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OptiMo – Optimising driver behaviour for safe, green and energy efficient mobility

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OptiMo project aims at optimizing driving behaviour for combined safety, energy and environment benefits as well as responsiveness at the network level. The proposed research relies on the integration of traffic safety, energy efficiency and green mobility components by harmonising metrics and reference frameworks to concurrently reach the optimal behaviour performance balance between these three pillars. Furthermore, the exact sensitivity and dose-response of the impact of behavioural change to these pillars (safety, energy, emissions) will be investigated especially on the dynamic entirety of transport network. Towards that end, OptiMo will exploit all available data sources (traffic-, air quality- and energy-related) in the city of Athens and will introduce spatial and temporal transferability protocols for climate and energy neutrality according to the European Green Deal and Vision Zero principles. Following the seamless data collection scheme and the integration of traffic, emissions and energy data, state-of-the-art optimization algorithms are going to be applied to each pillar to obtain knowledge on the requirements for best driving performance at each pillar. Having obtained that knowledge, an integrated optimization framework will seek the composite goal of achieving maximum gains in safe, green and energy-efficient driving simultaneously. The completion of the optimization frameworks will pave the way for developing forecasting and backcasting processes in order to provide quantitative evidence on different driving behavior scenarios and driver goal setting requirements. Finally, cost-benefit analyses are going to be able to monetize the impact of optimal driving behavior for drivers, authorities and network operators. It is envisioned that OptiMo will become a potent reference and benchmarking tool for providing strong evidence to all drivers and stakeholders in order to make safe, green and energy efficient mobility a reality for all.