

Challenges for integrating urban transportation networks

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Urban mobility can be modeled as a multilayer network, where each layer represents different modalities such as pedestrians, cyclists, buses, trams, metros, taxis, transportation network companies, private, logistics, freight, and emergency vehicles. The technology required to integrate different transportation modes already exists. However, there are several challenges beyond technology for achieving truly integrated transportation networks. Even within a single transportation mode, different actors may fail to coordinate for different reasons: economic, social, or political. These reasons extrapolate and limit the coordination between layers. After reviewing the limitations, I suggest possible scenarios which could overcome them. As an incentive for doing so, I outline a way of quantifying the benefits on integrated transportation networks.