

Car-Sharing in Germany and the environmental impacts of different car-sharing variants

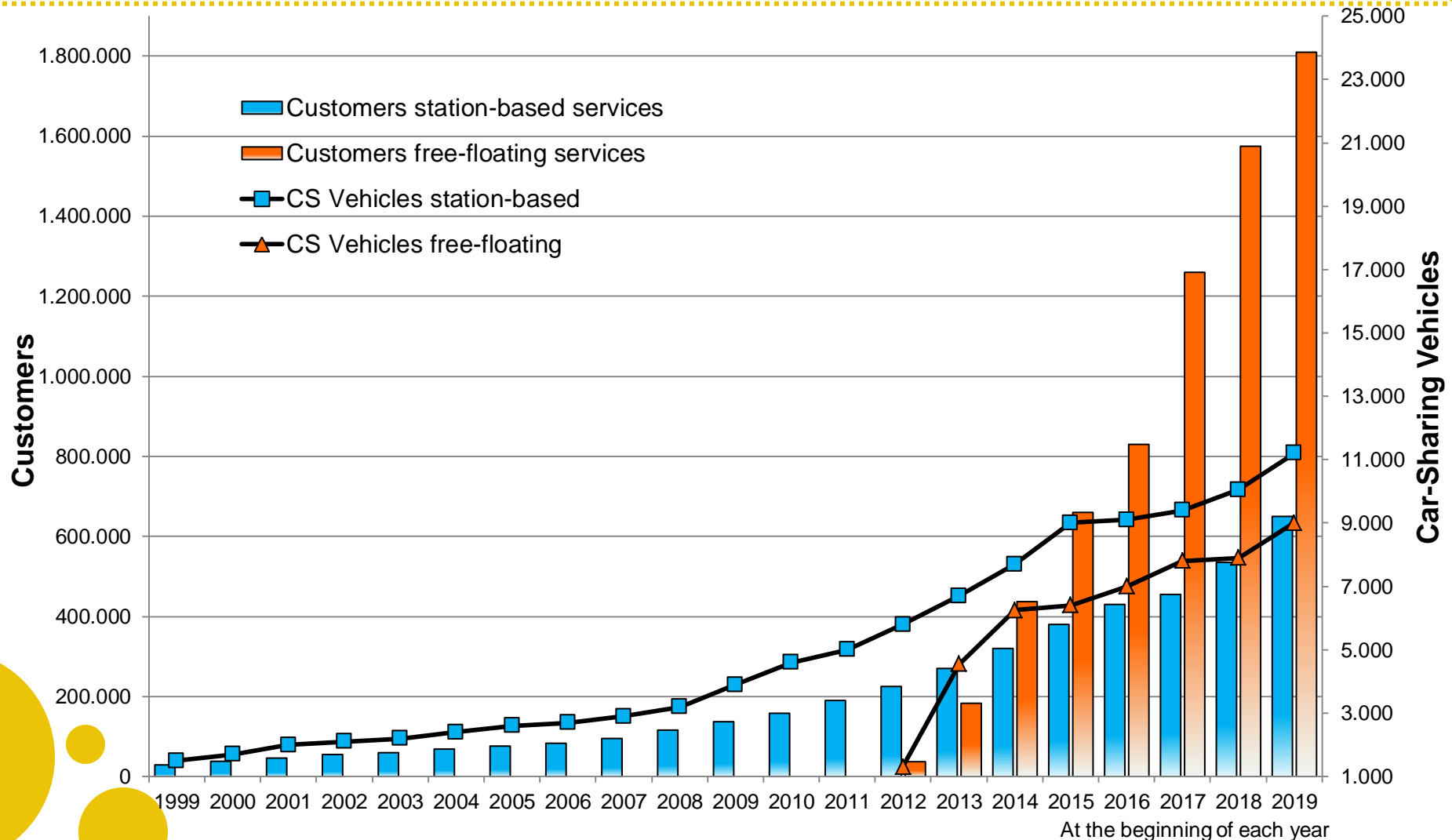
Workshop Car-Sharing – Driving the right direction?
CE Center Policy Research Center
Leuven, 7. November 2019

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from 2006 - 2019

Car-Sharing Development in Germany

station-based and free-floating services

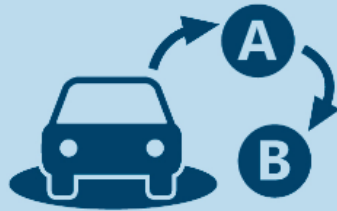


Examples for Car-Sharing providers

(sorted by size)

Free-floating

Das Fahrzeug steht dort, wo der letzte Kunde es abgestellt hat. Man ortet es per Handy.



1. car2go
2. DriveNow
3. book-n-drive (kombiniert*)
4. drive by Mobility
5. stadtmobil (kombiniert*)

Stationsbasiert

Das Fahrzeug wird an einer Station in der Nähe abgeholt und muss dort hin zurück gebracht werden.



1. stadtmobil
2. cambio
3. teilAuto (Mobility Center)
4. book-n-drive
5. DB Carsharing

Source: Bundesverband CarSharing e. V. 2019

Combined services = station-based and free-floating vehicles by one provider


The German Car-Sharing market

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- About 181 different Car-Sharing services
176 station-based and combined providers
5 free-floating providers

The German Car-Sharing market



- About 181 different Car-Sharing services
176 station-based and combined providers
5 free-floating providers
 - Station-based services in 740 German cities and smaller communities,
where altogether 41 Mio. inhabitants can theoretically use them
 - Pure free-floating services in only 18 cities with 10 Mio. inhabitants
(car2go and DriveNow only in 7 metropolis with more than 600.000 inhabitants and some surrounding cities with OEM factories)
- 

To combine the best of two worlds



	„classical“ station-based CarSharing	free-floating Car-Sharing	Combined Car-Sharing
Predictability of rides/ Possibility of reservation	+		
Spontaneous use	(+)		
Best Case: tariffs for km + minutes, with mit automatic transition to tariffs for hours/days/weeks	(-)		
Diversity – from small cars to pickups and busses	+		
Reserved parking place, no search of a free parking place	+		
One way rides: Pick up and give back flexible inside the operation area	-		
Open end rides	-		
Full replacement of your own car	+		

To combine the best of two worlds



	„classical“ station-based CarSharing	free-floating Car-Sharing	Combined Car-Sharing
Predictability of rides/ Possibility of reservation	+	-	
Spontaneous use	(+)	+	
Best Case: tariffs for km + minutes, with mit automatic transition to tariffs for hours/days/weeks	(-)	(-)	
Diversity – from small cars to pickups and busses	+	-	
Reserved parking place, no search of a free parking place	+	-	
One way rides: Pick up and give back flexible inside the operation area	-	+	
Open end rides	-	+	
Full replacement of your own car	+	-	

To combine the best of two worlds



	„classical“ station-based CarSharing	free-floating Car-Sharing	Combined Car-Sharing
Predictability of rides/ Possibility of reservation	+	-	+
Spontaneous use	(+)	+	+
Best Case: tariffs for km + minutes, with mit automatic transition to tariffs for hours/days/weeks	(-)	(-)	+
Diversity – from small cars to pickups and busses	+	-	+
Reserved parking place, no search of a free parking place	+	-	+
One way rides: Pick up and give back flexible inside the operation area	-	+	+
Open end rides	-	+	+
Full replacement of your own car	+	-	+

bcs Evaluationproject 2015

Städte und Gebiete

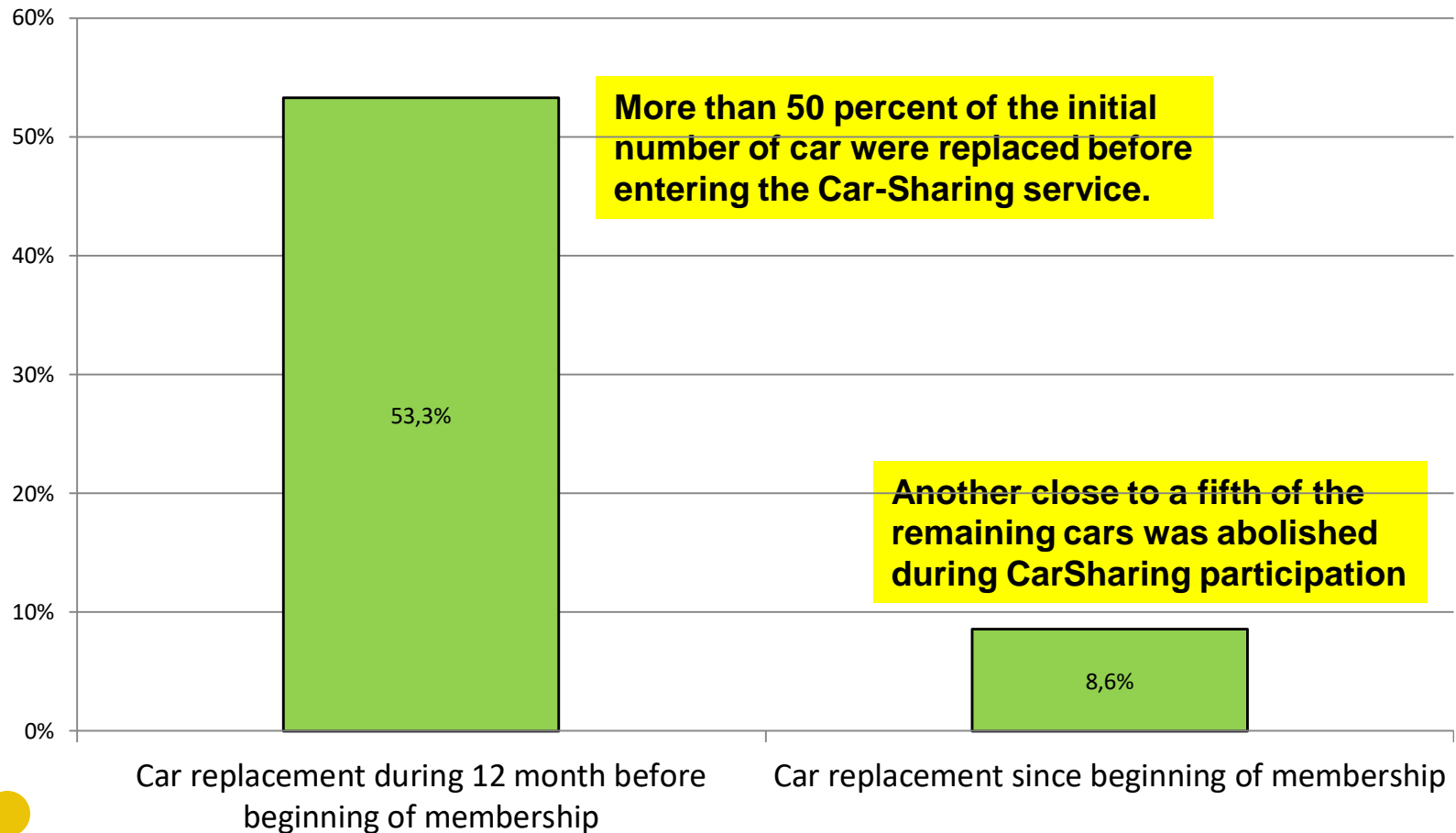
- 12 Cities and one smaller community
- 13 station-based Car-Sharing providers



Source: Bundesverband CarSharing e. V. 2016

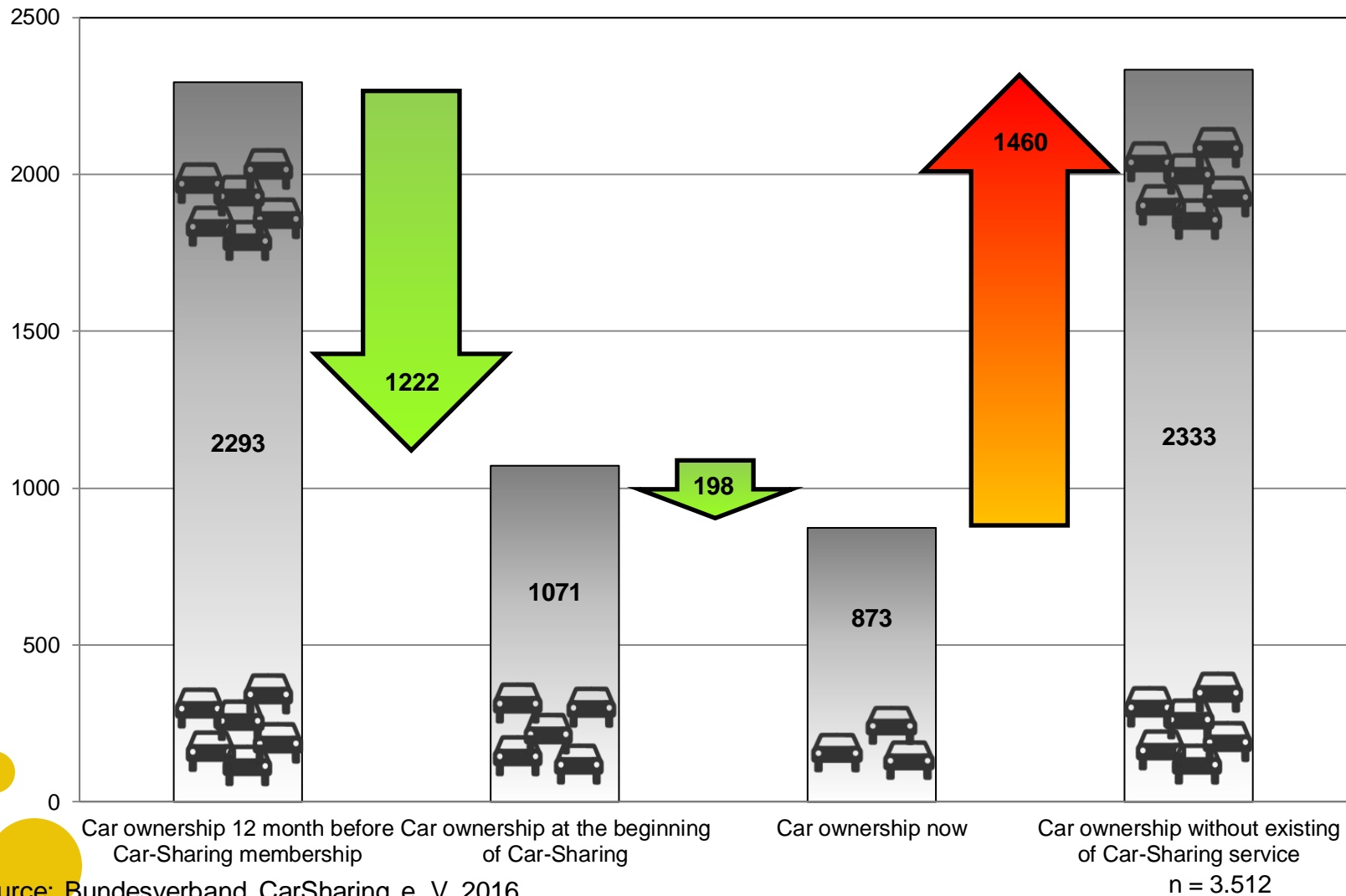


Reduction of private cars before and during the Car-Sharing membership

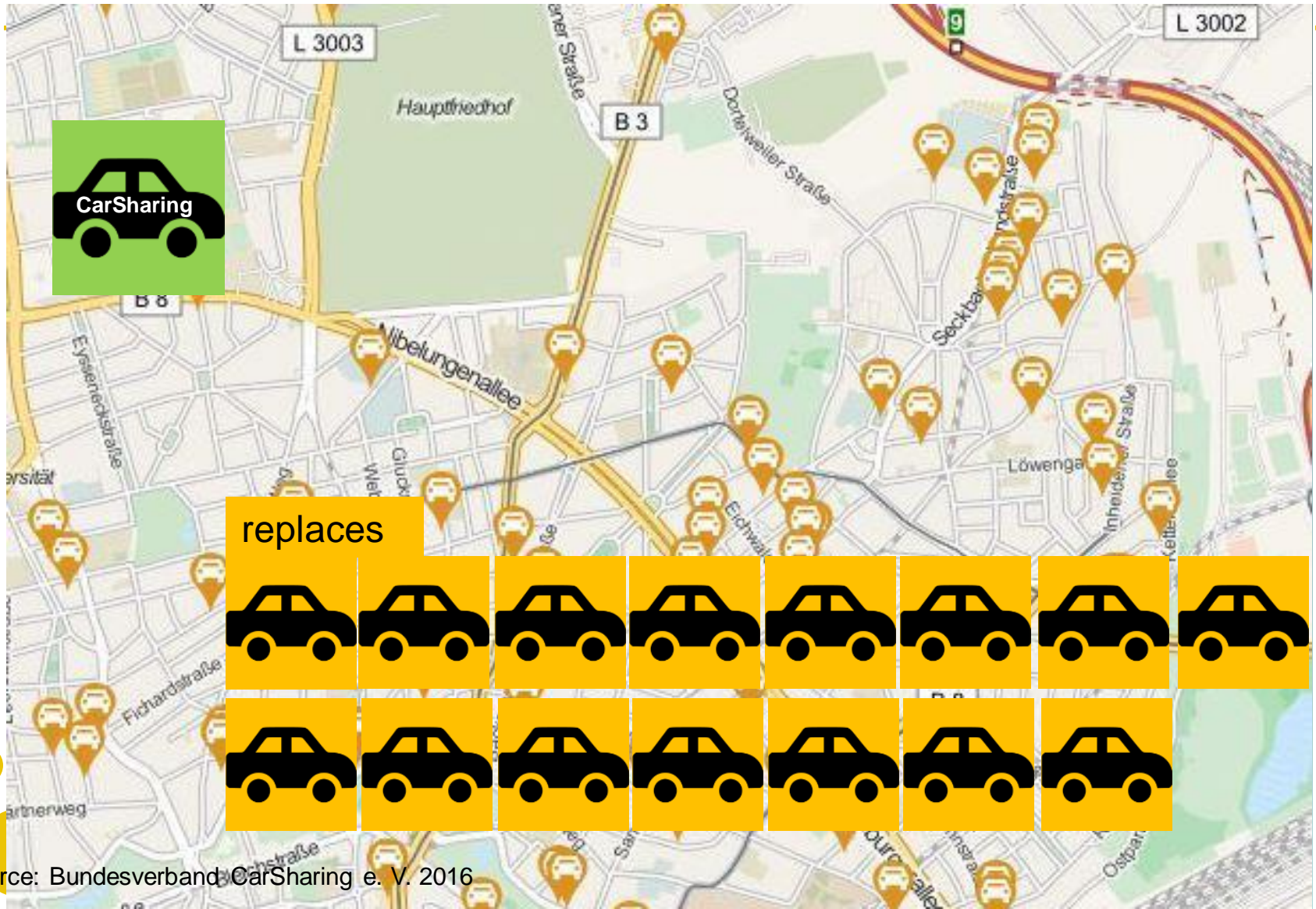


(Basis: Number of private cars 12 month before beginning of membership)

Fluctuation of the car ownership of the interviewed CarSharing users



Each Car-Sharing car replaces an average of 15,3 private cars in the examined city areas



Study area Cologne:

Relief effect through Car-Sharing 1 : 18,6



bcs STARS Project 2018: Survey with Car-Sharing customers in Frankfurt, Cologne and Stuttgart



- Residential areas near city center
- High availability of all Car-Sharing variants, dense network of Car-Sharing stations
- Highest density of Car-Sharing customers in the city
- Very good Public transport services
- High parking pressure
- Good mix of housing, trade and shopping (daily use)

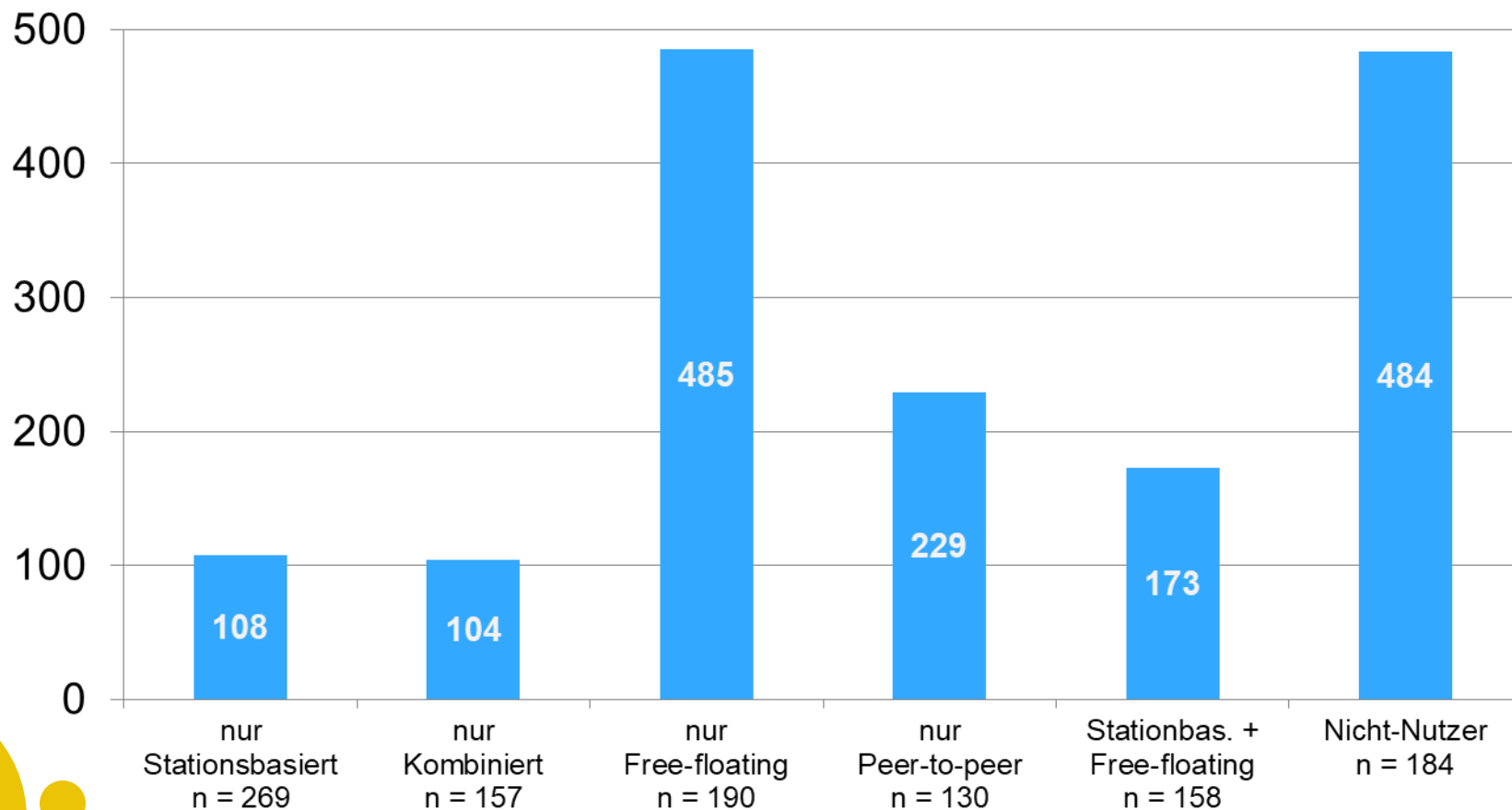


Distribution of respondents to Car-Sharing variants and combinations

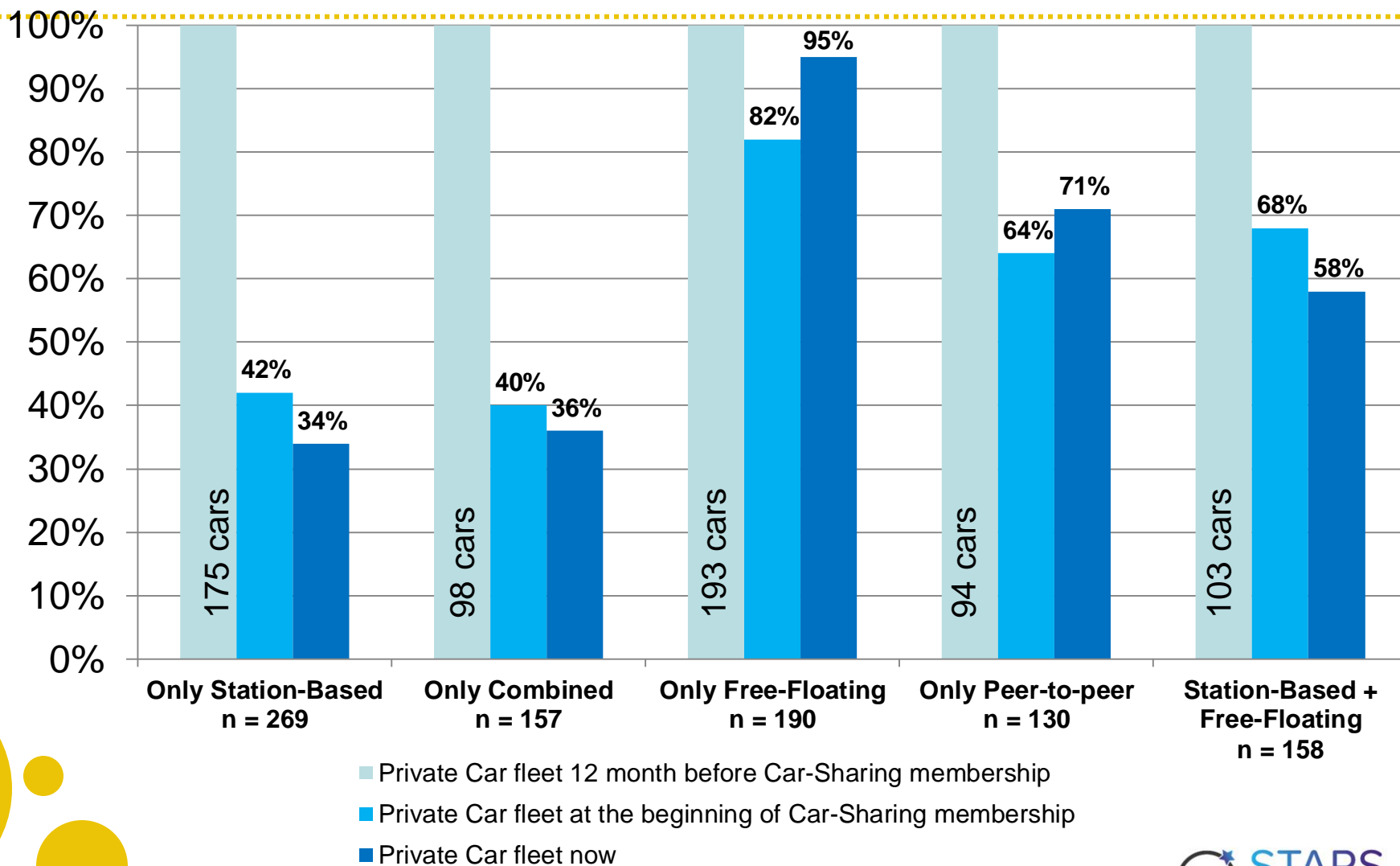
Customer group	Number of respondents	% of respondents
Only Station-based	269	24,0 %
Only Free-floating	190	16,9 %
Only Peer-to-peer	131	11,7 %
Only customer of combined provider	157	14,0 %
Only member of one variant, together	747	66,6 %
Station-based + Free-floating	159	14,2 %
Station-based + Peer-to-peer	15	1,3 %
Free-floating + Peer-to-peer	64	5,7 %
Combined + Stations-based	38	3,4 %
Combiniert + Free-floating	33	2,9 %
Combiniert + Peer-to-peer	2	0,2 %
Combiners of two variants, together	311	27,7 %
Station-based + Free-floating + Peer-to-peer	30	2,7 %
Combined + Station-based + Free-floating	34	3,0 %
Combiners of three variants, together	64	5,7 %
Non-Car-Sharing-User	185	100 %

Motorization with private cars of respondents today

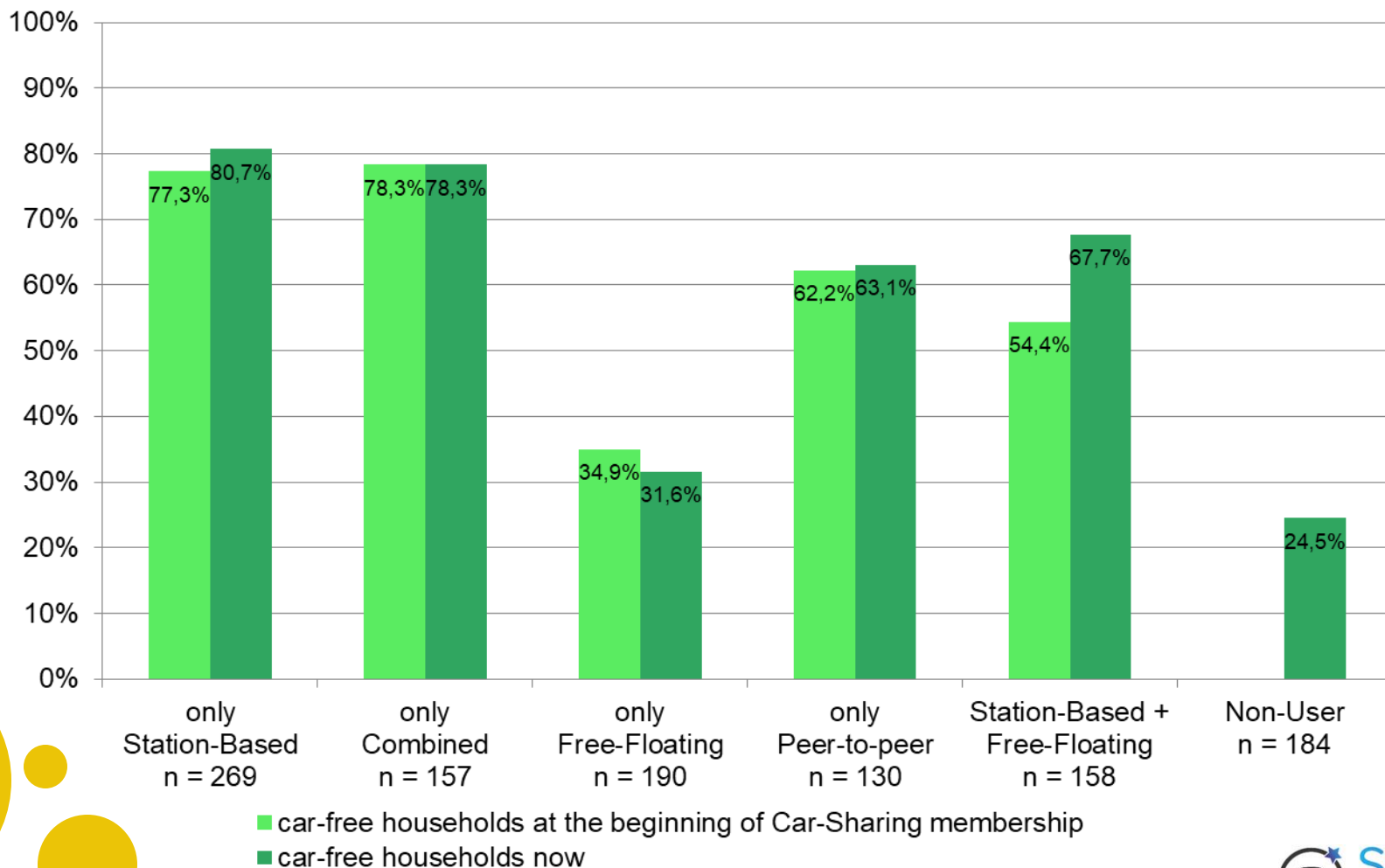
Cars/1.000 Persons from respondents house-holds



Development of respondents fleets in Car-Sharing variants

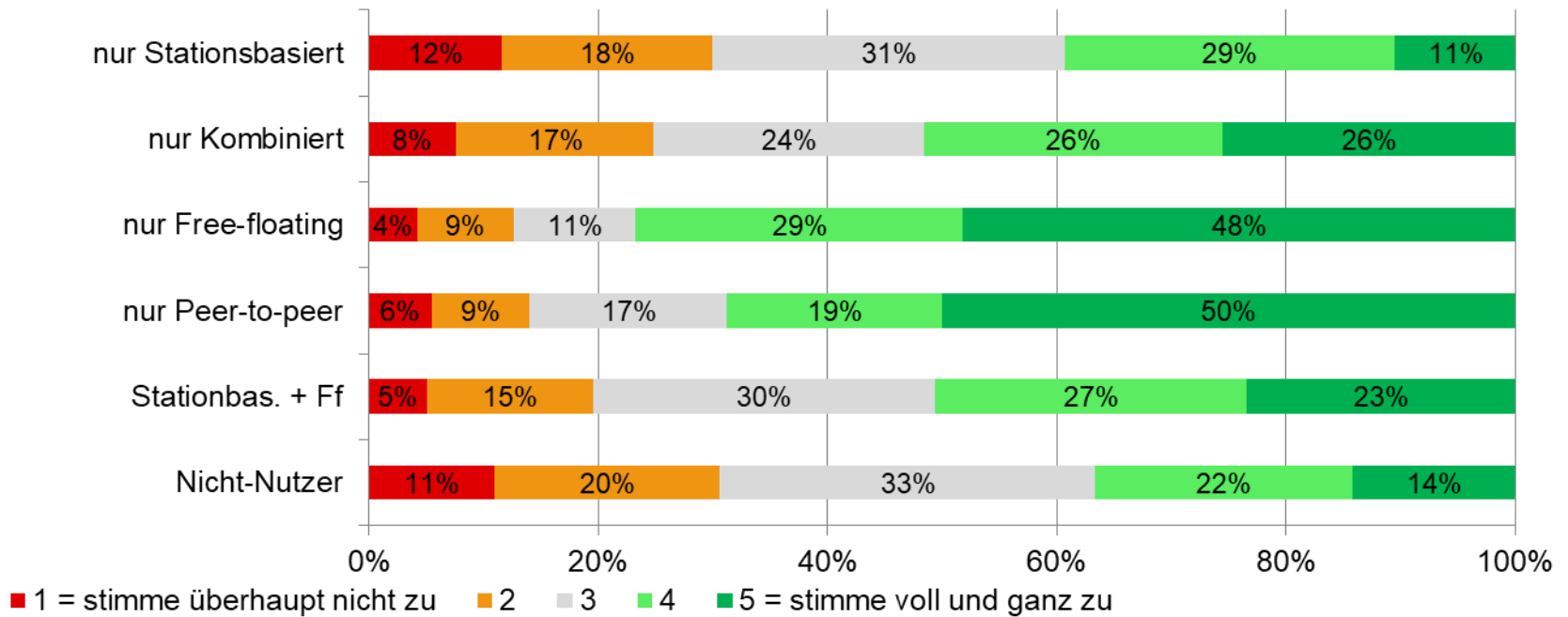


Development of car-free households of customers in different Car-Sharing variants



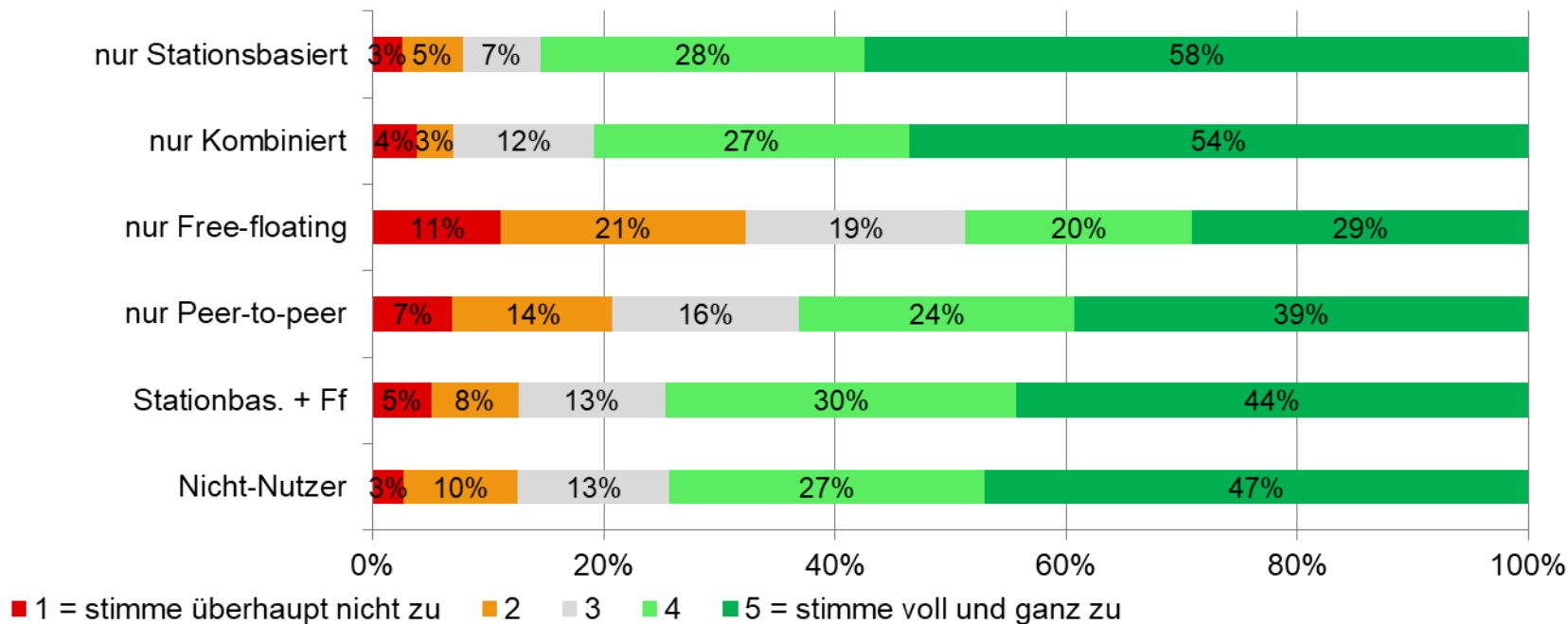
Attitude towards cars

Agreement to the statement „Car driving is fun“



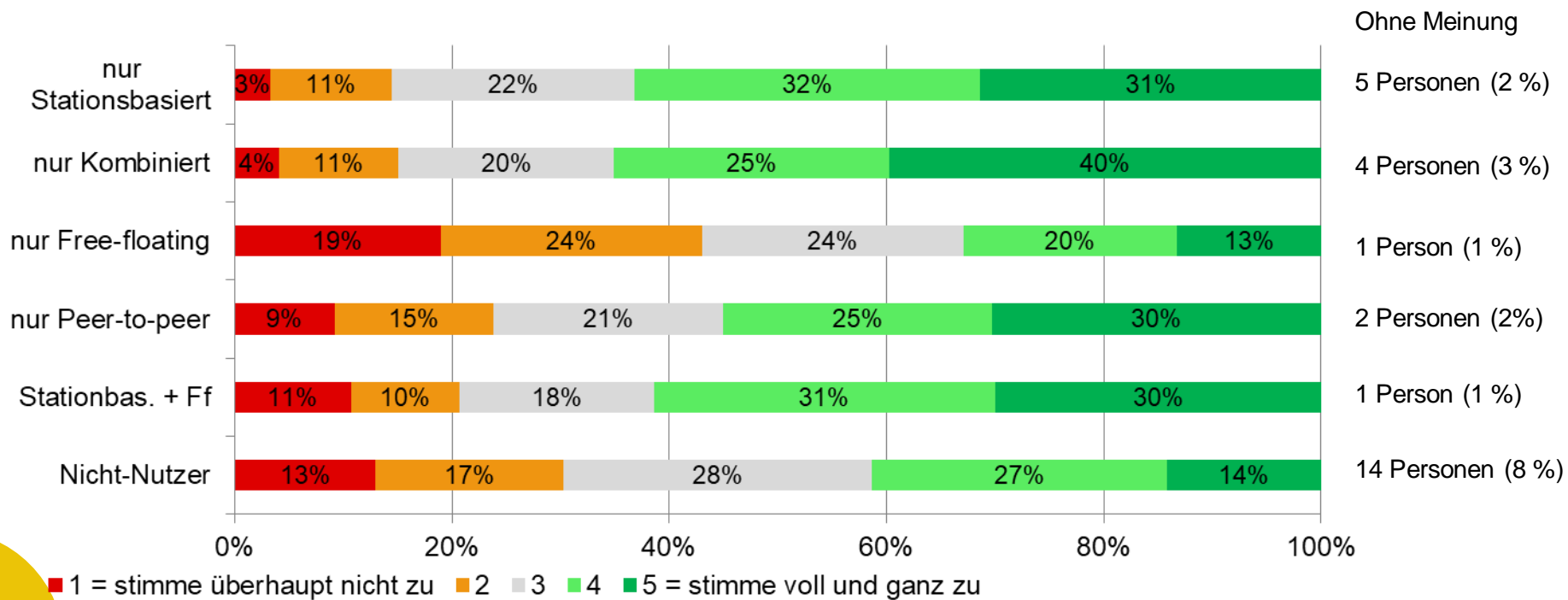
Attitude towards cars

Agreement to the statement „A car is a means to an end“



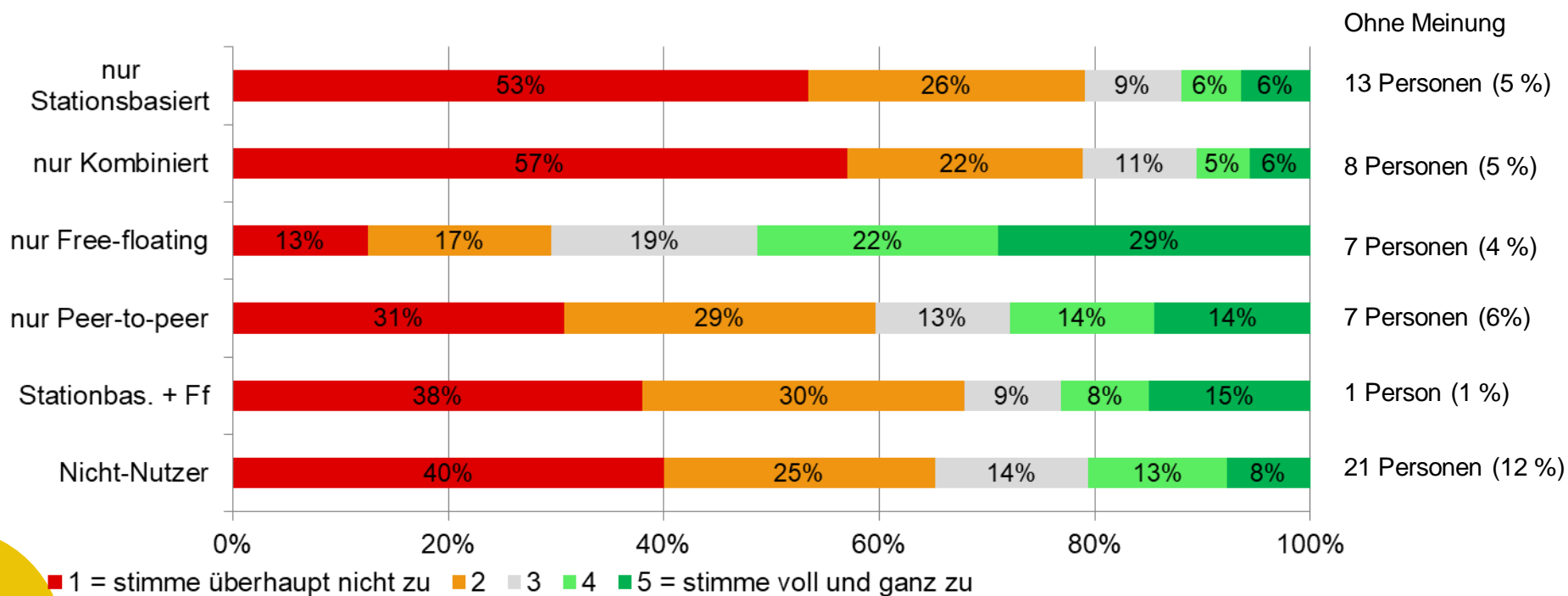
Balancing private car to Car-Sharing

Agreement to the statement „Car-Sharing is a full replacement for an own car“



Balancing private car to Car-Sharing

Agreement to the statement „Car-Sharing is more an add-on to my own car“



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Conclusions

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- The environmental effects of different Car-Sharing variants are totally different.
- Station-based Car-Sharing and Combined services in one hand have a great potential as a full replacement of private cars.
- Pure free-floating services as car2go and DriveNow have not so much environmental potential. Customers use them rather as add-on to their private car.
- Nevertheless there is some environmental potential if customers combine station-bases services and free-floating services from different companies. In this case user with car affine attitudes learn to combine the advantages of both variants.



Thank you for your attention

(You will find the result of surveys of bcs on the homepage www.carsharing.de)

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