Institute of Transport Economics
Norwegian Centre for Transport Research

Tempest

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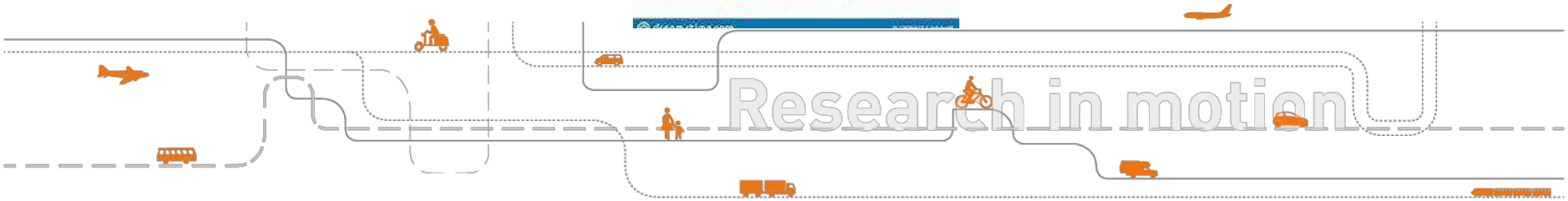
Experts' views on car sharing in future urban mobility

Results from a User Survey and an Expert Survey in four European countries

Eivind Farstad, TØI, OSLO



Today's presentation

- Eivind Farstad (PhD), senior researcher, TØI

- A little about the TEMPEST project
- Results from car sharer user survey (Oslo)
- Results from Expert survey about future development up to 2030
- Some conclusions
- Some suggested policies and measures

First - a litte about TEMPEST

- *TEMPEST* = Transforming household mobility practices through shared consumption: Low-carbon transport and sustainable energy solutions in urban areas
- 3-year research project financed by Norges forskningsråd (Research Council of Norway)
- Partners: **Transportøkonomisk institutt** (lead); DRIFT at **Erasmus University Rotterdam**, Nederland; **Lund University**, Sverige; TSU at **University of Oxford**, UK; and PhD research fellow connected to TIK at **University of Oslo**

TEMPEST Goal & research approach

Goal:
Investigate the potential of a transition, away from individually privately owned means of transport (i.e. private cars) to car sharing (cs), and implications for mobility practices in households and related energy use and emissions

Research approach:
Comparative case study via **document analysis**, in-depth **interviews of households**, **survey among car shares** (only in Norway), **stakeholder workshops**, and **Expert survey** (Delphi study)

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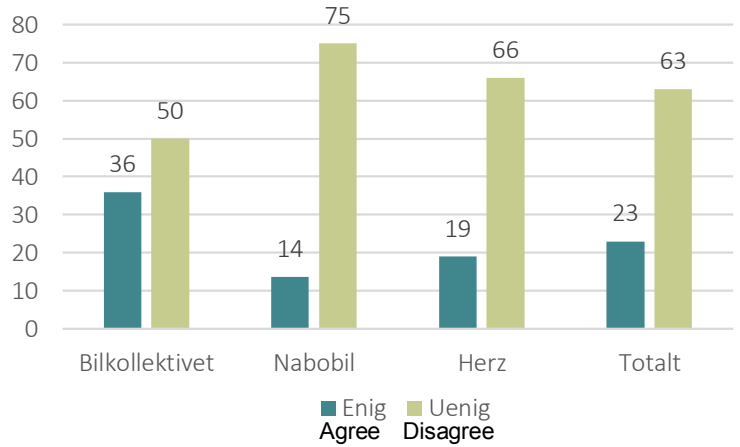
RESULTS FROM CS SURVEY:
Does car sharing lead to less car use?

2000+ users of Billkollektivet (coop), Nabobil (P2P), Hertz (B2C) in Oslo

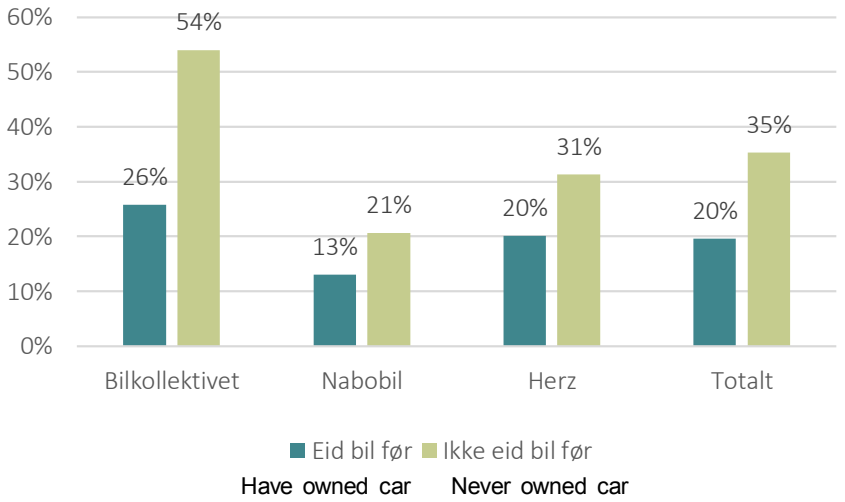
- Most car sharers agree that they drive less after starting with car sharing (i.e., disagree that they drive more)
- **Car sharers in Oslo drive ca. 30% less in km. per week than the general Oslo population**
- Bilkollektivet's (Coop) users agree they have increased car use the most, most likely because many have not had a car previously
- Most new drivers agree they drive more now than those who have had a car before
- But not always – also some (20%), mostly former owners, agree they drive more than before

→ *Yes, most probable - and especially those who go from owning to sharing*

Have increased car use after adoption (%)*



Agee that I use car more now (%)*

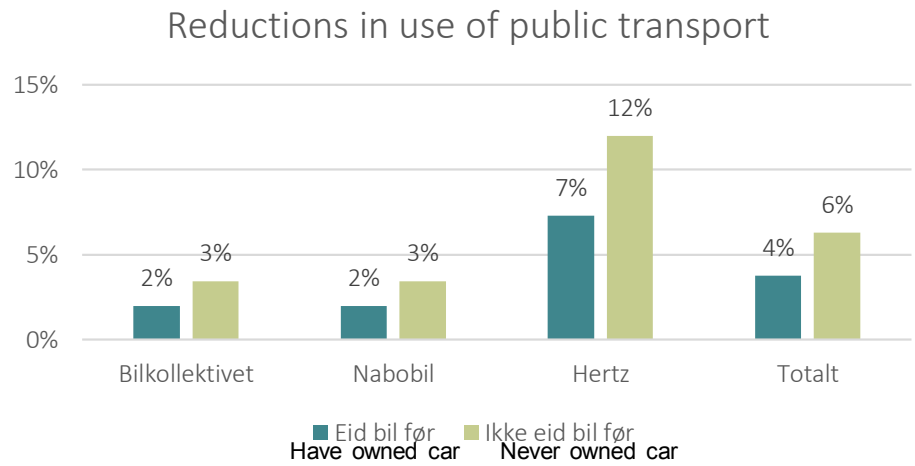


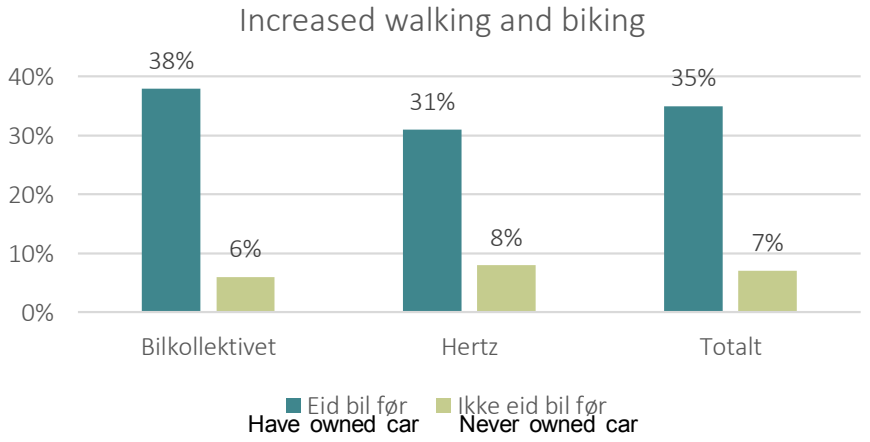
** Sum score: 5-7 on a scale from 1-7 where 1 is Do not agree at all to 7 Totally agree*

Does car sharing contribute to reductions in use of public transport, biking and walking?

- Very few think cs has reduced their use of public transport, also among people who have not had a car before
- Somewhat more among Hertz users think it has reduced use of public transport, probably because they have more shorter cs trips
- Many think it has increased their walking and biking, especially former car owners who now are shares

→ *No, but probably increase in biking and walking*

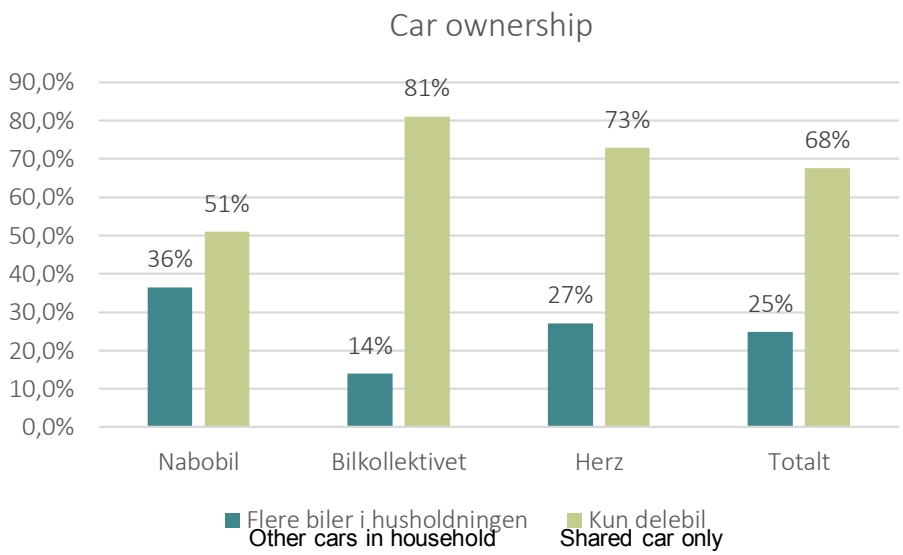


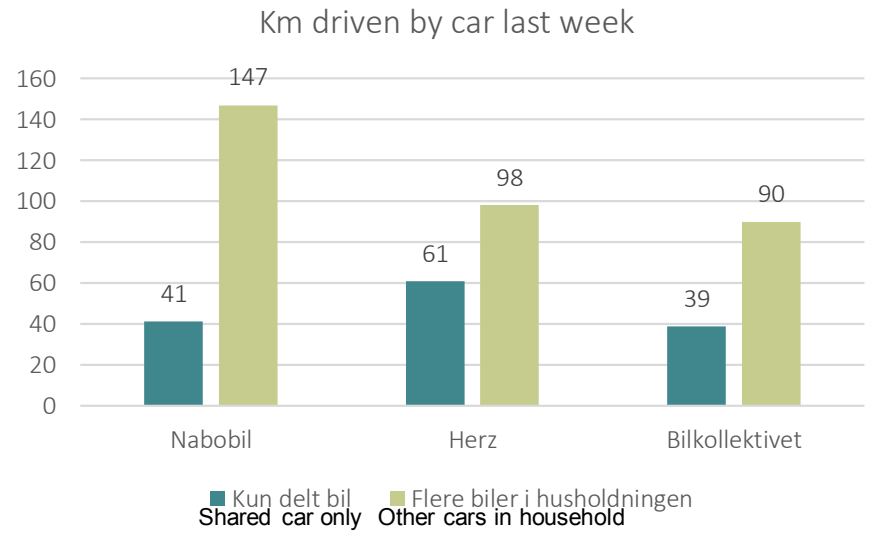


Can cs be a supplement to owned cars that increase total car driving?

- In total one in four car sharers have access to another car than cs (owned or rented)
- Among Nabobil users one in three have access to other cars
- Bilkollektivet's users have to a lesser degree access to other cars
- Households with other supplementary cars drive more than those with only cs cars
- Generally active users have less other cars available at home than passive, occasional users

→ *Yes, this is quite probable, but for the most part some of Nabobil (P2P) users*





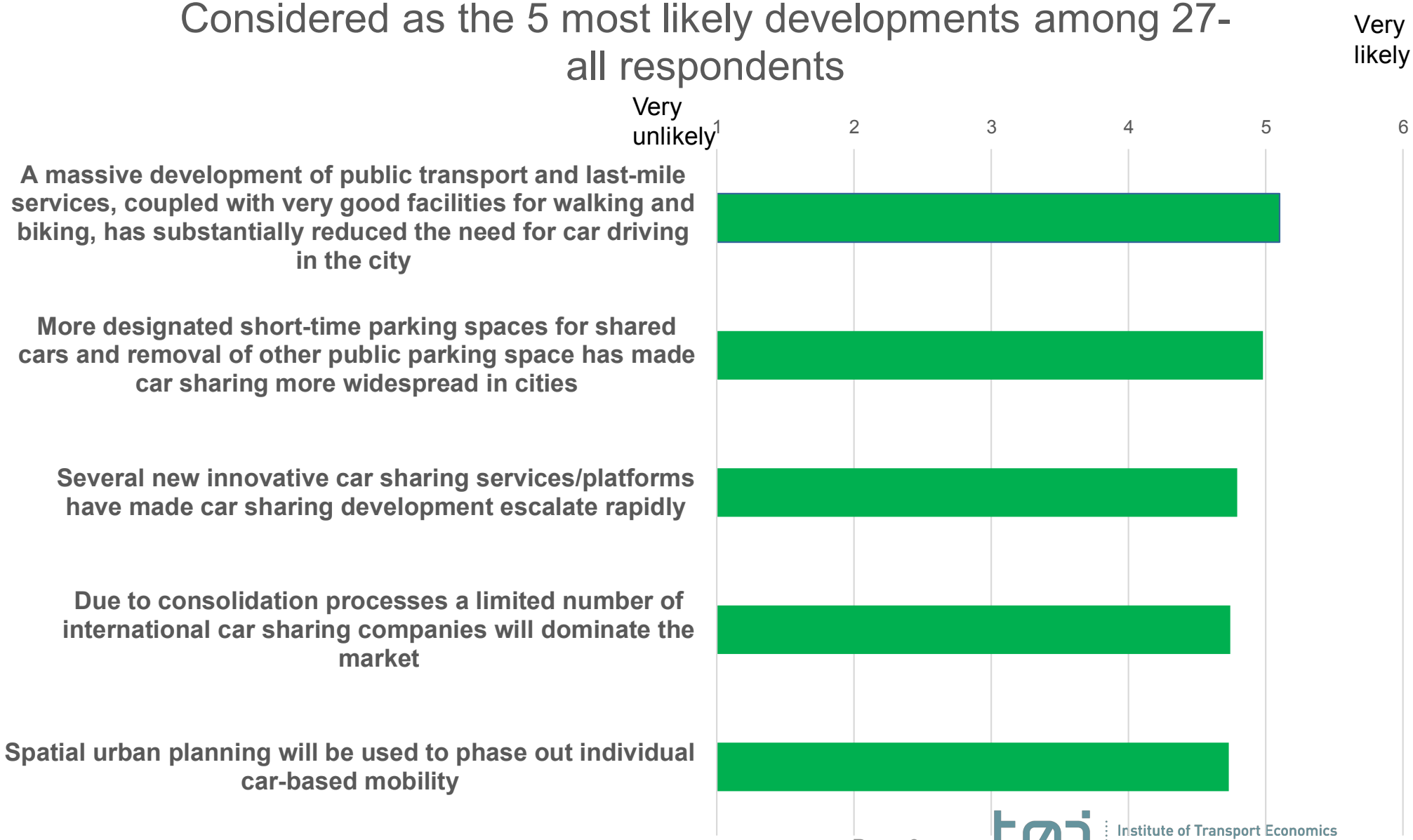
About the expert survey (Delphi)

- Purpose: To get experts' opinions on different possible developments likely to affect the level of diffusion of cs in the future mobility system
- Theoretical framework: the Multi-Level Perspective w/conceivable developments within the Landscape, Regime and Niche levels
- Invitations sent e-mail by project partners to a pool of experts and other resource persons in each case country among:
  - *Public civil servants, transport and urban planners*
  - *Local politicians*
  - *Transport operators*
  - *Car sharing operators*
  - *Research and academia*
  - *NGOs*
  - *Finance and insurance*
  - *Other experts*

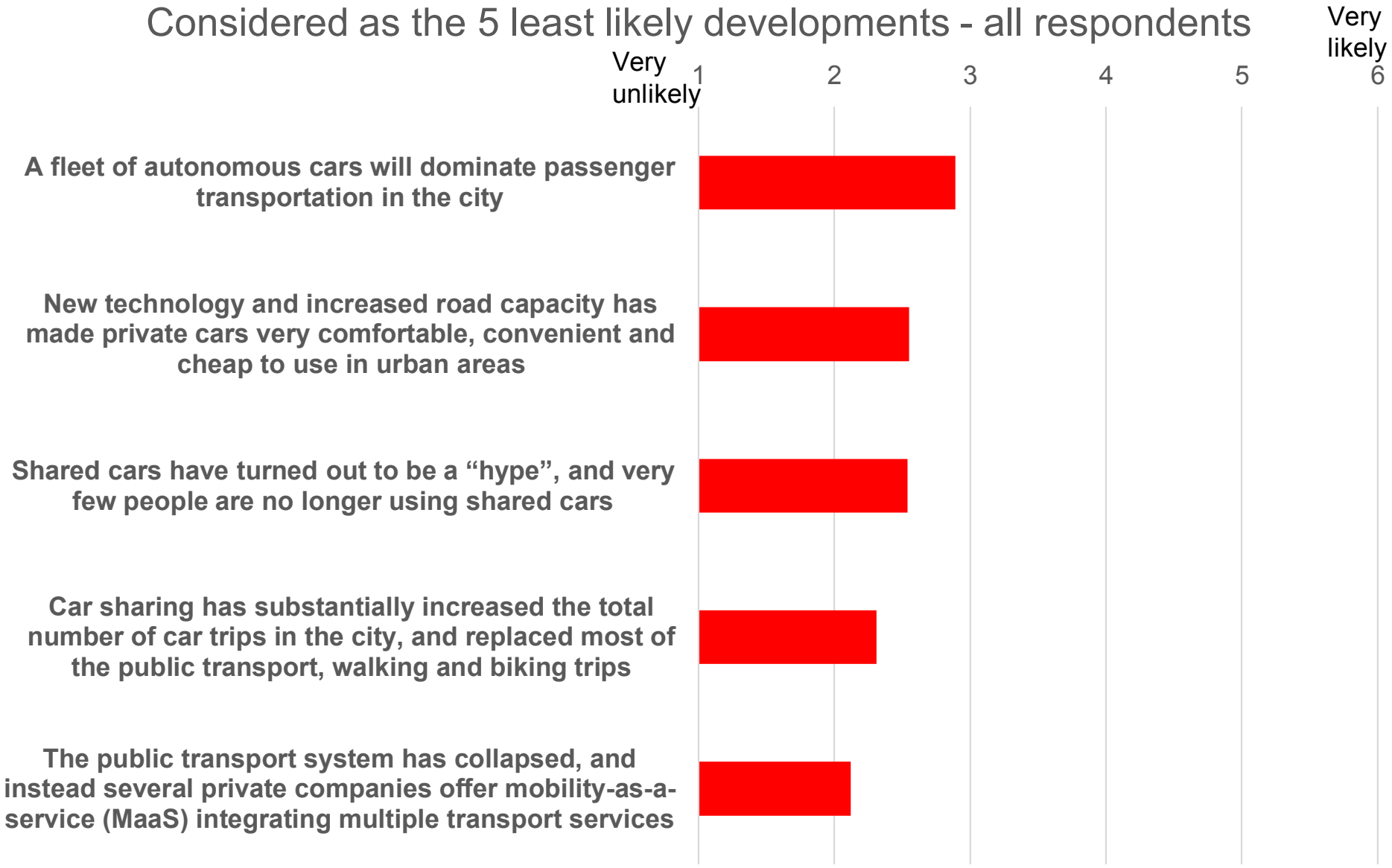
- 110 experts were asked to consider urban mobility-related developments towards 2030 in London, Malmö-region, Oslo or Rotterdam, for their respective case city

Top 5 likely future developments

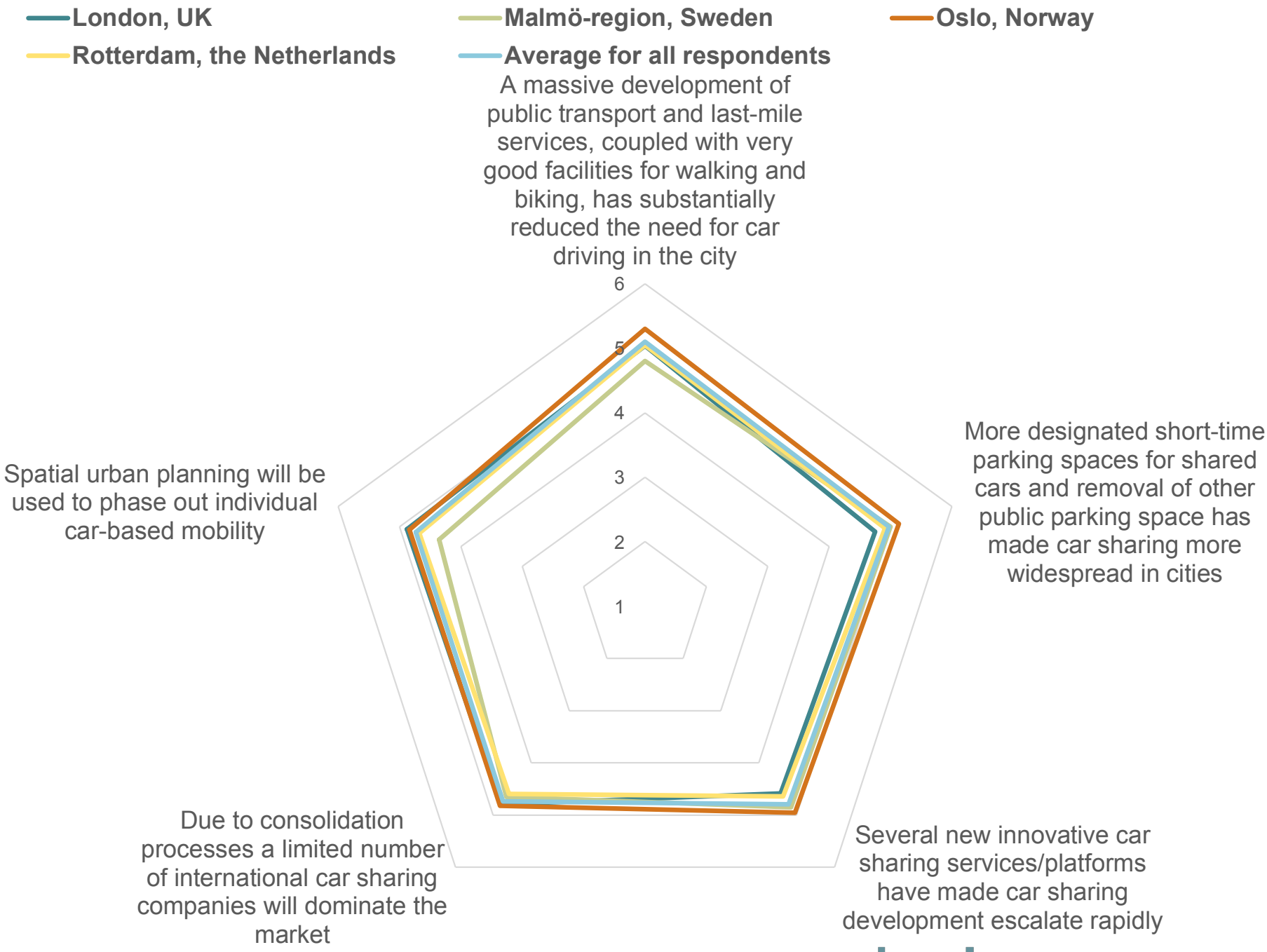
Considered as the 5 most likely developments among 27- all respondents



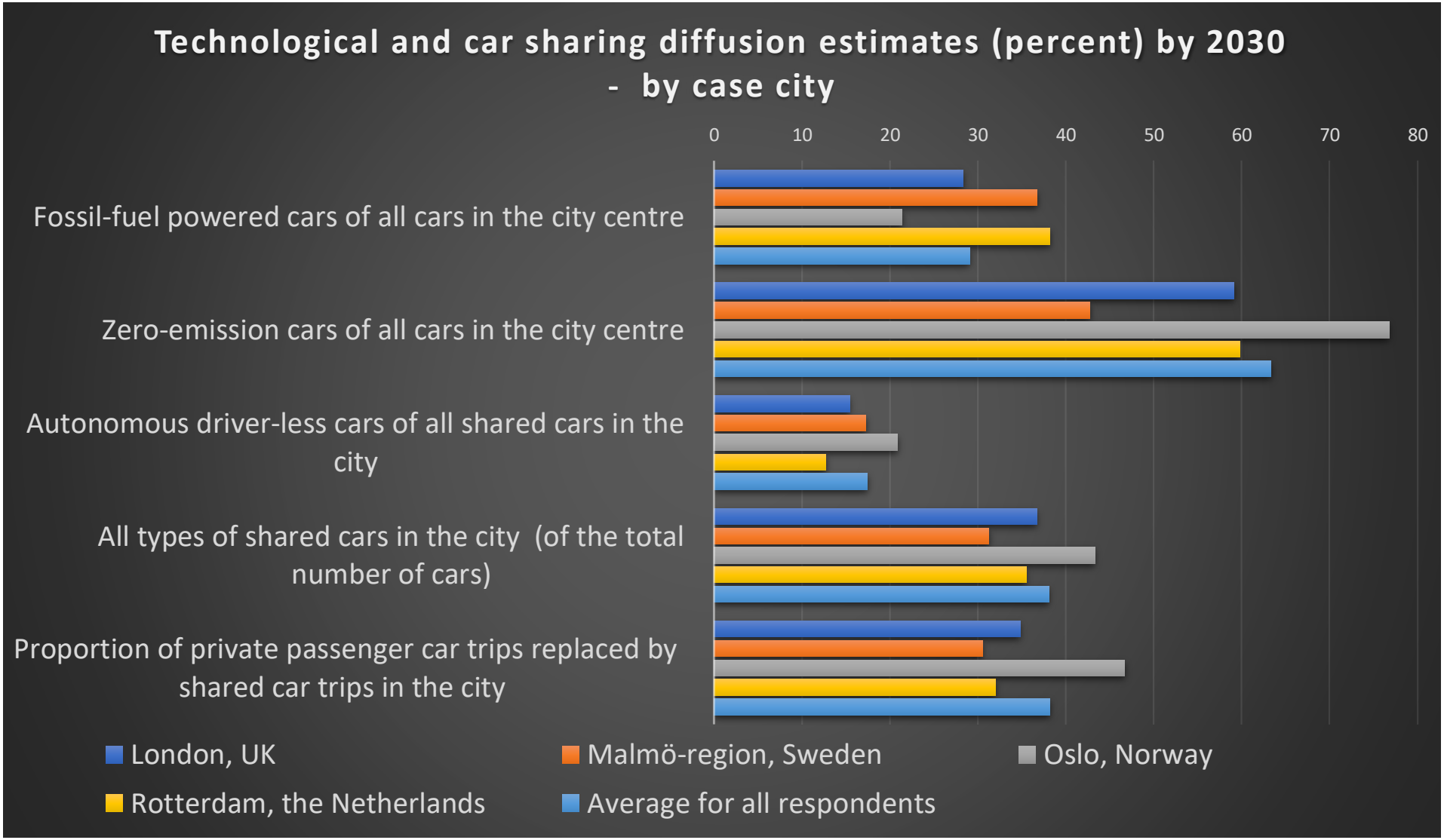
Least likely developments



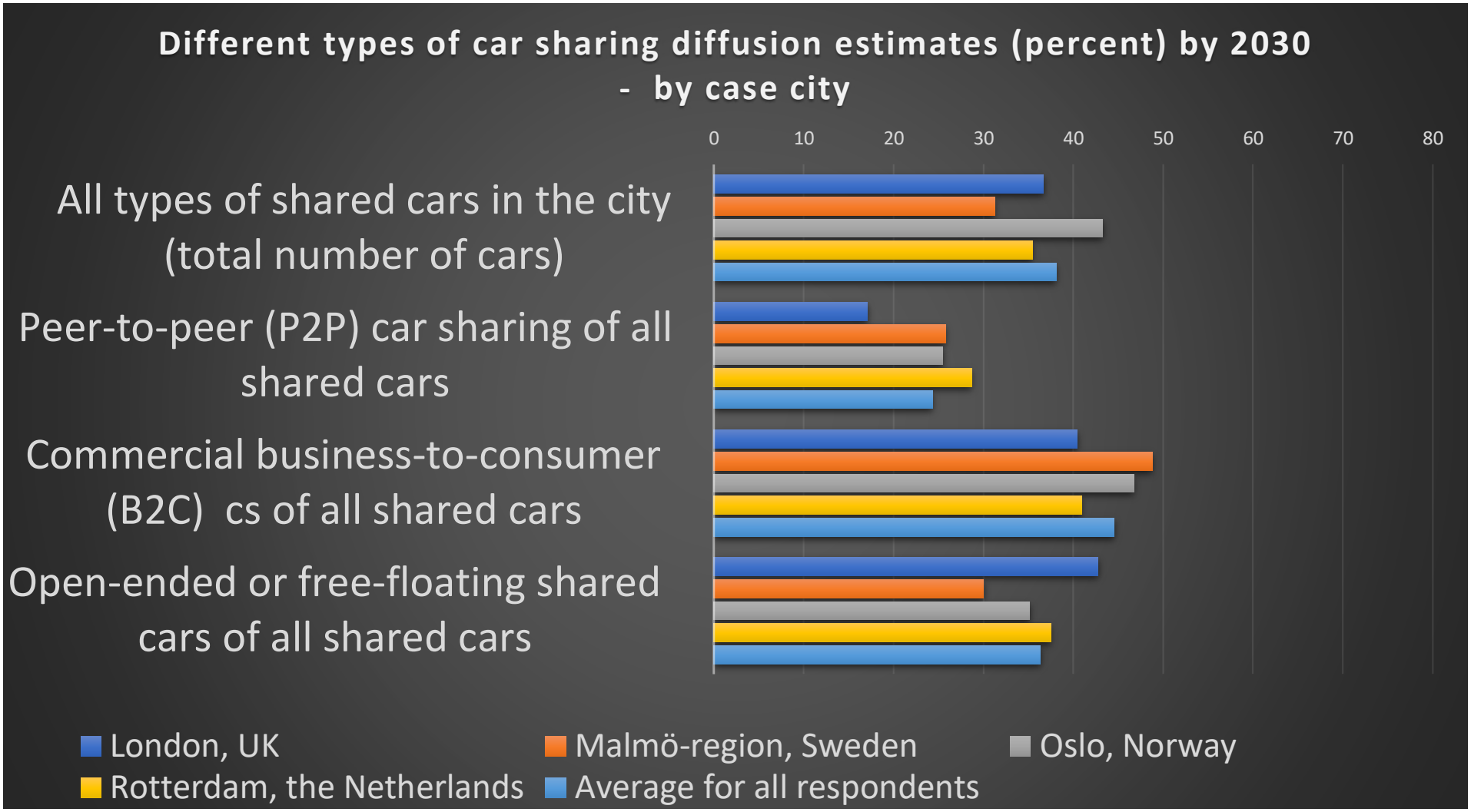
Delphi Study results by case city - 5 considered most likely developments



Estimates of technological & cs future development – much agreement across cities



Estimates of different types of car sharing development – also much agreement across cities



Today: Less than 5% cs (Norway)

Some conclusions so far…

- Our research suggests that cars sharing can reduce car driving in the city – around 1/3 of car trips
- Experts generally believe car sharing will increase in magnitude and importance towards 2030
- Developments that are «cs favorable» are judged likely to occur
- Developments working against cs growth are judged less likely to take place

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Some conclusions so far…

- Experts think fossil-fueled cars will be partly phased out and zero-emission cars take over by 2030,
  - *and only a low proportion of autonomous cars in city centers*
- The majority (45%) of cs cars within B2C business models
- Cs diffusion believed to become 40% of all cars in cities
- Cs trips can replace 30-40% of private car trips in case cities, on average
- With this level of prevalence of cs cars in 2030, that will make a substantial impact on energy use and emissions.

and finally - some more…

- **Some suggested policies:**
- Develop parking policies that favor cs over private cars
- Make it more difficult and expensive to drive private cars in cities
- Develop public transport and facilities for biking and walking making it less necessary to drive cars in cities
- Integrate cs with shared mobility systems (MaaS etc.)
- Use urban planning to phase out private cars in the city
- Try to stimulate a variety of cs services, avoid “cs monopolies”

Further work:

2-3 scenarios will be developed based on the findings

We believe the user and expert survey results are important as input for policy makers when setting premises and designing the future mobility system

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Thank you for your attention!

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