

# Traveller preferences and behavioural dynamics in the era of MaaS

Ph.D. candidate:

Nejc Geržinič  
n.gerzinic@tudelft.nl

Supervisors

Prof. Dr. Serge Hoogendoorn  
s.p.hoogendoorn@tudelft.nl

Dr. Oded Cats  
o.cats@tudelft.nl

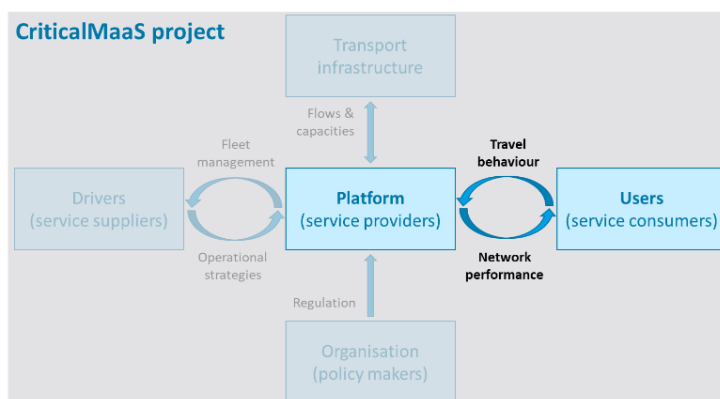
Dr. Niels van Oort  
n.vanoort@tudelft.nl

## Research topic and objectives

With the emergence and widespread adoption of smartphones, pooled ridesourcing services (i.e. UberPOOL, LyftLine, ViaVan,...), microtransit and flexible public transport (collectively referred to as **on-demand services**) have come to be a popular transport mode around the world and are becoming increasingly interesting to public transport authorities and policy-makers as an alternative for fixed public transport services in low-demand areas.

The main goal to advance the understanding of travellers' preferences, attitudes and perceptions towards flexible on-demand services. Analysing how (1) these services fit in the wider mobility landscape and also how (2) travellers perceive the specific characteristics related to using an on-demand service with no fixed timetable or route, with variable waiting times, travel times and a potential to be denied service.

This research is part of the wider CriticalMaaS project, which aims to increase the understanding of how two-sided markets (where platforms bring together individual users and service providers) function, impact the transport infrastructure and how can they best be regulated.



## Thesis structure

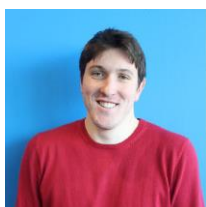
- (1) Exploring the role and potential of on-demand services for performing trips in an urban area. SP data was collected through the Dutch Mobility Panel, on which multinomial logit and latent class choice models were estimated.
- (2) Investigating how on-demand services can provide access to train stations on the home-end of the trip. SP data was collected through the Dutch Mobility Panel, on which multinomial logit, nested logit, mixed logit and latent class choice models were estimated.
- (3) *[in progress]* Analysing how travellers perceive the variability of waiting time for on-demand services and how they adjust their behaviour through experience. SP data was collected through the Dutch Mobility Panel. The data was analysed by an advanced choice model incorporating non-compensatory trade-off behaviour, previous experiences and a decay function that accounts for less weight of older experiences on current behaviour.
- (4) *[plan]* Evaluating different demarcation strategies for on-demand services on how they impact the performance of on-demand services and other modes in the city.

## Publications

**Geržinič, N.**, van Oort, N., Hoogendoorn-Lanser, S., Cats, O., Hoogendoorn, S. (2020) Potential of on-demand services for urban travel. *Transportation* [under review]

**Geržinič, N.**, Cats, O., van Oort, N., Hoogendoorn-Lanser, S., Hoogendoorn, S. (2021) What is the market potential for on-demand services as a train station access mode? *Transportation Research Part A* [under review]

## About the candidate



Nejc started working on his doctoral research in March 2019. He holds a Master's Degree in Transport, Infrastructure and Logistics from Delft University of Technology and a Bachelor's Degree in Traffic Technology from the University of Ljubljana. His research interests are investigating travel behaviour, discrete choice modelling and market segmentation, in relation to both urban and long-distance travel. He is curious about how to design public transport networks and policies that encourage travellers to choose more sustainable alternatives.