Transforming infrastructures towards sustainability

Lessons learnt from ICT-based peer-to-peer Carsharing service Drivy in Germany

TRAFIS - Transformation to climate resilient and resource-saving infrastructures

Leibniz-Institut für ökologische Raumentwicklung

b-tu Brandenburgische Technische Universität Cottbus - Senftenberg

Drift Dutch Research Institute for Transitions

eco logic

Mandy Hinzmann

Ecologic Institute

Pfalzburger Str. 43/44

10717 Berlin

Germany

Umwelt Bundesamt | KomPass Kompetenzzentrum Klimafolgen und Anpassung

Project context & motivation

Physical infrastructures affect environmental quality & the consumption of resources:

• they consume land, energy and raw materials,

• they are a source of emissions.

Infrastructures impact a society's understanding of how certain services are (or should be) provided & lead to collective behavioral patterns.

TRAFIS explores examples of functional coupling of several infrastructures.

I.   Do innovative interlinked infrastructures lead to resource savings and help achieving the goals of climate protection?
II. How can transformation processes towards more sustainable infrastructures be supported?

# Case study on ICT-based p2p Carsharing service Drivy

- **System boundaries:** passenger mobility in Germany between 2014- 2017
- **Regime**: privately-owned cars are the most used means of transportation.
- **Niche:** peer-to-peer carsharing ("niche within a niche")

Transformative potential:

Drivy questions the dominant regime of passenger mobility in Germany; it presents an alternative to private car-ownership and contributes to changes in mobility behaviour.

Monomodal behaviour
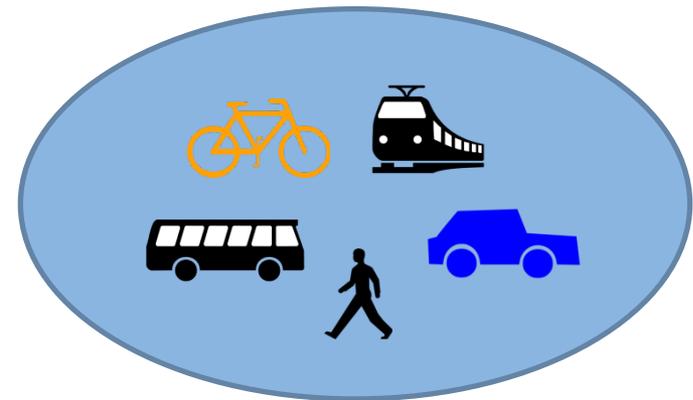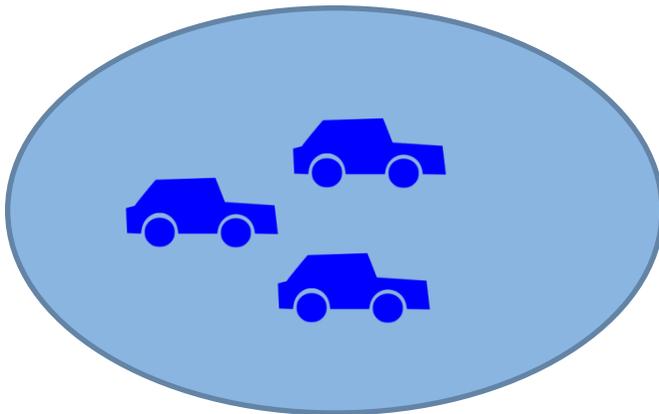
Multimodal behaviour

Contribution to resource conservation

▪ This type of infrastructure coupling can increase the **intensity of use** of privately owned cars

▪ Provided that the use of peer-to-peer CS is accompanied by changes in mobility patterns, it can **reduce the overall number of cars** that are needed

- Reduce the demand for raw materials to construct cars

- Reduce the demand for parking space

- Reduce emissions

▪ However: We do not have a perceptible effect yet in Germany – Peer-to-peer Carsharing is still too small a niche!

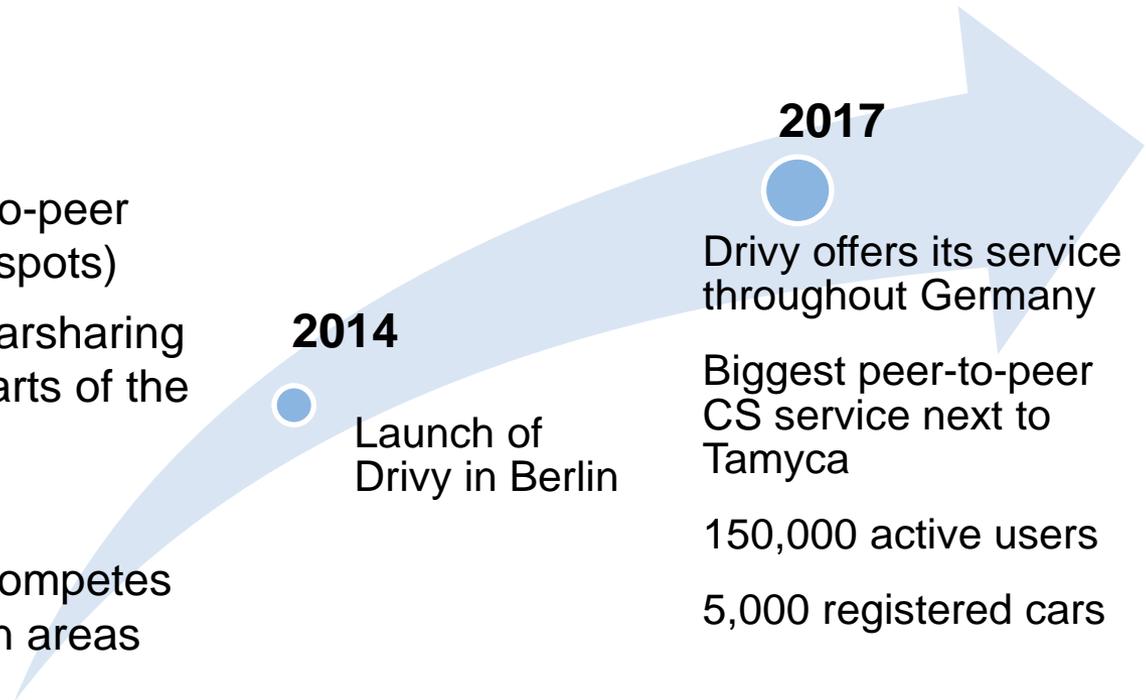▪ There is a risk of rebound effects due to additional mobility
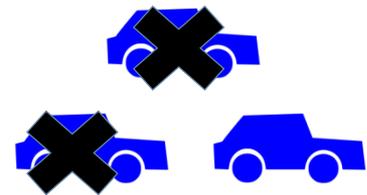
Transformative impact

- Drivy simplified the process of private carsharing and made it more practicable
- Drivy increased familiarity with the concept of carsharing
- Drivy's insurance package increased acceptance of peer-to- peer carsharing

Barriers

- No public support for peer-to-peer carsharing (e.g. free parking spots)
- Concept of (peer-to-peer) carsharing remains unknown for large parts of the population
- Risk of rebound effects
- Risk that peer-to-peer CS competes with public transport in certain areas

2017

Drivy offers its service throughout Germany

Biggest peer-to-peer CS service next to Tamyca

150,000 active users

5,000 registered cars

2014

Launch of Drivy in Berlin

Conclusions & recommendations

Peer-to-peer carsharing is still a niche in Germany, but it has potential to change mobility behaviour and thereby contribute to resource conservation in the mobility sector.

Recommendations for traffic planning & management:

- Consider peer-to-peer carsharing in traffic planning
  - Cooperation models between peer-to-peer and municipal carsharing
  - Cooperation models between peer-to-peer CS and classsic public transport
- Support peer-to-peer carsharing through marketing / information campaigns
- Investigate in options to offer parking free of charge or reserved parking spots for people participating in peer-to-peer carsharing

Ecologic Institute

Science and Policy
for a Sustainable World

Thanks! Any more Questions?

Mandy Hinzmann
mandy.hinzmann@ecologic.eu

Ecologic Institute

Pfalzburger Str. 43/44
10717 Berlin
Germany

Tel. +49 (30) 86880-0

ecologic.eu