

-

#### *ENGIN 111 – Introduction to Civil & Environmental Engineering*

Designed for newly incoming students to the university and major. This course provides an overview of the environmental, geotechnical, structural and transportation areas within the discipline of Civil and Environmental Engineering while developing core skills required throughout the curriculum. Civil and environmental engineering projects and problems are presented; students use written, oral, and computing skills to derive and present solutions.



### *Short Courses and Workshops*

- **Speed 101**  
Transportation Safety Institute – Taught 2 courses in 2008 & 2009
- **Speed Management**  
NHTSA, FHWA & FMCSA – Taught at 10 U.S. locations between 2007 & 2008
- **Engineering for Classroom Teachers – “Civil & Environmental Engineering in Our World”**  
EDUC 791J University of Massachusetts – Amherst, MA, Summer 2005-2007
- **Transportation Data Collection**  
Bay State Roads Program – Summer 2007
- **Low Cost Safety Improvements**  
Bay State Roads Program – Summer 2006
- **Design & Operational Elements of Roundabouts**  
New England Section of ITE, Amherst, MA April 2005
- **Timing Clearance Intervals**  
New England Section of ITE, Waltham, MA September 2004
- **Traffic Signal Needs Determination Workshop**  
Bay State Roads Program – Spring 2004

### **PROFESSIONAL AFFILIATIONS AND SERVICE**

#### *Affiliations*

- NCHRP Project 20-5 (Synthesis Topic 44-14) Panel Member (2012-present)
- Transportation Research Board – Affiliate (2002-present)
  - Member, Task Force of Safety Workforce and Development (2005-present)
  - Member, Traffic Control Devices Committee (2006-present)
- Institute of Transportation Engineers – Member (2004-present)
  - Officer (Current: Past President), New England ITE (2006-present)
  - Officer (Current: Chair), Transportation Education Council (2006-present)
  - Secretary, Bicycle and Pedestrian Council (2002-2005)
  - University of Massachusetts Student Chapter Advisor (2005-present)
  - Student Member (1998-2004)
- ITS America - University Member (1999-present)
- American Society of Civil Engineers – Associate Member (2005-present)
  - Student Member (1997-2004)

#### *Selected Service Activities*

- CEE Personnel Committee (2012-present)
- CEE Curriculum Committee (2009-present)
- CEE Undergraduate Honors Coordinator (2009-present)
- UMass Mentoring Grant (\$2,000) for TEAAM Program (2006-2007)
- ASCE Journal of Transportation Ad hoc Reviewer
- CEE Scholarship Committee (2007-present)
- NERRC Scholarship, Chair (2004-present)
- Transportation Research Board Ad hoc Reviewer
- Institute of Transportation Engineers Ad-hoc Reviewer
- Interactive Classroom Administrator (2005-2009)
- TRB – TCD Doctoral Student Session Chair (2007-present)
- Canada Foundation for Innovation - Leaders Opportunity Fund Reviewer (2009-2010)