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TITLE OF DIPLOMA THESIS: Use of Multi-criteria Theory for the selection of the optimal package of measures in a Sustainable Urban Mobility Plan

AUTHOR: Christina Balla

ABSTRACT:

Sustainable Urban Mobility Plans are a new model of design, that is aligned with the modern sustainable approach and addresses interventions and measures towards upgrading urban mobility.

The process of selecting the most effective measures is a particular challenge, since the measures that will be finally chosen for implementation have to be the most efficient, feasible and cost - effective ones, out of a long list of measures that can both solve existing problems of the city and provide benefits to the citizens.

Multi-Criteria Decision Theory facilitates the approach of this multidimensional problem as it provides tools and methods that can incorporate many different and often conflicting criteria. The criteria taken into account in this thesis belong in two categories, the first of which concerns the achievement of the operational objectives of the SUMP and the second the fulfillment of the general criteria deriving from the notion of Sustainable Mobility.

In this thesis, the selection of the most effective measures is initially carried out by applying two Techniques for Order of Preference by Similarity to Ideal Solution (TOPSIS) and then by combining the results of the two applications to arrive at a single decision.

This process is presented as a structured methodology, which also includes a model for the combination of the results, which could be used by each stakeholder involved in the design and implementation of SUMPs.

KEYWORDS: Multi-Criteria Decision Theory, TOPSIS, combination of TOPSIS's results, Sustainable Urban Mobility Plans, Selection of the most effective pack of measures in SUMPs