

CARLA A. TEJADA

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RESEARCH INTEREST

My research is focused on Urban Freight Transportation. I am interested in the analysis and modeling of the commercial and residential demand for goods, in measuring the impact of the movement of goods in the transportation network, and in the study of the impact of freight transportation dedicated facilities in surrounding communities. Land-use planning, the built environment, and freight planning are major inputs for my research.

EDUCATION

The City College of New York, CUNY, New York, NY

June 2023

Ph.D. Candidate (ABD) in Civil Engineering (Transportation Engineering)

Topics of Interest: Data Analysis for Decision Making, Network Modeling, and Optimization, Freight Modeling and Planning.

Relevant Coursework: Data Science for Decision Making, Econometrics, Advanced Engineering Mathematics, Statistical Modeling, Transportation Network Analysis.

MIT SCALE Network Latin-America, Cambridge, MA

January 2017

Graduate Certificate in Logistics and Supply Chain Management

Capstone Project: Last Mile Delivery, High-Resolution Data Collection, and Visualization.

Relevant Coursework: Data Analytics, Urban Logistics, Demand Management, Supply Chain Resilience.

University of Maryland, College Park, MD

December 2015

Robert H. Smith School of Business

Master of Science in Supply Chain Management

Relevant Coursework: Data Models and Decision Making, Operations Management, Global Supply Chain Management, Supply Chain Risk Management, Global Transportation Management.

Yellow Belt Certification.

Smith Master Student Association Ambassador.

Universidad San Francisco de Quito, Quito, Ecuador

February 2013

Bachelor of Science in Industrial Engineering

Thesis: Application of the SCOR model to evaluate and propose a new design for sourcing and inventory management of a textile company.

Relevant Coursework: Operations Research, Linear Algebra, Operations Management, Data Analysis and Optimization, Economics Engineering, Design of Experiments, Statistical Quality Control.

Institute of Industrial Engineering chapter USFQ, Secretary.

TEACHING AND MENTORING

The City College of New York

New York, NY

- Civil Engineering Project Management CE 405 - Co-Instructor of Record - Spring 2021
- Transportation Planning CE 326 - Teaching Assistant - Fall 2019, Fall 2020, Fall 2021

Massachusetts Institute of Technology

Cambridge, MA

- GCLOG Scale Connect Winter Session - Teacher Assistant - Winter 2018

Universidad San Francisco de Quito

Quito, Ecuador

- Statistics Quality Control Laboratory IIN 323-L - Instructor of Record - Fall 2012
- Trends of the Industrial Environment in Ecuador - Teacher Assistant - Spring 2013

EXPERIENCE

The City College of New York

August 2018 - Present

Research Assistant

New York, NY

- Mapped existing logistics facilities in New York and Pennsylvania to measure their impact on social development, worker attraction, and land value (GIS, Python).
- Applied flow and network analysis to a large and unstructured dataset to measure the upstream logistics of residential deliveries and their impact on local, regional, and global zones (GIS, Python).
- Cooperated with an international team (France, China, Japan, and Korea) to develop state of the art in logistics facilities study and the existing gap in policy planning. (Policy Analysis)
- Applied machine learning approaches to build a predictive model for online demand frequency preferences for residential deliveries linked to e-commerce. Measure the impact that this demand has on several areas in the city (Python, RStudio)
- Instructed the statistical quality control section of the Engineering Management class.
- Realized survey data analysis in Python as part of a research team performing a capacity analysis assessment for the for-profit textile sector.

New York City Department of Transportation (Pedestrian Unit)

Sept 2020 - Sept 2021

Research Scholar

New York, NY

- Realized a gravity model analysis based on pedestrian generators to understand and rank the level at which different establishments impact people's decision to walk (GIS, R, Python).
- Developed a Citywide Pedestrian Demand model that measures how people walk and the elasticities of each pedestrian generator. This model aims to aid pedestrian planning decisions and guarantee safe, reliable, and efficient walk paths for people (GIS, Python).
- Researched further models supporting the Citywide Pedestrian Demand Model to promote result implementation in local planning measures.

Sony Corporation of America

February 2018 - August 2018

Global Information Security and Privacy- Procurement Intern

Herndon, VA

- Developed vendor efficiency analysis using big data analysis tools and displayed the results in elaborated reports containing over 600 contracts from \$30.00 to over \$1M.
- Supported in creating a new information security process manual, by analyzing and optimizing three of the most significant processes in the company.
- Supported in the streamlining of procurement operations from the creation of a request to the generation of a purchase order.
- Actively participated in the integration of SAP in the procurement operation.

Massachusetts Institute of Technology

January 2018- February 2018

Teacher Assistant for the GCLOG program at the SCALE connect Winter Session Cambridge, MA

- Acted as a teacher assistant for the SCALE connect seminar at Massachusetts Institute of Technology (MIT) for the winter session, advising a group of 28 students on different topics and helping with the integration of over 200 students from all over the world.
- Actively advised students on presentation skills and helped instructors grade participation and homework.
- Supported the MIT team with research related to Nano stores in Latin America and Fuel Efficiency metrics development.

Deutsche Post DHL

June 2015-February 2017

Field Services Supervisor

Baltimore, MD - Washington DC - Herndon, VA (DCA Cluster)

- Provided leadership to 60 couriers in the cluster to guarantee on-time and efficient last-mile delivery.
- Developed peak season strategy using data analysis, statistics, and forecasting advanced tools, resulting in Outbound and Inbound operations success over 90%.
- Implemented plan to integrate best business practices related to Warehouse and Inventory Management to the Held in Inventory Control Process, increasing agents' time efficiency by 75%.
- Designed and implemented Summer Research Program for 14 analysts to optimize operations of 2 facilities.

Universidad San Francisco de Quito

May 2012 - June 2013

Research Assistant & Teaching assistant

Quito, Ecuador

- Analyzed the entire Supply Chain process in the agriculture industry in Ecuador, which resulted in a case study and delivered a presentation at an international conference for more than 100 Supply Chain professionals.
- Developed working paper research related to projects on sustainability and optimization for Professor to be presented at international conferences.
- Taught the Statistics Quality Control Laboratory (IIN 323-L) to 25 students.
- Coordinated and served as TA for "Trends of the Industrial Environment in Ecuador" class for 15 students, covering multiple topics (Finance, Sustainability, Marketing, and Legal), each with their own instructor.

TECHNICAL SKILLS

Programming	Python, R, C++, Matlab, Visual Basic
Statistic Packages	SPSS, Minitab
Mapping Applications	ArcGIS, QGIS
Data Visualization Tools	Tableau
Transportation Modeling	TransCAD, MATSim
Risk Analysis	Resilinc
Simulation	Arena, Lindo
Other	L ^A T _E X, Adobe Suite, AutoCAD, MS Office

Statistical Analysis, Regression Analysis, Linear Optimization tools.

AWARDS

Scholarship to attend the University of Antwerps' Summer School in Urban Logistics (Belgium), August 2022.

September 11th Memorial Program for Regional Transportation Planning Award, September 2020.

Distinguished student fellowship Grove School of Engineering at City College of New York, June 2018.

Scholarship to attend the GCLOG Program at The Massachusetts Institute of Technology, June 2016.

SELECTED PUBLICATIONS AND PRESENTATIONS

Publications

Tejada, C., & Conway, A. (2023). What Happens Before the Last Mile? Exploring a Package's Journey. *Transportation Research Record*, 2677(2), 15–32. <https://doi.org/10.1177/03611981221128804>

Rai, H. B., Kang, S., Sakai, T., **Tejada, C.**, Yuan, Q. J., Conway, A., & Dablan, L. (2022). 'Proximity logistics': Characterizing the development of logistics facilities in dense, mixed-use urban areas around the world. *Transportation Research Part A: Policy and Practice*, 166, 41-61. <https://doi.org/10.1016/j.tra.2022.10.007>

X. Córdova, V. León, G. Marzano, D. Merchán, **C. Tejada** (2013). NunaSacha: A Facility Redesign in the Ecuadorian Andes, Case Study, published in *The Supply Chain Management Casebook: Comprehensive Coverage and Best Practices in SCM of The Financial Times Press*.

Presentations

C. Tejada, A. Conway (2022). Tracking parcels: Understanding delivery paths and their impacts on a city. Presentation in Track 5.1 E-commerce Consumption Flows. 2022 I-NUF Conference. Long Beach, California, United States.

C. Tejada, A. Conway (2022). What happens before the last mile? Exploration of a package trip. Presentation at Lectern Session: 1213, Advances in Freight Planning and Logistics and the Future of Supply Chains. TRB 101st Annual Meeting. Washington, D.C. United States.

C. Tejada, A. Conway (2021). Planning for the City or the Neighborhood? A study of online delivery frequency preferences in New York City. 4th VREF Conference on Urban Freight. Virtual

C. Tejada, A. Conway (2021). The Impact of Online Ordering Frequency in New York City's Planning. Delivery Plans for the City or the Neighborhood?. Poster Presentation at Session: 1432, Tools and Techniques to Improve Home Deliveries and the Last Mile. TRB 100th Annual Meeting. Washington, D.C. United States.

Y. Zhang, Q. Chen, A. Conway, **C. Tejada** (2020). Before/After Freight Impact Analysis of the New York City Clear Curbs Initiative Phase 2 - Areawide Parking Violation Analysis. Poster Presentation at Session: 1157, Advances and Innovations in Urban Freight Transportation Planning. TRB 99th Annual Meeting. Washington, D.C. United States.

A. Baghestani, M. Allahviranloo, **C. Tejada** (2020). Economic Benefits of Hypothetical New York City Cordon Pricing Scenarios. Poster Presentation at Session: 1483, Novel Use of Economic Analysis in Decision Making. TRB 99th Annual Meeting. Washington, D.C. United States.

D. Merchán, V. León, **C. Tejada** (2013). Understanding Rural Value Networks at the Bottom of the Pyramid in Ecuador, Working paper, presented in the 22nd IPSERA conference in Nantes, France.

LANGUAGE SKILLS

Spanish (Native), English (Fluent), French (Fluent)