



Mobile Lab on Sharing in Gothenburg

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Mobile Lab Report

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Funded by the Swedish Research Council Formas, the aim of the **Sharing and the City** project is to examine, test and advance knowledge on the role of municipalities in the initiation, implementation and institutionalisation of sharing organisations across cities in Europe. Case study cities include Malmö, Gothenburg and Amsterdam. The research will produce a step-change in sustainability science via a multi- and interdisciplinary study of the sharing economy. Learn more at: www.sharingandthecity.net



Funded by Vinnova, the **Sharing Cities Sweden** programme aims to put Sweden on the map as a country that actively and critically works with the sharing economy in cities. The objectives of the programme are to develop world-leading testbeds for the sharing economy in Stockholm, Gothenburg, Malmö and Umeå, as well as develop a national node to significantly improve national and international cooperation and promote an exchange of experience on sharing cities. Learn more at: www.sharingcities.se

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Cover photo: Municipal bike sharing scheme *Styr och Ställ* (by Yuliya Voytenko Palgan)

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Executive Summary

Cities are seen as one of the leading forces in making our societies sustainable and resource efficient. The latest trends of sharing homes, cars, bicycles, tools and other goods are fast entering our urban lives. The sharing economy is a consumption-production mode in a city, in which value is generated through transactions between peers or organisations that offer access to their idling or underutilised rivalrous physical assets. These assets are made available to individuals in processes often mediated by online platforms (Mont, Voytenko Palgan, and Zvolska, 2019).

Examples of sharing economy organisations (SEOs) include bicycle and car sharing initiatives, tool and clothes libraries, and short-term accommodation rentals between peers. Activities of SEOs are often cited as solutions to urban sustainability challenges, but their contribution to sustainability, resource efficiency and the circular economy has not been systematically evaluated. The role of municipalities in advancing more sustainable forms of sharing is not yet fully understood. A systematic and comparative analysis of the role of municipalities in sharing is therefore needed, to build an evidence base and to support sustainable sharing.

This report presents the outcomes of a one-day mobile lab on urban sharing in Gothenburg, which was arranged on 16 October 2018 within the framework of the Sharing and the City project, with support from the Sharing Cities Sweden programme. A mobile lab is a collaborative process of conducting in-situ analysis by a research team that allows analysis of the study object, the sharing economy, in its context.

Sharing in cities becomes institutionalised through two principal sets of dynamic processes. The first is a top-down institutionalisation dynamic when a municipal government employs its agency to promote or inhibit certain SEOs. It does so by employing one or several of the following governance mechanisms: regulating, providing, enabling, self-governing and collaborating (Voytenko Palgan et al., forthcoming). The second set of institutionalisation processes of sharing in cities is bottom-up, resulting from institutional work by SEOs. SEOs engage in the institutional work by creating or disrupting regulatory, normative and cultural-cognitive institutions by employing 11 mechanisms as discussed in the work by Zvolska et al. (2019). These two sets of institutionalisation processes provided input to research themes and related interview questions explored during the mobile lab in Gothenburg.

The mobile lab included planning meetings, development of research themes and questions to investigate, preparation of interview guides, one day of empirical data collection, written post-lab reflections of 500-1000 words and photos by each team member, processing the collected material, post-lab meetings to discuss reflections, and writing a mobile lab report.

The mobile lab team comprised seven persons representing academia (5) and the City of Gothenburg (2). During the mobile lab in Gothenburg, the team visited the Consumer and Citizen Service

Administration at the City of Gothenburg and the City Hall, and went on a guided tour in the newly developed area, Södra Älvstranden. The team interviewed a founder of a bicycle repair workshop, the Bike Kitchen (Cykelköket), a civil servant and a leader of the Circular Gothenburg (Cirkulära Göteborg) project, a deputy-mayor of Gothenburg, and a founder of the platform for sharing of urban land for gardening (Grow Gothenburg). After the mobile lab, all participants documented and shared their reflections of the day, which formed the basis for this report.

The mobile lab in Gothenburg followed a similar innovative methodological approach to that used in earlier mobile labs, as it brought together a multi- and transdisciplinary group of participants consisting of academic and non-academic actors, which turned out to be beneficial for the data collection and reflection process.

Several conclusions can be drawn from the mobile lab in Gothenburg:

1. Sharing in Gothenburg is generally perceived as positive, with a potential to address urban sustainability challenges. Sharing and collaborative economy initiatives are well anchored, both locally and in relation to the international understanding of the movement.
 2. The City of Gothenburg provides a welcoming ground for non-profit or community-based sharing initiatives to emerge and develop, and supports them by providing funding and premises, by spreading information about their activities, and by attracting and connecting the users of sharing services.
 3. Motivations both for CEOs and for civil servants and politicians to engage with the sharing economy in Gothenburg are primarily of a social nature. The main social benefits include strengthening social cohesion, offering opportunities for people to meet, building trust between strangers, and developing new knowledge and skills in the community. Resource efficiency, self-sufficiency and access to assets for all population groups are experienced as positive co-benefits.
 4. All interviewees showed openness and willingness to collaborate, albeit on different grounds and for different reasons. The interviewed representatives of the sharing initiatives and the municipality seem to trust each other, which is something that has been built up over several years.
 5. Evaluating the impacts of sharing services in Gothenburg, although important, may not be the key priority for advancing more sustainable forms of sharing. Instead, a focus on forging new collaborations with effective organisational models based on robust arguments to underline the benefits of sharing services may be crucial. Shifting mind-sets of people away from the norms prevalent in consumerist societies (e.g. ownership, throwaway culture) is perhaps the most tangible environmental contribution that the sharing services offer.
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1. Introduction

Cities are seen as one of the leading forces in making our societies sustainable and resource efficient. The latest trends of sharing homes, cars, bicycles, tools and other goods are fast entering our urban lives. The sharing economy is a consumption-production mode in a city, in which value is generated through transaction between peers or organisations that offer access to their idling or underutilised rivalrous physical assets. These assets are made available to individuals in processes often mediated by online platforms (Mont, Voytenko Palgan, and Zvolska, 2019). Examples of sharing economy organisations (SEOs) include bicycle and car sharing initiatives, tool and clothes libraries, and short-term accommodation rentals between peers. The activities of SEOs are often cited as solutions to urban sustainability challenges, but their contribution to sustainability, resource efficiency and the circular economy has not been systematically evaluated. The role of municipalities in advancing more sustainable forms of sharing is not yet fully understood. A systematic and comparative analysis of the role of municipalities in sharing is therefore needed, to build an evidence base and support sustainable sharing.

The Sharing and the City project aims to examine, test and advance knowledge on the role of municipalities in the initiation, implementation and institutionalisation of SEOs across cities in Europe. The project objectives are: 1) INITIATION: To examine how municipal governments engage with sharing based on their sustainability visions and strategies; 2) IMPLEMENTATION: To study the implementation channels municipalities employ to engage with sharing; 3) INSTITUTIONALISATION: To investigate the role of municipalities in the institutionalisation of sharing. The case study cities include Malmö and Gothenburg in Sweden, and Amsterdam in the Netherlands.

The Sharing Cities Sweden programme aims to put Sweden on the map as a country that actively and critically works with the sharing economy in cities. The purpose of the programme is to strengthen Sweden's work for global sustainability goals, and to increase Sweden's competitiveness by developing new services and new companies for domestic and export markets. In the programme, sharing services will be developed in testbeds in four Swedish cities (Stockholm, Gothenburg, Malmö and Umeå), and their associated risks and opportunities will be tested and evaluated. The programme is being implemented in a broad collaboration between business, the public sector and academia.

This report presents outcomes of a one-day mobile lab on sharing in Gothenburg, which was arranged on 16 October 2018 within the framework of the Sharing and the City project, and with support from the Sharing Cities Sweden programme (Fig. 1). A mobile lab is an innovative data collection method with roots in ethnography, which can be described as a collaborative process of conducting in-situ analysis by a research team that allows analysis of the study object – in this case the sharing economy – in its context.



Figure 1. Mobile lab on Sharing in Gothenburg – visit to the City Hall

2. Approach

2.1 Theoretical frameworks

Sharing in cities is becoming institutionalised through two principal sets of dynamic processes (Fig. 2). The first is a top-down institutionalisation dynamic when a municipality employs its agency to promote or inhibit certain SEOs. To analyse the mechanisms and roles that municipalities undertake when governing or interacting with SEOs, the Sharing and the City project has developed a holistic urban governance framework. The framework identifies five key municipal governance mechanisms: regulating, providing, enabling, self-governing and collaborating (Fig. 3) (Voytenko Palgan et al., forthcoming). It was tested in the case studies of London and Berlin (Zvolska et al., 2018), and refined during mobile labs in Malmö, Gothenburg, San Francisco, Amsterdam and Toronto (Voytenko Palgan et al., forthcoming, 2019).

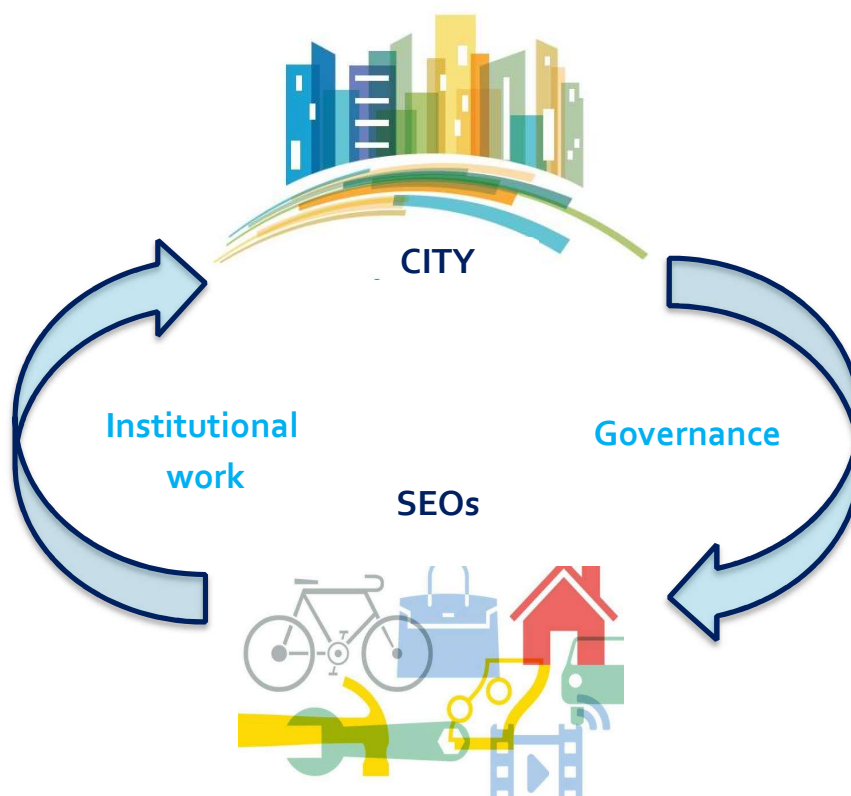


Figure 2. Dual urban sharing dynamics

The second set of institutionalisation processes of sharing in cities is bottom up, and is a result of the institutional work by SEOs (Fig. 2). The lead author of this report has been engaged in advancing and modifying the framework of institutional work first presented by Lawrence and Suddaby (2006). This

was done by proposing a framework of 11 mechanisms for creating and disrupting regulatory, normative and cultural-cognitive institutions adjusted to sharing in cities, with case studies of Malmö, London and Berlin (Zvolska, Voytenko Palgan, and Mont, 2019).

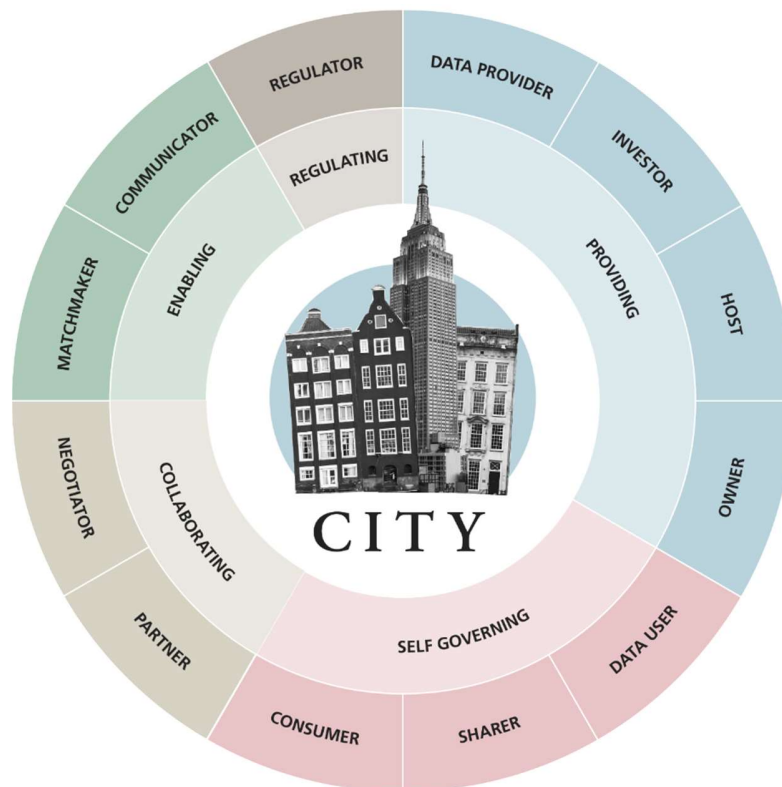


Figure 3. Holistic urban governance framework of the sharing economy

Source: (Voytenko Palgan et al., forthcoming)

These two sets of institutionalisation processes provided input to research themes and related interview questions explored during the mobile lab in Gothenburg (Section 2.3).

2.2 Mobile lab approach

The term 'mobile lab' was coined by Harriet Bulkeley (Durham University) and Johannes Stripple (Lund University) to represent a type of research activity in which an interdisciplinary group of researchers visits various sites to study a certain phenomenon in an urban context. According to Bulkeley, the method is based on a concept of infra-labs (infrastructure labs) put forward by Simon Marvin (Sheffield University) and colleagues in the 2000s (Bulkeley 2016). 'Infra-labs' implies a process of collectively researching infrastructure-related controversies in urban contexts.

In the context of this work and this report, the mobile lab is an approach that comprises a collaborative process of conducting in-situ data collection and reflexive analysis¹ by a research team focusing on actors directly and indirectly involved in sharing in cities. These may include social and business entrepreneurs, users, municipalities, incumbent companies, civil society organisations, and NGOs working for or against urban sharing.

The Sharing and the City project and the Sharing Cities Sweden programme have conducted mobile labs in several cities, including Malmö, Umeå, Stockholm and Amsterdam. These cities offer a diversity of drivers, socio-cultural and economic contexts, engaged actors and levels of maturity, all of which affect the processes for institutionalisation of sharing.

2.3 Mobile lab in Gothenburg

The mobile lab in Gothenburg involved planning meetings, development of research themes and questions to investigate, preparation of interview guides, one day of empirical data collection, written post-lab reflections of 500-1000 words and photos by each team member, processing the collected material, post-lab meetings to discuss reflections, and writing a mobile lab report.

Methods for data collection included in-depth semi-structured interviews and participant observations with audio- and video-recording of data, as well as photos and note taking. Methods for data analysis included data coding and rationalising from field notes, interview transcripts, individual reflections, and group discussions.

Preparations for the mobile lab in Gothenburg included a review of literature on the sharing economy, sharing in cities, sustainable urban governance and experimentation, and neo-institutional theory (including the concepts of institutional work, institutional logics, institutional complexity, and legitimacy building). The sharing economy landscape in Gothenburg was reviewed and key SEOs were mapped. The literature included academic publications, such as papers presented at six International Workshops on the Sharing Economy (IWSE), the Sharing Cities Symposium and the Sharing Cities Summit 2019 in Lund, Sweden, scientific reports, and grey literature, including periodicals (e.g. Forbes, The Financial Times, The Guardian), business reports, and websites of SEOs in case study cities. In addition, six interviews with civil servants and representatives of SEOs and three study visits, including those to a Toy Library (Leksaksbiblioteket), a clothes library (Klädoteket) and a sports bank (Fritidsbanken), were carried out prior to the planning and execution of the mobile lab. These activities helped to scope research themes and develop interview questions used during the mobile lab in Gothenburg (Table 1).

¹ The reflexive analysis is carried out by a research team from diverse backgrounds, and includes reflections of the interviewed stakeholders.

The mobile lab on the sharing economy in Gothenburg was arranged on 16 October 2018. The mobile lab team comprised seven persons representing academia (5) and the City of Gothenburg (2). The team visited the Consumer and Citizen Service Administration at the City of Gothenburg and the City Hall, and went on a guided tour around the new development area, Södra Älvstranden. The team interviewed a founder of the bicycle repair workshop the Bike Kitchen (Cykelköket), a civil servant and a leader of the Project Circular Gothenburg (Cirkulära Göteborg), a deputy-mayor of Gothenburg, and a founder of the platform for sharing of urban land for gardening (Grow Gothenburg). After the mobile lab, all its participants documented and shared their reflections of the day, which formed the basis for this report.

The mobile lab in Gothenburg followed a similar innovative methodological set up to that in Malmö, as it brought together a multi- and transdisciplinary group of participants consisting of academic and non-academic actors, which turned out to be beneficial for the data collection and reflection process.



Figure 4. A guided tour in a new development area, Södra Älvstranden, Gothenburg

Table 1. Interview guide for the mobile lab in Gothenburg

Group	Research themes	Interview questions
1	1. History, motivations and operations	1.1 Where did the idea for you to work with sharing/borrowing/renting/swapping come from? 1.2 How do you engage with sharing/borrowing/renting/swapping in your everyday life?
	2. The sharing economy at a glance and the work of the City of Gothenburg	2.1 What is the role of sharing/ borrowing/renting/swapping in Gothenburg today, in your view? 2.2 When reflecting on your working and personal experience, in what ways do you see the City of Gothenburg engaging with sharing/borrowing/renting/swapping?
2	3. Drivers and barriers to sharing	3.1 What drives people to share/borrow/rent/swap in Gothenburg, in your view? 3.2 What constrains people from sharing/borrowing/renting/ swapping in Gothenburg, in your view?
	4. Work for sustainability and city challenges	4.1 What are the main sustainability (economic, social and environmental) issues that you try to address in your work? 4.2 How do these issues relate to broader sustainability challenges facing the City of Gothenburg (e.g. economic development, social inclusion, employment, climate change, waste generation etc.)?
3	5. Collaboration and collective action for sharing	5.1 Which organisations or actors do you collaborate with in your work relating to sharing/ borrowing/renting/swapping? 5.2 What are the benefits of such collaborations? What are the associated challenges?
	6. Citizens and sharing as a social norm	6.1 Who are your users/customers? In which ways do you work with Gothenburg citizens? 6.2 What is your perception of how well people understand the concepts of sharing/ borrowing/renting/swapping in Gothenburg?

Table 2. Detailed Agenda for Mobile Lab on Sharing in Gothenburg

Time	Activity	Person	Address
9:15-9:45	Introduction to Mobile Lab methodology	Yuliya Voytenko Palgan, IIIEE, Lund University	Ekelundsgatan 1
10:00-10:55	A bicycle repair workshop, Bike Kitchen Gothenburg (Cykelköket Göteborg)	Ian Fiddies, a founder of Bike Kitchen Gothenburg	Ekelundsgatan 1
11:00-11:45	Project Cirkulära Göteborg (Circular Gothenburg)	Nina Wolf, civil servant and project manager	Ekelundsgatan 1
<i>Walk 5 min</i>			
12:00-12:50	Lunch meeting	Oskar Henriksson, project manager for testbed Södra Älvstranden	OCBG restaurant, Skeppsbrolplatsen 1
12:50-13:45	Guided walk in Södra Älvstranden development area	Oskar Henriksson, civil servant at the City of Gothenburg	Södra Älvstranden
<i>Walk 10 min</i>			
14:00-15:00	Discussing the work of the Green Party (Miljöpartiet) on circular and sharing concepts	Ulf Kamne, the deputy mayor of the City of Gothenburg (at the time of the mobile lab)	Rådhuset, Gustav Adolfs torg 1
15:15-16:00	Grow Gothenburg platform for sharing urban land	Jonathan Naraine, the founder of Grow Gothenburg	Ekelundsgatan 1
16:00-17:00	Summing up, immediate reflections, next steps	Yuliya Voytenko Palgan	Ekelundsgatan 1

3. Activities

3.1 Bicycle repair workshop, Bike Kitchen

Bike Kitchen Gothenburg (Cykelköket Göteborg) is an open Do-It-Yourself (DIY) workshop for repairing or servicing bicycles. It is open on a regular basis for everyone, and it also offers courses and workshops on bike mechanics (Cykelköket Göteborg, 2020a). The Bike Kitchen is located in Linné, but it also organises events at festivals, environmental exhibitions and companies. They see public education and communal learning as a crucial part of their activities (Cykelköket Göteborg, 2020a).

"Our ambition is to raise the status of the bicycle and biking in general, as well as providing a social meeting place for bike interested people of all ages... Anyone, regardless of their level of knowledge, is welcome to participate and to get involved. " (Cykelköket Göteborg, 2020a)

The Bike Kitchen operates as a recycling centre for discarded and abandoned bicycles and bicycle parts. They collaborate with landlords of apartment blocks on collecting abandoned or broken bicycles. These bicycles are offered to those in need of a bicycle, who can then repair them given the access to tools and support from the Bike Kitchen. The mobile lab team interviewed Ian Fiddies, a founder of the Bike Kitchen Gothenburg (Fig. 5).



Figure 5. Meeting with Ian Fiddies, a founder of the Bike Kitchen Gothenburg (Cykelköket Göteborg)

3.2 Municipal work on sharing in the Circular Gothenburg project

The mobile lab team interviewed the manager of the Circular Gothenburg (Cirkulära Göteborg) project, Nina Wolf at the City of Gothenburg (Fig. 6).



Figure 6. Interview meeting with project leader of Circular Gothenburg, Nina Wolf

The overall goal of the project is to advance a transition from a linear to a circular economy, i.e. “from a society in which we use to the society in which we reuse” (Göteborgs Stad, 2020a). The project focuses on reuse, sharing and repairing. The work in the project is performed in collaboration with initiatives by the City of Gothenburg, the business sector, other municipalities, civil society, and academia. The target group is the municipality itself, citizens and business actors.

“Gothenburg will become a sustainable city. For us to succeed, we must find ways to design, produce and use our resources smarter. For example, by making it easier to reuse, repair and share instead of buying new items and discarding them. Circular Gothenburg drives, coordinates, and supports ideas and initiatives that enable increased sharing, reuse and repair.” (Göteborgs Stad, 2020a)

Fixoteket is one of the initiatives within the project, a local meeting place where people can borrow, build or repair things. The project also supports and encourages the spread of the bicycle kitchens in the city. It funds the Bike Kitchen and the Dela Mera (“Share More”) initiative, which seeks to increase the

sharing of household items that are seldom used (Göteborgs Stad, 2020b). Circular Gothenburg is based on the premise that municipal public procurement should primarily target companies that design and produce smarter and more circular products (Göteborgs Stad, 2020a). It also argues that the City of Gothenburg should be a good example of a transition from a linear to a circular economy through activities such as repair and reuse of furniture among municipal units instead of throwing it away and buying new (Göteborgs Stad, 2020a).

3.3 Politics in relation to sharing and the circular economy in Gothenburg

The mobile lab team visited Gothenburg City Hall (Fig. 7) to discuss how the Swedish Green Party (Miljöpartiet) has worked with issues concerning the circular and the sharing economy. The team met Ulf Kamne, who was the deputy mayor of the City of Gothenburg at the time of the mobile lab (Fig. 8).



Figure 7. Gothenburg City Hall

The City of Gothenburg has had a long history of governance by left-wing parties, which has helped to build a common understanding and interest in the concepts of the sharing and circular economy. In Gothenburg, climate change, environment and resource-efficiency have been important issues on the political agenda. The City of Gothenburg started engaging with the sharing concept in 2012, and the engagement really took off in 2014. The City is positive about the potential of sharing to help address

urban sustainability challenges, and is supportive of community-based sharing initiatives. A milestone was the inclusion of the 'sharing economy' in the municipal budget in 2015, which stated that the City of Gothenburg should encourage its growth, if it is possible "to reduce environmental impacts, increase process efficiency and reduce costs." The concept offers something for different political parties, from partnerships with industry and collaboration with civil society to grassroots activism.



Figure 8. Meeting with a deputy mayor of Gothenburg, Ulf Kamne, at the City Hall

3.4 Grow Gothenburg: sharing urban land in the city

Grow Gothenburg is a platform that matches people owning land suitable for farming in the city or close to the city with those who would like to grow fruits and vegetables on this land. It is about sharing land (all or part), water access, tools, equipment, spaces to store tools, and knowledge and skills. While there is a number of listings on the platform, according to the founder, there are many more people in Gothenburg wishing to grow fruits and vegetables.

"We aim to establish local regenerative food systems in urban and rural areas by empowering local farmers through the matchmaking of land, knowledge and people." (Grow Gothenburg, 2020)

The vision of Grow Gothenburg is “a world where all people have access to healthy, tasty and fair food – and the land, knowledge and resources to grow their own food or share with their community” (Grow Gothenburg, 2020). Placing an ad about land to share on the platform is free, and many people share their land with the farmers free of charge. Landowners can pay a little more if they are looking for tailored support, advice how to design their garden or “join the community to get discounts on garden tools, events and courses” (Grow Gothenburg, 2018). This money is then reinvested in supporting the local farmer using this land. The mobile lab team met with the founder of Grow Gothenburg, Jonathan Narraine (Fig. 9).



Figure 9. Interview with Jonathan Narraine, founder of Grow Gothenburg

4. Reflections

The participants of the mobile lab in Gothenburg were divided into three groups, each focusing on two research themes (Table 1): 1) History, motivations and operations; 2) The sharing economy at a glance and the work by the City of Gothenburg; 3) Drivers and barriers to sharing; 4) Work for sustainability and city challenges; 5) Collaboration and collective action for sharing; and 6) Citizens and sharing as a social norm. The groups reported reflections from the mobile lab based on the research themes and also identified 1-2 things that surprised or excited them most. The answers to the questions under each theme, which are based on interview notes and reflections from mobile lab members, are provided in the following sub-sections.

4.1 History, motivations and operations

Under this research theme, two interview questions were asked:

1. *Where did the idea for you to work with sharing/borrowing/renting/swapping come from?*
2. *How do you engage with sharing/borrowing/renting/swapping in your everyday life?*

As with any other social process, the development of sustainability in Gothenburg is characterised by a changing use of language, which is symptomatic of the continuous sense-making process in which the actors are engaged. Consequently, the sharing economy concept has gradually become a part of a local context, but the development is coloured by what occurred ahead of its arrival. It is therefore difficult to track exactly when the work with the sharing economy started. Other concepts (e.g. circular economy, collaborative economy) and initiatives are often adjacent to, or overlap with, the sharing economy concept.

Specifically, the idea behind the Bike Kitchen Gothenburg originated from an event arranged by volunteers and bike enthusiasts in spring 2011 (Cykelköket Göteborg, 2020b) (Fig. 10). Under the motto "fix your own climate-smart bike", many bicycles were collected during the cleaning from apartment blocks in the areas of Majorna and Kungsladugård and offered as renovation projects to those interested.

"An idea to establish a permanent DIY workshop and recycling place for bicycles came up among the participants... The project was developed in the winter 2011-2012 by a growing group of enthusiasts and is still going strong today!" (Cykelköket Göteborg, 2020b)

In the case of Grow Gothenburg, the idea grew from urban farming safaris in 2011 followed by mapping of the urban farming movement in Gothenburg by the founder of the platform in collaboration with the Environmental and Real Estate departments at the City of Gothenburg. They discovered a gap between supply and demand of land suitable for farming, and saw the opportunity to connect landowners with

urban farmers. This resulted in a successful funding application from Business Region Gothenburg, and the first website of Grow Gothenburg was launched in early 2017. From 2016, the land sharing functions were first developed. In 2018, some bigger updates to add new functions were released, e.g. sharing your existing farm to find members or volunteers. According to the founder, the platform became more user friendly and interactive.



Figure 10. Meeting Ian Fiddies, a founder of Bike Kitchen Gothenburg (Cykelköket Göteborg)

4.2 The sharing economy at a glance and the work of Gothenburg municipality

Under this research theme two interview questions were asked:

1. *What is the role of sharing/borrowing/renting/swapping in Gothenburg today, in your view?*
2. *When reflecting on your working and personal experience, in what ways do you see the City of Gothenburg engaging with sharing/borrowing/renting/swapping?*

Gothenburg is known for its experimental culture, strong civil society, and long tradition of left-wing governments, all of which has influenced the sharing landscape in the city. The will to engage with the sharing economy and sustainability in general has a broad base among most political parties in Gothenburg municipality. The municipality has a history of good cooperation between civil society and non-profit organisations. There are many sharing organisations, representing various sectors, most of which are community-based or municipally led. They include the sharing of consumer goods (e.g. bicycles, clothes, toys, tools, and sports equipment), urban farming allotments, car rides, and

experiences, and very few of these involve money transactions. For-profit sharing organisations are less common in the city.

The Consumer and Citizen Service Administration at the City of Gothenburg works strategically to advance sharing. In 2017, it put forward a vision for Gothenburg to become a Sharing City, which was based on a proposal voted by its citizens. The City of Gothenburg is part of Sharing Cities Sweden, which is funded by Swedish Innovation Agency VINNOVA, Swedish Energy Agency and Swedish Research Council FORMAS. As part of this programme, the area Södra Älvstranden will be transformed from a rundown area previously overwhelmed by a major road into a vibrant and sharing hub with sharing services in the bottom floors of the houses (Fig. 11 and 12). Together with an NGO “Collaborative Economy Gothenburg”, the City has created the Smart Map² of 100+ sharing initiatives. In April 2019, and partners made the Smart Map open source, allowing it to be spread to Malmö, Karlstad and Region Sjuhärad. The City has also been a member of the Sharing Cities Alliance since 2017.

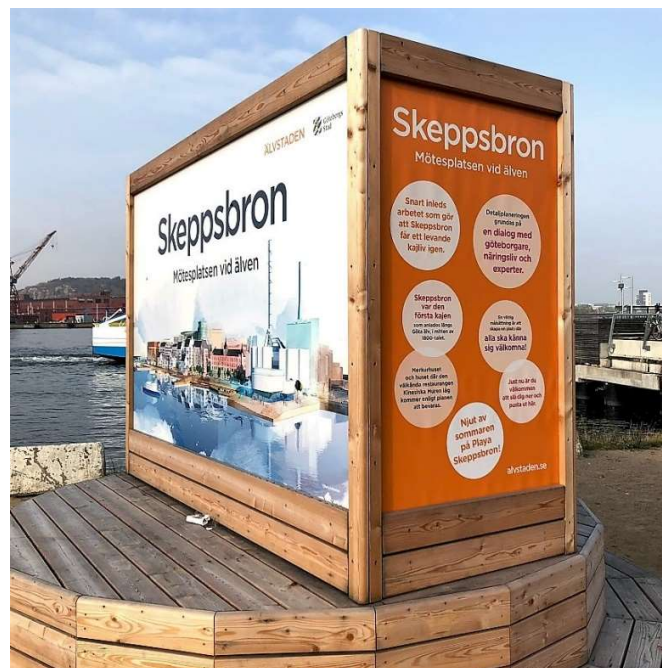


Figure 11. Development plans in Södra Älvstranden

The City of Gothenburg supports specific sharing and collaborative economy initiatives in various ways. It provides funding for the set-up and development of bike kitchens including the money available for the purchase of cargo bikes and tools. In 2018, the funding to bike kitchens was provided by the Social Resource Administration at the City of Gothenburg, which had some extra funds that year, and it was administered by the largest Swedish non-profit educational association, Studieförbundet. This funding was, however, cut in 2019 with the change of government. While municipal funding is important

² See: <http://smartakartan.se/>

for the operation of bike kitchens in the city, the drawbacks include its lack of funding continuity, short-term cycles, and administrative burden associated with funding application and reporting. The bike kitchens rent their premises from private or public landlords, and in most cases the rent is paid by Studiefrämjandet, which is financed from municipal and national funds. A founder of the Bike Kitchen views the importance of premises provision as one of the prerequisites to attract volunteers to the workshop.

"We have a good relationship with the City of Gothenburg... And I feel we've given a lot of help to the City of Gothenburg... We've not looked for any help... Provision of premises. That... would help most. But then it's getting volunteers. It's not enough just to have the room. Somebody local in the area that wants to make it happen." (Ian Fiddies, Bike Kitchen Gothenburg)

The role of the civil servant in the Circular Gothenburg project is that of connector and of strategic support to the administrator to ensure that municipal goals and interests are understood and accounted for. The municipal position is that they should not be the ones administering or owning the bike kitchens, but instead should be responsive to their needs and facilitate their operations.

"The municipality should provide - not decide - the conditions, if the bike-kitchen is not part of the municipal organisation. The municipality could collaborate and co-create with the NGOs, but not rule. We get to listen to their needs. There are other added values in the Bike Kitchen: bicycle education, bicycle excursions and bicycle fix... It should not be the municipality that administers. It's important that they believe in it." (Nina Wolf, Project Manager, Circular Gothenburg)

At the time of the mobile lab, the Circular Gothenburg project was also funding the Dela Mera ("Share More") project, which sought to promote sharing of idling household items. In the pilot phase of the project in 2016, eight organisations participated, including libraries, which were seen as nodes for sharing tools, household appliances, board games, and toys connected to children books. The pilot project was evaluated in spring 2018. The main worry among the users was what happens if items break. The sharing of household items has not become well-integrated into the library routines:

"It was a side activity – it wasn't well-integrated... The libraries didn't feel comfortable sharing tools. It's important that it feels comfortable for the arenas, that they feel they own the concept." (Nina Wolf, Project Manager, Circular Gothenburg)

This was the reason why the staff working on the Circular Gothenburg project started exploring other arenas in the city to facilitate sharing, including recycling stations, schools and preschools, and waiting halls. They collaborated with Miljöbron, an organisation that facilitates projects between students and

organisations, and the students evaluated the suitability of various arenas. At the time of this mobile lab, the results of these evaluations were being processed.

In the case of Grow Gothenburg, its founder collaborated with the Environmental and Real Estate departments at the City of Gothenburg to map land plots that were potentially available for urban farming. The municipality is restricted in offering funding to the organisation because of public procurement regulations, but it sometimes facilitates interactions between supply and demand and helps to disseminate information about urban farming opportunities in Gothenburg.

"The City's support of these initiatives is important. If they see the land is a potential site for growing, and it's not being used, it's a potential waste of land. The City could facilitate the collaboration. We have good collaboration with the City, but the procurement process is difficult. They couldn't fund it. If we had the funding, we could make the business model go around. Maybe we could have that in the long run. It's more about how we can lift the whole movement, and this is what this platform is all about."
(Jonathan Narraine, Grow Gothenburg)

Despite all its support of sharing and collaborative economy initiatives, the City of Gothenburg remains uncertain as to the effects the sharing economy. The challenge is to find appropriate indicators to measure socio-economic and environmental impacts of the sharing economy in the city. According to the deputy-mayor of Gothenburg, however, assessing the impact of sharing services is important but not a decisive factor for the city. It is most important to convince investors and organisations in Gothenburg that the sharing economy offers benefits to their activities or investments.



Figure 12. Södra Älvstranden development area

4.3 Drivers and barriers to sharing

1. *What drives people to share/borrow/rent/swap in Gothenburg, in your view?*
2. *What constrains people from sharing/borrowing/renting/swapping in Gothenburg, in your view?*

The mobile lab team identified drivers and barriers for the sharing and collaborative economy in Gothenburg, which are summarised in Table 3.

Table 3. Drivers and barriers to sharing in Gothenburg

<i>Drivers</i>	<i>Barriers</i>
<ol style="list-style-type: none"> 1. Purposeful work by the municipality to make Gothenburg a Sharing City 2. Historically favourable political climate and high levels of political acceptance 3. Strong socialistic and grassroots movements, and experimental culture 4. Tradition of successful collaborations between the City and the civil society 5. National funding through Sharing Cities Sweden programme 6. Visionary and passionate leaders from various sectors, who promote sharing 7. Potential of sharing to contribute to resource-efficiency, reduce environmental impacts, build social capital and save money for users 	<ol style="list-style-type: none"> 1. Bureaucracy of governmental institutions that may impede collaborations with community-based sharing organisations 2. A need for reciprocity in collaborations between the City and the sharing organisations 3. A need for a delicate balance between the City involvement and the degree of freedom for sharing initiatives 4. The principle of equal municipal treatment of societal actors 5. Low levels of citizen knowledge about the Smart Map and sharing initiatives in the city 6. Scepticism or negative attitude to loaning among citizens

4.4 Work for sustainability and city challenges

Under this research theme two interview questions were asked:

1. *What are the main sustainability (economic, social and environmental) issues that you try to address in your work?*
2. *How do these issues relate to broader sustainability challenges facing the City of Gothenburg (e.g. economic development, social inclusion, employment, climate change, waste generation etc.)?*

▼ ENVIRONMENTAL SUSTAINABILITY

The City has Environmental and Climate Programmes, and 12 environmental quality objectives. Initially, the municipal interest in urban sharing was due to its potential to contribute to sustainable consumption and environmental sustainability. Sharing organisations often do not explicitly talk about

their environmental sustainability, arguably because they take it for granted. In politics, climate change, environmental and resource-efficiency issues are important.

"The City sees different values of them [bike kitchens]. The potential for [social] integration and highlighting vulnerable areas is the main goal. But we look at it broadly. It's also about considering the resource perspective and identifying existing resources." (Nina Wolf, Project Manager, Circular Gothenburg)

▼ SOCIAL SUSTAINABILITY

The social agenda has grown in Gothenburg since the refugee crisis of 2016. There is also a City strategy "Equal Gothenburg". Promoting social integration, equity, justice, and social capital are key drivers for the municipality to support sharing. The deputy mayor points out that social benefits from the sharing economy are the easiest ones to see, e.g. how opening up land to urban farming creates social meeting places.

Sharing organisations also discuss their contribution to social sustainability, e.g. by strengthening social cohesion, offering opportunities for people to meet, building trust between strangers, or developing new knowledge and skills in the community.

Although a founder of the Bike Kitchen originally comes from a resource efficiency perspective, he emphasises that the driving force for his engagement with the Bike Kitchen is in leveraging its potential to build social capital and trust, thereby contributing to a more robust community-driven society. He argues that it is only when we have a robust connected society that we will be able to address other sustainability challenges such as climate change.

In addition to its environmental co-benefits, one of the main social impacts of Grow Gothenburg is about creating meeting places for people. The founder considers that itself is "worth all work they do".

"The biggest driving force is to see the creation of meeting places in the neighbourhood, community creation, but also biodiversity and climate (climate adaptation and mitigation)." (Jonathan Narraine, Grow Gothenburg)

In terms of developing new knowledge and skills and raising awareness, the Grow Gothenburg platform seeks to advance the urban gardening movement by organising urban farming safaris and developing blogs and videos to inspire people. The platform has also established a "Grow Academy", which teaches people gardening skills.

"We have developed an educational part of the platform called Grow Academy that will support you and your journey as a Grower to constantly develop your gardening skills, knowledge and network." (Grow Gothenburg, 2018)

Similarly, the Bike Kitchen sees public education and communal learning as a crucial part of their activities.

▼ ECONOMIC SUSTAINABILITY

Sharing is seldom framed as an opportunity to provide extra income, yet economic motivations are the main ones for Gothenburg citizens to share according to the consumer survey of 2017. According to the deputy mayor of Gothenburg, the sharing economy can also help people with less resources to get access to more things. For example, the Bike Kitchen is open to everyone who would like to fix their bike or is in a need of a bike and is ready to repair one. Grow Gothenburg provides a free opportunity to someone to advertise their plot of land and to connect with a potential farmer. It also may help people save money on other gardening services.

"Can you save money on cutting lawns? Or maintenance? Are you paying people to maintain your garden? Then, if you share it, you can save both emissions and maintenance costs." (Jonathan Narraine, Grow Gothenburg)

The vision of Grow Gothenburg is to contribute to food self-sufficiency in Gothenburg. The municipality would not be able to run a similar platform because of restrictions on land management, i.e. the municipality may only manage public land and it has no mandate for managing private land. Grow Gothenburg therefore makes a valuable contribution to the work by the municipality on advancing food self-sufficiency.

In terms of economic sustainability, the financial viability of SEOs remains important. For example, the Bike Kitchen is interested in purchasing cargo bikes, solid workbenches, and a welding machine, since its volunteers cannot afford to invest in such equipment. They also have expenses relating to the collection and delivery of unused bikes. At the same time, getting access to and using municipal funding has been challenging for the Bike Kitchen, due to the bureaucratic application procedure at the Municipal Social Resource Management Division and the short-term nature of the grants, which are normally approved in June and need to be used by the end of the year.

4.5 Collaboration and collective action for sharing

Under this research theme two interview questions were asked:

1. *Which organisations or actors do you collaborate with in your work related to sharing/borrowing/renting/swapping?*
2. *What are the benefits of such collaborations? What are the associated challenges?*

Collaboration to advance sharing in Gothenburg occurs at different levels and between various actors. Through projects, the municipality collaborates with businesses, public companies, universities, other municipalities, and civil society. An important idea-based public partnership is between the City of Gothenburg and an NGO, "Collaborative Economy Gothenburg". The City supports SEOs by providing funding and premises, organising matchmaking events, or communicating about these organisations through official channels.

The Bike Kitchen Gothenburg is a non-profit organisation with a wish to remain autonomous. It prioritises collaborations that are not complex or lead to more administration. The Bike Kitchen collaborates with the non-profit educational association Studieförbundet, which administers municipal funding available for the Bike Kitchen. In the beginning, the Bike Kitchen collaborated with the Tenants Association (Hyresgästföreningen) to get access to their first space. They also collaborate with real estate and housing companies wishing to donate bikes. There is no formal collaboration with the City of Gothenburg, but they have a good relationship and continuous contact.

The Circular Gothenburg project seems to be very open to collaboration. They collaborate with various actors, including academia, business, other municipalities, and the civil society (mostly non-profit organisations). In the Dela Mera initiative, they collaborated with libraries and later with Miljöbron and students to assess new potential arenas for sharing household items in the city. The Circular Gothenburg project is rather strategic in searching for and establishing their partnerships. As part of the project, the citizens were asked for input but there does not seem to have been any direct co-creation activity involved. One challenge relating to collaboration between the municipality and non-profit SEOs is in two parties having different agendas and mandates. For example, non-profit SEOs may not be willing to listen to all the different stakeholders, but the municipality must do so. The municipality seems to view its collaborations through the Circular Gothenburg programme as one way to legitimise its actions and achieve its goals faster. The challenges include the anxiety of non-profit SEOs that the municipality will take over the leadership. At the same time, the anxiety on the municipal side is that not everyone's needs are considered when developing sharing or circular economy initiatives.

The Grow Gothenburg initiative started from a collaboration between The Foodprint LAB (an economic association) and three municipal administrations. The municipality is therefore a natural partner for the platform founder. Grow Gothenburg collaborates with those who share their vision of the future. A more formal collaboration with housing companies seems to be more of a practical collaboration through which Grow Gothenburg could help them achieve their needs. Formal collaborations remain very time consuming – in one case it took one year from the first contact to the final contract.

4.6 Citizens and sharing as a social norm

Under this research theme two interview questions were asked:

1. *Who are your users/customers? In which ways do you work with Gothenburg citizens?*
2. *What is your perception of how well people understand the concepts of sharing/borrowing/renting/swapping in Gothenburg?*

In the case of the Bike Kitchen Gothenburg, the motivations for people visiting it are both economic and social. Many people visit the Bike Kitchen because their bike has been stolen or damaged, or because they cannot afford a new one. For others it is a way to meet people and connect. International students is one social group that a founder of the Bike Kitchen considers as having a need to meet people and connect with the city outside the university campus. These students often engage as so-called “bike chefs” (volunteers). The Bike Kitchen has therefore become like a living room, with people finding it meaningful when they can learn and contribute with knowledge (e.g. on bike repairing).

"It's a very pleasant place to be. Just helping out to give something. That's kind of important. It's not you go there because you've signed up but because you will want to go there. People with broken bikes, pensioners, we had a time when refugees were coming... students who are here for Master's, maybe half a year or 9 months... They will often be volunteers." (Ian Fiddies, Bike Kitchen Gothenburg)

There is quite a lot of silent knowledge on how to organise and manage the Bike Kitchen, and on how to interact with its users in the day-to-day operations. This is hard to duplicate or multiply to maintain a sustainable (over time) and socially focused operation. The motives and incentives for its champions and enthusiasts are of a delicate nature, so are especially important for the municipality to consider when trying to “help” or interact with the initiative.

In the case of the Circular Gothenburg project, the municipality organised citizen workshops. They also performed a study of user preferences for sharing as part of the Dela Mera initiative. For example, residents in Nordstan were interested in sharing cargo bikes, sewing machines, and drills in close proximity to their homes. According to the project manager, in this case housing companies may become suitable arenas for sharing such items. She also discusses the challenges of people changing their behaviour from buying new things to sharing existing ones, and the need to find simple and attractive solutions that could become a real alternative to the throwaway culture:

"To find such alternatives, we will need "first adopters" who could break through the big mass, this is the biggest challenge... It's so easy to just buy. It takes little time... There is no clear incentive for this. And there are things to do and manage. Time is a challenge. And change is a challenge." (Nina Wolf, Project Manager, Circular Gothenburg)

5. Conclusions

The mobile lab in Gothenburg was methodologically innovative in that it included a multi- and transdisciplinary group of participants. In addition to researchers, who traditionally use mobile labs, non-academic actors (i.e. two civil servants) also joined the core group. Like the earlier mobile lab in Malmö, this arrangement turned out to be successful, as it helped capture multiple perspectives and allowed participants to learn from different experiences regarding the sharing economy. In the future, we will be looking to form similar teams when arranging mobile labs on the sharing economy in cities.

In terms of content, several conclusions can be drawn from the mobile lab in Gothenburg. First, sharing in Gothenburg is generally perceived as positive and having a potential to address urban sustainability challenges. This view is broadly supported by all interviewees, from grassroots sharing organisations to municipal employees and politicians. Sharing and collaborative economy initiatives are well anchored, both locally and in relation to the international understanding of the movement.

Secondly, the City of Gothenburg provides a welcoming ground for non-profit or community-based sharing initiatives to emerge and develop, and supports them by providing funding and premises, by spreading information about their activities, and attracting and connecting users of sharing services. The experimental nature of sharing initiatives is generally welcomed, and testing and learning from both successes and mistakes is encouraged. Innovation is thereby accelerated both by direct (financial support) and indirect (opening up office and unused municipal space) facilitation as well as the removal of barriers (cultural and operational).

Thirdly, the motivations for SEOs (i.e. Bike Kitchen and Grow Gothenburg), civil servants and politicians to engage with the sharing economy in Gothenburg appear to be primarily of social nature. The main social benefits include strengthening social cohesion, offering opportunities for people to meet, building trust between strangers, and developing new knowledge and skills in the community. Resource efficiency, self-sufficiency, and access to assets for all population groups are experienced as positive co-benefits.

Fourthly, all interviewees showed openness and willingness to collaborate, although on different grounds and for different reasons. Non-profit sharing initiatives often collaborate with other more powerful actors because they lack certain resources and need access to them (e.g. premises, funding). The municipality is keen on collaborating, where it sees its partnerships with SEOs as an opportunity to achieve its sustainability goals and ambitions. The City of Gothenburg is therefore much more strategic and value-driven in its collaborations, e.g. when choosing collaboration partners or how to steer such collaboration. At the same time, the interviewed SEOs and the municipality seem to trust each other, something that has been built up over several years.

Fifthly, evaluating the impacts of sharing services in Gothenburg, although important, may not be the key priority for advancing more sustainable forms of sharing. Instead, focusing on forging new collaborations with effective organisational models based on robust arguments to underline the benefits of sharing services may be crucial. In addition, changing of mind-sets and consumption cultures is potentially one of the most tangible environmental impacts from sharing services. For example, the impact of bicycle kitchens is not just about promoting cycling but also about raising awareness of the importance of saving resources, repairing and fixing broken items, and departing from the throwaway culture. Likewise, the impact of Grow Gothenburg is about valuing home-grown food differently to purchased food, thereby promoting a norm of zero food waste.

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