# STUDENT AWARDS


Quality in parking

# PERSPECTIVE ON RESIDENTIAL PARKING

Student information
Author: Marlou Tiesinga
Institution: Delft University of Technology
Graduation year: 2021

**A new perspective on residential parking policy: A multiple regression model to explain visitor parking demand in Dutch urban residential areas.**

As cities expand, municipalities face mobility challenges to keep their cities sustainable, liveable and accessible. In Europe, individual mobility focuses on personal car use, which makes the availability of car parking spaces an essential and challenging aspect in development projects.

This thesis aims to identify factors which explain visitor parking demand and what this means for the visitor parking standards. The conceptual framework developed showed that visitor parking demand depends on the demographic, geographic and policy characteristics of the residential areas of both the host and the visitor.

The traditional CROW standard makes a distinction between type of dwelling and socio-economic differences, but for visitor parking a universal mark-up of 0.3 parking spaces per dwelling unit applies. With declining car ownership per household, this fixed component is becoming an increasingly large proportion of the parking spaces to be realised in urban new build projects, and is consequently driving up costs and housing prices.

Literature advocates implementing context-specific parking standards related to the local residential area conditions. However, these studies lack insight into actual usage and neglect the visitor parking standards. In practice, there is often an oversupply of visitor parking.

Visitor parking needs were analysed based on the actual use of visitor permits in Eindhoven per postcode zone. Using regression analysis, this data was then linked to:

- geographical data (density, function, accessibility and housing types),
- demographic data of residents in the area (family composition, income and education level),
- parking facilities (on-street, off-street, tariffs).

Surprisingly, it transpired there was hardly any relationship between the number of visitor parking transactions and the number of residents or households. Areas in or near the city centre attract more visitor parking. Residents of larger, owner-occupied, dwellings attract more visitors and, finally, accessibility by car, measured by the number of parking spaces available and proximity to the main road network, has a positive influence on the number of visitors wanting to park.

The study concludes that visitor parking demand is very complex and therefore visitor parking standards should be based on local conditions rather than defining a national uniform value per dwelling. In addition, limiting the number of visitor parking spaces may possibly lead to reduced demand from visitors. However, this needs further practical research to establish new, more specific guidelines.

# LIVING WITHOUT A CAR

Student information
Author: Pieter De Smet
Institution: University of Antwerp
Graduation year: 2022

## 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:

- **car-free** households who do not own a car by choice.
- **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