Investigation of Curb Management Strategies to Minimize Freight/Cyclist Conflicts in the Urban Core

The interaction between freight vehicles and bicycles in an urban environment is an increasingly common problem in urban environments undertaking green design initiatives. Like many urban areas, New York City is currently undergoing a massive expansion of its bicycle network, and many problems are emerging – among them being the need for freight vehicles to park in bike lanes to make deliveries – creating interactions between vehicles of vastly different size and mass, and impacting operations for both types of users. This is likely to be an increasing problem in New York and other urban areas across the country as green design initiatives are implemented with little or no analysis of freight vehicle-specific operations – leading to unexpected problems for both bicycles and freight vehicles. The researchers propose a research approach that utilizes demand modeling for the prediction of freight and bicycle travel demand and microsimulation of interactions between bicycles and freight vehicles focusing on locations where freight vehicle routes parallel or intersect bicycle corridors. This proposed research will contribute both methodologically and empirically to our understanding of freight/bicycle interactions in urban areas. The purpose of this research is to develop an analysis framework and construct simulation models to quantify the impacts of curb control strategies on curbside freight vehicle operations, and explicitly examine the impacts on freight vehicle interactions with bicycles. The results of this analysis can be used to identify effective policy options for management of shared curb space.

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