

# THESIS AWARD - LUSTRUM BOOK

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# THE EFFECT OF PARKING MEASURES

## Student information

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## The effect of parking measures in an urban context

As the population of the world continues to grow, as well as the portion of people living in cities and the number of privately used cars, it becomes increasingly important to create an urban environment which is sustainable and of good environmental quality.

Decision makers and urban planners have a whole plethora of measures that they can use at their disposal. One category of those measures is traffic demand management or TDM for short.

### Traffic Demand Management

TDM combines both pull and push measures which can be used in conjunction to create a more equitable and sustainable transportation system.

- I Pull measures aim to increase the use of mode choices by improving them; either by appeal accessibility cost or performance.
- I Push measures aim to dissuade particular behaviour by implementing economic costs or other measures. These usually raise revenue, as well as quantify the cost of particular transport behaviours.

One particular category within TDM is that of parking measures, which have been in use for quite a while.

### Particular parking measure

Parking pricing is the most known example of this. While decision makers and urban planners are aware of the tools at their disposal, they are often less certain of their effects in the setting that applies to them specifically. This report aims to shed light into that unknown, identifying the possible reactions that car users may show when confronted with a particular parking measure.

By submitting a sample in the population of the city of Geel to a self-completion questionnaire, data is gathered regarding their current transport behaviour, mobility options and reactions to five hypothetical scenario's of parking measures.

First an online survey was used by distributing flyers with a URL, then a paper version was used to obtain a large enough sample.

This data led to the conclusion that road users indeed change their behaviour to evade parking measures, and the reaction to parking pricing is not as strong as a decrease in the number of available parking spaces.

### Use of private car remains popular

Additionally, changing transportation modes, a switch to public transportation or the bicycle, is not as popular as continued use of a private car. Different people have different reactions, but no particular characteristic of individuals was influential across all distinct hypothetical cases and strategies.

Included in the report are recommendations for decision makers questioning how to shape their urban environments, as well as a reflection for future research on the topic.

"The reaction to parking pricing is not as strong as a decrease in the number of available parking spaces."



# LESSONS FROM POLICY IMPLEMENTATION

## Student information

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## Mobility management at Erasmus University Rotterdam: lessons learnt from policy implementation and how to move forward

This thesis evaluates the mobility management policy that was put in place by the Erasmus University Rotterdam (EUR) in 2011. The goal of the policy was to see a reduction in car commuters in order to become a more sustainable campus.

Several policies were put in place. This thesis gives special attention to the introduction of parking charges since June 2013. The analysis is based on three years of data, which is provided by the EUR via surveys in 2010, 2014 and 2016.

The statistical analyses find four factors that predict car commuting:

- | car availability,
- | arrival time,
- | type of function of the employee and
- | number of days one commutes per week.

The perceived accessibility has decreased since 2010, and there has been a reduction of car commuters by 6.80% points. The introduction of parking fees shows a decrease in car commuting. Furthermore, an estimation of the reduction in CO<sub>2</sub> is made, which finds a total daily reduction of 1137.8 kg CO<sub>2</sub> in 2016 compared to 2010.

The results suggest that the EUR is well on its way to realise their aim in reduction of employee commuting, and that future policy measures are likely to be found in behavioural as opposed to parking measures. Overall, the EUR has become a more sustainable campus since 2010.

