Rotterdam city centre: If Hofplein is car low, where do the cars go?

Problem description:

In numerous city centers across Europe and beyond, traditionally car-oriented environments are undergoing transformative redevelopment into people-centric spaces. These transitions aim to improve urban livability, enhance environmental quality and increase active/shared mobility.

However, there is limited empirical evidence on the actual behavioral responses these redesigns elicit. Specifically, it remains unclear whether observed changes in travel patterns are primarily the result of existing users adopting more sustainable travel behaviors, or whether these patterns are driven by different user groups altogether—possibly displacing car traffic to other areas rather than reducing it. This distinction is critical for assessing the real-world efficacy and equity of such interventions in promoting sustainable urban mobility.

This MSc thesis project will focus on the redevelopment of the iconic Hofplein in Rotterdam.

Research objectives & Assignment:

The study aims to systematically investigate how the transformation from a car-centric to a people-centric urban space affects travel behavior, modal shifts, and user experiences. A particular focus will be placed on identifying whether shifts in travel patterns are due to behavioural change among existing users, or the emergence of new user groups, and whether private car use is genuinely reduced or merely displaced. The research approach will be chosen together with the student and may involve quantitative data analysis, modelling, user surveys, qualitative interviews, and potentially in-situ behavioural experiments).
The project seeks to generate actionable insights into the effectiveness of “car low” interventions. The findings will not only inform the current Hofplein project but also provide transferable knowledge for similar urban redevelopment initiatives in Rotterdam and other cities pursuing sustainable mobility transitions.

Requirements:

The study can be conducted as the MSc final project of the MSc CE-TTE or MSc TIL program as an internship at BAM Infra and part of XCARCITY program. His study requires an interest in transport modelling, travel behaviour and a willingness to collaborate with also other XCARCITY partners.

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