

STUDENT AWARDS



LIVING WITHOUT A CAR

Student information

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Living without a car: an analysis of the car-sharing landscape in Belgium

This research is in two parts. The first part focuses on understanding the group of households without a car and the advantages and disadvantages they experience as a result of not owning a car.

In the context of this study, a zero-car household was viewed as not owning a car. However, zero-car households may still use a car. To understand the issues concerning not owning a car, a literature review was conducted. This revealed that the group of zero-car households is diverse. The group can be subdivided based on the underlying reasons for not owning a car:

- I **car-free** households who do not own a car by choice.
- I **car-less** households who do not own a car due to external factors.

In this context, the label was applied according to the disadvantages experienced by the car-free and car-less households. Reasons for a household being car-less are mainly economic, however, depending on the residential location a household may be forced into car ownership to participate in economic, political, and social life of the community.

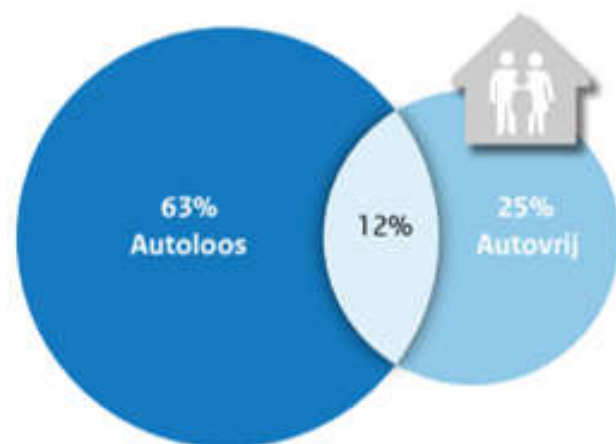
Car-free households are mainly located in more densely populated areas with better public transport coverage than car-less households. These car-less households therefore tend to experience more mobility disadvantages than car-free households.

The second part of this research focuses on the car-sharing landscape in Belgium as a possible solution for car-free and car-less households. This involved comparing the various organisations regarding general

operation, geographical locations, additional facilities, and cost price.

The car-sharing industry is competitive and still developing, while the lack of standardisation makes comparison difficult. The car-sharing providers distinguish themselves mainly by the region in which they operate, the facilities offered and the conditions for users. Car-sharing organisations which specifically target sparsely populated areas may offer a solution for the group of car-less households.

Figure 4: Car-free versus car-less households



RESIDENTIAL URBANISM AND AGING

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Two waves of data from the Dutch Mobility Panel, from 2013 and 2019, were selected. Participants from waves, aged 18 and over, were asked to complete a three-day trip diary. This enabled changes in demographic characteristics together with changes in car travel behaviour within this group to be analysed.

The impact of residential urbanism and aging of young adults on car travel demand in the Netherlands

Travel demand in the Netherlands has been decreasing over the past two decades. This applies particularly to car travel by young adults and urban residents. Despite this, over 50% of all trips in the Netherlands are still made by car. The impact of urbanisation on car travel demand and the development of car travel by young adults in the longer term is still not clear.

This research examines the role of residential urbanism in car travel behaviour for different types of household composition in the Netherlands. It also explores the development of car travel behaviour among young adults.

The analysis revealed that residential urbanism is an important factor for determining car travel behaviour. However, residential urbanism does not affect all household types in the same way. It's clear that households with children travel by car more frequently whereas singles, especially in cities, are more inclined not to travel by car.

The results imply that urbanisation has the potential to decrease car travel demand among single person households and couples. However, as young adults age, they exhibit similar car travel behaviour to older adults.

Household type	Residents of the most urban areas (2500 or more inhabitants/km ²)			Residents of the least urban areas (1000 or less inhabitants/km ²)		
	Singles, N = 251	Couple, N = 154	Couple + children, N = 57	Singles, N = 123	Couple, N = 303	Couple + children, N = 202
License holding	205 (82%)	134 (87%)	53 (93%)	109 (89%)	276 (91%)	195 (97%)
Car ownership	122 (49%)	133 (86%)	53 (93%)	93 (76%)	288 (95%)	190 (94%)
Preferred transport mode to work						
<i>Bike</i>	73 (29%)	38 (25%)	12 (21%)	21 (17%)	46 (15%)	39 (19%)
<i>Car</i>	50 (20%)	36 (23%)	30 (53%)	38 (31%)	88 (29%)	122 (60%)
<i>Not applicable</i>	75 (30%)	48 (31%)	9 (16%)	43 (35%)	157 (52%)	26 (13%)
<i>Public transport</i>	19 (7.6%)	12 (7.8%)	2 (3.5%)	5 (4.1%)	1 (0.3%)	3 (1.5%)
<i>Walking</i>	6 (2.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)
Preferred transport for groceries						
<i>Bike</i>	73 (29%)	38 (25%)	8 (14%)	44 (36%)	103 (34%)	41 (20%)
<i>Car</i>	41 (16%)	42 (27%)	26 (46%)	32 (26%)	108 (36%)	109 (54%)
<i>Not applicable</i>	29 (12%)	20 (13%)	4 (7.0%)	11 (8.9%)	21 (6.9%)	11 (5.4%)
<i>Public transport</i>	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)
<i>Walking</i>	52 (21%)	19 (12%)	4 (7.0%)	7 (5.7%)	16 (5.3%)	5 (2.5%)
Home to work travel by car	64 (25%)	43 (28%)	31 (54%)	45 (37%)	93 (31%)	129 (64%)
Average number of trips	13.0 (7.1)	12.2 (7.1)	11.9 (6.2)	10.7 (5.6)	10.1 (4.8)	11.2 (5.2)
Average distance travelled (km)	229.8 (346.2)	149.8 (248.4)	217.1 (282.9)	142.2 (211.3)	107.1 (144.1)	147.6 (172.8)
Average number of trips by car	3.1 (3.9)	4.4 (4.1)	6.9 (5.4)	4.8 (3.9)	5.2 (4.0)	6.8 (4.8)
Average number of PT trips	3.9 (6.8)	3.0 (7.1)	1.4 (4.0)	1.2 (3.4)	0.2 (1.3)	0.1 (0.8)