

Academic Resume

Venkataraman (Venky) N. Shankar, PhD, PE
U.S. Citizen, Married

Professional Preparation

Ph.D.	University of Washington, Seattle	1997
M.S.C.E.	University of Washington, Seattle	1990
B.Tech.	Indian Institute of Technology, Madras	1988
P.E., Civil Engineering (active)	State of Washington	1994

Professional History

Professor, Department of Civil and Environmental Engineering, Pennsylvania State University, 2013-present.

Visiting Scholar, Department of Civil and Environmental Engineering, University of California at Berkeley, 2011-2012.

Associate Professor, Department of Civil and Environmental Engineering, Pennsylvania State University, 2004-2013.

Graduate Faculty, Operations Research Program, College of Engineering, Pennsylvania State University, 2007-Present.

Assistant Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, 1999-2004.

Safety Program Research Manager, Washington State Department of Transportation, Olympia, 1996-1999.

Transportation Engineering Consultant, Division Manager and Principal, Seattle, WA, 1989-1996.

Graduate Research Assistant, University of Washington, Seattle, 1993-1996, 1988-1989.

Refereed Journal Articles (names in bold indicate students and postdocs supervised via thesis work, thesis committee role and research collaborations; top 1% and top 5% cited articles by publication year, noted in brackets)

1. Mannering F., Shankar V., and Bhat C. "Unobserved Heterogeneity and the Statistical Analysis of Highway Accident Data," *Analytic Methods in Accident Research*, Volume 11, 1-16, 2016.
2. **Venkataraman N.**, Shankar V., Blum J., **Hariharan B.**, and **Hong J.** "Transferability Analysis of Heterogeneous Overdispersion Parameter Negative Binomial Safety Performance Functions: A Case Study from California, *Transportation Research Record, Journal of the Transportation Research Board*, DOI: 10.3141/2583-13, 2016.
3. **Hong J.**, Shankar V., and **Venkataraman N.** "A Spatially Autoregressive and Heteroskedastic Space-Time Pedestrian Exposure Modeling Framework with Spatial Lags and Endogenous Network Topologies," *Analytic Methods in Accident Research*, Volume 10, 26-46, 2016.
4. **Al-Mohtafar G.**, Yamamoto T., and Shankar V. "Evaluating crash type covariances and roadway geometric marginal effects using the multivariate Poisson gamma mixture model," *Analytic Methods in Accident Research*, Volume 9, pp 16-26, 2016.
5. **Madireddy M.**, Kumara S., Medeiros D. and Shankar V. "Leveraging Social Networks for Evacuation," *Transportation Research Part B*, Volume 77, Issue C, pp 199-212, 2015.
6. **Venkataraman N.**, Shankar V., Ulfarsson G. and **Deptuch D.** "Modeling the Effects of Interchange Configuration on Heterogeneous Influences of Interstate Geometrics on Crash Frequencies," *Analytic Methods in Accident Research*, 2014.

7. **Venkataraman N.**, Ulfarsson G. and Shankar V. “Extending the Highway Safety Manual Framework for Traffic Safety Performance Function Evaluation,” Safety Science, 2014.
8. **Venkataraman N.**, Ulfarsson G. and Shankar V. “Random Parameter Models of Interstate Crash Frequencies by Severity, Number of Vehicles Involved, Collision and Location Type,” Accident Analysis and Prevention, Vol 59, pp 309-318, 2013 [top 1% cited article].
9. **Ye X.**, Pendyala R., Shankar V. and Konduri K. “A Simultaneous Equations Model of Crash Frequency by Severity Level for Freeway Sections,” Accident Analysis and Prevention, Vol 57, pp 140-149, 2013.
10. Kim J., Ulfarsson G., Kim S. and Shankar V. “Driver-Injury Severity in Single-Vehicle Accidents in California: A Mixed Logit Model Analysis of Heterogeneity Due to Age and Gender,” Accident Analysis and Prevention, pp. 1073-1081, 2013 [top 1% cited article].
11. Anastasopoulos, P., Shankar, V., Haddock, J. and Mannering, F. “A Multivariate Tobit Analysis of Highway Accident Rates,” Accident Analysis and Prevention, Vol. 45, pp 110-119, 2012 [top 1% cited article].
12. Anastasopoulos, P., Mannering, F., Shankar, V. and Haddock, J. “A Study of Factors Affecting Highway Accident Rates Using the Random-Parameters Tobit Model,” Accident Analysis and Prevention, Vol. 45, pp 628-633, 2012 [top 1% cited article].
13. **Venkataraman N.S.**, Ulfarsson G., Shankar V., **Oh J.** and **Park M.** “Modeling Relationship Between Interstate Crash Occurrence and Geometrics: Exploratory Insights from Random Parameter Negative Binomial Approach,” Transportation Research Record, Journal of the Transportation Research Board, Vol. 2236, pp 41-48, 2011 [top 1% cited article].
14. Jovanis P., Valverde J., **Wu K.**, Gross F. and Shankar V. “Naturalistic Driving Event Data Analysis: Omitted Variable Bias and Multilevel Modeling Approaches,” Transportation Research Record, Journal of the Transportation Research Board,” Vol. 1506, 49-57, 2011 [top 1% cited article].

Refereed Parts of Books

1. **Juvva N.K.**, Shankar V.N. and **Chayanan S.** “Endogeneity and Identification in Transportation Systems: Econometric Relationships to Partial Observability,” System Identification 2003, Edited by PMJ Van den Hof, B Wahlberg and S Weiland, Volume (3), Pages 1197-1202, Elsevier 2004.
2. V.N. Shankar and R.M. Pendyala. In “Travel Behavior Research: The Leading Edge.” Freight Travel Demand Modeling: Econometric Issues in Multi-Level Approaches, Chapter 38, pp 629-645, Hensher D. and King J (eds), Pergamon Press, Oxford, 2001.

Books and Monographs

1. **Kwon D.** and Shankar V.N. “Vulnerability Analysis and Risk Assessment: For Dynamic Nonmotorized Human Travel Activity Networks,” Scholars Press, 324 pages, 2014.
2. **Shin S.** and Shankar V.N. “Selection Bias and Heterogeneity in Severity Models,” Academic Publishing AG & Co., 132 pages, 2013.
3. **Sathyanarayanan S.** and Shankar V.N. “Semi-Parametric Modeling of Pavement Marking Visibility Degradation: Service Life of Pavement Markings,” Lambert Publishing, 124 pages, 2012.
4. **Oh J.** and Shankar V. “Corridor Safety Modeling via Segmentation: a Selectivity Bias Perspective to Count Data,” Lambert Publishing, 84 pages, 2011.
5. **Sittikariya S.**, Shankar V.N. and Venkataraman N.S. “Modeling Heterogeneity: Traffic Accidents,” VDM Verlag, 80 pages, 2009.