

### The Impact of Climate Change on Mobility

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2010-2014

#### What is the research question?

Changing weather conditions have become an important topic in transport in recent years. This project specifically looks at the effects of normal weather conditions on daily travel behaviour in the Netherlands. What is the influence of weather and climate on our daily transport choices and our subjective experiences and emotions regarding weather and space?

#### What are the findings?

- Precipitation, clouds, wind and lower temperatures, but also temperatures above 25°C, have a negative effect on cycling and lead to an increase in car use in particular.
- The effects of weather on cycling behaviour are generally stronger in remote, sparsely built-up open areas than in densely populated and sheltered central areas.
- It is expected that in a future warmer climate, cycling in the Randstad conurbation will increase across the board, especially at the expense of car use. However, this will not be the case in the summer, when heat and more extreme precipitation will make cycling less attractive.
- The perception of heat when travelling is the result of a combination of air temperature, wind, precipitation and thermal radiation, and varies widely across users of different transport modes. Cyclists, especially, experience cold weather as colder than sheltered motorists.
- Precipitation, cloud cover, wind and low temperatures, but also temperatures above 25°C, result in a less positive emotional travel experience.
- Cold, precipitation, cloud cover and wind mean that people experience spatial environments as less beautiful, lively and pleasant when travelling. Walkers and cyclists have a more positive perception of spatial environments than car and public transport users.

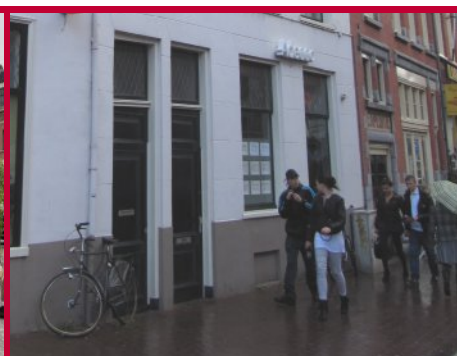
#### What are the recommendations?

- Take into account a possible increase in bicycle use in a warmer future climate when constructing cycling infrastructure.
- When analysing transport trends e.g. when evaluating the use of cycling infrastructures, make corrections e.g. for short-term weather fluctuations that have a significant impact on transport wide choices.
- The degree to which unprotected pedestrians and cyclists are exposed to the weather can be influenced by urban design. Provide cooling by means of protective green cover and shelter against wind and rain with canopies or windscreens.

For more information go to <http://www.climateplanning.tk/>



*Effects of weather on cycling*



*Walking in sheltered conditions*



*Influence urban design*

CESAR is part of the NWO-programme Sustainable Accessibility of the Randstad

