

CHAPTER 1: The environment of Last Mile Distribution logistics

UNIT 1: Scope and definition of Last Mile Distribution Logistics

Capsule 1.4.4

Regulatory measures



To be done prior to this capsule:

1.4.1, 1.4.2 and 1.4.3

Capsule linked with:

1.2.1, 1.2.2, 1.2.3, 1.4.6 and 2.3.3

Authors:

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Objectives of the Capsule

The aim of the following capsule is to provide a general overview of traffic control measures in cities. Students will have to learn what are the restrictions within the urban context, in order to make targeted and efficient choices in the planning of deliveries. The students will be able to manage different planning methods to do the right choices.

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. Vehicle weight and size restrictions
2. Time Windows
3. Off Peak Deliveries
4. Urban tolls

1. Introduction

In each Country, there are specific regulations which affect or regulate access to the city. In some cases it is a restriction, in some others, it is possible to pay for a permit, in other cases trucks and vans have to respect specific dimensions, emissions limits or specific time windows.

In all cases, these regulations are affecting transport operations, which need to be flexible enough to avoid impacts at the global level. For example:

- Time windows must be in line with the operations of an express courier, which has to respect global cut-off times to reach the global hubs.
- Restrictions must take into consideration the sectors. E.g.: Fresh food must be delivered in the early morning to the city markets, while documents can be delivered to banks and offices when peak hour has passed.

1. Vehicle Weight and Size Restrictions

Weight and size can affect the congestion of a city or cause problems for specific infrastructures. In old cities, the road network is done mainly of narrow streets, height limits and very few parking spaces. For this reason, in Italy, according to the Italian “Codice della Strada”, art. 62, the weight limits of vehicles are defined, to ensure road safety and avoid congestion, these are the main limits:

1. 12 tons → for 2-axle vehicles;
2. 25 tonnes → for vehicles with 3 or more axles;
3. 26 tonnes → for 3-axle vehicles with the driving axle fitted with coupled tyres and air suspension;
4. 32 tonnes → for 4-axle vehicles with driving axle fitted with coupled tyres and air suspension;

In the city of Milan, to access the city centre, vehicles cannot exceed the threshold of 25 tons and since the establishment of Area B, within the metropolitan area, the vehicles must be less than 12 meters long.

This decision was made to decongest city traffic and allow a smooth flow within the city streets. This is allowing the Milan LMD to be increasingly efficient, just think that many goods are delivered to the receiver within a day.

2. Time windows

Time windows are used to limit the access to a specific area of the city and to divide the type of traffic (public from freight) during peak hours.

Unfortunately, different type of freight have different needs and not all the freight can be delivered in the same timing.

Some public officers are convinced that limiting the time windows it is possible to reduce congestion, pollution and increase road safety. But it must be taken into consideration that the number of freight deliveries does not change, and transport operators must deliver their boxes in less time.

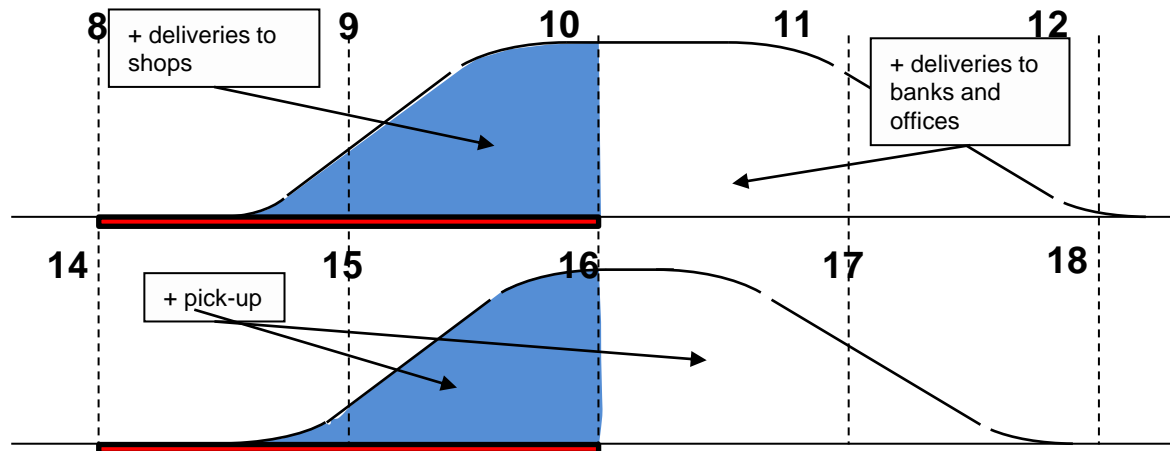
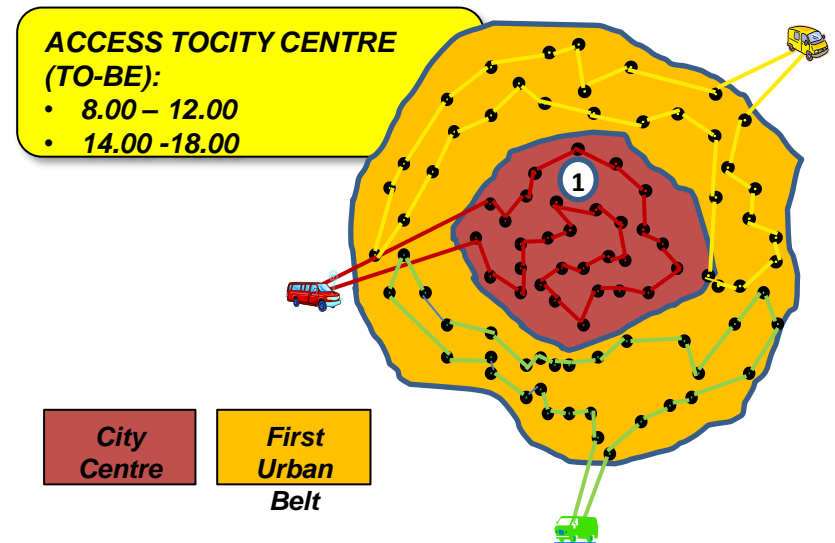
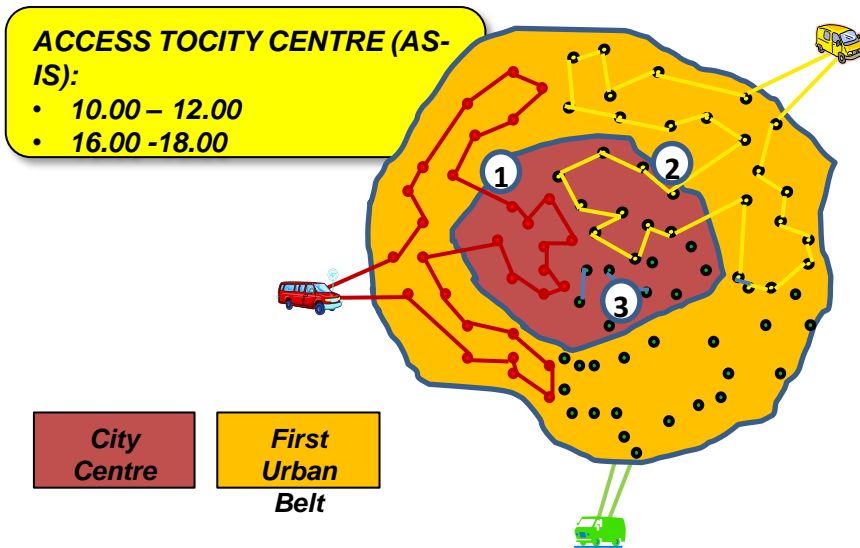


Photo of the time window scheme of Reggio Emilia

3. Time Windows – Examples of planning schemes

So it is evident from the following pictures that stricter rules mean more pollution and more trucks in specific hours as transport operators must finish the deliveries according to the time window set. If it is short, transport operators may decide to use more than one vehicle (maybe with a low load factor).

If time windows are sufficiently open, it is possible to allocate few green and fully loaded vehicles to the LTZ, and allow private operators to make investments



4. Off Peak Deliveries - Description

This measure focuses on shifting delivery schedules out of peak hours or at night. It focuses on supply chains which do not necessarily need daytime deliveries, such as retail, wholesale, food, grocery. The measure is focussed on the benefit for transport operators deriving from the fact that delivering at night is cheaper because it is faster (e.g. less congestion, more space for unloading, less fines). Deliveries at night can be attended or un-attended and can require a change in receivers' staff working hours. Economic incentives may be given to start up the project, which remains voluntary.



5. Off Peak Deliveries – Benefits of the measure type

- From a city perspective, off-peak deliveries reduce congestion and street space use. This also positively impacts on environmental emissions and in terms of road safety.
- Transport companies have benefits in terms of cost savings due: less travel time, more deliveries in the same period of time, less fuel costs, more availability of parking, less fines. Drivers also reported to feel less stressed and felt safer when delivering at night .
- Larger vehicles can be used, thus reducing costs.
- Receivers have an increased reliability of deliveries; therefore safety inventory can be reduced. Moreover, compared to daytime deliveries, staff can focus on core business as deliveries are made at night.
- The cost-benefit analysis of the measure developed in New York has shown positive results and the sustainability of the measure after the pilot phase.

Source: José Holguín-Veras, Rensselaer Polytechnic Institute, The good, the bad, and the ugly: lessons from the off-peak delivery project in New York, in Urban Freight for Livable Cities, The Volvo Research and Educational Foundations, 2012

7. Urban Tolls – Milan Area C

Below are the rules of the Milan Area C and tolls:

- Monday to Friday from 7.30 am to 7.30 pm:
 - Toll of 5 euros for non-residents;
 - Toll of 2 euros for residents, who have 40 free admissions per year;
- Monday to Friday from 19.30 to 7.30:
 - Free for residents and non-residents;
- Saturday and Sunday:
 - Free for residents and non-residents;
- Limitations:
 - EURO 0, 1, 2, 3, 4 and 5 diesel cannot enter;
 - EURO 0, 1 and 2 petrol cannot enter.



Photo of the Area C access cameras

8. Urban Tolls – Congestion Charge

The Congestion Charge in London has the same function as Area C in Milan. In fact, in a time ranging from 7.00 to 18.00, the transit of vehicles within the area is not allowed, except by paying a toll of £ 15. Unlike Milan, the restrictions are also applied on Saturdays and Sundays from 12.00 to 18.00, in order to discourage the use of polluting means of transport even on weekends, where traffic is mainly of private citizens.

In this way, the City of Westminster has significantly reduced traffic and especially the environmental impact deriving from private cars

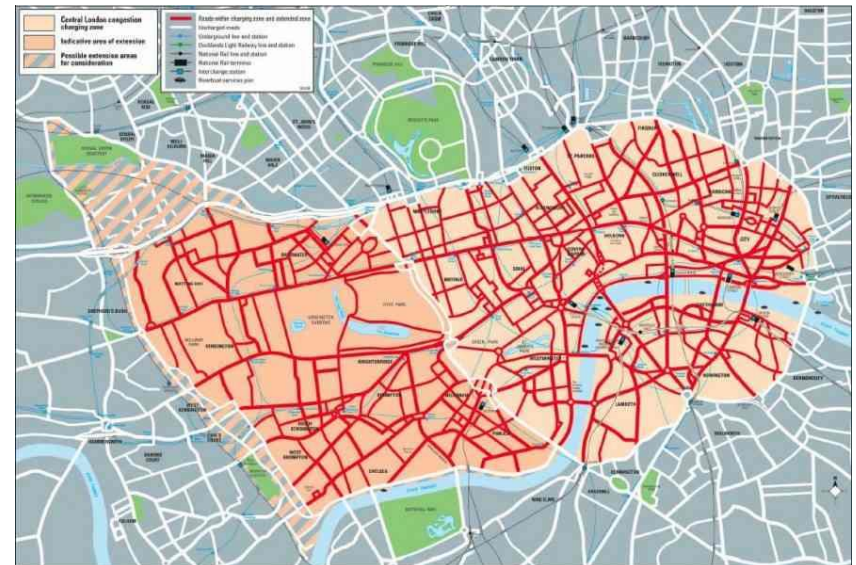


Photo of the London Congestion Charge area

References

- (1) Off peak delivery photo [night truck - Bing images](#)
- (2) Area C photo [area c milano - Bing images](#)
- (3) Area C cameras photo [telecamere area c milano - Bing images](#)
- (4) Comune di Milano (Area C) [Area C - Comune di Milano](#)
- (5) Congestion Charge [Congestion Charge \(Official\) - Transport for London \(tfl.gov.uk\)](#)
- (6) Congestion Charge photo [london congestion charge - Bing images](#)