

James L. Sullivan, M.S., P.E.

EDUCATION

Ph. D., Civil Engineering, University of Vermont (UVM), expected in 2023

M.S., Civil Engineering, University of Vermont, 2009

B.S., Civil Engineering, Cornell University, 1993

PROFESSIONAL CERTIFICATIONS

Registered Professional Engineer (New Hampshire)

PROFESSIONAL EXPERIENCE

As a Research Professional

Research Projects Director at the UVM Transportation Research Center (Since 2015)

The role of Research Projects Director includes administration, oversight, and leadership in facilitating research at the Center - prioritizing workflows, allocating effort, and developing strategies. In addition, the role of Research Projects Director includes administering standardized budgeting and project management processes to ensure consistent data management, financial management, and project delivery.

Senior Research Analyst / Principal Investigator at the UVM TRC (2009-2015)

Research work as Principal Investigator features transportation modeling, land-use modeling, spatial analysis, and statistical analysis projects for a variety of federal, state and non-profit funders.

Research Assistant at the UVM Transportation Research Center (2007-2009)

Research during the Master of Science degree program was to facilitate the advancement of the scalability and empirical relevance of the Network Robustness Index (NRI), an index used to measure the impacts of individual link disruption on overall network performance. The expansions to the NRI as a result of this research made it a viable measure for the evaluation of robustness and vulnerability of all types of transportation assets.

As a Lecturer

Course Instructor for CE 295: Transportation Planning and Modeling

An advanced elective covering the entire process of travel-demand modeling, the collection, analysis, & expansion of travel survey & land-use data, and mathematical methods common to transportation planning, including spatial multiple regression, cross-classification, Gravity Model application and calibration, curve fitting, binary and multinomial logit choice modeling, network path search, and network assignment.

Course Instructor for CE 133: Transportation Systems

A core course for juniors and seniors in civil engineering covering transportation planning, traffic flow and parking analysis, safety analysis and geometric design.

As an Engineering Professional

CH2M HILL, Inc. of Herndon, Virginia (1994-2006)

Project manager for a variety of projects at federal facilities in the Washington, DC area. Specific duties performed included managing all design and construction programs at each facility, meeting with project stakeholders, and authoring technical reports to comply with regulatory requirements.

JOURNAL PUBLICATIONS

Sullivan, James L. and Karen Sentoff, 2020. *Identifying Roadway Physical Characteristics that Contribute to Emissions Differences Between Hybrid and Conventional Vehicles*. Transportation Research Record: Journal of the Transportation Research Board, Volume 2674, Issue 10, pp. 599-613.

D.C. Novak, **J.L. Sullivan**, K. Sentoff, and J. Dowds, 2020. *A framework to guide strategic disinvestment in roadway infrastructure considering social vulnerability*. Transportation Research Part A: Policy and Practice, Volume 132, 2020, pp. 436-451.

Sullivan, James L., Jonathan Dowds, David C. Novak, Darren M. Scott, and Cliff Ragsdale, 2019. *Development and application of an iterative heuristic for roadway snow and ice control*. Transportation Research Part A: Policy and Practice, Volume 127, 2019, pp. 18-31.

Novak, David C., **James L. Sullivan**, Jeremy Reed, Mladen Gagulic, Nick Van Den Berg, 2018. *Performance-related specification and payment modifiers in highway construction projects*. International Journal of Quality & Reliability Management, Vol. 35 Issue: 10, pp. 2348-2372.

Dowds, Jonathan, Karen Sentoff, **James Sullivan**, and Lisa Aultman-Hall 2017. *Assessing the Impact of Network Resolution and Origin-Destination Aggregation on the Stability of Transportation Network Criticality Rating*. Transportation Research Record: Journal of the Transportation Research Board, 2017, Vol. 2653.

Aultman-Hall, Lisa, Chester Harvey, **James Sullivan**, and Jeffrey J. LaMondia, 2016. *The implications of long-distance tour attributes for national travel data collection in the United States*. Transportation (2016), pp. 1-29.

Sullivan, James L., Jeffrey J. LaMondia, Chester Harvey, Carter Garrison, and Lisa Aultman-Hall, 2016. *Analysis of the Long-Distance and Overnight Travel Tour Planning Process*. Transportation Research Record: Journal of the Transportation Research Board Jan 2016, Vol. 2594, pp. 1-10.

Sullivan, J.L., J. Dowds, D.C. Novak, and D.M. Scott, 2015. *Strategic Location of Satellite Salt Facilities for Roadway Snow and Ice Control*. Transportation Research Record: Journal of the Transportation Research Board. Vol. 2482 (2015), pp. 32-40.

Novak, D.C. and **James L. Sullivan**, 2014. *A Link-Focused Methodology for Evaluating Accessibility to Emergency Services*. Decision Support Systems, Volume 57 (January 2014): 309-319.

Dowds, Jonathan, **James Sullivan**, and Lisa Aultman-Hall, 2013. *Comparisons of Discretionary Passenger Vehicle Idling Behavior by Season and Trip Stage with Global Positioning System and*

Onboard Diagnostic Devices. Transportation Research Record: Journal of the Transportation Research Board, Volume 2341 (November 2013): 76-82.

Novak, David C., **James L. Sullivan**, and Darren M. Scott, 2012. *A Network-Based Approach for Evaluating and Ranking Transportation Roadway Projects*. Applied Geography, Volume 34 (May 2012): 498–506.

Sullivan, James L., David C. Novak, Lisa Aultman-Hall and Darren Scott, 2010. *Identifying Critical Road Segments and Measuring System-Wide Robustness in Transportation Networks with Isolating Links: A Link-Based Capacity-Reduction Approach*. Transportation Research Part A, Volume 44 (2010): 323–336.

Sullivan, James L., David C. Novak, Lisa Aultman-Hall and Darren Scott, 2009. *A review of current practice in network disruption analysis and an assessment of the ability to account for isolating links in transportation networks*. Transportation Letters: The International Journal of Transportation Research, Volume 1 (2009): 271-280.

PROFESSIONAL CONFERENCE PRESENTATIONS

Transportation Research Board's 2018 National Household Travel Survey Workshop:

- Presenter in the Non-Motorized Transportation Session on *Defining Type of Cyclist Based on Travel Activity Patterns*

Transportation Research Board's 96th, 95th, 94th, 91st, 90th, 89th, and 88th Annual Meetings:

- 2017 Presenter at Session 653, Surface Transportation Weather and Winter Maintenance: "Pilot Test of a Thermal Infrared Video System for Performance Measurement of Roadway Snow and Ice Control"
- 2016 Presenter at Session 622, Measuring Performance and Driving Conditions in Winter Maintenance: "Roadway Snow and Ice Control Performance Measurement Using Speed"
- 2015 Presenter at Session 815, Advances in Technology, Facilities, and Operations for Winter Maintenance: "Strategic Location of Satellite Salt Facilities for Roadway Snow and Ice Control"
- 2011 Presenter at Session 721, Advances in Rural Public and Intercity Bus Transportation and Session 558, Issues in Transportation Economics
- 2009 Presenter at Session 544, Current Research in Transportation Security and Critical Transportation Infrastructure Protection: "Investigation of Link Capacity Disruption in Calculation of Transportation Network Robustness Index"

Institute for Operations Research and the Management Sciences (INFORMS) 2014 Conference on Business Analytics & Operations Research:

- Presenter on *Vehicle Routing for Roadway Snow and Ice Control*

American Association of State Highway and Transportation Officials' 2013 and 2014 Annual GIS for Transportation Symposia:

- Presenter in the 2014 Routing Session on *Establishing Roadway Priority in Statewide Roadway Snow and Ice Control Operations*
- Presenter in the 2013 Linear Referencing System and Local Roadway Mapping Session on *Evaluating the Representation of Roadway Networks in GIS*

PEER REVIEW FOR RESEARCH JOURNALS

Transportation Research Part C: Emerging Technologies

Transportation Research Part D: Transport and Environment

Transportation Research Part E: Logistics and Transportation Review

Decision Support Systems and Electronic Commerce

International Journal of Geographical Information Science

Transportation Letters: The International Journal of Transportation Research

Transportation Research Record: Journal of the Transportation Research Board