

## **Elizabeth G. “Libby” Jones, PhD, ENV SP**

Professor & Associate Chair for Undergraduate Programs  
Department of Civil & Environmental Engineering  
College of Engineering, University of Nebraska-Lincoln  
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### **Education**

Ph.D. in Civil Engineering, The University of Texas at Austin, 1996  
MS in Civil Engineering, The University of Texas at Austin, 1988  
BS in Civil Engineering, Colorado State University, 1984

### **Certifications and Professional Registrations**

Envision Sustainability Professional, 2020 to present, #14701  
Envision Trainer, 2022 to present  
Certificate in Sustainable Community Development – Community Planning and Development  
Specialization, Colorado State University, 2013  
Engineer in Training (EIT) – Colorado, 1984

### **Professional Experience**

University of Nebraska-Lincoln, Associate Chair for Undergraduate Programs, Civil Engineering, 2019 to present  
University of Nebraska-Lincoln, Professor, Civil Engineering, 2019 to present  
University of Nebraska-Lincoln, Associate Professor, Civil Engineering, 2004 to 2019  
Engineers Without Borders (EWB-USA), Director of Education & Knowledge Sharing, May 2016 to April 2017 (Unpaid leave of absence from UNL)  
University of Nebraska-Lincoln, Associate Director, Mid-America Transportation Center, 2007 to present  
University of Nebraska-Lincoln, Transportation & Visualization Lab Director-Omaha Campus, Nebraska Transportation Center, 2000 to present  
University of Nebraska-Lincoln, Assistant Professor, Civil Engineering, 1996 – 2004  
Union College, Schenectady, NY, Instructor, Civil Engineering, 1993 – 1996  
The University of Texas at Austin, Center for Transportation Research, Graduate Research Assistant, 1989 – 1993  
WHM Transportation Engineering Consultants, Austin, TX, Transportation Engineer, 1990 – 1992  
The University of Texas at Austin, Center for Transportation Research, Graduate Research Assistant, 1986 – 1988  
Centennial Engineering, Inc., Arvada, CO, Transportation Engineer, 1984 – 1986

### **Research Accomplishments**

#### **Research Leadership**

Associate Director, Mid-America Transportation Center, U.S. Department of Transportation Region 7  
University Transportation Center, 2007 – 2023

## Journal Articles

Superscripts: 3-PhD student; 2-MS student; 1-Undergraduate student

Sandhu, G.S., Frey, H.C., Bartelt-Hunt, S., and Jones, E. (2020) Real-world activity, fuel use, and emissions of heavy-duty compressed natural gas refuse trucks *Science of the Total Environment* 761.

<https://doi.org/10.1016/j.scitotenv.2020.143323>

Zhou,<sup>3</sup> J., Rilett, L., & Jones, E. (2019). Estimating Passenger Car Equivalent using the HCM-6 PCE Methodology on Four-Lane Level Freeway Segments in Western U.S. *Transportation Research Record*, 2673(11), 529–545. <https://doi.org/10.1177/0361198119851448>

Zhou,<sup>3</sup> J., Rilett, L., & Jones, E. (2019). Sensitivity Analysis of Speed Limit, Truck Lane Restrictions, and Data Aggregation Level on the HCM-6 Passenger Car Equivalent Estimation Methodology for Western U.S. Conditions. *Transportation Research Record*, 2673(11), 493–504.

<https://doi.org/10.1177/0361198119851451>

Zhou,<sup>3</sup> Jianan, Rilett, L., Jones, E., and Chen<sup>3</sup>, Y. (2018) Estimating Passenger Car Equivalents on Level Freeway Segments Experiencing High Truck Percentages and Differential Average Speeds, *Transportation Research Record* [doi.org/10.1177/0361198118798237](https://doi.org/10.1177/0361198118798237)

Hsu<sup>3</sup>, C.J., Jones, E. (2017) Transmission Range Evaluations for Connected Vehicles at Highway-Rail Grade Crossings, *Designs*, 1(1), 2, doi:10.3390/designs1010002

Hsu<sup>3</sup>, C.J., Jones, E. (2017) Sensitivity analysis of stopping distance for connected vehicles at active highway-rail grade crossings, *Accident Analysis & Prevention*, V99, Part A, pp. 210-217.

doi:10.1016/j.aap.2016.12.007

Jaunich, M.K., Levis, J.W., DeCarolis, J.F., Gaston, E.V., Barlaz, M.A., Bartelt-Hunt, S.L., Jones, E.G., Hauser<sup>2</sup>, L., and Jaikumar<sup>3</sup>, R. (2016). Characterization of Municipal Solid Waste Collection Operations. *Resources, Conservation and Recycling*, 114: 92-102

Sandhu, G.S., Frey, H.C., Bartelt-Hunt, S.L., Jones, E. (2016). Real-World Activity, Fuel use, and Emissions of Diesel Side-Loader Refuse Trucks. *Atmospheric Environment*, doi: 10.1016/j.atmosenv.2016.01.014

Sandhu, G.S., Frey, H. C., Bartelt-Hunt, S., Jones, E. (2015). In-Use Activity, Fuel Use, and Emissions of Heavy-Duty Diesel Roll-off Refuse Trucks. *Journal of the Air & Waste Management Association*, V65, pp. 306-323. DOI: 10.1080/10962247.2014.990587

Sandhu, G.S., Frey, H. C., Bartelt-Hunt, S., Jones, E. (2014). In-Use Measurement of the Activity, Fuel Use, and Emissions of Front-Loader Refuse Trucks. *Atmospheric Environment*, V92, pp. 557-565, <http://dx.doi.org/10.1016/j.atmosenv.2014.04.036>

Swadener<sup>2</sup>, L., Javeherian<sup>3</sup>, M., Jones, E., and Bartelt-Hunt, S. (2014). Chemical Characterization and Toxicity of Bridge Deck Runoff and Impacts to Receiving Water Quality. *Journal of Environmental Engineering*, V140 (4), 04014010

Pavlik<sup>3</sup>, B.J., Sangster<sup>3</sup>, J.L., Parsley<sup>1</sup>, I.C., Knudsen<sup>1</sup>, E.M., Ndrianajasoloarivony, Z., Patterson, D.J., Bartelt-Hunt, S.L., and Jones, E.G. (2013). Solar Energy for Rural Madagascar Schools: A Pilot Implementation by University of Nebraska Engineers Without Borders-USA. *International Journal for Service Learning in Engineering*, V8 (2), pp. 24-42

Zhao<sup>2</sup>, M, Sharma, A, Bernt, D., Meyer, J., Dickey, B, Rosenbaugh, S, Jones, E.G., and Rilett, L. (2013). Economic Analysis of Using Renewable Wind Power System at a Signalized Intersection: A Case Study in Nebraska. *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*, V17 (3), pp. 210-220

Nugent, G., G. Kunz, L. Rilett, and E. Jones, (2010). Extending engineering education to K-12: teachers significantly increased their knowledge of engineering, developed more positive attitudes towards technology, increased their self-efficacy in using and developing technology-based lessons, and increased their confidence in teaching math and science. *The Technology Teacher*, V69, N7

Jones, E.G. and W. Farhat<sup>2</sup> (2004). Validation of the Two-Fluid Model for Arterial Streets. *Transportation Research Record – Journal of the Transportation Research Board No. 1876*, TRB National Research Council, Washington, DC, pp. 132 – 141

Jones, E.G. and M. Selinger<sup>2</sup> (2003). A Comparison of the Operations of Single Point and Tight Urban Diamond Interchanges. *Transportation Research Record – Journal of the Transportation Research Board No. 1847*, TRB National Research Council, Washington, DC, pp. 29 – 35

Jones, E.G. and T.D. Carlson<sup>2</sup> (2003) “Development of a Bicycle Compatibility Index for Rural Roads in Nebraska,” *Transportation Research Record – Journal of the Transportation Research Board No. 1828*, TRB National Research Council, Washington, DC, pp. 124 – 132

Jones, E.G. and C. M. Walton, (2002) “Managing Containers in a Marine Terminal: Assessing Information Needs,” *Transportation Research Record – Journal of the Transportation Research Board No. 1782*, TRB National Research Council, Washington, DC, pp. 92 – 99

### Book Chapters

Jones, L. (2017) “Engineers Without Borders USA Global Classroom”, In *Engineering Societies and Undergraduate Education: Proceedings of a Workshop*, National Academy of Engineering, doi: 10:17226/24878

### Peer-reviewed Conference Proceedings

Hunt, G. & Jones, E. G. (2024) Engagement in Practice: Addressing Redlining in First Year Civil Engineering Courses. *ASEE’s 2024 Annual Conference & Exposition*, June 2024, Portland, Oregon. <https://doi.org/10.18260/1-2--47260>

Jones, E. G. (2024). Designing a New Civil Engineering Curriculum to Prepare Tomorrow’s Engineer. *ASEE’s 2024 Annual Conference & Exposition*, June 2024, Portland, Oregon. <https://doi.org/10.18260/1-2--47135>

Jones, E. G., Soltaninejad, M.<sup>2</sup>, & Ponce de Leon, C.<sup>1</sup> (2019). Work in Progress: Moving from Outside to Inside - Traffic Engineering Field Exercises through Virtual Reality. *ASEE’s 2019 Annual Conference & Exposition*, June 2019, Tampa, Florida. <https://peer.asee.org/33576>

Jones, E.G., (2018). Lessons Learned: Collaborative Faculty Development in Civil Engineering – Moving from an Individual Practice of Teaching to a Community of Scholars of Teaching & Learning. *American Society for Engineering Education’s 2018 Annual Meeting*, June 2018, Salt Lake City, UT. <https://peer.asee.org/30768>

Bartelt-Hunt, S., Woods, R., Jones, E.G., Erdmann, R. and Stains, M., (2018). Evaluating the Use of Peer Instruction in Civil Engineering Courses. *American Society for Engineering Education’s 2018 Annual Meeting*, June 2018, Salt Lake City, UT. <https://peer.asee.org/30450>

White<sup>1</sup>, C.; Sangster<sup>2</sup>, J.L.; Joy<sup>1</sup>, S.R.; Dunekacke<sup>1</sup>, A.; Pirog<sup>1</sup>, M.; Jones, E.G.; Bartelt-Hunt, S.L., (2013). Effect of contaminated filtration sand on performance of household biosand filters. In the *Proceedings of the IEEE 2013 Global Humanitarian Technology Conference*, 978-1-4799-2402-8/13, San Jose, CA, Oct. 2013.

Hang<sup>3</sup>, Y., E.G. Jones, and P. Revesz, (2010). Local Polynomial Regression Models for Average Traffic Speed Estimation. In the *Proceedings of the 17th International Symposium on Temporal Representation and Reasoning*, pp. 154-161, Paris, France, Sept. 2010.

de Franca<sup>2</sup>, Diego and E.G. Jones (2010). Estimating train arrival times at highway railroad grade crossings using multiple sensors. In *TRB 89<sup>th</sup> Annual Meeting Compendium of Papers DVD*, Paper Number 10-3353.

Jones, E.G., D.B. de Franca<sup>2</sup>, Y. Zhou<sup>2</sup>, and M. Forsberg<sup>2</sup>, (2009). Estimating Train Speeds for Train Preemption Using Multiple Sensor Data. In the *Proceedings of the 16<sup>th</sup> World Congress and Exhibition on Intelligent Transport Systems*, Stockholm, Sweden, September 2009, pp. 5991-5998.

Jones, E.G., D. B. de Franca<sup>2</sup>, L.R. Rilett, and C. F. G. Loureiro, (2008). An overview of the ITS research and testing facilities at the University of Nebraska-Lincoln. In the *Proceedings of the XXII Congresso de Pesquisa e Ensino em Transportes*, November 3-9, 2008, Fortaleza, Brazil, pp. 1968-1975, Associacao Nacional de Pesquisa e Ensino em Transportes (ANPET), ISBN: 978-85-87893-14-7.

Jones, E.G., L.R. Rilett, and A.J. Khattak, (2008). The University of Nebraska-Lincoln Highway-Rail Grade Crossing Test Bed. In the *Proceedings of the 18<sup>th</sup> Annual International Railway Safety Conference 2008*, October 2008, Denver, CO. <http://www.international-railway-safety-council.com/category/denver-2008/>

Villatoro<sup>2</sup>, O, and E.G. Jones, (2008) “Development of Ontologies to Describe Traffic Video for Data Archiving Purposes: An Example Using Highway-Railroad Grade Crossings”, In *TRB 87<sup>th</sup> Annual Meeting Compendium of Papers DVD*, Paper Number 08-1710.

Zhang, L., L.R. Rilett, E.G. Jones, B. Naik and J. Appiah, (2007). Analysis of Aggregated and Disaggregated Traffic Data Obtained from Nonintrusive Traffic Detection Sensors. In *TRB 86<sup>th</sup> Annual Meeting Compendium of Papers DVD*, Paper Number 07-2658.

Zhang<sup>2</sup>, Y., P. Shi<sup>2</sup>, E. Jones, and Q. Zhu (2004). Robust Background Image Generation and Vehicle 3D Detection and Tracking. *Proceedings of the IEEE Intelligent Transportation Systems Conference*, pp. 12-16, Washington D.C., October, 2004. DOI: 10.1109/ITSC.2004.1398864

Shi<sup>2</sup>, P., Q. Zhu, E. Jones, (2004). Median model for background subtraction in intelligent transportation system. in *Image Processing: Algorithms and Systems III*, edited by Edward R. Doughy, Jaakko T. Astola, Karen O. Egiazarian, *Proceedings of SPIE-IS&T Electronic Imaging*, SPIE Vol. 5298, pp.168-176, 18-22 January 2004.

Shi<sup>2</sup>, P., E.G. Jones and Q. Zhu, (2002). Adaptive Median Filter for Background Generation – A Heuristic Approach. In the *Proceedings of the International Conference on Imaging Science, Systems, and Technology CISST '02*, Vol. 1, H.R. Arabnia and Y. Mun, Editors, CSREA Press, 2002, pp. 173 – 179.

Jones, E.G., H. Mahmassani, R. Herman, and C.M. Walton, (1989). Travel Time Variability in a Commuting Corridor: Implications for Electronic Route Guidance. *Proceedings of the First International Conference on Applications of Advanced Technologies in Transportation Engineering*, San Diego, California, February 1989, pp. 27-32.

### **Conference Proceedings, Non-peer Reviewed**

Bartelt-Hunt, S.L., Jones, E.G., Frey, H.C, and Sandhu G. (2014). Fuel Use and Air Emissions from Solid Waste Collection Vehicles. WasteExpo 2014, Atlanta, GA, April 29 – May 1.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” *Proceedings of the Joint Workshop on Advances in Engineering*, Krakow University of Technology, Krakow, Poland, June 2007.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” *Proceedings of the Joint Workshop on Advances in Engineering*, Warsaw University of Technology, Warsaw, Poland, May 2007.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” *Proceedings of the Joint Workshop on Advances in Engineering*, Szczecin Technical University, Szczecin, Poland, May 2007.

Jones, E.G. and A. Sharma<sup>2</sup>, “Using IMPLAN to Estimate Trip Attractions for a Statewide Transportation Planning Model” *Proceedings of the 2002 IMPLAN National Conference*, New Orleans, LA, September 2002.

Jones, E.G., “Understanding Rural Travel Behavior: A State-of-Knowledge Summary with Respect to Advanced Rural Transportation Systems,” *Proceedings of the Rural Advanced Technology and Transportation Systems 1997 International Conference*, August 1997, Big Sky, Montana.

## Conference Presentations

Presenter is underlined

Jones, E.G., “Student Perceptions of Standards-based Grading in an Introductory Transportation Engineering Course”. Transportation Educators Workshop, 2024. ITE Annual Meeting, Philadelphia, PA, July 20, 2024.

Jones, E.G., “Small Teaching Strategies Based on the Science of Learning: Using Concept Maps in Graduate and Undergraduate Seminars”. Spring 2018 Teaching and Learning Symposium, University of Nebraska-Lincoln, Feb. 23, 2018.

Jones, E.G., and Bartelt-Hunt, S.L. (2017). “REU Site: Sustainability of Horizontal Civil Networks in Rural Areas”. EEC Grantees Conference, National Science Foundation, Alexandria, VA, Oct. 30-31, 2017.

Jones, E.G. (2017) “Fostering Interdisciplinary Engineering Education: EWB-USA Global Classroom”, National Academy of Engineering Workshop on Engagement of Engineering Societies in Undergraduate Education, January 26-27, 2017.

Jones, E.G. (2017) “The Role of Engineers Without Borders in Developing Globally-Competent Students”. Global Health Conference Midwest 2017, Creighton University, Omaha, NE, Feb. 3-4, 2017.

Jones, E.G. (2017) “Engineering & Technology in Global Health Projects – Panel Discussion Panelist”. Global Health Conference Midwest 2017, Creighton University, Omaha, NE, Feb. 3-4, 2017.

Jones, E.G., “Using the Most Significant Change Technique for EWB-USA Projects”, Invited presentation, EWB-USA National Conference, Reston, VA, Nov. 1-2, 2014.

<https://www.youtube.com/watch?v=d6nbZN8DTyU>

Sandhu, G. S.; Frey, H. C.; Bartelt-Hunt, S. L.; and Jones, E. G. (2014). “In-Use Activity, Fuel Use, and Emissions of Diesel Roll-off Refuse Trucks”. 107th Annual Conference & Exhibition of the Air & Waste Management Association, Long Beach, CA, June, 2014.

Bartelt-Hunt, S.L., Jones, E.G., Frey, H.C., and Sandhu G. (2014). “Fuel Use and Air Emissions from Solid Waste Collection Vehicles” WasteExpo 2014, Atlanta, GA, April 29 – May 1, 2014.

Sandhu, G. S.; Frey, H. C.; Bartelt-Hunt, S. L.; and Jones, E. G. (2014). “Real-World Activity and Fuel Use of Diesel and Compressed Natural Gas Refuse Trucks”. PEMS International Conference and Workshop of the Center for Environmental Research & Technology, Riverside, CA, April 2014.

Sandhu, G. S.; Frey, H. C.; Bartelt-Hunt, S. L.; and Jones, E. G. (2014). “Real-World Fuel Use and Emissions of Diesel Front-Loader Refuse Trucks”. 24th Annual Real World Emissions Workshop of the Coordinating Research Council, San Diego, CA, March 30 – April 2, 2014.

Sandhu, G. S.; Frey, H. C.; Bartelt-Hunt, S. L.; and Jones, E. G. (2014). “In-Use Measurement of the Activity, Fuel Use, and Emissions of Front-Loader Refuse Trucks”. 93rd Annual Meeting of the Transportation Research Board, Washington, DC, January 12–16, 2014.

Bartelt-Hunt, S.L., Jones, E.G., Frey, H.C, and Sandhu G. (2014). “Air Pollutant Emissions from Solid Waste Collection Vehicles”. Global Waste Management Symposium, Orlando, FL, June 2014

White<sup>1</sup>, C.; Sangster, J.L.; Joy<sup>1</sup>, S.R.; Dunekacke<sup>1</sup>, A.; Pirog<sup>1</sup>, M.; Jones, E.G.; Bartelt-Hunt, S.L., “Effect of contaminated filtration sand on performance of household biosand filters”, Presented at the IEEE 2013 Global Humanitarian Technology Conference, San Jose, CA, Oct. 2013.

Jones, E.G., D. B. de Franca<sup>2</sup>, L.R. Rilett, and C. F. G. Loureiro, “An overview of the ITS research and testing facilities at the University of Nebraska-Lincoln”, the XXII Congresso de Pesquisa e Ensino em Transportes, November 3-9, 2008, Fortaleza, Brazil..

Jones, E.G., L.R. Rilett, and A.J. Khattak, “The University of Nebraska-Lincoln Highway-Rail Grade Crossing Test Bed”, Presented at the 18<sup>th</sup> Annual International Railway Safety Conference 2008, Oct. 6 – 10, 2008, Denver, CO.

Villatoro<sup>2</sup>, O., and E.G. Jones, “Development of Ontologies to Describe Traffic Video for Data Archiving Purposes: An Example Using Highway-Railroad Grade Crossings”, Presented at the 87<sup>th</sup> Annual Meeting of the Transportation Research Board, January 2008.

Villatoro<sup>2</sup>, O. and E.G. Jones, “Using Archived Traffic Video with Systematic Descriptions to Study Events at Highway-Railroad Grade Crossings,” Presented at the 87<sup>th</sup> Annual Meeting of the Transportation Research Board, January 2008.

Jones, E.G., “Using ITS Data Archive Information to Understand Heavy Vehicle Traffic Patterns.” Presented at the International Workshop on Advanced Structures & Materials, Lincoln, NE November 11-13, 2007.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” Presented at the Joint Workshop on Advances in Engineering, Krakow University of Technology, Krakow, Poland, June 1, 2007.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” Presented at the Joint Workshop on Advances in Engineering, Warsaw University of Technology, Warsaw, Poland, May 30, 2007.

Jones, E.G., “Transportation Systems Engineering Research at the University of Nebraska-Lincoln.” Presented at the Joint Workshop on Advances in Engineering, Szczecin Technical University, Szczecin, Poland, May 28, 2007.

Zhang, L., L.R. Rilett, E.G. Jones, B. Naik and J. Appiah, “Analysis of Aggregated and Disaggregated Traffic Data Obtained from Nonintrusive Traffic Detection Sensors”, Presented at the 86<sup>th</sup> Annual Meeting of the Transportation Research Board, January 22, 2007.

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Jones, E.G., "Applying Patterns of Technology-Enabled Distributed Collaboration: Improving Multi-Actor Decision-Making in Traffic Systems", PKI Collaborative Research Workshop, Dec. 2, 2005

Zhang<sup>2</sup>, Y., P. Shi<sup>2</sup>, E. Jones, and Q. Zhu, "Robust Background Image Generation and Vehicle 3D Detection and Tracking," Presented at *the IEEE Intelligent Transportation Systems Conference*, Washington D.C., October, 2004.

Jones, E.G. and W. Farhat<sup>2</sup>, "Validation of the Two-Fluid Model for Arterial Streets" Presented at the Annual Meeting of the Transportation Research Board, Washington, DC, January 2004.

Shi<sup>2</sup>, P., E.G. Jones and Q. Zhu, "Median Model for Background Subtraction in Intelligent Transportation Systems," accepted for presentation at the Image Processing: Algorithms and Systems III, part of the IS&T/SPIE Symposium on Electronic Imaging 2004, 18-22 January 2004 in San Jose, CA USA

Shi<sup>2</sup>, P., E.G. Jones and Q. Zhu, "Adaptive Median Filter for Background Generation – A Heuristic Approach" Presented at the International Conference on Imaging Science, Systems, and Technology CISST '02, Las Vegas, NV, June 24 – 27, 2002.

Jones, E.G. and A. Sharma<sup>2</sup>, "Development of Statewide Freight Trip Forecasting Model for Nebraska" Presented at the Annual Meeting of the Transportation Research Board, January 2003.

Jones, E.G. and T.D. Carlson<sup>2</sup>, "Development of a Bicycle Compatibility Index for Rural Roads in Nebraska" Presented at the Annual Meeting of the Transportation Research Board, January 2003.

Jones, E.G. and M. Selinger<sup>2</sup>, "A Comparison of the Operations of Single Point and Tight Urban Diamond Interchanges" Presented at the Annual Meeting of the Transportation Research Board, January 2003.

Jones, E.G. and A. Sharma<sup>2</sup>, "Using IMPLAN to Estimate Trip Attractions for a Statewide Transportation Planning Model" Presented at the 2002 IMPLAN National Conference, New Orleans, LA, September 5, 2002.

Jones, E.G. and C.A. Jankowski<sup>2</sup>, "Scalability of the Two-Fluid Model of Urban Traffic: The Other End of the Scale – Signalized Intersections." Presented at the Annual Meeting of the Transportation Research Board, January 2002.

Jones, E.G. and C. M. Walton, "Managing Containers in a Marine Terminal: Assessing Information Needs." Presented at the Annual Meeting of the Transportation Research Board, January 2002.

Jones, E.G. and C. M. Walton, "Managing Import Containers in Marine Terminals Using Intelligent Transportation Systems (ITS) Technologies," Presented at the Production and Operations Management Society Annual Meeting, Orlando, FL, March 30-April 2, 2001

Jones, E.G., "Application of the Two-Fluid Model to Characterize Traffic Flow at Signalized Intersections - Simulation Results," Presented at INFORMS Salt Lake City Spring 2000, May 7-10, 2000.

Jones, E.G., "Synergistic Relationships Between Transportation and Communications: Implications for Substitution of Telecommunications for Travel," Presented at the Aeronautics and Space Science Section of the Nebraska Academy of Sciences Annual Meeting, Nebraska Wesleyan Campus, Lincoln, Nebraska, April 23, 1999

Jones, E.G. and S. D. Andersen, "Statewide Traffic Prediction Model for Heavy Trucks," Presented at the 7<sup>th</sup> Transportation Research Board Conference on Application of Transportation Planning Methods, March 7-11, 1999, Boston, Massachusetts.

Jones, E.G., “Understanding Rural Travel Behavior: A State-of-Knowledge Summary with Respect to Advanced Rural Transportation Systems,” Presented at Rural Advanced Technology and Transportation Systems 1997 International Conference, August 24-27, 1997, Big Sky, Montana.

Jones, E.G., “Characterizing Traffic Conditions at Signalized Intersections Using the Two Fluid Model of Traffic Flow,” Presented at INFORMS Atlanta Fall 1996, November 3-6, 1996.

Jones, E.G., “Managing Containers in Marine Terminals”, presented at the January 1993 TRB meeting in Washington, D.C.

Jones, E.G., R. Rothery, and C.M. Walton, “Managing Containers in Ports”, Presented at the 6th World Conference on Transportation Research, Lyon, France, June 29 - July 3, 1992.

Jones, E.G., K. Young, M. Euritt, and C.M. Walton, “Advanced Communication and Information Technologies in Intermodal Transportation”, presented at the January 1991 TRB meeting in Washington, D.C.

Jones, E.G., H. Mahmassani, R. Herman, and C.M. Walton, “Travel Time Variability in a Commuting Corridor: Implications for Electronic Route Guidance”, presented February 1989 at the First International Conference on Applications of Advanced Technologies in Transportation Engineering, San Diego, California.

### **Invited Talks and Keynote Speeches**

Jones, E.G. (2019) “University of Nebraska Engineers Without Borders USA Projects and Partnerships in Madagascar and Zambia”. Africa Summit, University of Nebraska, University of Nebraska Medical Center, March 28, 2019.

Jones, E.G. (2017) “Fostering Interdisciplinary Engineering Education: EWB-USA Global Classroom”. National Academy of Engineering Workshop on Engagement of Engineering Societies in Undergraduate Education, January 26-27, 2017.

Jones, E.G. (2017) “Engineering & Technology in Global Health Projects – Panel Discussion Panelist”. Global Health Conference Midwest 2017, Creighton University, Omaha, NE, Feb. 3-4, 2017.

Jones, E.G., “Using the Most Significant Change Technique for EWB-USA Projects”, Invited presentation, EWB-USA National Conference, Reston, VA, Nov. 1-2, 2014.  
<https://www.youtube.com/watch?v=d6nbZN8DTyU>

Jones, E.G., “Keynote Speech - University of Nebraska Student Chapter of EWB-USA” Nebraska Academy of Sciences 2014 Fall Conference, Fremont, Nebraska, Sept. 26, 2014.

Jones, E.G., “Using Archived Traffic Video with Systematic Descriptions to Study Events at Highway-Railroad Grade Crossings,” Anna University, Chennai, India, December 10, 2013.

Jones, E.G., “Highway-Rail Grade Crossing Research at the University of Nebraska-Lincoln”, Kansas State ADVANCE Distinguished Lecture Series and Civil Engineering Graduate Seminar Series, Kansas State University, Manhattan, KS, May 7, 2008.

Jones, E.G. and L.R. Rilett, “University of Nebraska ITS Test Beds and Labs: Present and Future Directions”, Presented at the 9<sup>th</sup> Annual Meeting of ITS Heartland, April 2008.

Jones E.G., “MATC’s Integrated Test Bed and Data Archive System for ITS”, Invited presentation at ITS Heartland conference, Lincoln, NE, March 14, 2006.



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Jones E.G., “MATC’s Integrated Test Bed and Data Archive System for ITS”, Invited presentation at MOVITE conference, Lincoln, NE, May 12, 2006.

Jones, E.G., “The MATC ITS Lab and Intelligent Grade Crossings,” Traffic Engineers Association of Missouri (TEAM) Annual Meeting, Branson, MO, March 24, 2005.

Jones, E.G., “The Big Bang, Statistical Thermodynamics and Traffic Flow”, Creighton Physics Seminar, September 16, 2005.

Jones, E.G., “Intelligent At-Grade Crossings”, University of Wyoming, Traffic Seminar, October 18, 2005.

Jones, E.G., “XML for Center to Center Communications in Nebraska,” invited presentation, Nebraska Department of Roads Transportation Technology and Operations Conference, Lincoln, NE, July 17, 2002.

Jones, E.G., “ITS Information & Infrastructure Lab: Facilities & Research Capabilities,” invited presentation, Nebraska State Highway Commission, Lincoln, NE, May 17, 2002.

Jones, E.G., “ITS Information & Infrastructure Lab: Facilities & Research Capabilities,” invited presentation, Nebraska Section of the American Society of Civil Engineers, Omaha, NE, April 11, 2002.

Jones, E.G., “ITS Information & Infrastructure Lab: Facilities & Research Capabilities,” invited presentation, Western Transportation Institute, Montana State University, Bozeman, MT, January 31, 2002.

Jones, E.G., “ITS Information and Infrastructure (I<sup>3</sup>) Laboratory – An Overview,” Presented at Nebraska Department of Roads ITS Action Team meeting, Nov.3, 2000.

Jones, E.G., “Effective Use of ITE’s Trip Generation, 6<sup>th</sup> Edition,” Presented at the 51<sup>st</sup> Annual Traffic Conference and Seminars, Columbia, MO, April 24-26, 2000.

### Other Publications

DiRusso, C. S Adenwalla, A Basolo, E Blakenship, A. Cupp, T. Frank, S. Hermiller, E. Jones, M. Lawson, N. Myers, A. Nowak, S. Purdhum, B. Robertson, M. Simpson, A. Subramanian, and X. Zeng (2012). Best Practices Faculty Recruitment, Development and Retention – A Guide for Colleges and Departments, UNL ADVANCE. [https://advance.unl.edu/files/UNLADVANCEBestPractices3\\_2013.pdf](https://advance.unl.edu/files/UNLADVANCEBestPractices3_2013.pdf)

Basolo, A., E. Blankenship, A. Cupp, C. DiRusso, S. Goddard, E. Jones, J. Meakin, N. Myers, A. Nowak, S. Purdum, M. Simpson, and A. Subramanian (2012). Recognize and Minimize the Effects of Implicit Bias Best Practices, UNL ADVANCE. [https://advance.unl.edu/files/implicitbiasBP3\\_2013.pdf](https://advance.unl.edu/files/implicitbiasBP3_2013.pdf)

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## Elizabeth G. "Libby" Jones, PhD

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Blankenship, E., C. Dirusso, S. Hermiller, E. Jones, M. Lawson, and A. Nowak (2012). Annual Evaluation of Faculty Best Practices, UNL ADVANCE.

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Blankenship, E., C. DiRusso, S. Hermiller, E. Jones, M. Lawson, and A. Nowak (2010). The Faculty Search Process Best Practices, UNL ADVANCE. <https://advance.unl.edu/files/recruitBP.pdf>

Jones, E.G., "Sign of the Times," WesternITE, District 6 of the Institute of Transportation Engineers, Vol. 54, No. 6, Nov.-Dec. 2000.

Jones, E.G., "Managing Containers in Marine Terminals: An Application of Intelligent Transportation Systems Technology to Intermodal Freight Transportation", The University of Texas at Austin, December 1996.

Jones, E.G., R.D. Matthews, C.M. Walton, and S.P. Nichols, "Assessment of the National Energy Strategy: Transportation Fleet Fuel Efficiency", in UT Austin Committee to Assess the National Energy Strategy: Final Report, Volume II, Committee Analysis, Center for Energy Studies, The University of Texas at Austin, November 1991, pp 77-96.

Coleman, P.J., E.G. Jones, C.M. Walton, and S.P. Nichols, "Assessment of the National Energy Strategy: Efficiency of the Overall Transportation System", in UT Austin Committee to Assess the National Energy Strategy: Final Report, Volume II, Committee Analysis, Center for Energy Studies, The University of Texas at Austin, November 1991, pp 97-115.

Euritt, M., E.G. Jones, C.M. Walton, S.P. Nichols, D.B. Taylor, and P.J. Coleman, "Assessment of the National Energy Strategy: Overview of Transportation Energy Efficiency", in UT Austin Committee to Assess the National Energy Strategy: Final Report, Volume II, Committee Analysis, Center for Energy Studies, The University of Texas at Austin, November 1991, pp 63-75.

Mahmassani, H., R. Herman, C.M. Walton, E.G. Jones, M.H. Baaj, and R. Jayakrishnan, "Travel Time Characteristics and Opportunities for Real-Time Information Systems in an Urban Commuting Corridor", Research Report GM-1989-F, Center for Transportation Research, The University of Texas at Austin.

Jones, E.G., "The Variability of Travel Times in a Commuting Corridor During the Evening Peak Period", The University of Texas at Austin, August 1988.

### Research Funding

Developing a Learning Community to Support Student Success in MECH 223 Engineering Statics.

Funding agency: University of Nebraska Fred J. Kelly Fund. Dates of project: 1/1/2023-12/31/2024. PI – Logan Perry. Co-PIs Jessica Deters and Elizabeth "Libby" Jones. Agency amount: \$74,761. UNL matching funds: \$25,000.

REU Site: Sustainability of Horizontal Civil Networks in Rural Areas. Funding agency: National Science Foundation. Dates of project: 3/1/2020-2/28/2023. PI – Shannon Bartelt-Hunt, Participating Faculty – Jongwan Eun, Elizabeth "Libby" Jones, Seunghee Kim, Daniel Linzell, Xu Li, Yusong Li, Tiffany Messer, Chungwook Sim, Joshua Steelman, Christine Wittich, Richard Wood. Agency amount: \$445,241

REU Site: Sustainability of Horizontal Civil Networks in Rural Areas. Funding agency: National Science Foundation. Dates of project: 03/15/2017 – 02/29/2020. PI – Shannon Bartelt-Hunt, Participating faculty: Elizabeth G. Jones, Yong-Rak Kim, Daniel Linzell, Xu Li, Yusong Li, John Sangster, Joshua Steelman. Agency amount: \$352,698

## Elizabeth G. "Libby" Jones, PhD

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Traffic Calming Elements for Entry Control Facility Threat Delay and Containment (Phase 3). Funding agency: DOD Offutt Air Force Base-STRATCOM. Dates of project: 9/26/2013-9/11/2018. PI – Laurence Rilett. Co-PIs – Ronald Faller, Elizabeth Jones, John Reid, Cody Stolle. Agency amount: \$1,344,642

Traffic Calming Elements for Entry Control Facility Threat Delay and Containment (Phase 2). Funding agency: DOD Offutt Air Force Base-STRATCOM. Dates of project: 9/26/2013-9/11/2018. PI – Laurence Rilett. Co-PIs – Ronald Faller, Elizabeth Jones, John Reid, Cody Stolle. Agency amount: \$953,654

Pavement Friction and Vehicle Performance Limits Evaluation. Funding agency: DOD Offutt Air Force Base-STRATCOM. Dates of project: 9/29/2015 – 9/30/2016. PI – Laurence Rilett. Co-PIs – Ronald Faller, Elizabeth Jones, John Reid, Cody Stolle. Agency amount: \$143,600

Vehicular Threat Delay Calculator. Funding agency: DOD-Offutt Air Force Base-STRATCOM. Dates of project: 9/12/2014 – 9/30/2015. PI – Laurence Rilett, Co-PI – Ronald Faller, Elizabeth G. Jones, Cody Stolle. Agency amount: \$100,000

Assessing Passenger Car Equivalency Factors for High Truck Percentages. Funding agency: Nebraska Department of Roads. Dates of project: 07/01/2014 - 12/31/2015. PI – Laurence Rilett, Co-PI – Elizabeth G. Jones. Agency amount: \$79,305

Traffic Calming Elements for Entry Control Facility Threat Delay and Containment. Funding agency: DOD-Offutt Air Force Base-STRATCOM. Dates of project: 10/01/2013 - 09/30/2014. PI – Laurence Rilett, Co-PI – Ronald Faller, Elizabeth G. Jones, John Reid

Characterization of Bridge Deck Runoff. Funding agency: Nebraska Department of Roads. Dates of project: 07/01/2013 - 12/31/2014. PI – Shannon Bartelt-Hunt, Co-PI – Elizabeth G. Jones. Agency amount: \$158,467

Evaluating Air Emissions and Fuel Efficiency of Solid Waste Collection Vehicles. Funding agency: Environmental Research & Education Foundation. Dates of project: 03/01/2012 - 12/31/2014. PI – Shannon Bartelt-Hunt, Co-PI – Elizabeth G. Jones. Agency Amount: \$262,602

Operational Analysis of Narrow Lane Widths in the Urban Environment. Funding agency: Nebraska Department of Roads. Dates of project: 07/01/2012 - 06/30/2014. PI – Anuj Sharma, Co-PIs – Elizabeth G. Jones, Laurence Rilett. Agency amount: \$89,452

A Roadway Wind/Solar Hybrid Power Generation and Distribution System: Towards Energy-Plus Roadways. Funding agency: USDOT-FHWA. Dates of project: 04/13/2010 - 07/31/2014. PI – Jerry Hudgins, Co-PIs – Elizabeth G. Jones, Wei Qiao, Laurence Rilett, Anuj Sharma. Agency Amount: \$1,118,179. UNL Cost share: \$394,599

Evaluation of the Potential for Using Video from Roadway Monitoring Cameras to Supplement Traffic Data Collection. Funding agency: Nebraska Department of Roads. Dates of project: July 1, 2009 – June 30, 2010. PI – Elizabeth G. Jones. Co-PI – Anuj Sharma. Agency amount: \$62,211

Effect of Phase Countdown Timers on Safety and Efficiency of Operations at Signalized Intersections. Funding agency: Nebraska Department of Roads. Dates of project: July 1, 2009 – June 30, 2011. PI – Anuj Sharma. Co-PI – Elizabeth G. Jones. Agency amount: \$115,790

U.S.-Brazil Dual-Degree in Infrastructure & Sustainability Engineering Program. Funding agency: US Dept. of Education-FIPSE. Dates of project: 09/01/2006 - 08/31/2010. PI – David Allen, Co-PI – Elizabeth G. Jones. Agency amount: \$208,211

Video of Levels of Service. Funding agency: Nebraska Department of Roads. Dates of project: June 1, 2008 – May 31, 2009. PI – Elizabeth G. Jones. Sponsor amount: \$3,211

## Elizabeth G. "Libby" Jones, PhD

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Development of Prototype On-Line Courses and Course Modules. Funding agency: US Department of Transportation – Mid-America Transportation Center. Dates of project: June 1, 2008 – May 31, 2009. PI: Elizabeth G. Jones. Sponsor amount: \$78,686

Impact of Trucks on Signalized Intersection Operations Using Real-time Performance Measures. Funding agency: US Department of Transportation – Mid-America Transportation Center. Dates of project: March 2008 – June 2009. PI: Elizabeth G. Jones. Sponsor amount: \$60,744

Evaluation of NDOR's Advanced Warning Systems. Funding agency: Nebraska Department of Roads. Dates of project: July 2007 – June 2009. PI – Laurence Rilett. Co-PI – Elizabeth G. Jones. Sponsor amount: \$92,549

Needs Assessment of Intelligent At-Grade Railroad Crossings. Funding agency: US Dept. of Transportation – Federal Railroad Administration. Dates of project: October 2006 – September 2008. PI – Laurence Rilett. Co-PIs: Elizabeth G. Jones, Aemal Khattak, and Terry Stentz. Sponsor amount: \$110,000

SMART Transportation: Development of a Prototype Statewide ITS Data Archive. Funding agency: Federal Highway Administration through Nebraska Department of Roads. Dates of project: May 23, 2006 – May 22, 2010. PI – Elizabeth G. Jones. Sponsor amount: \$354,506. UNL Cost share amount: \$354,506. Total amount: \$709,012

Development of a Detailed Implementation Plan for Long-Term Data Collection Effort. Funding agency: National Cooperative Highway Research Program. Dates of project: December 2005 – June 2008. PI – Dean Sicking. Co-PIs: Elizabeth G. Jones. and Aemal Khattak. Sponsor amount: \$65,968.

Development of a State of the Art Traffic Micro-simulation Model for Nebraska. Funding agency: Nebraska Department of Roads. Dates of project: July 2005 – June 2008. PI – Laurence Rilett. Co-PI – Elizabeth G. Jones. Sponsor amount: \$222,896

Identification of Vehicular Impact Conditions Associated with Serious Ran-Off-Road Crashes. Funding agency: National Cooperative Highway Research Program. Dates of project: December 2005 – June 2008. PI – Dean Sicking. Co-PIs: Elizabeth G. Jones. and Aemal Khattak. Sponsor amount: \$499,999

Development of Fixed and Portable Signal Preemption Systems for Highway-Rail Grade Crossings. Funding agency: US Dept. of Transportation – Federal Railroad Administration. Dates of project: September 2005 – September 2008. PI – Laurence Rilett. Co-PIs: Elizabeth G. Jones, and Aemal Khattak. Sponsor amount: \$190,000

Intelligent Grade Crossings. Funding agency: US Dept. of Transportation – Federal Railroad Administration. Dates of project: September 2004 – September 2010. PI – Laurence Rilett. Co-PIs: Elizabeth G. Jones, Aemal Khattak. Sponsor amount: \$155,000

ITS Resource, Research and Educational Activities at the Peter Kiewit Institute. Funding agency: Nebraska Department of Roads. Dates of project: October 2002 – September 2007. PI – Elizabeth G. Jones. Sponsor amount: \$921,414

Integration of Wireless, Web-based Cameras with DMS, RWIS, and Anti-Icing Installations. Funding agency: Nebraska Department of Roads. Dates of project: August 2002 – July 2004. PI – Elizabeth G. Jones. Sponsor amount: \$120,089

Development of an XML Application to Improve Incident Response. Funding agency: Nebraska Department of Roads. Dates of project: October 2001 – September 2003. PI – Elizabeth G. Jones. Sponsor amount: \$109,589

## Elizabeth G. “Libby” Jones, PhD

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NSF/USDOT Partnership for Exploratory Research – ICSST: Towards a Systems Integration Urban Network Performance Measure – Scalability and Data Issues of the Two-Fluid Model. Funding agency: National Science Foundation. Dates of project: October 2001 – September 2003. PI – Elizabeth G. Jones. Sponsor amount: \$115,875

Supplement to Acquisition of Basic Instrumentation for a Prototype Intelligent Transportation Systems Information and Infrastructure. Funding agency: Suzanne and Walter Scott Foundation. Dates of project: July 2000 – June 2004. PI –Elizabeth G. Jones, Hamid Sharif & Qiuming Zhu, Co-PIs. Sponsor amount: \$250,000

Development of a Rural Bicycle Compatibility Index. Funding agency: Nebraska Department of Roads. Dates of project: June 2000 – July 2001. PI –Elizabeth G. Jones. Sponsor level: \$22,470

Traffic Prediction Model for Heavy Trucks – Phase II. Funding agency: Nebraska Department of Roads. Dates of project: May 1999 – September 2000. PI –Elizabeth G. Jones. Sponsor amount: \$44,489

POWRE: Scaling the Two-Fluid Model of Town Traffic to Characterize Traffic Flow Through Signalized Intersections. Funding agency: National Science Foundation. Dates of project: August 1999 – January 2001. PI –Elizabeth G. Jones. Agency amount: \$74,899

Traffic Prediction Model for Heavy Trucks – Phase I. Funding agency: Nebraska Department of Roads. Dates of project: June 1998 – December 1998. PI –Elizabeth G. Jones. Sponsor amount: \$26,772

## Teaching Accomplishments (other than classroom instruction)

### Teaching Leadership

#### *National Leadership*

2022 – present ASCE Civil Engineering Education Innovation Working Group, Member

2022 – present ASCE Committee on Education, Corresponding Member

2014 – 2015 Engineers Without Borders (EWB-USA), Director of Education & Knowledge Sharing

#### *University Leadership*

2022 – 2025 Chair, UNL University Undergraduate Curriculum Committee

2016 – present UNL University Undergraduate Curriculum Committee (College of Engineering representative)

2022 – 2023 Advanced Faculty-led Inquiry Into Reflective and Scholarly Teaching (FIRST) Project

2021 – 2022 Faculty-led Inquiry Into Reflective and Scholarly Teaching (FIRST) Project

2021 – 2022 Center for Transformative Teaching (CTT) Teaching Scholar

2019 – 2020 UNL Faculty Fellow for Student Success

#### *College Leadership*

2022 – present Vice Chair, College Curriculum & Academic Standards Committee

2021 – present College of Engineering Teaching Fellow

2018 – 2020 Chair, First year common curriculum task force

2005 – 2013 College of Engineering elected representative to the UNL Graduate Council

*Unit Leadership*

- 2019 – present Associate Chair for Undergraduate Programs, Civil & Environmental Engineering
- 2015 – present Curriculum Committee Chair
- 2022 – present Continuous Improvement Subcommittee Chair
- 2017 PKAL STEM Leadership Institute, Project Kaleidoscope, American Association of Colleges & Universities
- 2009 – 2013 Graduate Chair, Civil & Environmental Engineering

**Teaching Awards**

*National Teaching Awards and Recognition*

- 2014 Engineers Without Borders-USA Peter J. Bosscher Faculty Advisor Award for Outstanding Leadership

*Regional, Local and University Teaching Awards and Recognition*

- 2019-2020 Advisor of the Year Student Impact Award, UNL Student Involvement, University of Nebraska-Lincoln
- 2018 Holling Family Distinguished Engineering Educator Award
- 2018 UNO Alumni Excellence in Teaching Award
- 2015 Holling Family Distinguished Teaching/Advising/Mentoring Award, College of Engineering, University of Nebraska-Lincoln
- 2011-2012 Advisor of the Year Student Impact Award, UNL Student Involvement, University of Nebraska-Lincoln
- 2012 – Spirit of Service Faculty Award for Service Learning, UNL Center for Civic Engagement, University of Nebraska-Lincoln

**PhD Students – Completed**

- Jianan Zhou, PhD. December 2018. Dissertation title: The effects of moving bottlenecks on traffic operations on four-lane level freeway segments. Co-advised with Laurence Rilett (UNL)
- Chung-Jen Hsu, PhD, May 2016. Dissertation title: Vehicle Infrastructure Integration – Highway-Rail Grade Crossing Application.
- Ardalan Sherafati, PhD, December 2011. Co-supervised with Atorod Azizinamini (UNL). Dissertation title: Expanding the Length of Jointless Bridges by Providing Rotational Capacity over the Pile Head.
- Saeed Eghtedar Doust, PhD, December 2011. Co-supervised with Atorod Azizinamini (UNL). Dissertation title: Extending Integral Concepts to Curved Bridge Systems.
- Nima Ala, PhD, December 2011. Co-supervised with Atorod Azizinamini (UNL). Dissertation title: Seamless Bridge and Roadway System for the US Practice.
- Marcelo Ferreira da Silva, PhD, December 2011. Co-supervised with Atorod Azizinamini (UNL). Dissertation title: Development of Self-Stressing System for Bridge Application with Emphasis on Precast Panel Deck System.

**PhD Students – Inprogress**

Kurt Kesteloot. Dissertation topic: Sustainable Infrastructure. Self-funded student. Expected graduation – May 2025.

**MS Students – Thesis based**

Lauren Hauser, Masters of Science. May 2015. Thesis Title: Evaluating the Air Emissions from Solid Waste Refuse Trucks.

Kuvala, Manogna, Master of Science. May 2014. Thesis title: The Effect of Skew Angle on Average Queue Delay at Tee-Intersections: A Simulation Study using the TEXAS Model.

Haas, Ryan, Master of Science, August 2010. Thesis title: Needs Assessment for Human Factors Research at Highway Rail Grade Crossings.

Forsberg, Michael, Master of Science, August 2009. Thesis title: Train Speed and Acceleration Measurement Using Video Detection.

Franca, Diego, Master of Science, May 2009. Thesis title: Multi-sensor Data Fusion to Estimate Train Speeds: Double Mainline Track.

Manna, Amlan, Master of Science, May 2008. Thesis title: Scalability of Two-Fluid Model on an Urban Signalized Intersection: A Simulation Approach.

Zhou, Yue, Master of Science, August 2007. Thesis title: Estimating Train Speeds Using Fused Data from Multiple Speed Detectors.

Villatoro, Otto, Master of Science, December 2006. Thesis title: Archiving Traffic Video: An Application to At-Grade Highway-Rail Intersections.

Torres, Andres, Master of Science, May 2005. Thesis title: Durability Evaluation of the “Bruner” Side Bearing.

Zhang, Yufang, Master of Science, May 2004. Thesis title: Vehicle Detection and Classification Using Computer Vision. Jointly supervised with Dr. Qiuming Zhu, Computer Science, UNO.

Xu, Yaunhang, Master of Science, December 2003. Thesis title: Applicability of the Two-Fluid Model to Characterize Traffic on Arterial Streets – CORSIM Simulation Results.

Farhat, Wahid, Master of Science, December 2003. Thesis title: Applicability of the Two-Fluid Model to Characterize Traffic on Arterial Streets – Field Data Collection.

Carlson, Timothy, Master of Science, Anticipated graduation – December 2003. Thesis topic: Development of a Rural Bicycle Compatibility Index.

Shi, Peijun, Master of Science, May 2003. Thesis title: Vehicle Detection and Tracking by Computer Vision for Intelligent Transportation Applications. Jointly supervised with Dr. Qiuming Zhu, Computer Science, UNO.

Sharma, Anshul, Master of Science, May 2003. Thesis title: Development of a Multimodal Statewide Freight Model.

Gude, Tara, Master of Science, May 2003. Thesis title: Adaptive Traffic Control.

Selinger, Matt, Master of Science, May 2002. Thesis title: Design and Operational Guidelines for SPUI and TUDI

Speth, Steve, Master of Science, May 2001. Thesis title: A Comparison of Car Following Models: CORSIM and SimTraffic

Jankowski, Cheryl A., Master of Science, May 2001. Thesis title: Scaling the Two-Fluid Model of Town Traffic to Characterize Traffic at Signalized Intersections: Validity of the Ergodic Assumption.

**MS Students – Thesis based – In progress**

Kilyenyi, Oliva, Thesis topic: Complete Streets in East Africa. GTA. Expected graduation – May 2025

**MS Students – Non-thesis based – Completed**

Cole Madson, Master of Science, May 2021

Bret Guy, Master of Science, December 2021

Caleb White, Master of Science, December 2021

Plus an additional 27 MS non-thesis based students supervised prior to keeping track of individual students

**MS Students – Non-thesis based – In progress**

Beke, Donat – May 2025

**Undergraduate Students**

Nicholas Dean, Summer 2020, SNERP student

Camryn Moy, Summer 2020, Undergraduate research student

Ben Praeuner, Summer 2020, Undergraduate research student

Claudia Ponce de Leon, Summer 2018, REU student

Megan Browning, Summer 2018

Capri Keeler, Summer 2018

Stavros Gogos, Summer 2018

Sam Whitney, Summer 2018

Andrew Butler, Summer 2018

Naomi Tsukada, Summer 2018

Aaron Lectenberger, Summer 2018

Courtney Robb, Summer 2018

Chris Luth, Summer 2016

Aaron Lectenberger, Summer 2016

Allison Crawford, Summer 2015

Michelle Heimermann, Summer 2015

Stavros Gogos, Summer 2015

Keith Ozanne, Summer 2014

Elizabeth Schmidt, Summer 2014

Paul Smith, Summer 2014

Paul Smith, Fall 2013

Austin Costello, Summer 2013



Kelly Hudek, Summer 2013

Amanda Dunekacke, Summer 2012

Erik Knudsen, Summer 2011

Stacey Joy, Summer 2011

Peter Vonk, Spring 2009

Chris Gust, Spring 2008

Graham Frank, Spring 2002

Shawn Phillips, Spring 2000

**Visiting Scholars and Students**

Claudia Ponce de Leon, REU Researcher, Cornell University, June – August 2018

**Graduate Student Committee Membership**

Pham, Huong Quynh

Arul Pragasam, Arul Stephen

Chen, Yifeng

Wu, Zifeng

Zhao, Mo

Nkundineza, Celestin

Naik, Bhaven

Schiller, Craig

Appiah, Justice

Wolinsak, Marta

Vargas, Jaime

Swadner, Lauren

Gardner, Brian

Jareki, C.J.

Sitorius, Dan

Zhang, Linna

Pathak, CP

Kavuri, Prasad

Nunes, Erika

**Other Teaching Accomplishments**

2019 – present Engineering & Computing Education Core Faculty Teaching Fellows Program

2017 – present Civil Engineering Teaching & Learning Circle, Lead

2017 – present Classroom Observation Protocol for Undergraduate STEM (COPUS) Classroom Peer Observer

2017 PKAL STEM Leadership Institute, Project Kaleidoscope, American Association of Colleges & Universities

2017 Making Academic Change Happen (MACH) Workshop, Rose-Hulman Institute of Technology

2016 – 2018 Engineering for Change, Steering committee member for “Introduction to Engineering for Global Development Online Course”

2016 – Lead instructor, Engineers Without Borders USA Global Classroom, Costa Rica

2008 – present Engineers Without Borders Co-faculty advisor (Lincoln & Omaha campuses)

- Project and traveling advisor and Responsible Engineer In Charge – Madagascar Solar for Schools Project
- Project and traveling advisor – Zambia Kolomo River Pedestrian Bridge Project

2008 – 2011 Interim Director for Diversity & Education, Mid-America Transportation Center

## **Service Accomplishments**

### **Service Leadership**

#### *Leadership Positions in International and National Organizations*

- 2025 – 2027 Member, Engineers Without Borders USA Board of Directors
- 2024 – 2025 Chair, ASEE Community Engagement Division
- 2023 – 2024 Vice Chair, ASEE Community Engagement Division
- 2022 – 2023 Program Chair, ASEE Community Engagement Division
- 2021 – 2022 Program Chair Elect, ASEE Community Engagement Division
- 2012 – present Engineers Without Borders-USA Faculty Leadership Council (term ends in 2024)
- 2024 – present EWB-USA Governance Committee, FLC Representative
- 2018 – 2019 Chair, EWB-USA Faculty Leadership Council
- 2014 – 2015 Vice Chair, EWB-USA Faculty Leadership Council
- 2012 – present Member, EWB-USA Faculty Leadership Council
- 2006 AASHTO 50<sup>th</sup> Anniversary of the Interstate System Celebration Tour, Local Host for the Vehicle Infrastructure Integration Demonstration at the Qwest Center in Omaha, June 21-22, 2006.
- 2001 – 2002 ITS America Coordinating Council Task Force on Homeland Security
- 2017 – present Engineering Change Lab USA

#### *Leadership Positions in Regional and Local Organizations*

- 2007 – 2008 MOVITE – Fall 2008 Conference Planning Committee

## Elizabeth G. “Libby” Jones, PhD

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- 2007 – 2010 ASCE Nebraska Section – Transportation Conference Planning Committee
- 2004 – 2005 ITS Heartland Academic Sector Council Member

### *Leadership positions on University wide committees.*

- 2022 – 2025 Chair, UNL University Undergraduate Curriculum Committee
- 2016 – present UNL University Undergraduate Curriculum Committee (College of Engineering representative)
- 2005 – 2012 UNL Graduate Council representative to NU Executive Graduate Committee
- 2012 – 2015 UNL Academic Planning Committee (Graduate Council Representative)

### *Leadership positions on College wide committees*

- 2022 – 2024 Vice Chair, College Curriculum & Academic Standards Committee
- 2020 – 2021 Chair, College Promotion & Tenure Committee
- 2008 – 2011 Chair, Ad Hoc Committee to for Migration from the Unified PhD Program

### *Leadership positions on unit committees. Include committee name, dates, and title.*

- 2021 – 2022 Chair, Director of the Nebraska Transportation Center search committee
- 2020 – 2021 Chair, Assistant Professor, Transportation Engineering search committee
- 2019 – 2020 Chair, Promotion & Tenure Committee
- 2019 – 2020 Chair, Professor of Practice search committee
- 2015 – present Chair, Curriculum committee
- 2014 – 2015 Chair, Search committee for the Integrated Civil Infrastructure Systems position
- 2009 – 2013 Graduate Chair
- 2009 – 2012 Web site committee chair
- 2006 – 2007 CIVE Gallup Survey results analysis ad hoc committee, Chair

## **Service Awards**

### *National and International Service Awards*

2014 Engineers Without Borders-USA Peter J. Bosscher Faculty Advisor Award for Outstanding Leadership (considered both a service and teaching award)

### *Regional and Local Service Awards*

UNL College of Engineering Service Award, Associate Professor rank

UNL College of Engineering Service Award, Assistant Professor rank

## **Professional Service**

### *Journal Editorships or Associate Editorships*

Associate Editor, Community Engagement Division, American Society of Engineering Educators, 2023

Assistant Editor, Community Engagement Division, American Society of Engineering Educators, 2022

Guest Editor, International Journal of Service Learning in Engineering – Special Edition dedicated to Engineers Without Borders USA, published Dec. 2019.

Associate Editor, Journal of Transportation Engineering, January 2008 to 2011.

### *Journal Reviewer*

Journal of STEM Outreach

ASEE Conference Proceedings

Journal of Professional Issues in Engineering Education and Practice

International Journal of Sustainable Transportation

Journal of Transportation Engineering

Public Works Management & Policy

Transportation Letters

Transportation Research, Part A

Transportation Research, Part B

Journal of the Transportation Research Board – Transportation Research Record

Transportation Science

### *Research Advisory Boards*

2021 – present    Advisory board member for “Examining the Impact of Participation in Engineers Without Borders on Undergraduate Students’ Transition to Practice and Professional Development” NSF Award # 2121450, Principal Investigator-William Oakes, Purdue University

### *Professional Organization Membership*

American Society of Civil Engineers

American Society for Engineering Education

- Civil Engineering Division
- Educational Research & Methods Division
- Engineering Ethics Division
- First-Year Programs Division
- Community Engagement Division

Engineering Change Lab USA

- Organizing Committee for Summit 21, Workforce of the Future, Virtual Summit, June 18, 2024
- Organizing Committee for Summit 16, The Engineering Ideas Institute III, Boulder, CO, Sept. 26-28, 2022
- Climate Change Working Group, 2021 – present
- ECL-USA Knowledge Sharing Committee

Engineers Without Borders USA

IEEE

Institute of Transportation Engineers

- a. Missouri Valley District of ITE (MOVITE)
- b. Nebraska Section of ITE (NITE)

ITS Heartland

Transportation Research Board

- a. AHB25 – Traffic Signal Systems Committee – Member of the committee 2023 – 2026 (Friend of the committee 1996 -2011, 2017 – 2023; Member from 2011 – 2017)
  - i. Education Subcommittee – Member 2006 – present
- b. AHB45 – Traffic Flow Theory & Characteristics Committee – Friend of the Committee – Current; Member of the Committee -2002 – 2014 (Note: I’ve limited out on the number of years that I can serve on this committee per the rules of TRB; I remain a friend of the committee.)
- c. ABG020 – Transportation Education & Training Committee – Friend of the Committee – 2010 to present

*Research Review panels*

2024 – Invited reviewer for NSF’s IUSE: DUE proposals

2023 – Invited reviewer for NSF’s CMMI: HDBE proposals

2019 – Invited reviewer for NSF’s IUSE: EHR proposals

2015 – present Invited reviewer for Tran-SET (Transportation Consortium of South-Central States)

2012 – present Invited reviewer for Upper Great Plains Transportation Institute (UGPTI)

2000 – present Invited review for NSF’s CAREER proposals

2015 – Invited reviewer for NSF’s Engineering Research Center proposals

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1999 to 2014 – Invited reviewer for National Science Foundation’s ICSST, Urban Research Initiative (URI), and POWRE Programs over various years

2004 – 2007 National Academy of Science, Transit Cooperative Research Program – Review panel member for Project B-29 – Transit Market Research: Leveraging ITS and Transit ITS Data

### University Service

*Membership positions on university wide committees.*

2018 – present	UNL University Undergraduate Curriculum Committee
2019 – 2020	UNL Faculty Fellows for Student Success
2018 – 2020	UNL Education Abroad Advisory Committee
2012 – 2015	UNL Academic Planning Committee – UNL Graduate Council Representative
2009 – 2013	UNL ADVANCE Faculty Committee
2009 – 2010	Dean of Graduate Studies Search Committee
2005 – 2013	UNL Graduate Council

### College Service

*Membership positions on college wide committees.*

2018 – 2020	College Promotion & Tenure Committee
2018 – present	Engineering and Computing Educational Core Advisory Board
2018 – 2020	First year common curriculum committee
2018 – 2019	DBER Search Committee
2015 – present	College Curriculum and Academic Standards Committee (CC&ASC)
2017 – present	CC&ASC Subcommittee on Technical Writing
2017 – present	CC&ASC Subcommittee for ACE Evaluation, Review and Recertification
2010 – 2020	CoE Study Abroad
2008 – 2009	Reviewer – CoE 2008 Outstanding Undergraduate Research Award
2005 – 2013	CoE Graduate Board
2004 – 2008	SAME Faculty advisor (UNO)
2004 – 2005	Diversity mentor for PKI Students
2003 – 2004	SWE Faculty advisor (UNO)
2002 – 2004	Research Coordinating Advisory Committee
2002	Associate Dean (Omaha) search committee
1999 – 2001	Task Force for the Study of climate for Non-Senior Faculty of the College of Engineering & Technology

**Unit Service**

*Membership positions on unit committees.*

2018 – present Transportation search committees

- 2021 – 2022 Assistant Professor (Search committee chair)
- 2021 – 2022 Director of the Nebraska Transportation Center (Search committee chair)
- 2023 – 2024 Assistant Professor

2018 – 2021 Professor of Practice search committee (Search committee chair)

2017 – 2018 ABET Ad Hoc committee

2014 – present Curriculum committee

2014 – 2015 Transportation search committee

2012 – 2013 Department Chair search committee

2008 – 2009 Transportation search committee

2006 – 2016 Graduate committee

2006 – 2011 Curriculum committee

2006 – 2015 ITE faculty advisor (UNO)

2005 – 2006 Advising Ad Hoc committee

2005 – 2006 Undergraduate Communications Ad Hoc committee

2002 – 2004 Recruiting committee

2002 – 2003 Transportation search committee

2001 – 2005 Equipment committee

2001 – 2003 Computer committee

1999 – 2000 Transportation search committee

1996 – 1997 Structures search committee

1996 – 1997 Omaha Secretary III search committee

**Other Service Accomplishments**

2002 – 2012 Judge – SAME Student Initiated Mentoring Project

1999 – 2010 Faculty participant in the PKI Academy of Excellence