

Bevorzugter Zitierstil für diesen Vortrag

Axhausen, K.W., S. Beige, M. Bernard and S. Schönfelder (2003)
Impacts of long-term commitments on daily choices, Workshop
on behavioural responses to traffic management measures, TU
Eindhoven, April 2003 .

Impacts of long-term commitments on daily choices

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April 2003



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Longterm commitments

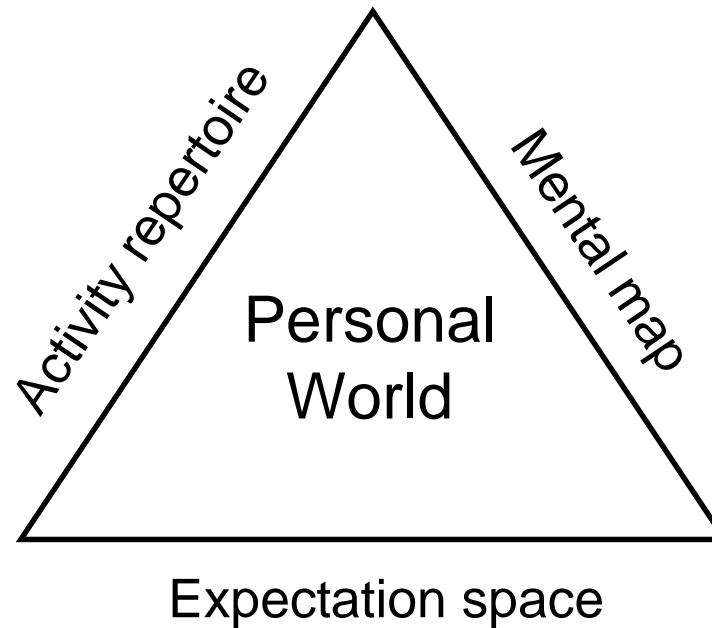
Core of current mobility choices:

- Home location, but constrained through family and partnership commitments
- Work location
- Car ownership
- Season ticket ownership

define

- „Personal world“ (over time)
- Current marginal cost of travel

Personal world



Activity repertoire: Known activities (what, what for, with whom, what minimum or maximum duration, how expensive)

Mental map: Known locations (where, which activity, generalised costs of travel by time-of-day and day-of-week, temporal availability)

Expectation space: Generalisations, rules derived from the mental maps and activity repertoire for known and yet unknown locations

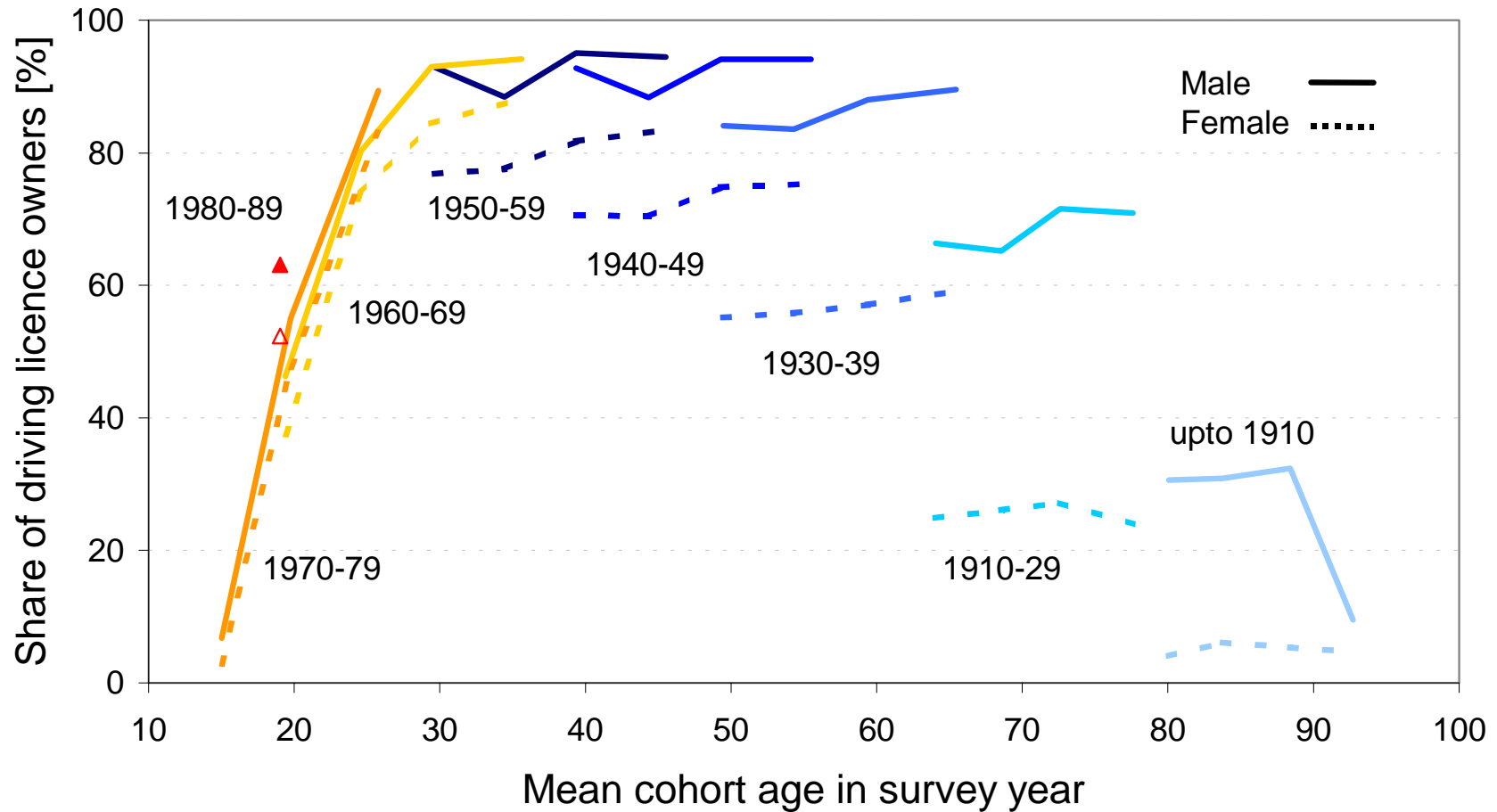
Two sides of the expectation space

- Influences current behaviour by providing assumptions for not yet visited parts of the environment
- Influences investment choices by defining expectation of how the world will be in the future

Examples:

- Learning to cycle
- Acquiring a driving licence, even if the time gap between the licence and the first car has become shorter.
- Purchase of housing

Early commitments: Licence holding in Switzerland

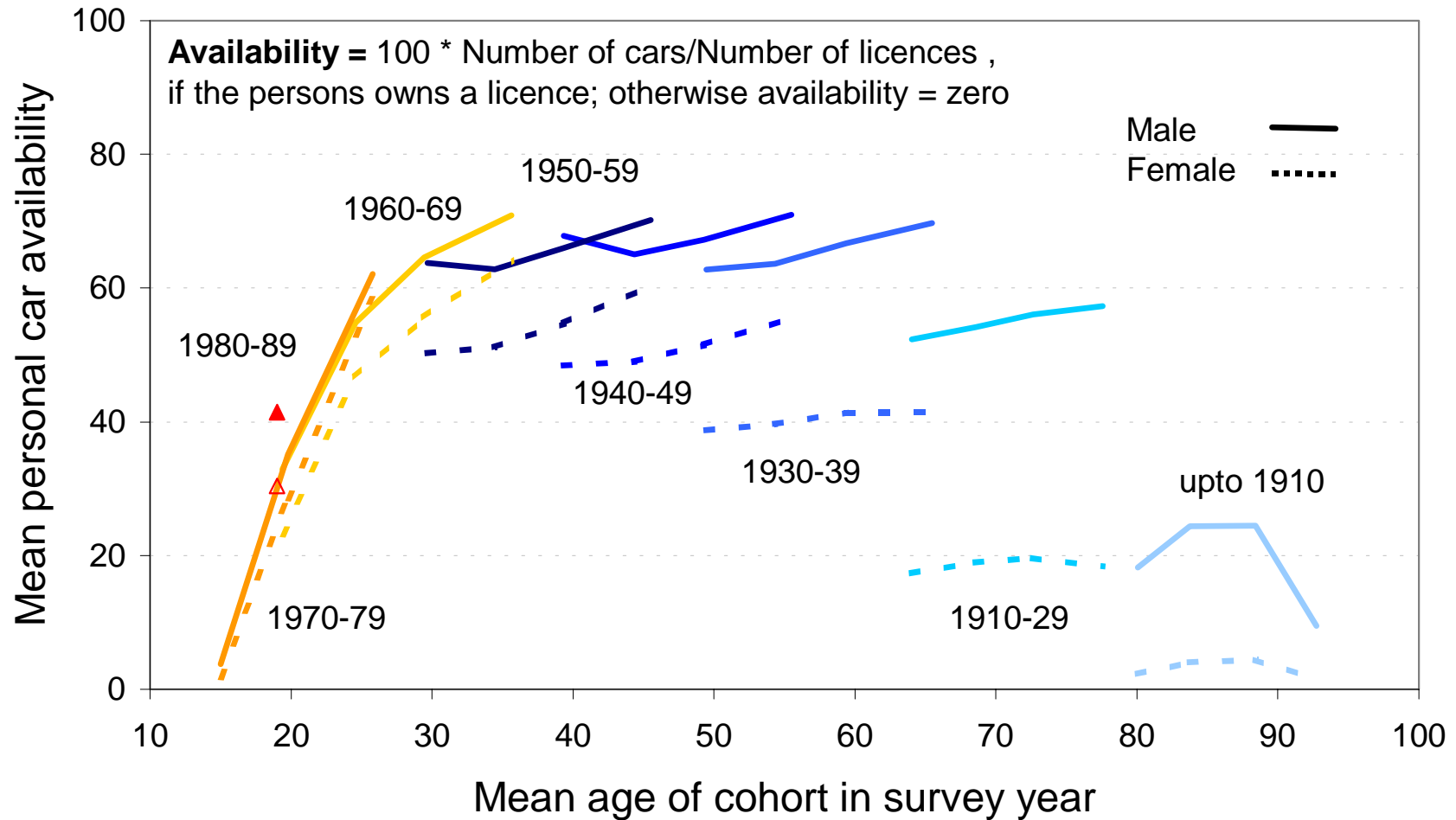


Current commitments

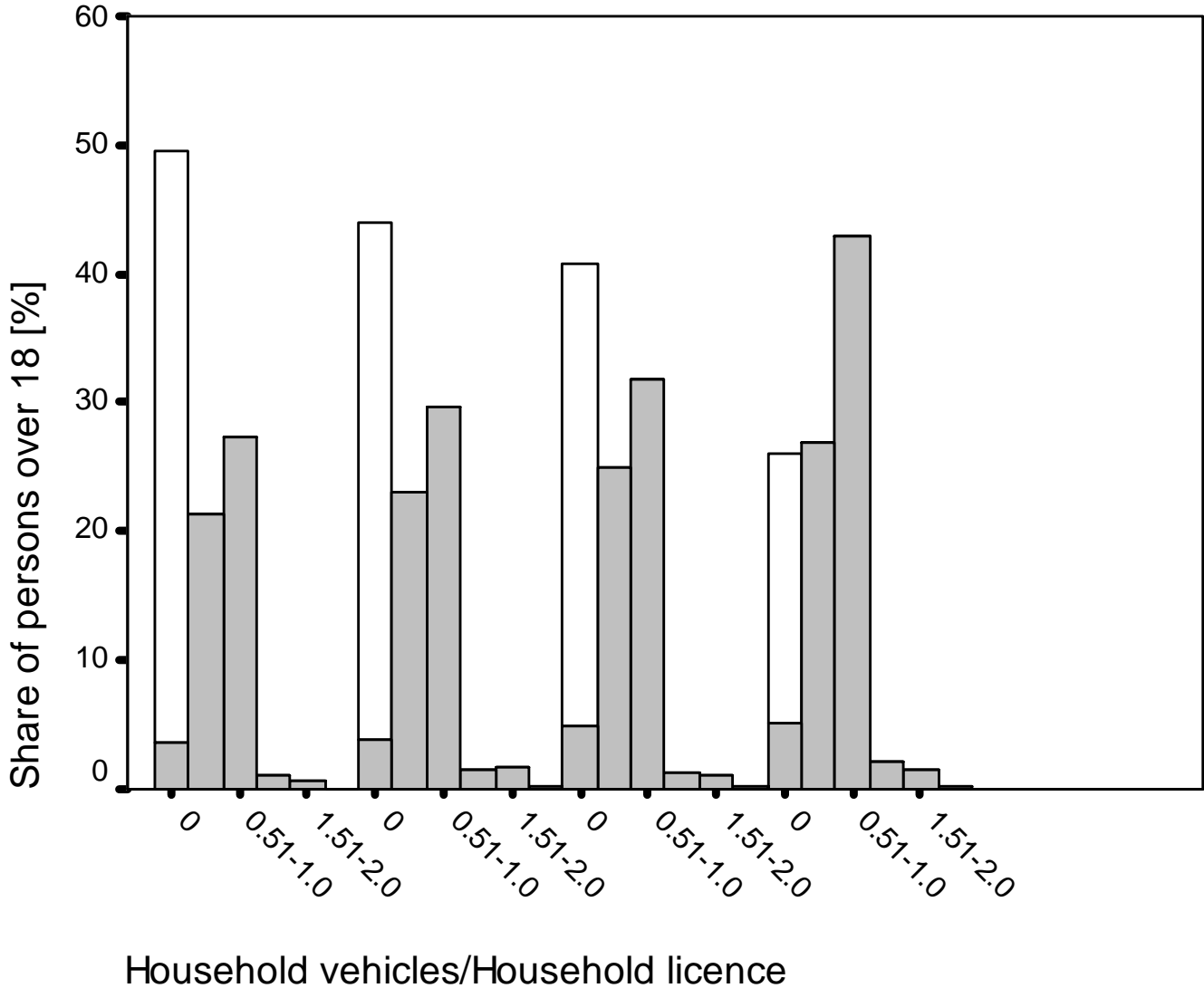
- Mobility tools and home/work location
- Activity space, i.e. the set of locations personally known to a traveller. Does this define the choice set of the traveller ?

Activity space is the observable aspect of the mental map or activity repertoire

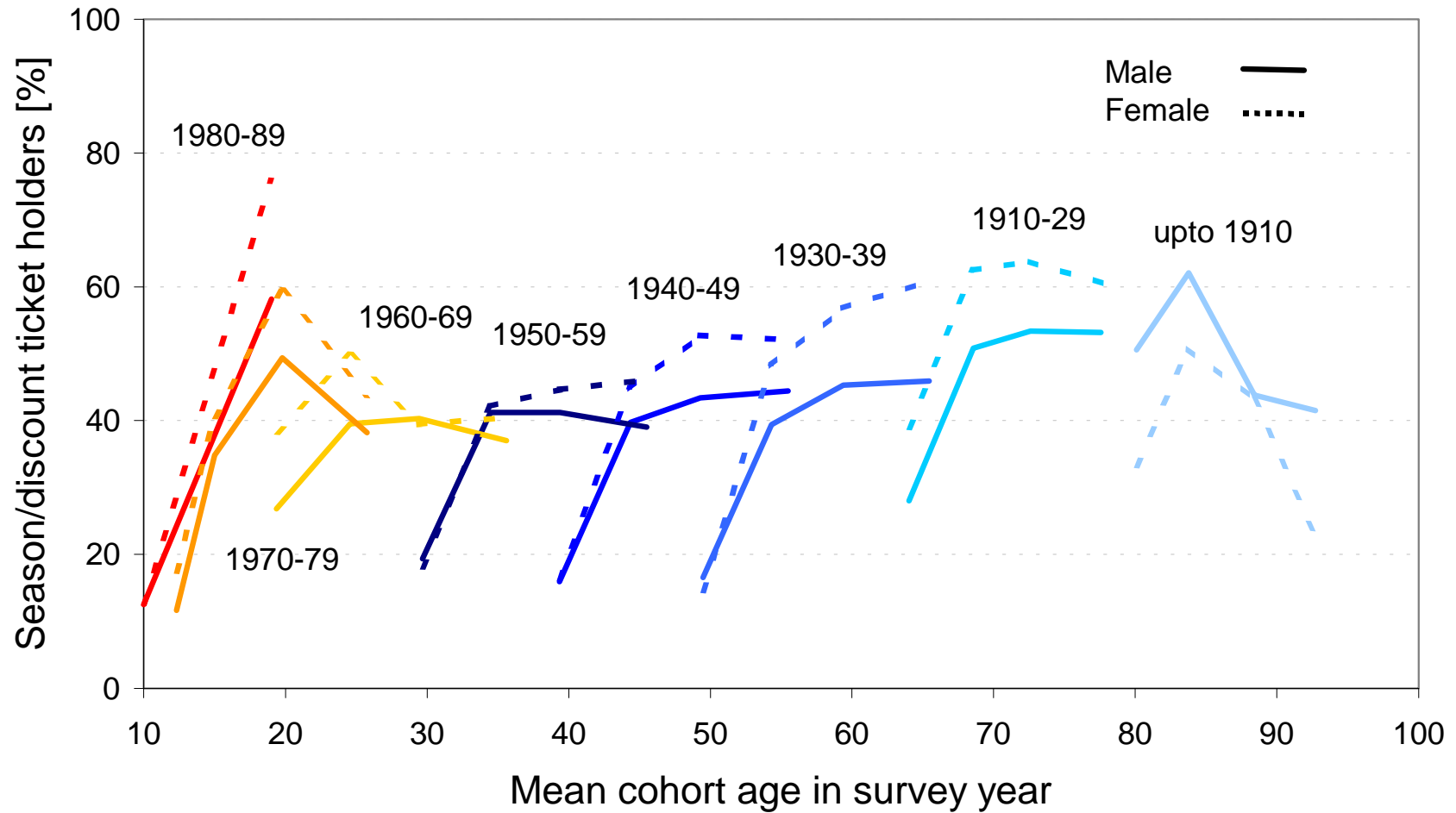
Current commitments: Car availability in Switzerland



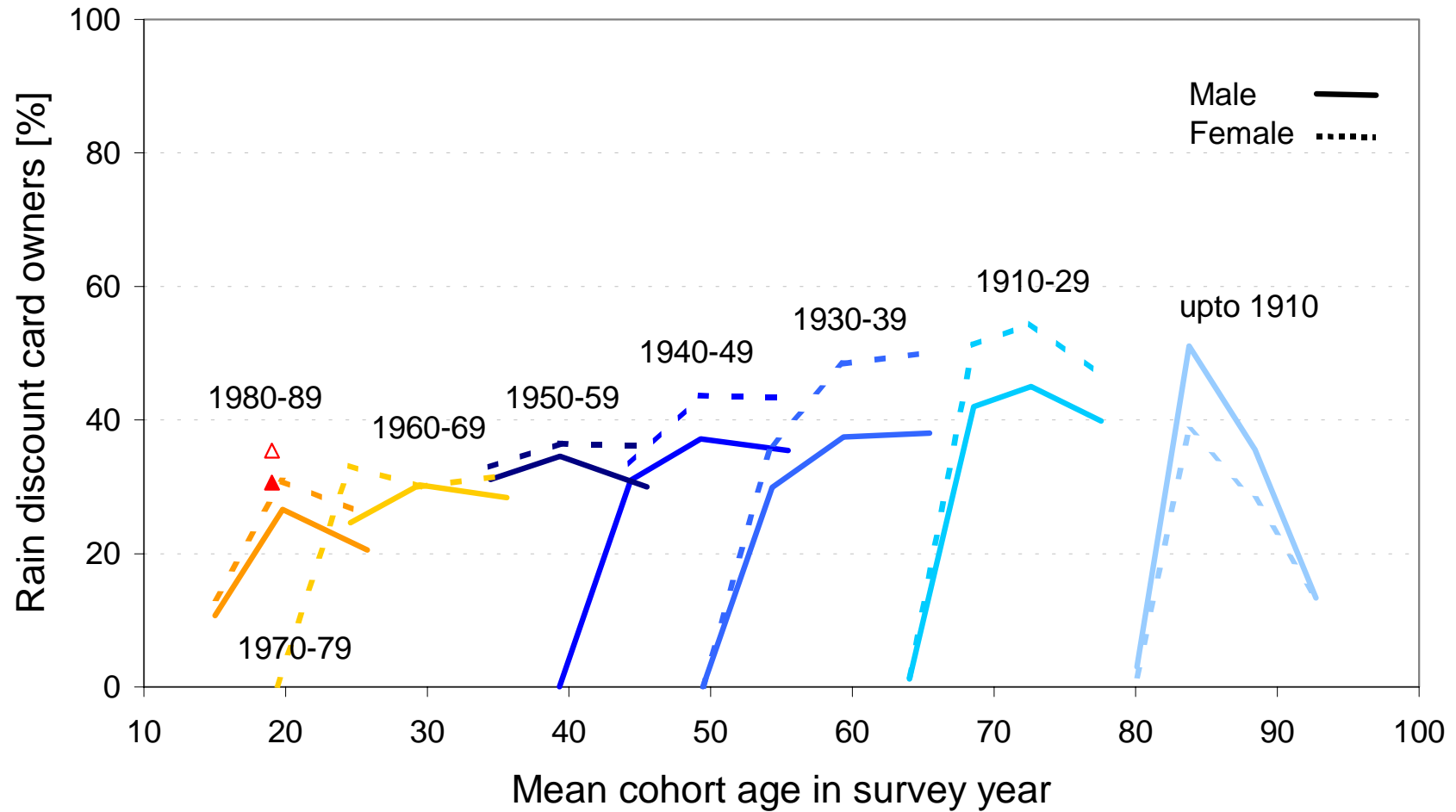
Current commitments: Car availability in Switzerland



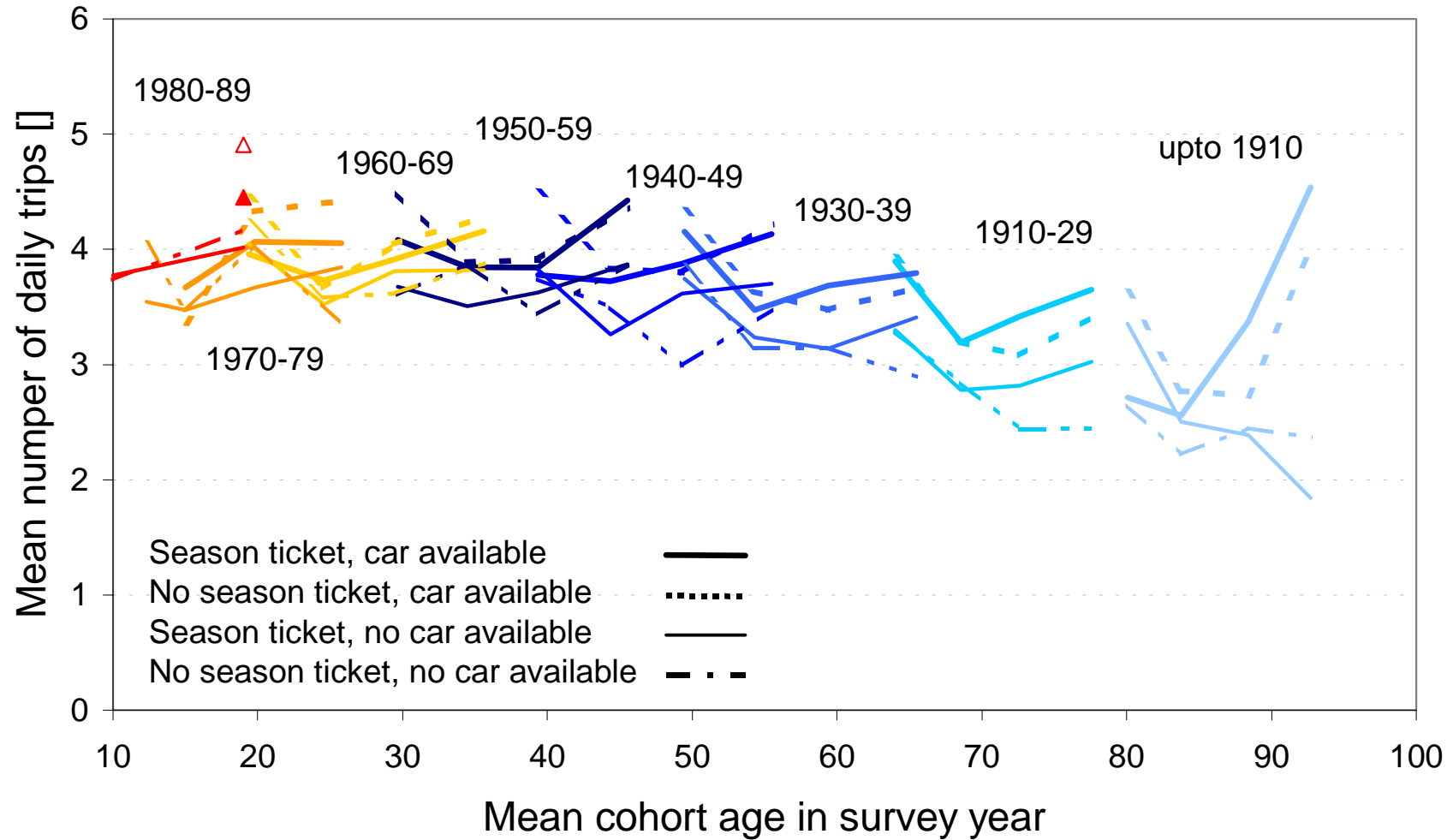
Current commitments: Season/discount tickets in CH



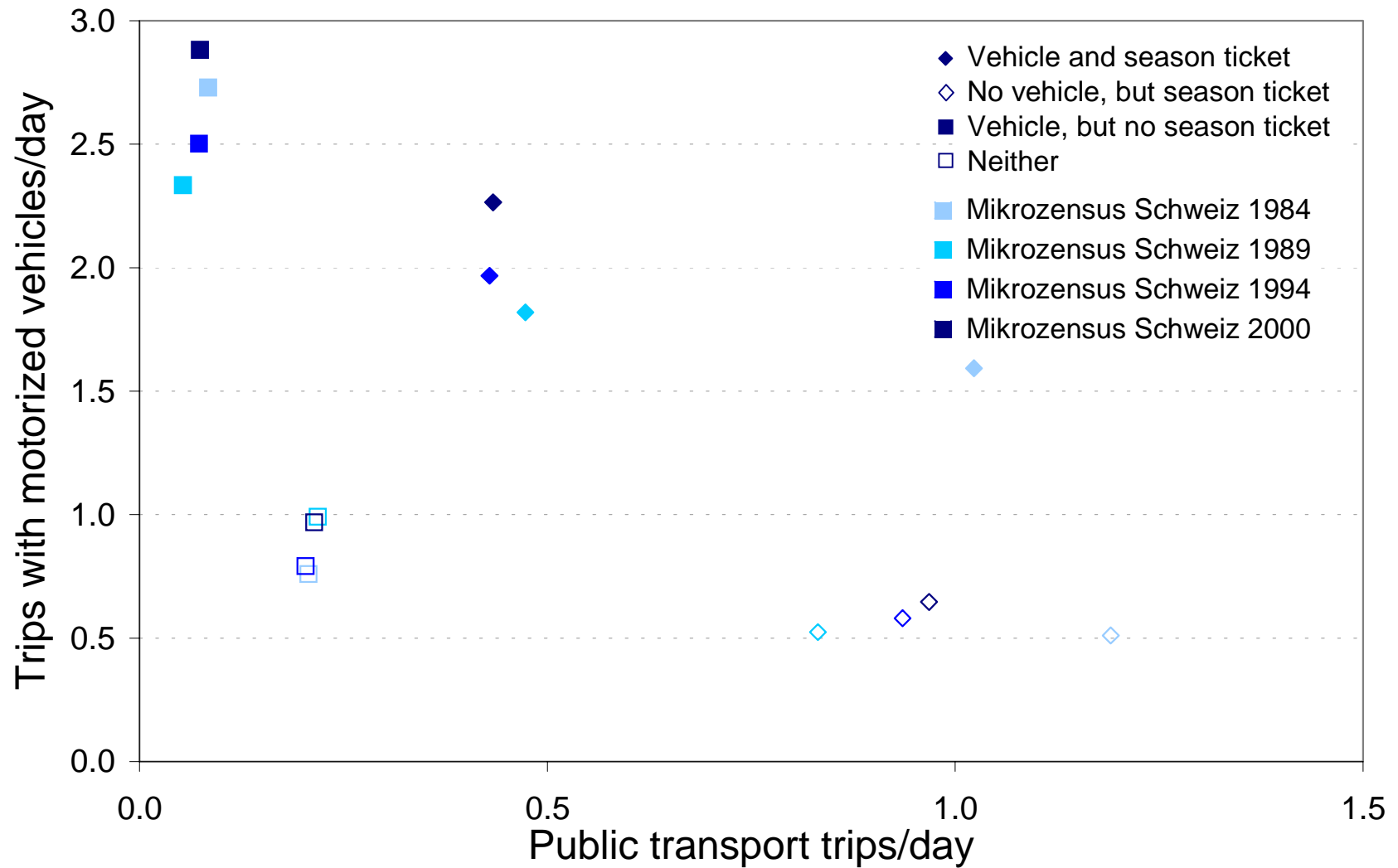
Current commitments: Discount tickets in Switzerland



Current commitments: Behavioural impacts



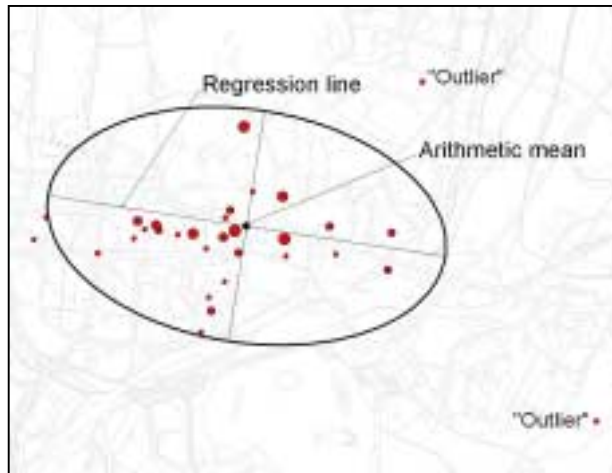
Current commitments: Behavioural impacts



Activity space: Issues

- What are the expectations of drivers beyond their current activity space ?
- How do these expectations influence the response to ITS, in particular information services
- Does the activity space bind travellers to the known routes and locations ?

Activity spaces: New measures of size (1)



Confidence ellipse

Smallest possible area of a defined share of visited locations
Measure: Area

Dispersion



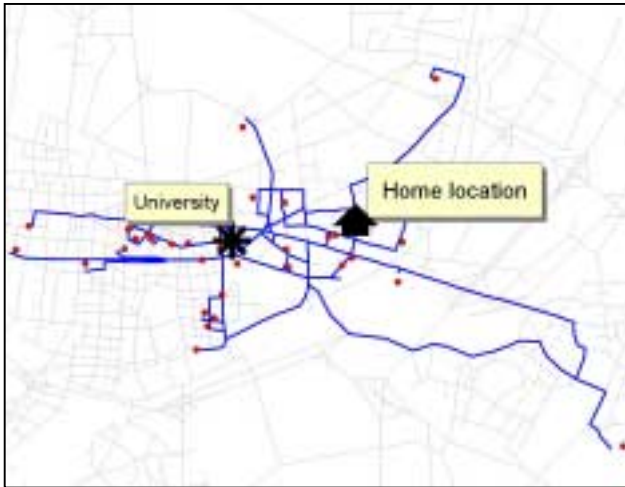
Kernel densities

Density surface based on frequency and proximity

Measure: Area / "Volume"

Local clusters / sub-centres

Activity spaces: New measures of size (2)



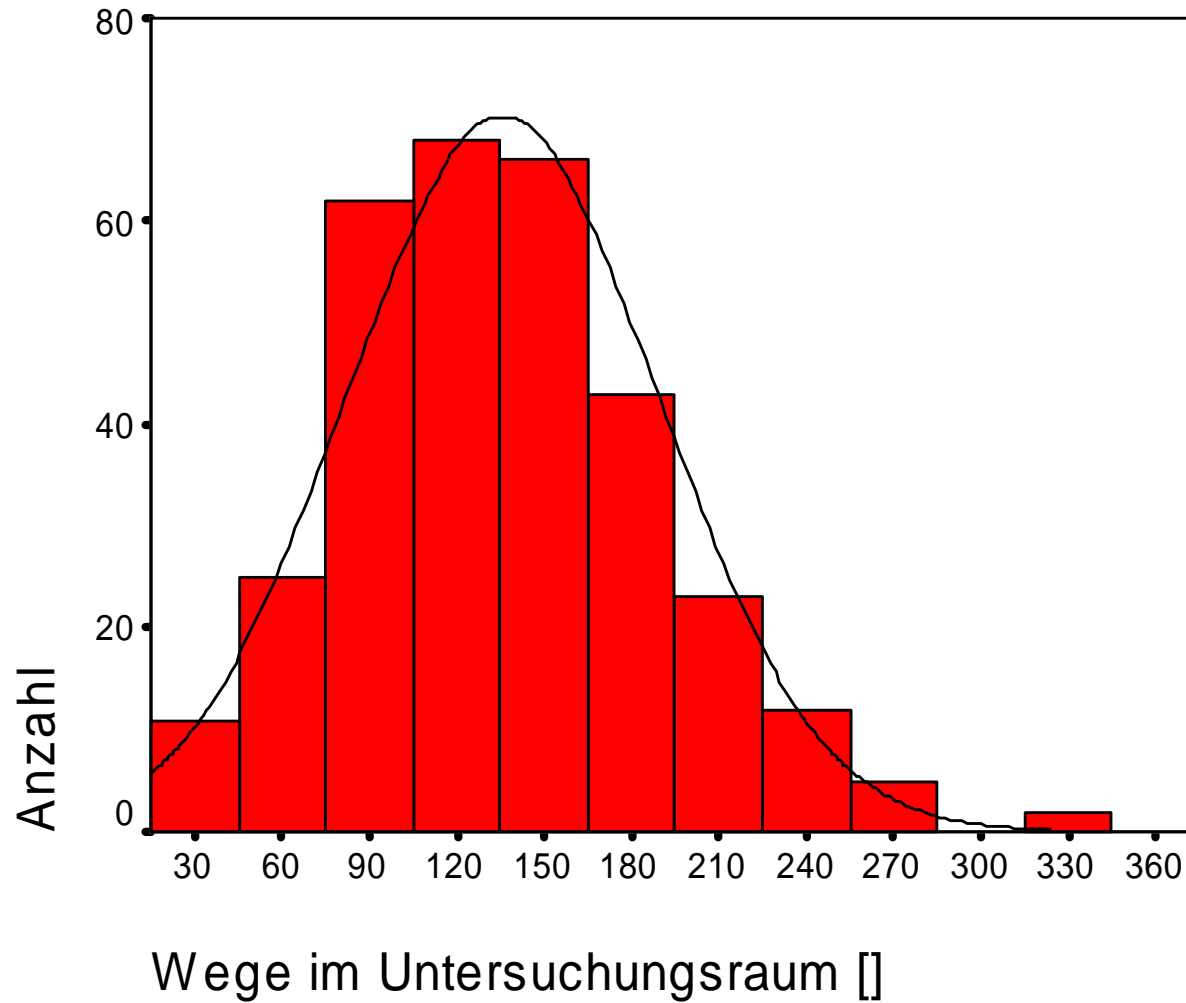
“Minimum spanning tree”
(network)

Smallest geometry based on all
O-D pairs

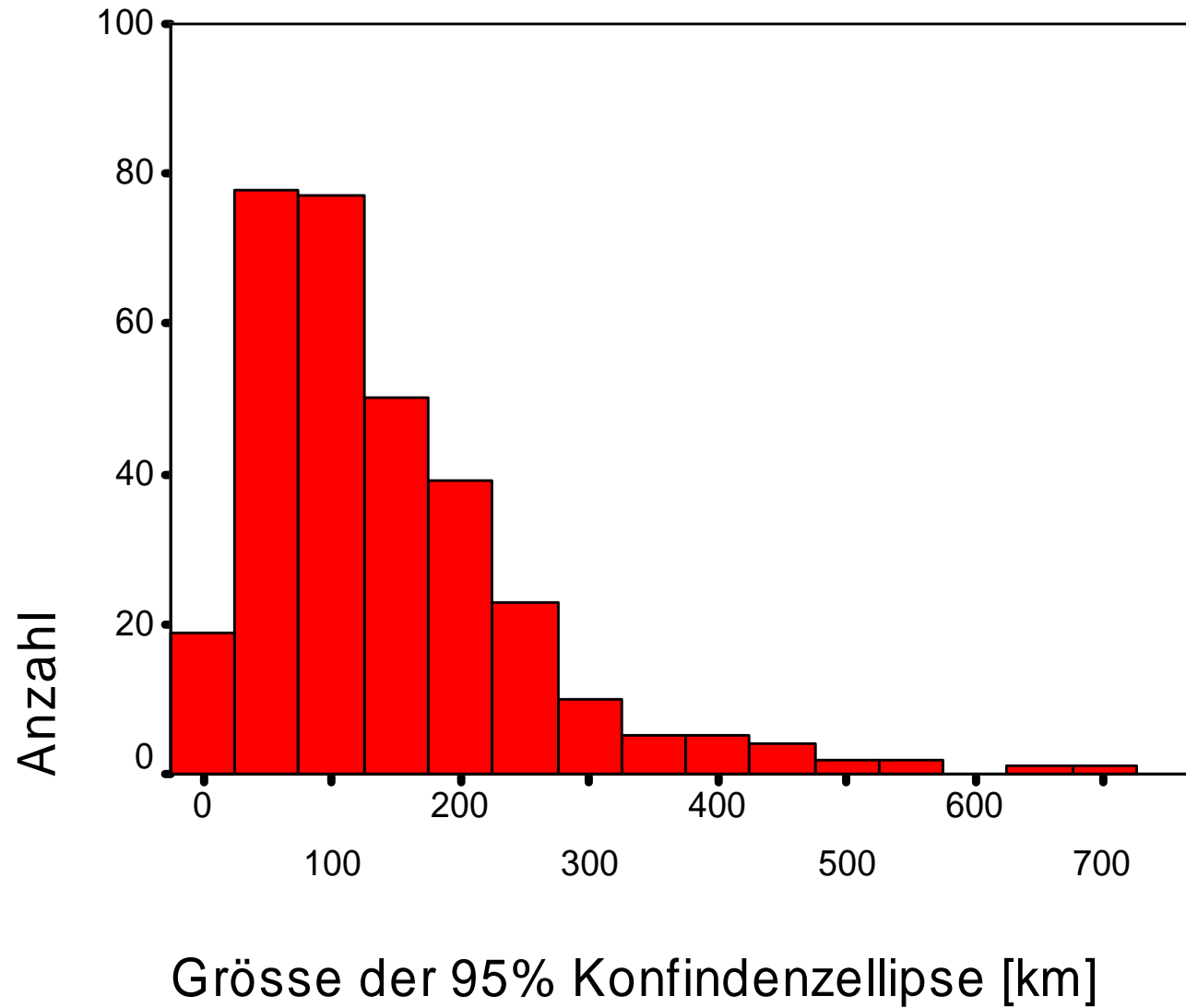
Measure: Length of tree/network

Perception of space and
networks

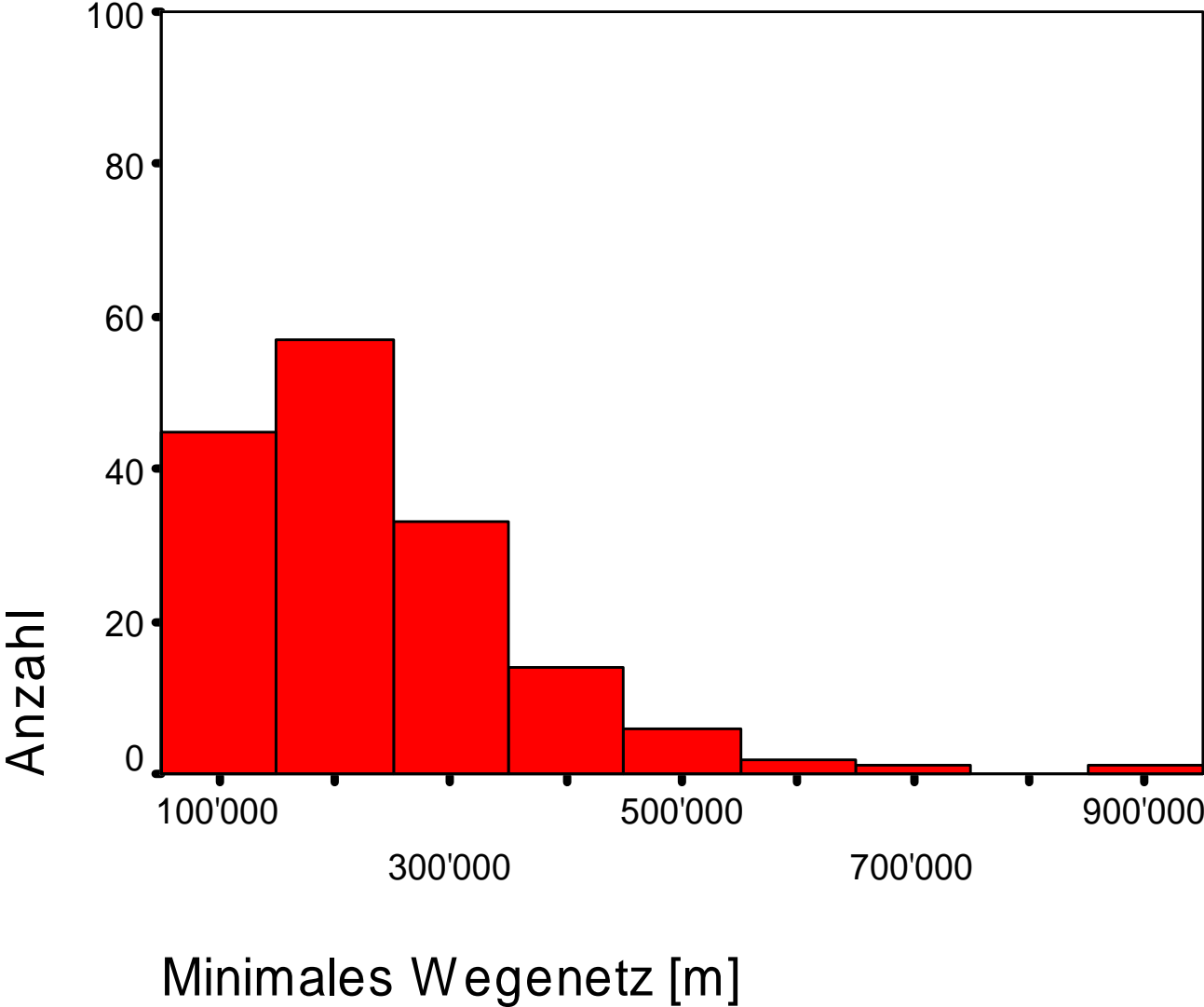
Mobidrive: Number of trips in the study area



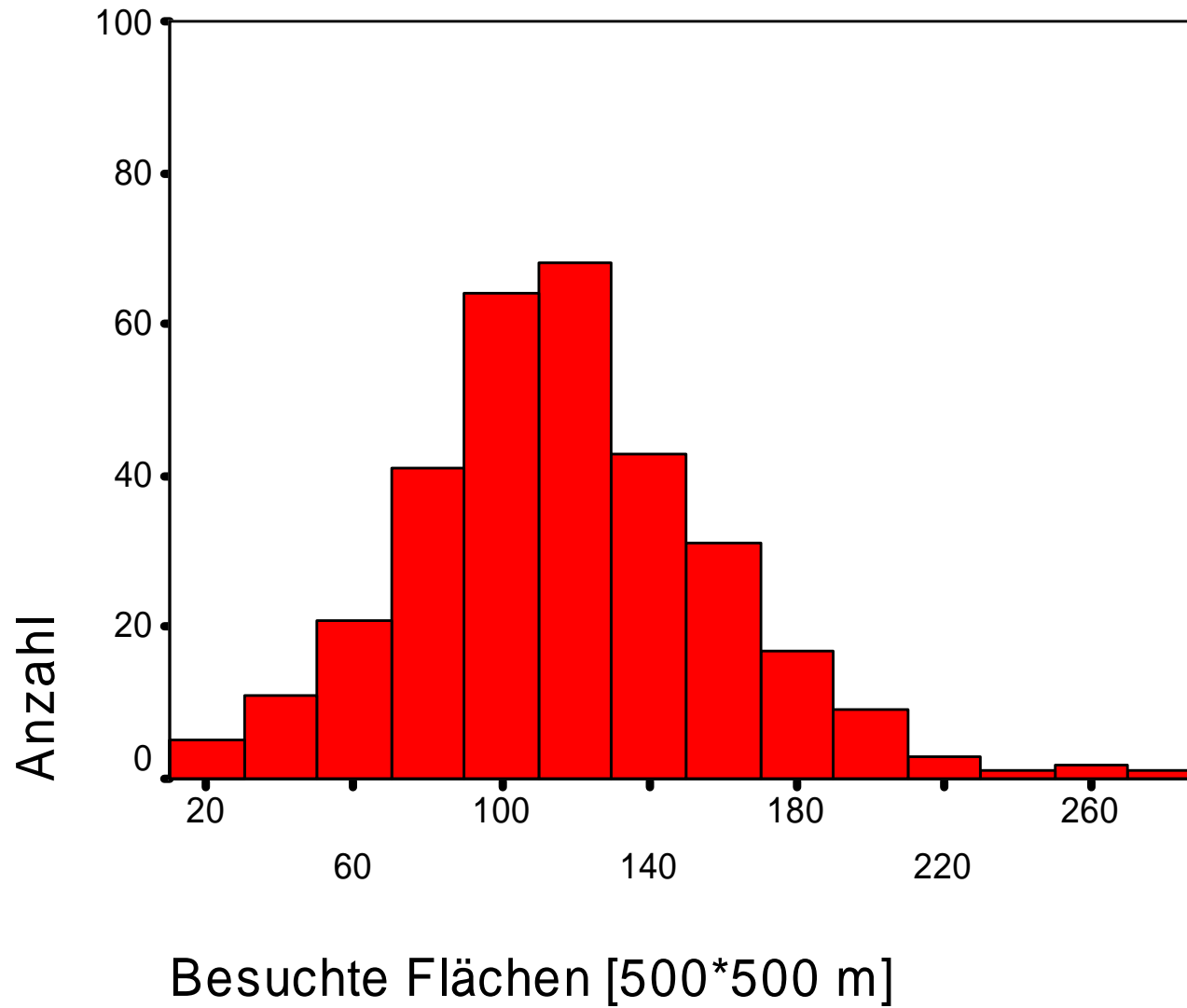
Mobidrive activity spaces: Confidence ellipse



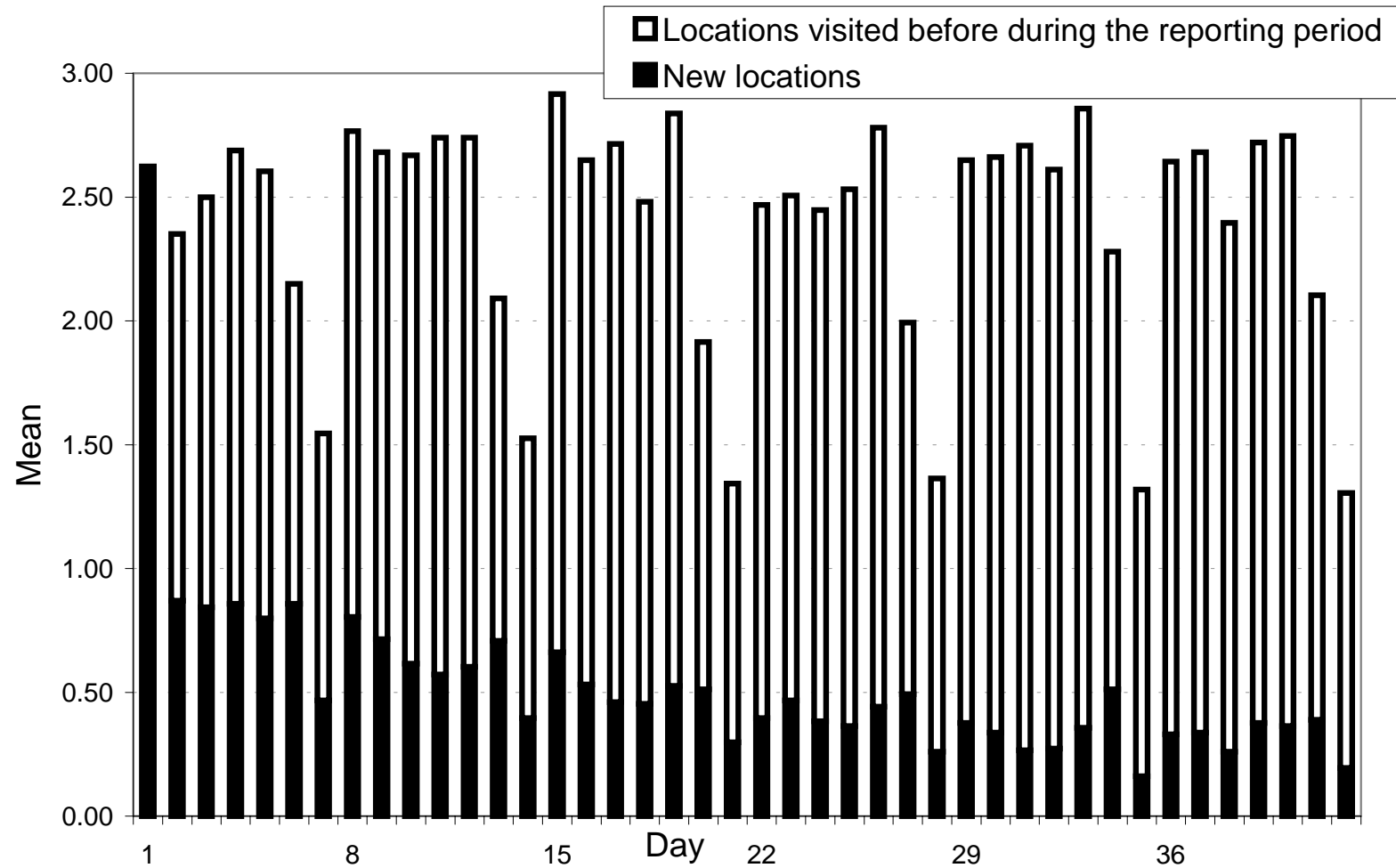
Mobidrive activity spaces: Tree (only Karlsruhe)



Mobidrive activity spaces: Areas with positive densities

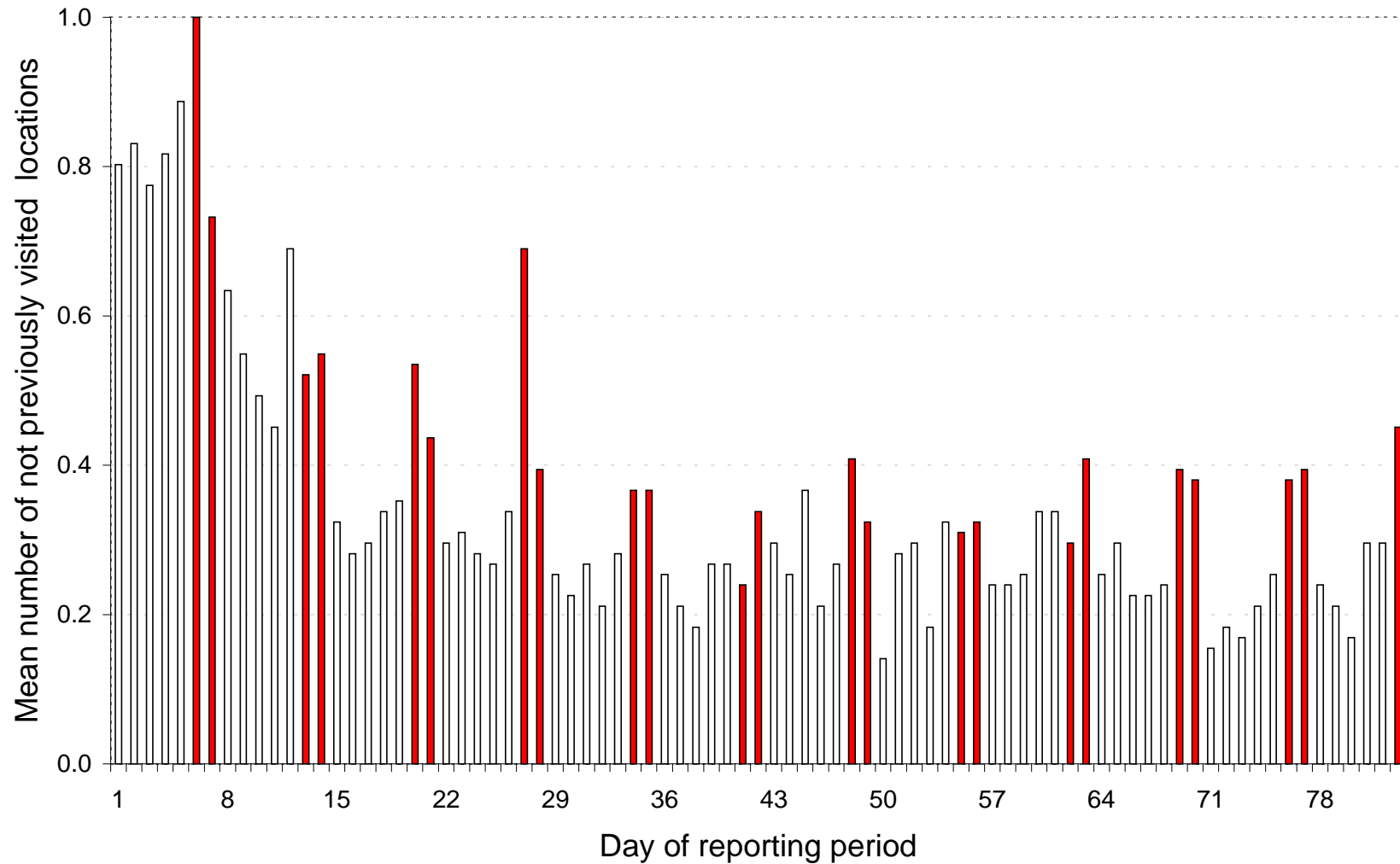


New locations in a 6-week travel diary



„location“ = detailed purpose * street address

New locations in a 12-week leisure diary



Schlich

„location“ = detailed leisure purpose * zip code

Conclusions

ITS systems guide, control and influence through real-time information, regulation and pricing

The information impacts are limited through:

- Understanding travellers have of the world (partially measured as activity spaces)
- Long-term commitments to locations and contacts (social networks)

Their information impacts are enhanced through:

- Variety seeking of the traveller
- Unreliability of the transport systems

Appendix: Data sources

Swiss National Travel Surveys

Brief description:

- Large scale random sampling surveys of the whole country
- 1984 and 1989 conducted as postal self-completion travel diary surveys (trip-based forms)
- 1994 and 2000 CATI stage-based diary
- One day plus some long-distance travel

For details see:

- Simma, A. (2003) History of Swiss travel surveys, paper presented at the *3rd Swiss Transport Research Conference*, Ascona, March 2003 (www.strc.ch)

12-week leisure survey

Brief description:

- Combined time use (all purposes) and activity-survey (out-of-home leisure only)
- Twelve (six) one-week diaries in Zürich (Berlin)
- 70 respondents with a 150 sFr incentive payment (about 10% recruiting rate from a random telephone sample) (hardly any drop-out after the start of the diary)

For details see (in German):

<http://www.ivt.baug.ethz.ch/vrp/ab123.pdf>

<http://www.ivt.baug.ethz.ch/vrp/ab121.pdf>

Mobidrive (6-week travel diary)

Brief description:

- 6-week travel diary in Karlsruhe and Halle
- Spring and fall 1999
- 360 persons in 160 households receiving small incentives (100-200 DM/household) (20% of eligible households recruited)
- 95% of trips in the study area geocoded

For details see:

<http://www.ivt.baug.ethz.ch/vrp/ab140.pdf>

<http://www.ivt.baug.ethz.ch/vrp/ab25.pdf>