

**RICHARD JON (R.J.) PORTER**, Associate Professor, Department of Civil and Environmental Engineering, University of Utah, 110 Central Campus Dr., Room 2133, Salt Lake City, UT 84112, Phone: 801.585.1290, Fax: 801.585.5477, Email: [richard.jon.porter@utah.edu](mailto:richard.jon.porter@utah.edu)

## EDUCATION

**Doctor of Philosophy**, Civil Engineering, 2007, The Pennsylvania State University, University Park, PA  
Dissertation: *Estimation of the Relationships Between 85<sup>th</sup> Percentile Speeds, Speed Deviations, Roadway and Roadside Geometry, and Traffic Control in Freeway Work Zones*  
Advisor: John M. Mason (currently Vice President for Research & Economic Development, Auburn University)

**Master of Engineering**, Civil Engineering, 2000, The Pennsylvania State University, University Park, PA, Advisor: Martin T. Pietrucha (currently Professor of Civil Engineering and Director of the Thomas D. Larson Pennsylvania Transportation Institute, The Pennsylvania State University)

**Bachelor of Science (with high distinction)**, Civil Engineering, 1999, The Pennsylvania State University, University Park, PA

## PROFESSIONAL LICENSE

Professional Engineer, Utah (7824077-2202)

## RECENT PROFESSIONAL HISTORY

**Associate Professor**, Department of Civil and Environmental Engineering, University of Utah, Salt Lake City, UT, July 2015 – present

**Assistant Professor**, Department of Civil and Environmental Engineering, University of Utah, Salt Lake City, UT, July 2009 – June 2015

**Assistant Research Scientist [post-doctoral]**, Texas Transportation Institute, Texas A&M University System, College Station, TX, August 2007 – May 2009

**Research Assistant [full-time research faculty during Ph.D. program]**, Thomas D. Larson Pennsylvania Transportation Institute, Pennsylvania State University, University Park, PA, January 2002 – July 2007

## Other External Appointments

**Associate Graduate Faculty Member**, North Dakota State University, Transportation and Logistics, Fargo, ND, February 2014 – present

## SPONSORED RESEARCH

**Summary of Total External Funding as Principal Investigator:** \$4,203,595

- \$2,436,790 as Principal Investigator of individual research projects
  - \$571,262 from National Cooperative Highway Research Program
  - \$927,994 from U.S. Department of Transportation/Federal Highway Administration
  - \$549,674 from Utah Department of Transportation

- \$387,860 from Utah Department of Public Safety
- \$1,766,805 as Principal Investigator and University Program Director of the Mountain Plains Consortium, U.S. DOT Regional Transportation Center for Federal Region 8

## **Externally Funded Research Projects**

### **Contracting Underway**

1. PI, “Driver Behavior Near Closely Spaced Interchange Ramps: Phase II – Detailed Analysis,” sponsored by U.S. Department of Transportation, Federal Highway Administration through a contract with the Utah Department of Transportation (\$275,705) and Utah Department of Transportation (\$50,000), contracting in progress (\$325,705)

### **Awards in Place**

2. PI (Dr. Larry Cook as co-PI), “FHWA Development of Crash Modification Factors, Task A6 Paper Synthesis,” sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with VHB, November 25, 2015 – November 15, 2017 (\$76,840).
3. PI, “Safety Effects of Protected and Protected/Permitted Left-Turn Phases,” sponsored by the Utah Department of Transportation, April 22, 2015 – December 30, 2016 (\$50,000)
4. PI, “Driver Behavior Near Closely Spaced Interchange Ramps: Phase I – Proof of Concept,” sponsored by Strategic Highway Research Program (SHRP2) through a contract with the Utah Department of Transportation, January 28, 2015 – December 31, 2015 (\$100,000)
5. PI (Dr. Michael Barber as co-PI), Utah Research Agreement No. 10037465, Initiating the Utah Transportation and Public Safety – Crash Data Initiative, sponsored by the Utah Department of Public Safety, January 1, 2015 – March 31, 2016 (\$357,860)
6. PI, UDOT F-ST99 (253), Incorporating Maintenance Costs and Considerations into Highway Design Decisions, sponsored by the Utah Department of Transportation, December 11, 2014 – September 30, 2016 (\$50,000)
7. PI, NCHRP 17-68, Intersection Crash Prediction Methods for the *Highway Safety Manual*, sponsored by National Cooperative Highway Research Program through a subcontract with MRIGlobal, September 5, 2014 – August 25, 2017 (\$200,068)
8. PI, DTFH61-10-D-00024-T-14-005, Practical Design and Performance-Based Analysis, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with Leidos, April 9, 2014 – March 27, 2017 (\$21,168).
9. PI, DTFH61-12-C-00029, Reducing Roadway Departure Crashes at Horizontal Curve Sections on Two-Lane Rural Highways, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with Pennsylvania State University, October 1, 2012 – February 29, 2016 (\$187,273)
10. PI, NCHRP 17-61, Work Zone Crash Characteristics and Countermeasure Guidance, sponsored by National Cooperative Highway Research Program through a subcontract with Texas Transportation Institute, September 19, 2012 – September 30, 2015 (\$158,388)
11. PI, UDOT F-ST99 (141), Lessons Learned – Pavement Marking Warranty Contract, sponsored by the Utah Department of Transportation, November 21, 2012 – December 31, 2013 (\$9,086)

12. PI, DTFH61-12-C-00033, Understanding the Causative, Precipitating, and Predisposing Factors in Rural, Two-Lane Crashes, sponsored by U.S. Department of Transportation, Federal Highway Administration, October 1, 2012 – November 30, 2015 (\$399,844).
13. PI, DTFH61-10-D-00024-T-12-004, Informational Guide on Road Diets and other Roadway Reconfigurations, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with SAIC, September 13, 2012 – July 1, 2014 (\$8,505).
14. PI, NCHRP 15-34A, Performance-Based Analysis of Geometric Design of Highways and Streets, sponsored by National Cooperative Highway Research Program through a subcontract with Kittelson & Associates, Inc., September 1, 2012 – January 31, 2014 (\$76,744)
15. PI, MPC-360, Safety Impacts of Design Exceptions in Utah, sponsored by the Mountain-Plains Consortium (\$30,000) and Utah Department of Transportation (\$14,883), March 1, 2011 – June 30, 2012 (\$44,883).
16. Co-PI (with Dr. Xuesong Zhou - PI), DTFH61-10-R-00013, An Open-Source Dynamic Traffic Assignment Tool for Assessing the Effects of Roadway Pricing and Crash Reduction Strategies on Recurring and Non-Recurring Congestion, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with Kittelson & Associates, Inc., March 11, 2011 – January 1, 2013 (\$110,495 - \$22,664 to Porter as Co-PI)
17. PI, DTFH61-10-R-00038, Informational Report on Methods to Achieve Safe Speeds on Rural and Suburban Roadways, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with KLS Engineering, LLC, October 28, 2010 – July 31, 2014 (\$111,965)
18. PI, DTFH61-05-D-00025, Pavement Marking Demonstration Projects, sponsored by U.S. Department of Transportation, Federal Highway Administration through a subcontract with Texas Transportation Institute, September 1, 2010 – September 30, 2011 (\$69,735)
19. PI, NCHRP 3-88, Guidelines for Ramp and Interchange Spacing, sponsored by National Cooperative Highway Research Program through a subcontract with Kittelson & Associates, Inc., October 2008 – December 2010 (\$136,062)

## **Externally Funded University Transportation Center**

**University of Utah Principal Investigator and Program Director**, University Transportation Centers Program (Mountain Plains Consortium), sponsored by U.S. Department of Transportation, Research and Innovative Technology Administration through a subcontract with North Dakota State University

- \$645,337 in 2014-2015 (FY 2013 – FY 2014) funds, April 1, 2014 – September 30, 2014 (contracting for \$293,756 in FY 2015 funds underway)
- \$827,712 in 2012-2013 (FY 2011 – FY 2012) funds, January 1, 2012 – November 30, 2012

I allocate funds to faculty members and name them “project PIs” (account executives) through a competitive process, which includes a call for proposals and external proposal reviews. The project PIs are generally required to secure non-Federal matching funds in order to receive Mountain Plains Consortium funding.

## **Lead University of Utah Contact on U.S. DOT Indefinite Delivery, Indefinite Quantity (IDIQ) Contracts**

These contracts prequalify the University of Utah to compete for research task orders released by the U.S. Department of Transportation.

1. DTFH61-13-D-00001 "Development of Crash Modification Factors," sponsored by U.S. Department of Transportation, Federal Highway Administration, member of the IDIQ team led by Vanasse Hangen Brustlin, Inc., November 16, 2013 – November 15, 2017
2. DTFH61-12-D-00049, "Support Services for the Office of Operations, Transportation Operations, and Transportation Management," sponsored by U.S. Department of Transportation, Federal Highway Administration, member of the IDIQ team led by Kittelson & Associates, Inc., October 1, 2012 – September 30, 2014 (with potential for three, one-year extensions)
3. DTFH61-10-D-00024, "Technical Support for Highway Safety (Safety III)," sponsored by U.S. Department of Transportation, Federal Highway Administration, member of the IDIQ team led by Science Applications International Corporation/Leidos, June 22, 2010 – June 22, 2015

## **Other Indefinite Delivery, Indefinite Quantity (IDIQ) Contracts**

1. UT14-028TH, "Planning Services Agreement," sponsored by the Utah Transit Authority, June 30, 2014 – June 30, 2017

## **Internally Funded Research and Instrumentation**

1. Investigator (PI: Dr. Nalini Nadkarni), Innovating a Faculty-Driven Model to Facilitate Transdisciplinary Research at the University of Utah, 2014-2015 (\$9,800)
2. Co-PI (with Dr. Peter Martin), University of Utah Research Instrumentation Fund Award, Driving Simulator for the Utah Traffic Lab, 2010-2011 (\$100,000)

## **SCHOLARLY PUBLICATIONS**

**Career Summary (as of 3/15/2016):** 28 fully-refereed journal articles (in print or accepted); 28 fully-refereed papers in conference proceedings; 3 abstract refereed papers in conference and symposia proceedings; 21 published research reports

**Google Scholar Citations Summary:** <https://scholar.google.com/citations?user=VxiGjvYAAAAJ&hl=en>

## **Paper Awards and Special Recognitions (\*indicates University of Utah student):**

1. Best Paper (out of 38 papers), Transportation Research Board's Geometric Design Committee (AFB10), 2013 Annual Meeting of the Transportation Research Board - Shea, M.S.\*, Le, T.Q.\*, and Porter, R.J. "A Combined Crash Frequency-Crash Severity Evaluation of Geometric Design Decisions: Entrance-Exit Ramp Spacing and Auxiliary Lane Presence."
2. Best Paper (out of 39 papers), Transportation Research Board's Geometric Design Committee (AFB10), 2013 Annual Meeting of the Transportation Research Board - Wood, J.S.\* and Porter, R.J. "Safety Impacts of Design Exceptions on Non-Freeway Segments."
3. Best Paper (out of 31 papers), Transportation Research Board's Geometric Design Committee (AFB10), 2012 Annual Meeting of the Transportation Research Board - Porter, R.J., Donnell, E.T., and Mason, J.M. "Geometric Design, Speed, and Safety."

4. “Greatest Hits” (i.e., one of the top technical papers) of the 4<sup>th</sup> *Urban Street Symposium*, Chicago, IL, June 24-27, 2012 - Le, T.Q.\*, Lund, C.K.\*, and Porter, R.J. “Safety Effects of Cross Section Design on Urban and Suburban Roads.”

**Fully-Refereed Journal Publications In Print** (\*indicates University of Utah student)

1. Shea, M.S.\*, Le, T.Q.\*, and Porter, R.J. “A Combined Crash Frequency-Crash Severity Evaluation of Geometric Design Decisions: Entrance-Exit Ramp Spacing and Auxiliary Lane Presence,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2521*, 2015, pp. 53-62.
2. Tasic, I.\* and Porter, R.J. “Modeling Spatial Relationships between Multimodal Transportation Infrastructure and Traffic Safety Outcomes in Urban Environments,” In *Safety Science* 82, 2016, pp. 325-337.
3. Thiese, M.S., Moffitt, G., Hanowski, R.J., Kales, S.N., Porter, R.J., and Hegmann, K.T. “Repeated Cross-Sectional Assessment of Commercial Truck Driver Health,” In *Journal of Occupational & Environmental Medicine* 57(9), 2015, pp. 1022-1027.
4. Zlatkovic, M., Porter, R.J., and Kergaye, C. “Performance-Based Pavement Marking Warranty Contracts: Experience and Lessons Learned in the State of Utah,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2504*, 2015, pp. 49-57.
5. Tasic, I.\*, Zlatkovic, M., Martin, P.T., and Porter, R.J. “Street Connectivity Versus Street Widening: Impact of Enhanced Street Connectivity on Traffic Operations in Transit-Supportive Environments,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2496*, 2015, pp. 57-68.
6. Thiese, M.S., Moffitt, G., Hanowski, R.J., Kales, S.N., Porter, R.J., and Hegmann, K.T. “Commercial Driver Medical Exams: Prevalence of Obesity, Co-morbidities, and Certification Outcomes,” In *Journal of Occupational & Environmental Medicine* 57(6), 2015, pp. 659-665.
7. Taylor, J.\*, Zhou, X., Roupail, N.M., and Porter, R.J. “Method for Investigating Intradriver Heterogeneity using Vehicle Trajectory Data: A Dynamic Time Warping Approach,” In *Transportation Research Part B* 73, 2015, pp. 59-80.
8. Wood, J.S., Donnell, E.T., and Porter, R.J. “Comparison of Safety Effect Estimates Obtained from Empirical Bayes, Before-After Study, Propensity Scores-Potential Outcomes Framework, and Regression Model with Cross-Sectional Data,” In *Accident Analysis and Prevention* 75, 2015, pp. 144-154.
9. Musunuru, A.\* and Porter, R.J. “Reliability-Based Geometric Design Approach for Selecting Basic Number of Freeway Lanes,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2436*, 2014, pp. 70-80.
10. Tasic, I.\*, Musunuru, A.\*, and Porter, R.J. “Quantifying Accessibility of Non-Motorized Transportation Modes in Recreational Areas: Case Study of Mill Creek Canyon, Utah,” In *Journal of Park and Recreation Administration*, Vol. 32, No. 3, 2014, pp. 49-73.
11. Wood, J.S.\* and Porter, R.J. “Safety Impacts of Design Exceptions on Non-Freeway Segments,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2358*, 2013, pp. 29-37.
12. Himes, S.C., Donnell, E.T., and Porter, R.J. “Posted Speed Limit: To Include or Not to Include in Operating Speed Models,” In *Transportation Research Part A: Policy and Practice*, Volume 52,

2013, pp. 23-33.

13. Porter, R.J. and Wood, J.S.\* “Exploring the Endogeneity of Macroscopic Speed Parameters: Empirical Study during Low Volume Conditions in Construction Work Zones,” In *Transportation Letters: The International Journal of Transportation Research*, Volume 5, Issue 1, 2013, pp. 27-37.
14. Porter, R.J., Donnell, E.T., and Mason, J.M. “Geometric Design, Speed, and Safety,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2309*, 2012, pp. 39-47.
15. Le, T.Q.\* and Porter, R.J. “Safety Evaluation of Geometric Design Criteria for Spacing of Entrance-Exit Ramp Sequence and Use of Auxiliary Lanes,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2309*, 2012, pp. 12-20.
16. Park, E.S., Carlson, P.J., Porter, R.J., and Andersen, C.K. “Safety Effects of Wider Edge Lines on Rural, Two-Lane Highways,” In *Accident Analysis and Prevention* 48, 2012, pp. 317-325.
17. Himes, S.C., Donnell, E.T., and Porter, R.J. “New Insights on Evaluations of Design Consistency for Two-Lane Highways,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2262*, 2011, pp. 31-41.
18. Fitzpatrick, K., Porter, R.J., Pesti, G., Chu, C.L., Park, E.S., and Le, T.Q.\* “Guidelines for Spacing between Freeway Ramps,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2262*, 2011, pp. 3-12.
19. Donnell, E.T., Porter, R.J. and Shankar, V.N. “A Framework for Estimating the Safety Effects of Roadway Lighting at Intersections,” In *Safety Science* 48, 2010, pp. 1436-1444.
20. Donnell, E.T., Himes, S.C., Mahoney, K.M. and Porter, R.J. “Understanding Speed Concepts: Key Definitions and Case Study Examples,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2120*, 2009, pp. 3-11.
21. Porter, R.J. and Mason, J.M. “Modeling Speed Behavior of Passenger Cars and Trucks in Freeway Construction Work Zones: Implications on Work Zone Design and Traffic Control Decision Processes,” In *Journal of Transportation Engineering, Vol. 134, No. 11*, 2008, pp. 450-458.
22. Porter, R.J., Mahoney, K.M. and Mason, J.M. “Seemingly Unrelated Regression Model of Car Speeds and Speed Deviations in Freeway Work Zones,” In *Transportation Research Record, Journal of the Transportation Research Board No. 2023*, 2007, pp. 44-51.
23. Taylor, D.R., Muthiah, S., Kulakowski, B.T., Mahoney, K.M. and Porter, R.J. “An Artificial Neural Network Speed Profile Model for Construction Work Zones on High Speed Highways,” In *Journal of Transportation Engineering, Vol. 133, No. 3*, 2007, pp. 198-204.
24. Porter, R.J., Mahoney, K.M. and Ullman, G.L. “Development of Temporary Concrete Barrier Placement Guidance for Construction Work Zones using Roadside Safety Analysis,” In *Transportation Research Record, Journal of the Transportation Research Board No. 1984*, 2006, pp. 21-30.
25. Porter, R.J., Donnell, E.T. and Mahoney, K.M. “Evaluation of the Effects of Centerline Rumble Strips on Lateral Vehicle Placement and Speed,” In *Transportation Research Record, Journal of the Transportation Research Board No. 1862*, 2004, pp. 10-16.

**Fully-Refereed Journal Publications Accepted For Publication** (\*indicates University of Utah student)

1. Tasic, I.\*, Porter, R.J., and Brewer, S.C. “Applications of Generalized Additive Models and Bayesian Hierarchical Models for Areal Safety Analysis of Urban Multimodal Transportation Systems,” accepted for publication in *Transportation Research Record: Journal of the Transportation Research Board*, 2016 (submitted 8/1/2015; accepted 2/5/2016).
2. Song, Y.\*, Zlatkovic, M., and Porter, R.J. “GPS-Based Transit Signal Priority for Mixed-Traffic Bus Rapid Transit,” accepted for publication in *Transportation Research Record: Journal of the Transportation Research Board*, 2016 (submitted 8/1/2015; accepted 2/2/2016).
3. Fayyaz S., S.K.\*, Liu, X.C., and Porter, R.J. “A Genetic-Algorithm and Regression-Based Model for Analyzing Fare Payment Structure and Transit Dwell Time,” accepted for publication in *Transportation Research Record: Journal of the Transportation Research Board*, 2016 (submitted 8/1/2015; accepted 2/2/2016).

**Fully-Refereed Journal Publications Under Review** (\*indicates University of Utah student)

1. Thiese, M.S., Hanowski, R.J., Kales, S.N., Porter, R.J., Moffitt, G., Hu, N., and Hegmann, K.T. “Multiple Medical Conditions Increase Preventable Crash Risks among Commercial Truck Drivers,” submitted to *PLOS Medicine*, March 2016.

**Fully-Refereed Conference Proceedings** (\*indicates University of Utah student)

1. Tasic, I.\*, Porter, R.J., and Brewer, S.C. “Applications of Generalized Additive Models and Bayesian Hierarchical Models for Areal Safety Analysis of Urban Multimodal Transportation Systems,” *Compendium of Papers from the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
2. Fayyaz S., S.K.\*, Liu, X.C., and Porter, R.J. “A Genetic-Algorithm and Regression-Based Model for Analyzing Fare Payment Structure and Transit Dwell Time,” *Compendium of Papers from the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
3. Song, Y.\*, Zlatkovic, M., and Porter, R.J. “GPS-Based Transit Signal Priority for Mixed-Traffic Bus Rapid Transit,” *Compendium of Papers from the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2016.
4. Musunuru, A\*, Porter, R.J., Fyfe, M., and Sayed, T. “Risk and Reliability Analysis of Geometric Design Criteria: A Critical Synthesis,” *Compendium of Papers from the 5<sup>th</sup> International Symposium on Highway Geometric Design*, Vancouver, Canada, June 22-24, 2015.
5. Tasic, I.\* and Porter, R.J. “Modeling Spatial Relationships between Access to Multimodal Transportation and Traffic Safety Outcomes,” *Compendium of Papers from the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
6. Tasic, I.\*, Zlatkovic, M., Martin, P.T., and Porter, R.J. “Street Connectivity versus Street Widening: Enhanced Street Connectivity on Traffic Operations in Transit-Supportive Environments,” *Compendium of Papers from the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
7. Shea, M.S.\*, Le, T.Q.\*, and Porter, R.J. “A Combined Crash Frequency-Crash Severity Evaluation of Geometric Design Decisions: Entrance-Exit Ramp Spacing and Auxiliary Lane

- Presence,” *Compendium of Papers from the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
8. Zlatkovic, M., Porter, R.J., and Kergaye, C. “Performance-Based Pavement Marking Warranty Contracts: Experience and Lessons Learned in the State of Utah,” *Compendium of Papers from the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2015.
  9. Musunuru, A.\* and Porter, R.J. “A Reliability-Based Geometric Design Approach to Freeway Number of Lanes Decisions,” *Compendium of Papers from the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12-16, 2014.
  10. Le, T.Q.\* and Porter, R.J. “Safety Effects of Cross Section Design on Urban and Suburban Roads,” *Compendium of Papers from the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13-17, 2013.
  11. Wood, J.S.\* and Porter, R.J. “Safety Impacts of Design Exceptions on Non-Freeway Segments,” *Compendium of Papers from the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13-17, 2013.
  12. Porter, R.J., Donnell, E.T., and Mason, J.M. “Geometric Design, Speed, and Safety: A Performance-Based Exploration,” *Compendium of Papers from the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
  13. Le, T.Q.\* and Porter, R.J. “Safety Evaluation of Geometric Design Criteria for EN-EX Ramp Spacing and Auxiliary Lane Use,” *Compendium of Papers from the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2012.
  14. Przybyla, J.\*, Porter, R.J., Taylor, J.\*, Nevers, B., and Zhou, X. “Evaluating Roadway Safety Improvement in a Traffic Assignment Framework,” *Proceedings of the 3<sup>rd</sup> International Conference on Road Safety and Simulation*, Indianapolis, Indiana, September 14-16, 2011.
  15. Porter, R.J. and Le, T.Q.\* “Performance-Based Safety Evaluation of Requests for New Access or Modifications to Existing Access on Freeways,” *Proceedings of the 1<sup>st</sup> International Conference on Access Management*, Athens, Greece, June 15-17, 2011.
  16. Fitzpatrick, K., Porter, R.J., Pesti, G., Chu, C.L., Park, E.S., and Le, T.Q.\* “Guidelines for Spacing between Freeway Ramps,” *Compendium of Papers from the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
  17. Himes, S.C., Donnell, E.T., and Porter, R.J. “New Insights on Design Consistency Evaluations for Two-Lane, Rural Highways,” *Compendium of Papers from the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
  18. Porter, R.J. “Exploring the Relationship between Macroscopic Speed Parameters, Road Geometrics, and Traffic Control: An Empirical Study during Low-Volume Conditions in Construction Work Zones,” *Compendium of Papers from the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
  19. Pesti, G., Chu, C.L., Fitzpatrick, K., Porter, R.J., and Le, T.Q.\* “Microscopic Simulation of Weaving Traffic between Freeway Ramps,” *Compendium of Papers from the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23-27, 2011.
  20. Himes, S.C., Donnell, E.T. and Porter, R.J. “New Insights on Design Consistency Evaluations for Two-Lane, Rural Highways,” *Compendium of Papers from the 4<sup>th</sup> International Symposium on Highway Geometric Design*, Valencia, Spain, June 2-5, 2010.

21. Carlson, P.J., Park, E.S., Porter, R.J. and Andersen, C.K. "Safety of Wider Edge Lines in the USA," *Proceedings from the 15<sup>th</sup> International Conference of Road Safety on Four Continents*, Abu Dhabi, the United Arab Emirates, March 28-30, 2010.
22. Donnell, E.T., Porter, R.J. and Shankar, V.N. "A Framework for Estimating the Safety Effects of Roadway Lighting at Intersections," *Compendium of Papers CD-ROM from the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2010.
23. Venglar, S.P., Porter, R.J. and Ballard, A.J. "Establishing Advisory Speeds on Freeway Exit Ramps," *Compendium of Papers CD-ROM from the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10-14, 2010.
24. Porter, R.J., Mahoney, K.M. and Mason, J.M. "Estimation of Relationships between 85<sup>th</sup> Percentile Speed, Standard Deviation of Speed, Roadway and Roadside Geometry and Traffic Control in Freeway Work Zones," *Compendium of Papers CD-ROM from the 86<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12-25, 2007.
25. Porter, R.J., Mahoney, K.M. and Ullman, G.L. "Development of Temporary Concrete Barrier Placement Guidance for Construction Work Zones using the Roadside Safety Analysis Program," *Compendium of Papers CD-ROM from the 85<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2006.
26. Taylor, D.R., Muthiah, S., Kulakowski, B.T., Mahoney, K.M. and Porter, R.J. "An Artificial Neural Network Speed Profile Model for Construction Work Zones on High Speed Highways," *Compendium of Papers CD-ROM from the 85<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 22-26, 2006.
27. Porter, R.J., Donnell, E.T. and Mahoney, K.M. "Evaluation of the Effects of Centerline Rumble Strips on Lateral Vehicle Placement and Speed," *Compendium of Papers CD-ROM from the 83<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2004.
28. Mace, D.J. and Porter, R.J. "Fixed Roadway Lighting: The Effects of Lighting Geometry and Photometry on Target Visibility and Driver Comfort," *Compendium of Papers CD-ROM from the 83<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11-15, 2004.

**Abstract-Refereed Conference And Symposium Proceedings** (\*indicates University of Utah student)

1. Le, T.Q.\*, Lund, C.K.\*, and Porter, R.J. "Safety Effects of Cross Section Design on Urban and Suburban Roads," *Proceedings of the 4<sup>th</sup> Urban Street Symposium*, Chicago, IL, June 24-27, 2012.
2. Przybyla, J.\*, Taylor, J.\*, Zhou, X., and Porter, R.J. "Crash Event Modeling Approach for Dynamic Traffic Assignment," *Proceedings of the 4<sup>th</sup> Transportation Research Board Conference on Innovations in Travel Modeling*, Tampa, Florida, April 30-May 2, 2012.
3. Mahoney, K.M., Porter, R.J. and Himes, S.C. "Speed: How Can We Get What We Want?" *Proceedings of the 3<sup>rd</sup> Urban Street Symposium*, Seattle, Washington, June 24-27, 2007.

**Working Papers** (\*indicates University of Utah student)

1. "Multimodal Transportation Safety in Major U.S. Cities," with I. Tasic\* (will be presented at the 2016 ASCE International Conference on Transportation & Development, Houston, TX)
2. "Corridor-Level Evaluation of GPS-Based Transit Signal Priority," with Y. Song\* and M.

Zlatkovic (will be presented at the 2016 ASCE International Conference on Transportation & Development, Houston, TX)

3. “Sketch Planning Tool for Estimating Health Benefits of Mode Shifts Resulting from First Mile Last Mile Strategy Implementation,” with J. Taylor\* and X. Liu
4. “Methodological Framework for Analyzing the First Mile Last Mile Problem for Transit Systems,” with S.K. Fayyaz\*, J. Locquiao\*, J. Taylor\*, X. Liu, and J. McGrath
5. “Application of Meta-Analysis to Estimate the Speed Effects of Highway Treatments: A Case Study of Optical Speed Bars on Rural Highways,” with K. Croshaw\*
6. “Factors Influencing Crash Severity on Rural, Two-Lane Roads: Empirical Insights for Future Developments in the Highway Safety Manual’s Predictive Methods,” with Y. Zhang\* and A. Musunuru\*
7. “Methodological Alternatives for Modeling Vehicle Operating Speeds,” with E. Donnell and S. Himes
8. “Risk and Reliability Analysis to Inform Geometric Design Decisions: A Critical Synthesis of Methodological Alternatives,” with M. Fyfe, A. Musunuru\*, and T. Sayed
9. Strategic Research Framework to Consider the Implications of Connected and Automated Vehicles on Roadway Geometric Design, Traffic Operations, and Safety,” with S. Brennan, P. Carlson, E. Donnell, J. Mason, and C. Poe

## **Published Research Reports**

1. Boodlal, L., Donnell, E.T., Porter, R.J., Garimella, D., Le, T.Q., Croshaw, K., Himes, S., Kulis, P., and Wood, J. “Factors Influencing Operating Speeds and Safety on Rural and Suburban Roads,” Report No. FHWA-HRT-15-030, Federal Highway Administration, Office of Safety Research and Development, McLean, VA, 2015.
2. Knapp, K., Chandler, B., Atkinson, J., Welch, T., Rigdon, H., Retting, R., Meekins, S., Widstrand, E., and Porter, R.J. “Road Diet Informational Guide,” Report No. FHWA-SA-14-028, Federal Highway Administration, Office of Safety, Washington, DC, 2014.
3. Ray, B.L., Ferguson, E.M., Knudsen, J.K., Porter, R.J., and Mason, J. “Performance-Based Analysis of Geometric Design of Highways and Streets,” *NCHRP Report 785*, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., 2014.
4. Zlatkovic, M. and Porter, R.J. “Lessons Learned – Pavement Marking Warranty Contract,” Report No. UT-13.16, Utah Department of Transportation, Salt Lake City, UT, 2013.
5. Carlson, P., Park, E.S., Pike, A., Porter, R.J., Miles, J., Boulanger, B., Smadi, O., Hawkins, N., Chalmers, S., Darmiento, F., Burde, A., Kuhn, B., and Ealding, W. “Pavement Marking Demonstration Projects: State of Alaska and State of Tennessee – Final Report,” Report No. FHWA-HRT-12-048, Federal Highway Administration, Office of Safety Research and Development, McLean, VA, 2013.
6. Porter, R.J. and Wood, J.S. “Safety Impacts of Design Exceptions in Utah,” Report No. UT-12.10, Utah Department of Transportation, Salt Lake City, UT, 2012. (also has dual Report No. MPC 12-248, Mountain Plains Consortium, Fargo, ND, 2012)

7. Ray, B.L., Schoen, J., Jenior, P., Knudsen, J., Porter, R.J., Leisch, J.P., Mason, J.M., Roess, R. "Guidelines for Ramp and Interchange Spacing," *NCHRP Report 687*, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., 2011.
8. Ray, B.L., Schoen, J., Jenior, P., Knudsen, J., Porter, R.J., Leisch, J.P., Mason, J.M., Roess, R. "Determining Guidelines for Ramp and Interchange Spacing," *NCHRP Web Only Document 169*, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., 2011.
9. Carlson, P., Park, E.S., Andersen, C., Kuhn, B., Pike, A., Miles, J., Brydia, R., Ealding, W., and Porter, R.J. "Pavement Marking Demonstration Project: State of Alaska and State of Tennessee – Report to Congress," Report No. FHWA-HRT-09-039, Federal Highway Administration, Office of Safety Research and Development, McLean, VA, 2010.
10. Fitzpatrick, K., Porter, R.J., Pesti, G., Chu, C.L., Park, E.S., and Le, T. "Guidelines for Spacing between Freeway Ramps," Report No. FHWA/TX-10/0-5860-1, Texas Transportation Institute, College Station, TX, 2010.
11. Donnell, E.T., Himes, S.C., Mahoney, K.M., Porter, R.J. McGee, H. "Speed Concepts: Informational Guide," Report No. FHWA-SA-10-001, Federal Highway Administration Office of Safety, Washington, DC, 2010.
12. Ullman, G.L., Porter, R.J. and Karkee, G. "Implementation Guide for Monitoring Work Zone Safety and Mobility Impacts," Report No. FHWA/TX-10/0-5771-P1, Texas Transportation Institute, College Station, TX, 2009.
13. Ullman, G.L., Porter, R.J. and Karkee, G. "Monitoring Work Zone Safety and Mobility Impacts in Texas," Report No. FHWA/TX-09/0-5771-1, Texas Transportation Institute, College Station, TX, 2009.
14. Venglar, S.P., Porter, R.J., Obeng-Boampong, K.O. and Kuchangi, S. "Establishing Advisory Speeds on Non-Direct Connect Ramps: Technical Report," Report No. FHWA/TX-09/0-6035-1, Texas Transportation Institute, College Station, TX, 2009.
15. Mahoney, K.M., Porter, R.J., Taylor, D.R., Kulakowski, B.T. and Ullman, G.L. "Design of Construction Work Zones on High Speed Highways [stand-alone work zone design guidance]," *NCHRP Report 581*, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., 2007.
16. Mahoney, K.M., Porter, R.J., Taylor, D.R., Kulakowski, B.T. and Ullman, G.L. "Design of Construction Work Zones on High Speed Highways [research methodology and findings]," *NCHRP Web Only Document 105*, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., 2007.
17. Porter, R. J., Hankey, J. M., Binder, S. C. and Dingus, T. A. "Enhanced Night Visibility Series, Volume VII: Phase II—Study 5: Evaluation of Discomfort Glare During Nighttime Driving in Clear Weather," *Report No. FHWA-HRT-04-138*, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., 2005.
18. Hankey, J. M., Blanco, M., Neurauter, M. L., Gibbons, R. B., Porter, R. J. and Dingus, T.A. "Enhanced Night Visibility Series, Volume XII: Overview of Phase II and Development of Phase III Experimental Plan," *Report No. FHWA-HRT-04-143*, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., 2005.
19. Mahoney, K.M., Porter, R.J., Donnell, E.T., Lee, D. and Pietrucha, M.T. "Evaluation of Centerline Rumble Strips on Lateral Vehicle Placement and Speed on Two-Lane Highways,"

*Report No. FHWA-PA-2002-034-97-04 (111)*, Pennsylvania Department of Transportation, Harrisburg, Pennsylvania, 2003.

20. Garvey, P.M., Zineddin, A.Z., Porter, R.J. and Pietrucha, M.T. "Real World On-Premise Sign Visibility: The Impact of the Driving Task on Sign Detection and Legibility," United States Sign Council Foundation, Inc., Bristol, Pennsylvania, 2002.
21. Mace, D.J., Garvey, P.M., Porter, R.J., Schwab, R. and Adrian, W. "Countermeasures for Reducing the Effects of Headlight Glare," The AAA Foundation for Traffic Safety, Washington, D.C., 2001.

## PAPER PRESENTATIONS, INVITED TALKS, AND PROFESSIONAL OUTREACH

**Conference And Symposium Presentations** (\*indicates primary speaker; poster sessions are identified, the remaining are podium presentations)

1. Song, Y. \*, Zlatkovic, M., and Porter, R.J. "GPS-Based Transit Signal Priority for Mixed-Traffic Bus Rapid Transit," *Session 451 of the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2016. [refereed paper – presented in poster session]
2. Tasic, I. \*, Porter, R.J., and Brewer, S.C. "Applications of Generalized Additive Models and Bayesian Hierarchical Models for Areal Safety Analysis of Urban Multimodal Transportation Systems," *Session 448 of the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2016. [refereed paper – presented in poster session]
3. Fayyaz S., S.K. \*, Liu, X.C., and Porter, R.J. "A Genetic-Algorithm and Regression-Based Model for Analyzing Fare Payment Structure and Transit Dwell Time," *Session 304 of the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2016. [refereed paper – presented in poster session]
4. Hansen, C. \*, Burian, S., Porter, R.J., Williams, G. "Statistical and Artificial Neural Network Models of Remotely Sensed Water Quality." AWWA Water Quality Technology Conference, Salt Lake City, UT, November 17, 2015. [refereed abstract – presented in poster session]
5. Musunuru, A, Porter, R.J., Fyfe, M., and Sayed, T. \* "Risk and Reliability Analysis of Geometric Design Criteria: A Critical Synthesis," *Poster Session 2 of the 5<sup>th</sup> International Symposium on Highway Geometric Design*, Vancouver, Canada, June 23, 2015. [refereed paper – presented in poster session]
6. Porter, R.J. \* "Past, Current, and Future Roles of Speed in Highway and Street Design," *Workshop 2 of the 5<sup>th</sup> International Symposium on Highway Geometric Design*, Vancouver, Canada, June 21, 2015. [invited presentation]
7. Porter, R.J. \* "Performance-Based Geometric Design Analysis," *Workshop 2 of the 5<sup>th</sup> International Symposium on Highway Geometric Design*, Vancouver, Canada, June 21, 2015. [invited presentation]
8. Shea, M.S. \*, Le, T.Q., and Porter, R.J. "A Combined Crash Frequency-Crash Severity Evaluation of Geometric Design Decisions: Entrance-Exit Ramp Spacing and Auxiliary Lane Presence," *Session 766 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2015. [refereed paper]
9. Tasic, I. \*, Zlatkovic, M., Martin, P.T., and Porter, R.J. "Street Connectivity Versus Street Widening: Enhanced Street Connectivity on Traffic Operations in Transit-Supportive Environments," *Session 674 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13, 2015. [refereed paper]

10. Tasic, I.\* and Porter, R.J. “Modeling Spatial Relationships between Access to Multimodal Transportation and Traffic Safety Outcomes,” *Session 540 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13, 2015. [refereed paper – presented in poster session]
11. Zlatkovic, M.\*, Porter, R.J., and Kergaye, C. “Performance-Based Pavement Marking Warranty Contracts: Experience and Lessons Learned in the State of Utah,” *Session 239 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2015. [refereed paper – presented in poster session]
12. Porter, R.J.\* “The Present and Future of Speed Limits in a Toward Zero Deaths Framework: Speed Concepts, Speed Limits, and the Effects of the Road Environment on Speed and Safety,” *Session 178 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2015. [invited presentation]
13. Porter, R.J.\* “The Art of Urban Street Performance Metrics: Safety Metrics for Decision Making,” *Session 105 of the 94<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2015. [invited presentation]
14. Musunuru, A.\* and Porter, R.J. “A Reliability-Based Geometric Design Approach to Freeway Number of Lanes Decisions,” *Session C7 of the 2<sup>nd</sup> T&DI Congress of the American Society of Civil Engineers*, Orlando, FL, June 11, 2014 [refereed paper]
15. Musunuru, A.\* and Porter, R.J. “A Reliability-Based Geometric Design Approach to Freeway Number of Lanes Decisions,” *Session 582 of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2014. [refereed paper]
16. Tasic, I.\*, Musunuru, A., and Porter, R.J. “Quantifying Accessibility of Non-Motorized Transportation Modes in Recreational Areas: Case Study of Mill Creek Canyon, Utah,” *Session 436 of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13, 2014. [refereed paper – presented in poster session]
17. Porter, R.J.\* “Preserving the Lost Art of Geometric Design for Design Decision Making: Performance-Based Design,” *Session 111 of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2014. [invited presentation]
18. Porter, R.J.\* “Hitting the Ground Running: Choosing and Navigating a Successful Transportation Career Path in Academia,” *Session 107 of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2014. [invited presentation]
19. Tasic, I., Musunuru, A., and Porter, R.J.\* “Towards Safety Performance-Based Traffic Signal Warrants,” *Fourth Regular Session of the 53<sup>rd</sup> Annual Meeting of the ITE Intermountain Section*, Jackson, WY, May 18, 2013.
20. Le, T.Q.\* and Porter, R.J. “Safety Effects of Cross Section Design on Urban and Suburban Roads,” *Session 397 of the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2013. [refereed paper – presented in poster session]
21. Wood, J.S.\* and Porter, R.J. “Safety Impacts of Design Exceptions on Non-Freeway Segments,” *Session 679 of the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 15, 2013. [refereed paper]
22. Le, T.Q.\*, Lund, C.K., and Porter, R.J. “Safety Effects of Cross Section Design on Urban and Suburban Roads,” *Track A – Session 17 of the 4<sup>th</sup> Urban Street Symposium*, Chicago, IL, June 26, 2012.
23. Przybyla, J.\*, Taylor, J., Zhou, X., and Porter, R.J. “Crash Event Modeling Approach for Dynamic Traffic Assignment,” *4<sup>th</sup> Transportation Research Board Conference on Innovations in*

*Travel Modeling*, Tampa, Florida, April 30, 2012.

24. Porter, R.J.\*, Donnell, E.T., and Mason, J.M. "Geometric Design, Speed, and Safety: A Performance-Based Exploration," *Session 687 of the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 25, 2012. [refereed paper]
25. Le, T.Q.\* and Porter, R.J. "Safety Evaluation of Geometric Design Criteria for EN-EX Ramp Spacing and Auxiliary Lane Use," *Session 687 of the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 25, 2012. [refereed paper]
26. Przybyla, J., Porter, R.J., Taylor, J.\*, Nevers, B., and Zhou, X. "Evaluating Roadway Safety Improvement in a Traffic Assignment Framework," *Modern Safety Management Session of the 3<sup>rd</sup> International Conference on Road Safety and Simulation*, Indianapolis, Indiana, September 15, 2011. [refereed paper]
27. Porter, R.J.\* and Le., T.Q. "Performance-Based Safety Evaluation of Requests for New Access or Modifications to Existing Access on Freeways," *Session 3 of the 1<sup>st</sup> International Conference on Access Management*, Athens, Greece, June 16, 2011. [refereed paper]
28. Porter, R.J.\* "The Interactive Highway Safety Design Model (IHSDM): Software to Support Performance-Based Road Design," *Session 4F of Edmonton's 3<sup>rd</sup> International Conference on Urban Traffic Safety*, Edmonton, Alberta, Canada, April 20, 2011. [invited presentation]
29. Porter, R.J.\* "Road Design, Speed, and Safety on Urban and Suburban Roads: Why do We Get What We Get and how do We Get What We Want?" *Session 4C of Edmonton's 3<sup>rd</sup> International Conference on Urban Traffic Safety*, Edmonton, Alberta, Canada, April 19, 2011. [invited presentation]
30. Pesti, G.\*, Chu, C.L., Fitzpatrick, K., Porter, R.J., and Le, T.Q. "Microscopic Simulation of Weaving Traffic between Freeway Ramps," *Session 662 of the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 26, 2011. [refereed paper – presented in poster session]
31. Himes, S.C.\*, Donnell, E.T., and Porter, R.J. "New Insights on Design Consistency Evaluations for Two-Lane, Rural Highways," *Session 610 of the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 25, 2011. [refereed paper – presented in poster session]
32. Fitzpatrick, K.\*, Porter, R.J., Pesti, G., Chu, C.L., Park, E.S., and Le, T.Q. "Guidelines for Spacing between Freeway Ramps," *Session 365 of the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 24, 2011. [refereed paper]
33. Porter, R.J.\* "Exploring the Relationship between Macroscopic Speed Parameters, Road Geometrics, and Traffic Control: An Empirical Study during Low-Volume Conditions in Construction Work Zones," *Session 330 of the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 24, 2011. [refereed paper – presented in poster session]
34. Porter, R.J.\* "Preserving the Lost Art of Geometric Design for Freeways and Interchanges: Safety," *Session 101 of the 90<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23, 2011. [invited presentation]
35. Himes, S.C., Donnell, E.T.\* and Porter, R.J. "New Insights on Design Consistency Evaluations for Two-Lane, Rural Highways," *Compendium of Papers from the 4<sup>th</sup> International Symposium on Highway Geometric Design*, Valencia, Spain, June 2-5, 2010. [refereed paper]
36. Donnell, E.T.\*, Porter, R.J. and Shankar, V.N. "A Framework for Estimating the Safety Effects of Roadway Lighting at Intersections," *Session 539 of the 89<sup>th</sup> Annual Meeting of the*

- Transportation Research Board*, Washington, D.C., January 12, 2010. [refereed paper]
37. Porter, R.J.\* “Establishing Crash Frequency Thresholds for Work Zone Safety Monitoring: When is an Increase Really an Increase,” *Session 482 of the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2010. [invited presentation]
  38. Venglar, S.P.\*, Porter, R.J. and Ballard, A.J. “Establishing Advisory Speeds on Freeway Exit Ramps,” *Session 432 of the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2010. [refereed paper – presented in poster session]
  39. Porter, R.J.\* “The Need for Speed in Highway Design,” *Session 145 of the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10, 2010. [invited presentation]
  40. Porter, R.J.\* “Linking Speed to Core Highway Functions and Goals,” *Session 155 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2009. [invited presentation]
  41. Porter, R.J.\* “Exploring the Endogeneity of Macroscopic Speed Parameters: An Empirical Study during Low-Volume Conditions in Construction Work Zones,” *Session 672 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2009. [refereed paper – presented in poster session]
  42. Donnell, E.T.\*, Himes, S.C., Mahoney, K.M. and Porter, R.J. “Understanding Speed Concepts: Key Definitions and Case Study Examples,” *Session 435 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 13, 2009. [refereed paper]
  43. Porter, R.J.\* “Beyond Three-Dimensional: Progressive Visualization for Geometric Design,” *Session 786 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 15, 2009. [invited presentation and panel discussion]
  44. Porter, R.J.\* and Mason, J.M. “Relationships between Car and Truck Speeds, Roadway and Roadside Geometrics, and Traffic Control in Freeway Construction Work Zones,” *Session 381 of the 87<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2008. [refereed paper – presented in poster session]
  45. Porter, R.J.\*, Mahoney, K.M. and Mason, J.M. “Estimation of Relationships between 85<sup>th</sup> Percentile Speed, Standard Deviation of Speed, Roadway and Roadside Geometry and Traffic Control in Freeway Work Zones,” *Session 309 of the 86<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 22, 2007. [refereed paper]
  46. Porter, R.J.\* “Roadside Design in Construction Work Zones,” *Annual Meeting of the Mid-Atlantic Section of the Institute of Transportation Engineers*, Harrisburg, Pennsylvania, September 2006. [invited presentation]
  47. Porter, R.J.\*, Mahoney, K.M. and Ullman, G.L. “Development of Temporary Concrete Barrier Placement Guidance for Construction Work Zones using the Roadside Safety Analysis Program,” *Session 700 of the 85<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 25, 2006. [refereed paper]
  48. Porter, R.J.\*, Donnell, E.T. and Mahoney, K.M. “Effects of Centerline Rumble Strips on Lateral Vehicle Placement and Speed,” *Session 201 of the 83<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2004. [refereed paper]
  49. Mace, D.J.\* and Porter, R.J. “Fixed Roadway Lighting: The Effects of Lighting Geometry and Photometry on Target Visibility and Driver Comfort,” *Session 709 of the 83<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2004. [refereed paper]

50. Mace, D.J.\* and Porter, R.J. "Fixed Roadway Lighting to Benefit Older Drivers," *16<sup>th</sup> Biennial Symposium on Visibility and Simulation*, Iowa City, Iowa, June 2002. [refereed abstract]
51. Porter, R.J.\* and Sada, J.M.\* "Context Sensitive Design and the Evaluation of Flexible Geometric Designs," *The 2000 Transportation Engineering and Safety Conference*, University Park, Pennsylvania, December 2000. [refereed abstract]

### **Other Invited Lectures and Seminars**

1. "Quantifying the Safety Effects of Design Decisions through Observational Road Safety Studies," Department of Civil & Environmental Engineering Seminar Series, University of Virginia, Charlottesville, VA, October 16, 2015.
2. "From Pennsylvania Coal Country to the University of Utah: Experiences and Opportunities in Transportation Engineering," Mid-Atlantic Transportation Sustainability (MATs) Center "Careers" Seminar Series, University of Virginia, Charlottesville, VA, October 16, 2015.
3. "Geometric Design, Speed, and Safety," TREC Seminar Series, Portland State University, Portland, Oregon, April 10, 2015.
4. "Incorporating Road Safety Analysis into the Transportation Project Development Process: Recent Advancements," *Utah Society of Professional Engineers Annual Conference*, Salt Lake City, UT, May 3, 2014.
5. "Reducing Roadway Departure Crashes at Horizontal Curve Sections on Rural, Two-Lane Highways: Work Plan Overview," *Research Committee Meeting of the National Committee on Uniform Traffic Control Devices*, Portland, Maine, June 2013.
6. "Safety Effects of Wide Edge Lines," *Research Committee Meeting of the National Committee on Uniform Traffic Control Devices*, Boise, Idaho, June 2011.
7. "The First Edition of the Highway Safety Manual: Overview and Status Update," *Local Meeting of the Brazos Valley Institute of Transportation Engineers*, College Station, Texas, February 2009.
8. "Relationship of Speed to Geometric Design and Safety: Permanent Roads and Work Zones," *7<sup>th</sup> Annual Research Showcase of the Pennsylvania Transportation Institute*, University Park, Pennsylvania, July 2004.
9. "Fixed Roadway Lighting: Safety, Visibility, Security and Comfort," *Transportation Engineering Seminar Series*, Pennsylvania State University, University Park, Pennsylvania, November 2005.

### **Professional Outreach Presentations**

1. Transportation Research Board Webinar Moderator, Case Studies in Performance-Based Analysis of Geometric Design, June 17, 2015 [registered continuing education]
2. M. Thiese, G. Moffitt, R. Hanowski, S. Kales, R.J. Porter, and K. Hegmann, "Obesity and the Commercial Driver Medical Exam: Relationships and Certification Length, Transportation Research Board Truck and Bus Operator Health and Wellness Subcommittee Meeting [ANB70(3)], Washington, D.C., January 14, 2015.
3. R.J. Porter, "First Update on NCHRP 17-68, Intersection Crash Prediction Methods for the Highway Safety Manual," Transportation Research Board Safety Data, Analysis, and Evaluation Committee Meeting [ANB20], Washington, D.C., January 12, 2015.

4. E. Donnell, R.J. Porter, and J. Mason, “Automated-Connected Vehicles: Impacts on Activities of the TRB Geometric Design and Operational Effects of Geometrics Committees,” Transportation Research Board Combined Geometric Design and Operational Effects of Geometrics Committee Meeting [AFB10/AHB65], Washington, D.C., January 12, 2015.
5. B. Ray and R.J. Porter, NCHRP 15-34, “Performance Based Analysis of Geometric Design of Highways and Streets,” Safety Effects of Geometric Design Workshop, Irvine, CA, July 30, 2013.
6. K. Dixon and R.J. Porter (presenters), “The New Highway Safety Manual: Urban Applications,” *Workshop 1 of the 4<sup>th</sup> Urban Street Symposium*, Chicago, IL, June 26, 2012.
7. Transportation Research Board Webinar Moderator, NCHRP 42-04/Synthesis 432: Recent Roadway Geometric Design Research for Improved Safety and Operations, June 19, 2012 [registered continuing education]
8. Transportation Research Board Webinar Presenter, NCHRP 3-88/Report 687: Guidelines for Ramp and Interchange Spacing, December 14, 2011 [registered continuing education]
9. Course Instructor (with G. Ullman and J. Graham), Advanced Work Zone Management and Design, sponsored by Federal Highway Administration, National Highway Institute, February 2008, April 2008

## UNIVERSITY TEACHING

### Summary of Courses

1. Statistical and Econometric Analysis<sup>2</sup>, Fall 2013, Spring 2015
2. Highway and Traffic Engineering<sup>2</sup>, Department of Civil and Environmental Engineering, Fall 2012, Fall 2015
3. Transportation Safety<sup>1</sup>, Department of Civil and Environmental Engineering, Fall 2011, Spring 2014
4. Highway Design<sup>1</sup>, Department of Civil and Environmental Engineering, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014
5. Transportation Engineering<sup>1</sup>, Department of Civil and Environmental Engineering, Fall 2009, Fall 2010, Fall 2011, Fall 2012

<sup>1</sup>These were existing courses on the University of Utah’s catalog when I arrived in 2009, but I completely restructured all course material.

<sup>2</sup>These are new courses that I developed and added to the University of Utah’s catalog.

### Teaching Awards and Special Recognitions

1. Educator of the Year, Institute of Transportation Engineers (ITE) – Utah Chapter, 2014
2. **National Award**, ExCEED New Faculty Excellence in Teaching Award, American Society of Civil Engineers, 2014
3. Ben Jacobsen Kingfisher Bend Ranch Award for Exceptional Effectiveness in Teaching, Department of Civil and Environmental Engineering, 2011-2012

4. Outstanding Faculty Award, Department of Civil and Environmental Engineering, University of Utah, 2011-2012
5. Top 15% of graduate teachers in University of Utah College of Engineering, Spring 2010 (Highway Design), Fall 2011 (Transportation Safety), Fall 2012 (Highway and Traffic Engineering), Spring 2015 (Statistical and Econometrics Analysis)
6. Top 15% of undergraduate teachers in University of Utah College of Engineering, Spring 2010 (Highway Design), Fall 2011 (Transportation Engineering), Spring 2012 (Highway Design), Spring 2013 (Highway Design), Spring 2014 (Highway Design)

### Summary of Course and Instructor Student Feedback Report

The University of Utah, Department of Civil and Environmental Engineering, asks students to rate aspects of the course and instructor using a six point scale (with 6 representing the highest level of performance for the course or instructor). The summary on the next page includes the name of each course that I have both created and delivered as a faculty member, the semester, number of students, and composite (i.e., average) scores for the seven main course-related statements and the seven main instructor-related statements that are presented to the students.

| Course                               | Semester    | # students | Course Effectiveness<br>(maximum = 6) | Instructor Effectiveness<br>(maximum = 6) |
|--------------------------------------|-------------|------------|---------------------------------------|---|
| Highway and Traffic Engineering      | Fall 2015   | 14         | 5.53                                  | 5.84                                      |
| Statistical and Econometric Analysis | Spring 2015 | 9          | 5.43                                  | 5.67                                      |
| Transportation Safety                | Spring 2014 | 8          | 5.58                                  | 5.79                                      |
| Highway Design                       | Spring 2014 | 30         | 5.62                                  | 5.76                                      |
| Statistical and Econometric Analysis | Fall 2013   | 9          | 5.5                                   | 5.8                                       |
| Highway Design                       | Spring 2013 | 43         | 5.6                                   | 5.7                                       |
| Highway and Traffic Engineering      | Fall 2012   | 11         | 5.5                                   | 5.7                                       |
| Transportation Engineering           | Fall 2012   | 84         | 5.3                                   | 5.6                                       |
| Highway Design                       | Spring 2012 | 42         | 5.7                                   | 5.8                                       |
| Transportation Safety                | Fall 2011   | 14         | 5.5                                   | 5.8                                       |
| Transportation Engineering           | Fall 2011   | 75         | 5.7                                   | 5.7                                       |
| Highway Design (undergraduate)       | Spring 2011 | 38         | 5.07                                  | 5.40                                      |
| Highway Design (graduate)            | Spring 2011 | 3          | 5.67                                  | 5.67                                      |

|                                |             |    |      |      |
|--------------------------------|-------------|----|------|------|
| Transportation Engineering     | Fall 2010   | 77 | 5.20 | 5.38 |
| Highway Design (undergraduate) | Spring 2010 | 18 | 5.64 | 5.80 |
| Highway Design (graduate)      | Spring 2010 | 6  | 6.00 | 5.80 |
| Transportation Engineering     | Fall 2009   | 56 | 5.38 | 5.61 |

## **FACULTY, GRADUATE, AND UNDERGRADUATE SUPERVISING, ADVISING AND COMMITTEE SERVICE**

### **Research Faculty and Staff Supervised (3)**

1. Dr. Juan Medina, Research Assistant Professor, August 2015 – present
2. Mr. Brendan Duffy, Programmer/Analyst, August 2015 – present
3. Dr. Milan Zlatkovic, Research Assistant Professor, July 2013 – present

### **Postdoctoral Scholar Supervised (1)**

1. Dr. Milan Zlatkovic, July 2012 – July 2013

### **Doctoral Students Supervised (7)**

1. Doyeon Kim (current student – beginning Fall 2015)
2. Jeffrey Taylor (current student – expected graduation in May 2017)
3. Anusha Musunuru (current student – expected graduation in May 2017), Dissertation: *Enhancing Road Safety Performance Measurement and Estimation on Rural, Two-Lane Highways through Data Integration and Hierarchical Analysis Approaches*
4. Yu Song (current student – expected graduation in May 2017), Dissertation: *Assessing Corridor-Level Operational and Safety Effects and Trade-Offs of Transit Signal Priority*
5. Michael (Scott) Shea (current student – expected graduation in December 2016) *Statistical Road Safety Modeling Approaches for Estimating Road, Vehicle, and Driver Effects on Crash Type and Severity Outcomes at Intersections*
6. Thanh Le (current student– expected graduation in May 2016), Dissertation: *Quantifying the Safety Effects of Roadway and Roadside Features using Statistical Road Safety Modeling: Addressing Fundamental Challenges in Model Specification, Omitted Variables, and Measurement Error*
7. Ivana Tasic (current student – expected graduation in May 2016), Dissertation: *Modeling Estimating Interrelationships between Accessibility and Safety in Urban, Multimodal Transportation Systems*

### **Other Doctoral Student Committee Membership (10)**

Kiavash Shahandashti (current student); Guang Tian (current student); Zhuo Chen (current student); Hao Lei (graduated); Jay Przybyla (graduated); Korin Holden (graduated); Milan Zlatkovic (graduated);

Muhammad Farhan (graduated); Tao Xing (graduated); Mingxin Li (graduated); James Mulandi (graduated); Piyali Chaudhuri (graduated)

### **Masters Thesis Students Supervised (6)**

1. Mingde Lin (current student), Thesis: *Strategies for Reducing Roadway Departure Crashes on Horizontal Curves along Rural, Two-Lane Highways* (expected graduation in May 2016)
2. Jeffrey Taylor (graduated; co-supervised with Dr. Xuesong Zhou), Thesis: *Method for Investigating Intra-driver Heterogeneity using Vehicle Trajectory Data: A Dynamic Time Warping Approach\**

\*Winner of 2014 Council of University Transportation Centers Milton Pikarsky Memorial Award – Best MS Thesis in Science and Technology

3. Kevin Croshaw (graduated), Thesis: *Application of Meta-Analysis to Estimate the Speed Effects of Highway Treatments: A Case Study of Optical Speed Bars on Rural Highways*
4. Anusha Musunuru (graduated), Thesis: *A Reliability-Based Geometric Design Approach to Freeway Number of Lanes Decisions*
5. Jonathan Wood (graduated), Thesis: *Safety Impacts of Design Exceptions in Utah*
6. Yunqi Zhang (graduated), Thesis: *Exploring Single-Vehicle Crash Severity on Rural, Two-Lane Highways with Crash-Level and Occupant-Level Multinomial Logit Models*

### **Masters Non-Thesis Students Supervised (11)**

Kailash Tatineni (graduated); Gregory Wilson (graduated); Amanda Harris (graduated); Charles Nuesmeyer (graduated); Immanuel Aswandi (graduated); Kendall Draney (graduated); Krishna Emmaneni (graduated); Travis C. Bailey (graduated); Christopher Maples (graduated); Eric Mason (graduated); Scott McAllister (graduated)

### **Undergraduate Research Assistants Funded through Externally Sponsored Work (5)**

Ryan Betz (Fall 2015 – present); Ariel Froerer (Fall 2015 – present); Dawn Sweeney (Spring 2014 – Summer 2014); Carl Lund (Spring 2012); Jonathan Wood (Spring 2011 – Fall 2011); Parker Bradley (Spring 2011); Gregory Larson (Fall 2009 – Spring 2011)

### **Undergraduate Research Projects Funded through Undergraduate Scholarships or University Programs (4)**

Spencer Taylor, Applications of Solar-Powered LEDs as Traffic Control Devices to Improve Safety, sponsored by Undergraduate Research Opportunities Program (Fall 2014, Spring 2015); Mingde Lin, Non-Motorized User Accommodation at Innovative Intersections, sponsored by Undergraduate Research Opportunities Program (Summer 2013); Derek Hatfield, Coordinating Rideshare and TravelWise, sponsored by the Point B Transportation Research Scholarship (Spring 2013); Tianhua Sun, Applications and Effects of Green Infrastructure in the Road Environment, sponsored by Undergraduate Research Opportunities Program (Summer 2012, Spring 2013)

### **Independent Studies Supervised (3)**

Probability, Risk, Reliability and Decision Analysis in Civil Engineering (Summer 2013); Road Safety Engineering, Department of Civil and Environmental Engineering (Spring 2011); Statistical and Econometric Modeling of Transportation Performance and Highway Infrastructure Relationships, Department of Civil and Environmental Engineering (Fall 2009)

## **Faculty Mentorship**

1. Department Mentor for Dr. Daniel Fagnant, Assistant Professor of Civil and Environmental Engineering, University of Utah, 2014-present
2. Department Mentor for Dr. Xiaoyue Cathy Liu, Assistant Professor of Civil and Environmental Engineering, University of Utah, 2013-present
3. Research Mentor for Dr. Matthew Thiese, Assistant Professor of Family and Preventive Medicine, University of Utah, NIH Mentored Research Scientist Development Award (K01): *Risk Factors for Crashes in a Retrospective Cohort of Commercial Truck Drivers*, 2010-present

## **PROFESSIONAL SERVICE**

### **Transportation Research Board (of the National Academies) Standing Committee and Task Force Membership**

1. Member, Expert Panel for NCHRP 20-05/45-06: Active and Passive Speed Management Methods for Work Zones: Technology and Procedures, 2013-present
2. Member, Standing Joint Subcommittee on Future Directions in Safety Analysis [ANB20/ANB25], 2013 – present
3. University Representative to the Transportation Research Board, University of Utah, 2012-present
4. Member, Expert Panel for NCHRP 17-59: Safety Impacts of Intersection Sight Distance, 2011 – 2012.
5. Member, Safety Data, Analysis, and Evaluation Committee [ANB20], 2011 – present
6. Member, Expert Panel for NCHRP 20-05/42-04: Recent Geometric Design Research and Practice for Improved Safety, Operations, and Maintenance, 2010-2011
7. **Chair**, Subcommittee on Performance-Based Analysis of Geometrics [AHB65(3)], 2007 – present
8. Member, Operational Effects of Geometrics [AHB65], 2004 – present
9. Member, Future Directions Subcommittee of the Highway Safety Manual Task Force, 2008 – 2010.
10. Member, Subcommittee on Speed Effects of Geometrics [AHB65(2)], 2007 – 2010
11. Member, Strategic Planning Subcommittee for Operational Effects of Geometrics, 2007

### **Selected Contributions to Transportation Research Board Strategic Documents and White Papers**

1. Contributor, “Safety Data, Analysis, & Evaluation Strategic Plan,” Committee on Safety Data, Analysis, and Evaluation, Transportation Research Board, Washington, D.C., 2012.
2. Report Co-Editor and Chapter Co-Author, “Modeling Operating Speed, Synthesis Report,” *Transportation Research Circular E-C151*, Committee on Operational Effects of Geometrics, Transportation Research Board, Washington, D.C., July 2011.
3. Contributor, “Operational Effects of Geometrics Strategic Plan,” Committee on Operational Effects of Geometrics, Transportation Research Board, Washington, D.C., 2007.

4. Co-Editor, “Geometric Design Strategic Research,” *Transportation Research Circular E-C110*, developed jointly by TRB Committee on Operational Effects of Geometrics, TRB Committee on Geometric Design and AASHTO Technical Committee on Geometric Design, Transportation Research Board, Washington, D.C., January 2007.
5. Co-Author, “Operational and Safety Effects of Highway Geometrics at the Turn of the Millennium and Beyond: A Look Forward from 2006,” Committee on Operational Effects of Geometrics, Transportation Research Board, Washington, D.C., January 2006.

### **Council of University Transportation Centers**

1. Awards Committee, Milton Pikarsky Memorial Award, PhD Dissertation, 2015
2. Primary Delegate, University of Utah, 2013 – present
3. Awards Committee, Milton Pikarsky Memorial Award, MS Thesis, 2014

### **National Committee on Uniform Traffic Control Devices**

1. Member, Human Factors Resources, a sponsor for the National Committee on Uniform Traffic Control Devices, 2013 – present
2. Member, Markings Technical Committee, 2011 – 2014
3. Member, Joint Task Force on Traffic Control Devices for Curves, 2011 – 2013

### **Institute of Transportation Engineers**

1. ITE/FHWA Technical Advisory Committee for Self-Enforcing Roadways, 2015 – present
2. Technical Committee Member, ITE Speed Management Project (TENC-108-01), 2010 – 2011
3. Vice-President, Brazos Valley Section, 2009
4. Secretary/Treasurer, Brazos Valley Section, 2008

### **Conference Service**

1. Co-coordinator and Presiding Officer, “Benefit-Cost Analysis to Inform Planning, Programming, and Design Decisions,” *Session 135 of the 95<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 10, 2016. [invited session]
2. Coordinator, “Future Directions in Highway and Street Design and Analysis,” *Workshop 2 of the 5<sup>th</sup> International Symposium on Highway Geometric Design*, Vancouver, Canada, June 21, 2015.
3. Presiding Officer, “Diverging Diamond Interchange Insights – Design,” *Session 2B of the Alternative Intersections & Interchanges Symposium*, Salt Lake City, UT, July 21, 2014. [abstract refereed session]
4. Presiding Officer, “Nighttime Analysis of Road Safety and Operations,” *Session 584 of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2014. [paper session]
5. Call for papers author and paper review coordinator, “Operational and Safety Effects of Geometrics at Night,” for the 93<sup>rd</sup> *Annual Meeting of the Transportation Research Board*, 2014.

6. Presiding Officer, “Considering Operating Speed in Design,” *Session 747 of the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 25, 2012. [paper session]
7. Co-coordinator, “Risk and Reliability Analysis in Geometric Design of Highways and Streets,” *Session 435 of the 91<sup>st</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 23, 2012. [invited session]
8. Presiding Officer, “Capacity, Operations and Signal Control, Tollways,” *Session 5 of the 1<sup>st</sup> International Conference on Access Management*, Athens, Greece, June 16, 2011. [paper session]
9. Co-coordinator and Presiding Officer, “Workshop on New Directions in Road Safety Modeling,” *Workshop 1 of the 4<sup>th</sup> International Symposium on Highway Geometric Design*, Valencia, Spain, June 2, 2010. [invited session]
10. Coordinator and Presiding Officer, “Case Studies of Performance-Based Analysis of Geometric Design III,” *Session 624 of the 89<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2010. [invited session]
11. Coordinator and Presiding Officer, “The Need for Speed in Highway Design,” *Session 155 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 11, 2009. [invited session]
12. Coordinator, “Case Studies of Performance-Based Analysis of Geometric Design II,” *Session 234 of the 88<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 12, 2009. [invited session]
13. Coordinator and Presiding Officer, “Case Studies of Performance-Based Analysis of Geometric Design,” *Session 235 of the 87<sup>th</sup> Annual Meeting of the Transportation Research Board*, Washington, D.C., January 14, 2008. [invited session]
14. Member, Planning Committee, *2002 Pennsylvania Transportation Engineering and Safety Conference*, 2002

### **Invited Peer Reviews (Journal and Conference Papers)**

1. BMC Research Notes (1)
2. Ergonomics (1)
3. Transportation Letters: The International Journal of Transportation Research (4)
4. Journal of Transportation Engineering (5)
5. Traffic Injury Prevention (5)
6. Transportation Research Part C (3)
7. Accident Analysis & Prevention (4)
8. 3<sup>rd</sup> International Conference on Road Safety and Simulation (1)
9. International Journal of Sustainable Transportation (1)
10. Journal of Advanced Transportation (1)
11. Transportation Research Record, Journal of the Transportation Research Board
  - AHB65 – Operational Effects of Geometrics (64)
  - AFB10 – Geometric Design (13)

AHB55 – Work Zone Traffic Control (7)  
ANB20 – Safety Data, Analysis, & Evaluation (23)  
ANB00 – Section - Safety (4)  
AHD55 – Signing and Marking Materials (1)  
ANB25 – Highway Safety Performance (4)  
ANF10 – Pedestrians (1)  
ABJ50 – Information Systems and Technology (1)

12. 3<sup>rd</sup> International Symposium on Highway Geometric Design (3)
13. 4<sup>th</sup> International Symposium on Highway Geometric Design (4)
14. 3<sup>rd</sup> Annual Conference of the Transportation Research Group (CTRG) of India (3)

#### **Invited Peer Reviews (Abstracts)**

1. 3<sup>rd</sup> Annual Conference of the Transportation Research Group (CTRG) of India (3)
2. 5<sup>th</sup> International Symposium on Highway Geometric Design (30)
3. 4<sup>th</sup> International Symposium on Highway Geometric Design (12)
4. Institute of Transportation Engineers Annual Meeting and Technical Conference (9)

#### **Invited Peer Reviews (Proposals)**

1. Pacific NW Transportation Consortium (PacTrans), University of Washington (2)
2. Center for Multimodal Solutions for Congestion Mitigation, University of Florida (2)

#### **UNIVERSITY SERVICE**

##### **Department Service**

1. **Chair**, Faculty Search Committee for Construction Engineering Position in Department of Civil and Environmental Engineering, 2015-2016
2. Member, Faculty Search Committee for Structural Engineering Position in Department of Civil and Environmental Engineering, 2015-2016
3. Member, Student Recruitment & Outreach Committee, Department of Civil and Environmental Engineering, 2015-present
4. Member, Retention, Promotion, & Tenure (RPT) Committee, Department of Civil and Environmental Engineering, 2015-present
  - a. Subcommittee Member, third-year retention review for Dr. Daniel Fagnant (Assistant Professor), 2016
  - b. Subcommittee Writer, third-year retention review for Dr. Azaree Lintereur (Assistant Professor), 2016
  - c. Subcommittee Chair and Writer, third-year retention review for Dr. Feng Pan (Research Assistant Professor), 2016

- d. Subcommittee Member, informal 2<sup>nd</sup> year review for Dr. Daniel Fagnant (Assistant Professor), 2016
- e. Subcommittee Chair and Writer, third-year retention review for Dr. Xiaoyue Cathy Liu (Assistant Professor), 2015
5. Faculty Advisor, Student Chapter of the ASCE Transportation & Development Institute (T&DI), 2014-present
6. **Chair**, Department Strategic Planning Committee, Department of Civil and Environmental Engineering, 2013-present
7. **Chair**, Faculty Search Committee for Transportation Position in Department of Civil and Environmental Engineering, 2013-2014 (hired Dr. Daniel Fagnant, PhD from University of Texas at Austin)
8. Faculty Co-Advisor, Institute of Transportation Engineers Student Chapter, 2013 – 2014
9. **Chair**, Faculty Search Committee for Transportation Position in Department of Civil and Environmental Engineering, 2012-2013 (hired Dr. Xiaoyue Cathy Liu, PhD from University of Washington)
10. Faculty Advisor, Institute of Transportation Engineers Student Chapter, 2012 – 2013
11. Faculty Representative, ASCE Rocky Mountain Student Conference (Concrete Canoe and Steel Bridge Competitions), 2012
12. Member, Department Undergraduate Committee, August 2011 – May 2013
13. FE Review Session: Transportation, Fall 2010, Fall 2011, Fall 2012
14. Assistant to Department Head, Layout and Implementation of the Senior Design Room in the Meldrum Civil Engineering Building, August 2010 – May 2012.
15. Lead Technical Contact, Bentley Systems Incorporated as the civil engineering department integrates Bentley academic software into undergraduate and graduate education, Summer 2010 – present.
16. Member, Department Scholarship Committee, Spring 2010, Spring 2011
17. Member, Faculty Search Committee for Structures Position in Department of Civil and Environmental Engineering, Spring 2010

### **College Service**

1. Advisor to Dean, Transportation Issues with Kennecott Building Reconstruction, Spring 2013
2. Member, College Search Committee for Department of Civil and Environmental Engineering Chair, 2012-2013

### **University Service**

1. Host, U.S. Department of State's International Visitor Leadership Program to examine *Supporting Sustainable Cities Through Improved Urban Mobility*, October 13, 2015
2. University of Utah Seed Grant Reviewer, 2015
3. Faculty Host, Moises Babadilla, Graduate Preparation Institute, sponsored by the University of Utah Graduate School and Office of Equity and Diversity, Summer 2013

4. Member, University Health and Safety Committee, August 2011 – present

### **MEDIA (University, College, and Department Media not included)**

1. Hit the brakes or the gas? Help for drivers at yellow lights – ksl news, Bill Gephardt Gets It. 11/06/2013. <http://www.ksl.com/?nid=148&sid=27525069>
2. Students learn: You text, you drive, you crash - Salt Lake Tribune. 06/27/2012. <http://www.sltrib.com/sltrib/news/54379592-78/driv...>
3. Utah teens take virtual distracted driving spin - Standard-Examiner, abc4, and ksl (Associated Press). 06/26/2012.

### **CONSULTING**

1. Transportation Association of Canada Geometric Design Guide for Canadian Roads, consulting work for MMM Group Limited, 2014 – present  
  
Currently assisting MMM Group Limited with creating a new Geometric Design Guide for Canadian Roads. The Guide is published by the Transportation Association of Canada and is the primary geometric design reference document for Canadian public agencies, private sector employees, and academia.
2. Safety Evaluation of Variable Speed Limits in Brisbane, Australia, consulting work for Kittelson & Associates, Inc., 2011  
  
Assisted Kittelson & Associates, Inc. with developing a methodology for evaluating the impacts of Variable Speed Limits (VSL) on expected crash frequency on the Western Freeway (Brisbane, Queensland, Australia). The Department of Transport and Main Roads (TMR), Queensland Government, requested the methodology. The safety evaluation was part of ongoing evaluations of Managed Motorways initiatives within TMR.

### **PROFESSIONAL SOCIETY MEMBERSHIP**

1. Member, American Society of Civil Engineers, March 2010 – present
2. Member, Human Factors and Ergonomics Society, December 2009 – December 2014
3. Member, American Society for Engineering Education, October 2009 – present
4. Member, American Association for the Advancement of Science, November 2008 – November 2014
5. Member, Institute of Transportation Engineers, May 2008 – present
6. Leadership Fellow, Eno Transportation Foundation, May 2005 – present
7. Member, Tau Beta Pi National Engineering Honor Society, May 1998 – present
8. Member, Chi Epsilon Civil Engineering Honor Society, December 1997 – present