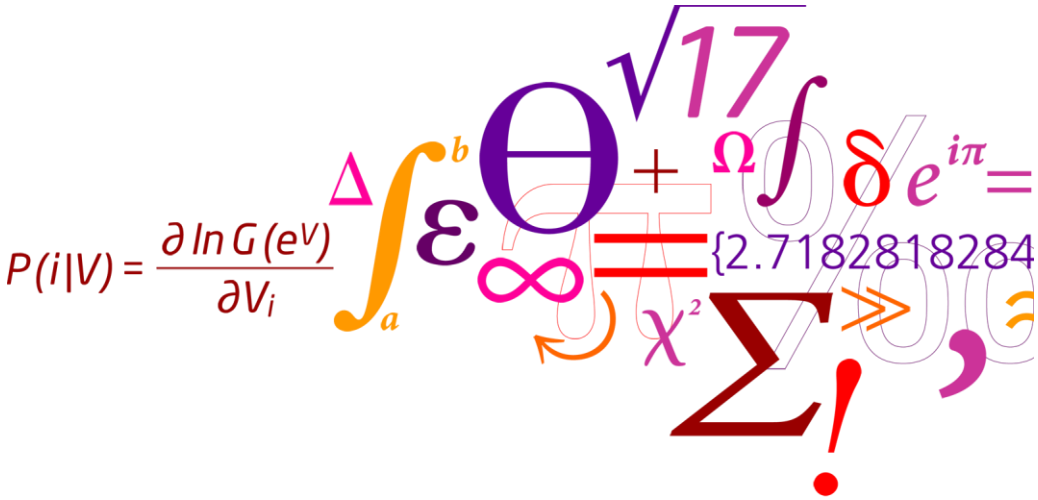
Changing mobility – targeting policies by segmentation and the role of an ageing population

Sonja Haustein, Researcher, DTU Transport



DTU Transport
Institut for Transport

Outline

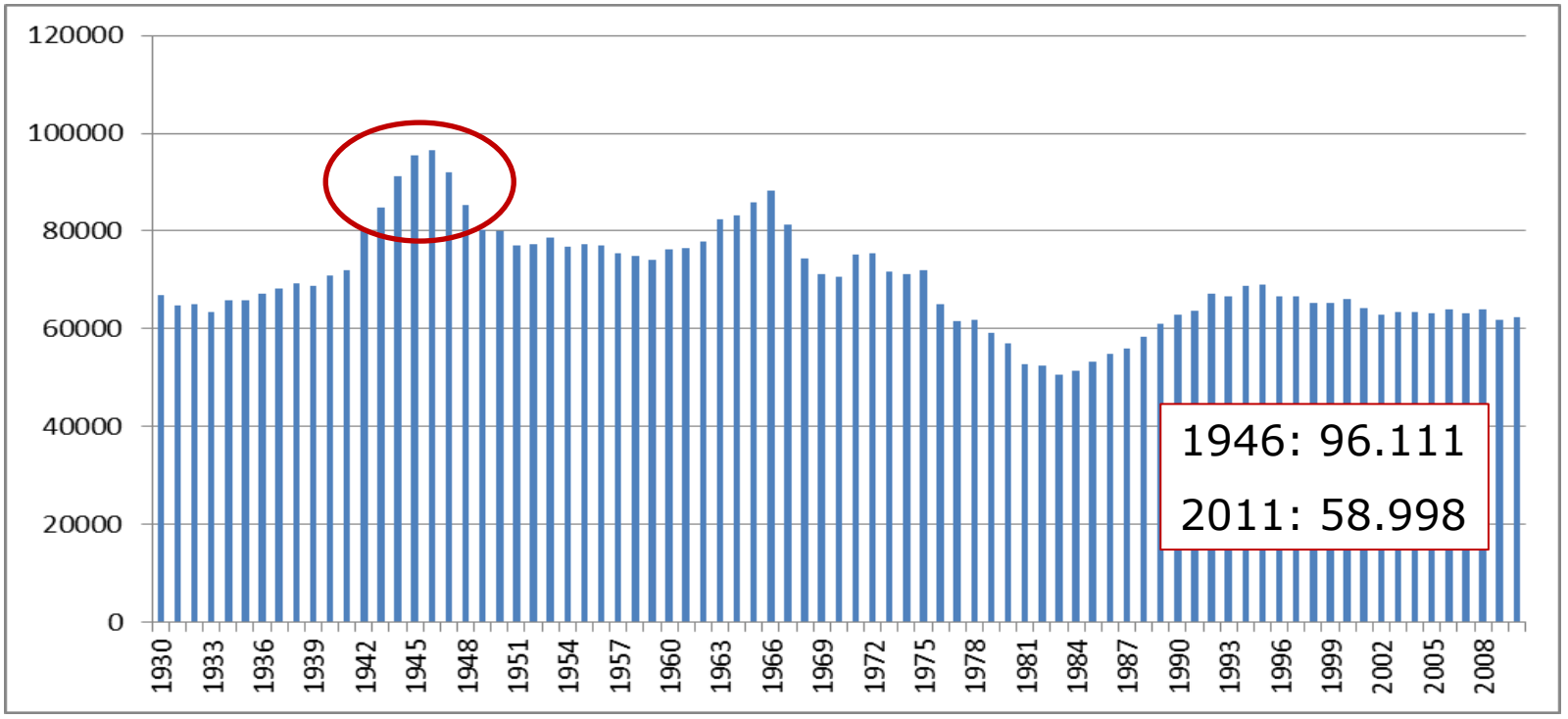
- Baby boomers' mobility patterns and expectations: Implications for future transport

- Segmentation as a starting point for behaviour change

Baby boomers?

= Large post-war generations

Will comprise a large proportion of tomorrow's older persons



Boomers' effect on future transport

- Traditional travel demand forecasts assume decrease in travel activities with increasing age

→ Too modest forecast on increase in travel demand?

- Previous studies on baby boomers have focused primarily on special characteristics of the cohort, neglecting the heterogeneity

→ Too optimistic forecasts on independent mobility?

Method

2009: 1772 standardised telephone interviews with people born 1946-47 (62/63 y.) (response rate: 74%)

2012: 864 standardised telephone interviews with participants of 1st survey (response rate: 78%)

Content

- Demographics and health
- Car access and mobility behaviour
- Future expectations

Groups

- **Still working:** working both in 2009 and 2012
- **Early retirees:** already retired 2009
- **Recent retirees:** still working 2009, retired 2012

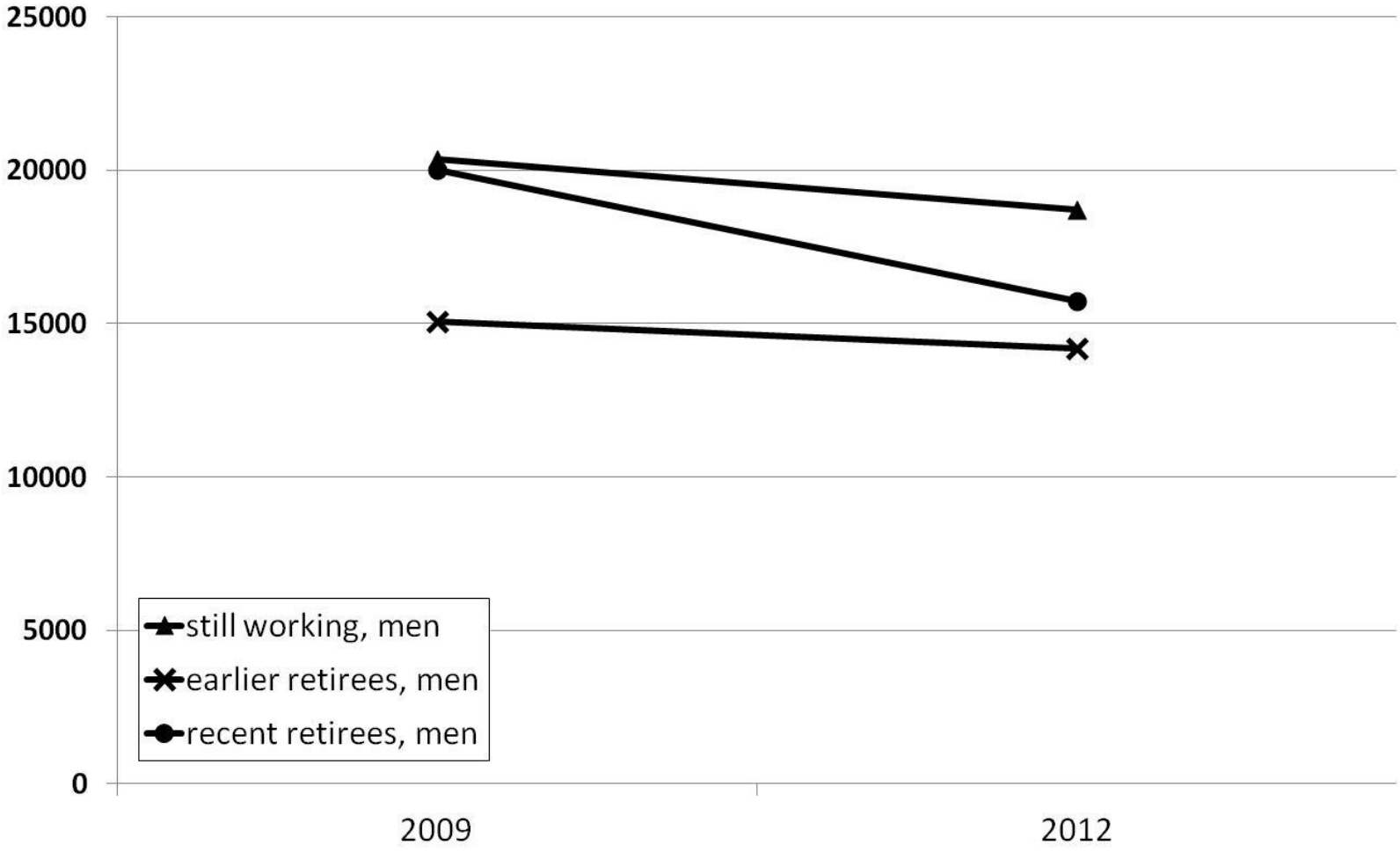
➢ Possible to distinguish between age and retirement effects

Results (2009 data)

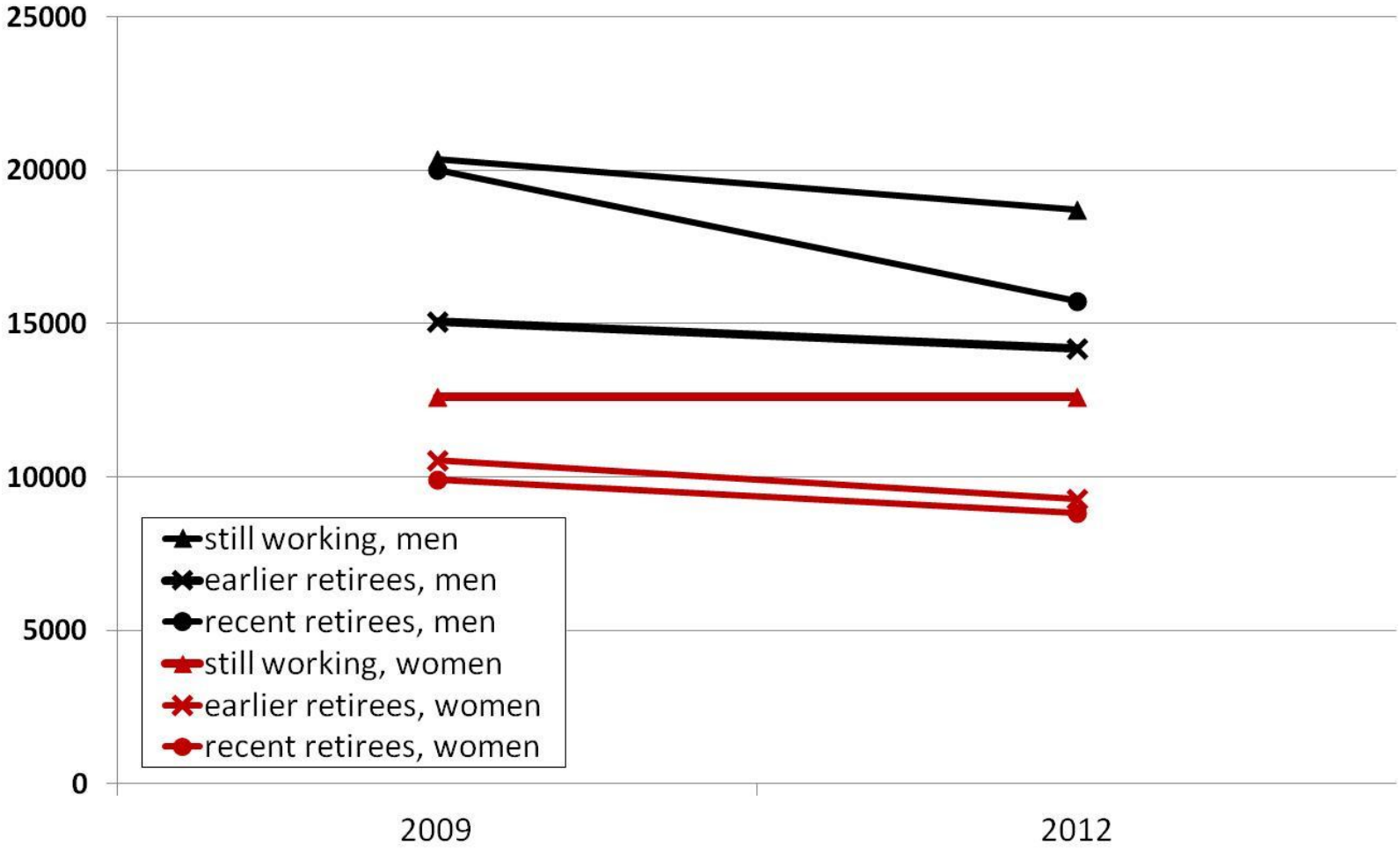
Boomers in general healthy and (auto)mobile:

- Self rated health between “good” and “excellent”
- Licensed: 95.1% men; 88.7% women
- Car in the household: 92.7% men; 89.0% women
- Majority use car every day or several times a week (men: 91.4%; women: 76.0%)

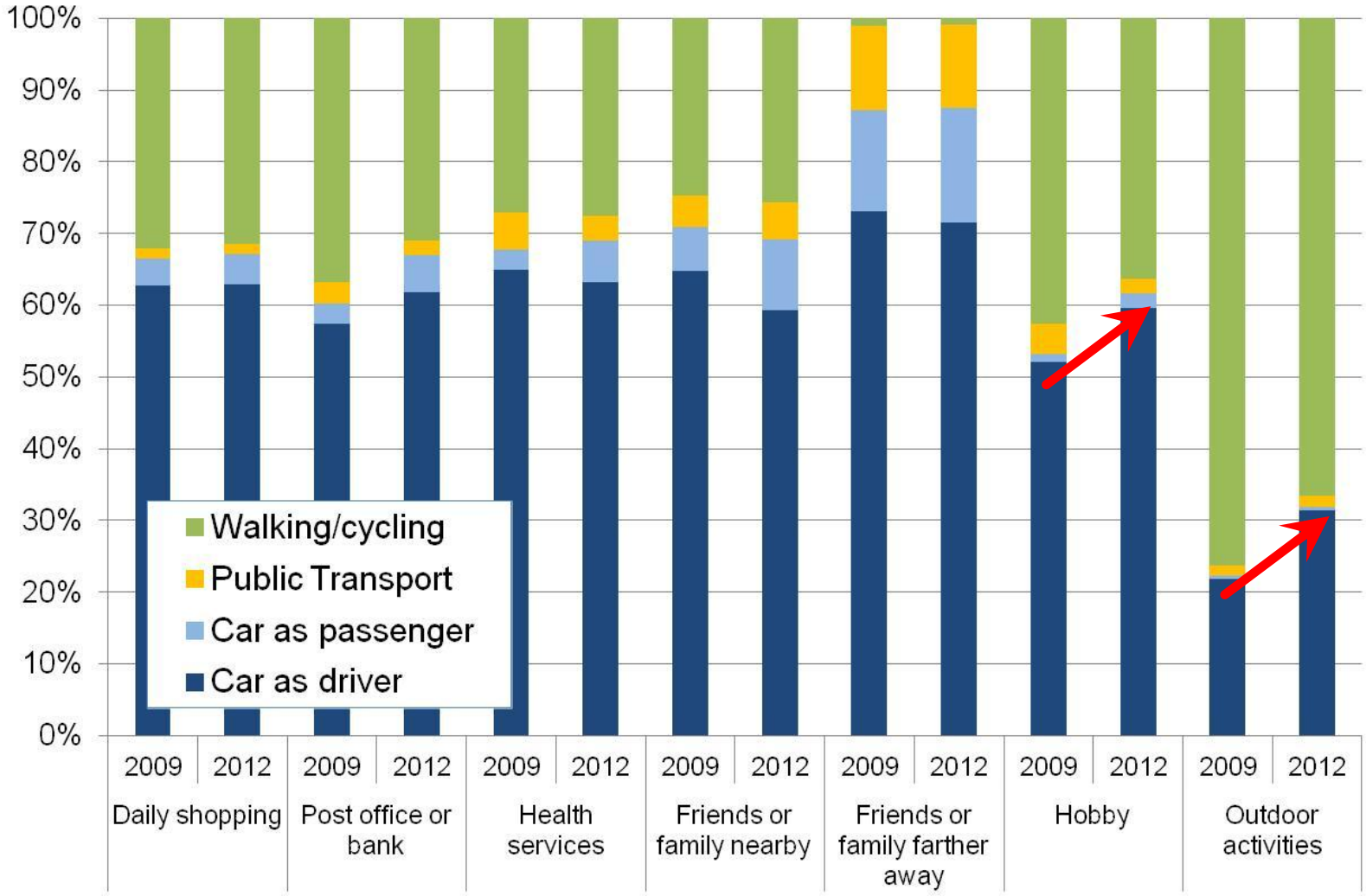
Mileague by employment and gender



Mileague by employment and gender



Mode choice before & after retirement



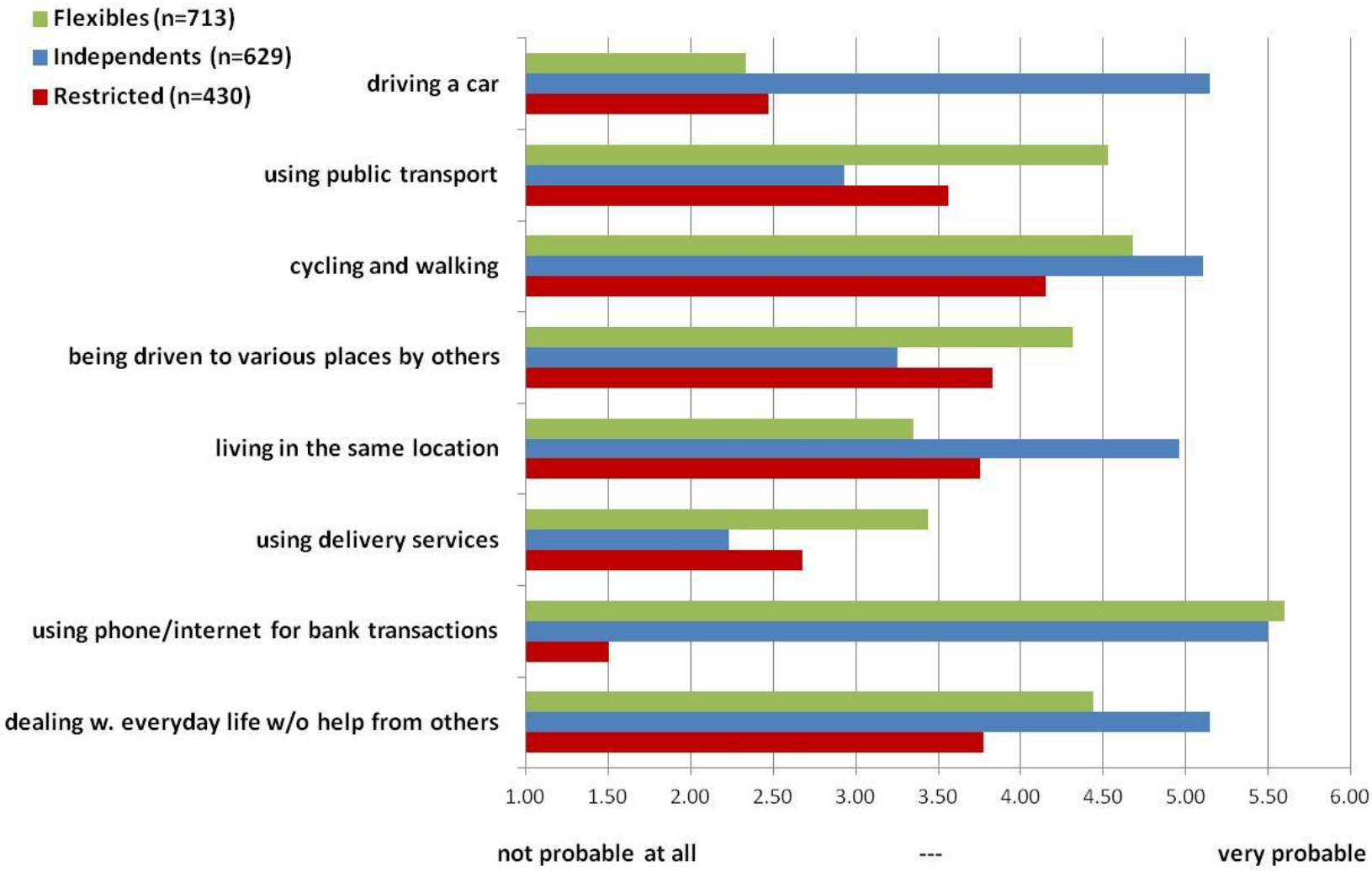
Retirement is a transition point that decreases general car use.

but

Leisure mobility relying on the car and women's changing professional roles likely to weaken this decrease.

Siren & Haustein (2013). How do baby boomers' mobility patterns change with retirement? *Ageing and Society*, submitted

Future expectations: Cluster profiles



Baby boomers are likely to remain strong consumers of the transport system, but they are heterogeneous.

Too optimistic scenarios about independent baby boomers who have (almost) no need for external support are unrealistic.

Siren, A. & Haustein, S. (2013). Baby boomers' mobility patterns and preferences: What are the implications for future transport? *Transport Policy,* 29, 136-144.

Segmentation as a starting point for behaviour change

- Use of attitude-based market segmentation to promote sustainable transport has significantly increased in research as well as by transport associations and public authorities.

- Segmentation into groups sharing similar attitudes and preferences provides valuable information about how green measures should be designed and promoted in order to attract different user groups.

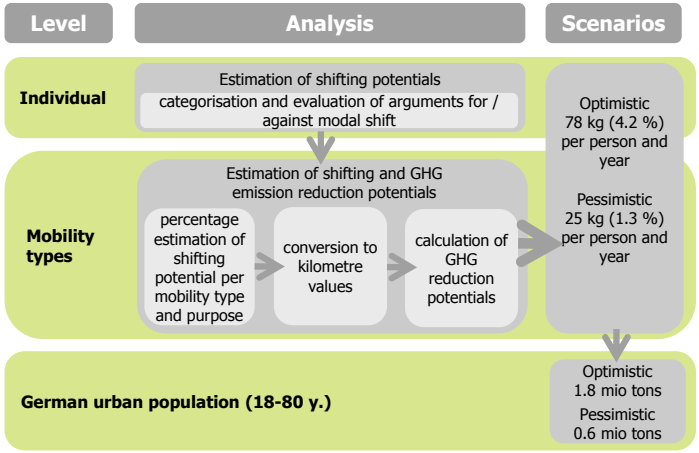
Haustein & Hunecke (2013). Identifying target groups for environmentally sustainable transport: assessment of different segmentation approaches. *Current Opinion in Environmental Sustainability*, 5(2), 197–204.

Haustein (2013). Segmentering i transportsektoren for at fremme grøn transport. Trafik og Veje, Nov. 2013

2 Examples

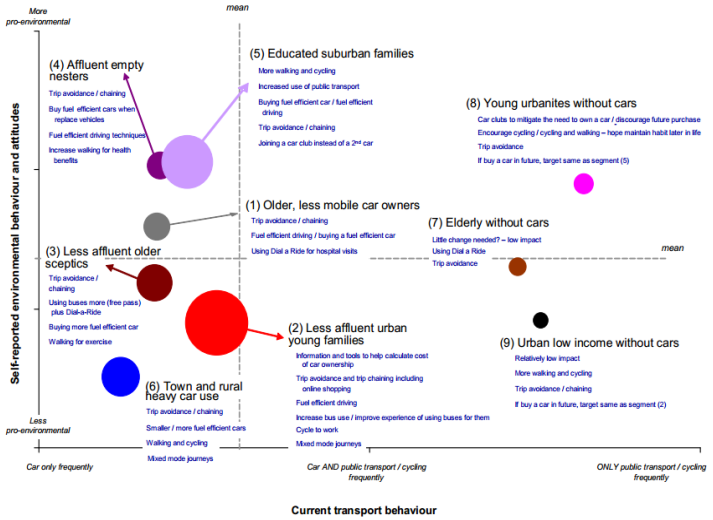
Research:

Hunecke, Haustein, Böhler & Grischkat (2010). An attitude based target group approach to reduce the ecological impact of daily mobility behavior. *Environment and Behavior*, 42, 3-43. (MOBILANZ)



Practice:

Thornton et al. (2011). Climate change and transport choices: Segmentation model - a framework for reducing CO_2 emissions from personal travel. UK: Department for Transport.



Example 1: MOBILANZ

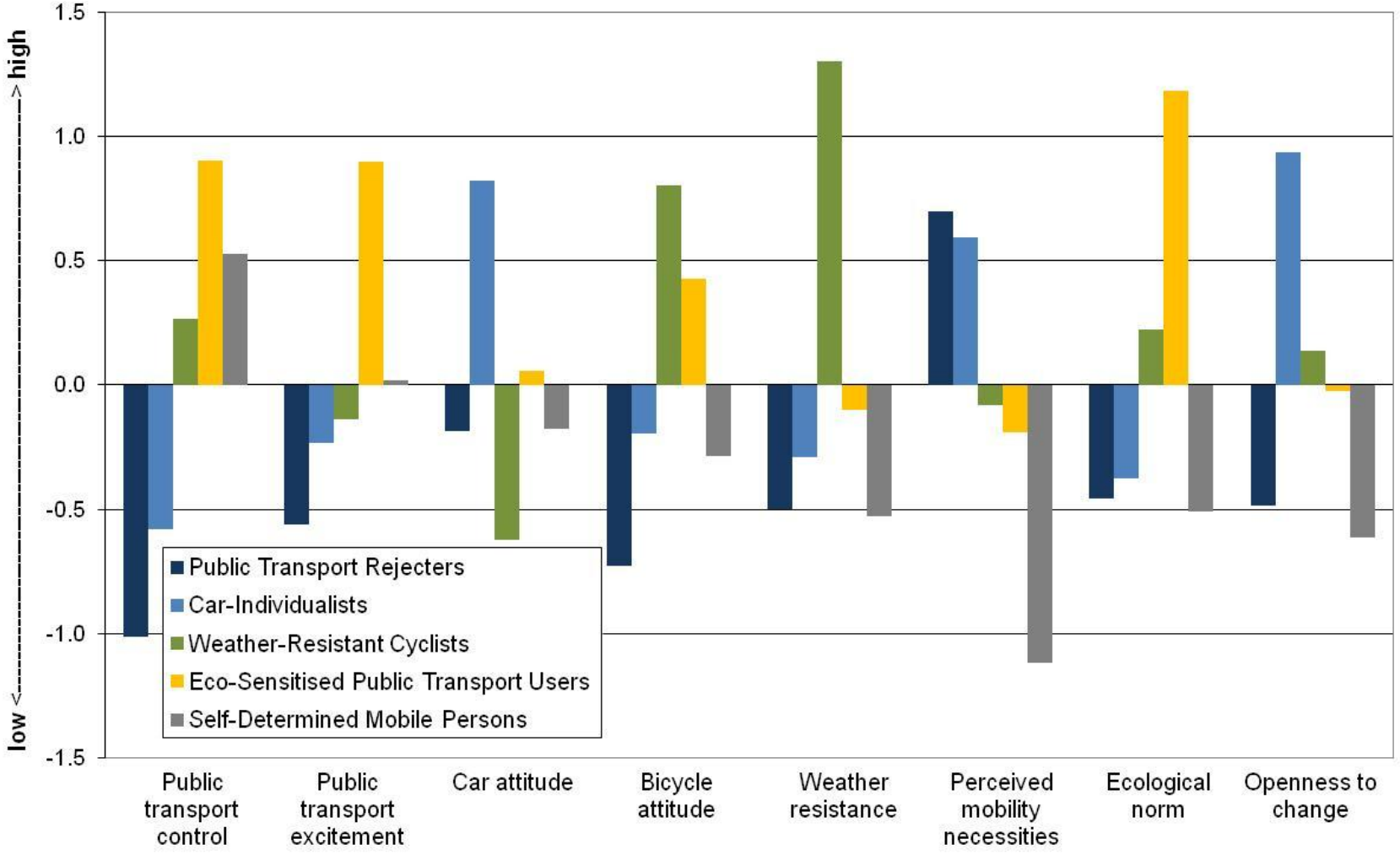
- Standardised survey (attitudes, mobility behaviour, background variables) including 1991 individuals in 3 big German cities:

  → Attitude-based segments ("mobility types") based on cluster analysis

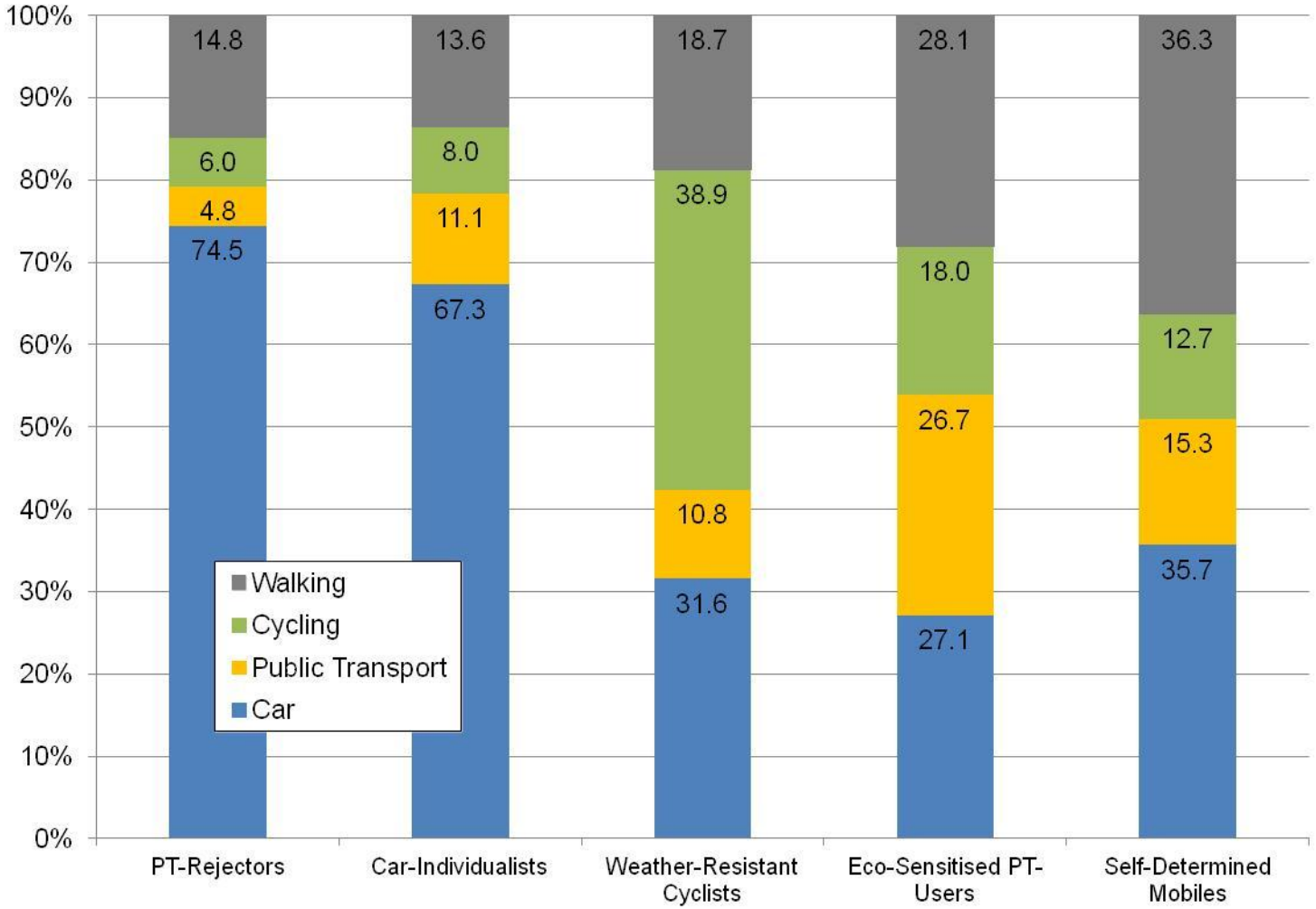
- 1-week mobility diaries and in-depth interviews with representatives of the types:

  → Emission reduction potential of specific mobility services (e.g. car-sharing)

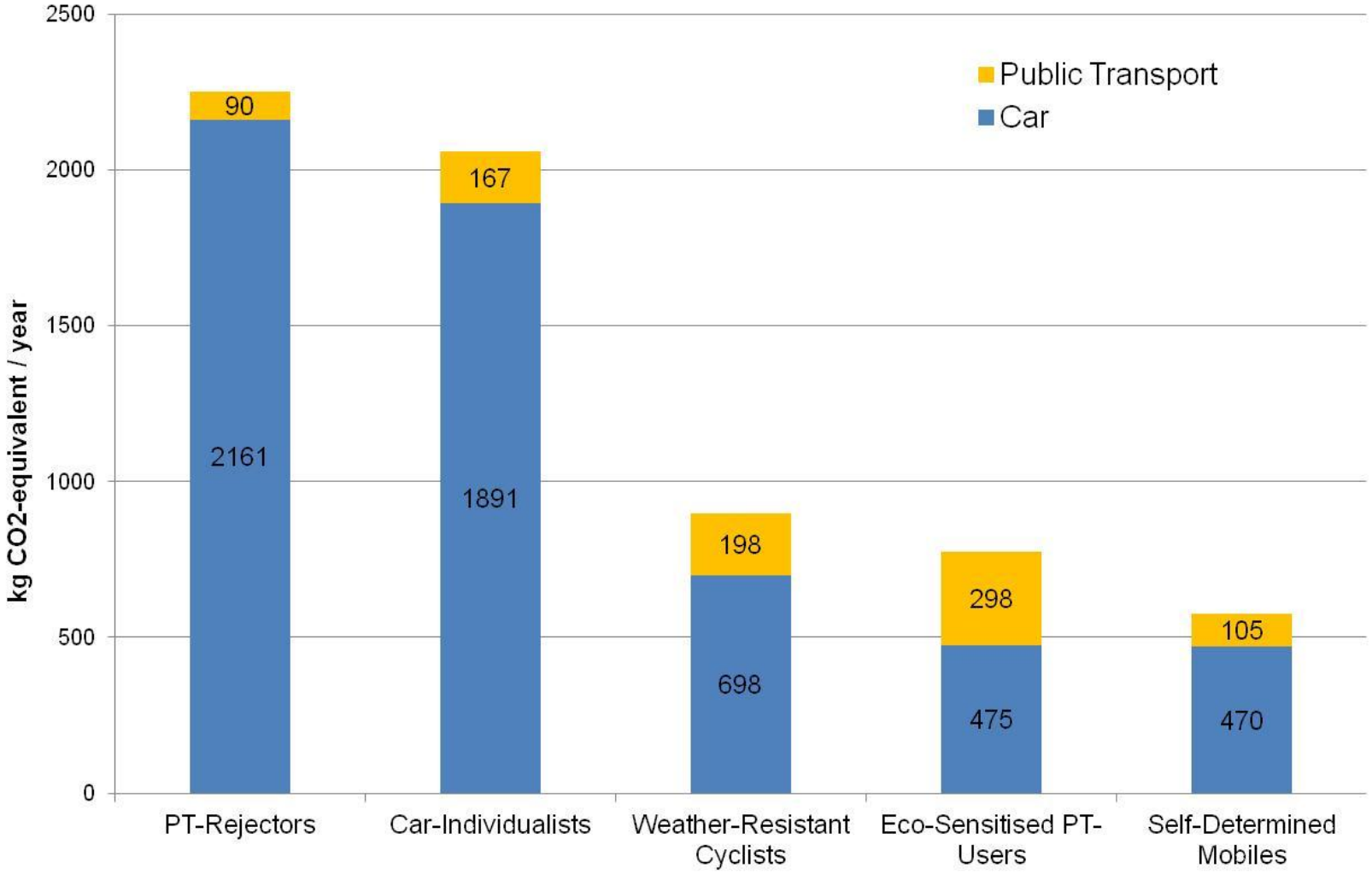
Segments' attitudinal profiles



Segments' modal split



Segments' ecological impact



Potential for Behaviour Change

Emission reduction through considered services:
78 kg per person/year

- ***PT-Rejectors***:
  Focus on functional issues: time-pressure, perceived needs form work & family; highest reduction potential: long distance train trips instead of car; possibly potential for electric cars (as 2nd car)
- ***Car-Individualists***:
  Should not be offended with negative statements about the car, can be convinced with technical innovations, e.g. some positive effects related to travel card; *possibly* potential for electric bicycles

Potential for Behaviour Change

- ***Weather-Resistant Cyclist:***
  Most potential trough improvements in bicycle transportation in public transport, some effects for Car-Sharing; *possibly* potential for electric bicycles and electric cars
- ***Eco-sensitised PT-Users***:
  Most important target group for Car-Sharing, but: only low reduction potential because car-sharing partly at the expense of PT use
- ***Self-Determined Mobile Persons***:
  Most reduction potential for improved services on long-distances trains and improved information for local public transport

Example 2: Segmentation model for British Department for Transport

- Standardised survey including 3923 individuals in the UK
- Segmentation based on:

    - Attitudes
    - Travel behaviour
    - Car ownership
    - Demographics
    - Location

- Focus groups with representatives of the segments to identify barriers and motivations towards using various modes of transport

Non-car owning segments

Elderly without cars (6%)

Young urbanites without cars (7%)

Urban low income without cars (5%)

Car owning segments

Older, less mobile car owners (9%)

Less affluent urban young families (21%)

Less affluent, older sceptics (12%)

Affluent empty nesters (9%)

Educated suburban families (17%)

Town and rural heavy car use (13%)

Car owning segments

Older, less mobile car owners (9%)

Less affluent urban young families (21%)

Less affluent, older sceptics (12%)

Affluent empty nesters (9%)

Educated suburban families (17%)

Town and rural heavy car use (13%)

Potential for Behaviour Change

"Educated suburban families" & "Affluent empty nesters" = groups of highest priority based on distances travelled and potential for change:

- ***Affluent empty nesters:***
  - Encourage the purchasing of smaller, more fuel efficient vehicles
- ***Educated suburban families:***
  - Encourage the purchasing of more or even most fuel efficient vehicles (e.g. hybrid and electric cars)
  - Increase cycling (more cycle lanes; encourage uptake of electric bicycles; better bicycle facilities at workplaces)
  - Improved public transport services
  - Work from home & use of home delivery

Segmentation: Conclusions

- Promoting measures across the whole population according to the 'shotgun approach' has only limited chances to change individual travel behaviour
- Attitude-based segmentation allows for the development of target-groups specific interventions that take into account the specific motivation and barriers of mode choice

2 Strategies:

1) *Changing products/infrastrastructure*: Adapting services w.r.t. the specific profiles of the potential users; target-group specific promotion
2) *Changing the individual*: Interventions to change attitudes, activate existing (environmental or social) norms, increase of perceived control

Tranferability to Danish context

- Results cannot simply be transferred to the Danish context differences in infrastructure, mobility behaviour and related attitudes, e.g.
  - Symbolic and affective importance of the car might be lower in Denmark compared to Germany

    → better chances for car-sharing and electric cars
  - Cycling infrastructure much better in Denmark as compared to Germany and the UK

    → potential for further improvement and related modal shifts lower

Further information:

sonh@transport.dtu.dk

Baby boomers

Siren & Haustein (2013). How do baby boomers' mobility patterns change with retirement? *Ageing and Society*, submitted.

Siren, A. & Haustein, S. (2013). Baby boomers' mobility patterns and preferences: What are the implications for future transport? *Transport Policy,* 29, 136-144.

Segmentation

Grischkat, Hunecke, Böhler & Haustein (2013). Potential for the reduction of greenhouse gas emissions through the use of mobility services. *Transport Policy*, under revision.

Haustein (2013). Segmentering i transportsektoren for at fremme grøn transport. *Trafik og Veje*, Nov. 2013

Haustein & Hunecke (2013). Identifying target groups for environmentally sustainable transport: assessment of different segmentation approaches. *Current Opinion in Environmental Sustainability*, 5(2), 197–204.

Hunecke, Haustein, Böhler & Grischkat (2010). An attitude based target group approach to reduce the ecological impact of daily mobility behavior. *Environment and Behavior*, 42, 3-43.

Thornton et al. (2011). Climate change and transport choices: Segmentation model - a framework for reducing CO_2 emissions from personal travel. UK: Department for Transport.