Characterization of homogeneous zones and identification of underlying factors in the configuration of the Urban Logistics in the Last Mile of the city of Córdoba, Argentina

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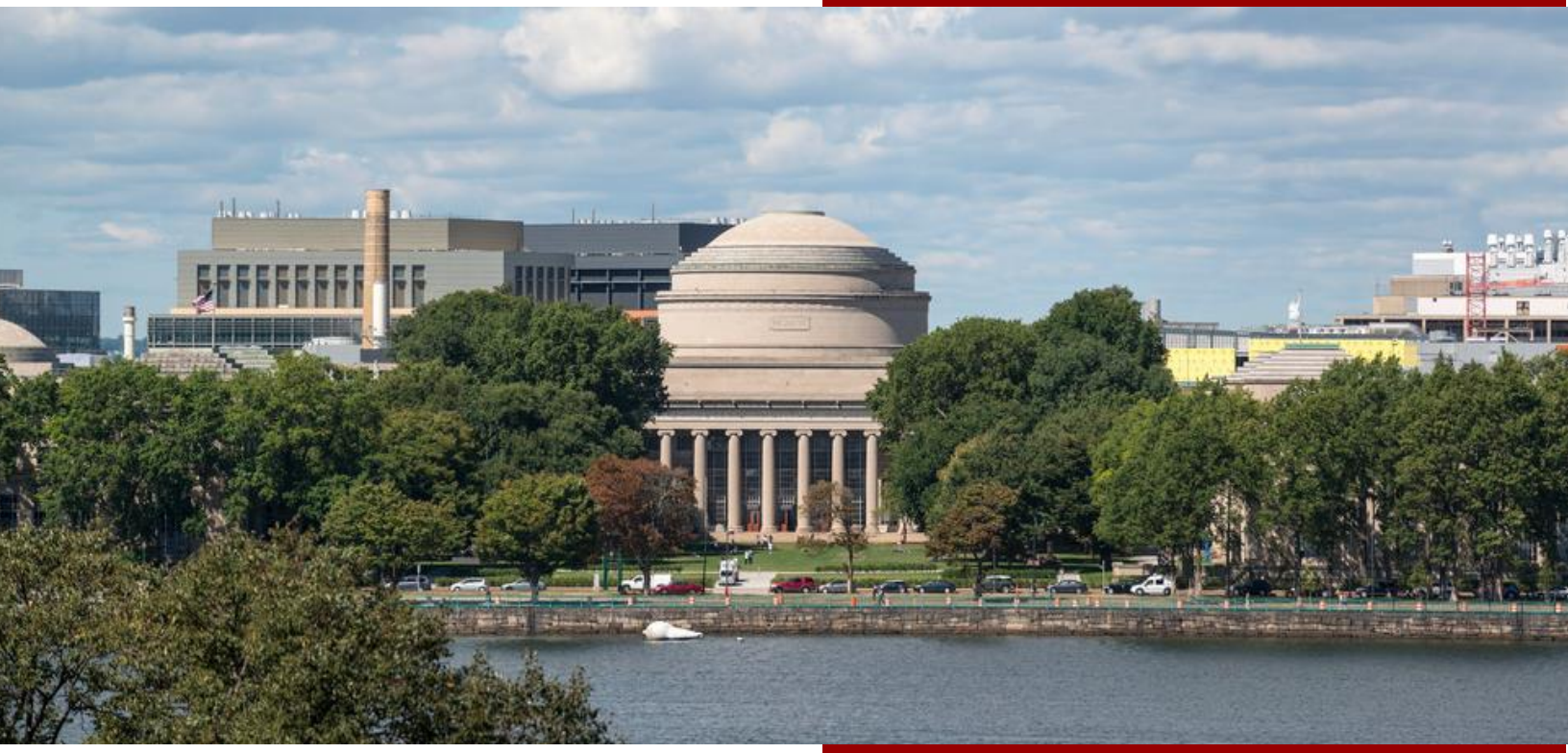

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Logistics profile of Lima in the last mile based on MIT km2 Methodology applied in three districts

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A framework to analyze the last mile logistics practice in Lima, Peru is suggested. For this purpose, consumer behavior has been studied in three districts, each with a different socioeconomic level. The analysis carried out matches with five indicators: i) shop inventory, ii) traffic count, iii), street data (roads and regulations), iv) delivery tracking and v) disruptions. This study suggests how to identify logistics practices in each of the three districts, allows to create a logistics profile, let users identify disruption causes and, finally, to suggest some solutions based on this research that can be used in Lima and other cities. This paper aims to contribute with a general understanding of the city of Lima regarding the way logistics practices are developed. This approach is the basis to suggest policies that could make companies more efficient and to improve the logistical costs in the city, which will bring benefits for the inhabitants.

Characterization of homogeneous zones and identification of underlying factors in the configuration of the Urban Logistics in the Last Mile of the city of Córdoba, Argentina.

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Cities have different characteristics; in consequence, they use distinct policy measures that bring different associated impacts (Alho, 2015). The purpose of this paper is to apply a data-driven methodology to identify clusters to build Cordoba's urban logistics policy and best practice decisions. This work constitutes a first experience of classification of homogeneous areas with these methodologies and it is limited to a square kilometer, in the neuralgic center of the city, completely inside the restriction zone for heavy-duty vehicles. The methodology uses relevant

variables for urban logistics - number of establishments, traffic lights, buildings, parcels and location inside the km2 area - to perform two statistical analysis: Factor and Analysis of Variance (ANOVA). Preliminary results suggest a clear relationship between the different commercial activities and the location inside the area, as a basis for further urban logistic analyses and implementation of best practices.

The nanostores distribution problem under time dependent demand

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This work introduces a new logistics problem: The nanostore distribution problem under time-dependent demand (ND-TDD). This problem is inspired by real delivery operations of emerging countries, where the quantity of products sold to nanostores depends on the arrival time of the supplier. Frequently, the relation between the demand and the arrival time is a non-linear function. In this problem, the objective function aims to maximize the total sales. To solve this problem, a mixed-integer linear programming (MILP) formulation is proposed, which is able to model any shape of the demand function. This formulation is tested using a five-instance testbed based on a delivery operation of a food company in the Aburra Valley, Colombia. The results show that the MILP formulation is able to find the optimal solution for an instance and is able to find integer solution for the remaining instances with an average optimality gap of 24.67%.

Modelling and analyzing the economic and environmental impacts of pick-up points on ecommerce's last mile distribution: the case of São Paulo

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