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Education

Ph D, Virginia Polytechnic Institute and State University, 2001.

Major: Business Information Technology

Dissertation Title: A Methodology for Characterization and Performance Analysis of Connection-Based Network Access Technologies

MS, Virginia Polytechnic Institute and State University, 1994.

Major: Agriculture and Applied Economics

Dissertation Title: Meeting State Waste Stream Recycling Mandates Through Recycling: Examining Residential Waste Disposal Behavior in Rural Virginia

BA, Virginia Polytechnic Institute and State University, 1991.

Major: Economics

RESEARCH

Research Publications

Refereed Journal Articles

Lucas, M., Novak, D., Puranam, K. (in press). Heuristics and Sensitivity Analyses to Guide Replenishment Decisions for Blood with Random Transfer. *Decision Support Systems (DSS)*, Elsevier. <https://www.tandfonline.com/loi/tprs20>

Choi, Tom Y., Narayanan, Sriram, D. C., Olhager, Jan, Sheu, Jiuh-Biing, Wiengarten, Frank (2021). MANAGING EXTENDED SUPPLY CHAINS. *Journal of Business Logistics (JBL)* / Wiley. <https://onlinelibrary.wiley.com/journal/21581592>

Novak, D., Wu, Z., Dooley, K. Whose Resilience Matters? Addressing Issues of Scale in Supply Chain Resilience. *Journal of Business Logistics (JBL)* / Wiley. <https://onlinelibrary.wiley.com/journal/21581592>

Novak, D., Sullivan, J., Sentoff, K., Dowds, J. (2020). A Framework to Guide Strategic Disinvestment in Roadway Infrastructure Considering Social Vulnerability. *Transportation Research Part A: Policy and Practice - Elsevier*, 132(February 2020), 436-451. <https://www.journals.elsevier.com/transportation-research-part-a-policy-and-practice>

Sullivan, J., Dowds, J., Novak, D., Scott, D., Ragsdale, C. (2019). Development and Application of an Iterative Heuristic for Roadway Snow and Ice Control. *Transportation Research Part A: Policy and Practice*, 127(July), 18-31.

Novak, D., Sullivan, J., Reed, J., Gagulic, M., Van Den Berg, N. (2018). Performance Related Specification and Payment Modifiers in Highway Construction Projects. *International Journal of Quality & Reliability Management - Emerald*, 35(10), 2348-2372. <https://www.emeraldinsight.com/doi/pdfplus/10.1108/IJQRM-03-2018-0061>

Do, H., Shunko, M., Lucas, M., Novak, D. (2018). Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems. *Production and Operations Management*. [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1937-5956](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1937-5956)

- Puranam, K., Novak, D., Lucas, M., Fung, M. (2017). Managing Blood Inventory with Multiple Independent Sources of Supply. *European Journal of Operational Research (EJOR)*, 259, 500-511. <http://dx.doi.org/10.1016/j.ejor.2016.11.005>
- Puranam, K., Novak, D., Lucas, M. (2015). Extending the Newsvendor Model to Account for Uncontrolled Inventory Transfers. *Annals of Operations Research / Springer*(DOI 10.1007/s10479-015-2080-5), 14. <http://link.springer.com/article/10.1007/s10479-015-2080-5>
- Novak, D., Koliba, C., Zia, A., Tucker, M. (2015). Evaluating the Outcomes Associated with an Innovative Change in a State-level Transportation Project Prioritization Process: A Case Study of Vermont. *Transport Policy*, 42, 130-143. <http://www.journals.elsevier.com/transport-policy/>
- Novak, D., Choi, T. (2015). The Role of Geography in Shaping SCM's Professional Identity. *Journal of Business Logistics*, 36(2), 231-232. [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2158-1592](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2158-1592)
- Sullivan, J., Dowds, J., Novak, D., Scott, D. (2015). Strategic Location of Satellite Salt Facilities for Roadway Snow and Ice Control. *Transportation Research Record*(No. 2482). <http://trjournalonline.trb.org/doi/pdf/10.3141/2482-05>
- Novak, D., Sullivan, J. L. (2014). A Link-Focused Methodology for Evaluating Accessibility to Emergency Services. *Decision Support Systems (DSS)*, Elsevier, 57. <http://www.journals.elsevier.com/decision-support-systems/>
- Novak, D., Sullivan, J. L., Scott, D. M. (2012). A Network-based Approach for Evaluating and Ranking Transportation Roadway Projects. *Applied Geography, Elsevier*, 34(May 2012), 498-506. <http://www.sciencedirect.com/science/article/pii/S0143622812000124>
- Novak, D., zz-Hodgdon, C. D., Aultman-Hall, L. (2011). Nationwide Freight Generation Models: A Spatial Regression Approach. *Networks and Spatial Economics*, 11(1), 23-42. <http://www.springerlink.com/content/an2mx454g47u8155/fulltext.pdf>
- zz-Kraushaar, J. M., Novak, D. (2010). Examining the Affects of Student Multitasking with Laptops During the Lecture. *Journal of Information Systems Education*, 21(2), 241-251. <http://jise.org/Issues/21/vol21-2-pg241.pdf>
- Novak, D. (2010). Internet Access and Capacity Planning: Quantifying Relationships between Usage, Capacity, and Blocking. *Telecommunications Policy*, 34(5-6), 309-322.
- Sullivan, J. L., Novak, D., Aultman-Hall, L., Scott, D. M. (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: Policy and Practice*, 44(5), 323-336.
- Sullivan, J. L., Aultman-Hall, L., Novak, D. (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 / J. Ross Publishing*, 1(4), 271-280.
- Novak, D. (2008). Managing Bandwidth Allocations Between Competing Recreational and Non-Recreational Traffic on Campus Networks. *Decision Support Systems*, 45(2), 338-353.
- Nair, S., Novak, D. (2007). A Traffic Shaping Model for Optimizing Network Operations. *European Journal of Operational Research*, 180(3), 1358-1380.

Scott, D., Novak, D., Aultman-Hall, L., Guo, F. (2006). Network Robustness Index: A New Method For Identifying Critical Links and Evaluating the Performance of Transportation Networks. *Journal of Transport Geography*, 14(3), 215-227.

Novak, D., Rowland, D., DaSilva, L. (2003). Modeling Dialup Internet Access: An Examination of User-to-Modem Ratios, Blocking Probability, and Capacity Planning in a Modem Pool. *Computers & Operations Research*, 30(13), 1959-1976.

Novak, D., Ragsdale, C. (2003). A Decision Support Methodology for Stochastic Multi-Criteria Linear Programming Using Spreadsheets. *Decision Support Systems*, 36(1), 99-116.

Conference Proceedings

zz-Kraushaar, J. M., Chittenden, T., Novak, D. (2008). *A Descriptive Study of Perceived and Actual Tablet PC Use by Undergraduate Students in a Traditional Lecture-based Graphical Modeling Class* (vol. 2008, pp. 81-88). Indiana: The Impact of Tablet PCs and Pen-based Technology on Education, Purdue University Press.
<http://www.thepress.purdue.edu/impactoftabletpc2008.html>

zz-Kraushaar, J. M., Chittenden, T., Novak, D., Chittenden, N. B. (2007). *A Preliminary Profile of Student Tablet Use During the Lecture* (vol. Web Page). Atlanta, Georgia: 2007 EDUCAUSE Southeast Regional Conference.
<http://connect.educause.edu/library/abstract/APreliminaryProfile/44612>

Novak, D., Kitchin, P. (2004). *An Automated Statistical Quality Control Process for Internet Service Providers*. Annual Meeting of the Southeast Decision Sciences Institute (SEDSI).

Novak, D., Chang, S. J., Nair, S. K. (2003). *Setting Optimal Bandwidth Controls for Peer-to-Peer Traffic on Campus Networks*. Annual Meeting of the Northeast Decision Sciences Institute (NEDSI).

Novak, D., Rakes, T. (2001). *A Characterization of Online Modem Pool Traffic*. National Decision Sciences Institute meeting.

Novak, D., DaSilva, L., Rowland, D. (2000). *Modem Pool Simulation and Performance Analysis*. Society for Computer Simulation Symposium for Performance Evaluation of Computer and Telecommunications Systems (SPECTS).

Novak, D. (1999). *A Methodology for Solving Stochastic Programming Problems Using Microsoft's Excel* (pp. First Place in the Student Paper Competition). Annual Meeting of the Southeast Institute for Ops. Res. & the Mgmt Sciences (INFORMS).

Journal Articles

Lucas, M., Novak, D., Puranam, K. (2018). On the Challenges of Blood Inventory Management. *Archives of Blood Transfusion & Disorders - Crimson Publishers*, 1(4), 2.
<https://crimsonpublishers.com/abtd/pdf/ABTD.000520.pdf>

Other

Novak, D., Sullivan, J. L., Niles, M. (2021). Targeted Investment for Food Access. *Summary results from NCST grant, Targeted Investment for Food Access* (pp. 28). Research Report for the National Center for Sustainable Transportation, UC Davis.
<https://ncst.ucdavis.edu/research-product/targeted-investment-food-access>

- Dowds, J., Sullivan, J., Scott, D., Novak, D. *Optimization of Snow Removal in Vermont* (pp. 37). UVM Transportation Research Center, RAC Project Report.
- Sullivan, J., Novak, D., Aultman-Hall, L. (2012). *Identifying Network Representation Issues with the Network Trip Robustness* (TRC Report #12-004 ed., pp. 18 pages). Washington, District Of Columbia: Transportation Research Board. <http://trid.trb.org/view.aspx?id=1142122>
- Sullivan, J., Aultman-Hall, L., Novak, D. (2010). *Application of the Network Robustness Index to Identifying Critical Road-Network Links in Chittenden County, Vermont* (vol. TRC#10-009, pp. 21 pages). Transportation Research Center. http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-10-009.pdf
- Novak, D., Sullivan, J., Aultman-Hall, L. (2010). *Advanced Development and Calibration of the Network Robustness Index to Identify Critical Road Network Links* (TRC Report #10-019 ed.). Burlington, Vermont: University of Vermont Transportation Research Center (TRC).
- zz-Kraushaar, J. M., Novak, D., Chittenden, T. (2006). *Curriculum Redesign of Junior/Senior Course: Management Information Systems*. School of Business Administration. <http://www.uvm.edu/~tabletpc/?Page=141rd.html>

Presentations Given

- Novak, D., CASN-RA biannual meeting, "Supply Chain Resilience and Issues Related to Mismatched Scales," Arizona State University - WP Carey School of Business. (March 5, 2021).
- Novak, D. (Author & Presenter), Wiedmer, R., Mena, C., Luzzini, D., Annual DSI meeting, "Catalyzing Sustainable Change across the Supply Chain," Decision Sciences Institute, New Orleans, Louisiana, United States. (November 20, 2019).
- Novak, D., Wu, Z., Dooley, K., Annual DSI meeting, "Supply Network Resilience and the Adaptive Cycle," Decision Sciences Institute, New Orleans, Louisiana. (November 20, 2019).
- Novak, D., Sullivan, J., Sentoff, K., Dowds, J., Annual DSI meeting, "Development of an Iterative Heuristic for Roadway Snow and Ice Control (RSIC)," Decision Sciences Institute, New Orleans, Louisiana, United States. (November 18, 2019).
- Lucas, M. (Author & Presenter), Puranam, K. (Author & Presenter), Novak, D. (Author), 2019 POMS Annual Conference, "Bridging the Gap between Theory and Practice: An Ordering Heuristic for Blood with Random Redistribution," Washington, District Of Columbia, United States. (May 6, 2019).
- Lucas, M. (Author & Presenter), Do, H. (Author), Shunko, M. (Author), Novak, D. (Author), 2018 INFORMS Annual Meeting, "Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems," Phoenix, Arizona. (November 7, 2018).
- Novak, D., Lucas, M., Puranam, K., Annual INFORMS meeting, "Managing Blood Inventory With Random Transfers," INFORMS, Phoenix, Arizona. (November 6, 2018).
- Do, H. (Author), Shunko, M. (Author), Lucas, M. (Author & Presenter), Novak, D. (Author), 2018 POMS Annual Conference, "Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems," Houston, Texas, United States. (May 6, 2018).
- Novak, D., Invited Presentation, "Mismatched Scale: Implications for Sustainable Supply Chain," Arizona State University, Department of Supply Chain Management, Tempe, AZ. (March 2, 2018).

- Novak, D. (Author & Presenter), Wu, Z. (Author), Annual DSI meeting, "Mismatches in Scale in Sustainable Supply Chains," Decision Sciences Institute, Washington, DC. (November 2017).
- Novak, D. (Author & Presenter), Lucas, M. (Author), Puranam, K. (Author), Annual DSI meeting, "Optimal Ordering Policies for Blood Inventory with Transfers: A Sensitivity Analysis," Decision Sciences Institute, Washington, DC, Albania. (November 2017).
- Do, H. (Author & Presenter), Shunko, M. (Author), Lucas, M. (Author), Novak, D., POMS 2017, "Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems," POMS, Seattle, Washington, United States. (May 5, 2017).
- Novak, D. (Author), Sullivan, J. (Author & Presenter), Dowds, j., 95th Annual Meeting of the Transportation Research Board (TRB), "Pilot Test of a Thermal Infrared Video System for Performance Measurement of Roadway Snow and Ice Control," Transportation Research Board (TRB), Washington, DC, United States. (January 2017).
- Do, H. (Author & Presenter), Shunko, M. (Author), Lucas, M., Novak, D., 11th Annual Behavioral Operations Conference, "On the Pooling of Queues: How Server Behavior Affects Performance," Behavioral Operations Management (BOM), INFORMS, Madison, Wisconsin, United States. (July 14, 2016).
- Do, H. (Author), Shunko, M. (Author), Lucas, M. (Author & Presenter), Novak, D. (Author), 2016 POMS Annual Meeting, "On the Pooling of Queues: How Server Behavior Affects Performance," Orlando, Florida, United States. (May 8, 2016).
- Do, H. (Author), M. (Author), Lucas, M. (Author & Presenter), Novak, D., INFORMS Annual Meeting, "Can Server Behavior and Service Design Outweigh the Benefits of Pooling?," Philadelphia, Pennsylvania, United States. (November 4, 2015).
- Puranam, S. K. (Author & Presenter), Novak, D., Lucas, M. (Author), INFORMS Annual Meeting, "An Ordering Heuristic for RBCs under Multiple Independent Sources of Supply," Philadelphia, Pennsylvania, United States. (November 2, 2015).
- Novak, D., Canada/Vermont Economic Development Symposium, Creating Transportation Research that Matters, University of Vermont, Canadian Trade Consulate, Burlington, Vermont. (November 2014).
- Novak, D., Sullivan, J., Dowds, J., Decision Sciences Institute Annual Meeting, "A Routing Heuristic for Roadway Snow and Ice Control," Decision Sciences Institute, Tampa, Florida. (November 2014).
- Puranam, K., Novak, D., Lucas, M., Decision Sciences Institute Annual Meeting, "On the Determination of Optimal Ordering Policies for Blood Products with Blood Transfers," DSI, Tampa, Florida. (November 2014).
- Puranam, K. (Author & Presenter), Novak, D. (Author), Lucas, M. (Author), INFORMS Annual Meeting, "Optimal Ordering Policies for a Fixed-Life Perishable Product with Transfers," San Francisco, California, United States. (November 2014).
- Novak, D. (Author & Presenter), Sullivan, J. (Author & Presenter), Transportation Research Board (TRB) - Tools of the Trade, "An Objective Approach for Prioritizing and Ranking Roadway Projects," Transportation Reserach Board, Federal Highway Administration, Burlington. (July 23, 2014).

- Novak, D. (Author & Presenter), Invited Speaker Symposium, "Critical Closeness Accessibility: A Link-Focused Measure for Evaluating Accessibility to Critical Services," Arizona State University, Tempe. (May 2, 2014).
- Dowds, J. (Author & Presenter), Sullivan, J. (Author & Presenter), Novak, D. (Author), INFORMS, Business Analytics Section, "An Iterative Heuristic for RSIC Operations with a Continuous Measure of Priority," INFORMS, Boston, United States. (March 18, 2014).
- Puranam, K. (Author & Presenter), Lucas, M. (Author & Presenter), Novak, D. (Author), DSI, National Meeting, "Optimal Ordering Policies for a Fixed-life Perishable Product with Transfers," Decision Sciences Institute (DSI), Baltimore, Maryland, United States. (November 2013).
- Novak, D. (Author & Presenter), Sullivan, J. (Author), INFORMS, National Meeting, "A Link-Based Approach for Evaluating Accessibility to Emergency Services in a Transportation Network," The Institute for Operations Research and the Management Sciences (INFORMS), Minneapolis, Minnesota, United States. (October 7, 2013).
- Novak, D. (Author & Presenter), Sullivan, J. (Author), Northeast Decision Sciences Institute (NEDSI), "Development and Application of a Link-Based Network Accessibility Measure," Decision Sciences Institute (DSI), New York, New York, United States. (April 6, 2013).
- Aultman-Hall, L. (Author & Presenter), Sullivan, J. L. (Author), Novak, D. (Author), Transportation Research Board Annual Meeting, "Transportation Network Resolution: Exploring How Much of Road Network Is Needed for Analysis," Transportation Research Board, Washington, District Of Columbia, United States. (January 2013).
- Novak, D. (Author & Presenter), Sullivan, J. L. (Author), Decision Sciences Institute Annual Meeting, "Access to Emergency Services: Spatial and Topographical Modeling Considerations," Decision Sciences Institute, San Francisco, California, United States. (November 20, 2012).
- Novak, D. (Author & Presenter), Sullivan, J. (Author & Presenter), Northeast Decision Sciences Institute Annual Meeting, "Evaluating Groups of Roadway Projects: Evidence of Emergent Properties in a Roadway Network," Decision Sciences Institute, Newport, Rhode Island, United States. (March 22, 2012).
- Novak, D. (Author & Presenter), Lucas, M. (Author & Presenter), Decision Sciences Institute, National Meeting, "On the Management of a Blood Bank at a Hospital," Decision Sciences Institute, Massachusetts, United States. (November 21, 2011).
- Novak, D. (Author & Presenter), Invited Research Seminar, "Incorporating Varying Trip Purposes and Critical Facility Location into Network Robustness Analysis," CIRRELT, Montreal, Canada. (October 19, 2011).
- Novak, D., Ullivan, J. (Author), Northeast INFORMS, "Network Disruption Modeling and the Effects of Braess' Paradox," Institute for Operations Research and Management Sciences, Massachusetts, United States. (May 6, 2011).
- Novak, D., Northeast Decision Sciences Institute (DSI), "The Importance of Selecting the Capacity Disruption Level Used in Network Disruption Modeling," NEDSI, Canada. (April 15, 2011).
- Novak, D. (Presenter), 2010 Annual INFORMS meeting, "Evaluating the Effects of Trip Importance on System-Wide Performance in Transportation Networks," Institute for

- Operations Research and the Management Sciences, Texas, United States. (November 10, 2010).
- Novak, D., Presentation to Lockheed Martin Advanced Development Programs, "Network Disruption Modeling," UVM Center for Complex Systems, Burlington, Vermont, United States. (September 20, 2010).
- Novak, D., TRANSLOG 2010 (Transportation and Logistics), "Incorporating Trip Importance into Network Robustness Measurements of Critical Road Links," McMaster University, Institute for Transportation and Logistics, Canada. (June 16, 2010).
- Novak, D. (Presenter), Transportation Research Center Expo, "Network Robustness Index - Next Steps: Addressing Trip Importance, Travel Demand, and Scalability," University of Vermont Transportation Research Center, Burlington, Vermont, United States. (May 12, 2010).
- Novak, D. (Discussant), Conference Sur Le Rayonnement De La Recherche En Gestion, "Differences between Academic and Non-Academic Research," HEC Montreal, Canada. (May 7, 2010).
- Aultman-Hall, L. (Author & Presenter), Novak, D. (Author), Sullivan, J. (Author), Scott, D. (Author), 2010 Annual Meeting of American Association of Geographers, "Assessing Critical Transportation Network Links and Robustness," American Association of Geographers, District Of Columbia, United States. (April 15, 2010).
- Novak, D., J., L., TRANSLOG (Transportation and Logistics) 2009, "Network Disruption: Identifying Critical Links in a Highway Network," McMaster University, Institute for Transportation and Logistics, Canada. (June 18, 2009).
- Sullivan, J. (Author & Presenter), Novak, D. (Author & Presenter), Transportation Research Board Annual Meeting, "Network Disruption and Link Valuation," Transportation Research Board, District Of Columbia, United States. (January 18, 2009).
- zz-Kraushaar, J. M. (Author & Presenter), Novak, D. (Author), Chittenden, T. (Author), WIPTE 2008 Conference, "A Descriptive Study of Perceived and Actual Tablet Use by Undergraduate Students," Purdue University, West Lafayette, Indiana, United States. (October 15, 2008).
- zz-Kraushaar, J. M. (Author), Chittenden, T. (Author), Novak, D. (Author), Chittenden, N. B. (Author & Presenter), 2007 EDUCAUSE Southeast Regional Conference, "A Preliminary Profile of Student tablet Use During the Lecture," EDUCAUSE, Atlanta, Georgia, United States. (June 12, 2007).
- Novak, D. (Author), Scott, D. (Author & Presenter), 2006 Annual Transportation Research Board, "A New Approach for Identifying Critical Links in Transportation Networks," Transportation Research Board, District Of Columbia, United States. (January 2006).
- Novak, D. (Author), Scott, D. (Author & Presenter), Aultman-Hall, L. (Author), Canadian Transportation Research Forum, "Identifying Critical Links in a Transportation Network," Canadian Department of Transportation, Canada. (December 2005).
- Kitchin, P. (Author & Presenter), Novak, D. (Author), 2004 Meeting of the Southeast Decision Sciences Institute (SEDSI), "An Automated Statistical Quality Control Process for Internet Service Providers," Decision Sciences Institute, South Carolina, United States. (February 2004).

Novak, D., Nair, S. (Author), Chang, A. (Author), 2003 Meeting of the Northeast Decision Sciences Institute (NEDSI), "Setting Optimal Bandwidth Controls for Peer-to-Peer Traffic on Campus Networks," Decision Sciences Institute, Rhode Island, United States. (March 2003).

Novak, D., Rakes, T. (Author), 2001 National Meeting Decision Sciences Institute (DSI), "A Characterization of Online Modem Pool Traffic," Decision Sciences Institute, California, United States. (November 2001).

Novak, D. (Author & Presenter), Rowland, D. (Author & Presenter), 2000 Society for Computer Simulation Symposium for Performance Evaluation of Computer and Telecommunications Systems (SPECTS), "Modem Pool Simulation and Performance Analysis," SPECTS, Canada. (July 2000).

Novak, D. (Author & Presenter), 2000 Meeting of the Southeast Decision Sciences Institute (SEDSI), "Characterization of the Virginia Tech Modem Pool," Decision Sciences Institute, North Carolina, United States. (February 2000).

Novak, D. (Author & Presenter), Annual Meeting Southeast INFORMS, "A Methodology for Solving Stochastic Programming Problems Using Microsoft's Excel," Institute for Operations Research and the Management Sciences, South Carolina, United States. (October 1999).

Research Currently in Progress

"A Risk-Based Flood Planning Strategy for Vermont" (On-Going).

This paper suggests a method for identifying the links in Vermont's road network that are most susceptible to capacity reduction / disruption due to flooding. The method incorporates the reliability of each link in the network (the probability that the link will provide a given level of service) and the vulnerability of each link in the network (a quantified measure of the consequences of link disruption). Here, we evaluate vulnerability as a function of the utility of travelers using each link in the road network. The suggested method provides a much needed improvement in transportation modeling practices by introducing a new comprehensive system-wide approach for measuring network performance and identifying the most critical links in a roadway infrastructure network. We focus on "business-as-usual" network operations and consider how to accommodate the day-to-day, "normal" traffic flow during a flood-based disruption. We examine the robustness of the entire network given the probability of a disruptive flood event occurring and assess a range of potential consequences based on empirical data from Hurricane Irene. Our approach is different from emergency-response, disaster planning, and evacuation modeling which focus on very specific, long-term or permanent disruption scenarios with managed routing and flow constraints. Our suggested approach includes the physical network characteristics of topology and connectivity as well as the network performance concepts of network vulnerability and reliability. We examine how the disruption impacts traveler utility on the individual links within the network, as well as how the specific disruptions impact the performance of the entire system as compared to the base case scenario with no disruptions. The methodology is an operations research / management science modeling application that can be applied to different scenarios or problem domains such as emergency response, evacuation planning, supply chain management, and transportation planning and management.

This paper is also on hold. We have results, but the paper is messy and very, very long. There are other papers that are ahead of this in the queue as this paper is much more of a niche research piece. It is not likely to get into an ABS 4 journal.

"Capacity Management and Scheduling for Operation Rooms under Emergency Cases" (Planning).

We model and study the performance of different policies of capacity management,

scheduling and bumping in presence of emergency cases that have been used by hospitals for Operation Rooms in practice and propose data-driven, agile strategies.

"Managing Blood Inventory with Regular and Priority Customers" (Planning).

This project addresses inventory / supply management issues related to both blood and platelet storage and usage.

"Mismatched Scale and Resilience in Supply Networks" (On-Going).

This project was developed during the 2015 biannual CASN meeting at Arizona State University. Target is the Journal of Operations Management (ABS 4)

Objective: A conceptual paper on scale, scalability, mismatched scale and the role of scale in building and maintaining sustainable supply networks.

Working Title: Reexamining the concept of scalability in supply networks: how scale mismatches can impact sustainable supply chain management

Motivation: In operations management (OM), the concept of scale is typically discussed in the context of economies or diseconomies of scale. Economies of scale are realized when a firm's long run average costs decrease as production or output increases. From a traditional OM perspective, increased production leads to increasing returns to scale where a commonly held assumption is that substantial unit cost savings can only be achieved at relatively high production levels. As scale is contingent on the relative production capacity of the firm, the rational producer should pursue a strategy focused on growth. Thus, the growth strategy is rationalized by the assumption that growth leads to increasing economies of scale, which in turn, leads to increased efficiency. In a market-oriented economic system, scaling up, as prescribed in strategy, clearly benefits firms who can use scale to attain dominant market position. However, the notion of persistent scaling-up can be problematic with respect to a variety of resource management issues as noted by Gibson et al, (2000). For example, what issues arise if the scale of natural populations and the interactions within and between those populations do not align with the scale of production and supply chain management decisions? If certain regulatory issues are managed at the national or international scale, how are externalities that result from firm-level or local-level operational decisions recognized and addressed? If not recognized and addressed to some degree, these types of misalignments can potentially have wide-spread, long-term, and highly negative consequences.

The issues and problems that can result from the misalignment of different spatial, temporal, and organizational dimensions can generically be referred to as issues pertaining to "mismatched scale" (Cumming et al., 2006; Gibson et al., 2000). While the concept of mismatched scale is an issue that natural and social scientists are keenly aware of, it does not appear to be an area of focus in the operations and supply chain management domain. This is likely, at least in some part, due to the fact that the effects of mismatched scale in manufacturing and supply chain management is less obvious than the effects of mismatched scale in natural systems, as the social and environmental consequences tend to be less direct. Mismatched-scale has shown detrimental effect to smaller producers (insert example). In this study, we examine the concept of scale and the challenges and potential consequences associated with mismatched scales, and specifically how mismatched scales can directly influence sustainable supply chain management practices. We argue that scale provides a valuable perspective in understanding system dynamics and system design in operations management and intend to develop a theoretical framework of scale. The proposed framework has both practical and theoretical implication to supply chain management.

Our goal is to have something submitted by the end of summer 2016. We are actively working on this paper.

"Single Queue vs. Multiple Queue and Staffing Problem When Service Rate is Dependent of Queue Size and Queue Structures" (On-Going).

This project considers behavioral and psychological aspects (e.g. social loafing, dependence of service rate on perceived workload, observable vs. unobservable performance) of queuing systems for different queue structures (e.g. single queue vs. multiple queues, distance among servers). We have found that while a single queue system enjoys pooling effect, it may have a lower service rate due to social loafing and possibly require extra walking time for customers to go from the single queue to an available server. Both customers and servers may act strategically under different settings.

"The World is Flat – But, Not as Flat as We'd like to Think!" (On-Going).

In early 2015 Tom Choi and I published a short refereed dialog piece in the Journal of Business Logistics (I have outstanding documentation arguing that this be viewed as ABS 4) arguing that geographic aspects need to be addressed in supply chain modeling applications. The dialogue was carved out of a much larger, more impactful paper. We still have a solid foundation for a full research paper. We have begun working with Darren Scott at McMaster University (who I publish with) on this piece. Darren's original comments to me are below.

This is a medium priority paper, but could potentially be submitted to the Journal of Operations Management (ABS 4). We have to see how things shake out. The Journal of Supply Chain Management (ABS 3) is also a candidate journal.

From Darren, "Ultimately, it comes down to transport costs, intermodal transfers, etc. Transport cost is related to distance, but within the cost, there is a fixed component and a variable component (related to distance). Thus, the transport rate diminishes with distance because the fixed costs are amortized over the total distance. The most expensive mile is the first one. However, distance does not consider "friction of distance", which is what you are getting at with the discussion of topography. I think that this needs to be elucidated.

I think that you and Tom have hit on many aspects of why geography is important in addition to networks. When considering place, there are many differences around the world, which explains why manufacturing is done in China. Places have different locational attributes. Perhaps the concept of "place" should also be part of this, in addition to geographic location (x,y coordinates). Or, location is further generalized.

My general impression is that there could be a very excellent paper that moves beyond the shorter one: some basic concepts would include: transport cost and rates and how they relate to distance; friction of distance and how it affects transport costs geography's role in intermodal transfers, congestion at nodes, etc."

Abstract -

In 2005 Thomas Friedman published the first edition of his bestselling book, "The World is Flat: A Brief History of the Twenty-First Century." The title of the book is a metaphor, which alludes to the point of view that historical barriers to commerce, such as geography and political structure are becoming much less relevant in today's global economy (Friedman, 2007). His overall premise is that many barriers to both domestic and international commerce are clearly being reduced via technology. While we agree that the impact of globalization is obvious and permanent, we posit the world of supply chain and logistics management is not quite as flat as Friedman contends.

Despite advances in technology, physical geography still serves as both an absolute and relative barrier to the flow of information, goods, and services and substantially influences the formation and evolution of relationships among supply chain actors. Physical geography also influences the cultural, political, economic, and regulatory systems that affect supply chain management. Ignoring the impact that geography plays in helping to form and maintain the

relationships in a supply chain network will likely lead to inaccurate modeling outcomes and will ultimately result in less than optimal management decisions. In this paper, we argue that the modeling of the relationships between the nodes in a supply chain network, especially those relationships that directly pertain to logistics, should be expanded to include geographical constructs. By doing so, we extend our existing models to include relational attributes that can be used to evaluate the physical and natural barriers that lie between the different nodes, actors, and/or organizations within the network. Accounting for the geographical features that impact the relationships within a supply chain network, provides an evolutionary step in supply chain and logistics modeling. Striving to create more realistic, "better" models and modeling processes is not just a logical evolutionary development, but an essential advancement that is critical to successful business operations.

"Transportation Network Resolution: Exploring How Much of Road Network Is Needed for Analysis" (On-Going).

ABSTRACT

It is typical for travel models to use only a subset of the transportation system links. Often major links such as arterial roads are included in the network but local streets and minor roads are excluded. This paper evaluates the potential significance of 23 such omitted links in the travel demand model network of Chittenden County, Vermont using the Network Trip Robustness measure. The objective is to determine the relative significance of including each of these omitted links in the network. Approximately, half (12) of the links were found to significantly influence the robustness of the network. The analysis demonstrates that the set of links included in a travel-model network must be assessed before effective analyses can be made. If significant network links are omitted from a model network, erroneous conclusions about the effects of new roadway infrastructure or existing roadway disruptions are possible. Seemingly insignificant roads and streets can provide alternative routes, which will provide gains to the network even during relatively minor disruption events. The paper is targeted for either *Networks and Spatial Economics* or the *Journal of Transport Geography*.

Although this paper is 90% written, it is at the end of the queue. Lisa was initially leading this, but has dropped the ball. As it stands now, the target outlets are ABS 2, and I have more important projects to work on.

"Use of the Adaptive Cycle Metaphor in Sustainable Supply Chain" (On-Going).

We introduce a framework designed to improve our understanding of sustainable supply chain based on the theory of panarchy and the adaptive cycle metaphor. The adaptive cycle is a well-established theory for explaining change in complex adaptive systems (CASs) that focuses on the multiscale interactions that commonly occur in many coupled socio-ecological systems.

Contracts, Grants and Sponsored Research

Cooperative Agreement

Novak, D., "Hamburg Wheel Tracker Data Analysis," Sponsored by Vermont Agency of Transportation, State, \$8,408.00. (July 2018 - September 30, 2019).

Education/Training Grant

Novak, D. (Principal), Sullivan, J. (Contributor), "Examining Relationships between Scale, Network Representation, and Accessibility with Respect to Emergency Services in Vermont," Sponsored by Transportation Research Center Graduate Student Scholars, UVM, The University of Vermont, \$28,000.00. (September 1, 2013 - August 31, 2014).

Grant

- Novak, D. (Principal), Niles, M. (Co-PI), "Targeted Investment for Critical Food Access in Rural New England," Sponsored by National Center for Sustainable Transportation, Federal, \$87,242.00. (April 1, 2019 - December 31, 2020).
- D. C. (Co-PI), "Snowplow Route Optimization for SDDOT," Sponsored by South Dakota DOT through FHWA, State, \$149,950.00.
- o'Neil-Dunne, J. (Principal), Rosowsky, D. (Co-PI), Novak, D. (Contributor), Dewoolkar, M. (Contributor), "Disaster Preparedness and Response," Sponsored by University of Alabama via Federal Aviation Administration (FAA), Federal. (January 2020 - Present).
- Sullivan, J. (Principal), Novak, D. (Co-PI), Hernandez, E. (Co-PI), "A new method of determining payment of in-place concrete with double-bounded concrete compressive strength pay factors," Sponsored by Transportation Infrastructure Durability Center via FHWA, Federal, \$89,278.00. (January 5, 2020 - Present).
- Dowds, J. (Co-PI), "Quantification of Research Benefits," Sponsored by New England Transportation Consortium, Government and Public Sector, \$49,997.00.
- Novak, D. (Principal), Sullivan, J. (Principal), "Capacity Disruption and Degradation from Weather, Floods, and Debris on Vermont Roadways," Sponsored by Vermont Agency of Transportation, Research Advisory Council, Government and Public Sector, \$242,848.00. (September 30, 2014 - September 30, 2016).
- Novak, D. (Principal), Sullivan, J. (Principal), "Examining How Disinvestment in Vermont's Roadway Infrastructure Network may Impact Access to Critically Important Locations," Sponsored by Vermont Agency of Transportation, Research Advisory Council, Government and Public Sector, \$165,749.00. (September 30, 2014 - September 30, 2016).
- Novak, D. (Co-PI), Hines, P. (Co-PI), Sullivan, J. (Co-PI), Dowds, J. (Co-PI), "Assessing the Vulnerability of Transportation Fuel Distribution Infrastructure to Support a Future Low-Carbon NYS Economy," Sponsored by New York State Energy Research and Development Authority, State, \$397,504.00.
- Novak, D. (Co-PI), Dowds, J. (Co-PI), "Incorporating Economic Impact and Benefit Criteria into the," Sponsored by Vermont Agency of Transportation (VAOT), State, \$105,490.00.
- Novak, D., "Incorporating Trip Importance into Travel Demand Models," Sponsored by Government of Canada, International Council for Canadian Studies, Federal, \$8,335.00. (September 2011 - June 2012).
- Novak, D. (Principal), "Network Robustness Index: A Comprehensive Spatial-based Measure for Transportation Infrastructure Management," Sponsored by University of Vermont Transportation Center, The University of Vermont, \$100,000.00. (July 1, 2008 - August 31, 2011).
- Aultman-Hall, L. (Principal), Novak, D. (Contributor), "Development of Travel Demand Proxy Models," Sponsored by USDOT / Federal Highway Administration, Federal, \$100,000.00. (September 2010 - June 2011).
- Novak, D. (Principal), Aultman-Hall, L. (Contributor), "The Use of Travel Importance in Transportation Planning," Sponsored by USDOT / Federal Highway Administration, Federal, \$100,000.00. (September 2010 - June 2011).

Novak, D. (Principal), Aultman-Hall, L. (Contributor), "A Spatial Approach for Identifying Critical Infrastructure Linkages in a Transportation Network," Sponsored by National Science Foundation (NSF), Federal, \$295,578.00. (September 1, 2007 - August 31, 2009).

Novak, D. (Contributor), "Using Network Disruptions to Measure System Robustness," Sponsored by New England University Transportation Center at MIT, Federal, \$145,858.00. (September 1, 2006 - August 31, 2009).

zz-Kraushaar, J. M. (Principal), Novak, D. (Contributor), Frolik, J. (Contributor), Chittenden, T. (Contributor), "Educational Value & Validity- Student Adaptation to Tablet PC Technology in Business & Engineering Curriculums," Sponsored by Microsoft Research, Private, \$100,000.00. (June 1, 2006 - December 31, 2008).

Novak, D. (Principal), "Application of the Network Robustness Index to Identify Critical Road Network Links," Sponsored by University of Vermont Transportation Center, The University of Vermont, \$50,000.00. (September 1, 2007 - August 31, 2008).

Aultman_Hall, L. (Principal), Novak, D. (Contributor), "Collaborative Research: Network Robustness Index - A Comprehensive Spatial-Based Measure for Transportation Networks," Sponsored by National Science Foundation (NSF), Federal, \$148,786.00. (September 2006 - August 2008).

Aultman-Hall, L. (Principal), Novak, D. (Contributor), Scott, D. (Contributor), "Modeling Transportation System Redundancy," Sponsored by National Science Foundation (NSF), Federal, \$232,973.00. (June 2003 - June 2005).

Novak, D. (Principal), "Dynamics of IP Traffic: Traffic Characterization and Quality of Service Policies," Sponsored by University of Connecticut Research Foundation, State, \$1,000.00. (August 2002 - August 2003).

Aultman-Hall, L. (Principal), Novak, D. (Contributor), Scott, D. (Contributor), "Measuring Vulnerability in the National Freight Transportation Network," Sponsored by National Science Foundation (NSF), Federal, \$100,000.00. (July 2002 - July 2003).

Sponsored Research

Novak, D., "Adaptation and Resilience to Climate Change (ARCC): Integrated Assessment Modeling of Extreme Weather Event Cascades in Lake Champlain Basin," Sponsored by National Science Foundation, Federal, \$22,000,000.00. (September 1, 2015 - August 31, 2020).

Novak, D. (Contributor), Troy, A. (Contributor), Kolodinsky, J. (Contributor), Lee, B. (Contributor), "How Demographics, Network Scale and Resolution Affect Accessibility to Essential Services in Rural Areas," Sponsored by National Science Foundation (NSF) INSPIRE Program, Federal, \$850,000.00. (July 2013 - July 2018).

Novak, D., McCutcheon-Schor, M. (Principal), Sullivan, J. (Contributor), Hines, P. (Contributor), "A New England Wide Analysis of Robustness of Alternative Fuels for Emergency Response and Preparedness Operations," Sponsored by Department of Energy, Federal, \$908,024.00. (April 1, 2015 - March 31, 2017).

Novak, D. (Principal), Sullivan, J. (Principal), "Functional Classification for Critical Risk-Based Hierarchies in a Transportation Network," Sponsored by Federal Highway Administration (FHWA), Government and Public Sector, \$192,908.00. (January 1, 2015 - December 31, 2016).

- Novak, D. (Contributor), Sullivan, J. (Principal), Troy, A. (Contributor), "Functional Classification for Critical Risk-Based Hierarchies in a Transportation Network," Sponsored by Federal Highway Administration (FHWA), Federal, \$150,000.00. (October 1, 2014 - September 30, 2016).
- Novak, D. (Principal), Sullivan, J. (Contributor), Scott, D. (Contributor), "Quantifying the Impact of Capital Projects on Roadway Snow and Ice Control (RSIC) Operations with an Integrated RSIC Routing / Travel-Demand Model," Sponsored by Federal Highway Administration (FHWA), Federal, \$249,000.00. (October 1, 2014 - September 30, 2016).
- Novak, D. (Principal), "Development of Pay Factors for QAQC Concrete Compressive Strength," Sponsored by Vermont Agency of Transportation (VAOT), State, \$25,001.00. (August 2016 - Present).
- Novak, D. (Principal), Sullivan, J. (Principal), "Examining How Disinvestment in Vermont's Roadway Infrastructure Will Impact Access to Critical Services throughout the State," Sponsored by Vermont Agency of Transportation (VAOT), Government and Public Sector, \$75,975.00. (July 1, 2015 - June 30, 2016).
- Novak, D. (Co-PI), Dowds, J. (Co-PI), "Identifying Best Practices for Snowplow Route Optimization," Sponsored by Clear Roads administered through MNDOT, Government and Public Sector, \$68,305.00. (October 1, 2015 - Present).
- Novak, D. (Contributor), Sullivan, J. (Principal), "Quantifying the Impact that New Capital Projects will have on Roadway Snow and Ice Control (RSIC) Operations," Sponsored by Clear Roads through Vermont Agency of Transportation, State, \$145,622.00. (October 1, 2015 - Present).
- Novak, D. (Principal), Sullivan, J. (Contributor), "Evaluating How Disruptions in the Roadway System Affect Accessibility to Essential Services in Vermont," Sponsored by UVM Internal / REACH program, The University of Vermont, \$11,000.00. (June 1, 2013 - June 1, 2014).
- Sullivan, J. (Principal), Novak, D. (Contributor), "Location of Winter Road Maintenance Materials in Vermont," Sponsored by Vermont Agency of Transportation (VAOT) / Operations Division, State, \$73,688.00. (April 1, 2013 - March 31, 2014).
- Novak, D. (Principal), Troy, A. (Principal), Scott, D. (Principal), Sullivan, J. (Contributor), "Risk-based decision support for public investment in transportation infrastructure," Sponsored by National Science Foundation (NSF), Foundations, \$304,782.00.
- Novak, D. (Principal), Sullivan, J. (Contributor), "A Risk-Based Flood-Planning Strategy for Vermont's Road Network," Sponsored by U.S. Department of Transportation in conjunction with the University Transportation Center (UTC) program and UVM's Transdisciplinary Research Initiative (TRI), Federal, \$64,995.00. (June 1, 2012 - January 1, 2014).
- Sullivan, J. (Principal), Novak, D. (Contributor), "Returns on Investment from Motorized and Non-Motorized Transportation Infrastructure," Sponsored by Vermont Agency of Transportation (VAOT) / Policy, Planning, and Intermodal Development Division, State, \$123,776.00. (January 1, 2013 - December 31, 2013).
- Sullivan, J. L. (Principal), Novak, D. (Contributor), "Optimization of Snow Removal in Vermont," Sponsored by Vermont Agency of Transportation (VTrans), State, \$77,000.00. (January 1, 2012 - December 31, 2013).

Sullivan, J. L. (Principal), Novak, D. (Contributor), "Travel Importance and Strategic Investment in Vermont's Transportation Assets," Sponsored by 2/3 VTrans, 1/3 USDOT, Other, \$100,000.00. (January 1, 2012 - December 31, 2013).

Aultman-Hall, L. (Principal), Dodds, P. S. (Contributor), Novak, D. (Contributor), "Advancing System Management Metrics for Transportation Infrastructure Networks," Sponsored by National Science Foundation (NSF), Federal, \$393,058.00. (September 2010 - August 2013).

Novak, D. (Principal), Scott, D. (Contributor), Sullivan, J. (Contributor), "NCHRP Synthesis 20-05/Topic 45-11 - Economic Development Implications of Transportation Disinvestment: Macroeconomic Effects, Intermodal Tradeoffs, and Methods for Managing Disinvestment Decision making in an Era of Constrained Resource," Sponsored by National Cooperative Highway Research Program (NCHRP), Government and Public Sector, \$40,000.00.

Novak, D. (Contributor), "Infrastructure Management Systems Enhancement and Integration to Support True Integrated Decision Making," Sponsored by New England University Transportation Consortium at MIT, Federal, \$85,386.00. (September 1, 2010 - August 31, 2012).

Aultman-Hall, L. (Principal), Novak, D. (Contributor), "Development of a Proxy Travel Demand Model," Sponsored by Vermont Agency of Transportation, Research Advisory Council, State, \$79,457.00. (October 1, 2010 - September 30, 2011).

Novak, D. (Principal), Aultman-Hall, L. (Contributor), Sullivan, J. (Contributor), "Evaluating Opportunities for Strategic Disinvestment in the Vermont Road Network," Sponsored by Vermont Agency of Transportation, Research Advisory Council, State, \$87,893.00. (October 1, 2010 - September 30, 2011).

Aultman-Hall, L. (Principal), Novak, D. (Contributor), "Advanced Development of the Network Robustness Index," Sponsored by National Academy of Science (NAS) / Transportation Research Board (TRB), Federal, \$100,000.00. (September 2010 - September 2011).

Novak, D. (Contributor), Sullivan, J. (Contributor), Aultman-Hall, L. (Contributor), "The Network Robustness Index for Strategic Prioritization of Individual Highway System Links," Sponsored by Vermont Agency of Transportation (VAOT), State, \$60,000.00. (January 2009 - August 31, 2011).

Awards and Honors

Nicole Maria Stata Summer Reserach Support, Grossman School of Business. (June 2017).

Nicole Maria Stata summer reserach support, Grossman School of Business. (June 2016).

Nicole Maria Stata Summer Research Awards, Grossman School of Business. (June 2015).

Master's Student Advisee won TRC Student of the Year, U.S. Department of Transportation. (January 2009).

Best Paper Award, Southeast Decision Sciences Institute (SEDSI). (2004).

Outstanding Graduate Student Award, R.B. Pamplin College of Business, Virginia Tech. (April 2001).

Fellowship, R.B Pamplin College of Business. (January 2000).

Best Paper Award, Southeast INFORMS, Student Paper Competition. (1999).

Fellowship, R.B Pamplin College of Business. (January 1998).

Fellowship, R.B Pamplin College of Business. (September 1997).

TEACHING

Teaching Experience

The University of Vermont

BSAD 030, Decision Analysis, 22 courses.

BSAD 040, Information Technology, 3 courses.

BSAD 141, Info Technology & Bus Systems, 31 courses.

BSAD 146, Business Data Communications, 10 courses.

SERVICE

Service to Academic Community

Committee Member, Graduate Executive Committee. (September 2014 - Present).

Committee Chair, FSC Mentoring Team (Hung Do). (September 2012 - Present).

Committee Member, Faculty Standards Committee. (September 2011 - Present).

Committee Member, Transportation Research Center - Faculty Advisory Committee. (May 2009 - Present).

Recipient of a competitive research award, STATA Summer Research Award. (June 2015 - August 2018).

Committee Member, Ad Hoc FSC Committee on Sabbatical Review. (October 1, 2015 - October 1, 2017).

Committee Chair, FSC Mentoring Team (Jie Zhang). (September 2011 - July 2016).

Committee Member, IGERT Complex Systems Search Committee. (October 1, 2014 - March 1, 2015).

curriculum development & research. (June 1, 2014 - August 31, 2014).

Committee Member, FSC Journal Ranking Challenge Process. (August 2013 - January 2014).

Committee Member, FSC Ad Hoc Journal List Committee. (March 2012 - October 2013).

Attendee, Meeting, Star Awards - Residential Life (undergrad academic achievement). (April 14, 2013).

speaker, Guest speaker in Jim Sinkula's Research Methods course. (October 26, 2012).

Committee Member, Discipline Discussion Panel in BSAD 095. (October 17, 2012).

Faculty Reviewer, Assurance of Learning Outcomes Assessment. (August 2012).

Student Placement, Admitted Student Visit. (April 9, 2012).

Committee Member, Search committee - POM. (August 2011 - February 2012).

Student Placement, Admitted Student Visit days. (March 2011 - April 2011).

Committee Chair, School of Business MIS Search Committee. (September 2010 - February 2011).

Committee Member, 2009/2010 BSAD Dean Search Committee. (January 2010 - October 2010).

Attendee, Graduation, 2010 Business School Graduation Reception. (May 22, 2010).

Wrote Bio for Sarah Thompson, Honor's Day. (April 2010).

Attended a dinner, BSAD Board of Advisors Dinner. (January 29, 2010).

Committee Member, Transportation Center Board of Advisory Committee (Faculty). (May 2006 - June 2009).

Meet and greet with members of the BOA for the School of Business, Board of Advisors Dinner. (October 2, 2008).

Relationship with Logic Supply. (December 12, 2007).

Price Waterhouse Cooper's. (February 2007).

Attendee, Graduation. (May 2006).

Committee Member, Accounting Faculty Recruitment. (October 2005 - December 2005).

Attendee, Graduation, School of Business. (May 2005).

Committee Member, Technology Development and Utilization committee. (2003 - 2004).

Attendee, Graduation, School of Business. (May 2004).

University Service including GSB

Committee Member, Graduate Studies Education Executive Committee. (August 2014 - Present).

Faculty Advisor, UVM Transportation Research Center. (June 2012 - Present).

I'm the contact person for all Union-related issues pertaining to faculty and staff, United Academics Union Representative for Business. (August 2011 - Present).

Committee Member, Complex Systems Steering Committee. (June 2010 - Present).

Committee Member, Dean - 5 year review. (October 1, 2015 - September 20, 2016).

Committee Member, IGERT Complex Systems, Engineering Search. (August 15, 2014 - May 30, 2015).

Faculty Advisor, Transportation Research Center Outstanding Graduate Student Selection. (November 15, 2013 - November 18, 2013).

Committee Member, Complex Systems - TRI Spire Driven Hire. (September 2012 - January 2013).

Committee Member, Complex Systems: Geology/Geochemistry Search Committee. (September 2012 - January 2013).

Guest Speaker, John Novak Retirement Symposium. (October 19, 2012).

Faculty Advisor, TRC GRA Scholar and Certificate Review. (March 2012).

Committee Member, Academic Integrity Council. (September 2009 - August 2011).

School of Business union delegate, United Academics Union Delegate for BSAD. (September 2006 - August 2011).

Committee Member, Faculty Senate Senator. (September 1, 2010 - May 15, 2011).

Faculty Advisor, Meet with women's basket ball recruit. (April 25, 2011).

Committee Member, AY 10-11 Spire-related Recruitment Meeting. (April 22, 2010 - April 22, 2011).

Committee Member, Research and Graduate Education Committee (RSGE). (January 2010 - August 2010).

Committee Member, United Academic - Salary Market Adjustment Committee. (April 2010 - May 2010).

Faculty Senate Senator. (September 1, 2009 - May 15, 2010).

Committee Member, Burack President's Distinguished Lecture Series. (April 1, 2010 - May 5, 2010).

Guest Speaker, 2010 UVM Student Government Association. (March 2010).

Undergraduate Research Endeavors Competitive Awards (URECA). (February 18, 2010 - March 18, 2010).

Committee Member, Transdisciplinary Research Initiative Working Group (Complex Systems). (October 2009 - December 2009).

Committee Member, Review / Recommendation for Online Student Evaluations. (January 2009 - December 2009).

Faculty Senate Senator. (September 1, 2008 - May 15, 2009).

Committee Member, BSAD Dean Search Committee. (April 2008 - February 2009).

Committee Member, Academic Integrity Council. (September 2005 - August 2008).

Committee Member, Ethics in Research. (April 2007 - September 2007).

Task Force Member, Recruitment of Transportation Center Director. (May 2006).

Professional Service

Editorial Review Board Member, Transportation Research Part E: Logistics. (September 1, 2018 - Present).

Editor, Senior Editor, Decision Support Systems (DSS). (May 1, 2014 - Present).

Reviewer, Journal Article, INFORMS Transactions on Education. (February 5, 2021 - February 8, 2021).

Reviewer, Journal Article, Decision Support Systems. (February 4, 2021).

Editor, Special Issue, Journal of Business Logistics. (August 2017 - January 2021).

Reviewer, Journal Article, Decision Support Systems. (January 28, 2021).

Reviewer, Journal Article, European Journal of Operational Research (EJOR). (January 14, 2021 - January 21, 2021).

Reviewer, Journal Article, Decision Support Systems. (January 4, 2021 - January 7, 2021).

Reviewer, Journal Article, Decision Support Systems. (November 23, 2020 - November 25, 2020).

Reviewer, Journal Article, Decision Support Systems. (November 1, 2020 - November 8, 2020).

Reviewer, Journal Article, Socio-Economic Planning Sciences. (August 21, 2020 - August 22, 2020).

Reviewer, Journal Article, Transportation Research Part E. (August 8, 2020 - August 15, 2020).

Reviewer, Journal Article, Decision Support Systems. (July 14, 2020 - August 5, 2020).

Reviewer, Journal Article, Journal of Urban Planning and Development. (July 6, 2020 - July 10, 2020).

Reviewer, Journal Article, Decision Support Systems. (June 22, 2020 - June 30, 2020).

Reviewer, Journal Article, Decision Support Systems. (June 1, 2020).

Reviewer, Grant Proposal, UC Davis Institute of Transportation Studies. (April 20, 2020 - April 22, 2020).

Reviewer, Grant Proposal, UC Davis, Institute of Transportation Studies. (April 12, 2020 - April 14, 2020).

Reviewer, Journal Article, European Journal of Operational Research. (March 2020).

Reviewer, Journal Article, Decision Support Systems. (March 12, 2020 - March 21, 2020).

Reviewer, Journal Article, INFORMS Transactions on Education. (February 2020).

Reviewer, Journal Article, Journal of the Royal Society Interface. (January 2020).

Reviewer, Journal Article, Decision Support Systems. (November 2019).

Reviewer, Journal Article, International Journal of Quality & Reliability Management. (October 2019).

Reviewer, Journal Article, European Journal of Operational Research. (September 2019).

Reviewer, Journal Article, Transportation Research Part E: Logistics. (September 2019).

Reviewer, Journal Article, European Journal of Operational Research. (June 2019).

Reviewer, Journal Article, Transportation Research Part A: Policy and Practice. (May 2019 - June 2019).

Reviewer, Journal Article, Decision Support Systems. (May 2019).

Reviewer, Journal Article, Decision Support Systems. (May 2019).

Reviewer, Journal Article, European Journal of Operational Research. (May 2019).

Reviewer, Journal Article, PLOS ONE. (April 2019 - May 2019).

Reviewer, Journal Article, International Journal of Quality & Reliability Management. (April 2019).

Reviewer, Journal Article, International Journal of Quality & Reliability Management. (March 2019).

Reviewer, Journal Article, Decision Support Systems. (February 2019).

Reviewer, Journal Article, Transportation Research Part E. (January 27, 2019 - February 18, 2019).

Reviewer, Journal Article, INFORMS Transactions on Education. (January 8, 2019 - February 7, 2019).

Reviewer, Journal Article, Transport Geography. (December 20, 2018 - January 3, 2019).

Reviewer, Grant Proposal, National Center for Sustainable Transportation. (December 19, 2018 - January 3, 2019).

Reviewer, Grant Proposal, National Center for Sustainable Transportation. (December 19, 2018 - January 3, 2019).

Reviewer, Journal Article, PLOS ONE. (December 15, 2018 - December 29, 2018).

Reviewer, Journal Article, Decision Support Systems. (September 25, 2018 - November 6, 2018).

Reviewer, Journal Article, Journal of the Royal Society Interface. (October 16, 2018 - November 5, 2018).

Reviewer, Journal Article, Transportation Research Part E. (October 11, 2018 - October 12, 2018).

Reviewer, Journal Article, Transportation Research, Part E. (August 1, 2018 - August 29, 2018).

Reviewer, Journal Article, Decision Support Systems. (June 15, 2018 - July 17, 2018).

Reviewer, Journal Article, Decision Support Systems. (April 9, 2018 - June 20, 2018).

Reviewer, Journal Article, European Journal of Operational Research. (April 17, 2018 - June 15, 2018).

Reviewer, Journal Article, International Journal of Quality & Reliability Management. (April 25, 2018 - May 30, 2018).

Reviewer, Journal Article, Decision Support Systems. (December 30, 2017 - May 5, 2018).

Reviewer, Journal Article, Transportation Research Part E: Logistics. (March 25, 2018 - April 4, 2018).

Reviewer, Journal Article, Transportation Research Part E: Logistics. (January 5, 2018 - February 22, 2018).

Reviewer, Journal Article, Decision Support Systems. (July 7, 2017 - February 20, 2018).

Reviewer, Journal Article, Decision Support Systems. (February 5, 2018 - February 17, 2018).

Reviewer, Journal Article, Omega. (January 20, 2018 - February 2, 2018).

Reviewer, Journal Article, Decision Support Systems. (January 29, 2018).

Reviewer, Journal Article, Decision Support Systems. (October 1, 2017 - October 23, 2017).

Reviewer, Journal Article, European Journal of Operational Research. (October 4, 2017 - October 8, 2017).

Editor, Special Issue, Complexity. (February 2017 - August 31, 2017).

Reviewer, Journal Article, Decision Sciences. (July 12, 2017 - August 8, 2017).

Reviewer, Journal Article, Regional Science. (July 10, 2017 - July 15, 2017).

Reviewer, Journal Article, Decision Support Systems. (May 22, 2017 - June 25, 2017).

Reviewer, Journal Article, Transportmetrica B: Transport Dynamics. (May 1, 2017 - June 2, 2017).

Reviewer, Journal Article, International Journal of Production Economics. (March 23, 2017 - May 1, 2017).

Reviewer, Journal Article, Decision Support Systems. (March 2017 - April 2017).

Reviewer, Grant Proposal, National Center for Sustainable Transportation. (April 20, 2017 - April 21, 2017).

Reviewer, Journal Article, Decision Support Systems. (March 11, 2017 - March 30, 2017).

Reviewer, Journal Article, European Journal of Operational Research. (February 1, 2017 - February 5, 2017).

Reviewer, Journal Article, Journal of Operations Management. (January 15, 2017 - January 20, 2017).

Reviewer, Journal Article, Transportmetrica A. (November 15, 2016 - November 20, 2016).

Reviewer, Journal Article, Journal of the Royal Society Interface. (October 22, 2016 - October 25, 2016).

Reviewer, Journal Article, Transportmetrica A. (October 4, 2016 - October 5, 2016).

Reviewer, Journal Article, Transportmetrica B: Transport Dynamics. (September 7, 2016 - September 8, 2016).

Reviewer, Journal Article, Decision Support Systems. (August 8, 2016 - August 9, 2016).

Reviewer, Journal Article, Decision Support Systems. (July 25, 2016 - July 27, 2016).

Reviewer, Journal Article, Journal of Transport Geography. (May 4, 2016 - May 5, 2016).

Reviewer, Journal Article, Decision Support Systems. (March 22, 2016 - March 26, 2016).

Reviewer, Invited Manuscript, Journal of Operations Management. (March 15, 2016 - March 18, 2016).

Reviewer, Journal Article, Decision Support Systems. (January 25, 2016 - January 26, 2016).

Reviewer, Journal Article, Decision Support Systems. (January 12, 2016 - January 14, 2016).

Reviewer, Journal Article, Transportation Research Part A. (November 10, 2015 - November 13, 2015).

Reviewer, Journal Article, Omega. (November 4, 2015 - November 5, 2015).

Reviewer, Journal Article, Journal of the Royal Society Interface. (October 10, 2015 - October 11, 2015).

Reviewer, Journal Article, Decision Support Systems. (September 23, 2015 - September 25, 2015).

Reviewer, Journal Article, Decision Support Systems. (August 21, 2015 - August 22, 2015).

Reviewer, Journal Article, Decision Support Systems. (August 1, 2015 - August 3, 2015).

Reviewer, Journal Article, Transportation Research Part A. (July 5, 2015 - July 6, 2015).

Reviewer, Journal Article, Decision Support Systems (DSS). (June 22, 2015).

Reviewer, Journal Article, Journal of Urban Planning and Development. (May 29, 2015 - June 1, 2015).

Reviewer, Journal Article, Decision Support Systems. (May 18, 2015 - May 19, 2015).

Reviewer, Journal Article, International Journal of Computer Mathematics. (May 10, 2015 - May 12, 2015).

Reviewer, Journal Article, Decision Support Systems. (March 8, 2015 - March 11, 2015).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (December 18, 2014 - December 19, 2014).

Reviewer, Ad Hoc Reviewer, European Journal of Operational Research (EJOR). (May 30, 2014 - June 2, 2014).

Reviewer, Journal Article, Decision Support Systems. (May 4, 2014 - May 6, 2014).

Reviewer, Journal Article, Decision Support Systems. (March 30, 2014 - April 2, 2014).

Reviewer, Journal Article, European Journal of Operational Research (EJOR). (December 10, 2013 - December 18, 2013).

Reviewer, Journal Article, Transportation Research Part A. (November 18, 2013 - November 21, 2013).

Reviewer, Journal Article, Decision Support Systems. (October 15, 2013 - October 20, 2013).

Reviewer, Ad Hoc Reviewer, International Conference on Information Systems (ICIS). (June 10, 2013 - June 12, 2013).

Reviewer, Journal Article, European Journal of Operational Research (EJOR). (April 11, 2013 - April 14, 2013).

Reviewer, Journal Article, Decision Support Systems. (April 3, 2013 - April 5, 2013).

Reviewer, Journal Article, Journal of Geographical Systems. (March 31, 2013 - April 1, 2013).

Reviewer, Journal Article, Decision Support Systems. (March 20, 2013 - March 22, 2013).

Reviewer, Journal Article, Decision Support Systems. (February 26, 2013 - March 1, 2013).

Reviewer, Journal Article, Journal of Advanced Transportation. (January 30, 2013 - February 4, 2013).

Reviewer, Journal Article, Decision Support Systems (DSS). (November 27, 2012 - December 4, 2012).

Reviewer, Ad Hoc Reviewer, Northeast Decision Sciences Institute. (November 30, 2012).

Reviewer, Ad Hoc Reviewer, Northeast Decision Sciences Institute. (October 10, 2012).

Reviewer, Journal Article, Decision Support Systems. (September 14, 2012 - September 17, 2012).

Reviewer, Journal Article, Decision Support Systems. (August 1, 2012 - August 3, 2012).

Reviewer, Journal Article, Research in Transportation Business & Management. (July 24, 2012 - July 25, 2012).

Reviewer, Journal Article, Decision Support Systems (DSS). (July 10, 2012 - July 11, 2012).

Reviewer, Journal Article, European Journal of Operational Research (EJOR). (June 30, 2012 - July 3, 2012).

Reviewer, Journal Article, Transportmetrica. (June 25, 2012 - June 26, 2012).

Reviewer, Journal Article, Journal of Advanced Research in Dynamical & Control Systems (JARDCS). (June 20, 2012 - June 25, 2012).

Reviewer, Ad Hoc Reviewer, International Conference on Information Systems (ICIS). (June 2, 2012 - June 11, 2012).

Reviewer, Ad Hoc Reviewer, Decision Sciences Institute. (May 15, 2012 - May 18, 2012).

Reviewer, Ad Hoc Reviewer, Decision Sciences Institute. (May 1, 2012 - May 3, 2012).

Reviewer, Journal Article, European Journal of Operational Research. (February 2012 - March 2012).

Reviewer, Ad Hoc Reviewer, Northeast Decision Sciences Institute, New Port, Rhode Island. (December 12, 2011).

Reviewer, Journal Article, European Journal of Operational Research. (August 1, 2011 - August 31, 2011).

Reviewer, Ad Hoc Reviewer, International Conference on Information Systems. (May 2011).

Reviewer, Ad Hoc Reviewer, Journal of Systems Sciences and Systems Engineering. (February 2011 - March 2011).

Reviewer, Invited Manuscript, Journal of Geographical Systems. (December 2010 - January 2011).

Reviewer, Ad Hoc Reviewer, Northeast Decision Sciences Institute Annual conference. (December 2010 - January 2011).

Reviewer, Journal Article, European Journal of Transport and Infrastructure Research (EJTIR). (June 2010 - July 2010).

Reviewer, Journal Article, European Journal of Operational Research. (December 2009 - January 2010).

Reviewer, Journal Article, Decision Support Systems. (October 2009).

Reviewer, Invited Manuscript, Transportation Research Board/Critical Infrastructure. (August 2009).

Reviewer, Ad Hoc Reviewer, Encyclopedia of E-Business Development and Management in the Digital Economy. (March 2009 - April 2009).

Reviewer, Invited Manuscript, Handbook of Research on Telecommunications Planning and Management for Business. (February 2008 - December 2008).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (October 2008).

Reviewer, Invited Manuscript, Workshop on Information Technologies and Systems (WITS). (September 2008).

Reviewer, Ad Hoc Reviewer, 18th International Symposium on Transportation and Traffic Theory. (August 2008).

Reviewer, Ad Hoc Reviewer, Transportation Research Board. (August 2008).

Reviewer, Invited Manuscript, Processor Magazine. (February 2008).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (March 2007).

Reviewer, Ad Hoc Reviewer, Journal of Applied Mathematics and Decision Science. (January 2007).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (December 2006).

Reviewer, Ad Hoc Reviewer, Journal of Systems and Software. (December 2006).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (May 2006).

Reviewer, Ad Hoc Reviewer, Journal of Organizational Computing. (May 2006).

Reviewer, Ad Hoc Reviewer, IEEE Transactions on Engineering Management. (February 2006).

Reviewer, Ad Hoc Reviewer, Management Science. (April 2005).

Reviewer, Ad Hoc Reviewer, International Conference on Information Systems. (May 2004).

Reviewer, Invited Manuscript, Northeast Decision Sciences Institute. (November 2003).

Reviewer, Ad Hoc Reviewer, Information Systems Research. (January 2003 - February 2003).

Reviewer, Ad Hoc Reviewer, Computers and Operations Research. (September 2002 - October 2002).

Interaction with Industry, General Electric. (May 2002 - August 2002).

Reviewer, Ad Hoc Reviewer, Decision Support Systems. (June 2002 - July 2002).

Reviewer, Ad Hoc Reviewer, Omega. (June 2002).

Reviewer, Ad Hoc Reviewer, International Conference on Information Systems (ICIS). (May 2002).

Reviewer, Ad Hoc Reviewer, Information Systems Journal. (April 2002).

Public Service

University of Connecticut Representative, Connecticut Quality Improvement Award (CQIA) board. (January 2002 - May 2002).

Consulting

For Profit Organization, INEcon, Santiago, Chile. (July 2011 - December 2011).

Academic, InEcon, Santiago, Chile. (November 21, 2010 - November 23, 2010).

Management, Vermont Energy Investment Corporation, Burlington, Vermont, United States. (June 2007 - August 2007).