

Description of the measure and main outcomes expected

This measure aims to address the factors affecting the performance of CARRIS' bus and tram services, with particular emphasis on commercial speed. The measure consists of two complementary activities:

- Testing of camera-based BUS lane enforcement to address infractions. The misuse of BUS lanes by unauthorized vehicles, as well as the improper parking blocking BUS lanes and bus stops, are very frequent occurrences that greatly affect the quality of bus and tram services. This activity aims to test the introduction of automatic enforcement technologies, while instigating national authorities to adopt regulations that would allow PTOs to operate such systems and apply fines to offenders.
- Analysis of existing bottlenecks and enhancement opportunities, to allow the identification of critical points of conflict in the city of Lisbon and the evaluation of improvement measures. This activity aims to produce a report/analysis that prioritizes critical areas of conflict and assesses the best strategies to mitigate their negative impacts in PT service offer and operations.

Preparation of the measure

Over the course of measure preparation, CARRIS has prepared, launched and finalized the tender for the procurement for the camera-based automatic infraction detection mechanisms, to conduct the BUS lane enforcement pilot. Two providers sent their proposals, and one was selected to proceed with the testing. Presently waiting for the finalization of the contract signing process, in order to initiate the installation of the camera-based systems onboard the vehicles.

In parallel, multiple discussions were fostered with the National Road Safety Authority to promote the development of new regulations that will allow for the employment of these automated infraction detection systems in road enforcement, enabling the police and other credited agents to issue fines based on the collected evidence. As a secondary goal, CARRIS also advocated for PTOs to be recognized as authorized enforcement agents, able to apply fines in instances where BUS lane infringement or improper parking directly impacts PT operations.

Regarding the analysis of the existing points of conflict in the city of Lisbon, a data collection was conducted for a set of indicators relating to: the operational performance of bus and tram services; the reported incidents and accidents. The collected data refers to the whole CARRIS network and years of 2022 and 2023. The report analysing the main factors affecting commercial speed and the identification of critical conflict points in the city is under preparation.

Challenges & Mitigations

During the measure's preparation, two major challenges were identified that prompted the reformulation of its scope and goals.

The first encountered obstacle relates the lack of pre-existing legislation enabling the use of camera-based enforcement systems to collect valid evidence of infractions, which could then be used to issue fines. This circumstance is not unique to Lisbon, having been reported by other cities within the UPPER Consortium, such as Valencia for example.

As a contingency, the measure's scope was reformulated into a "proof-of-concept" pilot (rather than the enforcement pilot initially intended), whereby CARRIS would install and operate the automatic infraction detection camera-based system (testing the technology, evaluating its performance and collecting the generated outputs) without issuing fines. In this framework, the pilot tests will act as a Case Study to promote the creation of new legislation allowing for these technologies to be allowed in road traffic enforcement. This approach was discussed with the National Road Safety Authority, who approved and welcomed the initiative, stating that this would also enable them to more easily define the requirements for these systems.

The second obstacle encountered is due to budgetary constraints. The initial measure design proposed the installation of 10 to 20 equipments onboard the vehicles that would be allocated to services in one or two major corridors in the city. However, the received proposals were significantly higher than anticipated, allowing the purchase of only 1 or 2 equipments.

In this context, the monitoring of the selected corridors is no longer practical. Instead, the pilot was reframed into a technological exploration pilot, whereby the focus will be on thoroughly assessing the provided system, its features, and its success in detecting infractions. The smaller scope of the pilot shall be compensated by an in-depth analysis on the operational and road safety data collected by CARRIS, in order to quantify the magnitude of these infractions' impact on the PT services and to identify critical points in the city where they are more common or severe.

Next steps towards implementation

Next steps include the installation of the camera-based system onboard of the vehicles to initiate the pilot tests. Once these are launched, in parallel to the data generated by the automatic detection system, a set of relevant operational performance indicators will be collected for the whole CARRIS network. This will enable the development of two side-by-side reports: one recounting the outputs of the technological pilot, and one highlighting the impacts of infractions on the quality (i.e. performance) and safety of the CARRIS' bus and tram service operations.

These reports will be shared with the National Road Safety Authority, highlighting the degree of impact of these incidents on PT services and road safety, and providing a proof-of-concept on automatic infraction detection technologies, to prompt the development of specific legislation to certify these technologies and allow for their employment (by PT operators, law enforcement and other relevant entities) to produce fines.