

City of Copenhagen

OPPORTUNITIES FOR CONSOLIDATING DELIVERIES THROUGH PROCUREMENT

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Introduction – Supply consolidation

Like other European cities, Copenhagen faces challenges regarding CO₂-emissions, air quality, congestion and traffic safety due to an increase in traffic. A city like Bordeaux has faced an increase of 50% in freight since 1994. Forecasts indicates that traffic in the City of Copenhagen will increase by 71% during weekdays by 2030¹. One of the key reasons is the rise in the e-commerce market which has a huge impact on transportation in cities.

Like other cities before Copenhagen, we decided to look at the possibility to consolidate the deliveries of goods to the city administration. Mapping the CO₂-footprint from the City of Copenhagen's procurement revealed that the deliveries to the cities own institutions accounts for 7.000 tons CO₂ and 8 million km driven within the city boundary annually². If we, besides limiting the emissions from the embedded transportation, want to have a positive impact on congestion and traffic safety, we also must focus on how we can support the limitation of the number of vehicles and kilometres driven in the city centre.

The transportation linked to the procurement of goods in Copenhagen comes from many different suppliers and the procurement of various kinds of products. From that perspective it would not make sense to focus on one procurement category.

Alongside the BuyZET project, there has been an increase in the political interest in the deliveries of the city's own purchases. There has been a political statement from the Lord Mayor that the city wants green deliveries and that the city will look further into how this will be possible³. External consultants have been giving the task to make further research based on the findings from BuyZET⁴.

From beginning of the project there has been interest within the organisation to look at the distribution of goods to gain financial savings besides having a positive environmental impact. To achieve savings in procurement contracts based on removing the responsibility for last mile distribution from the supplier, scale and volume is needed. And from that perspective consolidation is also interesting.

¹ <https://politiken.dk/indland/art6997732/Se-planen-for-regeringens-hovedstadsudspil>

² www.buyzet.eu/wp-content/uploads/2017/11/Copenhagen-BuyZET-Transportation-Mapping-Report.pdf

³ "Frank Jensen vil have Københavns varer leveret i el-biler" article brought August 29 2018 in Politiken. <https://politiken.dk/indland/art6678044/Frank-Jensen-vil-have-K%C3%B8benhavns-varer-leveret-i-elbiler>

⁴ See the full report here (Only in danish) <https://www.kk.dk/indhold/okonomiudvalgets-modemateriale/19032019/edoc-agenda/097e4f1d-c286-46ec-a29d-231c62fb5196/d100dd7a-143c-4c70-aed1-204e154e476e>

The reasons mentioned above supported the idea to take a consolidation approach to the transportation linked to the city's own procurement.

Even though other cities around Europe have worked with consolidation, there are only few comparable examples to a consolidation approach in a city like Copenhagen, where the geographical distances are relatively short, and the city is relatively dense. However, it is still possible to learn from the findings in these cases⁵.

Potential procurement approach

Compared to direct delivery from suppliers, a consolidation centre gives the possibility of managing deliveries to the city's different institutions. This implies a reduction in the number of deliveries and as a result a reduced number of km driven inside the city boundaries, as well as less time spent on handling the goods received.

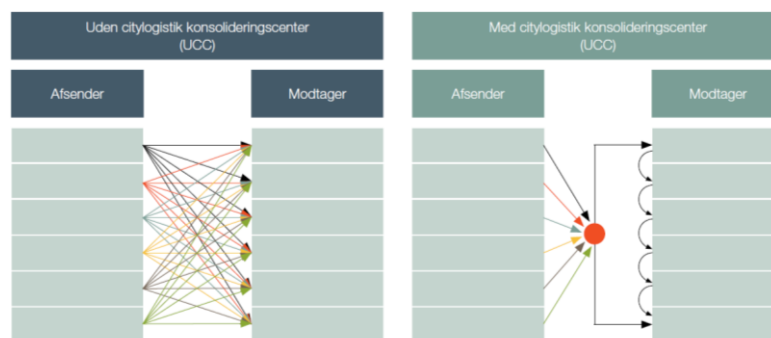


Figure 1: Reducing delivery distance through a consolidation centre

In contrast to today, a consolidation centre also makes it easier to use alternative and zero emission vehicles because of the smaller needed range of the vehicles used. If the distance from the consolidation centre to institution is short, it is even possible to use bikes in line with the cities policy on green mobility.

On the other hand, a consolidation centre also adds an extra tier in the transportation chain and therefore potentially extra costs. Further research must be done in order to estimate if the extra cost will be eliminated by the potential price reduction due to savings related to the last mile distribution.

⁵ For more information, see the Copenhagen's BuyZET Market Engagement and Research report: www.buyzet.eu/wp-content/uploads/2018/12/D3.9-Market-Engagement-Report_-Consolidation-CPH.pdf

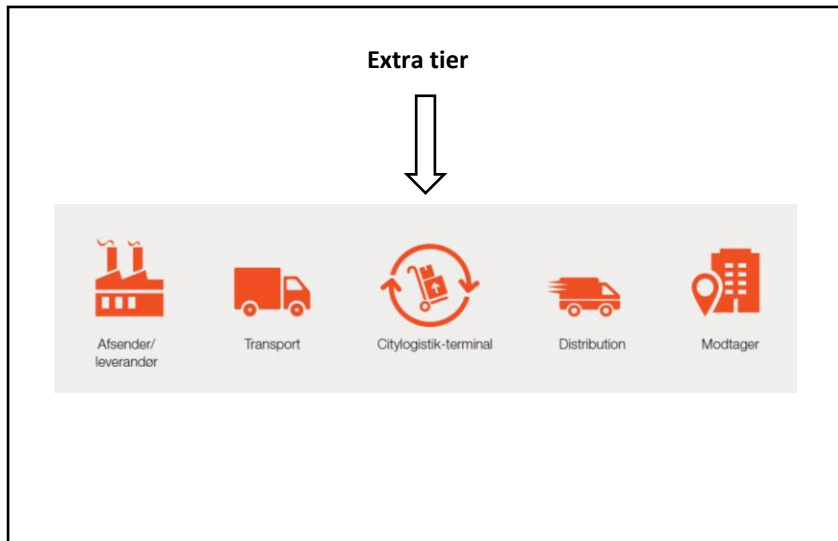


Figure 2: A consolidation centre adds an extra tier in the transportation chain

An estimate indicates that the total freight is around 20-30,000 tons annually⁶. If the city wants to implement a consolidation solution there is a need to reduce the product variety and increase the compliance of existing contracts. These activities can reduce freight deliveries to 16,000 annually, which also could have a positive impact on the annual spend on procurement.

Different solutions

During the project different concept for consolidation centres have been examined.

- A) A terminal outside the city boundary – Makes it more difficult to use alternative and zero emission vehicles due to longer distances, but there will not be any direct investments linked to this solution, if it is decided to use already existing solutions.
- B) A terminal inside the city boundary – makes it possible to use alternative and zero emission vehicles for distribution, but will on the other hand be a more expensive solution and will result in heavy traffic to and from the centre and thereby heavy vehicles in the city centre
- C) Several terminals inside the city boundary – same pros and cons as mentioned in solution B, but to a larger extent

⁶ Estimate from the consultants report, page 3 (Only in Danish)
<https://www.kk.dk/sites/default/files/edoc/Attachments/22644824-31332925-1.pdf>

Feedback from the market and employees in Copenhagen

A workshop was held to create internal ownership and gain knowledge. Employees, suppliers and logistics companies were gathered to discuss the consolidation concept. Overall the participants supported the idea of a consolidation centre and a consolidation approach to deliveries. But they all agreed that further research is needed and it is important to have the political commitment if a consolidation solution is to be implemented.

Conclusion and next steps

Based on the analysis through the BuyZET project, the recommendation from the external consultants and the learnings from other cities that have worked with consolidation, it has been decided that further, more detailed, research is needed.

However, some initial recommendations have been made. One of them is to use an existing private owned terminal facility instead of establishing a terminal owned by the City. Whether the terminal should be placed outside or inside the city boundaries depends on the facilities available and the political demand for use of zero emission vehicles for distribution.

It is estimated that the cost of operating such a facility is between 5-12 million DKK (€700,000 - €1.5 mill.). In combination with the increased efficiency and optimising of deliveries it is estimated that there is a potential for financial savings in addition to the positive environmental impact.

However, there is a need of upfront investments to partly run the project and involve external resources to carry out further research. The following deliverables are needed to support a final decision:

- Detailed analysis of the city's procurement procedures, supportive IT-systems and competence needs.
- Strategy for integration of city logistics with the mapping of:
 - Potential freight volumes, size and delivery rates, resources used when receiving goods
- Mapping of the potential for Zero emission deliveries
 - Terminal size, fleet and level of service need
- Market dialogue with relevant freight and logistics companies who could be interested in running the consolidation centre
- Elaborating tender specifications, tender material

A suggestion for a road map for the steps needed before a final decision is illustrated in figure 3

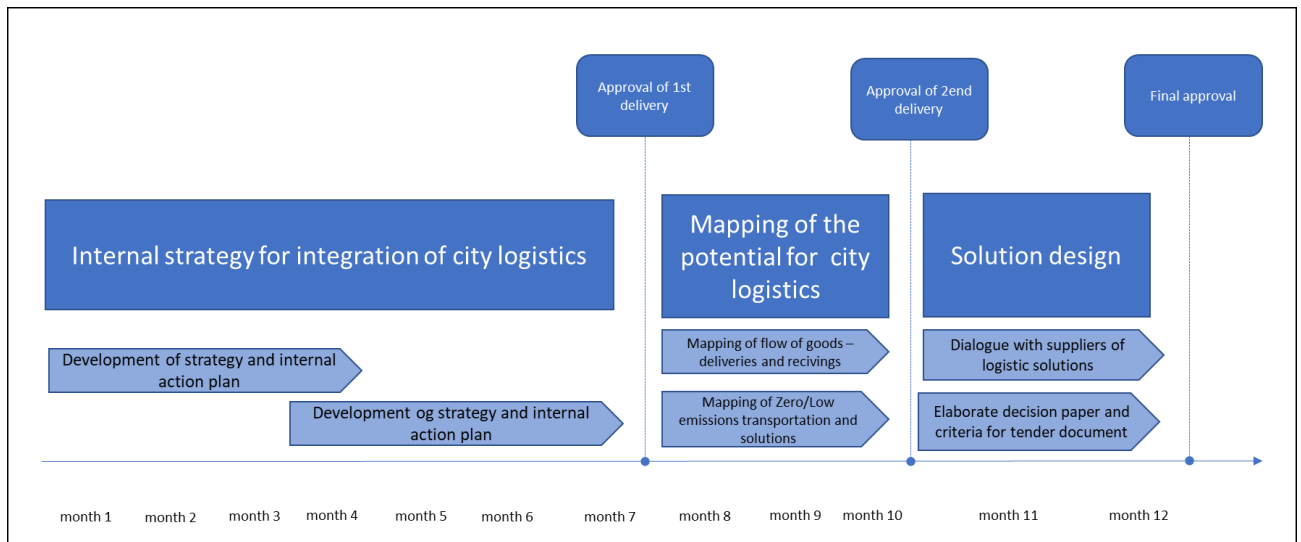


Figure 3: Road map showing for the process for implementation of a consolidation centre

Despite the relatively intensive research conducted there is still some way till the final decision and implementation of a consolidation centre in the City of Copenhagen. The city's finance committee has decided to wait with the next step, including further research. One of the arguments is to due to the need for the complete implementation of a new financial platform. This is needed before it is realistic to continue the work with establishing a consolidation centre.

However, one of the parties in the finance committee submitted the following protocol note:

"The Red-Green Alliance notes that the COWI report⁷ shows an environmental benefit by using the city logistics solution in the municipal procurement and wants the work of incorporating a city logistics scheme into municipal procurement started again when Kvantum⁸ is fully implemented".

⁷ The report that looked into the consolidation possibilities (Only in Danish) <https://www.kk.dk/sites/default/files/edoc/Attachments/22644824-31332925-1.pdf>

⁸ Name of the financial platform

About BuyZET

BuyZET stands for BuyZET 'Procurement of innovative solutions for zero emission urban delivery of goods and services'.

The BuyZET project will develop innovative procurement plans to help the participating cities achieve their goals of zero emission urban delivery of goods and services.

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