Article

LINES: muLtImodal traNsportation rEsilience analySis

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Abstract: This study aims to contribute to more sustainable mobility solutions by proposing robust and actionable methods to assess the resilience of a multimodal transport system. Resilience is seen in a dynamic lean setting, looking at aspects in the network topology and user's flow and demand throughout a parameterizable period. We hypothesize that this network's appropriate multi-layered and traffic-sensitive modeling can promote the integrated analysis of different transport modes and support an improved resilience analysis. We operationalize the lean resilience conceptual construct with the proposed muLtImodal traNsportation rEsilience aSsessment (LINES) methodological process. Using the city of Lisbon as a study case, we illustrate the relevance of the proposed methodology to detect actionable vulnerabilities in the bus–tram–subway network.

Keywords: multimodality; resilience; sustainable mobility

1. Introduction

The need for effective and transparent coordination between different transport modes