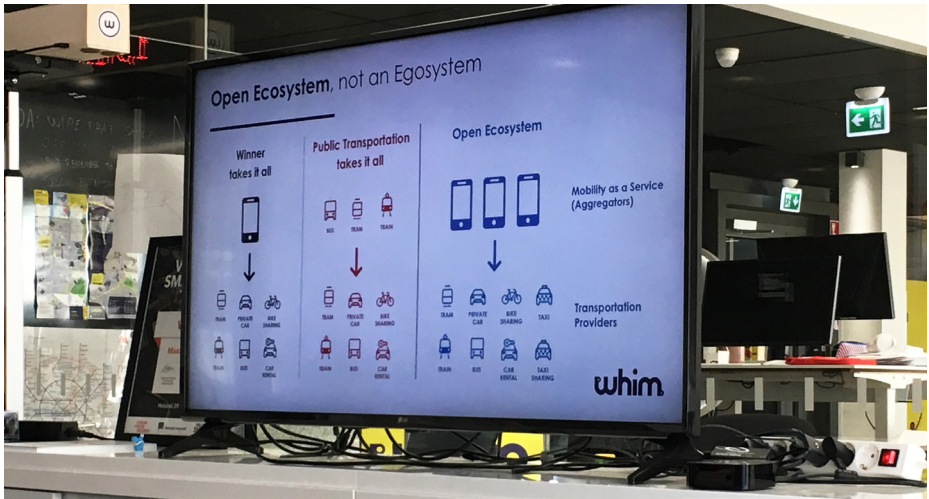


Mistra SAMS

Study trip to Helsinki, October 2018



Background



The research program Mistra SAMS aims to understand how Mobility-as-a-Service (MaaS) and Accessibility-as-a-Service (AaaS) can contribute to sustainability, and what roles public and private actors can take to promote a transition of the transport system so that it significantly contributes to sustainability targets.

In October 21-25 2018, researchers from Mistra SAMS made a study trip to Helsinki to gather knowledge and make connections for future research projects.

Helsinki was chosen as a relevant place for the research team to visit as Finland is the first Nordic country that has started to transform its transport legislation to open up for new ideas for a more user-centric transport system. A system where transport, infrastructure and logistics are defined as services and sources for well-being. Finland has implemented a new transport legislation which has opened up for new integrated mobility services in the country.

Participants from Mistra SAMS

Anna Kramers

Bhavana Vaddadi

Fredrik Johansson

Greger Henriksson

Jacob Witzell

Jan Andersson

Jane Summerton

Jonas Åkerman

Karolina Isaksson

Malin Henriksson

Martin Sjöman

Teo Enlund

Tina Ringenson

Tobias Abrahamsson

Hosts in Helsinki

[Anne Berner, Minister of Transport and Communications](#)

[LVM Ministry for Transport and Communications](#)

[Finnish Transport Agency](#)

[City of Helsinki, Urban Environment Division](#)

[Forum Virium](#)

[MaaS Global](#)

[Kyyti](#)

[VTT Technical Research Centre of Finland Ltd](#)

[Aalto University School of Business](#)

[Aalto Design University](#)



New legislation in Finland

The Act on Transport Services brings together transport market legislation and creates the preconditions for digitalisation and new business models. Its key aim is provision of customer-oriented transport services.

The Act will bring changes to the current state of the transport market that is strictly regulated and guided by public measures. It will promote fairness of competition in the passenger transport market and competitiveness of the service providers of both passenger and goods transport.

The new Act will create a framework for a more efficient arrangement of publicly subsidised passenger transport by utilising digitalisation, combined transport and different fleet types.

The Act will be implemented in three stages

In the first stage, provisions on road transport were brought together under the Act on Transport Services. Provisions on air, maritime and rail transport markets and on the qualifications of transport personnel are added in the second stage.

The second stage of the Act on Transport Services continues the opening of data. Regulation of transport registers is also being reformed.

The third stage of the Act will ensure that due attention has been given to the aims concerning the transport system and related digital services.

[Learn more](#)

Anne Berner, Minister of Transport and Infrastructure

The minister has been an important driving force behind the new Finnish legislation. We asked her four central questions

1. Which have been the main challenges with the new legislation?

Every step has been challenging! The transformation is a systemic change of large proportions. The transport sector is a very authority-driven market. It has been difficult to make cities and municipalities to understand what influence they have may have. Achieving efficient MaaS travel chains may effect travel enormously!

Parliament doesn't understand how the market works, or how central the customer is in a market driven approach. For example, how can a state controlled company ensure it has the right price for a service?

There has been a strong opposition to the new legislation from parts of the transport sector. I have even been threatened personally.

2. What advice do you have to Swedish policymakers?

Don't regulate competitiveness, instead regulate the use of data.

Make a legal clause for open data through open APIs for all companies that want to participate in the transport sector, like the new legislation in Finland. Opening up data for service providers and transport operators should be compulsory. There should be the same ticket and payment system for public transportation across borders in the same way as the airline and hotel industry.



ANNE BERNER. PHOTO FROM FINNISH GOVERNMENT IMAGE DATABANK.

Anne Berner, Minister of Transport and Infrastructure

Contrary to Finland, Denmark has a top-down approach with a governmentally directed integrated platform, that raises questions for me: How will that generate innovation? And how does one know that transport is not overly subsidized with such an arrangement?

I would suggest to support a Nordic cooperation and open up the whole Nordic market. Remove price regulations and support free access to the market. Let taxis and buses compete with each other.

3. What impacts are you expecting from the new mobility market?

Environmental sustainability, increased professionalism, lower car-ownership, and better services in rural areas. Already, there is a tendency that there are less privately-owned cars.

4. What is the next step?

Everything is already done regarding regulation, now it's time for implementation!

There are still many smaller barriers to overcome with regard to the municipalities. For instance WHIM has been denied to include parking garages in Eesbo in their platform services.



JONAS ÅKERMAN AND KAROLINA ISAKSSON PREPARING TO MEET ANNE BERNER.

LVM, Ministry for Transport and Communications

With increased openness of mobility data, user rights and GDPR-concerns are important issues for LVM.

We met deputy director Elina Immonen, senior specialist Saara Reinimäki, and senior officer Altti Iiskola. The Finnish policy is to promote better mobility services and new business opportunities through legislation that simplifies market entrance. The goal is welfare, growth and competitiveness through innovative transport and communications services. In the background are the megatrends of climate change, technological progress, digitalization, smart cities and smart countryside.

The new act on Transport Services puts the customer in focus and emphasizes digitalization, MaaS, multimodality, new business opportunities and decarbonisation.



AT LVM. "SEAMLESS TRAVEL CHAINS"

Modern Mobility Services will be built on data, which leads to a number of goals to work towards:

- 1) Data concerning mobility services must be digitalized.
- 2) Digital data must flow from party to party in a level playing field, to the extent that is necessary in each case.
- 3) Several operators may have a right to use the data. Instead of focusing on the ownership of the data, the focus must be on user rights.
- 4) Above all, companies and citizens must have wider rights to use the data concerning them, even if the data would be in other operator's possession.
- 5) Platforms or information systems that are common, centralized or organized by authorities are not pursued. Instead the aim is decentralized systems that are compatible with each other.
- 6) Interoperability requires (open) interfaces, (open) data and general frameworks for data transmission and compatibility, including agreeing on standards in use.

Finnish Transportation Agency

The transportation agency is deeply involved in monitoring the effects of the new legislation, and the development of new services.

We met Asta Tuominen, team leader for ITS and MaaS, Ilka Kotilainen, project manager and Martin Johansson, National Route Planner. The presentation covered two main topics: infrastructure for autonomous vehicles, and MaaS development.

In regards to infrastructure innovations to support autonomous vehicles, there is on-going work to collect and structure available fragmented data. A road map and action plan 2016-2020 is in effect and information about pilots being carried out can be found via [Traffic Lab](#).

One notable pilot is the RobobusLine 94R in regular service in the outskirts of Helsinki. Another is Aurora – the Arctic intelligent transport test ecosystem, a project in which experimental solutions to support vehicle-infrastructure interaction in the Nordic winter climate is tested. Autonomous vehicles put great demands not only on new investments in road infrastructure, but also on maintenance.

The trial area is a 10 km stretch of instrumented road on E8 next to the Norwegian border. Testers can utilize the experimental ecosystem free of charge. A Norwegian test road is located directly on the other side of the border.

In regards to MaaS development, the role of the agency is to provide expert support in projects and collaborations, maintain data and quality of information, and provide funding (including funding of mobility management).

The agency provides data through numerous platforms and is working with a National Access Point service catalogue to which transport service providers are obliged to submit essential information on their services via digital machine-readable interfaces.

The agency also has a monitoring task to evaluate changes in supply and demand of services etc. by studying statistics and compare to historical data. An important part is to monitor the effects of the taxi deregulation, among others changes in accessibility. A first report will be handed over to the ministry for transport and communications by the end of 2018.

City of Helsinki: Urban Environment Division and Forum Virium

Some of the most visible impacts of the new legislation might be seen in Helsinki, and the city is actively working to encourage innovation.

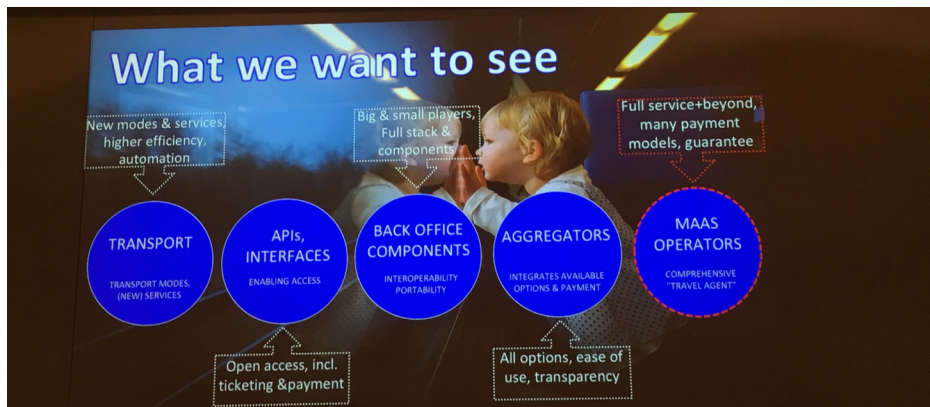
We met Sami Sahala, ITS Chief advisor and Pihla Kuokkanen, Transport engineer, both at the City of Helsinki. Helsinki is planning for a major urban/regeneration to house 100 000 new inhabitants (today app. 650,000 in the urban area). Today, central Helsinki has very little congestion, mostly concentrated to the ring road. However, there is a need for mobility services to meet the increased travel demand.

The city's strategy for services and big data in the mobility sector is to not develop (all) information services themselves. The public sector doesn't need to own all the data, tools, back-up systems and end-user applications.

What's important is that data is available to the public sector when it is needed.

This encourages market development while also keeping down expenses in the public sector. The strategic role of the city is to enable the creation of new services and applications.

Helsinki's slogan is to be "the most functional city in the world through design, digitality and dialogue" and since 2013 over 300 city-driven test beds and forerunner projects have been launched. However, the connection between these projects and traditional city planning is not always well-developed and the city has a role to play in proactively integrating innovative projects and day-to-day operations.



LONG TERM GOALS FOR THE CITY

MaaS Global

MaaS Global provides access to mobility services in a number of countries and is expanding.

At MaaS Global, we met Jarkko Jaakkola who works with the Nordic and Baltic markets. MaaS Global sees the privately owned car as their main competitor, and wishes to deliver services through the Whim app that match the comfort, speed and security of the car.

The goal is to be the “Netflix of Transportation” and global roaming is seen as essential to create an enduring service. The service needs to look the same no matter where the user goes, the same app should be useful globally. The experience of MaaS Global is that people they talk to have little understanding of what MaaS is, but knowledge and opinion is changing rapidly. Young people don’t want to own cars, and seniors see many advantages to MaaS as well.

Today, Whim is a “Minimal Viable Product”: a starting point, but not a profitable business. A practical issue to solve in Finland is access to rental cars at a fixed price for Whim users. Today, rental cars need to be picked up and dropped off at fixed points, which is not good enough to compete with the privately owned car. Solutions to ensure free-floating access needs to be developed.

The main obstacle for MaaS Global to establish the service internationally is the API:s of public transport providers. MaaS Global needs to be able to sell tickets to public transport, and the app therefore needs to interact with the ticket system of the public transport (PT) provider.

The main obstacle, in Jarkko Jaakkola’s experience, is the programming hours needed at the PT providers to make API:s available to the Whim app.



AT WHIM. GREGER HENRIKSSON, JANE SUMMERTON, MALIN HENRIKSSON, ANNA KRAMERS, JARKKOO JAAKOLA
MISTRA SAMS STUDY TRIP TO HELSINKI 2018

Kyyti

Kyyti operates a fully-featured mobility solution in Finland, and provides platforms for similar services internationally.

At Kyyti, we met Pekka Niskanen, chief operating officer, and Pekka Mötte, chief executive officer. Kyyti is working with three main areas: MaaS, on-demand ride sharing, and mobile data analysis.

Kyyti is developing Nordic co-operation around MaaS and is currently working with RISE Victoria, UbiGo, and others.

One project that Kyyti is working on now is Rural MaaS which will start in January 2019. This project is being done in collaboration with Sitra, the Finnish Innovation Fund, and will provide a platform to provide more accessibility in rural areas.



PEKKA NISKANEN

The goal is door-to-door, efficient and sustainable and demand-responsive mobility.

Kyyti aims to provide this through a combination of taxis and public transport based on small capacity vehicles which are flexible and shared. The system can pool transport demand so that mail-delivery vehicles can be used for personal mobility, etc.



AT KYyti. JONAS ÅKERMAN, PEKKA MÖTTE, ANNA KRAMERS, GREGER HENRIKSSON
MISTRA SAMS STUDY TRIP TO HELSINKI 2018

VTT Technical Research Centre of Finland Ltd

VTT does research that overlaps with KTH, VTI and Mistra SAMS. We see many opportunities for working together.

At VTT, we met Lasse Nykänen, Research Scientist, Hannu Karvonen, Senior Scientist, and Heidi Korhonen, Research Team Leader. VTT has been and is part of Finland's innovation system and operates under the mandate of the Ministry of Employment and the Economy. VTT is involved in a number of research and innovation projects related to MaaS.

Some examples:

[MaaSife](#) looked at business models, stakeholder roles and responsibilities, technology, impact assessment, and a roadmap for 2025

[VAMOS!](#) Value Added Mobility Services, collaborates with event organizers and the tourism industry to expand on the possibilities of MaaS.

[Rural MaaS](#) created a vision for MaaS developments in rural areas, recognized emerging business models, and recommended measures for the development of mobility regulation.

Smart Solutions for Integrated Regional Mobility Services (ALPIO) will carry out pilots in urban and rural areas with innovation in health and social services travel, demand responsive services and combining public and passenger transport services.

The main challenges that VTT sees are how to increase interoperability, within policy and regulation as well as in technical aspects, and how to better benchmark systems for best-practices from MaaS pilots.

VTT is also involved in the [Research Alliance for Autonomous Systems](#), with the objective to become the world's most well-known innovation accelerator in the field of autonomous systems. VTT hopes to bring MaaS, logistics and automation closer together.



VTT OFFICE NEAR AALTO UNIVERSITY

PHOTO: VTT

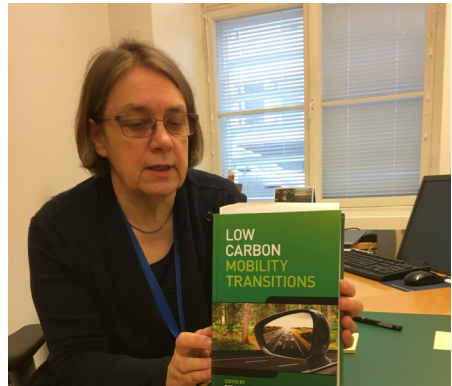
Aalto University

Like VTT, Aalto university is highly interesting for us to collaborate with, and we hope to see young researchers from Aalto visit Mistra SAMS soon.

We met Mikko Jalas, Professor of Practice, Sustainable Consumption, Armi Temmes, Professor of Practice, Corporate Sustainability, and Idil Gaziulusoy, Assistant Professor, Sustainable Design.

There is a tradition in Helsinki to use the city as a test-bed for new technologies, e.g. 5G, co-housing for elderly, and now with MaaS solutions. Governmental bodies in Finland are, in general, willing to test things in real life to evaluate how they work and make adjustments thereafter.

Policymakers on national and city level are also, overall, willing to implement regulations necessary for the development of MaaS. With any regulations in developing technology areas, *“the Devil is in the Details”* and there are examples of seemingly small issues that in the end could have a major impact on the outcome of a new mobility service.



PROFESSOR ARMI TEMMES

For example, the immersion of electric cars was partly held back because you couldn't use them for practice for a driving license since they were “automatic”. These types of pitfalls are important to watch out for.

Professor Armi Temmes recently finished a report that could be very relevant to Mistra SAMS:

[Innovation Policy Options for Sustainability Transitions in Finnish Transport](#)

She also recommended a book, [Low Carbon Mobility Transitions](#), which could be a good candidate for future Mistra SAMS literature seminars.

Mistra SAMS reflections

Mistra SAMS aims to understand the roles that public and private actors can take to promote a transition of the transport system so that it significantly contributes to sustainability targets.

With this in mind it was very interesting to see the Finnish legal changes in action, a quick and purposeful enactment of the new transport legislation, which involves completely changed conditions for the transport sector and for the provision of mobility services.

We made three main reflections from the trip, on public evaluation and sustainability, the role of public actors, and the connection between pilot projects and day-to-day work.

Public evaluation and sustainability

In our discussions with different actors, our impression was that there is currently no coherent plan for evaluation of the sustainability effects of the new legislation, or a risk analysis of possible future need for (renewed) public interference in the market place to ensure public interests.

Public actors point at a basic need for innovation and more user-centered solutions. The assumption seems to be that questions of social and environmental sustainability will follow from market development of MaaS innovations, and that a transition to MaaS services will lead to a modal shift to reduced car use. This was also the explicitly stated goal of the private actors in MaaS that Mistra SAMS met in Helsinki, and an implied result of their expansion efforts.

Mobility Big Data

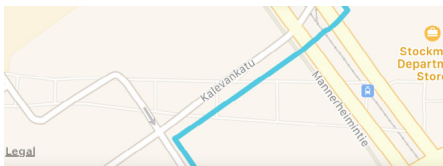
- **First some realizations**
 - We (public sector) don't have to own all the data, tools, back office systems or end user applications
 - All public sector data doesn't need to be 100 % solid fact, accept the value of "beta" - label data
- **Define ultimate goal:**
 - More and better services and applications to citizens and businesses
- **Conclusion**
 - We need to focus on **ENABLING !**

Mistra SAMS reflections

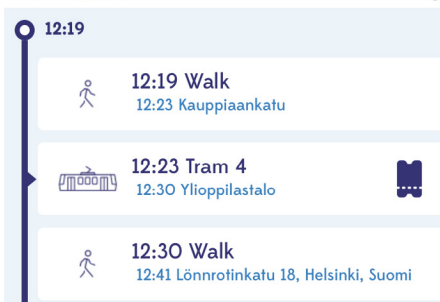
This perspective gave rise to many questions:

Do our Finnish colleagues have the view that sustainability goals and market innovation will reinforce each other, and if so, how do they see their relationship more explicitly?

To what extent will core public actors closely and concretely monitor the effects of MaaS innovations specifically in relation to long-term goals of ecological urban and rural sustainability – during the upcoming process as the various changes are implemented by multiple actors?



Destination
**Lönnrotinkatu 18,
Helsinki, Suomi** 12 min remaining



TRYING OUT MAAS

In the event of indications that the new regime actually has negative implications for the long-term prospects of reaching radically stronger ecological sustainability in transport, what types of measures or policies might these actors consider implementing to address such goal conflicts?

It is crucial that we look at these questions with a sober and investigative eye. We need to understand what can be done to make services for accessibility and mobility have a smaller environmental impact, whether it is through innovation or through policy. As actors come into the market, decision-makers need to have knowledge enough to make the right decisions.

The role of public actors in the development of Finnish MaaS

All the actors that Mistra SAMS met presented very similar views on the development of MaaS in Finland, with the same keywords: innovation, business opportunities and user perspectives, being highlighted.

Mistra SAMS reflections

The role of public actors in the new Finnish context seems to be that of enabling new services to come about. In a similar way to what Henriksson, Witzell and Isaksson describe in [All Change or Business as Usual? The Discursive Framing of Digitalized Smart Accessibility in Sweden](#), the assumption behind the changes taking place in Finland seem to be that a transformation of the mobility sector should occur through a stronger involvement of business enterprises.

This brings with it some hurdles for the public actors involved, as they don't have the same understanding of the market as private actors do. Some public actors can also be hesitant to give up control, for example by creating application programming interfaces (API:s) that are open to all actors so they can get access to data.

Nearly every actor that Mistra SAMS met emphasised the challenge of creating API:s in a speedy fashion, and public actors technical capacity to handle this transition was seen as one of the major obstacles to MaaS development.

Pilot projects connection to day-to-day work and planning

The new legislation, and a general push in Finland for digitalization, has generated a large number of pilot projects and innovative mobility service companies. In our discussions with the different actors, our impression was that there is no clear strategy, and perhaps no one actor with responsibility, for how to integrate pilot projects with each other and with the day-to-day work being carried out by public actors.



FREDRIK JOHANSSON, MARTIN SJÖMAN, MALIN HENRIKSSON, AND JANE SUMMERTON

Mistra SAMS reflections

For example, many of the actors spoke about how parking in cities will change and how the space could be freed up for other uses like real estate, public spaces etc. but it was unclear to us if these thoughts have made a real impact in the city planning.

There are not any AaaS pilots yet in Helsinki as defined by Kramers, Ringensson, Sopjani and Arnfalk in [AaaS and MaaS for reduced environmental impact of transport: Indicators for identifying promising digital service innovations.](#)

In conclusion

Public actors in Finland appear to have a great willingness to test innovations in real life and to evaluate how they work. Many MaaS innovations are developing as a result, and Finland is ahead of Sweden in MaaS. However, there are as yet no services combining MaaS and AaaS in the Finnish market.

We look forward to following how MaaS develops in our neighbour country and what effects its current boom will have on sustainable accessibility and mobility for Finnish travelers.

- *Mistra SAMS, 2018*



FUNDED BY



The Swedish Foundation for Strategic Environmental Research