

# Shared mobility services in Swedish rural areas: Development and demonstration of the KomlLand-concept

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## Introduction

Transport accounts for a large share of global green-house gas emissions (cf. Sims et al. 2014). To decrease these emissions and to cater for sustainable and just transport systems, research efforts are being made to identify, develop, and test new types of resource efficient solutions that meet peoples' mobility needs. A growing trend within this realm is so called shared mobility services, i.e. mobility services in which the users share either vehicles and/or rides. Proponents argue that shared mobility services – such as car-sharing, bicycle rental, and ride-sourcing – can complement and strengthen public transport, bicycling, and walking, and support less car-centric lifestyles, especially if the services are integrated into Mobility-as-a-Service offerings (cf. Smith 2020). Shared mobility has thus become an integral part of the dominant discourse around the future of transport (autonomous-connected-electric-shared), and although their modal shares still are minor (e.g. Brundell-Freij et al. 2018), recent years have seen significant growth of shared mobility services (e.g. Shaheen & Cohen 2020).

However, this growth is more or less isolated to metropolitan areas. Efforts to develop shared mobility services have predominantly been made in urban areas, where economies of scale can be found and where the services are expected to have greater impact on green-house gas reduction. In contrast, rural mobility services have decreased over the last decades due to a combination of factors including urbanisation and austerity measures (Lorenzini et al. 2019). Likewise, most research on shared mobility has focused on urban areas (e.g. Boyer & Sarasini 2019). Consequently, there is a lack of empirical research on how shared mobility services can be organized in rural areas, and what effects they can have on aspects such as of car ownership, green-house gas emissions, and quality of life.

The KomlLand project set out to address these knowledge gaps by developing and testing the KomlLand concept – a regional Mobility-as-a-Service platform that enable rural dwellers to put together shared mobility service offerings that are tailored to the specific needs of their communities. An initial pre-study (2017-2018) paved the way for a trial of the concept by identifying suitable rural towns, likely user groups and their demands, key service components, and possible business models. Subsequently, the ongoing trial phase of the project (2019-2021) aims to develop a functional prototype and to test it in collaboration with civic associations in three rural towns with 800-900 inhabitants in Västra Götaland in West Sweden.

In the following, this extended abstract first presents key findings from the pre-study. Thereafter, a few insights from the ongoing trial are provided prior to a concluding discussion on possible pathways for the journey from a temporary, small-scale trial towards a region-wide and continuous operation.

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## Key findings from the pre-study

The pre-study methodology and findings are reported in full in Berg et al. (2018). One significant piece of work regarded how to identify suitable rural towns for the KomlLand concept. Here a list of selection criteria was developed. Although the concept is tailored towards small, rural towns, a local grocery store and school, a local labour market, and access to frequent public transport were identified as prerequisites for uptake alongside strong community associations. Hence, the rural towns cannot be 'too small'. Following these criteria, six potential test sites in Västra Götaland were proposed.

With regards to potential users, the pre-study analysis portrayed four user categories – elderly, businesses and public sector organizations, summer guests, and families (including children and youth). For these groups to adopt shared mobility services, the combined value offering of the services must be on par with car ownership. Potential values, which interviewees described, included reduced environmental impact, improved accessibility, reduced travel costs, and increased social exchange.

In terms of service design, the pre-study described six essential components – technical platform, mobility services, users support, a local operator, and mobility advisors. The pre-study, moreover, developed eleven mobility service ideas that together could constitute an attractive Mobility-as-a-Service offering for rural towns (see Berg et al. 2018, p.37).

Finally, with regards to the business model, the pre-study concluded that it is currently not economically feasible to deliver shared mobility services in rural areas on a commercial basis. To realize concepts, such as KomlLand, a public party has to take leadership and invest in the platform and the surrounding organization. Regional public transport authorities might be the most appropriate candidate, given that the KomlLand concept seems to have potential to increase accessibility in rural areas for a cheaper price than what it would cost to expand the public transport system.

## Insights from the ongoing trial

Following several delays, the KomlLand trial commenced in late 2020. As of March 2021, inhabitants in Broddetorp, Timmersdala, and Lundsbrunn can use tailored KomlLand apps to pay for public transport, to book and pay for taxi, and to get access to the mobility services *byabussen* (the village bus), *grannbilen* (the neighbour car), and *byatorget* (the village square). They can, moreover, receive onboarding support from local civic associations and from mobility advisors employed by the project. Despite these opportunities and support systems, the use of the tailored apps and the included mobility services have been limited. For instance, the total number of sold public transport tickets is below ten. Based on the trial experience to date, one can conclude that it is challenging to (i) convince for-profit mobility service providers to offer their services in rural towns; (ii) develop a value offering that can compete with existing mobility apps and with car ownership; and (iii) communicate the value offering to rural dwellers and to convince them to trial shared mobility services, especially if the trial period is short.

Still, it is impossible to determine whether the limited interest in the KomlLand concept during the trial is due to conceptual weaknesses, the setup of trial project, and/or the covid-19 pandemic. Hence, the project consortium is planning for further development and testing. Potential pathways for that line of work are briefly discussed in the next, and final, section.

## Pathways for further development and testing

The legal conditions for regional public transport authorities in Sweden to engage in Mobility-as-a-Service concepts, such as KomILand, are outlined in Smith (2021). In short, they are allowed to develop and manage Mobility-as-a-Service platform, if mobility service providers are treated equally and the cashflows are separated. Given these conditions, five pathways from the perspective of the regional public transport authority in Västra Götaland for further development and testing of KomILand have been identified: (i) end the direct involvement and hope that other actors will develop the concept further; (ii) extend the ongoing trial to offset the impacts of the pandemic; (iii) scale up the trial activities to include more mobility services and more rural towns; (iv) prepare KomILand for implementation and upscaling, for instance by building a permanent organization and by procuring the technical platform; or (v) finalize the service and launch it across the region.

Currently, the project consortium is preparing for expanding the trial activities (pathway three) based on the arguments that the ongoing trial neither has confirmed nor refuted the values of the KomILand concept and that a trial that tests more types of shared mobility services in more types of rural towns has greater potential to improve the understanding of under what conditions the concept can create what values for which people.

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