

## Ifsttar Research Paper

### Parking for freight vehicles in dense urban centers - The issue of delivery areas in Paris

This research paper was exhibited at poster session 730 – *Urban freight parking: to curb or not to curb*, at the 94<sup>th</sup> Transportation Research Board Annual Meeting, Washington D.C., USA, 2015.

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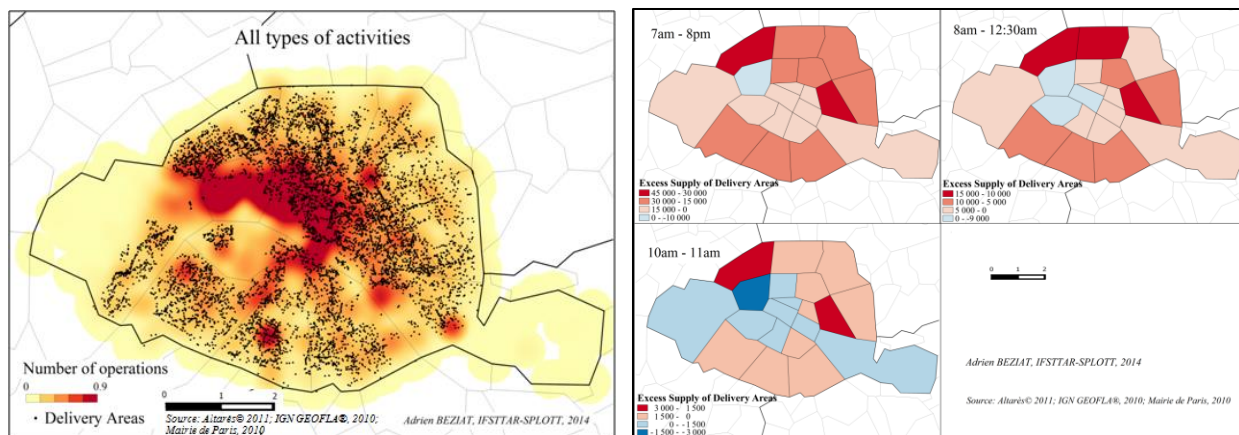
**Research Objective:** Parking during operations of deliveries and pick-ups of goods is highly problematic, especially in dense urban centers. Delivery drivers are subject to pressure from several factors: their customers, city infrastructure, the goods they carry, and their own vehicles. More than 50% of the operations of surveyed establishments were made with a double-parked vehicle, and more than 60% with a vehicle parked illegally. Illegal parking has a cost: congestion of the road network, additional pollution, and problems of road safety. To cope with the situation, one possibility for policymakers is to set aside areas specifically designated as parking spaces for delivery vehicles. The Paris municipality has a delivery areas policy in France. The aim of this paper is to analyze this policy in the context of the city of Paris.

**Problem Statement:** In urban environments, in order to complete their delivery and/or pickup, deliverymen need to park their vehicle in a place that allows them to do so. In this paper, we measure the supply of delivery areas, then we assess the demand for this specific type of parking, and finally we compare the supply with the demand. There are several ways to meet the parking needs of delivery drivers. Delivery vehicles can use “standard” parking spaces. They sometimes have access to parking on the premises of establishments. The problem is that these types of parking practices are very uncommon in Paris. Finally, another option for delivery drivers is to park on specially-designated delivery areas, set aside by the Municipality of Paris, for deliveries and pick-ups.

**Research Methodology:** In order to measure the demand for freight operations, we use a very simple generation model based on results from the Urban Freight Survey, carried out in the Paris Region by the Laboratory of Transport Economics. Part of the survey was carried out through a questionnaire, sent to a sample of establishments of the Region, to estimate the volume

and characteristics of the deliveries and pick-ups that those businesses needed. The generation model uses a database containing all the establishments of the Paris Region, called the Altarès Database. It takes into account the type of activity and the size of each establishment. In this paper, the establishments are grouped into eight categories, and assigned a weekly generation coefficient, based on the results of the survey. Thus, we generate freight operations in the city of Paris.

The survey also gives valuable information on parking practices. We can estimate how much of these operations are performed with illegal parking, and what is the specific demand for delivery areas. We also have information on the average duration of operations and the time of the day of these operations. We compare this data on the demand of freight operations with the supply of



delivery areas in Paris, in order to analyze the supply-demand balance.

## Main Results:

There are about 167,000 daily freight operations in Paris. About 84% of them require a specific parking area to deliver or pickup goods. Most of these operations are concentrated in the business center of Paris. The supply of parking spaces is insufficient compared to the demand. This is especially true in the central districts, where there are less delivery areas but a lot of freight activity. On the contrary, in some districts, there are too much delivery areas, compared to the demand.

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