



TDA Training Program on Transport Decarbonisation

Module 5

Urban Multimodal Mobility IV (New Mobility Systems)



Deployment: Online / blended

Workload: 3 hrs



Extra learning: 2 hrs



Module working group:

- Paulo Humanes – PTV Group (Leader)
- Abigail Jackson – California DOT
- Daniel Freitas – CM Porto
- Hans Verdonk – Rotterdam
- Pedro Machado – CM Lisboa

Learning outcome

The objective is for students to understand the multimodal requirements for an urban transport system to operate, how these systems need to be managed based on a number of Key Performance Indicators (KPI) and to learn about the balance needed to ensure a successful decarbonization of the mobility ecosystem.

The students should, through practical exercises, look at the introduction of new mobility systems, how they need to be integrated in new ecosystems, how they interact efficiently in the high capacity public transport systems.

Syllabus

The students will present a proposed new mobility system to each other representing new mobility operators, e.g. drones, bike sharing, e-scooters, or others and convince others representing the city and high capacity public transport operators.

This will give the students a good understanding of business cases, practice how to present them to government officials and the importance of coordination between the different modes as well as ensuring complementarity between the different modes and models. This will highlight the role of high capacity public transport as well and the new modes and how the city can be impacted. The potential for new mobility systems to increase carbon emissions should also be considered (e.g. if autonomous vehicles (AVs) make spending time in cars less painful, people may choose to travel more. Also, AVs that cruise around instead of parking could be a problem).

The role of the tutor is to ensure the discussion flows, propose regulations and the framework of the discussion, as well as to ensure that a decarbonisation target is set for the proposed framework.

The students should come out with an understanding of:

- Regulation on new mobility business
- Role of high capacity public transport
- Impact on the mobility ecosystem
- Impact on city and operations
- Ticketing Interoperability
- Understanding of Operational Planning
- Business cases for new mobility
- Impact on decarbonisation target

Case studies

Lisbon

- How new mobility has changed the city landscape of the city
- Opportunity to use it as leverage of electric mobility
- Proliferation of new mobility operators focused on e mobility
- The impact of revised public transport tariffs
- Managing the infrastructure to enable a decarbonised mobility
- Finding opportunities in the changes happening in the city.

These factors and the decarbonisation policies in Portugal have led Lisbon to be a reference in Europe and its openness to ideas and innovation have led to a huge interest in operators and private sector setting observatories on mobility, this is also a reflection of its regulatory framework.

São Paulo, Brazil

- Social inequality on mobility
- The impact of new mobility modes
- The transport modes distances that can be covered and range required
- The role of air mobility and its impacts
- Reliability issues with infrastructure

The problem scale in São Paulo is enormous and its openness to new mobility operations and lack of regulatory framework, created issues not totally understood. But all the issues have fostered a large helicopter operation that is now part of the transportation network and has been seen as a perfect case for the viability of decarbonised passenger urban mobility.

Major references

Please see "Mobilities Academic Key Reading List".