

# Key barriers in MaaS development and implementation

---



Mia Xiaoyun Zhao is a senior researcher at ITRL with a background in transport system analysis, and is currently involved in various projects at ITRL.

In this interview, Mia shares some of her thoughts on her most recent publication, that she published together with Bhavana Vaddadi, Martin Sjöman, Mia Hesselgren and Anna Pernestål.

## “Key barriers in MaaS development and implementation: Lessons learned from testing Corporate MaaS (CMaaS)”

In order to make ITRL’s research more accessible to both the industry and the public, we asked a range of questions that give an overview of Mia’s paper and inspire you to learn more.

---

### What is this different angle in this research article?

The main different angle in this article is that we used interdisciplinary and system thinking approach. This project was conducted by various researchers that have different research backgrounds. In the article we were able to build on the knowledge and experiences from researchers, who have previously worked with four main perspectives respectively in service design, business model, user travel attitudes and behaviour and system level impacts. By combining multi-disciplines, taking multi-perspectives and considering multi-levels we conducted a deeper identification of barriers in CMaaS development and implementation. This is a pioneer work and generated new eye-opening insights both in CMaaS and MaaS in general.

### What is the research about?

(Corporate) Mobility as a Service ((C)MaaS) has the potential to improve transport services and mitigate some of the difficulties that the transport sector faces. The implementation of MaaS could for example increase the travel efficiency and at the same time reduce transport emissions. Although MaaS offers many positive opportunities that have been extensively highlighted in scientific research, there remain various barriers that hinder the implementation of this complex sociotechnical system in the whole transport sector. In this article we aim to identify these barriers.

To reveal the barriers that are faced in implementing sustainable transport solutions, we used an interdisciplinary and system thinking approach,

which was earlier referred to as the different angle. The nature of the MaaS system requires involvement of different disciplines, for example service designers, operations engineers, company managers, etcetera and successful execution of MaaS calls for inclusion of the interest of every actor. In this article we considered four perspectives that represent the different phases in the development and implementation of CMaaS, a specific model of MaaS, being 1) service design, 2) business model, 3) user travel attitude and behaviour, and 4) system impacts. Within these four perspectives we included various stakeholders to assure generating a complete overview and identify the corresponding barriers. In addition to the identification of the barriers, we have also investigated how the identified barriers relate to and affect each other. This we did by checking the interrelationships of the barriers within the system that combined by individual, organizational and societal levels – the latter we call a system thinking approach.

This is what the CMaaS pilot discussed in this article looks like: Scania GO! Copyright: Heléne Grynfarb Fotograf



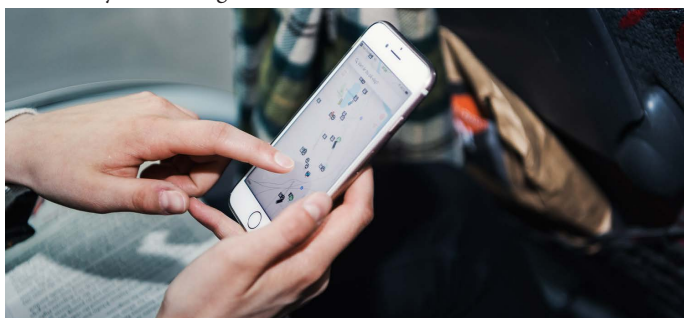
# Key barriers in MaaS development and implementation

## Can you tell us more about the results?

For each perspective that we considered, I will highlight one of the main barriers that we identified. To start with the service design perspective, we noticed that the company was unable to view and develop CMaaS as a complex sociotechnical system, which is fundamentally hindering CMaaS in reaching and showing its full potential. The business model perspective showed us that because there was no good integration with various departments, the company was not able to capture the value of CMaaS. From the user travel attitude & behaviour perspective we discovered that poor synchronisation between users and service providers formed an issue. For example the user's desired access to (real-time updated) information was much higher than could be provided for. The barriers identified from the last perspective, system impacts, were closely related to the barriers that resulted from the other three perspectives. From this perspective an important barrier is that travel beyond the company context was not incorporated in the study since the service did not extend to travel outside of the company.

While some barriers were dominating, some barriers were merely symptoms of larger, underlying issues. This could allow decisions-makers in the future to prioritize some barriers.

The mobile application is in integrated part of CMaaS. Copyright: Heléne Grynfarb Fotograf



## How would you say that the research could make a positive impact on society?

First of all, this article is innovative and unique for ITRL as it complies very well with the goal of our research centre to take an integrated approach in the challenging route to sustainable transport modes. This article is a very good example of how the integration of multi-disciplines allows us to dig deeper into the problem and reveal fundamental improvements needed to assure sustainable transport solutions in the future. That having said, in addition to this, it is important to note that the identification of the barriers is now based on the imple-

mentation of Corporate MaaS, but do equally apply to other forms of MaaS, as CMaaS fulfils what is commonly viewed as main characteristics of MaaS.

The knowledge on these barriers will help to set up policies that conquer the barriers. We could think of several reasons why these barriers in the implementation of MaaS occur: lack of knowledge and experience, lack of effort, lack of financial means. But as soon as we can realise the benefits of MaaS and show this to a wider audience, we are really paving the way for this sustainable mobility solution.

**“While some barriers were dominating, some barriers were merely symptoms of larger, underlying issues.”**

## What further research could this lead to?

**The article encourages further discussions and continuous investigation of the barriers within MaaS systems. Various perspectives possibly have to be added and also the relationship between barriers requires more attention. Furthermore it is of utmost importance to develop and understand MaaS more and better through continuous experiments, as analysis of these real-life experiences is what shows us best what the system still needs.**

## What is the take-home message of the article?

I hope that MaaS will solve the hassle that is currently often associated with travelling. Having one mobile application that integrates all kinds of transport modes, planning, booking and paying, maybe even customized services— really has the potential to improve people's quality of travel. It is important to view MaaS as a complex sociotechnical system. It is essential to integrate the needs of different stakeholders, including the needs of the end users, and enable evaluation of system impacts. So with that in mind, I really think that MaaS has the potential to provide smart, seamless and sustainable mobility solutions. With sharp awareness and proper counter for the barriers, of course.

You can read the full research article [here](#), or feel free to contact [Mia](#) for more information.