

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

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

#### Capsule 1.4.2

## Public space sharing



To be done prior to this capsule:

Arial 16

Capsule linked with:

Arial 16

Authors:

Name of the authors from the entity....



# Objectives of the Capsule

Sharing of public space generates conflicts for those who are using it. In this capsule the main measures to resolve these conflicts of space will be presented.

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

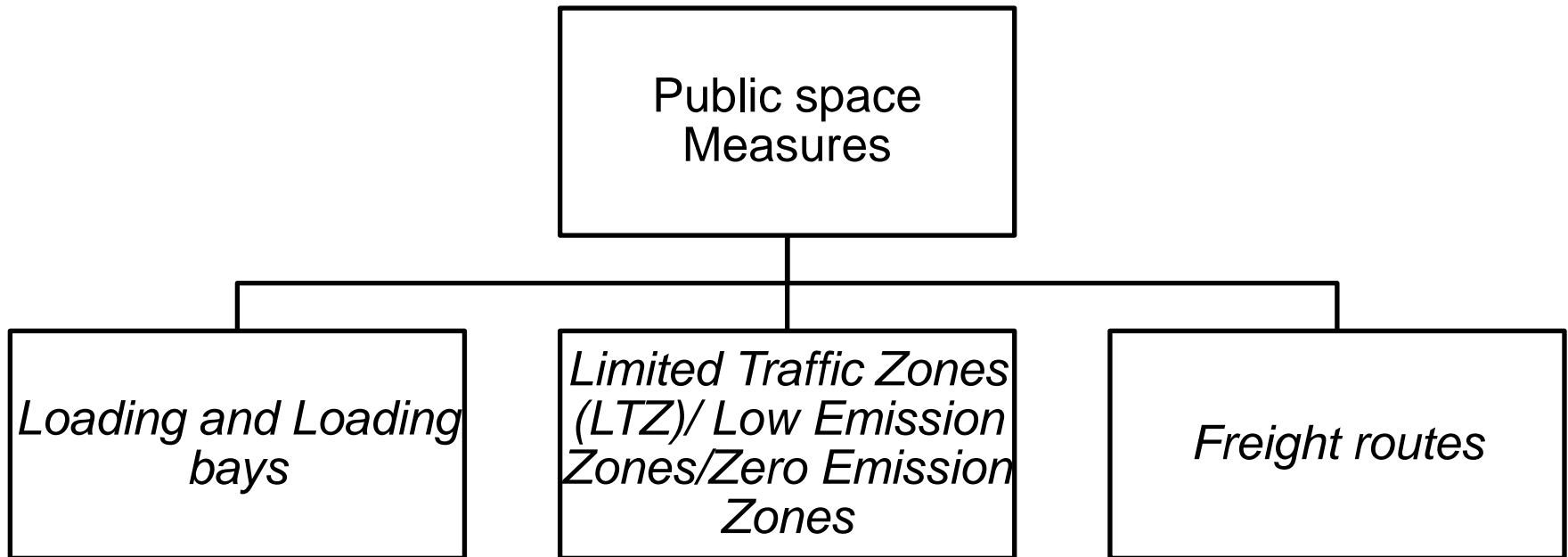
Exercises included	NO
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Effort for the capsule	Minutes
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# Contents

1. What are the measures to regulate the use of public space
2. Description of the main measures

## 1. Several measures to balance the use of public space



## 2. Regulations for loading and unloading freight vehicles

- Regulations that restrict the parking of freight vehicles on the public highway to certain locations and are closely linked to infrastructure measures that provide on-street parking spaces for freight vehicles
- In all European cities, vehicles are prohibited from parking on the public highway in some locations to allow a free flow of traffic or to maintain a vehicle-free environment.
- Loading and unloading may be permitted in certain locations at specified times of the day and some cities provide dedicated loading and unloading spaces for freight vehicles, reflecting the specific needs of freight vehicles.



*Photo from the Municipality of Bolzano*

### 3. Loading unloading bays

- Loading/unloading bays are parking lots reserved to vehicles that carry out loading and unloading operations nearby the buildings used for commercial or artisanal purposes
- Municipalities may fix the timing and areas reserved to vehicles used for loading and unloading activities



*Photos from the Municipality of Bolzano*

## 4. Access restrictions

- There are many ways in which authorities can restrict the access to specific areas of a city.
- **Traffic Limited Zone (ZTLs)** are zones of restricted circulation, situated cities that have historic centres. Only the local residents and registered vehicles are authorised to drive there. These zones are therefore prohibited to outside vehicles during certain hours that would not have the right of paid access. Not allowed vehicles are exposed to a fine. Each entrance into a ZTL is demarcated by a sign and is monitored by video surveillance.



## 5. Low Emission Zones

- Low Emission Zones (LEZs) are areas where the most polluting vehicles are regulated. Usually this means that vehicles with higher emissions cannot enter the area.
- In some low emission zones the more polluting vehicles have to pay more if they enter the low emission zone.
- Low Emission Zones are also known as:

Low Emission Zones are also known as:

Environment  
Zones,

Umweltzonen  
(Germany)

Milieuzones  
(Netherlands)

ZCR, Zone à  
Circulation  
Restreinte  
(France)

Lage-  
emissiezone  
(Belgium)

Clean Air Zones  
(England)

Miljøzone  
(Denmark)

Miljözon  
(Sweden)

Lavutslippssone  
(Norway)

Alacsony  
Kibocsátási  
Övezet  
(Hungary)

ZTL ambiente  
(Italy)

## 6. Zero Emission Zones: definition and reasons

- Zero emission zones (ZEZ) are areas in which only zero emission vehicles can enter (e.g. bikes, e-cars)
- Why should a ZEZ be implemented?

Meeting decarbonisation targets

Reducing air and noise pollution hotspots to improve equity and health for disadvantaged communities

Lowering congestion and improving efficiency

Creating green spaces

Developing more liveable neighbourhoods throughout the city

Stimulating demand for zero-emission freight vehicles, which will signal to manufacturers that now is the time to mass-produce zero-emission vehicles (ZEV)

## 7. How to implement a ZEZ

- Remove traffic and vehicle's internal combustion engine (petrol, diesel, gas engine).
- Tighten access regulation based on Euro standards for vehicles to become a ZEZ
- Vehicle emissions are classified in Europe by the "Euro standards" based on their emissions
- A pedestrian zone where the vehicles allowed in are zero emission would be one type of ZEZ.
- Some ZEZs, for example in the Netherlands, are ZEZ-logistics, where the delivery vehicles need to be zero emissions.

Euro standard	Introduction dates		Petrol		Diesel		Petrol & Diesel
	New approvals	All new registrations	NOx (g/km)	Mass of particles (g/km)	NOx (g/km)	Mass of particles (g/km)	Number of ultra-fine particles per km
<b>Euro 1</b>	1 July 1992	31 December 1992	0.97 <sup>(1)</sup>	-	0.97 <sup>(1)</sup>	0.14	-
<b>Euro 2</b>	1 January 1996	1 January 1997	0.5 <sup>(1)</sup>	-	0.9 <sup>(1)</sup>	0.1	-
<b>Euro 3</b>	1 January 2000	1 January 2001	0.15	-	0.5	0.05	-
<b>Euro 4</b>	1 January 2005	1 January 2006	0.08	-	0.25	0.025	-
<b>Euro 5</b>	1 September 2009	1 January 2011	0.06	0.0045 <sup>(2)</sup>	0.18	0.0045	6 × 10 <sup>11</sup> <sup>(3)</sup>
<b>Euro 6</b>	1 September 2014	1 September 2015	0.06	0.0045 <sup>(2)</sup>	0.08	0.0045	6 × 10 <sup>11</sup> <sup>(4)</sup> <sup>(5)</sup>

<sup>(1)</sup> Expressed as HC+NOx.  
<sup>(2)</sup> Applicable to direct injection petrol engines.  
<sup>(3)</sup> Applicable to diesel engines only.  
<sup>(4)</sup> Limit of 6 × 10<sup>12</sup> in the case of direct injection petrol engines.  
<sup>(5)</sup> Common limit of 6 × 10<sup>11</sup> for direct injection petrol engines and diesel engines from September 2017/September 2018.

## 8. Freight routes

- Regulate the routes of freight vehicles within a urban area. It is part of traffic regulation measures to limit conflicts between cars and freight vehicles.
- The main objective is to improve the efficiency of freight deliveries thanks to signage for freight vehicles and for access to transport hubs, city centers or industrial areas
- It allows a significant increase in commercial speed and a reduction in traffic
- Possible developments thanks to IT applications for real-time routing of vehicles
- Problems and obstacles for the development of the measure
  - The road network of the city plays a fundamental role, as well as the location of the logistic areas as they determine the routes and any conflicts with passenger and private mobility.
  - Rather than regulating the routes, the Municipality must put in place a reliable recognition system (including a real-time update system) to enable transporters to comply with the rules

# References

(1) *Photos from the Municipality of Bolzano*

[https://www.comune.bolzano.it/mobilita\\_context02.jsp?ID\\_LINK=4240&page=4&area=323&id\\_context=26014](https://www.comune.bolzano.it/mobilita_context02.jsp?ID_LINK=4240&page=4&area=323&id_context=26014)

(2) Urban Access Regulations in Europe <https://urbanaccessregulations.eu/low-emission-zones-main>

(3) POLIS, Transport Decarbonisation Alliance (TDA), C40 cities (2020) How-to Guide, "Zero-Emission Zones: Don't Wait to start with Freight" <https://www.polisnetwork.eu/news/how-to-guide-zero-emission-zones-freight/>

(4) MDS Transmodal Limited, Centro di ricerca per il Trasporto e la Logistica (CTL) (2012) DG MOVE European Commission: Study on Urban Freight Transport,  
[https://civitas.eu/sites/default/files/2012\\_ec\\_study\\_on\\_urban\\_freight\\_transport\\_0.pdf](https://civitas.eu/sites/default/files/2012_ec_study_on_urban_freight_transport_0.pdf)