Potential of car pooling (ASTRA2008/017)

Potenzial von Fahrgemeinschaften

Funding: National (Switzerland)
Duration: Dec 2009 - Jun 2012
Status: Complete with results

Background & policy context:

Carpools were the subject of several projects in research programs of the European Union with Swiss participation. The main objective usually was to test approaches for imparting carpools.

The idea of this research project goes back to a technology assessment study which was finished by a research team with the participation of PTV (then ASIT) and the IVT. It examined the possible applications of transport telematics.

Objectives:

The main aim of the project is to estimate carpooling potential in Switzerland regarding:

- Users
- Traffic reduction
- Environmental impact reduction
- Mobility improvement

The potential is estimated quantitatively using a simulation, which is based on the results of a nationwide survey.

Methodology:

The project combines the simulation tool MATSim-T, which is capable to realistically replicate the mobility behavior in a given area, with RideShare, which is the first software able to automatically match requested routes for car pools. With this approach the amount of possible car pools and their impact on traffic and environment are calculated based on the present mobility behavior in Switzerland. The calculation is performed on two levels: first for the commuting trips of the employees of some few companies, then for the complete private car transport in the urban area around the city of Zurich. The theoretic potential, determined only based on the existing trips, is complemented by a practical potential, which also considers restrictions e.g. with respect to acceptable detours, baggage reducing the available space, chains of trips with different purposes or preferences of the potential car pooling partners with regard to gender and smoking. Surveys are conducted to find out about these restrictions.

Parent Programmes:
ARAMIS - ARAMIS information system

Institute type: Public institution
Institute name: Swiss Government: State Secretariat for Education and Research
Funding type: Public (national/regional/local)

Partners:

Switzerland

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Key Results:

Conclusions:

Overall, the existence of a good unexploited potential for carpooling in Switzerland was proved.

Carpooling alternatives have a higher Value of Travel Time Savings than car, suggesting that higher income persons prefer carpooling. This was not expected and this probably means that the choice to carpool is not only of economic nature, but other motivations – environmental, social, etc. – also play an important role.

Potential carpoolers prefer to be passengers rather than drivers. Carpool as a passenger is a more attractive option, being comfortable and comparatively cheaper.

The choice of carsharing seems prevalently economically driven. This is consistent with the fact that carsharing is a well known and diffused option in Switzerland.

Innovation aspects

A base for further development of car pooling was given by the assessment of the potential of Switzerland in this field of personal transport.

Policy implications

Support of further development of car pooling - sustainable mode of personal transport.

Other results

Publications:

Documents:
car pooling (Project presentation)

STRIA Roadmaps: Smart mobility and services
Transport mode: Road transport
Transport sectors: Passenger transport, Freight transport
Geo-spatial type: Other