

Ecologic Institute

Science and Policy
for a Sustainable World



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



Mandy Hinzmann

Ecologic Institute

Pfalzburger Str. 43/44

10717 Berlin

Germany

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

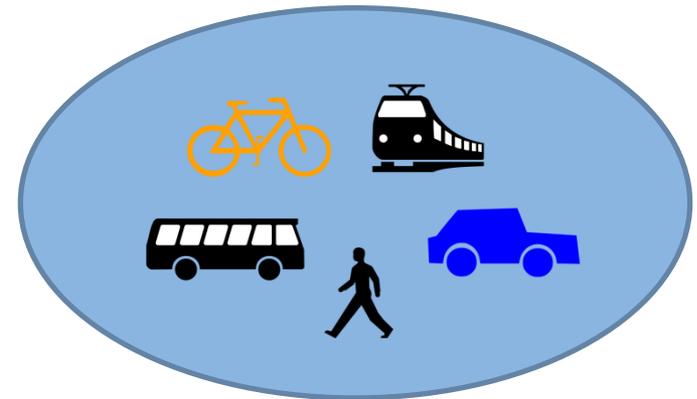
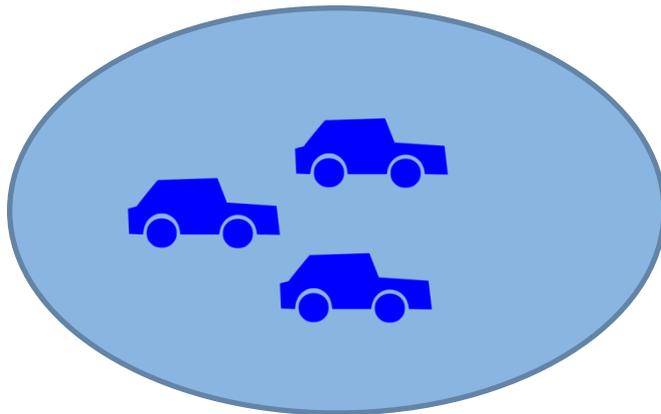


- **System boundaries:** passenger mobility in Germany between 2014- 2017
- **Regime:** privately-owned cars are the most used means of transportation.
- **Niche:** peer-to-peer carsharing (“niche within a niche”)

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.

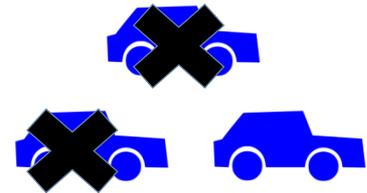
Monomodal behaviour



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



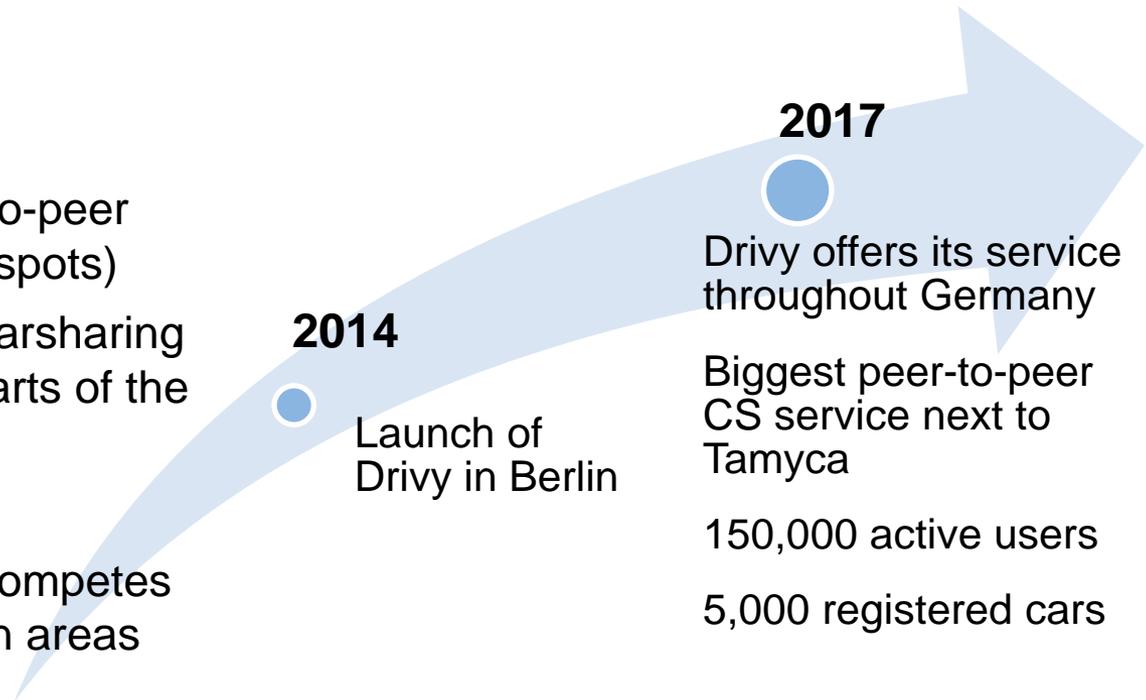
Transformative impact

- 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



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 classic 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