

**FREIGHT TRIP GENERATION MODELS FOR COMMERCIAL
ESTABLISHMENTS IN MANHATTAN AND BROOKLYN**

by

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ABSTRACT

This thesis focuses on the estimation of freight generation models. Two different approaches were used: linear regression models and trip rates. These models try to describe trip generation as a function of establishment characteristics. Two databases were used, that were constructed from a data set of responses collected from a telephone survey conducted to approximately seven hundred companies located in Manhattan and Brooklyn.

A total of 193 different variables were tested as predictors for the total number delivery trips received or carried per day. Six linear regression models were obtained for carriers and receivers. Variables indentifying the establishment characteristics such as industry segment, type of commodity, type of facility, number of sales, and number of employees were used. The regression models estimated indicate that the industry segment and type of commodity are strong predictors of freight generation. Moreover, these variables reflect the intrinsic characteristics of trip generation as they interact with economic variables such as sales, or employment. In addition, the industry segments that are expected to generate more freight traffic in the study area were identified.

Trip rates per employee and per one million dollar of sales were estimated. These rates were categorized into: industry segment, type of facility, stakeholder type and type of commodity.