
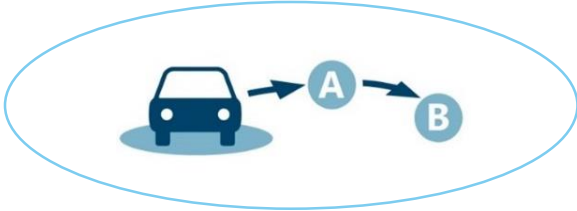



Impacts of car sharing variants – car ownership and mobility choices

STARS findings and the future of carsharing
in Europe, 13/02/2020, Bremen
Gunnar Nehrke, Michael Ziesak



Car sharing variants

Roundtrip	<ul style="list-style-type: none">• Car is picked up at defined parking space near customers home• Car has to return to that parking space	
Free-floating	<ul style="list-style-type: none">• Car is parked anywhere in operational area and has to be spotted via App• Car can be parked anywhere in operational area after use	
Combined	<ul style="list-style-type: none">• Roundtrip and free-freefloating cars in one car sharing offer and integrated tariff	

STARS case studies Germany

Aim:

Show impact of carsharing from a user perspective: What car sharing membership(s) in households coincide with what mobility behaviour?

1st wave (May 2018):

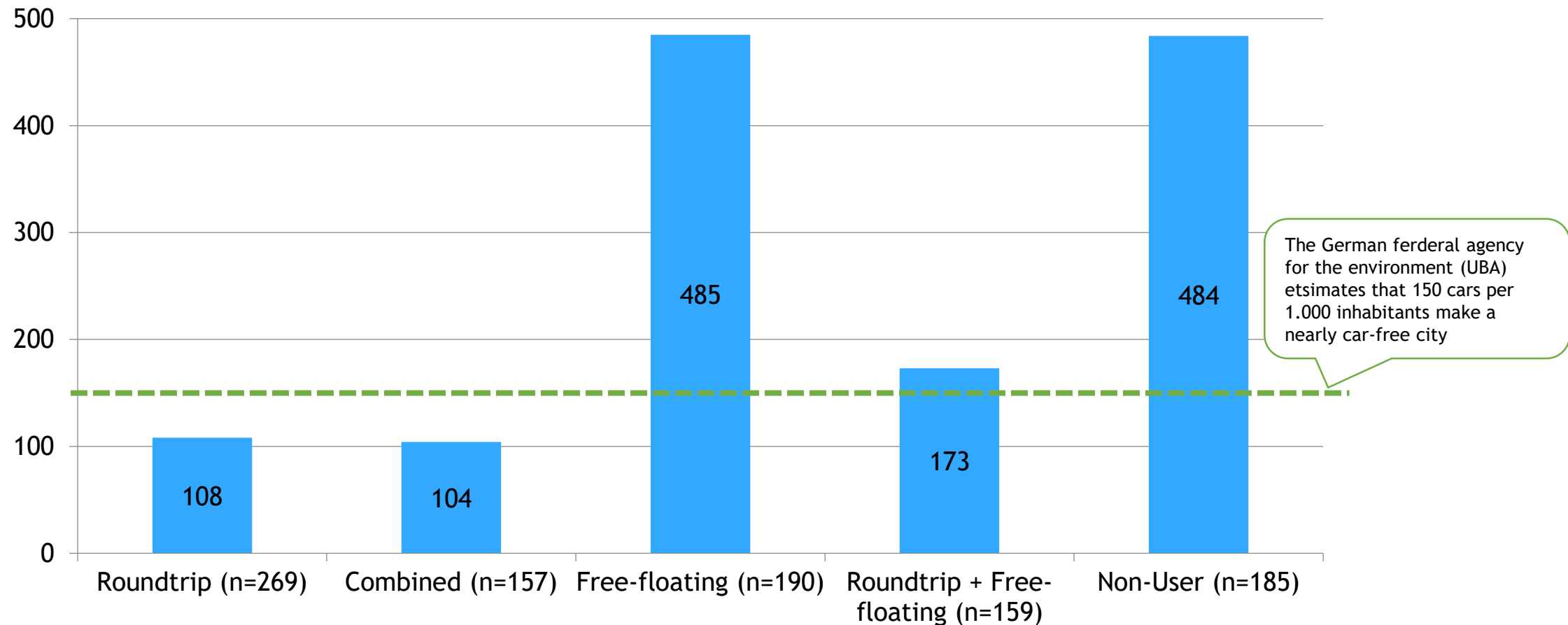
- 3 cities (Frankfurt, Cologne, Stuttgart)
 - defined inner-city residential areas
 - best-case availability of all carsharing-variants
 - best-case environment for multimodal mobility
- Respondents: **1.122 users + 185 non-users**

2nd wave (April 2019):

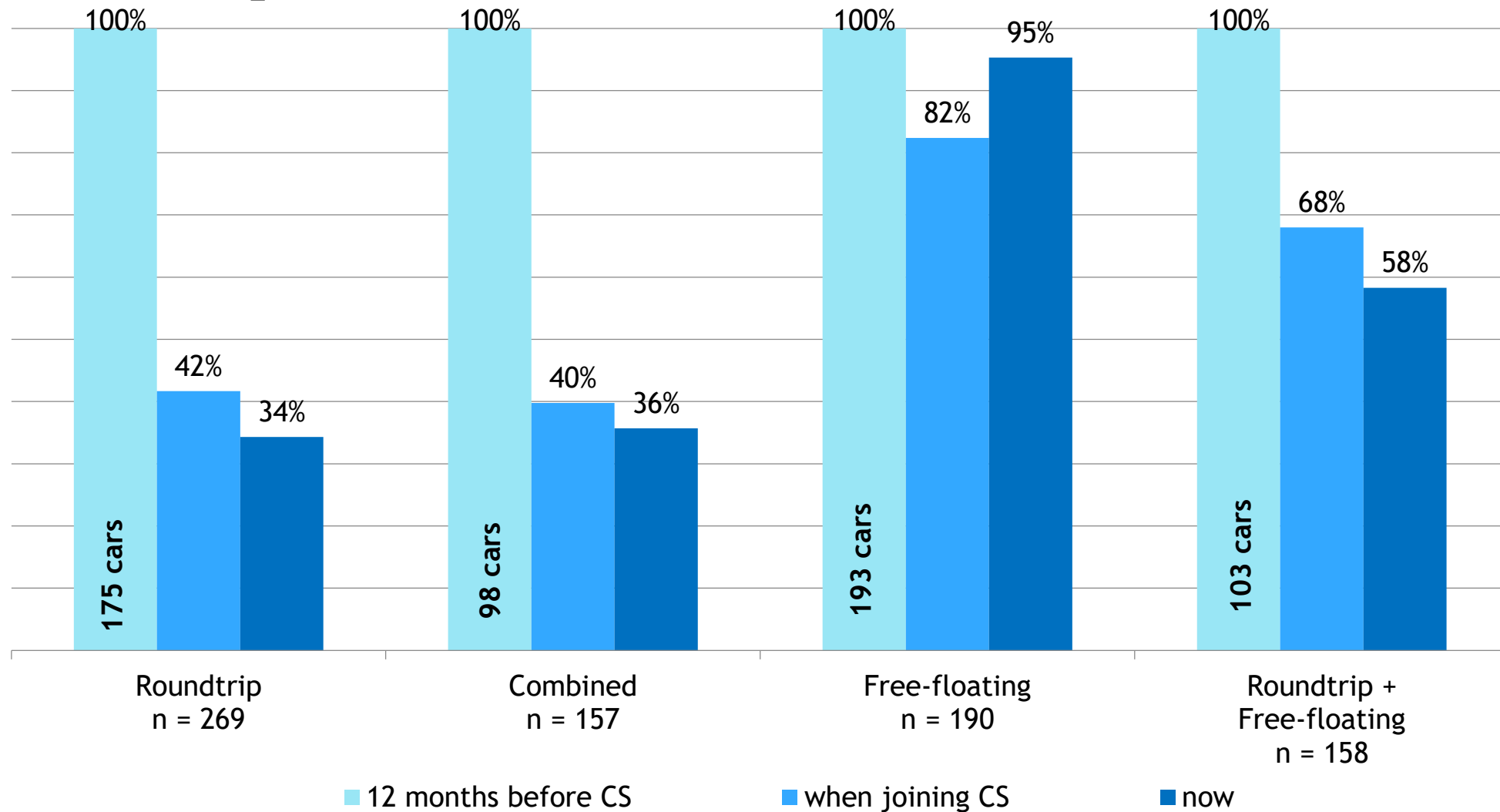
- City of Frankfurt (whole city)
 - all variants available
- Respondents: **1.100 users + 204 non-users**

Motorization rate (inner cities)

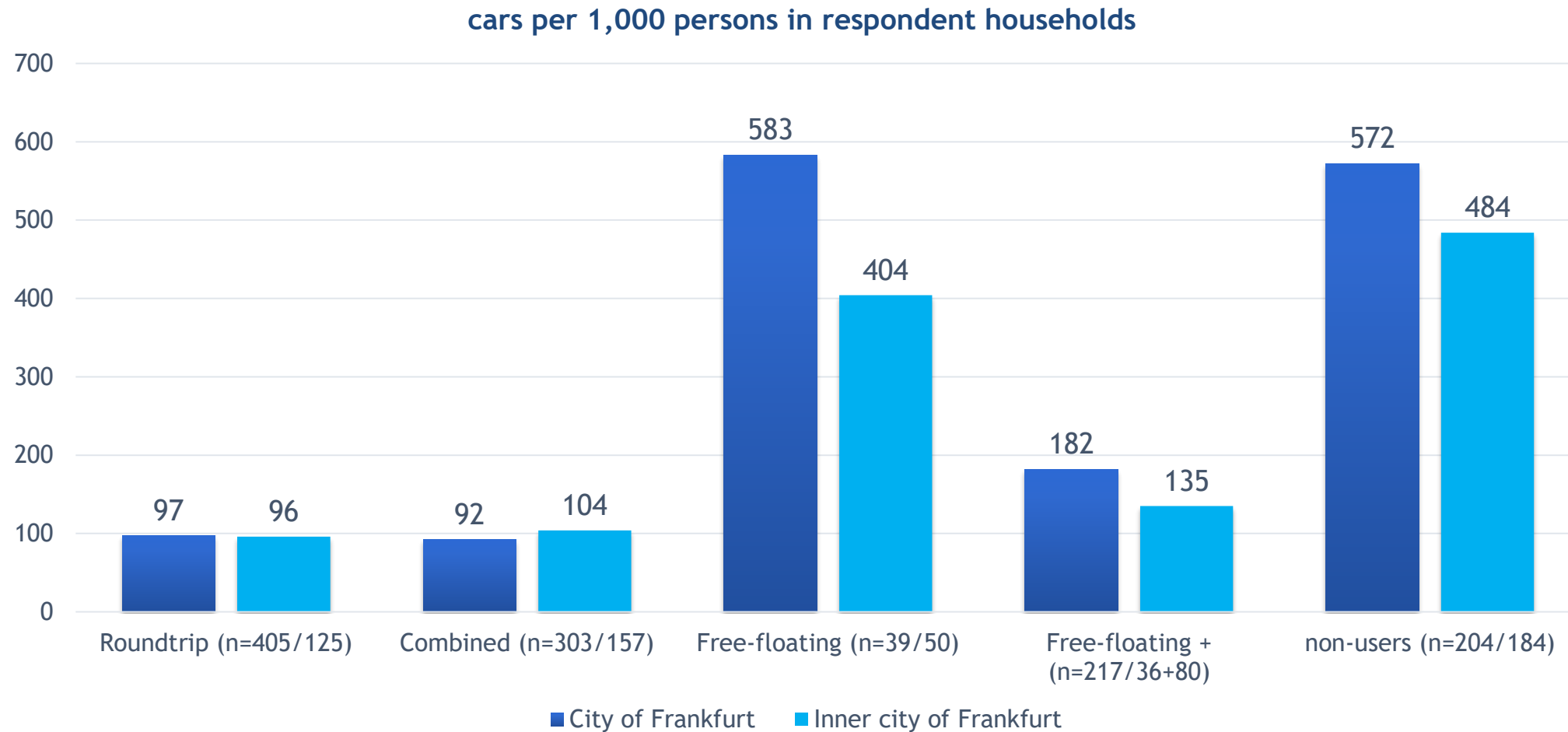
Cars per 1.000 persons in respondent households



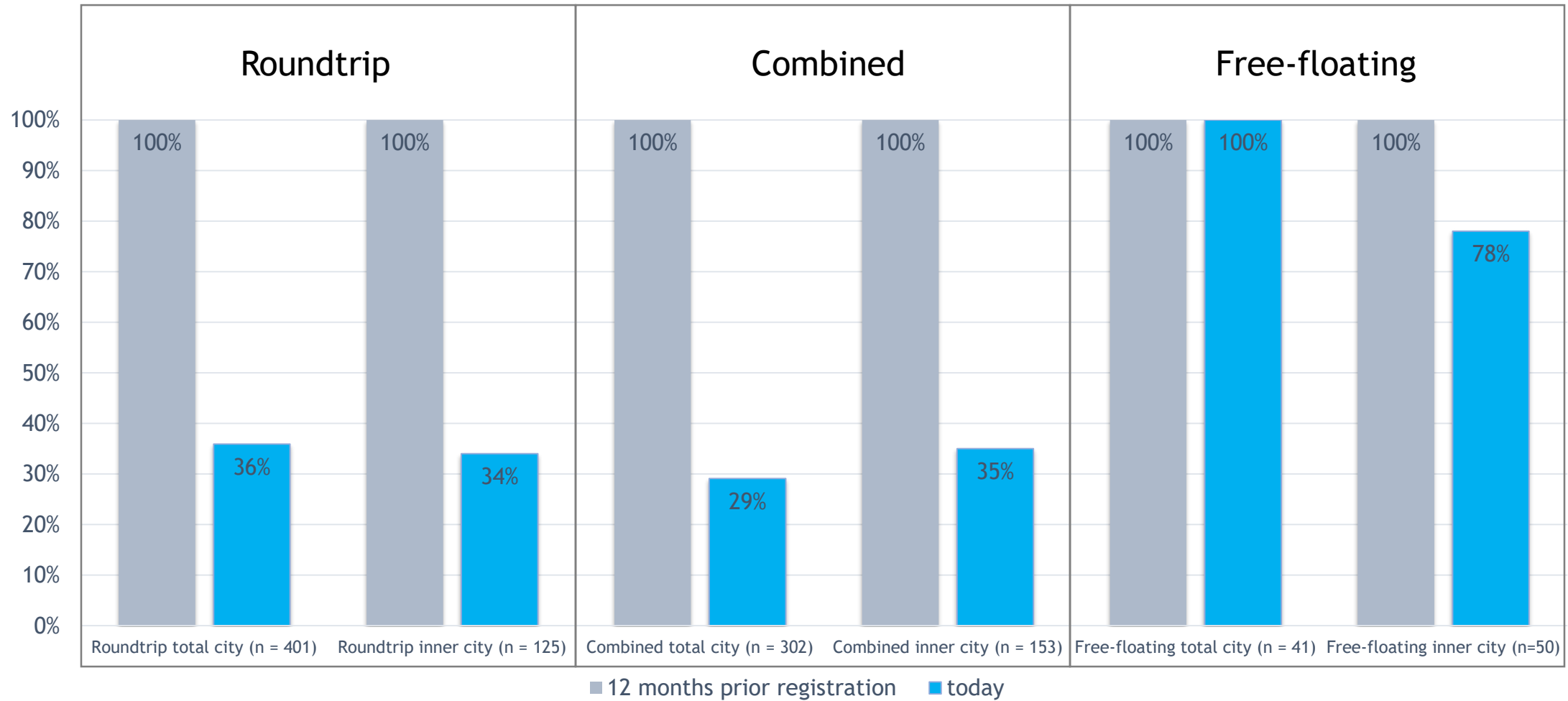
Development of car stock (inner cities)



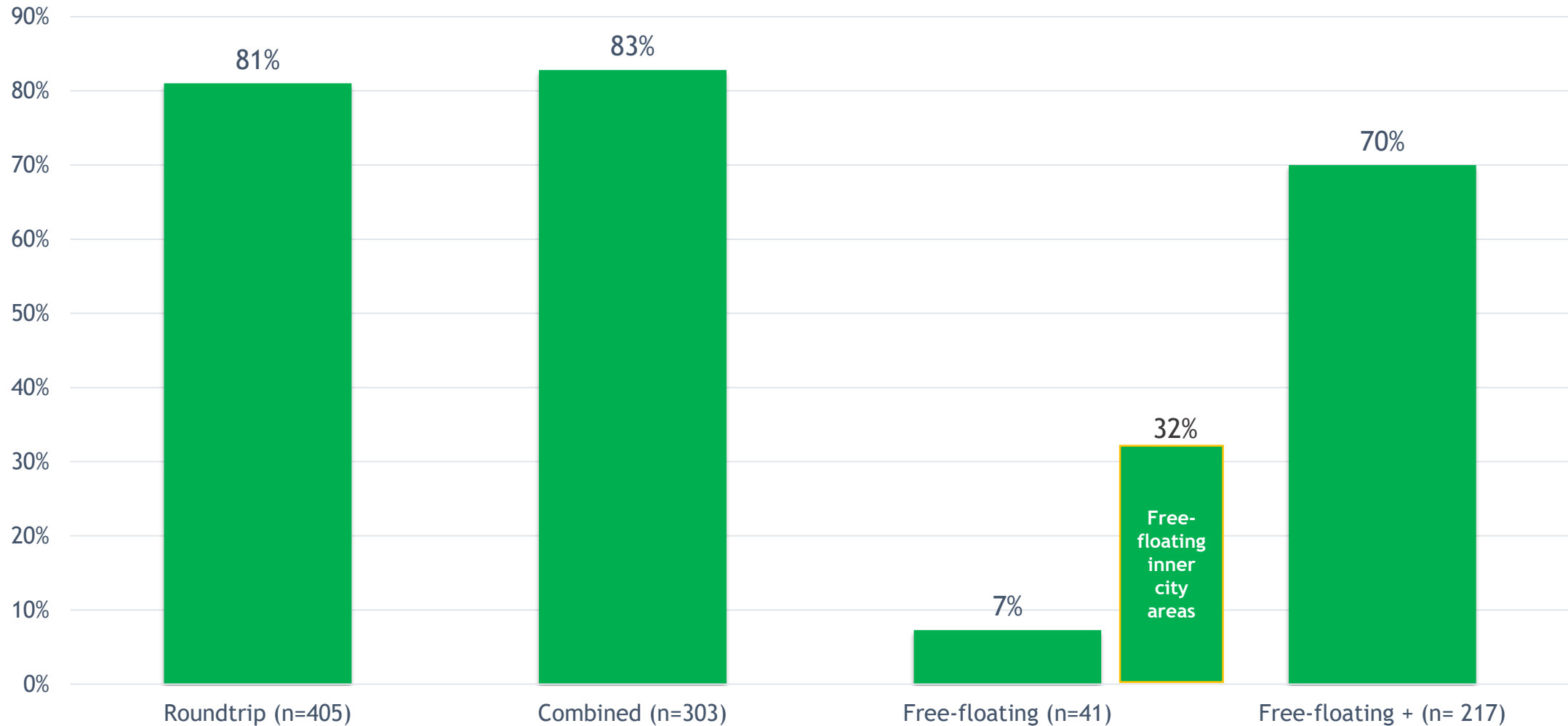
Motorization rate Frankfurt (whole city/ inner city)



Development of car stock Frankfurt



Car free households Frankfurt

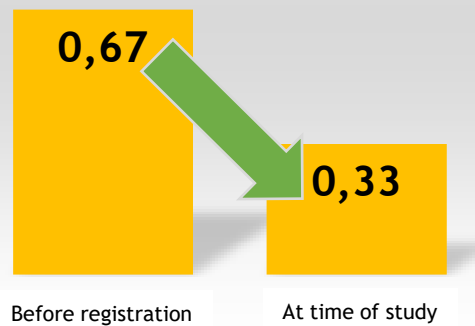


STARS can explain other studies

Cars per household in recent car sharing studies

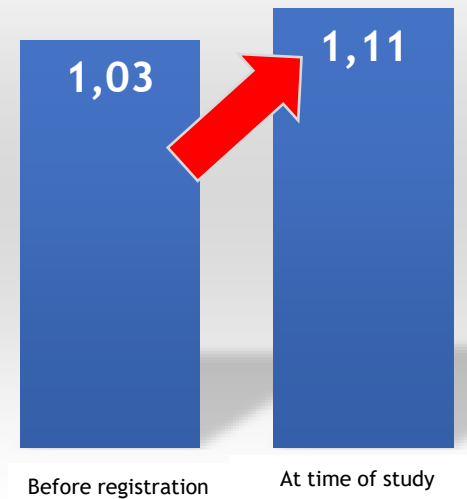
Roundtrip CarSharing

Bremen-study*
(Stadt Bremen)



Free-floating CarSharing

share**
(Frankfurt, Köln, Stuttgart)

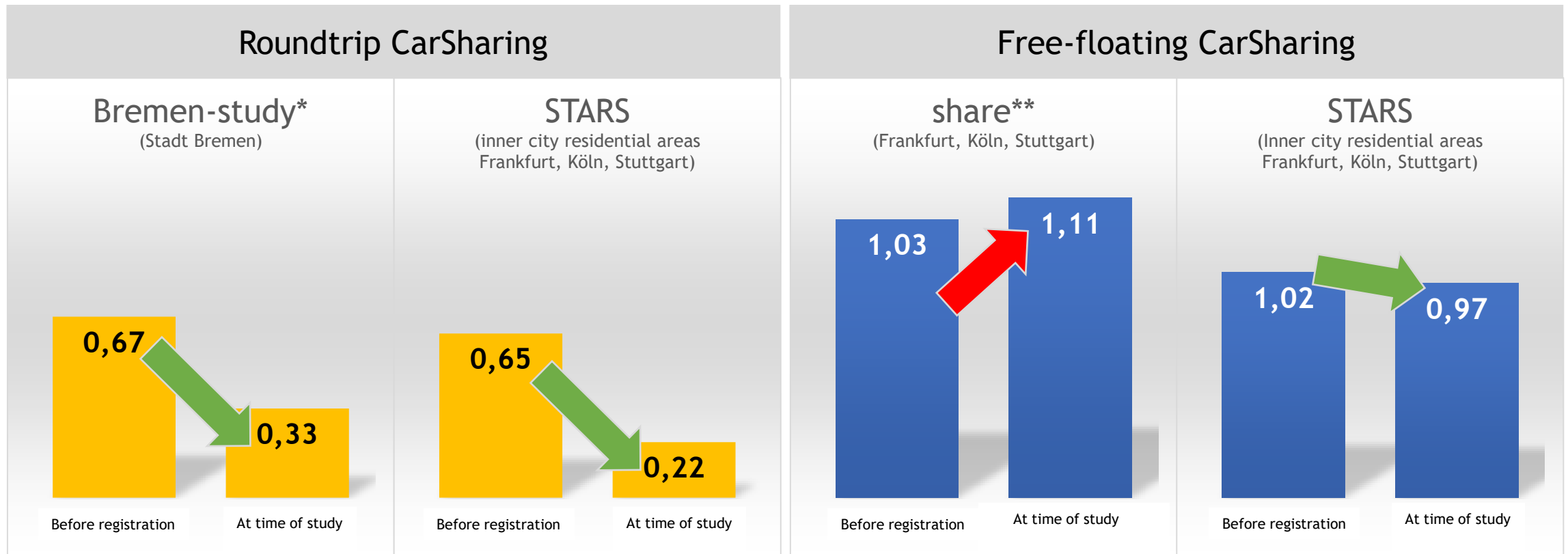


*Analyse der Auswirkungen des Car-Sharing in Bremen, team red im Auftrag der Freien Hansestadt Bremen, 2018

**share - Wissenschaftliche Begleitforschung zu car2go mit batterieelektrischen und konventionellen Fahrzeugen, Öko-Institut und ISOE im Auftrag des BMU, 2018

STARS can explain other studies

Cars per household in different car sharing studies

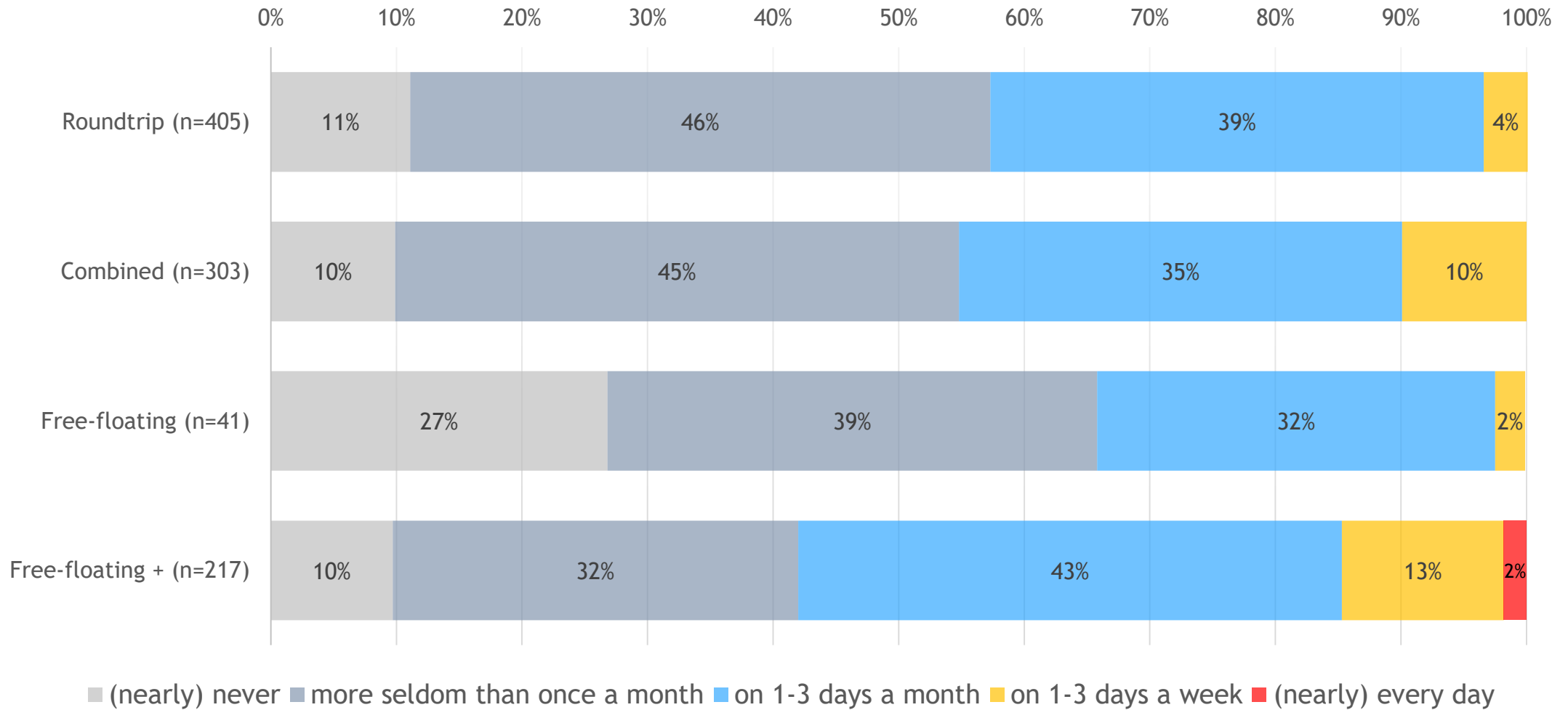


*Analyse der Auswirkungen des Car-Sharing in Bremen, team red im Auftrag der Freien Hansestadt Bremen, 2018

**share - Wissenschaftliche Begleitforschung zu car2go mit batterieelektrischen und konventionellen Fahrzeugen, Öko-Institut und ISOE im Auftrag des BMU, 2018

Mobility behaviour

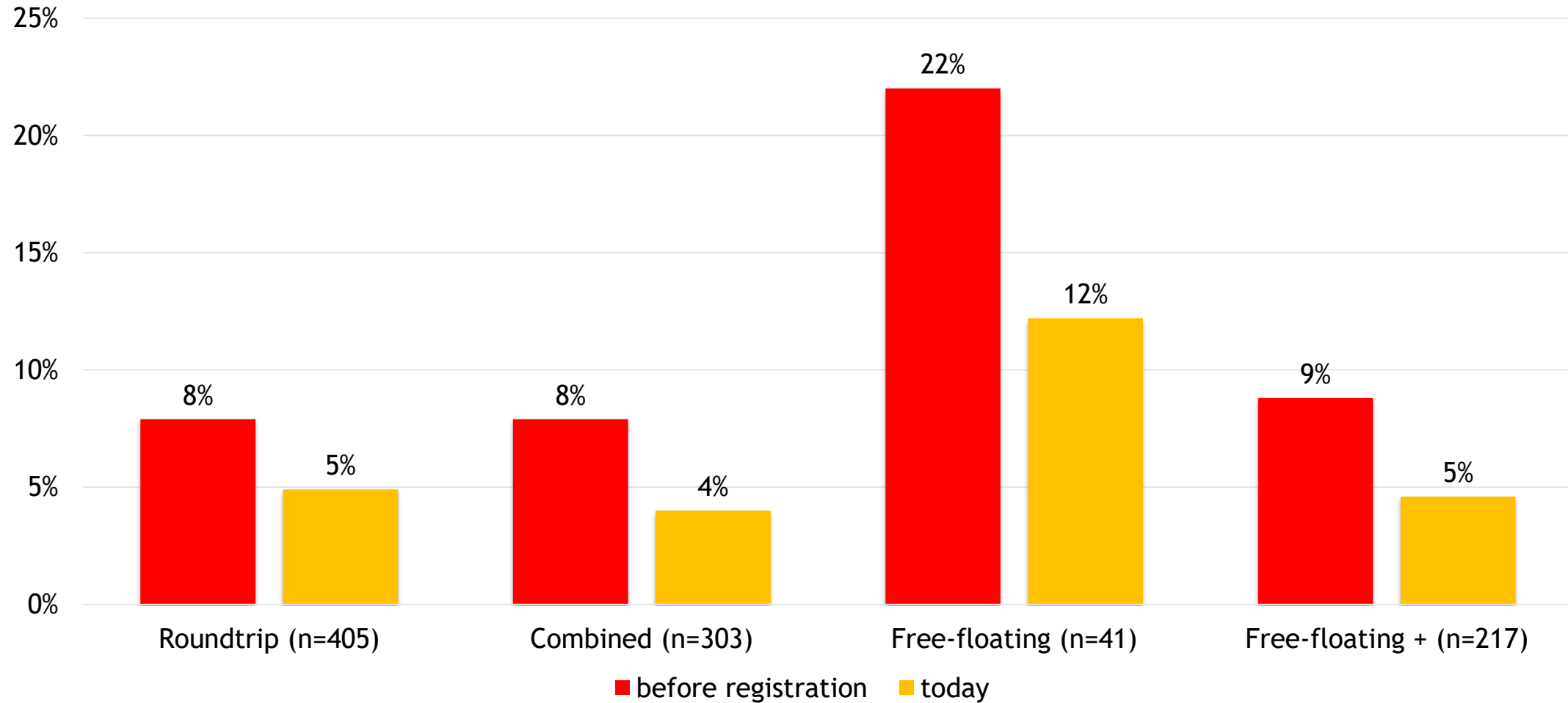
Use of car sharing Frankfurt (last 12 months, whole city)



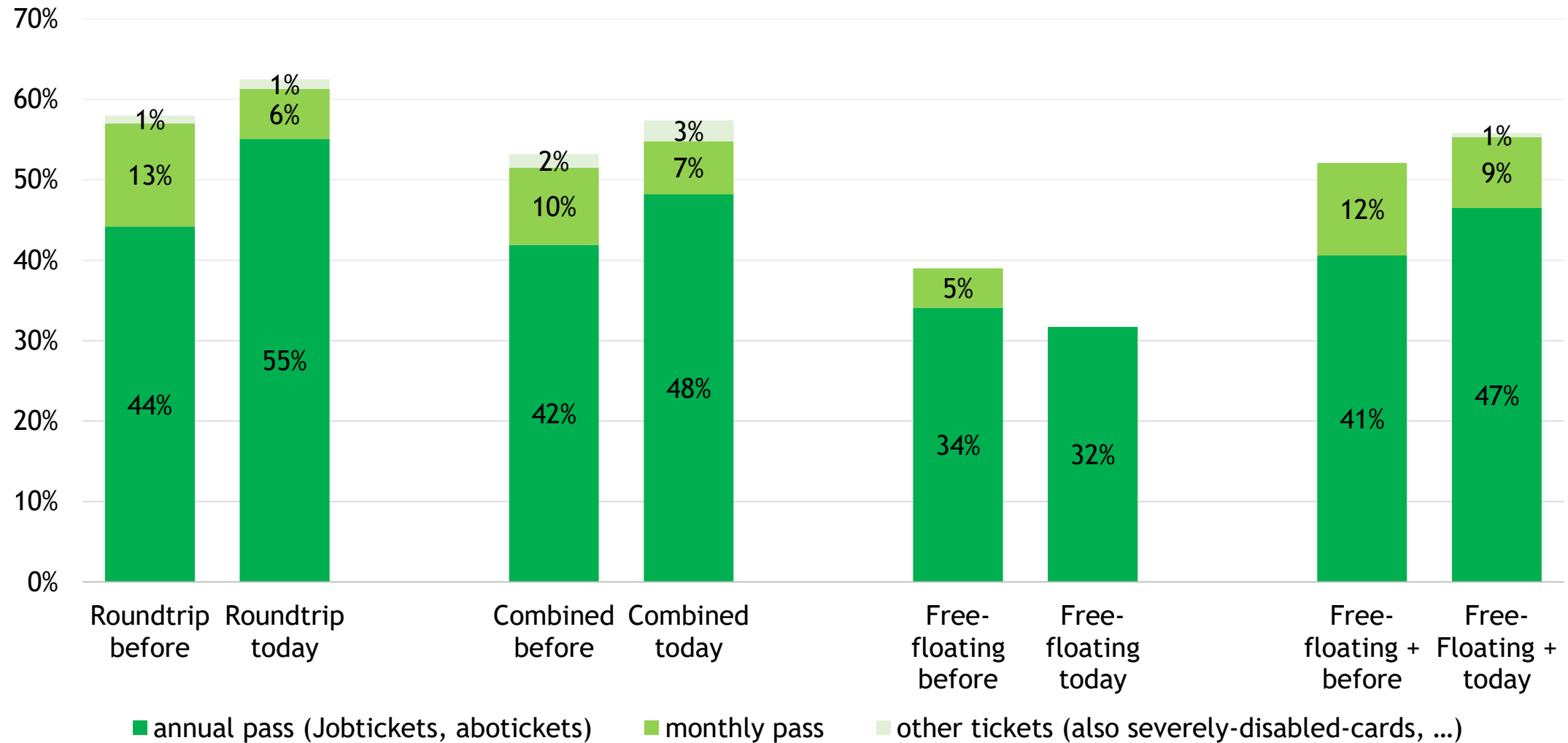
Different use patterns

- **Roundtrip & combined:** Longer and planned trips (e.g. bulk shopping, trip out of town, visit families/friends in another town)
= classic use-cases for a car
- **Free-floating:** Spontaneous, short inner-city trips (e.g. dinner in a restaurant, shopping in the city)
= new use-cases for a car (triggered by ability to go one-way)

Non-use of public transport Frankfurt



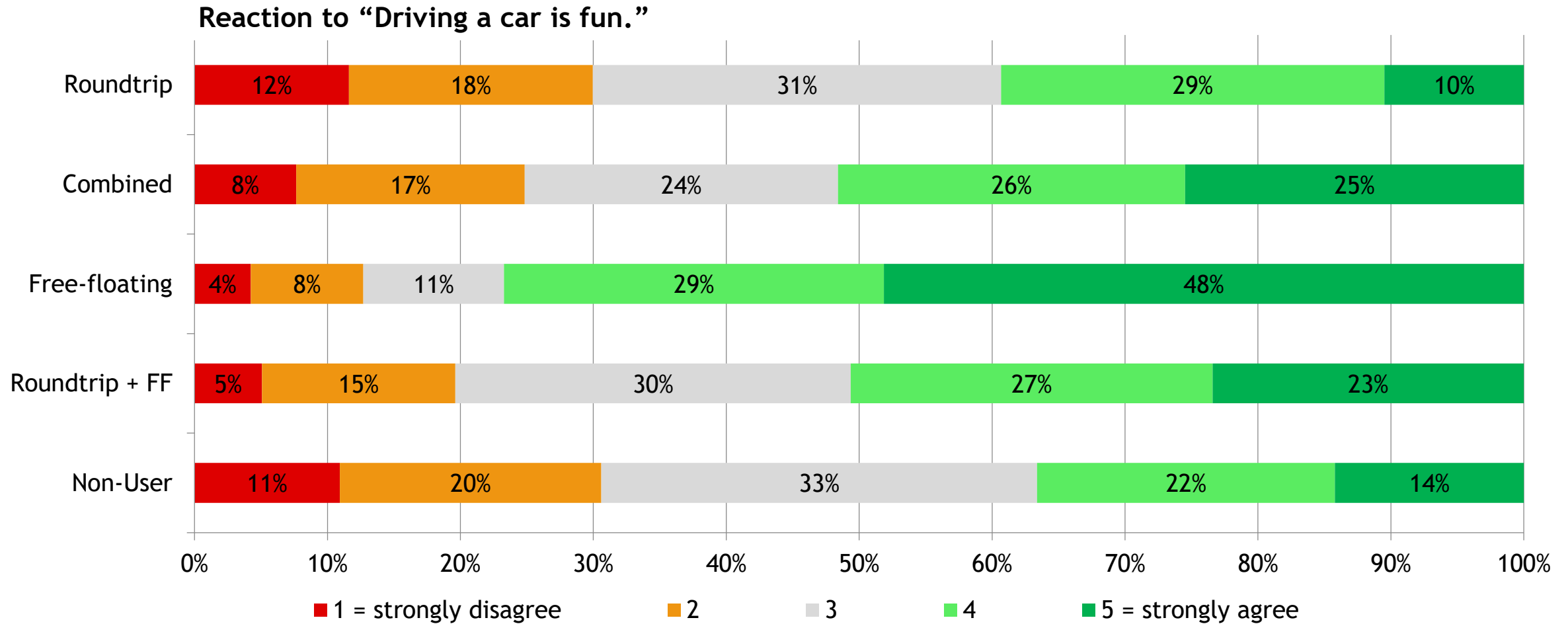
Ownership of PT-season tickets Frankfurt



What are reasons for the differences in car ownership and mobility behaviour?

Attitude towards the car

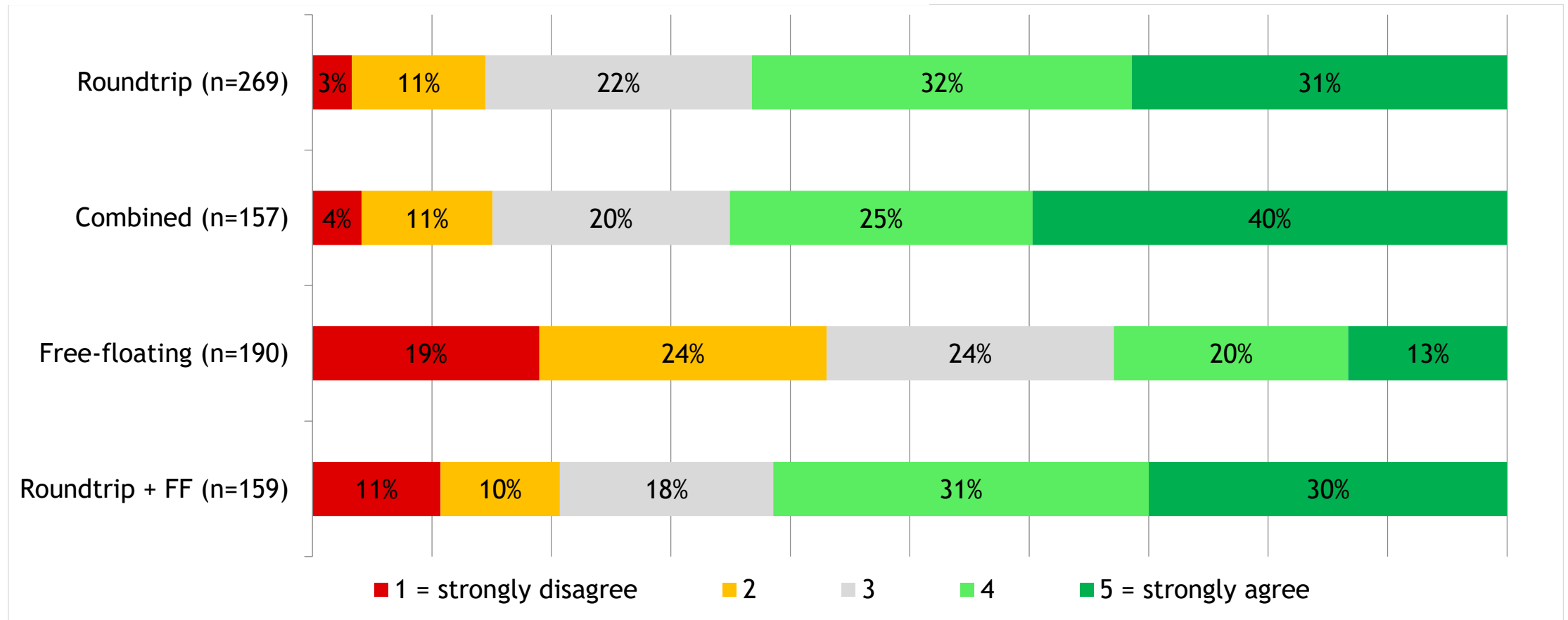
(Results for inner city areas of Frankfurt, Cologne, Stuttgart)



Weighing car sharing vs. private car

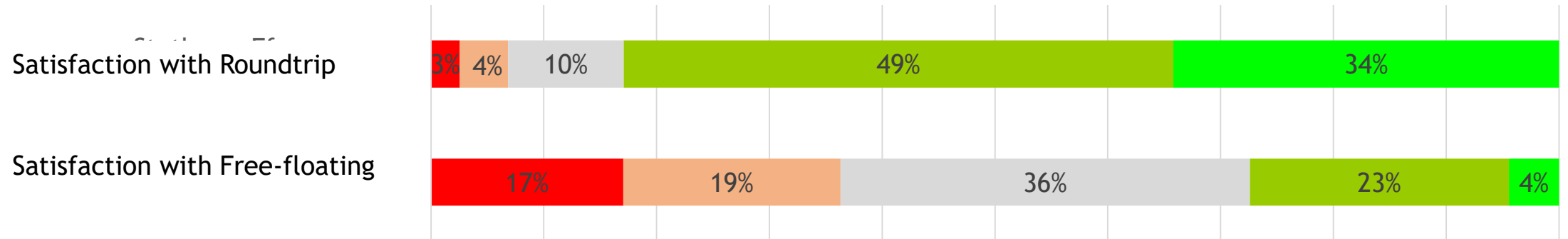
(Results for inner city areas of Frankfurt, Cologne, Stuttgart)

Reaction to “Car sharing is a full replacement for an own car.”

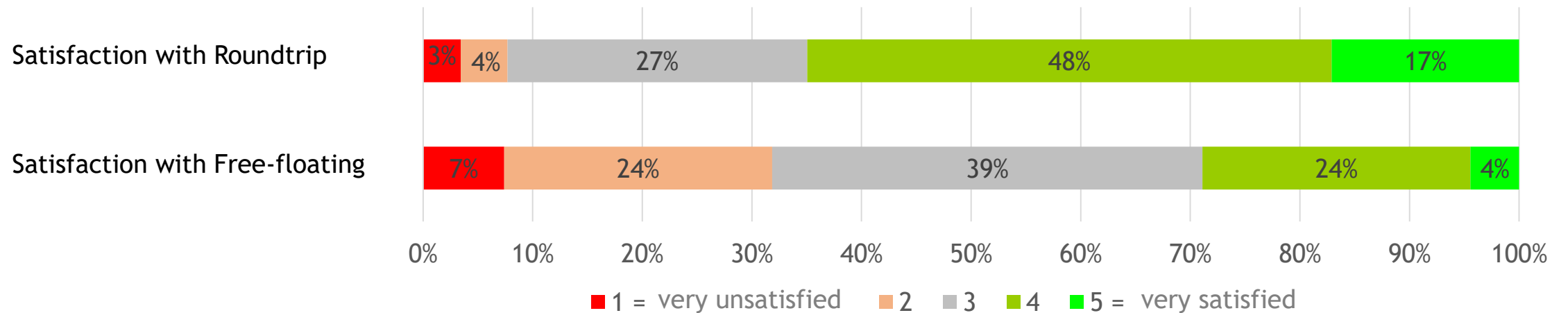


Satisfaction with car sharing services

Satisfaction with availability of cars (Parallel-users roundtrip/free-floating)



Satisfaction with costs (Parallel-users roundtrip/free-floating)



Conclusion

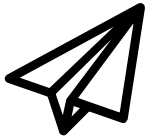
- You will need roundtrip carsharing to replace private cars.
- Free-floating car sharing can be used parallel to car ownership (as taxi substitute). This attracts new customer groups.
- Combined systems seem to be «best of both worlds».

Thank you for your attention!

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