

Freight Trip Generation Modeling and Data Collection Processes in Latin American Cities - Modelling Framework for Quito and Generalization Issues

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Abstract: Ever-growing urban areas and worldwide population moving towards urbanization lead to major concerns regarding urban logistics and last mile operations. In Latin America the problem becomes critical since volatile emerging economies and unstable political situations, which are usual in the region, introduce additional limitations for strong logistic solutions. In the city of Quito (Ecuador), traffic regulations only consider time-schedule restrictions for vehicle mobility, without any other policies that benefit urban goods movement. This is in part because there is a lack of knowledge on freight flows, mainly related to the difficulties to retrieve data to that purpose. This paper proposes a freight trip generation analysis in Quito, based on a methodology included in "MIT's Better Cities for Logistics Toolkit", which defines specific zones observation and data collection campaigns. More precisely, a procedure combining observation-based and declarative data collection processes is proposed. First, the opportunities of combining both observed and declared data to characterize freight trip generation are addressed on the basis of a literature review. Main issues of combining establishment based surveys and observations are addressed to generalize the proposed framework. Finally, application implications in a transferability perspective to other Latin American countries are addressed.

Keywords: Freight Trip Generation [FTG], urban logistics, survey, combination, last mile operations, Quito