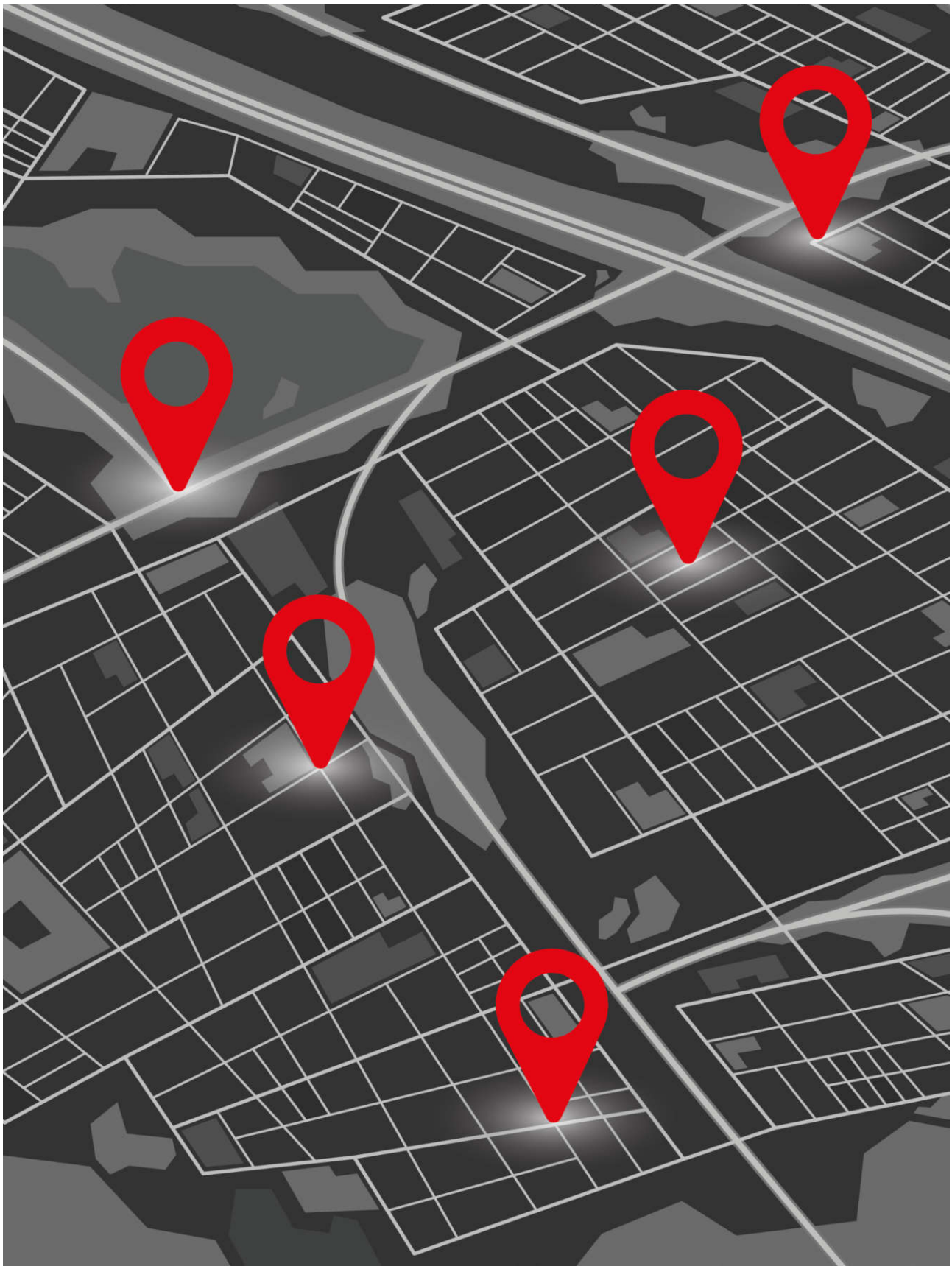
STUDENT AWARDS 2014 - 2026



Quality in parking

PERSPECTIVE ON RESIDENTIAL PARKING

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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 socioeconomic 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.

