

## 25 Years City Logistic: Why failed the urban consolidation centres?

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In European countries and world wide a long series of city logistic projects were carried out over the past 25 years, starting with the pioneering study of Browne et al. 1988. The aims of these projects were the reduction of traffic jam and pollution in the cities caused by delivery traffic. Besides measures of regulation of entering the city one measure in the city logistic projects was to deliver the city from an urban consolidation centre (UCC), also called urban hub. During the last 25 years in Europe 150 UCC projects were started, but only 5 projects survived (Sugar 2009, p. 249). So the UCC projects had a failure rate of 96%. This paper explores the reasons why these projects failed. It is based upon the best practices handbooks of the EU-programs BESTUFS, BESTUFSII and SUGAR, the results of the several city logistic conferences of the Tokyo Institute for City Logistic with more than 100 published papers (Conference 2009, 2011) and additional papers. Further, this paper uses empirical findings of a survey among shop owners and forwarders the author had carried out.

Many empirical studies showed the low load factors on average of the delivery vans entering the city. So the idea to consolidate the deliveries to full vans is obvious. This idea was linked to an urban consolidation center (UCC) where in a warehouse the consolidation takes place. To establish an UCC has the aim to consolidate the formerly independent delivery trips of the different forwarders to one single forwarder that delivers the shops in the city from an UCC. This single forwarder should employ pollution and noised reduced vans. The consolidation was even twofold: one across different forwarders and one across the shops to be delivered (Bestuf 2003, p. 87). So the model of an UCC is very convincing at the first sight. Studies showed a potential of 20-30% of reduction of delivery traffic which was never realized (Klein-Vielhauer 2001). The city of Leiden expected a reduction of even 80% (Bestuf 2003, p. 112). But why were the UCC not successful? There are several reasons, but I focus here on two reasons.

(1) The consolidation was not seen in a competitive environment but seen solely as a technical procedure to fill a delivery van to its limit as Verlinde et al. (2012) do. Already Laetitia Dablanc (2005) pointed to this narrow view. In the UCC projects only 20% of the shop owners participated (Patier and Browne 2010 on the case Bristol), as long as municipalities do not enforce strict delivery regulations like in the Vicenza case (Dablanc et al. 2010). For small or medium sized shops consolidation touches their central asset in a competitive economy. The relation supplier – carrier – shop the owners regard as confidential. With special offers drawn from special sources the shops can differentiate their position to competitors. In a coordination project as an UCC the information could trickle to competitors. The same adverse position to UCC is true for small or medium sized forwarders. From which suppliers they get an order is a trade secret of the forwarders which in an UCC cooperation could be revealed to competitors. The forwarder trade is extremely competitive with thin margins. The transport companies believe that UCC-transshipment involves extra costs, risks and delays in delivery. So shop owners and forwarders are reluctant to cooperate. In addition, the transports that are performed by suppliers or shop owners on own account cannot be included in an UCC solution, because they do not want to carry over their transports to forwarders. Danielis et al. (2010, p. 119) report the high percentage between 50% and 80% of consignments that are delivered by own account in Italian cities. There are special economic advantages for suppliers to transport by own account in a competitive environment as already known in the literature concerning marketing aspects (Vahrenkamp 2012, p. 84). Additional, when a supplier delivers by a forwarder, the latter gets notice of the customer structure of the supplier: Which kind of merchandise the customers receive, how many customers the supplier delivers and where they are located. The forwarder could use this knowledge at a disadvantage for the supplier. For example, the forwarder could sell the customer list to a competitor of the supplier. With a transport by own account the supplier can keep the customer structure confidential.

(2) The share of traffic an UCC solution can catch is only small. The grocery chains, the chains of department stores, the chains of restaurants, as e.g. McDonalds, and the parcel services have already optimized delivery systems and do not see gains in cooperation. A study of the German retail association showed that 64 % of the deliveries (measured in tons) to shops went to department stores (Hallier 1993, p. 12). The freight study of the city of Reading in 2003 revealed, that a large amount of deliveries were performed by trucks owned by the retail chains (Browne et al. 2010, p. 5961). Another large part of freight transport in the city is made by deliveries to construction sites that cannot be consolidated across different sites, because their constructions are built independently. Only in special

cases a consolidation succeeds. In London, the delivery to four concurrent major construction sites were consolidated and savings in delivery times and delivery cost could be realized. But after the finish of the constructions the consolidation center was closed (Sugar 2009, case 11). Besides construction traffic there are deliveries of heating oil that are already optimized by the supplier to full truck loads by software of vehicle routing. Then there are many trips of delivery vans for service activities, as cleaning and repair which are not suitable to consolidation. So the UCC solution only can catch the deliveries to the independent shops that do not belong to a chain and the deliveries to independent cafes and restaurants. But this is only a small fraction of the overall deliveries. Empirical studies showed that delivery traffic only accounts to about 10% of the traffic in the city (Aschauer and Starkl 2010, p. 6246). So UCC solutions could only reduce this share of 10% a little bit. One can conclude, the UCC solution does not have a substantial impact as it catches only a very small part of the delivery cake. But they can serve as a “symbolic policy” that the cities take measures to improve the quality of air and to reduce traffic jam. In the UCC of the city of Parma (Italy) the reduction of traffic was estimated to 1 % (Dablanc et al. 2010). The Bestuf II policy recommendations shows also a reduction as small as 1 % (2005, p. 6).

As a main result of the city logistic projects over the past 25 years one has to state that traffic reduction and economic gains of consolidation were only small. The gains do not cover the costs the projects impose. To make the projects economic feasible the cities had to carry a share of the cost. This was the case for all UCC solutions in the UK, France, Netherlands and Italy. The weak position of UCC became evident when public money was canceled and the UCC had to be closed.

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