

Josias (Joe) Zietsman, Ph.D., P.E.

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Short Bio

Dr. Zietsman is the head of the Environment and Air Quality Division at TTI. He is part of TTI's Leadership Team and leads a division of approximately 30 people that is responsible for research in the area of transportation and the environment. The division is divided into three programs—Air Quality, Transportation Modeling, and Environment and Planning. Dr. Zietsman has 30 years of professional experience in the field of transportation engineering with a specialization in air quality, sustainable transportation, transportation planning, and the emerging topic of public health and transportation. He is also the Director of the Center for Advancing Research in Transportation Emissions, Energy and Health (CAR-TEEH), recently awarded under the University Transportation Center grant program by the USDOT.

Over the past 15 years at TTI, he has been PI of more than 50 research projects, valued at more than \$20 million. Examples include a \$3 million project for EPA on truck idling emissions and a nearly \$500,000 project for FMCSA on infiltration of pollutant emissions into truck cabins during idling, and \$500,000 project on sustainable transportation performance measures for the National Cooperative Highway Research Program. Dr. Zietsman also conceived the idea, raised the funding, and oversaw the development of a one-of-a-kind emissions testing facility at Texas A&M University, TTI's Environmental and Emissions Research Facility (EERF).

Dr. Zietsman has more than 70 technical publications and has co-authored a book on sustainable transportation. He is a frequent speaker at national and international conferences where he has delivered many keynote addresses including some on the topic of health and transportation. Dr. Zietsman is very active with TRB. He is immediate past-Chair of the Committee on Sustainable Transportation (ADD40), a member of the Task Force on Arterials and Public Health (ADD55T), immediate past chair of the Research Subcommittee on Transportation and Air Quality (ADC20), and former member of the Committee on Performance Measurement (ABC30).

Education

- Ph.D., Civil Engineering, Texas A&M University, 2000
- M.Eng., Transportation Engineering, University of Pretoria, South Africa, 1993
- B.E., Civil Engineering, University of Pretoria, South Africa, 1986

Areas of Expertise

- Transportation and Air Quality
- Sustainable Transportation
- Transportation Emissions, Energy and Health

Professional Affiliations and Activities

- Transportation Research Board:
 - Immediate Past Chair of the Committee on Transportation and Sustainability: ADD40 (2011–2016).
 - Member of the Committee on Performance Measurement: ABC30 (2002–2014).
 - Chair of Research Subcommittee of Air Quality Committee: ADC20 (2011–2017).
 - Member of Task Force on Arterials and Public Health: ADD55T (2016–present).
- Texas A&M University Council of Principal Investigators (2011–2017).
- International Road Federation: Southern African Coordinator (2013–present).
- TranLIVE (Transportation for Livability by Integrating Vehicles and the Environment) University Research Collaboration – Advisory Committee Member (2013–present).
- Member of Graduate Faculty of Texas A&M University (2006–present).
- Member of the Air and Waste Management Association (2006–present).
- National Science Foundation – CAREER Panel (2005).
- Registered Professional Engineer in the State of Texas (90506) (2002–present).

Selected Projects

- Director – Center for Transportation Emissions, Energy and Health – CAR-TEEH, United States Department of Transportation, University Transportation Centers Program (2016–present)
- Principal Investigator – Alternatives to Reduce Driver Exposure to Diesel Exhaust, Federal Motor Carrier Safety Administration, 2015-2016
- Principal Investigator – Air Quality and Conformity Technical Support and Analysis, Texas Department of Transportation, 2000-present
- Principal Investigator – Technical Assistance and Support to the Environmental Affairs Division, Texas Department of Transportation, 2015-present
- Principal Investigator – Guidebook for Sustainability Performance Measurement for Transportation Agencies, National Cooperative Highway Research Program, 2009-2011.

Selected Publications

- Ramani, T. L., and Zietsman, J. (2016). Sustainable transportation–alternative perspectives and enduring challenges. *International Journal of Urban Sciences*, 20(3), 318-333.
- Kumar, S., Nimchuk, N., Kumar, R., Zietsman, J., Ramani, T., Spiegelman, C., & Kenney, M. (2016). Specific model for the estimation of methane emission from municipal solid waste landfills in India. *Bioresource Technology*, 216, 981-987.
- T.L. Ramani, J. Zietsman, K. Ibarra, M. Howell, Addressing Sustainability and Strategic Planning Goals Through Performance Measures: Study of Bus Rapid Transit Systems in El Paso, Texas, *transportation Research Record*, No. 2357, 2013, pp.33-40.
- Lv, J., Zhang, Y., Zietsman, J. Investigating Emission Reduction Benefit from Intersection Signal Optimization. *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations*. August 2012.
- T.L. Ramani, Zietsman, J. Gudmundsson, H., Hall, R., Marsden, G., Framework for Sustainability Assessment by Transportation Agencies, *Transportation Research Record*, No. 2242, 2011, pp. 9–18.

- Lee, D. L., J. Zietsman, M. Farzaneh, and J. Johnson. Characterization of On-Road Emissions of Compressed Natural Gas and Diesel Fuel Vehicles. In Transportation Research Record 2233, Transportation Research Board, National Research Council, Washington, D.C. 2011, pp 80-89.
- Farzaneh, M., J. S. Lee, J. Villa, and J. Zietsman. Corridor-Level Air Quality Analysis of Freight Movement: North American Case Study. In Transportation Research Record 2233, Transportation Research Board, National Research Council, Washington, D.C. 2011, pp 19-26.
- Farzaneh, M., W. H. Schneider, and J. Zietsman. Field Evaluation of Carbon Dioxide Emissions at High Speeds. In Transportation Research Record 2191, Transportation Research Board, National Research Council, Washington, D.C. 2010, pp. 152–157.
- Zietsman, J., Farzaneh, M., Schneider W. H., Lee, J., and P. Bubbosh. Truck Stop Electrification as a Strategy To Reduce Greenhouse Gases, Fuel Consumption and Pollutant Emissions. Preprint of the 89th Annual Meeting of the Transportation Research Board, National Research Council, Washington, D.C. 2009.
- Zietsman, J., P. Bubbosh, L. Li, B. S. Bochner, and J.C. Villa. National Deployment Strategy for Truck Stop Electrification. Preprint of the 86th Annual Meeting of the Transportation Research Board, National Research Council, Washington, D.C. 2006.
- Zietsman, J., J. C. Villa, T. L. Forrest, and J. M. Storey. Estimating Truck Emissions at the El Paso – Ciudad Juarez Border. Proceedings of the National Urban Freight Conference, Long Beach, California. February, 2006.
- Lee, D., J. Zietsman, M. Farzaneh, W. W. Li, H. A. Olvera, J. M. E. Storey, L. Kranendonk. In-Cab Air Quality of Trucks Air Conditioned and Kept in Electrified Truck Stop. In Transportation Research Record 2123, Transportation Research Board, National Research Council, Washington, D.C. 2009, pp 17-25.

Relevant Employment History

Dates	Position(s)	Organization
01/1998 – Current	Division Head and Senior Research Engineer, Environment and Air Quality Division	Texas A&M Transportation Institute
01/1989 – 12/1997	Manager, Transportation Systems	Eastern Gauteng Services Council
01/1987 – 12/1988	Site Engineer	LTA (Earthworks)