

Impacts of car sharing variants – car ownership and mobility choices


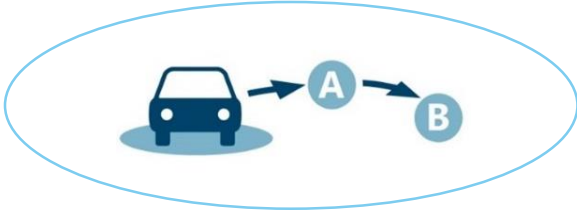

Car sharing Campout, 15/10/2019

Gunnar Nehrke

(with many thanks to 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 	

Case study in Frankfurt (Germany)

Aim:

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

750.000 inhabitants

899 car sharing cars

459 roundtrip cars

440 free-floating cars

2 roundtrip car sharing services (stadtmobil, Flinkster)

1 free-floating car sharing service (ShareNow)

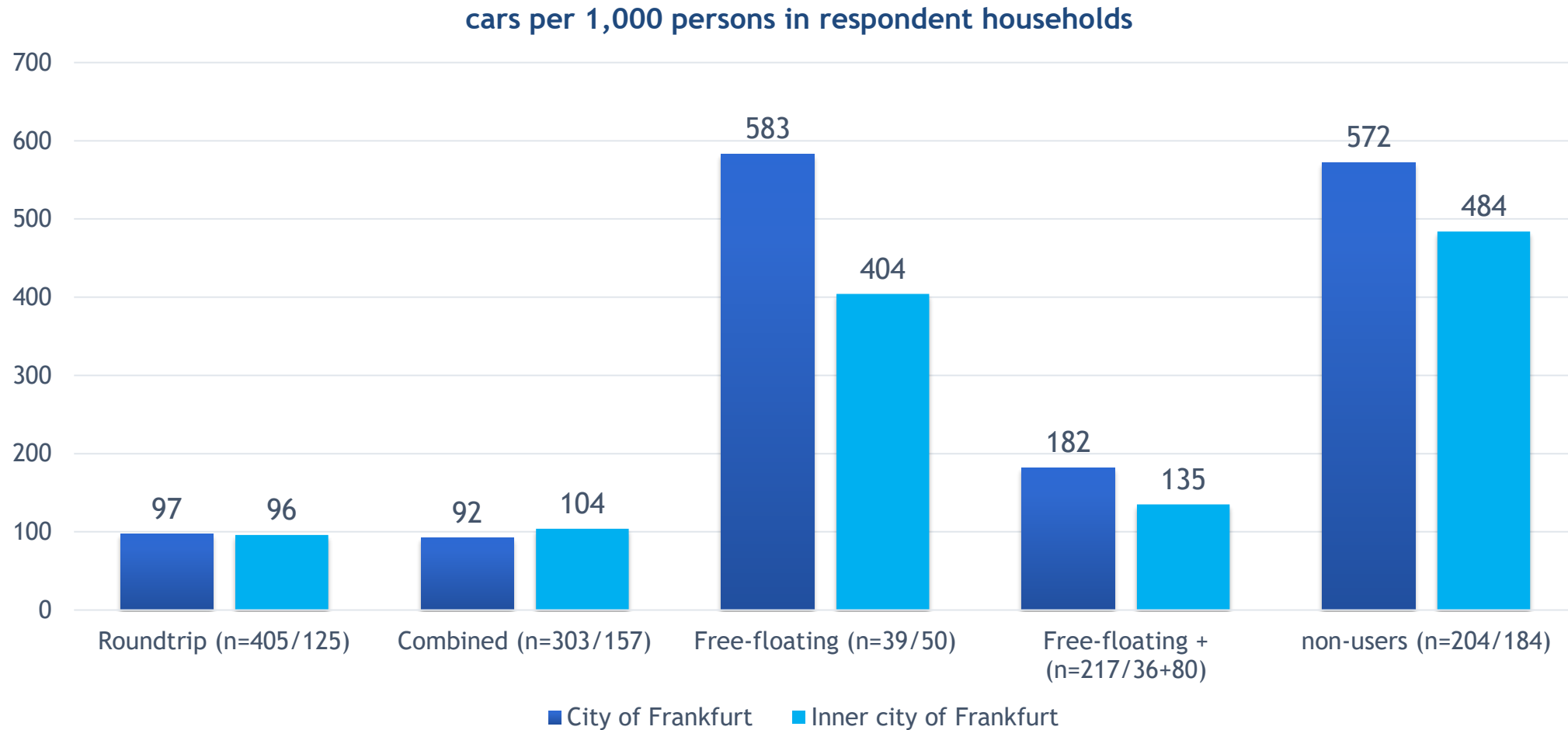
1 combined car sharing service (book-n-drive)



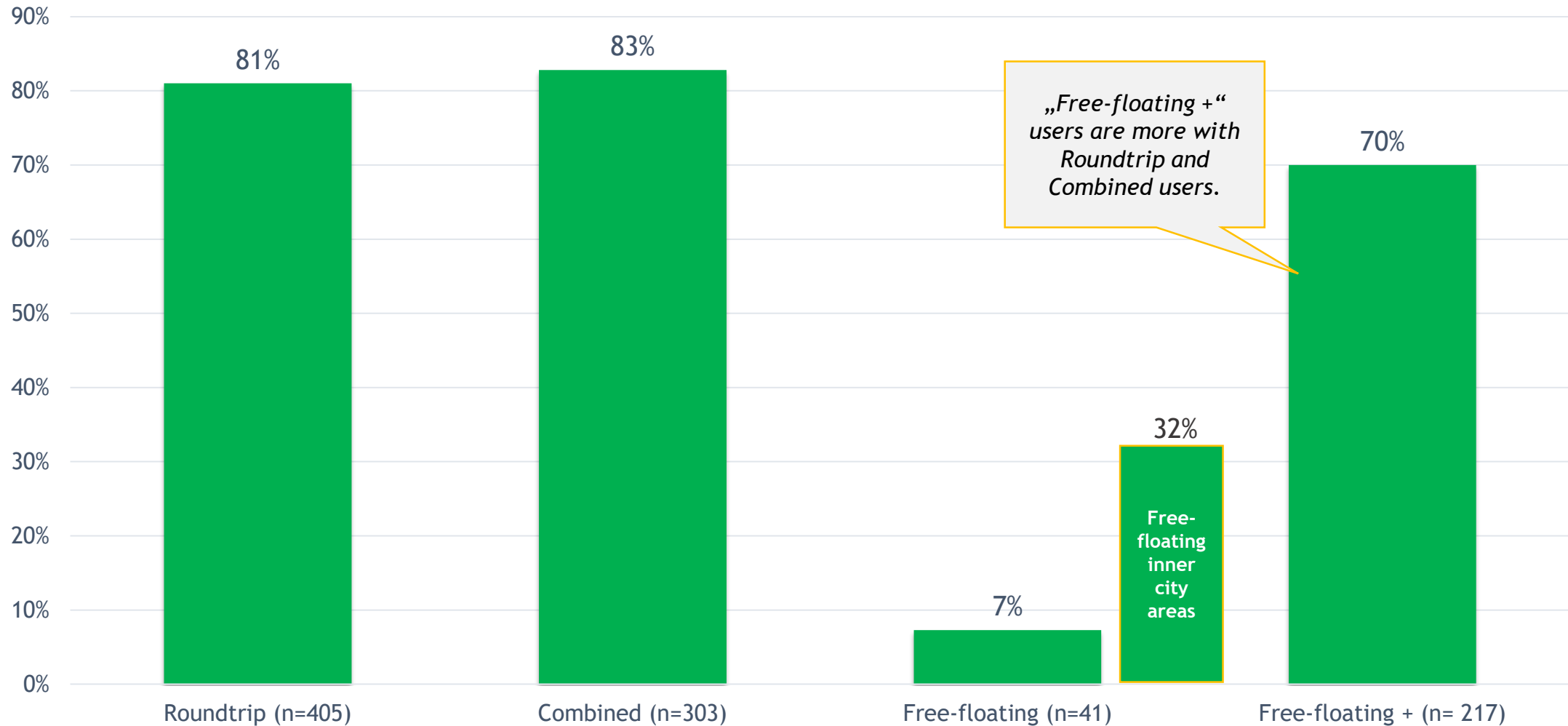
User groups in case study

car sharing memberships	# of users in group
Roundtrip only	530
Combined only (Roundtrip + Free-floating in integrated offer)	460
Free-floating only	91
Free-floating plus (Parallel use of stand-alone Free-floating + Roundtrip and/or Combined)	333
Non-users	388

Motorization rate



Car free households (whole city)

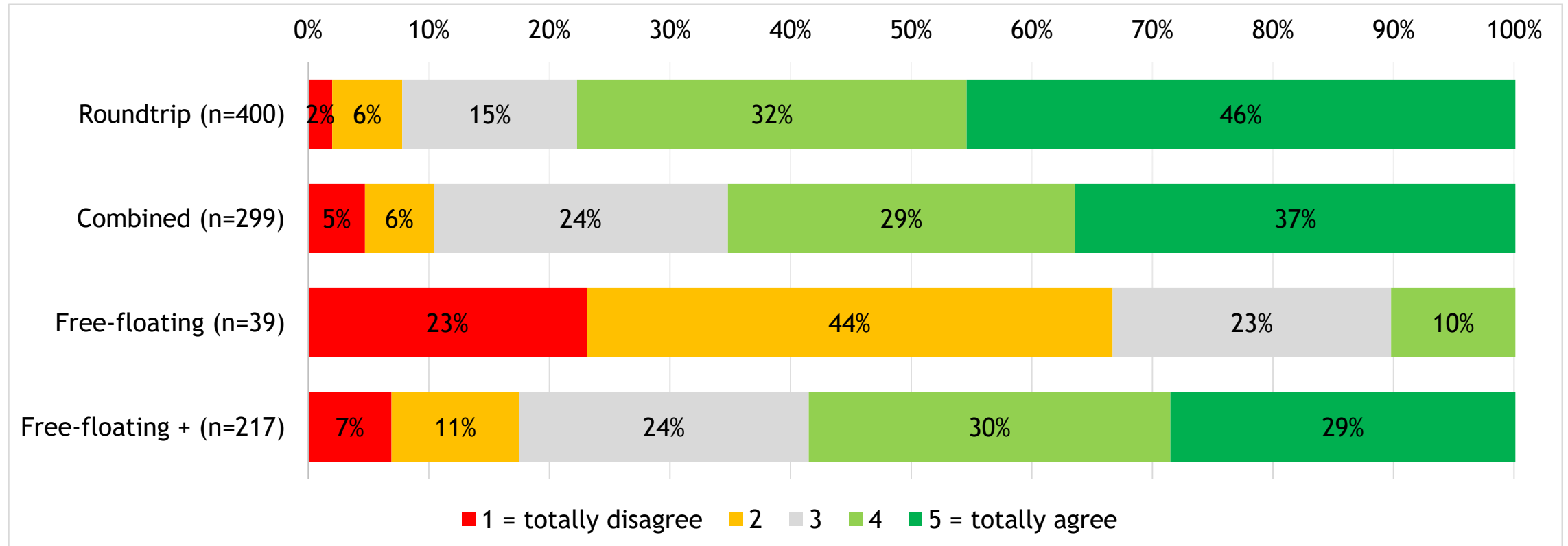


Different use patterns

- **Roundtrip & combined:** Longer and planned trips (e.g. bulk shopping, trip out of town, visit 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)

Weighing car sharing vs. private car (whole city)

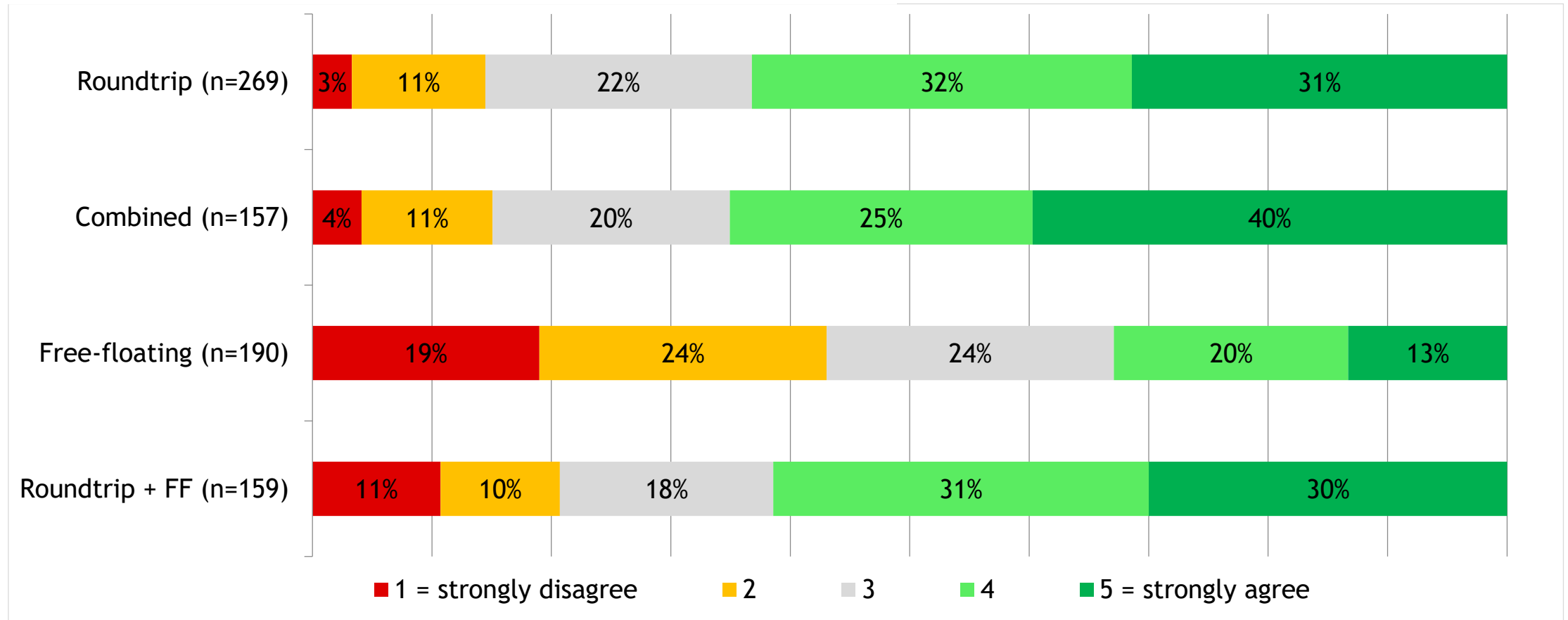
Reaction to “Car sharing is a full replacement for an own car”



Weighing car sharing vs. private car

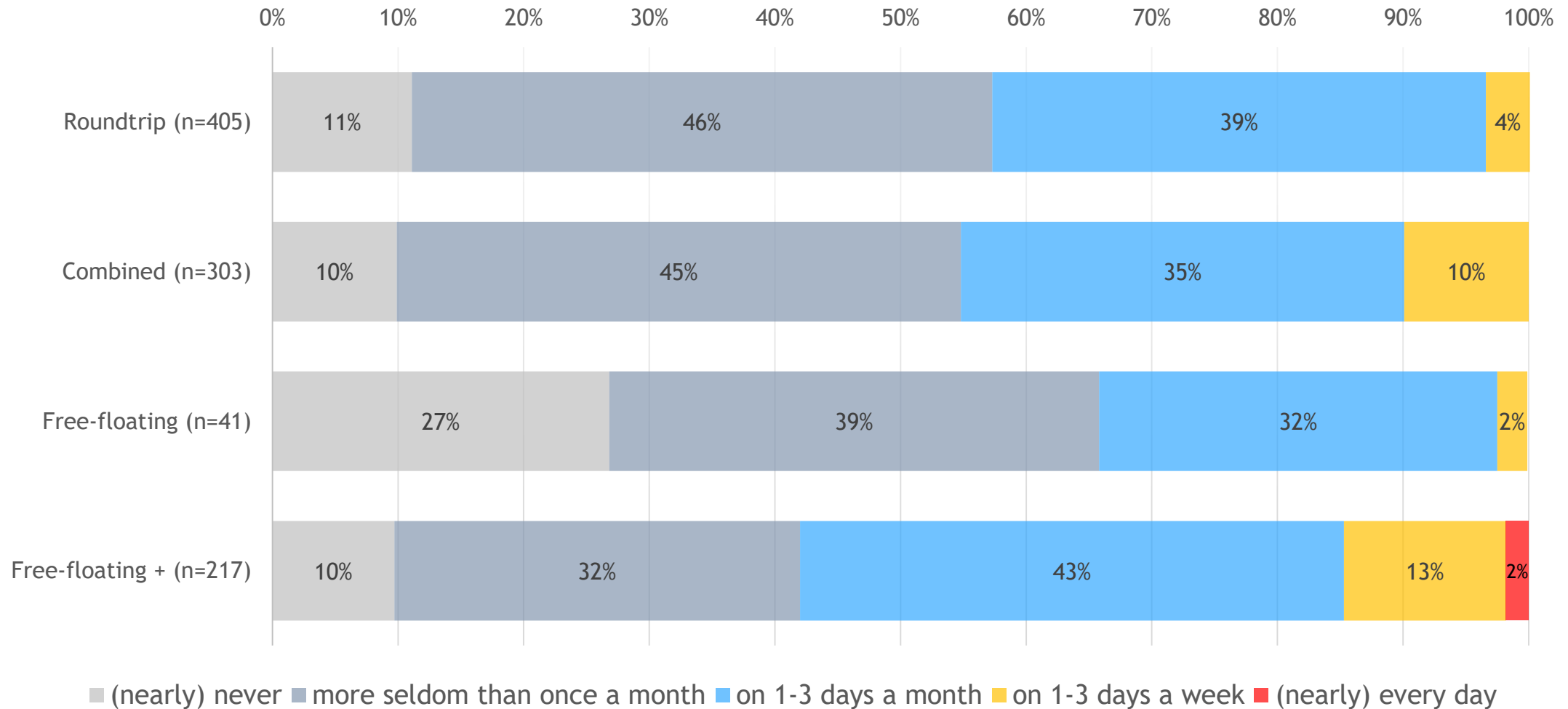
(inner city areas of Frankfurt, Cologne, Stuttgart)

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

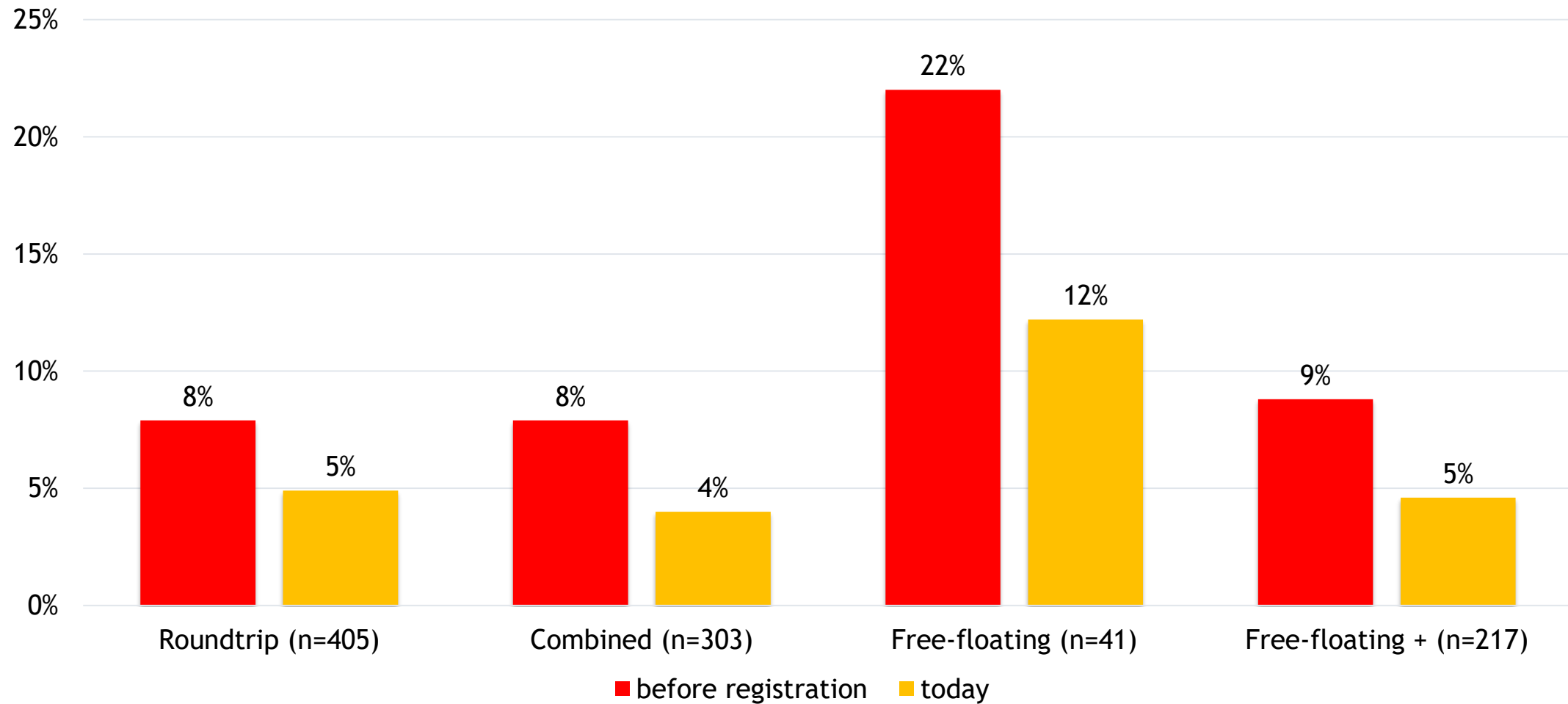


Mobility behaviour

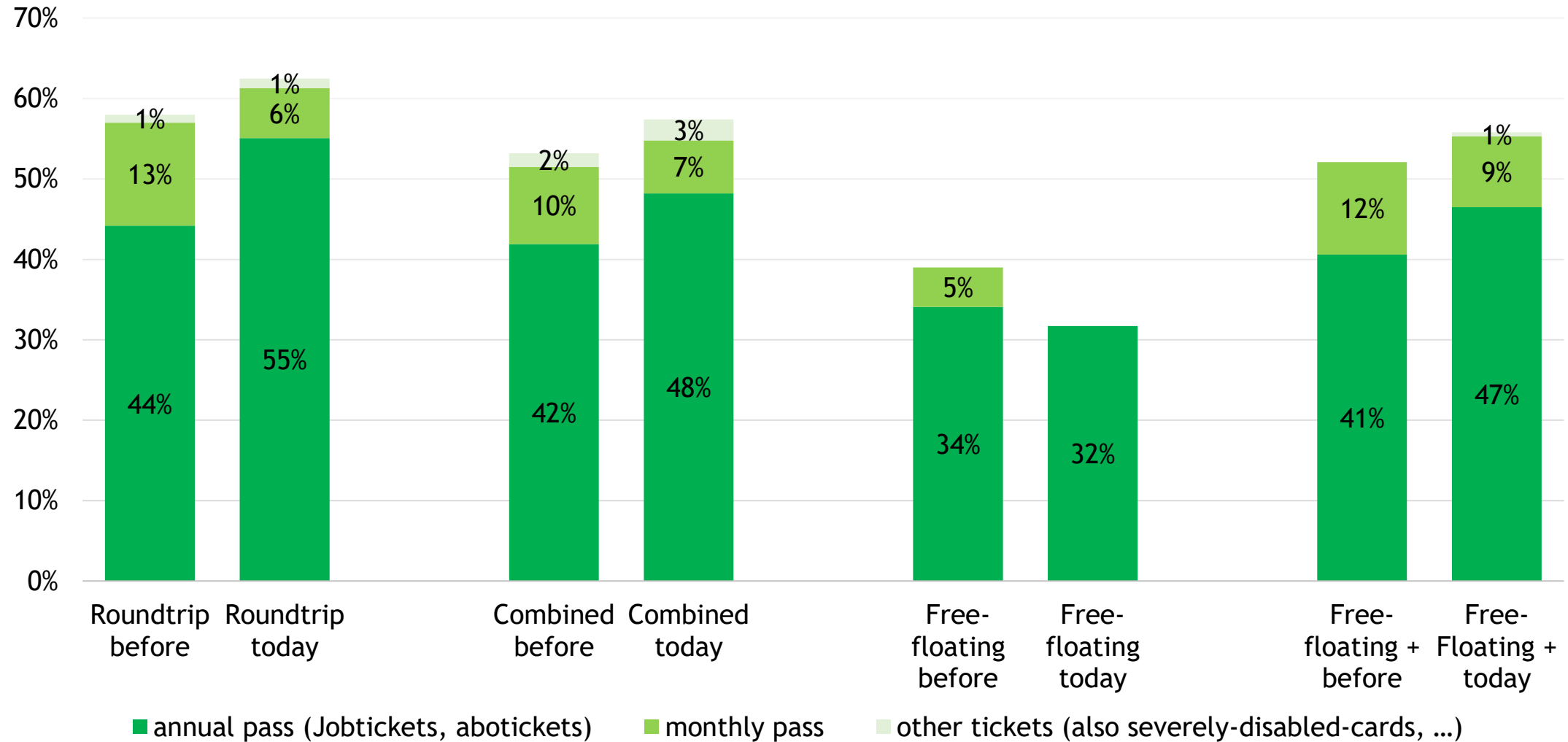
Use frequency of car sharing (last 12 months, whole city)



Change non-use of public transport



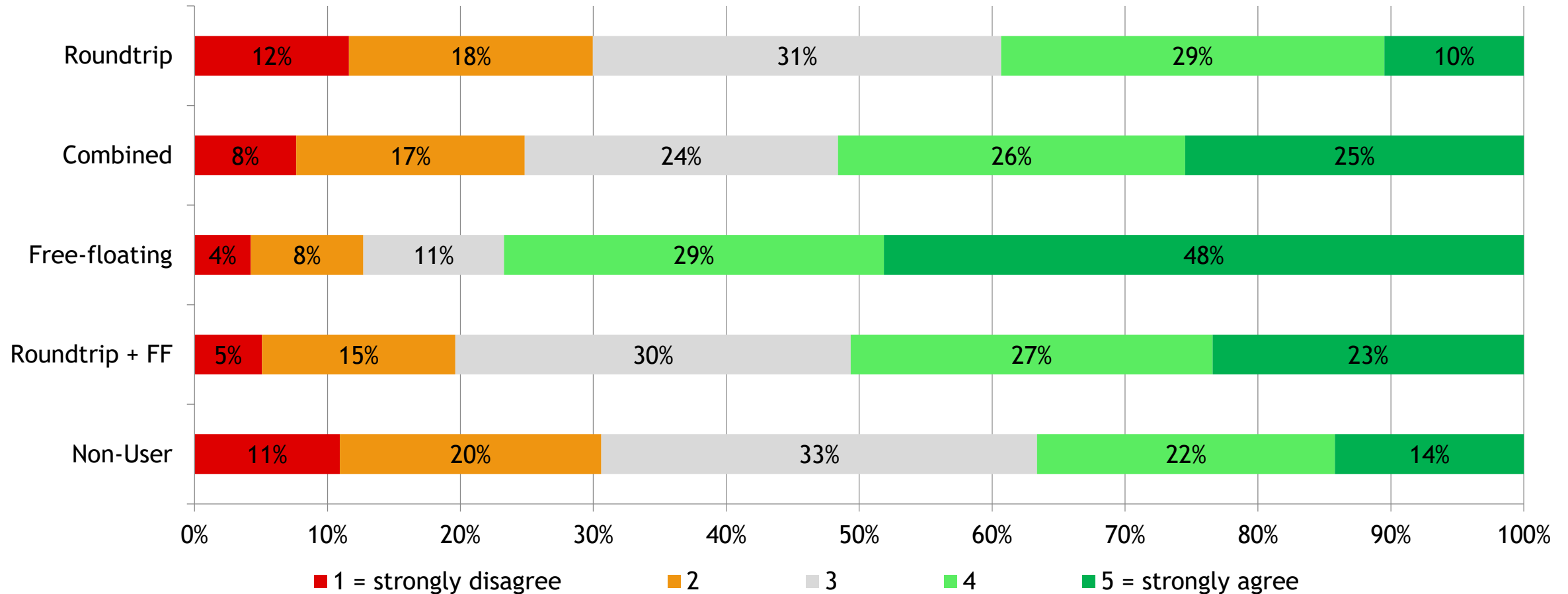
Change ownership of PT-season tickets



**What are reasons for the differences
in mobility behaviour?**

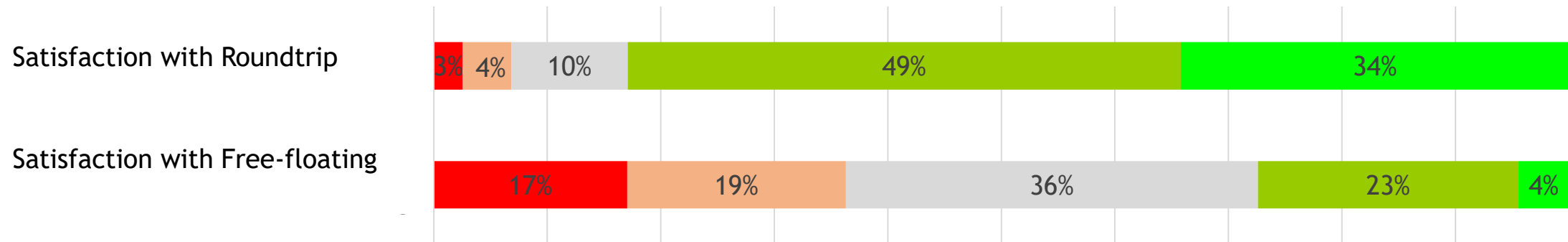
Attitude towards the car

„Driving a car ist fun.“

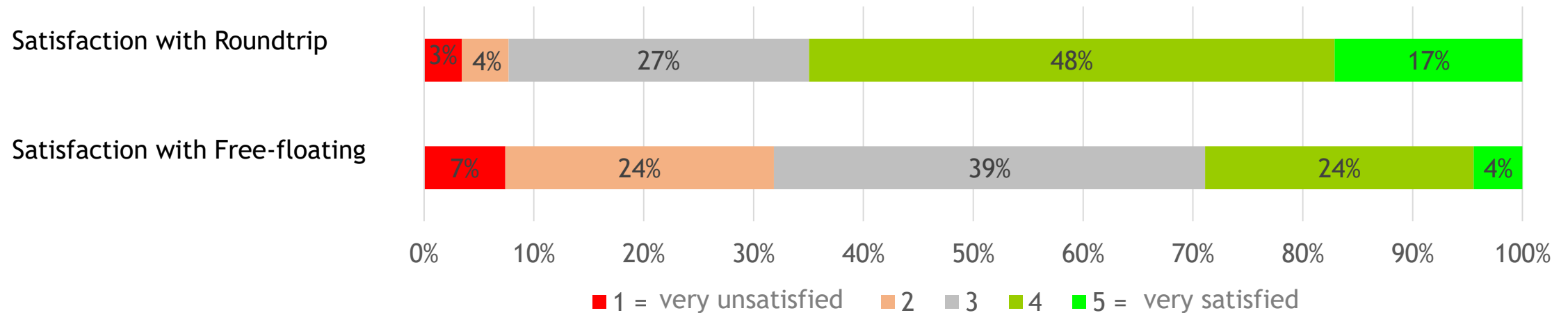


Satisfaction with car sharing services

Satisfaction with availability of cars

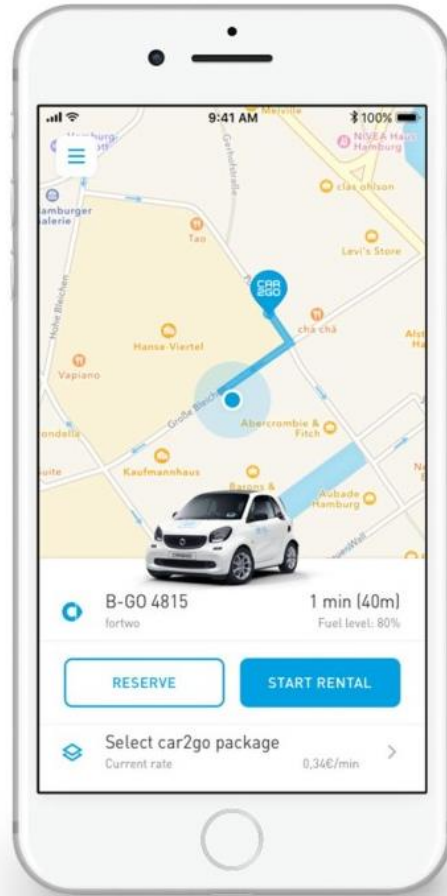


Satisfaction with costs

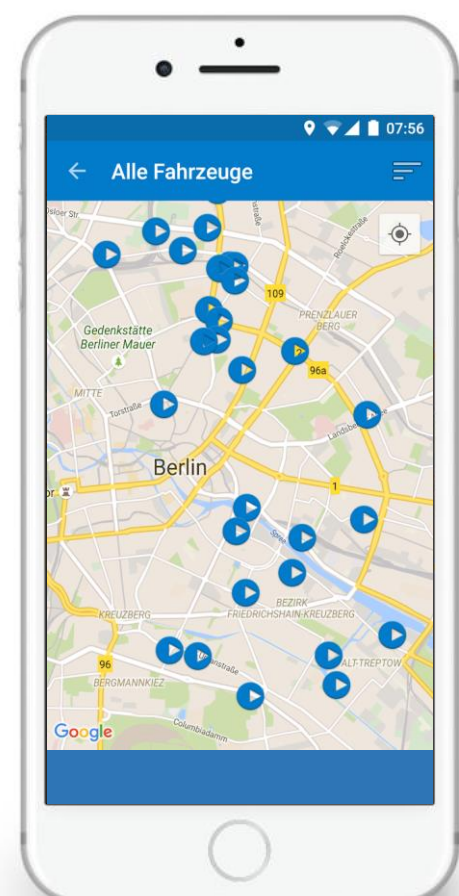
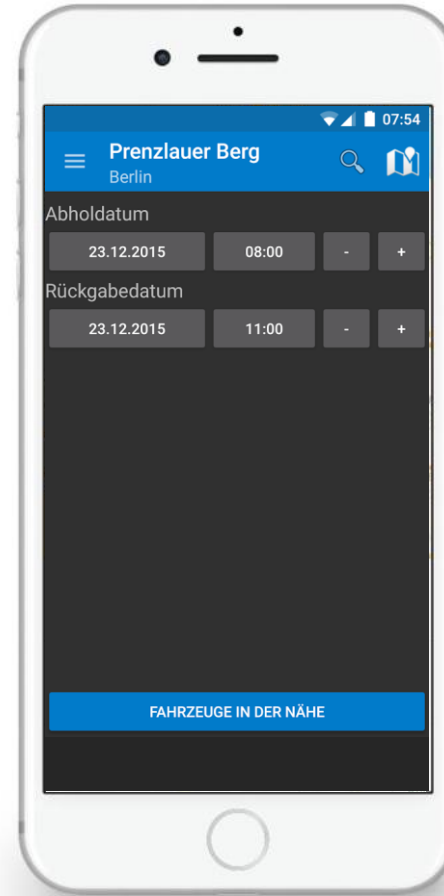


Different kinds of „availability“



Free-floating: Now or never.



Roundtrip: Now or later.



Price difference between variants

	Roundtrip 	Free-floating 
<u>Shopping</u> (2 hours, 10 kilometers)	6,20 €	19,90 €
<u>Recreation</u> (8 hours, 120 kilometers)	42,00 €	83,50 €

The variants from a user perspective

Free-floating

- Reservations not possible
- Position unclear
- Expensive

- Convenient, easy to use
- More than a private car:
One-way trips

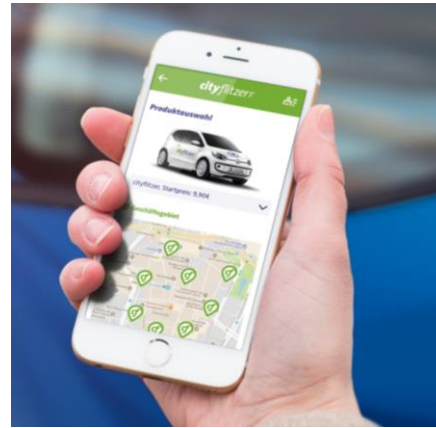
Roundtrip

- Reservation possible
- Position clear
- Low price
- Planning ahead needed
- No additional feature
compared to private car

Conclusion

- You will need roundtrip carsharing to replace private cars
- You will need both carsharing systems to create an offer better than a private car
- Are combined systems «best of both worlds»?

Are combined systems „best of both worlds“?

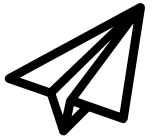


Thank you for your attention!

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