



MetropAccess-project:

Understanding accessibility in Greater Helsinki

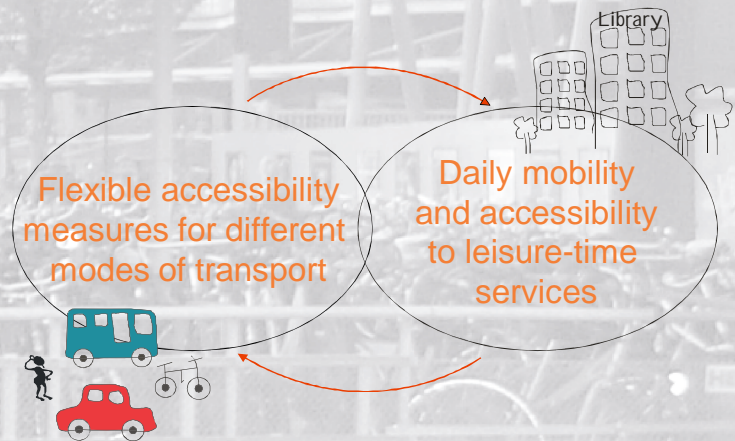
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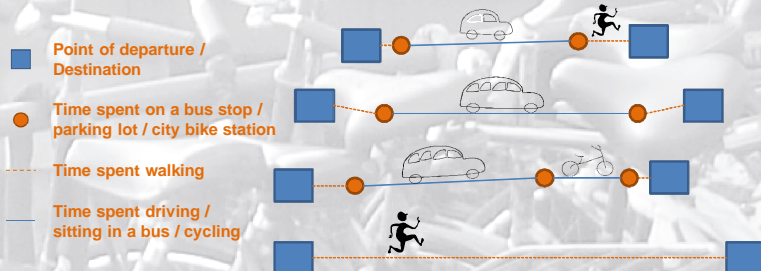
Background and aims

Accessibility to services by different transportation modes is a crucial determinant of an urban dweller's time budget and the environmental sustainability of his / her daily mobility. In order to analyze the spatial patterns of accessibility in the capital region of Finland (Greater Helsinki with ca. 1 million inhabitants), our project has the following objectives:

- Develop **comparable and reliable accessibility measures** that take into account the **different modes of urban transportation** (private car, public transport, cycling, walking, and combinations of these).
- Analyze the multi-modal and multi-temporal accessibility patterns of different **leisure-time services** (culture, sports, shopping).
- Examine the potential of improved service allocation and multi-modal transportation in **reducing travel times and carbon emissions**.



Taking into account all parts of the journey



Data and methods

We use extensive data resources available on transportation network properties and service usage. In public transport analyses we use Open Street Map and route and timetable data derived from the regional Journey Planner interface. In private car analyses, we use data on observed driving speeds, speed limits, turn impedances and parking times.

In order to make the different modes of transportation comparable our analyses take into account all parts of the journey, as the adjacent figure shows.

Case studies of Greater Helsinki

Car-dependent shopping?



We compared travel times to the largest shopping centres by car and by public transportation.

We demonstrate that a polycentric urban structure is a challenge for the current transport system: while most shopping centres are very well accessible for car users, public transport travel times are truly competitive only on journeys that are directed to the city centre of Helsinki.

How about shared bikes?

We measured travel times from 7000 origins to 16 destinations by public transport, by bicycles and by the combinations of the two.



We demonstrate that a shared bike system (currently planned in Helsinki) could reduce travel times to downtown on average by more than 10 %. In absolute numbers the time savings would be on average 6 minutes, ranging up to 12 minutes.

CO₂ burden of library trips

We calculated the CO₂ emissions resulting from library trips based on an extensive database on library visits and modelled modal choice of the customers.

We demonstrate that different service allocation strategies within the region direct the CO₂ burden resulting from library trips. The dense library network in Helsinki enables short trips and the use of environmentally friendly transport modes.

The sparse network in the neighbouring cities results in long distances and increased use of motorized transport.



See also blogs.helsinki.fi/accessibility/

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