THE PATH TOWARDS DECARBONISED TERRITORIAL ACCESSIBILITY – Practices from the North Sea Region

Presentation at CPMR seminar “Regions Move”, Barcelona 24 March 2022.

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Mapping of the uptake of alternative fuels in the North Sea Region

The mapping provides:

• Overview of the use of alternative fuels in public transport
• Information on the coverage of charging and filling infrastructure for alternative fuels.

The mapping is intended to serve as:

• Observatory for relevant practices on promoting alternative fuels in public transport in the NSC member regions as a basis for mutual learning
• Reference for the development of EU projects
• Basis for policy resolutions in the NSC
Objectives and strategies for zero emission public transport

- All NSC regions have policy objectives and strategies for achieving zero emission public transport between 2023 and 2035.

- Some regions have also defined goals for the number of vehicles to be zero emission.

- The regions have multiple strategies in terms of reducing the carbon footprint from transport, ranging from biofuel, electricity, hydrogen and natural gas/ LNG and diesel hybrid.
Biofuels

• Biofuels is usually as a first step towards zero emission in public transport.

• The use of biofuel is growing in the public bus transport, especially for longer distances.

• Several regions have a large part of their total bus fleet running on biofuels.
Electric buses are mainly operating in the cities and on shorter distances in the regions outside cities.

Almost every region has a substantial part of their bus fleets on batteries.

Electricity is also prevalent in other forms of public transport such as light rail and ferries.
Hydrogen

Hydrogen is mainly used:
- On longer distances/bigger range
- For larger vehicles/ships, etc.
- To make energy available when you need it
- But is less efficient
- More expensive

Hydrogen buses are operating in Aberdeen City and in trains in Northern Netherlands.
Smart and innovative mobility solutions

The NSC Transport group has performed a mapping of the uptake of smart and innovative mobility solutions in the member regions, because:

- Increasing digitalisation and automation in the transport sector represent both opportunities and challenges for the regions.
- Automation has a potential for making transports safer, more efficient, cheaper and available for new groups in society.
- But if not properly regulated, automated/autonomous transport could lead to congestion and safety challenges. Also issues with liability and data privacy.
- The regions are playing an important role as planning authorities, road owners and organisers of public transport etc.
Autonomous/automated transport

Applied in all modes, such as:

• Road (trucks, cars, public transport, etc.)
  ▪ Rail
  ▪ Water/ maritime/ harbor/ inland waterways – both passenger and freight
  ▪ Air

• The vehicles & vessels can be partly or fully automated.
• Lack of coherent regulatory framework at the European level and across countries.
Connected modes of transport

- Cooperative Intelligent Transport Systems (C-ITS), which means digital connectivity allowing vehicles and infrastructure to cooperate
- Intelligent transport systems – Road use charge based on length of journey, as opposed to road tolls (e.g., geo-fencing) etc., digital parking ecosystems etc.

Examples:
- Remote censoring real time weigh in motion installation local road
- 5G tests with drones, ambulances
- Automatic signal prioritization system for public transport; sensoring data in roads
Innovative mobility concepts

- Demand responsive public transport systems (DRT) including a variety of multi-modal mobility solutions (bikes, e-scooters, etc).

- Mobility as a Service concepts (MaaS)

- Sharing services, e.g. for bikes and cars, also combined with public transport
- Mountain Elevator replacing buses as feeder to train station
- Bus Rapid Transit system (BRT)
New transport modes and test facilities

▪ Drones for road inspections and possibly health care logistics

▪ Pipelines systems for rapid deliveries to hospitals

▪ European Hyperloop Center to be established in Groningen (NL)

▪ Test tracks for electric charging infrastructure in roads (el-roads)
Links to underlying reports

• Mapping of the use of alternative fuels in public transport:
  

• Report on smart and innovative mobility solutions
  

Thank you for the attention!