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**How can municipalities contribute to the promotion of Urban  
Consolidation Centres?**

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This work addresses the following topic(s) from the Call for Contributions:  
(Please check at least one box)

- Placemaking to integrate urban spaces and mobility
- Promoting sustainable mobility choices in metropolitan regions
- Governing responsible mobility innovations
- Shaping the transition towards mobility justice
- System analysis, design, and evaluation
- other: \_\_\_\_\_

## **Extended Abstract**

### **Problem statement**

Congestion resulting from freight traffic in cities across the European Union causes an annual cost of 58.9 billion euros on goods vehicle drivers. This financial cost extends beyond goods vehicles, as it also imposes an annual cost of 68.1 billion euros on other road users, including passenger cars and buses (European Commission, 2019). It is evident that, for cities to prosper and advance, they require a well-functioning and sustainable urban freight distribution model.

In spite of the European Commission's commitment to reducing emissions by 90% by 2050 in its sustainable and smart mobility strategy, the flagship initiative "Greening Freight Transport" lacks clear guidelines for mitigating the impact of freight distribution in urban environments. Consequently, municipalities are formulating individual plans to mitigate the impact of freight distribution within their cities. While exploring diverse approaches and implementing various measures, Urban Consolidation Centres (UCCs) are a strategy embraced by many municipalities and included as an action in numerous Sustainable Urban Logistics Plans (SUMP).

UCCs are designated as strategically located spaces where different companies deposit their goods for consolidation with those of other companies and distributed using zero-emission vehicles (Browne et al., 2005). This infrastructure offers environmental benefits from the beginning. Nevertheless, in many cases operational disruptions have arisen due to economic challenges (Ciardiello et al., 2021).

### **Research objectives**

Given the economic challenges associated with the long-term operation of this type of infrastructure, this research aims to analyse the role that municipalities should have to promote the use of UCC to mitigate the externalities caused by the last mile delivery.

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## **Methodological approach**

To determine the role of municipalities in the implementation of this type of infrastructure, an analysis is conducted through a literature review and a study of relevant cases. The analysis methodology is based on the four steps outlined by Snyder (2019): designing the review (selecting terms directly related to the topic), conducting the review (utilizing Scopus and Web of Science), performing the analysis (reviewing papers and relevant cases found), and writing the review (in this instance, describing the attributes of the UCC cases under review).

## **(Expected) results**

To comprehend the municipality's role in this measure, we analyse relevant information about municipalities in UCCs gathered from the literature review. Additionally, we examine the roles assumed by public administration and their subsequent influence on UCC operations, drawing insights from real cases. Through this analysis, we categorize UCC initiatives into three distinct structures: those undertaken by public administrations, public–private partnerships, or private companies (Browne et al., 2005).

In the cases we examined, some UCCs are under the management of public administrations. For example, the Parma UCC was initially owned and operated by the municipality but was later sold to a private company, resulting in an accumulated debt of 14.5 million euros (Serena et al., 2018). In these situations, despite the implementation of restrictive policies to promote UCCs, they may not prove to be economically viable in the long term. Operations cease unless the public administration is willing to acknowledge the associated costs of maintaining such infrastructure.

In UCCs implemented through public–private partnerships, they typically handle freight from various carriers or logistics service providers (Browne et al., 2005). In these cases, while a single carrier can manage the freight, the facility can be shared within the public–private realm, enabling each company to distribute its own freight independently of other companies' orders. This arrangement is exemplified by Komodo, a UCC in Berlin funded by the public administration (Elbert & Friedrich, 2020). The space utilized in Komodo was a publicly shared location that facilitated efficient use of the space. Despite being a trial, it not only helped companies gain knowledge about UCC and cargo bike distribution but also encouraged them to implement their own UCCs after the trial period (BEHALA, n.d.; Kaden, 2020).

In cases involving public–private partnerships, carriers are often hesitant to participate due to the perception that this infrastructure represents an additional expense (Van Rooijen & Quak, 2010) or is deemed unnecessary when no significant problems hinder the delivery process (Kin et al., 2016), or UCC managers could be seen as direct competitors (Van Heeswijk et al., 2019). However, finding solutions to these problems, as demonstrated in the case of Komodo, can assist logistics companies in engaging with UCCs, recognizing their benefits, and continuing to deliver from these types of infrastructures. In some instances, these solutions involve proposing the use of underused public spaces for implementing UCCs, such as car parking spaces in Prague (CIVITAS, 2020), or creating a catalogue of potential spaces for this activity, as seen in the city of Paris (Apur, 2021).

UCCs established by a private company are more likely to achieve economic sustainability when exclusively distributes orders to sites with a single landlord or when a substantially volume of freight is handled.

The results of the analysis indicate that UCCs where public administrations are fully involved in the implementation are not economically sustainable in the long term. Therefore, municipalities should only take a principal role in cases where they aim to deploy restrictive regulations to prevent any freight vehicles from entering, but they should be prepared to acknowledge the associated costs of such infrastructure.

Based on these findings, municipalities should generally refrain from considering UCCs as a direct action in their Sulp. Instead, they should focus on showcasing the efficiency of distribution using cargo bikes by actively searching for cost-effective locations that can be individually utilized by each company for this purpose. Additionally, establishing regulations to facilitate their use for logistical activities is essential.

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