

## CHAPTER 1: The environment of Last Mile Distribution logistics

### UNIT 1: Scope and definition of Last Mile Distribution Logistics

#### Capsule 1.4.3

## Infrastructure measures



To be done prior to this capsule:

Arial 16

Capsule linked with:

Chapter 2, Unit 2: 2.2.1, 2.2.2, 2.2.3 and  
2.2.4

Authors:

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## Objectives of the Capsule

One of the reasons urban logistics generates pollution and nuisance is because of its many trips. LMD has come up with numerous solutions to optimise deliveries in the city centre. This capsule will show what are the most common measures that require infrastructures and new models to deal with last mile delivery.

Category (Arial 18)	E-learning	EQF		
		4	5	6
		X	X	X

Exercises included	NO
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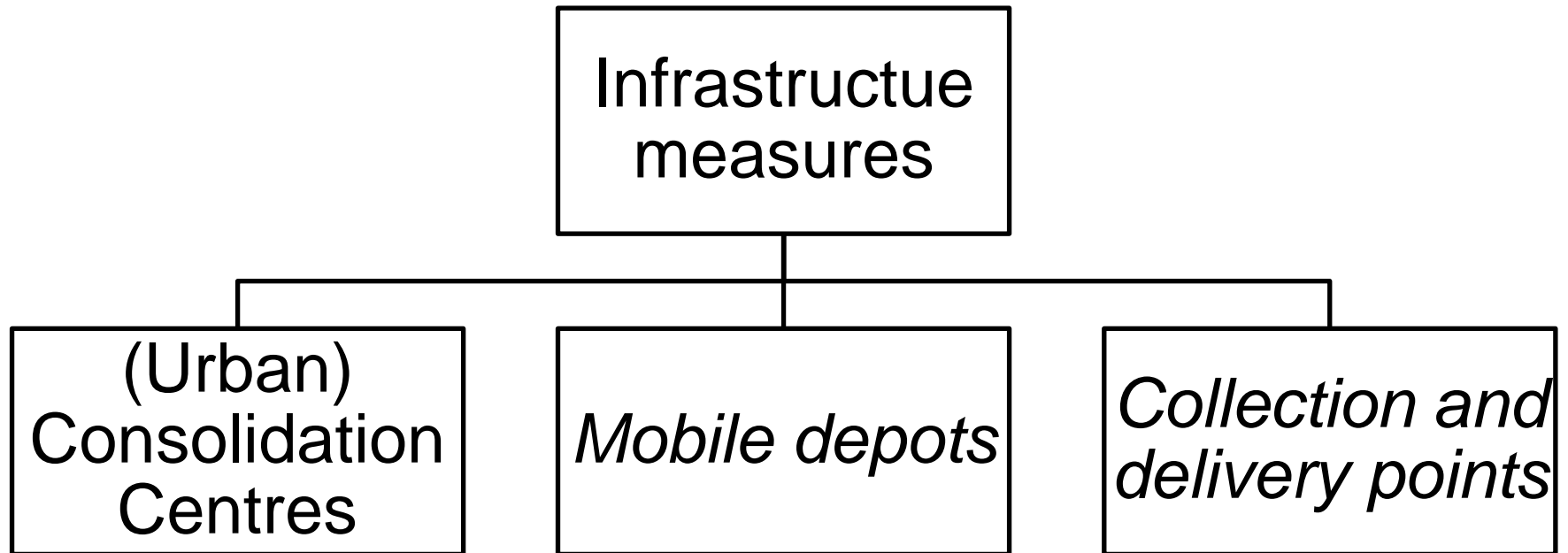
Effort for the capsule	20 Minutes
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# Contents

1. The need for alternative last mile measures
2. Urban Consolidation Centres
3. Microhubs
4. Parcel Lockers

## 1. Infrastructure measures

- In this capsule, we provide insights into some of the main measures to reduce and optimise last mile delivery
- These measures are somewhat similar and share some common features, which will be detailed in the next sections



## 1. Introduction

- In freight transport, the majority of goods are transported by carriers (transport by third parties).
- These carriers have a clear incentive to maximise the load factor of their vehicles, and, if they operate well, they aim for maximum efficiency.
- If a company delivers its goods itself, for cost-efficiency purposes it will try to use the available capacity as efficiently as possible.
- Given the economic constraints with which companies are faced, they will try to consolidate their transport flows as much as possible.
- Freight transport will consider last mile options when making a decision about the most efficient transport process. In that case goods are taken from their origin (first mile), bundled in logistic centres, transported over a longer distance in a bundled form, unbundled in another logistic centre and delivered to their destination

## 2. Urban Consolidation Centres

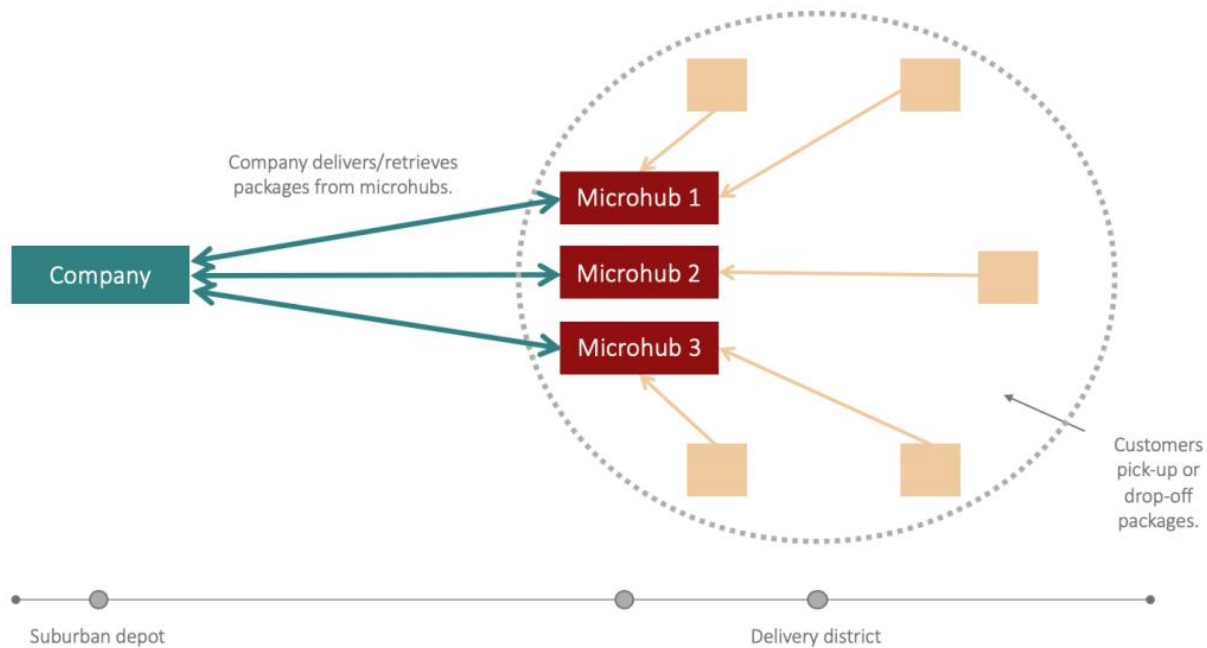
- In freight transport, urban consolidation centres (UCC), on the periphery of the urban area, in combination with efficient urban distribution vehicles are of central importance.
- UCC bundle goods so that they can be distributed in a more efficient way.
- The **consolidation centre** is situated outside the city or urban area, and from there a neutral carrier conducts the last leg of the deliveries. The initial carrier delivers the goods to the consolidation centre and pays a fee for the last mile.
- The principle of these centres is exactly the same as that of centres outside the urban area.
- UCC are often smaller and can even be very small.

## 3. Microhubs

- A delivery microhub (or simply a microhub) is a special case of UCC with closer proximity to the delivery point and serving a smaller range of service area.
- A microhub is a logistics facility where goods are bundled inside the urban area boundaries, that serves a limited spatial range, and that allows a mode shift to low-emission vehicles or soft transportation modes (e.g., walking or cargo bikes) for last mile deliveries
- Microhubs, when paired with environmentally friendly vehicles, can lower pollutant emissions
- What really makes the difference between microhubs and UCC is the approach and business model. Some examples are presented in the next slides.

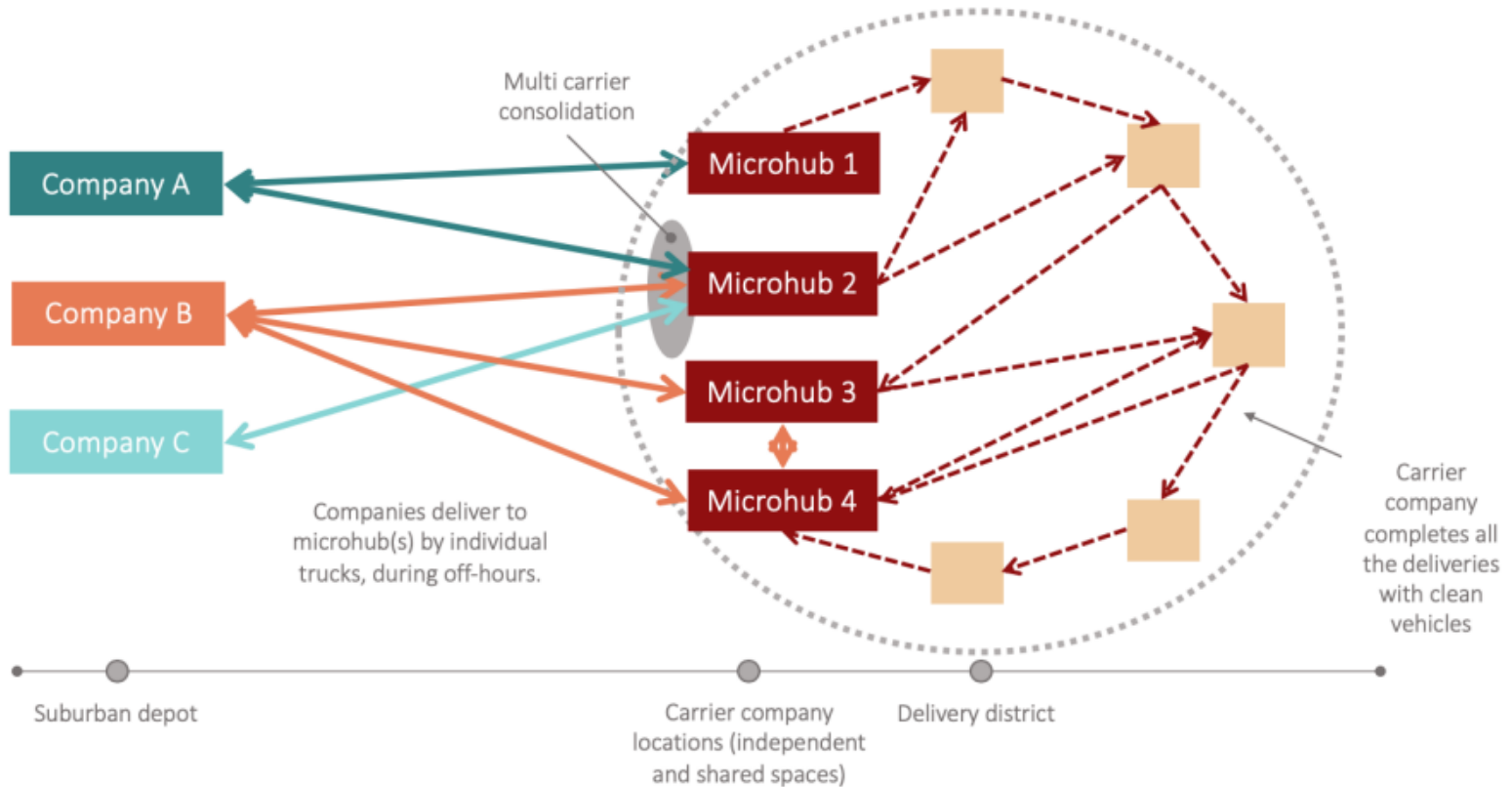


## 4. Microhubs – Single carrier consolidation



*Single carrier consolidation approach with pick-up points (Picture from Urban Freight Lab)*

## 5. Microhubs – Mixed multi-carrier consolidation



*Mixed multi-carrier consolidation approach (Picture from Urban Freight Lab)*

## 6. Parcel lockers

- **Parcel lockers** or proximity delivery points are examples of very small consolidation centres that make it unnecessary for the courier to make final deliveries. This means that the courier can significantly rationalise the trip.



Picture from Amazon <https://www.amazon.it/ulp/view> and Poste Italiane <https://www.poste.it/prodotti/puntoposte.html>

# References

- (1) Urban Freight Lab (2020) *Common MicroHub Research Project Research Scan*, University of Washington from [http://depts.washington.edu/sctlctr/sites/default/files/research\\_pub\\_files/SCTL-Microhub-Research-Scan.pdf](http://depts.washington.edu/sctlctr/sites/default/files/research_pub_files/SCTL-Microhub-Research-Scan.pdf)
- (2) EEA Report No.18/2019 *The first and last mile — the key to sustainable urban transport* ISSN 1977-8449 <https://www.eea.europa.eu/publications/the-first-and-last-mile>