

# Impact of carsharing membership on car use

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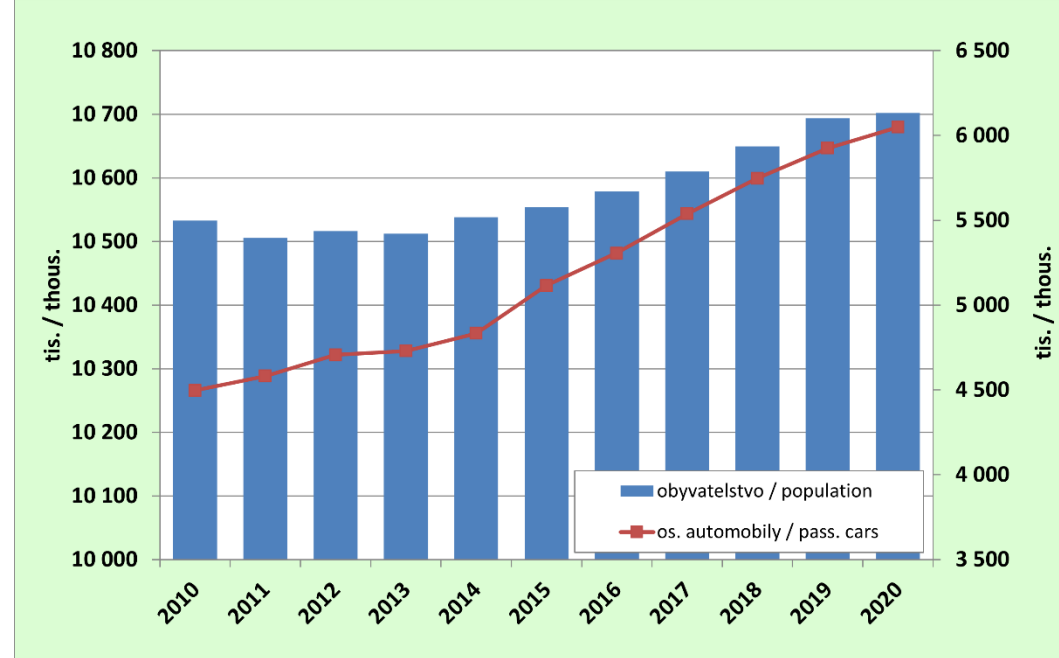
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# Research areas

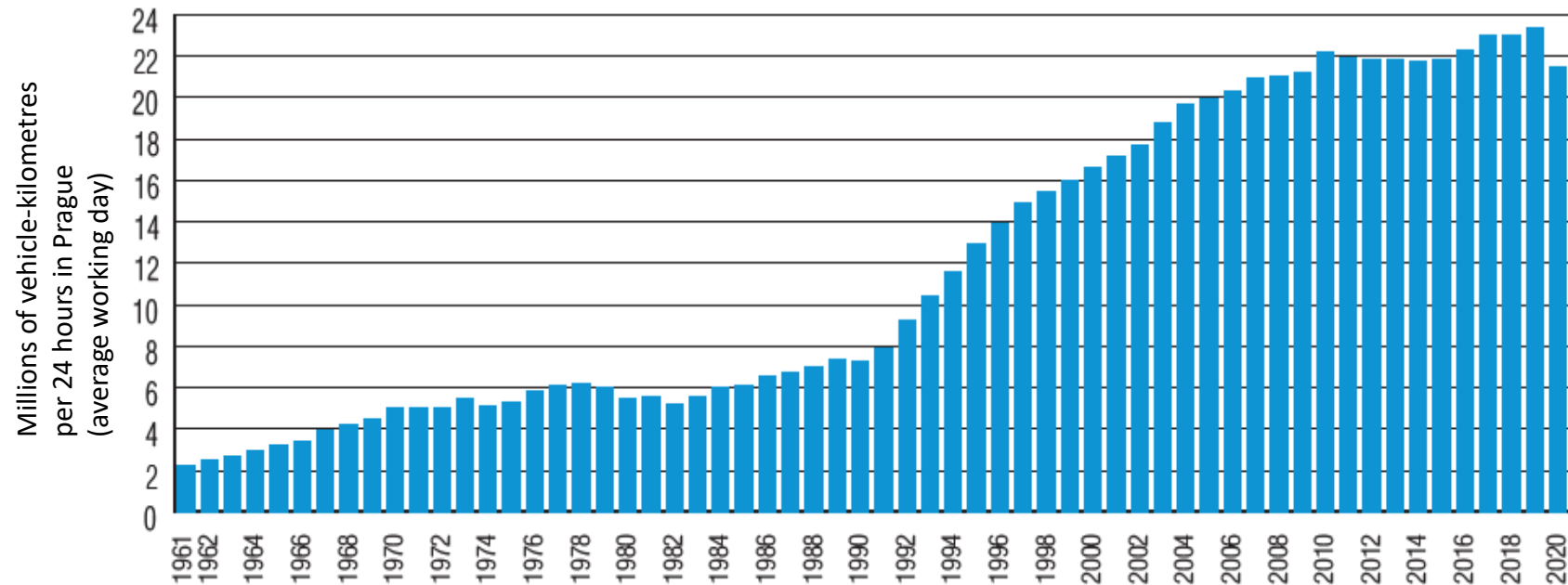
- Factors influencing overall car use after joining car-sharing
- Attitudes of carsharing users towards sustainable urban mobility policies
- Differences between households with and without another car available

# Rationale

- Sustainable urban mobility: the lowest energy consumption possible for a high level of mobility
- Shared cars as an opportunity to decrease n. of passenger cars owned as well as kilometres travelled by car
- Shared car as a complement to privately owned car – effects?
- Shared cars without accompanying car restrictive measures - no effect – induced car ownership and use within other groups – we urgently need restrictive measures as well



Source: Transport Yearbook 2020, <https://www.sydos.cz/cs/rocenka-2020/index.html>



Source: Transport Yearbook of Prague, 2020, <https://www.tsk-praha.cz/wps/portal/root/nabidka-sluzeb/rocenky>

# Methodology

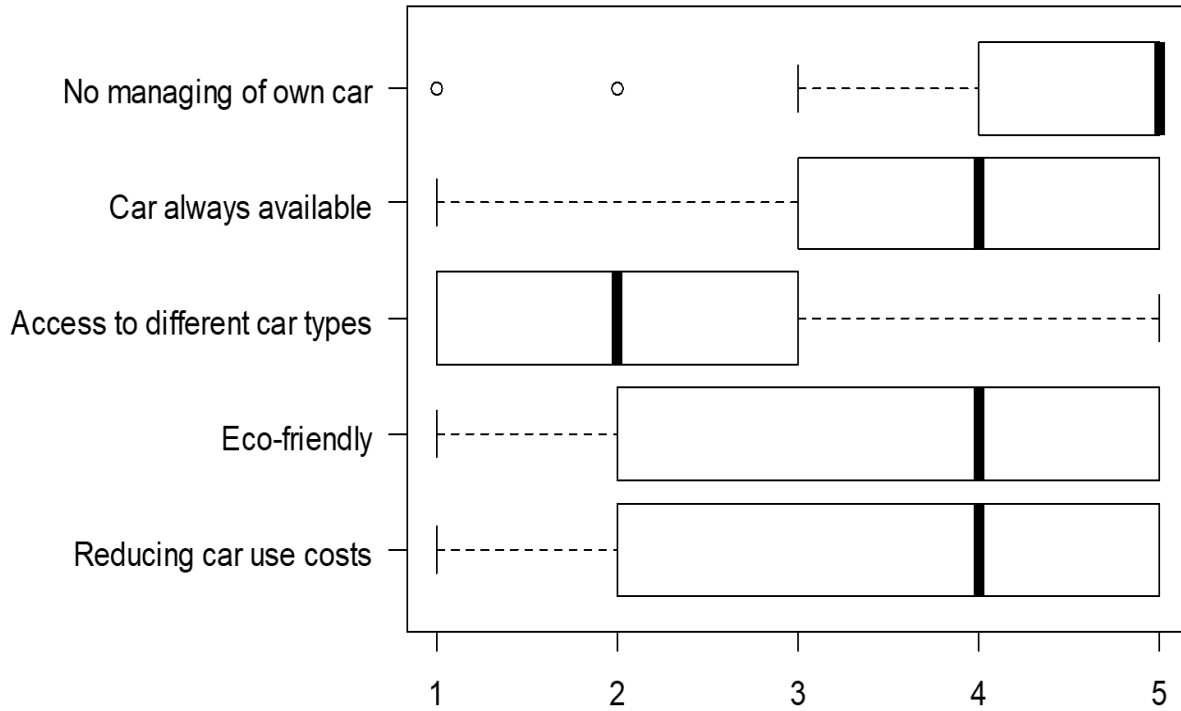
- Behaviour and attitudes of carsharing members of Autonapůl



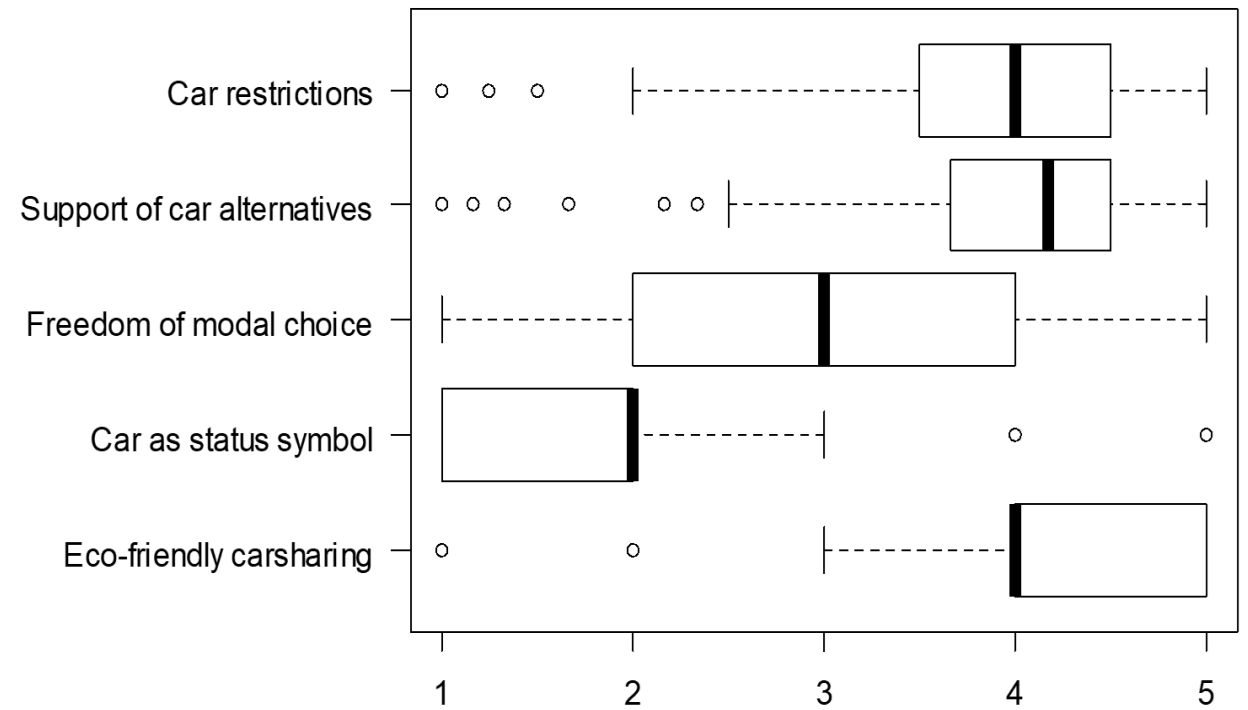
- Revealed data - shared car use history
- Stated data – questionnaire survey
- Only Czech speaking respondents
- 47.5% response rate, 316 fully answered questionnaires

# Results I





## Reasons for joining carsharing



## Attitudes





# Results II

		Without another car available	With an additional car available	t-test (p-value)
	<b>No. of observations</b>	215	101	
Socio-demographic characteristics	Household income (scale 0-6)	3.39	3.67	0.056
	No. of household members	1.91	2.27	0.139
	 No. of children in household	0.37	0.42	0.780
Attitudes (scale 1-5)	 Car restrictions	<b>4.04</b>	3.63	<b>0.000</b>
	 Support of car alternatives	<b>4.19</b>	3.79	<b>0.000</b>
	Freedom of modal choice	2.75	<b>3.23</b>	<b>0.000</b>
	Car as status symbol	1.88	2.02	0.273
	Eco-friendly carsharing	<b>4.40</b>	4.04	<b>0.000</b>
Reasons for joining carsharing (scale 1-5)	No managing of own car	<b>4.44</b>	3.50	<b>0.000</b>
	Car always available	3.58	3.50	0.631
	Access to different car types	2.36	<b>2.78</b>	<b>0.009</b>
	Eco-friendly	<b>3.62</b>	3.27	<b>0.042</b>
	Reducing car use costs	<b>3.65</b>	3.07	<b>0.001</b>
 Travelling by shared cars	No. of borrowings per year	<b>25.68</b>	15.26	<b>0.045</b>
	Km driven per year	<b>2081.64</b>	1374.28	<b>0.019</b>
	Hours of shared car use per year	<b>267.72</b>	118.75	<b>0.028</b>

# Results III

DV: change in kilometres driven by car after joining carsharing

Variable description	Value	Std. error	t value
Kilometres driven by carsharing	<b>0.0001164**</b>	0.0001124	1.0359
Frequency of carsharing use	0.1695236	0.1665176	1.0181
Frequency of private car use now (min. once per month)	<b>0.6902487**</b>	0.3171471	2.1764
Frequency of private car use now (min. once per week)	<b>0.6254847**</b>	0.3072868	2.0355
Frequency of private car use now (min. 3 times per week)	<b>1.3928134***</b>	0.3969899	3.5084
Frequency of private car use before joining carsharing	<b>-0.8951518***</b>	0.1147822	-7.7987
 Sale of car after joining carsharing (1 = yes)	<b>-1.6269829***</b>	0.3674707	-4.4275
 Car availability in household (1= yes)	<b>0.7413775**</b>	0.3395461	2.1834
Reason: Car always available	-0.0590379	0.0903570	-0.6534
Reason: Reducing car use costs	-0.1623568*	0.0855654	-1.8975
Reason: No managing of own car	-0.1702799	0.0983624	-1.7311
Reason: Eco-friendly	0.0143483	0.0835833	0.1717
N:			280
Residual deviance:			559.635

Note: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

# Conclusions

- Carsharing does not necessarily put individuals on a more sustainable track.
- The availability of another car in the household - strong predictor of change in car use.
- We cannot count on carsharing to make the difference in car usage per se, we need car restrictive policies.
- Carsharing members believe in sustainable urban mobility measures, although those without a car in their household are more inclined towards them.
- Does carsharing bring into or make people more open towards car restrictive policy measures?
- Carsharing as a supportive factor for higher political feasibility of car restrictive measures.



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