Research Statement

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My research is guided by a commitment to addressing contemporary issues with the potential to inform and improve public policy. I am particularly interested in formulating and evaluating policies, as well as their impacts on economic outcomes across different spatial levels. As a result, my work lies at the intersection of regional and urban economics, sports economics, public economics, and environmental and resource economics, with implications for both academic discourse and real-world policy design. I would classify my research as applied and empirical, and I draw on a diverse range of methods including causal inference, spatial econometrics, and input–output analysis. At the same time, I have a solid foundation in modeling, stemming from my extensive experience with structural analysis in input–output modeling, further strengthened by my exposure to modern macroeconomics during my Ph.D. field specialization. Although most of my work is applied, I consistently seek to incorporate theory and modeling into my work. I also aim to publish in journals that value policy implications and reach practitioners, planners, and policymakers.

My job market paper evaluates the effectiveness of speed limit enforcement policies in improving traffic outcomes in congested cities, using New York City as a case study. While often promoted as highly effective for traffic safety, these policies vary in enforcement intensity: slow neighborhood zones rely on traffic signalization (low intensity), speed humps impose physical deterrence (medium intensity), and automated cameras target drivers exceeding the 25 mph limit (high intensity). Using granular daily data on accidents, injuries, and fatalities, and a spatial difference-in-differences model exploiting variation in accident distance from each policy, I find that high-intensity enforcement worsens local safety while shifting risks outward, whereas lower-intensity measures modestly improve safety both locally and nearby. I argue these patterns reflect congestion dynamics, where strict enforcement may heighten congestion or provoke abrupt traffic interactions. This paper was recognized with my selection as a finalist for the 2025 Benjamin H. Stevens Graduate Fellowship in Regional Science and as a participant in the 2025 Urban Economics Association Summer School.

The other chapters of my dissertation examine urban transportation externalities from city development and large sports stadiums. Using detailed New York City construction permit data from 2013–2021, I show that redevelopment significantly increases accidents, injuries, and fatalities, with the greatest risks for cyclists and pedestrians. New buildings and demolitions are the most disruptive, and risks rise when multiple projects cluster in the same area. These results highlight the social costs of urban growth and the need for more effective permit management and targeted planning. Another chapter uses a regression discontinuity design around game times to assess the effects of professional sports complexes, finding higher accident and injury risks on game days due to behavioral and mobility shifts. One example of extending this line of research is my ongoing project with Dr. Palak Suri, a member of my committee, which analyzes the traffic externalities of subway extensions. Together, these studies demonstrate how urban development, major events, and infrastructure changes generate transportation-related externalities with important policy implications.

For all the projects in my dissertation, I use a newly detailed, large-scale dataset of geocoded motor vehicle collisions that occurred in New York City between 2012 and 2018. Managing this dataset required advanced computational and spatial analysis techniques. I employed a high-performance cloud computing environment and applied several GIS methods to map accidents, fatalities, and injuries, producing descriptive and visually informative spatial analyses presented in the papers. Data cleaning and organization were conducted in R, while the econometric analyses were implemented in Stata, encompassing a range of methods such as nonparametric estimation, nonlinear models (including Poisson and zero-inflated regressions), and causal inference approaches like regression discontinuity designs and spatial difference-in-differences techniques at the frontier of causal inference with spatial data.

My most recent published research highlights how policy modeling and simulation can inform decision-making, even when causal relationships cannot be directly identified. In a Papers in Regional Science article, my coauthor and I evaluate New York City's climate resilience plan, designed to protect against future climate events. We modeled financial uncertainties and simulated construction phases to conduct a comprehensive cost–benefit analysis. The findings show that, despite uncertainty about securing the necessary budget, implementation costs are far lower than the potential costs of inaction. This project originated through my collaboration with a coauthor during the NERSA/NARSC Summer School.

In another paper, published in Economic Analysis and Policy, my coauthors and I simulate the regional economic impacts of COVID-19 lockdown policies and the mitigating effects of stimulus checks and unemployment insurance in Southwest Florida. We show a sharp second-quarter contraction in value added, a partial rebound in the third quarter, and persistent heterogeneity across sectors. While mitigation policies softened the downturn, they could not fully offset losses. Our framework highlights how households' spending and saving patterns under supply constraints shaped recovery dynamics, offering policymakers a predictive tool for crisis response.