MTH URBAN MULTIMODAL TRANSPORT HUBS

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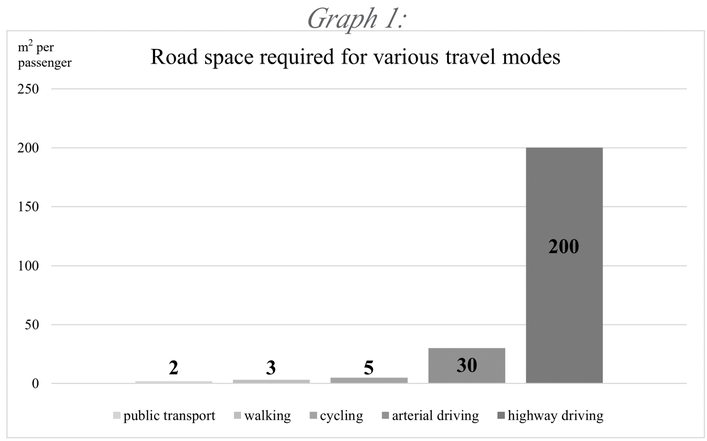
INTRODUCTION

Why this topic?

Many European and American cities had a tendency towards urban sprawl which has led to the fact that many daily travelers need to combine several modes of transport before they reach their final destination. At the same time, it caused a decrease in the attractiveness of public transport versus the private car. Litman, T. (1995) pointed out that for cities to be efficient and livable, urban transport systems must favor sustainable modes of travel such as walking, cycling, and public transportation. According to the results of his research, although details vary from one city to another, once an area has about 100000 residents or 30000 jobs it is infeasible for most trips to be made by automobile.

Graph 1:



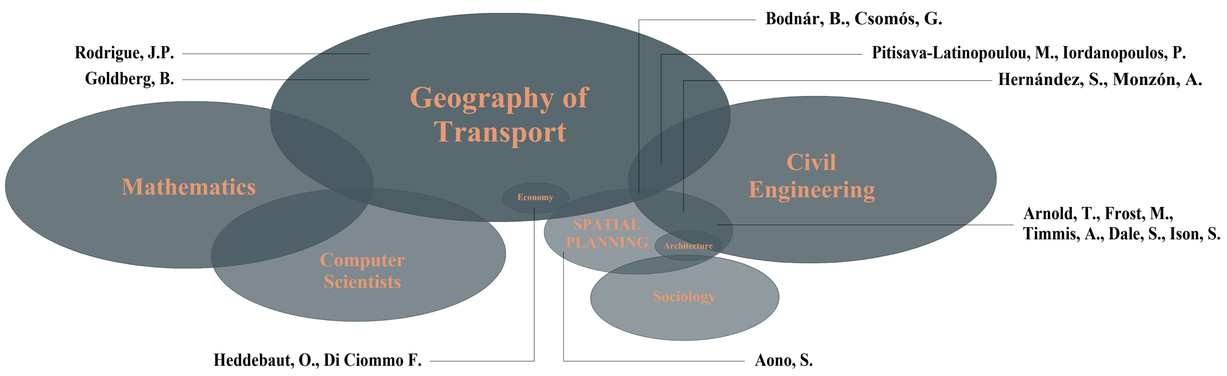
source: Litman, T. (1995) Land use impact costs of transportation, World Transport Policy and Practice

In order to reduce congestion and emissions caused by the use of private cars and to make the transport system sustainable, it's necessary to reduce the inconvenience of changing modes of transport. According to previous research, efficient **multimodal transport hub (MTH)** should lead to the achievement of this goal.

Implementing multimodal transport hubs should lead to reducing urban congestion and optimizing the size of the city's transport areas.

LITERATURE REVIEW

Diagram 1: Disciplines involved in researching transport hubs (source: author)



What is the aim?

By literature review, it was established that currently each author or organization involved with multimodal transport hubs has its own understanding what they are, and this can lead to confusion with other similar hubs as *mobility hub*, *intermodal transport hub*, *terminal* and *interchange*.

The aim of this research was to define multimodal transport hubs in a clear and comprehensive manner.

DEFINITION

What's the difference between MTH and other similar terms?

A **transport hub** is a place where passengers and freight are exchanged between vehicles and/or transport modes. It's the place with the largest number of activities in a particular transport system for the observed area (part of a city, city or region).

TRANSPORT HUB vs. **TERMINAL**

Terminal is any place that serves travelers as a starting or ending point or as an intermediate stop during their journey. It is served by only one mode of transport (vehicle), while other modes of transport provide their services outside the terminal.

INTERMODAL TRANSPORT HUB

Picture 1: Intermodal transport hub - Port of Singapore, Singapore City

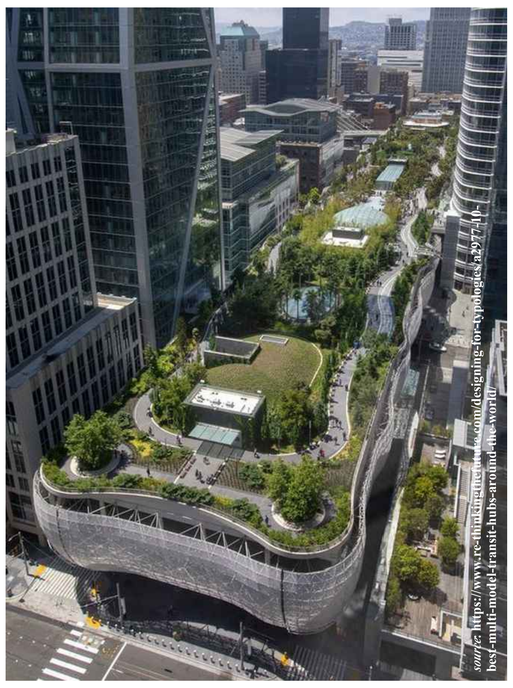
source: https://www.flickr.com/photos/ake1150/23527528890

The term intermodal transport is more frequently used for the transport of freight, rather than passengers. For this reason, the term intermodal transport hub implies a place where two or more modes of transport connect for the purpose of uninterrupted transport of freight.

The Placemaking was identified as the key difference between multimodal transport hubs and other similar terms.

MULTIMODAL TRANSPORT HUB

Picture 2&3: Multimodal transport hub - Salesforce Transit Center, San Francisco, USA



source: https://www.re-thinkingcities.com/designing-for-typologies/a2977-10-best-multi-model-transit-hubs-around-the-world

source: https://www.fastcompany.com/1672224/a-first-look-at-the-grand-central-terminal-of-san-francisco

A multimodal transport hub (MTH) is more complex than a conventional station. It is a recognizable place integrating two or more (public or intercity) modes of transport.

In addition to its role in the city transport system, MTH has some other urban functions (shops, restaurant, post office, bank, pharmacy), all for the purpose of creating a sense of *Place*. The sense of *Place* is an essential feature of MTH, which enables it to become a catalyst for further development of an urban area.

Mobility hub and interchange can be a part of multimodal transport hub.

MOBILITY HUB & MOBIHUB

Mobility hub (mobipunkt) is a place where two or more sustainable modes of transport (bicycle, public city transport, bike and car sharing) are connected. Mobility hubs are interventions in the transport system targeting short distance journey inside the city.

Mobihubs are public transport stops (bus and tram stops) that are additionally equipped with bicycle parking facilities (as part of the bike sharing system) or electric scooters. In this type of hub, car can only be present in the form of car sharing.

Picture 4: Mobipunkt, Bergen, Norway

source: https://www.mobipunt.be/abroad/

Picture 5: Mobi hub - nextbike, Zagreb, Croatia

source: author

INTERCHANGE

Interchanges are established at connection points of different transport modes of a collective urban transport or different routes of the same mode. (Pitisava-Latinopoulou, Iordanopoulos, 2012)

PROS

- \+ efficient transportation due to improved connectivity
- \+ reduced traffic congestion and associated environmental impacts
- \+ improved accessibility
- \+ revitalization of urban areas
- \+ if integrated in urban planning strategies MTH can guide future development

CONS

- \- disruption of existing urban form
- \- noise pollution
- \- possible stimulation of urban sprawl
- \- limited flexibility for future exspansion due to space constraints

source: author

Conclusion

Given the paucity of research related to MTHs by physical planners and the growing prevalence of hubs in urban areas, a future research agenda has been identified, including defining **the size of the hub**, **location choice** and **requirements of the chosen area** concerning its existing facilities as well as the facilities that hub can provide.

The aim of further research is to establish criteria for planning multimodal transport hubs, concerning their advantages and disadvantages.

FURTHER RESEARCH