Public purchasing as game changer in smarter and cleaner urban freight distribution
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Abstract

Objectives and motivation
Public sector organisations, such as municipalities, universities, health institutions and the police act as promoters of safe, clean and sustainable cities. They set guidelines, conduct research and impose restrictions to achieve accessible, liveable and healthy cities. These activities have in general been directed towards other - private - organisations and citizens. For example;
- Municipalities provide purchase subsidy programs to the business sector for electric freight vehicles;
- Research groups at universities analyse and develop clean and efficient transport solutions;
- Hospitals encourage visitors to use cycling as a more environmentally friendly form of transport.
However, the ambition to lead by example is growing. And this is more than justified, when we look at the impact of public sector deliveries on city logistics (Balm, et al, 2015). The purchasing behaviour of the public sector may be key in the development of viable business cases for smart and clean urban distribution systems.

Public organisations can act as game changer in smarter and cleaner urban distribution, considering their:

Economic impact: The World Trade Organisation estimated that public procurement represents around 10-15% of most economies (WTO, 2012). The municipality of Amsterdam spends EUR 1.5 billion a year on products and services (City of Amsterdam, 2014).

Delivery volume: Public buying represents 5 to 10 percent of urban freight volumes. The number of deliveries at two educational institutions in Amsterdam was estimated to be 90,000 per year (Balm, et al., 2014).

Role model function: Public organisations have many "customers" and many suppliers. In addition, they are visible to a wider public, in day-to-day life and in the media. Their behaviour can be leading for others.

In various European Cities like Rotterdam, Amsterdam, Stockholm, London and Newcastle research groups have been working together with public organisations to 1) gain insight into the transport volume related to the delivery of products and services at these institutions and 2) to discuss the role of the public organisations as large receivers and promoters of sustainable transport. The next step is to change the behaviour of public purchasers such that it benefits clean and smart urban freight distribution. This step has already been taken in a trial in London, where public sector deliveries are consolidated at a consolidation centre for delivery to 300 council buildings (LAMITO, 2014). The full paper for URBE will focus on the behavioural challenges and opportunities that are faced when changing public sector deliveries over the long term. The paper is built upon a research and pilot study at the Amsterdam University of Applied Sciences and University of Amsterdam. Next, it discusses and compares similar studies in the Netherlands, Sweden and the UK to derive lessons for success.

General description
The University of Amsterdam (UvA) and Amsterdam University of Applied Sciences (AUAS) are two academic/educational institutions in Amsterdam, with about 30,000 and 50,000 students respectively. UvA employs 5,000 and AUAS 3,593 people, in educational, research and staff functions. The institutions work together for most of their central services, such as Facility Services. Facility Services is responsible for all the facilities in and around the campus buildings and aims to contribute to more efficient and sustainable transport to and from the buildings. They asked the AUAS Research Program Urban Technology to conduct research on the current situation and possibilities for improvement. This research took place in Oct-Dec 2014 and considered the deliveries of the previous year. An online survey was sent to suppliers, of which 278 fully completed the questionnaire.

Based on the survey results and discussion with the project’s steering committee, three possible solutions were selected for a follow up in 2015. These solutions are currently further examined, and where possible, tested and implemented. The three solutions are:

1. Change of purchase behaviour and procurement policy. With more than 10.000 individual purchasers within the organisation, there is much to gain by harmonising purchase or delivery moments. The AUAS/UvA will start a pilot with one of their key suppliers of office supplies to reduce delivery frequency from 5 times to 1 time per week. The pilot will run from May till June 2015. The change process and results will be discussed in the full paper.

2. Consolidating at the source. This means that deliveries from various suppliers, within a region, will be combined and carried out by one transport provider. This requires harmonisation of planning and transport across suppliers. The opportunities for this solution, as well as the behavioural challenges are currently explored. Key challenge is: who should initiate the change and how are costs and benefits shared among the supplier, transport operator and receiver?

3. Delivery at a central address (i.e. an urban consolidation centre), followed by efficient and clean last mile delivery. For this solution, the AUAS/UvA currently explores potential business model concepts and its costs and benefits. The financial feasibility of
urban consolidation centres are extensively discussed in city logistics research projects, e.g. in STRAIGHTSOL (2013), SMARTFUSSION (2014), LAMILO (2014). Unlike previous small scale pilots, the volume of the universities may be the key to a viable business case. However, there is much uncertainty on who should bear the investment costs and who receives gains. Next, tender obligations seem to hinder open discussions and trials.

Next, the AUAS/UvA aims to cooperate with the municipality of Amsterdam, in particular when it comes to the solution “delivery at an urban consolidation centre”. In March 2015, the municipality of Amsterdam agreed to start a similar survey among their own suppliers. This survey is also developed and analysed by the AUAS Research Program Urban Technology. The results of this survey will become available in June 2015 and will be discussed in the full paper, as well as opportunities and barriers for cooperation between the different institutions.

Results and conclusions
Public organisations have been using their power to influence transport mostly by imposing restrictions on the use of vehicles (e.g. environmental zones, minimize parking space) or by procurement clean vehicles for their own fleet. When it comes to the procurement of day-to-day products and services, guidelines are defined that promote the use of sustainable materials and social return. However, the purchase behaviour of public organisations is not guided by logistic criteria for sustainable and efficient delivery. In fact, the delivery process is often not discussed with the supplier at all. Purchasing is usually done based on delivered-duty-paid (DPP) terms, where the supplier is responsible for organising deliveries. Purchasers do not know the delivery costs, let alone the transport efficiency. Hence, awareness on their influence is lacking.

Public organisations have a lot of power as well as impact on the amount and organisation of city logistics, from which they and society do not benefit at this moment. In fact, by not making logistic considerations in the purchase process, cities currently face unnecessarily and inefficient transport. There are two key barriers identified (Balm, et al., 2015), that currently hinder the role of game changer at public organisations. These are: 1) the lack of standardised logistics information in procurement information systems, and 2) incentives that promote sustainable and efficient delivery among purchasers. In our paper for URBE, we discuss how these barriers can be overcome. We discuss who should initiate changes and at which level in the organisation. Next, we discuss which relationships are suitable for changing public sector deliveries, and the potential effects on users within the organisation. We furthermore look at methods and tools to make sustainable purchasing measurable and embedded in the organisation. Insights are gathered from practical oriented research at two universities and a municipality in Amsterdam and supported by similar research studies and cases in other cities.

References


LAMILO Project, (2014), Available at: http://www.lamiloproject.eu/


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