

CHAPTER 2: LMD logistics operations and impacts

UNIT 2: Last Mile Distribution schemes

Capsule 2.3.1

Traffic flow and congestion



To be done prior to this capsule:

Capsule linked with:

Authors:

1.4.2

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Objectives of the Capsule

This capsule describes traffic flow and what factors influence it. It deals with aspects and quality of road conditions and presents some ideas, how to avoid traffic congestion.

| Category (Arial 18) | Document, source | EQF | | |
|---------------------|------------------|-----|---|---|
| | | 4 | 5 | 6 |
| | | X | X | X |

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|--------------------|-----|
| Exercises included | YES |
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|------------------------|----------------------|------------------------|-------------------------------|
| Effort for the capsule | Content 5 Minutes | Exercises 5 Minutes | Extra documents 15 Minutes |
|------------------------|----------------------|------------------------|-------------------------------|

Contents

1. Traffic flow -intensity, speed, road capacity
2. Traffic quality level
3. Tools and strategies to reduce traffic congestion

Instructions for the document, source revision

In the presented sources, students can learn theoretical side of traffic flow, how traffic quality levels are characterised (word document) as well as look into practical side of congestion solutions (website article and video).

1. Word document
2. Website article
3. Youtube video

Source 1 – document attached



Word document

Read a short word document that has been compiled especially for this capsule to cover the most important points. The file focuses on land infrastructure and includes description of traffic flow, traffic quality level and gives a few general ideas for reducing congestion.



Source 2 – website article, copy attached



<https://transportist.org/2016/04/19/21-strategies-to-solve-congestion/>

Read this website article to learn about common and less usual strategies how to deal with congestion in the cities. The text looks at capacity, connectivity, controls, information, autonomy, locating, telecommuting, sequencing, shipping, sharing, biking and more.

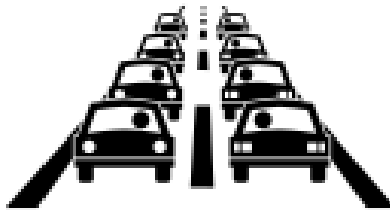


Source 3 – youtube video



<https://www.youtube.com/watch?v=iHzzSao6ypE>

Watch a 4.5 min Youtube video that explains some causes of congestions, explains how driver's behaviour can affect it and how self-driving cars would improve the traffic flow.



Exercises

Match each definition with its meaning (choose from the given ideas):

It is the movement of sets of traffic, in practice vehicles (or pedestrians), moving along a particular land road in one direction behind or alongside each other in one direction.

lane

road capacity

traffic intensity

land infrastructure

traffic flow

Exercises

Match each definition with its meaning (choose from the given ideas):

It is a section of roadway that allows vehicles to travel in a single lane in succession. There are also marked lanes for buses or bicycles.

lane

road capacity

traffic intensity

land infrastructure

traffic flow

Exercises

Match each definition with its meaning (choose from the given ideas):

It indicates the maximum number of vehicles that can travel along a road in one direction or in both directions together (a specified section) per unit of time under given conditions.

lane

road capacity

traffic intensity

land infrastructure

traffic flow

Exercises

Match each definition with its meaning (choose from the given ideas):

It is intended for use by road and other vehicles and pedestrians, including fixed facilities necessary to ensure such use and its safety. Surface roads are divided into the following categories: motorways; roads; local roads; dedicated roads.

lane

road capacity

traffic intensity

land infrastructure

traffic flow

Exercises

Match each definition with its meaning (choose from the given ideas):

It determines the number of vehicles that will pass through a certain cross-section of the road or parts of it in one direction in a selected period of time.

lane

road capacity

traffic intensity

land infrastructure

traffic flow