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The purchasing behavior of public organizations and its impact on city logistics

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Abstract

This paper presents three studies on public procurement and its impact on city logistics. The studies aimed to give an insight into the transport volume related to the delivery of products and services - at a university in Newcastle, two academic institutions in Amsterdam, and the municipality of Rotterdam. Furthermore, the role of the public organisations as large receivers and promoters of sustainable transport is discussed. The paper concludes that public organisations play a key role in the organisation and extent of city logistics planning, albeit they may not be making beneficial use of their impact. Key barriers are the lack of standardised logistics information in procurement information systems, and incentives that promote sustainable and efficient delivery among purchasers.

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1. Introduction

Public institutions such as the police, academic institutions, municipalities and ministries are large organisations that initiate a considerable number of freight flows and service trips, in cities. Eight of Amsterdam's top 10 largest employers are public institutions (OIS, 2012). The municipalities of Amsterdam and Rotterdam are the largest employers in their respective cities, with their universities falling in the top 5. In Newcastle, the NHS is the largest employer, with the universities second. Every day, office supplies, post and parcels, food, construction materials, services (including facility maintenance and repair), and reverse flows are transported to and from their buildings,

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which are often spread out over the city, or over a multi-building campus.

At the same time, these public institutions promote sustainable transport and aim for a liveable (i.e. safe, clean air) and accessible city. Many academic institutions are involved in research on freight transport and mobility. Municipalities provide and develop urban freight regulation and policies. Hospitals promote health and quality of life and usually have sustainable travel plans for staff and visitors. But what of the freight flows caused by their own demand? How sustainable are their procurement processes and purchasing behaviour? Do civic organisations practice what they preach? The ambition to lead by example is growing. In Newcastle, Amsterdam and Rotterdam, research on urban freight and city logistics has focused on their own organisations.

Before logistics improvements can be made, situational awareness is needed - often lacking when it comes to purchasing behaviour and its role on transport activity. Such public organisations generally lack knowledge about their transport volumes and cannot even tell how the transport is organised, let alone understand the degree of transport efficiency. Purchasing is usually done based on delivered-duty-paid (DPP) terms, where the supplier is responsible for organising deliveries. The following numbers and observations suggest that there is much to gain in the efficiency of freight flows and service trips to and from the public institutions:

- The AUAS and UvA have more than 15,000 different suppliers and 20 different locations in the city (Balm, 2014).
- The municipality of Rotterdam has about 2,300 suppliers annually (Ypenburg & Habers, 2015).
- Newcastle University has about 3,000 active suppliers, delivering to over 200 locations in 80 buildings across the city of Newcastle (Zunder, et al., 2014).

Delivery costs are usually included within the total price of goods and freight is an activity managed by the seller, who bears the planning costs, risks and operational choices for transport (delivered duty paid). The purchasers at public organisations often have, or choose to have, no insight into (last mile) transport costs. As a result, they lack any financial incentive to organise the last mile more efficiently. At the same time, the need to organise traffic and transport flows more efficiently and more sustainably is growing, from an economic, environmental and social perspective.

Efficiency gains in transport will lead to more room for innovation, less pollution, and a safer, more attractive environment. However, before improvements can be identified, insight in the purchasing and delivery activities is needed. To obtain this, Newcastle University, the municipality of Rotterdam and AUAS/UvA in Amsterdam are working with their in-house research groups for a methodology, an analysis and next-steps guidance.

The following section of this paper discusses previous work in the field of public and sustainable procurement. Next, it presents the approach and results of the studies in Newcastle, Rotterdam and Amsterdam. In the last part, we compare the three studies and give recommendations for further research.

2. Previous research

Measures of the impact of public procurement are often economic. For example, The World Trade Organisation estimated that public procurement represents around 10-15% of most economies (WTO, 2012). This impact is the value of the production of the purchased goods and services, represented in GDP. Others have argued that the impact should also be measured in terms of employment, social wellbeing, community cohesion and public confidence (Tizard, 2012). This is in particular mentioned as a reaction to cuts and redundancy programmes. The impact of public spending on traffic and freight flows has however never been measured.

The role of “logistics receiver” in promoting sustainable delivery has recently been discussed in urban freight literatures (see for example: Zunder et al. 2014; Leonardi et al. 2014). A coordinated delivery and servicing plan, the reorganisation and management of building(s) facilities, and sustainable purchasing, are some of the policy initiatives being promoted to improve the efficiency and sustainability of logistics operations. Despite the novelty of such initiatives in urban freight literature and research, organisational purchasing literature has long been the major concern for business and management disciplines. Socially and environmentally responsible procurement (SERP) (Hoejmose & Adrien-Kirby 2012), also known as sustainable procurement, is the pursuit of sustainable development objectives through the purchasing and supply process, incorporating social, environmental and economic aspects (Walker & Brammer 2009). SERP is an important issue for practitioners as it has the potential to both harm a firm’s