High-Level Dialogue on Connected and Automated Transport

Background Paper

"Shared Autonomous Mobility"

For the Heads of Delegation breakout session

18 June 2024, Ghent, Belgium

1. Context

Public transport enables social inclusion by connecting people and supporting a future with lower carbon emissions. However, public transport services on their own, without integration in an effective and well-functioning intermodal mobility system as a whole, will not be enough to move people away from private vehicles. It is therefore key for all relevant authorities to provide an integrated vision of mobility. Technological development, such as autonomous driving, can then be embedded in this mobility system with the goal of serving citizens and communities. These driverless, automated transport services can take various forms, such as the automated operation of scheduled bus services, on-demand public transport services, on-demand rides (robo-taxis), and unmanned delivery vehicles.

Various positive effects could ensue from Shared Autonomous Mobility services that are actively introduced to transform public transport into a service-based system. These services could contribute to eliminating human errors in driving tasks, although employing artificial intelligence (AI) will also generate considerable risks. The introduction could form an additional asset in creating an appealing alternative for private car use, alleviating congestion and improving living conditions in cities.

To make this happen, there needs to be a focus on a policy and regulatory framework designed to maximise the positive effects of AV-based services. With this second breakout session, the central questions are:

- How the different Member States approach this transition
- Which role they see for the European, national, regional and urban level within this specific area
- On which aspects a more coordinated approach can be pursued

2. Session HoA: Shared Autonomous Mobility

A long-term pathway for the transition towards AV-based transport services is quintessential and sharing how this is approached in different countries will certainly provide greater insight. Authorities would need to assess the long-term impact of AV-based services and plan ahead to respond to these changes. In that regard, it is relevant to assess whether regulations purposed for human-driven services are compatible with AV-based services as well.

Creating a balanced and integrated multimodal mobility offer is a challenge as such. Fleets of shared AVs need to be integrated into a complete mobility solution, where high-capacity public transport provides the backbone and active mobility solutions can be a complementary transport mode. In order to present such a sustainable alternative to (autonomous) car ownership, integration is key. This coordination relates to a physical perspective (for instance network and urban planning or algorithmic optimisation of autonomous fleets) as well as to information aspects (one-stop-mobility shop).

People need to be willing and ready for the idea of sharing and switching between different modes of transport. Therefore, all forms of **shared mobility**, mainly active mobility but also car- and ride-sharing, would need **to be actively promoted and incentivised**. Economic instruments provide possible ways to influence trip-making and mode choice. Most obviously, internalization of external costs could be used to discourage travel by private motorised modes (including AVs), promote high vehicle occupancy and make other forms of transport relatively attractive. Alternatives to road pricing include parking levies, fuel/energy taxes and purchase taxes. Authorities could equally use resources to support collective transport and/or bring AV use within the reach of those who would otherwise be excluded from using it (e.g. subsidised fares or free miles for vulnerable

target users).

Another challenge for public transport is that revenues can be limited or insufficient to attain the investments required for fleets and associated infrastructure, as well as the costs of operations. Hence, in the first years after the technology's introduction, AV systems might experience significant maintenance costs (regular checkups, error tracking, sensor service and recalibration). Maintaining remote vehicle-control centers will also contribute to costs. A potential but considerable need to regularly update AV maps and related location-based services, (road hazard warnings, friction maps, traffic sign services) is expected as well.

Currently, the sector developing robo-shuttles seems to be struggling to "take off", while other AV-developments are more broadly embraced by the industry. This could be a hampering factor in the further development and deployment of shared autonomous mobility. Despite their additional technological costs, robo-taxis have the potential to become price competitive with private non-autonomous cars and even transit services, while robo-shuttles are expected to be 10 to 40 percent cheaper.

3. Format

This session will invite the Heads of Delegation to express their views on ways forward. Possible questions for the delegations to consider:

1. *Which current long-term strategies on shared autonomous transport are already available or are being developed within the countries?*

2. *What are current best practices regarding Demand Management, at the level of planning, policy and economical instruments, to implement for a smooth, efficient and sustainable integration of*

automated transport?

3. *How is the impact of automated transport services on cost, revenues and investments approached in your respective country? Are there other factors hampering these developments and if so, what needs to be done to tackle these?*

To allow all delegations and industry stakeholders to express their views, intervention time during this discussion round will be limited to 2 minutes per delegation.