SUBHRO MITRA, Ph.D., MBA, P.E.

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Education

Ph.D. (Transportation and Logistics), 2007
North Dakota State University
Dissertation: Development of statewide freight transportation model to assess the impact of highway spring load restrictions

Master of Business Admiration, 1997
Calcutta University
Marketing (Major), Operations (Minor)

Bachelors of Engineering, 1993
North Bengal University
Civil Engineering

Masters Certification
Discrete Choice Modeling, Modeling of Transportation Networks, 2008
Massachusetts Institute of Technology
Logistics in Supply Chain, 2009
Arizona State University

Professional registration
Professional Engineer (PE), State of North Dakota, Registration no. 6250

Experience

Academic

August 2010 to Present   University of North Texas Dallas, TX
Program Coordinator, Logistics and Supply Chain Management, August 2010 to Present
Associate Professor, Business (Logistics and Supply Chain), June 2015 to Present
Assistant Professor, Business (Logistics and Supply Chain), August 2010 to May 2015

August 2003 to August 2010 North Dakota State University, ND
Faculty "Transportation and Logistics PhD program", March 2008 to August 2010
Associate Research Fellow, Upper Great Plains Transportation Institute November 2006 to August 2010
Research Assistant, Upper Great Plains Transportation Institute August 2006 to September 2006

Industry Related

September 1996 to August 2003 W.B. Roads Directorate
Transportation and Logistics Planner

August 1994 to September 1996 Trafalgar House Construction
Project Planner

Research Grants Received

Title of project: **Integrate supply chain model in urban freight planning ($95,000)**
Role: **Principal Investigator**
Funded by: Fargo/Moorhead Metropolitan Planning Organization and Mountain Plains Consortium
Brief description: This project aims to incorporate this supply chain process in Urban Transportation Planning and
    integrate logistics decision of the individual firm or firm group to determine shipment size, consolidation and
    distribution center, mode of transport.

Title of project: **Study of air cargo industry and possibilities of future growth ($70,000)**
Role: **Principal Investigator**
Funded by: North Dakota Aeronautics Commission
Brief description: Critically analyze the freight aviation industry in the state and advise the Aeronautics Commission
    on ways of expanding this industry by making it more attractive to the shippers and carriers of the state.
    Investment opportunities in the sector are scrutinized to choose alternative based on multi performance
    criteria.

Title of project: **Development of GIS Multimodal Capacity Model for Northern Tier Freight Corridor ($30,000)**
Role: **Principal Investigator**
Funded by: Mountain Plains Consortium and North Dakota Department of Transportation
    Brief description: Objectives of this project are i) Identify bottleneck locations in the freight corridor. ii)
    Justify infrastructure investment for capacity expansion. iii) Identify Intermodal locations for capacity
    enhancement.

Title of project: **Forecasting bridge deterioration rates and improvement costs for North Dakota ($ 120,000)**
Role: **Principal Investigator**
Funded by: Mountain Plains Consortium and North Dakota Department of Transportation
    Brief description: The goal of this project is to develop a fully functional bridge life-cycle cost and asset
    management system. This project provides North Dakota Department of Transportation with an enhanced
    bridge management tool.

Title of project: **A GIS Model for bridge management and routing** ($90,000)
Role: **Principal Investigator**
Funded by: Mountain Plains Consortium and North Dakota Department of Transportation
    Brief description: The objective of this project is to build a comprehensive statewide GIS model that can be
    used to quantify the economic value of bridges, and provide optimal routes for commercial trucks including
    oversize, overweight, and hazmat loads.

Title of project: **North Dakota Highway Study Needs ($100,000)**
Role: **Collaborator**
Funded by: North Dakota Department of Transportation
Brief description: The objective of this project was to analyze the investment needs and benefits of high-priority
    corridors. It also looked into highway needs and benefits associated with ethanol or bio-fuel development
    and oil-hauling roads.

Title of project: **Study to analyze highway needs for an Ethanol processing plant at Spiritwood** ($60,000)
Role: **Collaborator**
Funded by: North Dakota Department of Transportation
Brief description: This study was conducted to estimate impacts of Spiritwood Energy Park expansions, on county
    roadways. The purpose of the study was to: i) identify county roads that might be adversely impacted. ii)
    Estimate the additional costs to maintain those roadways to the present service level.

Title of project: **Study on Impacts of Transportation Infrastructure on the Economy of North Dakota ($100,000)**
Role: **Collaborator**
Funded by: North Dakota Department of Transportation
Brief description: Study to assess how improvements to the transportation infrastructure of the state might enhance

the business climate and the state's competitive position in the economic development. Specifically, the study calls for an analysis of the benefits and costs of potential enhancements to the state's highways to allow load limits to be raised, to move goods to market more efficiently. In this project statewide freight model was develop to analyze scenarios.

Title of project: **Transshipment improvement and optimization of supplies to the production plants ($70,000)**
> *Role:* **Collaborator**
> *Funded by: Border States Electric*
> *Brief description:* Improve manufacturing performance and return on net asset by optimizing the flow of inputs to production plant. GIS models of the system integrated with optimizing tools were used in this project.

Title of project: **Analyzing of Sugar beet logistics network from farm to piling stations and factories**
> *Role:* **Collaborator**
> *Funded by: American Crystal Sugar*
> *Brief description:* Modeling the flow of sugar beet from farm to piling station and factory using a Network flow model. In this project logistics cost component along with transportation cost was used to optimize freight flow.

Research Publications

Referred Journal Papers

Rao, R., Mitra, S., Szmerekovsky, J. "Bus Transit Network Structure Selection with Multiple Objectives." *International Journal of Operations Research and Information Systems*, Vol 12 (4), 2021, pp 1- 13

Holmes, G., Pettijohn, C., Mitra, S. "Dealer loyalty and brand loyalty: United or divided?" *Journal of Marketing Channels*, Vol. 26, 2020, pp 263-275

Hubbard, J., Mitra, S., Miller, S. "Analyzing human capital as a component of the aerotropolis model." *Journal of Air Transport Management*, Vol. 78, 2019, pp 63-70

Mitra, S. "Analysis of truck accidents using structural equation models." *Transportation Journal,* Vol. 55, No. 4, 2016, pp. 382-399

Mitra, S. "Logistics concepts in freight modeling." *Journal of Transportation Management,* Vol 26, No: 1, 2015

Kar, N and Mitra, S. "Recruiting a Project Manager – A Hiring Manager's Perspective" *International Journal of Information Management and Project Management,* Vol. 6, Iss: 2015, pp. 54-65.

Mitra, S. "Discrete choice model for air-cargo mode selection." *International Journal of Logistics Management*, Vol. 25 Iss: 3, 2014, pp.656 – 672

Mitra, S., Bezbaruah, A "Railroad Impacts on Wetland Habitat: GIS and Modeling Approach," *The Journal of Transport and Land Use,* Vol. 1, No. 1, 2014, pp. 15-28.

Mitra, S., Tolliver, D., and Dybing, A. "Analyzing Investments Needed to Support Oil and Gas Production and Distribution", *Transportation Research Record,* Vol. 2307, 2012, 1-8.

Mitra, S. "Discrete Choice Model of Agricultural Shipper's Mode Choice," *Transportation Journal,* Vol. 52, No. 1, 2013, 6-25.

Mitra, S., Dybing, A. and Tolliver, D. "Analyzing Impact of Ethanol plants on the highway network of North Dakota," *The Journal of Transport and Land Use,* Vol. 4, No. 1, 2011, 71-81.

Mitra, S., Szmerekovsky, J. and Barabanov, N "A stochastic truck routing model for agricultural freight," *International Journal of Operations Research and Information Systems (IJORIS),* Vol. 2, No. 4. 2011, 1-18

Szmerekovsky, J.G., Tolliver, D. and Mitra, S. "Security of Container Movements in Multimodal Freight Networks," *Logistics Spectrum* 44(1), 2010, 24-30

Mitra, S. and Tolliver, D. "Estimation of railroad capacity using parametric method," *Journal of Transportation Research Forum,* Vol. 49, No. 2. 2010, 111-125

Mitra, S., Tolliver, D. and Mitra, S. "Framework for modeling statewide freight using publicly available data", *Journal of Transportation Research Forum*, Vol. 48, No. 2, 2009, 83-102.

Mitra, S., Bezbaruah, A. and Talukdar, B. "Environmental Impacts of Deepor Beel Railroad on Elephant Habitats: GIS and Modeling Approach", *Journal of GIS-India*, Vol 18, N0. 2, February 2009, pages 5-7

Mitra, S., Tolliver, D., Varma, A. and Dybing, A. "Analyzing the Effects of Spring Highway Load Restrictions on North Dakota's Agricultural Freight Flows", *Transportation Research Record 2008*, 2007, pp. 92-99.

Tolliver, D., Dybing, A. and Mitra, S. "Trip Generation Rates for Large Elevators: A North Dakota Case Study", *Transportation Research Record 1966,* 2006, pp. 88-95.

Book Published

Mitra, S. "The driver of economic development in airport communities," Publisher: *VDM Verlag* (October 30, 2008), ISBN: 978-3639089073

Presentations at Conferences

"AI in Higher Education" presented at the12th Annual Global Supply Chain Excellence Summit, Los Angeles, California, August 15 & 16, 2024

"The driver of economic development in airport communities" presented at the 64 International Meeting of the Transportation Research Forum, Chicago, Illinois, April 27 – 28, 2023

"Impact of GDPR in Project Planning" presented at the Association of Collegiate Marketing Educators, UT - Dallas, Texas, 2-5 Mar 2022

"Value chain analysis for regional growth" presented at the Production and Operations Management Society Conference, UT - Dallas, Texas, May 21-22, 2021

"Impact of GDPR in Project Planning" presented at the 13[h] Project Management Symposium, UT - Dallas, Texas, May 21-22, 2019

"Bayesian network-based framework for large project risk analysis" presented at the 13[h] Project Management Symposium, UT - Dallas, Texas, May 21-22, 2019

"Integrating intermodal facilities in statewide freight planning" Academy of Business Research Conference, San Antonio, TX, October 24-26, 2018

"Analyzing human capital as a component of the aerotropolis model," presented at the 97th TRB annual meeting, Washington DC, January 7-11, 2018.

"Recruiting students for new logistics program" presented at the 2017 SCM directors conference, LA, March 1 - 3, 2017.

"Value Chain Analysis to Improve Productivity" Academy of Business Research Conference, Atlantic City, NJ, September 21-23, 2016

"Role of Intermodal Transportation in Optimizing Supply Chain Network" Academy of Business Research Conference, Boca Raton, FL, November 10-12, 2015

"Analyzing Compliance, Safety and Accountability using Structural Equation Modeling" presented at SCSUG Educational Forum, November 10-11, 2014

"Logistics Clusters Analysis: Southern Dallas County and Northern Ellis Counties" presented at 2014 International Transportation and Economic Development Conference, April 9-11, 2014

"Predictors of Hispanics' Intentions to Purchase Health Care Insurance: A Conceptual Model" presented at Forty-First Annual Meeting Federation of Business Disciplines, March 11 –15, 2014

"Real Life Variables Impacting the Stakeholders" presented at the 6th Project Management Symposium, UT - Dallas, Texas, August 16-17, 2013

"Industry adaptation of Green Supply Chain Management" accepted for presentation at 7th ISDSI & 5th OSCM International Conference at IMI, December 28 – 30, 2013

"Greener Supply Chains in Regards to the European Automotive and Asian Electrical Industries" presented at the 46th Annual International Logistics Conference, Jacksonville, Florida, August 14-15, 2012

"Recruiting a Project Manager – A Hiring Manager's Perspective" presented at the 6th Project Management Symposium, UT - Dallas, Texas, August 16-17, 2012

"Stochastic Truck Assignment" presented at 2011 INFORMS, Charlotte, November 14-16, 2011.

"Sustainable Development of Ramsar Wetland of Deepor Beel in Northeast India: A Modeling Approach to Evaluate Degradation" presented in at the Annual conference in Palm Springs, CA, May 2011

"Harnessing Truck Count Data from Diverse Sources to Improve Freight Planning" presented at TRB conference on Toward Better Freight Transportation Data a Research Road Map, Irvine, California, USA, May 19-20, 2010.

"Security of Container Movements in Multimodal Freight Networks" presented at the SOLE Annual Conference on The Logistics of Global Security, Dallas, Texas, August 18-20, 2010

"Improving transportation planning of freight flows by accounting for multiple truck types" presented at 2009 INFORMS, San Diego, October 11-14, 2009.

"Evaluating the Impact of Mass Transit Changes on Urban Land Use for the City of Kolkata" presented at Jadavpur University, India, August 1, 2009.

"Use of Geographic Information System in Transportation Planning," presented at the International Conference on Transportation and Highway Engineering, Jalpaiguri Government Engineering College, India, February 21-22, 2008.

"Development of Statewide Freight Transportation Model to Assess Impact of Highway Spring Load Restrictions," presented at the 87th TRB annual meeting, Washington DC, January 13-17, 2008.

"Scan of European Practice with National/Statewide Models," presented at TRB Meeting – Federal Surface Transportation Requirements in Statewide and Metropolitan Transportation Planning, Atlanta, September 3 – 5, 2008.

"Impact of transportation on wetland and animal habitat," presented at Transportation Learning Network, UGPTI, North Dakota, November 3, 2008.

"Analyzing Satellite Imagery to Develop Freight Generation," presented at the 21st AASTHO GIS-T Symposium, Nashville, Tennessee, March 26-28, 2007.

"Analyzing the Effects of Spring Highway Load Restrictions on North Dakota's Agricultural Freight Flows," presented at the 86th TRB annual meeting, Washington DC, January 21-25, 2007.

"Generation Rates for Large Elevators: A North Dakota Case Study," presented at the 85th TRB annual meeting, Washington DC, January 22-26, 2006.

Awards

Educator Distinguished Service Award, NDTA, 2015
Best Paper Award: AASHTO (American Association of State Highway and Transportation Officials) GIS-
SAS Global Forum Faculty Scholarship, 2014
Transportation, Nashville, Tennessee, 2007

TEACHING

Courses Taught at University of North Texas at Dallas (2010 – 2020) (Both in-class and online)

LSCM 3960, "*Logistics and Supply Chain Management*"
Topics covered: Analysis and design of domestic and international logistics systems. Topics include transportation, warehousing, inventory control, materials handling, packaging, and plant and warehouse locations within and between firms.

LSCM 4530, "*E-Logistics in Supply Chain Management*"
Topics covered: Comprehensive inquiry in the role of e-commerce and logistics relationships. Special attention is afforded to resource and technology interdependencies, exchange governance mechanisms and relationship management benchmarking.

LSCM 2960, "*Global Logistics and Supply Chain Management*"
Topics covered: Supply chain and alliance strategy in the multi-national firm, materials management, international sourcing and distribution, importing and exporting procedures, international carrier management and operations.

LSCM 4560, "*Business Transportation Management*"
Topics covered: Principles of transportation covering the role of transportation systems, environmental and economic impacts, modal components, managerial and economic aspects of the various modes.

LSCM 4860, "*Advanced Logistics Management*"
Topics covered: Application of logistics decision-making tools and skills as they apply to inventory, transportation, and warehouse management. Course stresses hands-on application of analytical tools useful in logistics; analysis of the characteristics of logistics system elements and their interrelationships within a company

MGMT 3830, "*Operations Management*"
Topics covered: Mathematical techniques for solving problems in the design, planning, and controlling of manufacturing and service operations and quality. Analysis of technological issues of business activities, and a systematic study of managerial and mathematical techniques for making goods and services.

MGMT 5240, "*Project Management*"
Topics covered: Investigation and study of the role of projects in contemporary organizations. Includes a presentation of the technical aspects pertaining to the management of complex projects and systems starting with conceptual design and advanced development, and continuing through detailed design, production and termination.

Courses Taught at North Dakota State University (2007 – 2010)
   (Both in-class and online for PhD program in Transportation and Logistics and Executive Certification)

TL 753, "*Transportation System Modeling*", Graduate Level
Topics covered: system capacities and flows, comprehensive models of transportation and urban systems, and understanding how political processes, new technologies, and economic considerations affect transportation decisions.

TL 754, "*Urban Transportation Planning*", Graduate Level
Topics covered: analytical techniques employed in urban transportation planning, such as traffic forecasting and system capacity analysis and apply these techniques using real-world data for analyzing both the demand and supply of transportation.

TL 753, "*Spatial Analysis of Transportation Systems*", Graduate Level
Topics covered: transportation and network models within GIS environment, network analysis, urban and land use planning, routing of hazardous material, asset management.

SERVICE

Professional Activities
APICS North Dallas Chapter Board of directors
Deputy Editor - Article Reviews, Author & Reviewer Services, Annals of Management Science
Member of Editorial Board of International Journal of Information Systems and Supply Chain Management
Member of steering committee of the Transportation Statistics Interest Group
Member of GIS-T Planning Committee
Member of TRB Spatial Data and Information Science Education Subcommittee (SDISES)
Member of TRB International Research and Technology Transfer Subcommittee
Stakeholder in the United States Department of Transportation's Regional Intermodal Freight Technology Working Group (IFTWG)
Proposal Reviewer or Review Panelist for
        Region 2 University Transportation Research Center, based at the City College of New York
        Midwest Regional University Transportation Center
Reviewer of the Following Journals
        Transportation Research Record
        Transportation
        Transportation Research Part E
        Transport
        Int. J. of Information Systems and Supply Chain Management
        Transportation Research Forum

Major Administrative Service

        Provost's Advisory Committee 2016-2018
        Tenure & Promotion Committee, 2016-2019
        Faculty Appeals Committee, 2016-2019
        Faculty member of Sigma, Beta and Delta 2016-2019

Program coordinator, Supply Chain management undergraduate program, 2010-2016
Co-chair, Student recruitment committee, 2010-2012
Chair, Aviation Logistics program initiative committee, 2010-2011
Faculty advisor, Student association in Supply Chain and Logistics, 2010-2011
Member, PhD program Curriculum Committee, 2007-2010
Member, Transportation and Logistics PhD committee, 2007-2010
Member, PhD qualification exams committee, 2007 – 2010
Member, PhD program admission committee, 2007 – 2010
Faculty advisor, Student association in Transportation and Logistics, 2007-2011

Memberships

American Production and Inventory Control Society (APICS)
Institute for Supply Management(ISM)
International Society of Logistics (SOLE)
Transportation Research Board (TRB)
Transportation Research Forum (TRF)

COMPUTER SKILLS

GIS: ARCGIS
Transportation Planning: CUBE – Voyager, Analyst, Cargo
Optimization Software: OPL, CPLEX, MPL, LINDO, LINGO, ARCLOGISTICS
Statistical Software: SAS
Programming language: Java, Python, Visual Basic