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Mobility-as-a-service: Case City Bikes to Tampere

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This bachelor's thesis explains the mobility mega trend "mobility-as-a-service" and its ties with city bikes. The thesis focuses on the subject of setting up a city bike scheme to Tampere. The subject is current because after the success of HSL bikes in Helsinki, many cities around Finland have been planning city bike initialization.

The thesis includes benchmarking of two internationally known biking cities, Amsterdam and Copenhagen, to understand how they have succeeded. Another benchmarking target is HSL bikes with two cities in particular – Helsinki and Espoo. Helsinki, because most of the bike users live there, and Espoo, because it is nearly identical to Tampere in its surface area and population.

The following chapter explains Tampere as a cyclist city: its current situation, constructions of the tramline, and future plans. Currently Tampere doesn't have a city bike scheme, only a small rental bike business model. Tramline constructions distract cycling during years 2017-2021 and again during years 2021-2024. The Finnish Transportation Agency has officially suggested a plan at first with 36 stations and 400 bikes and later 45 stations and 500 bikes.

Mobility-as-a-service (MaaS) is a current mega trend rising in the past years. The idea behind it is to provide mobility services and combine many methods of urban transportation together, including city bikes. There is a pursuit to make city cycling a part of people's mobility chains.

A quantitative survey was conducted to understand locals' of Tampere opinions and planned usage reasons for the bike: utilitarian or recreational. The answers were collected electronically. Two surveys were created on Webropol, one in Finnish and one in English with 13 questions. The surveys went live on 10 April, 2018 (Finnish) and 11 April, 2018 (English). The data collection period was 2 weeks, ending 24 April, 2018. 121 answers were collected in Finnish and translated to English by the author. Roughly on average, the average respondent would be ready to pay for the bike 1-3€ hourly, would like to pay for the bike per use or mix between seasonal subscription and pay-per-use depending on use, would be a utilitarian user, sees the city bike as the best option for a 2-4km journey. The final open-end question gathered 34 comments with valuable ideas for city bike implementation. Many people expressed a wish that city bike rental could be done with the Tampere (TKL) bus card (an example of Maas) and were worried about the condition of the bikes.

Keywords
city bikes, Tampere, mobility-as-a-service, cycling

Table of contents

1 Introduction

Having travelled abroad much and living is Helsinki for many years, and upon recently moving to Tampere, I noticed inhabitants of Tampere do not use cycling as a popular method of transportation a lot in my opinion. This subject brought me motivation to study a current megatrend in transportation, mobility-as-a-service, understand its ties with urban bike renting, and to analyze if Tampere is a suitable city for a city bike scheme. It is interesting to see if Tampere can be as successful with shared city bikes as Helsinki, for example.

It's important to promote cycling because big cities around the world are experiencing environmental and congestion problems because of personal automobile use. Use of cars is still growing rapidly even though traffic and oil prices increase every year. The solution to these problems is to minimize personal vehicle use and simultaneously promote sustainable, non-motorized methods of transport such as biking and walking (Kim, Choi, Kim & Fujii 2016.)

Cupples & Ridley (2008, in Kim, Choi, Kim & Fujii 2016) suggest that "cycling is an effective way to ease urban congestion and pollution, create healthier environments and individuals, and increase environmental sustainability". Cycling also reduces the amount of carbon emissions let in to the atmosphere.

Kim, Choi, Kim & Fujii (2016) continue that the benefits of cycling are undeniable in many aspects. However, nowadays the focus of studies has moved away from traditional cycling and more towards public bike systems or public bike schemes. Bike sharing has grown around the world rapidly and is the pioneer for environmentally friendly transport. In May 2012, there was an astounding 184 public bike schemes in 2014 cities around the world. Shaheen (2013 in Kim, Choi, Kim & Fujii 2016) declare that were almost 370,000 bikes in 13,650 stations in 36 countries.

What exactly is a public bike scheme? City bikes are publicly shared, short-term rental bikes meant for quick accessibility at an inexpensive price. A city bike scheme allows individuals to rent a bike at bike station A and to return it to station B. Thanks to new technology, many city bike schemes also offer a smartphone app for users to see the amount of free bikes and free slots at different stations in real time.

City bikes have been a hot topic for big cities in Finland for a while since the success of Helsinki's HSL bikes. It seems every city is yearning for their own city bike scheme, as

they are trendy, current and youthful. In fact, lately tens of city bike companies have shown interest in Tampere. As of April 2018, the city of Tampere is currently planning conditions and negotiating them with the companies, but nothing has been disclosed yet publically. (Keto-Tokoi 2018).

This thesis aims to understand and explain a future trend of mobility (mobility-as-a-service) with a focus on researching alleged cycling purposes and use of city bikes in Tampere city as well as locals' general attitudes towards Tampere city bikes and use these findings to analyze if Tampere is in fact a suitable city for bike sharing/setting up a city bike scheme as told by locals.

The method of data collection is via quantitative research. The answers were collected electronically. Two surveys were created on Webropol, one in Finnish and one in English. The surveys went live on 10 April, 2018 (Finnish) and 11 April, 2018 (English). The data collection period was 2 weeks, ending 24 April, 2018.

The first chapter benchmarks biking and public bike schemes in Finland and two cities internationally, Amsterdam and Copenhagen. After that, the thesis's focus narrows down to Tampere, Finland, which is the focal point of research. The next chapter explains the current mobility megatrend, "mobility-as-a-service" and its ties with bike sharing. The method of research is presented in the next chapter, and finally, the results are presented and analyzed. The final chapter expresses the conclusion and my own thoughts and suggestions. I examine the results' reliability and validity and reflect upon the whole process and examine my own development and learning.

2 Benchmarking of Public Bike Schemes in Finland and Internationally

This section of the thesis will focus on benchmarking. I have decided to include two main benchmarking targets in Finland – the cities of Espoo and Helsinki. I chose Helsinki because it has had much success with the launch of city bikes. The upcoming summer season 2018 will bring back 1,500 rental bikes and 150 stations including new extensions to the districts of Kumpula, Munkkiniemi and Pasila. (HSL 2018.) Espoo is a benchmarking target because it is nearly identical to Tampere in its surface area and population.

International benchmarking targets include Amsterdam and Copenhagen because they are successful and well-known cyclist cities. It is interesting to research how they have succeeded with cycling generally and what kind of public bike sharing schemes they offer.

2.1 The Trial of City Bikes in Espoo, 2017

In the summer of 2017, there was a city bike trial in the city of Espoo. Unfortunately, the trial was unsuccessful. There were 10 bike stations and 100 bikes. On average, only one journey was made per day for approximately 17 minutes during the whole rental period May-September. The longest journeys were in July for 20 minutes and the shortest in September, lasting 12 minutes. (Kuokkanen 2017a.)

The biggest problem that Espoo faced was the fact that the amount of bike stations and bikes was far too small. Espoo learned from this, and will continue the rental bikes in the summer of 2018 with 70 stations and 700 bikes. Kuokkanen (2017b) suggests the delay of the metro may have contributed to the unpopularity as well - constructions to the newest addition of the metro line towards Espoo (West Metro) had not yet completed in the summer of 2017. The density of stations should be 700-800 metres and in densely-populated areas the density should be 300-400 metres, a foreign study suggests. The unsuccessful trial had a station density range of 500-1000m. (Kuokkanen 2017b.)

2.2 The Situation of City Bikes (HSL-Bikes) in the Helsinki Metropolitan Region

After the launch of city bikes in the summer season of 2016, Helsinki metropolitan region has been praised for the convenient city bike scheme it offers. It all started when Moventia, a Catalan-based company in public mobility solutions and Smoove, a French bike-sharing company joined forces and CityBikeFinland was born. A ten-year contract

was signed by HSL and the consortium in December 2017 and bike schemes were implemented. (CityBikeFinland 2018.)

After the operational season of 2017, the numbers show us very positive feedback. There were a total of 1,500,000 journeys made, 3,400,000 kilometres worth of cycling done to date, and 34 000 cyclists with a season pass. (HSL 2018)

Image 1. HSL bikes in Helsinki in 2016 (Vatanen 2016).

For the summer season of 2018, HSL has prepared 1,500 bikes and 150 stations. The resposibility of the bikes is with HKL (Helsinki City Transport), HSL (Helsinki Regional Transport Authority) manages customer care and marketing, CityBikeFinland implements the system, and the official sponsor is Alepa, a grocery store. (HSL 2018)

2.2.1 How the bike scheme works currently

The operation period is five months, from early May to October, and unfortunately bikes aren't rentable outside of these months because of the harsh winter climate. In Finland, credit and debit cards are acceptable payment methods. In the Helsinki region, a HSL card can be shown as identification prior to rental. The renter will unlock the rental bike by typing in a pin code and traveler ID on the bike's electric screen. The renter is allowed to leave the bike at any rental station after use. (Ratilainen 2017).

Renters can buy passes for different periods of time – a day, week or whole season. The rental time can be up to 5 hours without a fine. If used over 5 hours, a penalty fare of 80€ will be charged. (Ratilainen 2017.)

2.2.2 Attitudes and Purposes of HSL Bikes

Because the aim of this thesis is to study locals' attitudes towards city bikes in Tampere, it is important to see how locals have reacted to HSL bikes, which were introduced in 2016. In this section we will also see what kinds of trips users use with the HSL bikes – another interesting comparison topic. It's important to understand these figures because the comparison target is similar and the data is reliable.

In a study made by Madetoja (2016), the below figure (figure 1) shows locals' general attitude towards service of the HSL city bike scheme after its first operational year. The numbers are admirable. 49% answered excellent (erinomainen), 48% answered good (hyvä), and just 2% answered satisfactory (välttävä). Nobody answered bad (huono) or very bad (erittäin huono). The statistics come from 1145 answers.

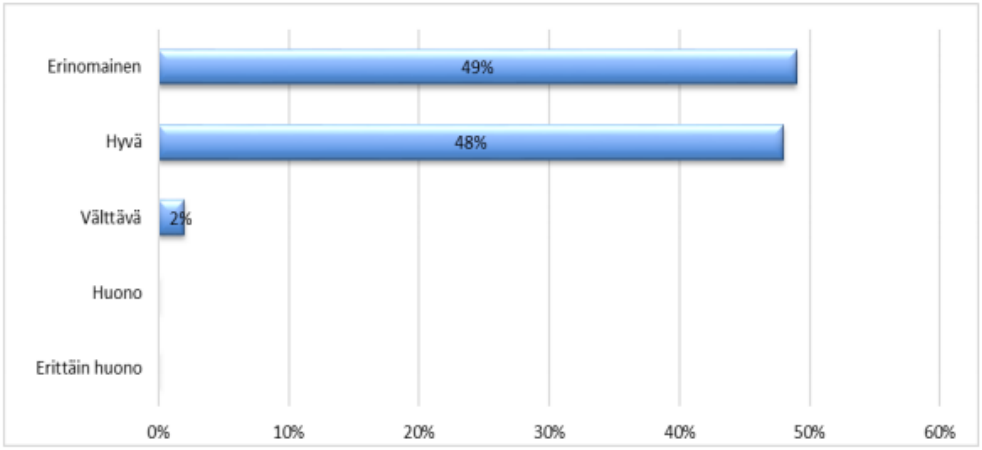

Figure 1. Peoples' general opinion about HSL bikes. (N=1145) (Madetoja 2016.)

When asked purposes of using the bike in the same study (Madetoja 2016), (figure 2) shows the results divided by age group. In most of the age groups city bikes were used more for recreational purposes except age group 34-44 where more trips were utilitarian purposes (commuting to work: työmatka). The biggest difference is age group 16-24 – 60% being recreational (virkistyskäyttö) and 22% utilitarian (työmatka) purposes.

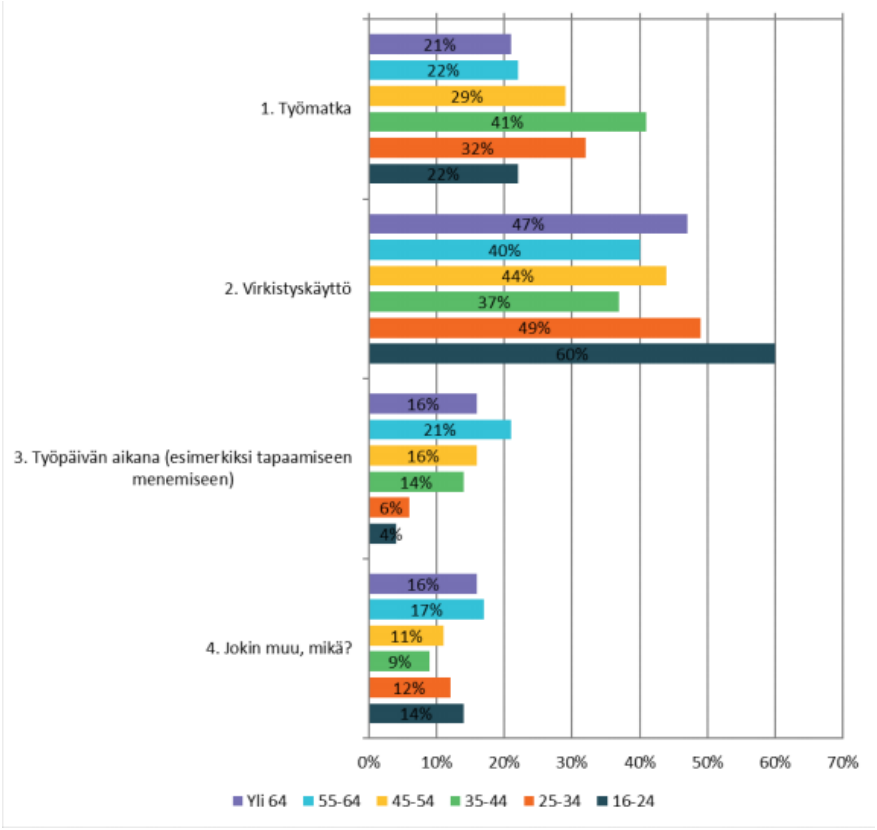

Figure 2. Usage of HSL city bikes: 1. Utilitarian/Commuting to work (työmatka), 2. Recreational (virkistyskäyttö), 3. During work (työpäivän aikana), 4. Other, what? (jokin muu, mikä?) according to age group. (Madetoja 2016.)

The typical user based on these to variables shows us that the typical HSL bike user thinks the service is either excellent or good. When added up, almost half (45%) answered that they use the bike for recreational purposes. 23% of respondents answered commuting to work. 12% answered that they use the bike during work time, for example going to a meeting. 10% answered something else, for example short transitions in the city and using the bike instead of public transportation. (Madetoja 2016.)

2.3 Amsterdam

Amsterdam is internationally known as a cyclist's city. There are many reasons behind the popularity of cycling in Amsterdam, some of which completely geographical – Amsterdam is flat and densely populated, and the climate isn't extreme. (Iamsterdam 2018.)

However, the popularity isn't strictly due to geographical reasons. The city of Amsterdam started to build the excellent cycling infrastructure in the 1970's. The post-war decade experienced many cycling fatalities due to fast growth of recreational automobile use. In 1971, about 3,000 people will killed by cars. Enough was enough, the government re-

acted, and nowadays there is a good cycling infrastructure with over 400 kilometres of cycling paths and Amsterdammers cycle some 2 million kilometres per day. (Iamsterdam 2018.)

Image 2. OV-fiets in Amsterdam. (OV-chipkaart kopen 2018)

Despite Amsterdam being a biker-friendly city, Amsterdam does not have a public bike sharing scheme as it is presented in its traditional meaning, only OV-fiets (image 2). A friend of the author's, an Amsterdammer, comments:

> Though Amsterdam has long been renowned for its biking and for the infrastructure catering towards bicyclists, there is not much of a rental-bike scheme in place here. For Dutch residents (and also to foreigners who hold a personal travel card) there is a possibility to rent a public transport bike, an "OV-fiets", for 4,95€ a day. This however is not available to the average tourist, as you have to have a registered personal travel card to use the bike. The option for tourists remains with bike rental shops in the city center. This option can be quite costly as rental shops tend to swindle tourists with their prices, and generally require large deposits for the bicycles. Thus, Amsterdam's bike-renting scene is not similar to other cities where tourists and residents alike can rent bikes for a fixed price. (Rietman, P. 16.4.2018)

2.4 Copenhagen

In his study, Kabell (2014) suggests that there are three main factors why cycling is Copenhagen is so popular: good infrastructure, shorter travel times and cycling safety. Aside from these main reasons, also mild climate (no extreme winter) participates in encouraging cyclists. Furthermore, big construction projects mainly associated with the Metro in Copenhagen have encouraged locals to choose the bike rather than the car. It is easier to cycle, not having to worry about streets for motor traffic being closed. Kabell (2014) also suggests that campaigns and promotional work may have contributed to cycling popularity, but there is uncertainty in the measurement of the method.

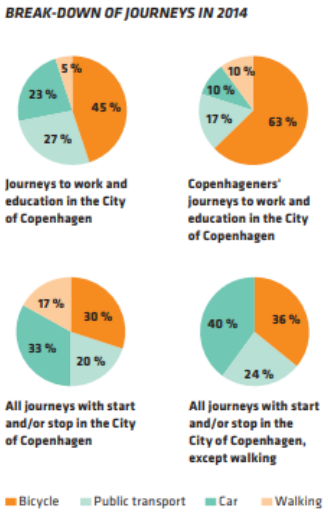

Figure 3. Journeys made in Copenhagen in 2014. (Kabell 2014).

Above, (figure 3) we can see the admirable figures of commuting patterns in Copenhagen. Whilst cycling journeys to work and education in the City of Copenhagen is at 45% for all (Copenhageners and residents of nearby municipalities), 63% of Copenhageners cycle to work or education. Figure 3 shows that Copenhageners choose their bike for utilitarian purposes (journeys to work/education) more than any other form of transport. Biking for recreational and utilitarian purposes (all journeys with start and/or stop) is also popular in Copenhagen when compared to all forms of transport. (Kabell 2014).

According to Kabell (2014), there are 678,000 bicycles owned by the people of Copenhagen. According to Kabell (2014), Copenhageners' satisfaction with the amount and width of cycling roads has been rising slowly but surely over the past few years. Statistics show that the level of satisfaction of amount of roads was 63% in 2004, and increased by 16% to a total of 80% in 2014. The satisfaction of the road width has grown 3% in ten years, it being 53% in 2014.

Kabell (2014) assures that well-kept asphalt and snow-free tracks during wintertime are significant for maintenance satisfaction. The overall satisfaction rate for upkeep was 63% in 2014.

Kabell (2014) suggests that it is absolutely crucial for cyclists to feel safe for cycling popularity to rise. It's crucial for everyone on the move to feel safe in the city. Not only cyclists, but also pedestrians, motorists and public transport users. Below, (figure 4) shows the figures, which are again admirable – 94% of Copenhageners feel safe or partially safe. Copenhageners would feel more secure while cycling being away from motor traffic, wider cycling roads and consideration from motorists and fellow cyclists. (Kabell 2014)

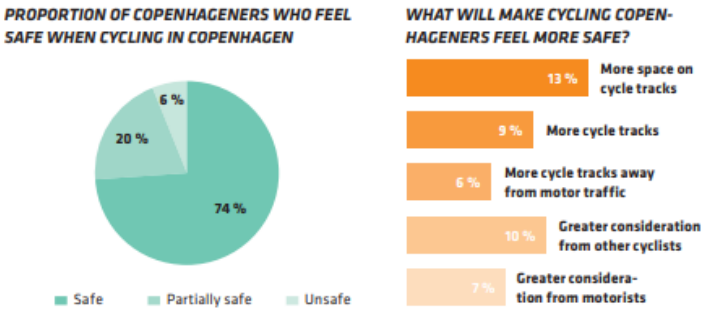

Figure 4. Statistics of safety while cycling in Copenhagen. (Kabell 2014).

Copenhagen has a comprehensive public bike scheme called Bycyklen (image 3). The easily-usable bikes are in many parts of the city. Unlike the HSL bikes, they are usable every day in the year, at any time, 24/7. Using the bike requires an account and a password. All bikes are electric and have a tablet on the handlebars. There are more than 100 stations in the city of Copenhagen. Naturally, users are allowed to return the bikes to any of the stations. (VisitCopenhagen 2018.)

Image 3. Bycyklen city bikes in Copenhagen. (Bach 2018)

A nice feature on the bikes is the easy initialization. The user can either go to bycyklen.dk or sign up directly from the tablet. This makes it very easy to start cycling. Signing up asks for name, contact information (e-mail and phone number) and payment details. (Visit-Copenhagen 2018).

3 Tampere as a Cyclist City

This chapter of the thesis will narrow-down on focused area of Tampere, which is the focus of the survey. I examine the current situation, explain the situation with the tramline and discuss future plans regarding city bikes.

3.1 The Current Situation

The current situation of city bikes in Tampere is quite frankly less than mediocre especially when compared to successful cycling cities. As of right now, city bikes can only be rented at one location in the centre and must be brought back to the same location during office hours. The fare is 5 euros for 24 hours. (Mäkelä 2017). There is no public bike scheme in Tampere as of the present.

Because of the small business model, statistics and detailed information are not available. Without research as reference, it seems that the concept of these bikes, carrying the name “Visit Tampere” bikes, mainly caters to tourists for recreational use and does not attract locals.

However, there still seems to be enthusiasm for cycling in Tampere. There is a cycling society in Tampere which is called “Tampereen polkupyöräilijät ry” or TaPo for short. This society was based in 2007 and its main goals are to promote cycling safety, convenience and fun. Their aim is that cycling would seamlessly become a part of Tampere locals’ daily lives, taking a big role in transportation. TaPo’s activity is based upon influencing and promoting cycling enthusiasm. They try to influence for example laws concerning cycling, defending cycling paths during construction work and cycling path maintenance during winter time. Enthusing city cycling happens through, for example, bike care and maintenance programs (TaPo 2018).

As earlier mentioned, Keto-Tokoi (2018) wrote in Aamulehti in April 2018 that tens of city bike companies are currently interested in Tampere. These companies are waiting for conditions set by the city. No details or information has been shared publically. Traditionally these companies are interested in multimillion metropolitans around the world, but Finnish cities also have attractive features. It’s quite safe in Finland and the infrastructure is good. Vandalism towards bikes is quite small. From the city’s point of view, the city is concerned about stations’ locations, their safety, and quality of the bikes and the responsibility of the company to manufacture, repair, and recycle the bikes.

3.2 Tram Constructions Difficult Moving in the City from 2017 to 2024

On the 7th of November, 2016, the City Council of Tampere decided upon a tramway for Tampere. The first phase includes a line from Hervanta to City Centre and onwards to Tays (hospital). The council's votes were 41 in favour and 25 against including one (1) no vote. The plan is to make the first line operative by the year 2021. Constructions were started in 2017. The second phase will be developed in the years 2020-2021, and constructions will begin in 2021. The goal is for the second tramline to be finished in 2024. (City of Tampere 2016.) The second tramline, as of current plans, will operate between Pyynikintori and Lentävänniemi. (Airo 2017) At least the first line will operate straight through the very centre of Tampere – Hämeenkatu, pictured below. This is a very busy street with many stores and cafes.

Image 4. Tram constructions cut off half of Hämeenkatu by width. (Mannila, M. 12.4.2014)

Tram constructions difficult public transport usage, walking and cycling in the city. The Finnish Transport Agency suggests that city bikes should be launched in Tampere only after the tram is complete. (Vaarala & Översti 2017). Locals must constantly adapt to the

changing bus lines and pedestrian and bike lanes which are cut off. For many, this may have a negative impact for choosing cycling as a mobility method. Concrete fears are flat tires because of debris and lack of space to bike. However, some may choose their bikes rather than own car because the motor traffic is very confusing in some parts and some streets are completely cut off for personal vehicles.

Image 5. Tram constructions on Sammonkatu. A bus stop is not in use and a large part of pedestrian and cycling roads are under construction. (Mannila, M. 12.4.2018)

However, when the constructions are finished and once the tramlines are complete, city bikes could be integrated with the tramline. Lauri Lyly's (the mayor of Tampere) mayor program entails a plan in which city bikes can "feed" the tramline (Keto-Tokoi 2018), in other words city bikes serving as an option for walking to the tram stops.

3.3 Future Plans

The city of Tampere had decided in 2012 to increase the percentage of walking, cycling, and public transportation to 50-60% of all types of transportation in the city by the year

2030. There are three main goals within the pursuit: affecting civilian transportation habits, structure of society and infrastructure. To meet these goals, the city plans to create a group which actively encourages and reports about cycling and walking. They shall create a plan of development and keep track of the results and report back to their organizations about them. There shall also be a designated coordinator who, for example, conducts traffic. There will also be separate plans for municipalities in the Tampere region therefore giving each municipality the right to make adjustments to suite and satisfy their own needs. (Tampereen kaupunkiseutu 2012.)

In another report from 2015, the City of Tampere agrees that another big factor which must be taken into consideration and made effective is the quality of cycling roads and paths. There will be a web of cycling stations created near these roads, event locations and major public service providers. At the main rental station there will be rental bikes, bike repair facilities and other services. (Tampereen Kaupunginhallitus 2015.)

In the beginning of the year 2017 Finnish Transportation Agency had suggested in their report, that the City of Tampere should only make a rental bike scheme when the construction of the first tramline is complete in 2021. The plan suggested that the first operational phase should contain 36 stations and 400 bikes. In the second phase when the suburban area of Hervanta joins the plan, the numbers shall rise up to approximately 45 stations and 500 bikes. The Finnish Transportation Agency suggests that the best way to execute the plan is all at once in its full magnitude, not little by little. This will give a positive and user-ready feel of the whole project. According to the report, there is no point in starting city bike constructions at the same time as the tram constructions and the bikes should be launched at the same time the tram is ready. Four years is plenty of time to allow for creating the bike system and the marketing of it. (Vaarala & Översti 2017.)

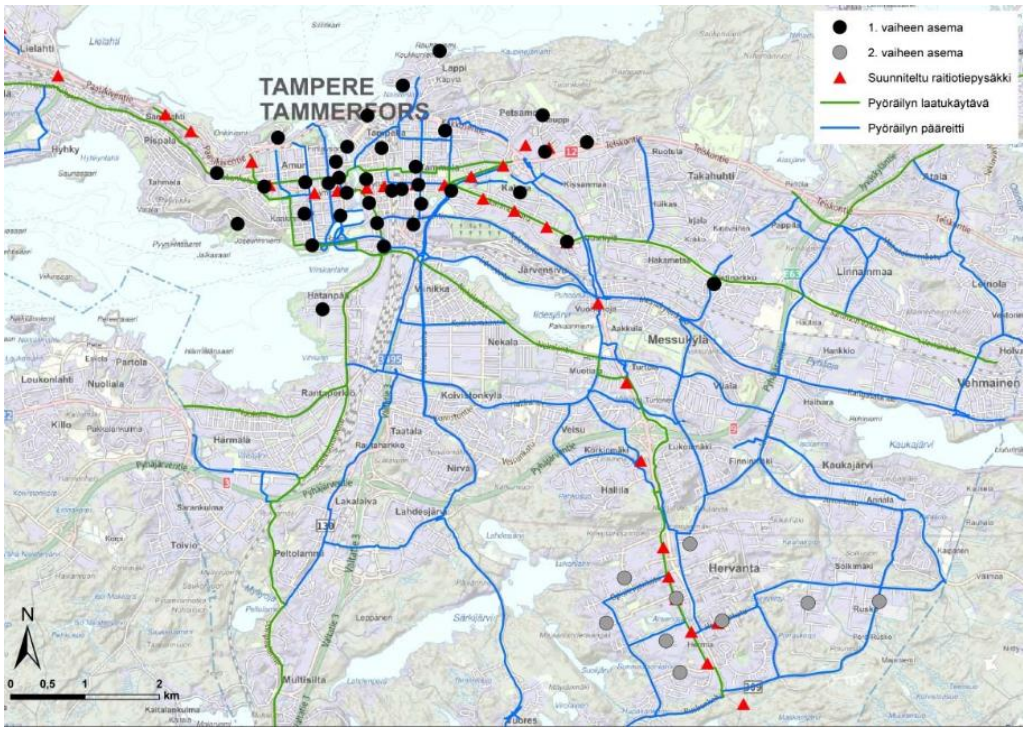

Image 6. The first proposal of city bike implementation in Tampere. (Vaarala & Översti 2017)

Above, (in image 6) there are figures of different colors. The black figures are bike stations of the first phase (1.vaiheen asema) and the grey figures are bike stations of the second phase (2.vaiheen asema). The red figures show planned tram stops (suunniteltu raitio-tiepysäkki). The green and blue lines are either quality cycling ways (laatukäytävä) or main cycling roads (pääreitti). It was a good idea to include upcoming tram stops to this picture, so it's easier to picture city bikes and tram stops in use together.

4 A Current Mega Trend – Mobility-as-a-service

Mobility-as-a-service is a current megatrend in the community's mobility. It is a very new concept, only emerging in the past few years. It is trying to renew old stigmas and patterns of getting around. It tries to melt all kinds of travel together, putting user-friendliness at top priority. As Maas Global Oy (2018) states, it's "better than your own car."

4.1 Definition of mobility-as-a-service

Mobility-as-a-service is a new transportation solution which is used as a service. This new trend has brought, for example, car-sharing and bike-sharing service providers to the market. Maas Finland (2015) gives its own description for MaaS: "buying mobility services based on customer needs instead of buying the means of mobility." The Finnish Transport Agency (2017) gives another description: "the aim of MaaS is to develop transport services into being as smooth and accessible as possible through mobility servitisation."

In fact, Finland is a main founder and innovator of MaaS and shares its enthusiasm in Europe and the world. (Finnish Transport Agency 2017). The first MaaS company in the world is MaaS Finland oy (nowadays MaaS Global oy), which started business on 1 Februrary, 2016 (Eera 2016).

The Finnish Transport Agency has a big role in making MaaS possible and prosperous. It must support it, and make sure only safe, functional and profitable transport methods are on the Finnish market. The Finnish Transportation Agency has many practical tasks such as generating national drafts and schemes, sharing its data and knowledge, and offering expertise on transportation services to developers and participants. (Finnish Transport Agency 2017.)

MaaS is significant to our communities for many reasons, but probably one of the most significant is the environmental reasons. MaaS allows us to create sustainable transport methods. MaaS allows for an intelligent transportation system because the amount of vehicles may lessen thanks to increased efficiency, problems such as congestion and the need for huge parking lots in the city may ease, and carbon dioxide emissions may lessen. Therefore MaaS services have the potential to renew customer mobility experience and contribute to the slowing of climate change and pollution, in addition to other social and environmental problems (Ovaska 2017).

According to WEF (2018), traditional vehicle-ownership is still a significant part of our society's mobility pattern. Many people also use public transport to commute. However, mobility-as-a-service is an upcoming trend and individuals are moving away from personally owning vehicles more and more.

These mobility services can be tailor-made to suite everybody. For example, payment methods can include monthly subscription or pay-as-you-go (single fare). These payment methods can be incorporated to almost every kind of transportation method within MaaS.

4.2 Pros of MaaS for cyclists

Gould (2018) summarizes the potential benefits of MaaS for cyclists. She claims that MaaS will enforce less motorized trips, reduce congestion, improve air quality, improve travel choices, integrate transport modes, and lessen the need for individuals to own a personal bike.

Because MaaS tries to integrate many mobility methods together to find the best choice for the mover instead of using a personal vehicle, it is a very big improvement or "pro" to incorporate bike sharing to the public transportation app. HSL is showing example with its excellent website to find out the best route using public transportation from place A to place B called "reittiopas", or Jouney Planner, which can also be found translated into English. The journey planner shows the best choice of public transportation from A to B. Bike sharing is incorporated to this journey planner, making it a concrete choice of public transportation, showing the closest bike stations and the amount of available bikes.

Below, at the top of (image 7), the first text bar is the place of leaving and the second is the final destination. For the sake of the thesis, I have not included the destination and the screenshot shows the area of Katajanokka, Helsinki as an example. On the right, it shows the nearby public transport methods, including city bikes, displayed with an orange figure.

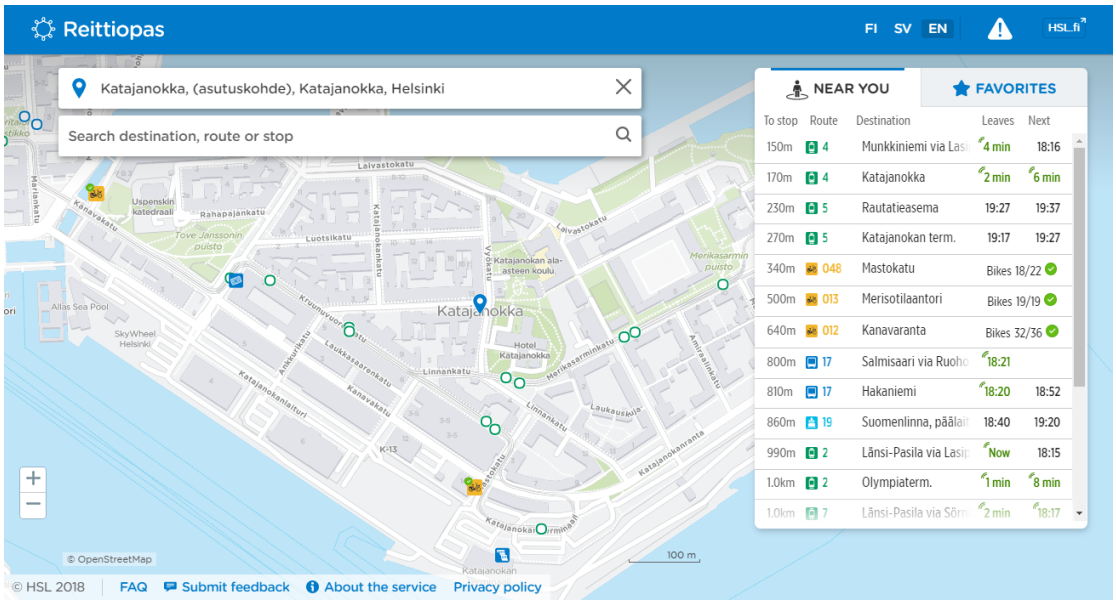

Image 7. Desktop screenshot of HSL's journey planner taken on 12 April 2018. (HSL 2018)

However, HSL still has some work to do and I introduce a suggestion to improve service for city bike users. HSL has its own mobile app which was launched in the recent years. The mobile app offers the ability to buy tickets via mobile and the possibility to show proof of purchase upon inspection. However, as of right now during writing, the app doesn't offer support for city bike ticket purchase or membership. This would be another step towards enforcing mobility-as-a-service and combining all different public mobility choices.

Timo Seinelä, the engineer for the city of Tampere, had said in an interview in April 2018 with Aamulehti, that it would be a possibility that future city bikes in Tampere could be rented with the TKL bus card. (Keto-Tokoi 2018). This would be an exemplary decision considering merging mobility services together and would show user-friendliness.

4.3 Segmentation of Cyclists

According to Pucher & Buehler (2014), cyclists can be primarily split up into two groups: utilitarian users and recreational users.

Utilitarian users typically wear ordinary clothing (cycling is a part of their daily routine and typical life – do not have the need to dress up for the occasion), have the need to carry cargo (groceries etc.), have to make frequent stops and starts, must be seen by and see traffic, own less expensive bikes because they fear theft/vandalism, and rely on their bikes to not fail. (Pucher & Buehler 2014)

Recreational users typically are more willing to wear athletic clothing, will only take the necessities along (water bottle, etc.), (sports cyclists) will choose a scenic route with no traffic. They do not want to stop because it defeats the purpose of exercising. They will avoid traffic therefore don't make it a priority to be seen by traffic. They can plan their outings in quieter areas with not so much fear of theft. Because they do not use their bike daily, they have more time and motivation to concentrate on fixing the bike if needed before cycling sessions. (Pucher & Buehler 2014).

According to Page, (2009, 317) the recreational cycling market is traditionally divided into three segments in tourism:

1. Holiday cyclists. Persons who seek opportunities to leisurely cycle but not every day. They dislike package holidays and want to travel independently. Normally most of them take their own bike with them on holiday. However, a percentage of them will hire.

2. Short-break cyclists. They seek adventure and local knowledge (with or without bike hire) with comfortable accommodation. Typically are on the move in bigger groups and can cycle 15-25 miles.

3. Day excursionists. They typically cycle leisurely 10-15 miles and prefer quite routes which are clearly marked. Typically use their own bikes and do not tend to hire. (Page, 2009, 317)

4.4 Pros and Cons of Bike Sharing

DeMaio (2004) suggests the pros of a public bike scheme intended for short-distance urban journeys. He argues that a public bike scheme will make unreachable destinations reachable and may increase public transportation use. A public bike scheme doesn't require much infrastructure, is inexpensive to obtain and maintain, and doesn't generate pollution or congestion in the city. Also, the cyclist him/herself receives exercise.

Vaarala & Översti (2017, 49) state that a public bike scheme is a visible part of the city's transportation system. A well-functioning city bike scheme gives a picture of cycling convenience and fluency, which in itself promotes cycling and adds to its value. The city bike betters transport services to the inhabitants of the city centre: mobility is easily accessible and there is no need to use own bike. The city bike user does not have to fear of theft or vandalism of his/her own bike.

A bike scheme improves individuals' mobility chains. Using public transportation will become a more attractive option if trips to or from (in best cases to and from) public bus stops could be done by bike rather than foot. A city bike scheme should be integrated to

public transportation, solving “the last kilometer problem”. Integration is reliant on bike stations reaching public transportation stops, affectively. (Vaarala & Översti 2017, 49)

A fully functioning public bike scheme brings a special significant value and heightens attractiveness levels of the city because the bikes aren’t self-evident in every environment. A city bike creates a trendy, youthful brand to the city. The people who will gain most benefit of the city bikes are inhabitants of the operational area, people commuting to work, students, and tourists. (Vaarala & Översti 2017, 52-53).

However, DeMaio (2004) also considers the challenges of a public bike scheme intended for the same reasons (short-distance urban journeys) when compared to other modes of public transport. Extreme weather conditions can make cycling uncomfortable or impossible. Cycling can be unsafe to for cyclists and pedestrians. People with disabilities may be left out – they may not be able to cycle. Bikes also require cycling ability, which leaves out a percentage of people. Another challenge is that city bikes are best used for short distances, which can be off-putting to people who live/work/study further away.

Vaarala & Översti (2017, 53) also consider a threat. The city bike scheme is considerably expensive for the city to establish and run. If city inhabitants don’t use the bikes, the system will be in deficit.

5 Method

This section of the thesis will explain the method of the thesis. In order to achieve the goal of the thesis, a quantitative survey was conducted.

A quantitative research is a gathering of data which can be categorized, organized, ranked and finally analyzed. Gathered data can be showed through graphs or tables. There is typically a theory or hypothesis which a quantitative study aims to test or prove – the theory is either backed or rejected by the results. Typically controlled observations and surveys are the main sources for quantitative data collection. For example, a “yes” or “no” question in a survey produces numerical data, which can be converted into statistics. Quantitative methods however limit the answerer’s expressions and reactions. (McLeod 2017).

The main differences between a quantitative and qualitative research is that quantitative answers questions “what? Where? How much? How often?” and qualitative answers “why? How? What kind?” A quantitative research helps us to find out answers to questions in statistic or percentage forms. A qualitative research, on the other hand, can give us insights on purposes of behavior or reasons for decisions, for example. Normally, a quantitative research method is enough to prove an existing situation, but is not sufficient enough to explain the reasons why. Normally there are a large number of responses in a quantitative research. On the contrary, it’s important to choose interviewees carefully when using the qualitative research method, which means the number of respondents is far smaller. Quantitative methods strive to prove a phenomenon through numerical data, qualitative through “soft data”. (Heikkilä 2014)

I chose the quantitative method because there is no data collected of this particular subject yet to my knowledge. The goal was to analyze general, initial opinions about city bikes coming to Tampere and how the bikes will be used. Another reason I chose this method is because the city bike scheme is not in place yet therefore qualitative interviews could’ve been too hypothetical and not deep enough to gather enough information. I wanted to gather a large spectrum of initial opinions which can be easily organized, therefore the quantitative method was the better option.

I chose internet survey for my data collection method. A questionnaire was shared via Webropol. The original goal was to receive over 100 answers from the target group locals of Tampere and those living in the nearby municipalities of Tampere. Tourists and non-locals were left out of the survey because the focus of this thesis is locals’ opinions and

their usage patterns. Also, the survey was conducted outside of the tourist high season, so there may not have been enough answers to get a reliable answer. There is a total of 13 questions, regarding general opinions of a city bike scheme in Tampere and planned usage purposes of the bike. The questionnaire went live in Finnish on 10th of April, 2018. The questionnaire was launched in English on the 11th of April, 2018.

There are “pros” and “cons” in launching an internet survey. The pros are, for example, quick response time and no need for an interviewer. It doesn’t require much work once the survey is live. The cons include high risk of accidental wrong interpretations, normally low response rate for open-end questions, no chance to make extra observations, no chance to know the respondent (which can also be considered as a pro). Response rate completely depends on the target group. Controlling the target group is also usually problematic with internet surveys – the creator must find a way to eliminate the chance of those outside of the target group answering the survey. Answering an internet survey requires internet access. (Heikkilä 2014)

There are many variables to take into consideration when choosing the data collection method that best suits the research in question, for example the budget, time schedule, the sensitivity of the matter, and the goal (Heikkilä 2014). I chose an internet survey because I needed answers quickly – this matter is very current and moving forward with speed. There could have been other options, for example gathering data via telephone or by mail. The response rate for mail surveys is quite bad (Heikkilä 2014), and I did not want to take this risk. Also, response time is usually slow for mail surveys (Heikkilä 2014). There is a large need for interviewers for the telephone method (Heikkilä 2014), which made me quite anxious because it’s quite time consuming and difficult to conduct alone, without help, at this big scale. Also, for some people, telephone surveys have a bad connotation.

The questionnaire was shared to friends and relatives who live in Tampere. Also, it was shared on social media platforms such as Facebook in various Tampere locals groups with many active members. This was my way of minimizing the risk of non-locals answering the survey. A link of the questionnaire was sent to the chairman of TaPo ry (Tampereen polkupyöräilijät ry, Tampere’s cyclists) via email, and the chairman was happy to send my survey via email to about 300 members. The chairman reminded me that not all of the members’ emails were up-to-date. Also, the chairman shared my link on their closed Facebook page, with just under 1000 members, all of which aren’t locals of Tampere or active on Facebook, however.

6 Presentation of Results

The results of the survey conducted will be presented in this chapter. The results were gathered from a two week period, ending 24 April 2018. Although the survey was provided in both languages, English and Finnish, all results were collected in Finnish. There were 13 questions all in all, of which the first 3 demographical questions were compulsory and the rest voluntary. After two weeks there were 121 answers.

The demographics of the results are as follows: 49 men and 67 women. Five people did not want to specify their gender. 103 of the answerers live in Tampere and the rest, 18 people, live in the nearby municipalities.

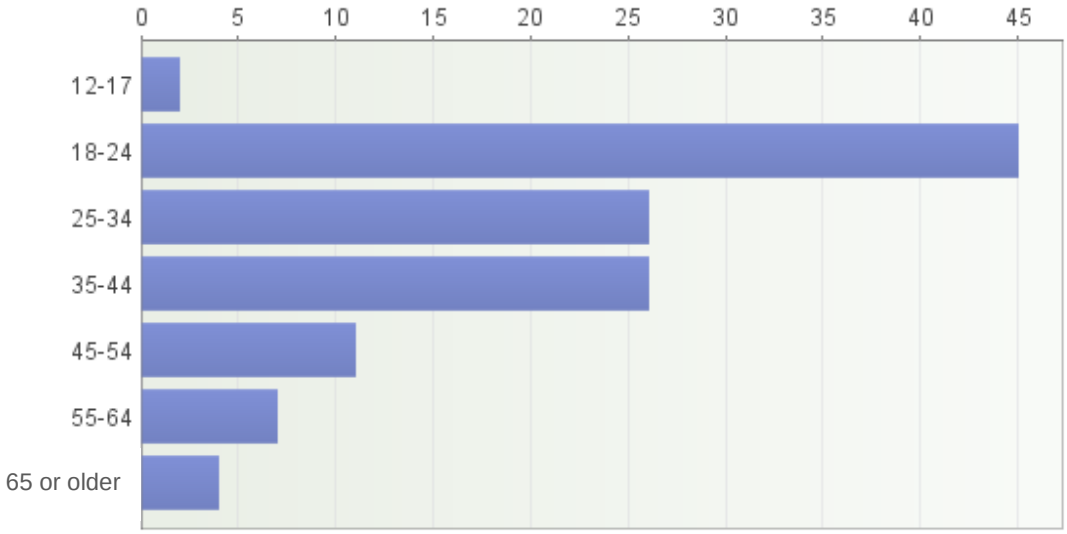

Figure 5. The answerer's age groups. Most results were collected from 18-24 year olds, but every age group is represented. (N=121)

When asked how often you would be likely to rent a city bike, the below table shows the results. Because the question was not compulsory, 117 answers were collected. If "never" is value 1 (one), and very often is value 5 (five), the average value is 2,51.

Table 1. Results to question 4: if a public bike scheme were to be put in place in Tampere, how often would you be likely to rent a bike? (N=117)

Never	Rarely (a few times a year)	Sometimes (a few times a month)	Often (1-2 times a week)	Very often (more than 3 times a week)
18	48	31	13	7

The following question was regarding the fees of renting a bike. Most people (57%) answered that they would be willing to pay 1-3€ hourly for bike hire. A substantial amount of the respondents (24%) also answered that bike hire should be free. Only one person would be willing to pay over 9€ hourly for the bike.

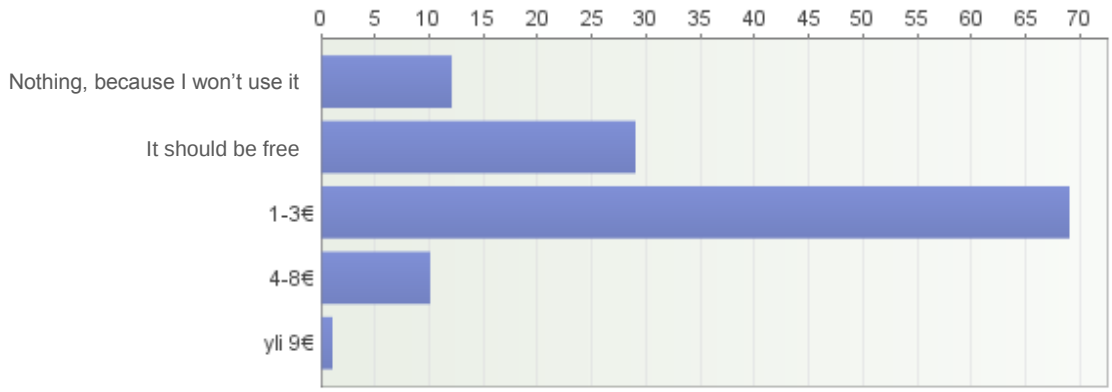

Figure 6. Answers to the question 5: How much would you be ready to pay for the bike ***hourly***? (N=121)

The thesis also wanted to ask if people would rely on the city bike system enough to transition to solely city biking. The question number 6 was: "If you own a bike, would you ***consider*** only using city bikes instead?" Of course, this is a hypothetical question because the city bike scheme is not in place yet. The idea behind this question was to ask initial opinions. The answer options were: "I don't own a bike", "No", "Yes", "I'm not sure/I can't say". Of 121 answers (N=121), 23 respondents did not own a bike, 14 respondents answered yes, 65 respondents answered no, and the rest, 19 people, answered "I'm not sure".

Risk management is a big part of launching of any project. To assess the risks and bring to attention locals' opinions, the question 7 was: "What is the main challenge or fear you see personally with using the bike?" The respondent was allowed to choose many options if applicable. There was also an open answer option which gathered many answers. This question gathered 117 answers (N=117). It seems that most people were concerned with city infrastructure as this answer gathered the most responses. People were also concerned that there would not be enough pick-up and drop-off stations in the city. This was the second biggest concern. Bad weather conditions were also a reason for peoples' hesitation. Below is a chart which demonstrates the results for this question.

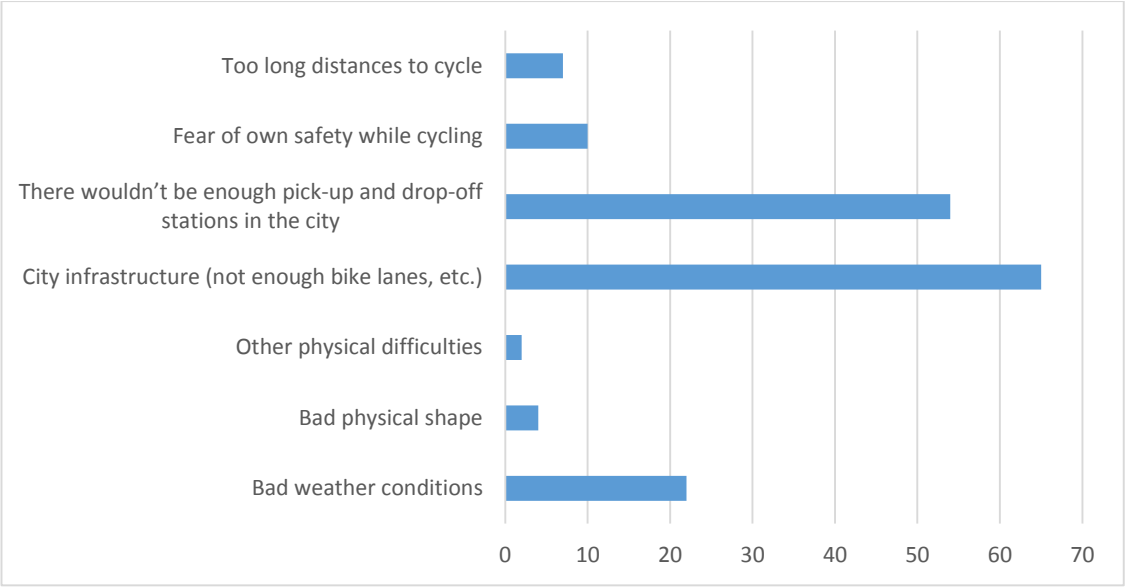

Figure 7. Results for the question 7: "What is the main challenge or fear you see personally with using the bike?" (N=117)

Regarding the open answer, "other, what?", to the same question 7,19 answers were gathered. The answers were freely translated from Finnish to English by the author and then put into a word cloud. Of all comments, most people expressed concern for bike condition (the bike overall and the brakes and chains) -- not knowing how it is left after the last user. Other concerns were difficult operating software, difficult initialization, too complex and inoperative system, too expensive, biking route inconsistency in the city, stations in the wrong places, vandalism, stealing, aggressive car driving culture, no ability to adjust the saddle, ongoing tram constructions.

Figure 8. Word cloud for open-end commenting on question 7 (N=19)

The next question, number 8, was included to analyze usage predicted patterns and reasons for bike use – would bikers be recreational or utilitarian users. The question was “what kind of trips would you make with the city bike?” The respondent was allowed to choose many if applicable. The question gathered 121 answers which means everyone answered this question. The below chart displays the results.

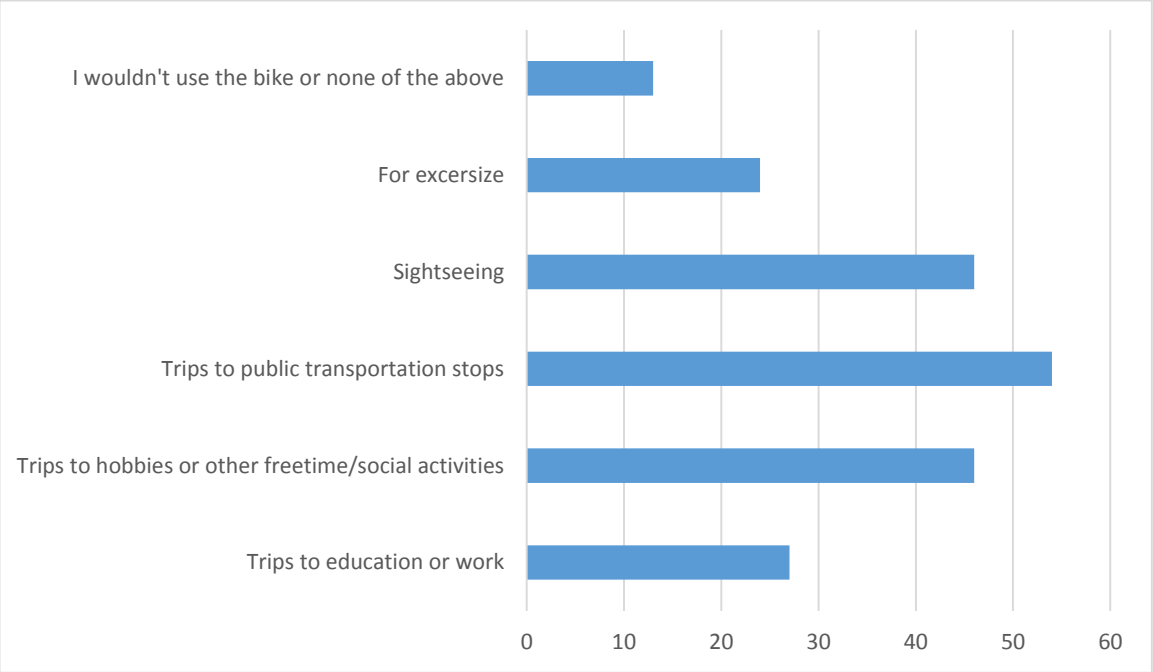

Figure 9. Answers to question 8: “what kind of trips would you make with the city bike?” (N=121)

Only 13 people responded that they wouldn’t use the bike or none of the above. More clicks were gathered for utilitarian purposes when combined together (trips to education/work, trips to free time/social activities, and trips to transportation stops). However, sightseeing and exercise were also popular options. These options are recreational use purposes.

The next question, number 9, was a practical one. As many utilitarian users have the need to carry cargo with them almost all the time, I thought a basket would be a necessity for city bike users and wanted to test this theory. Therefore the question “would you need a basket to carry cargo on the bike?” was added. The question did not allow for multiple choices and was voluntary. It gathered 120 answers.

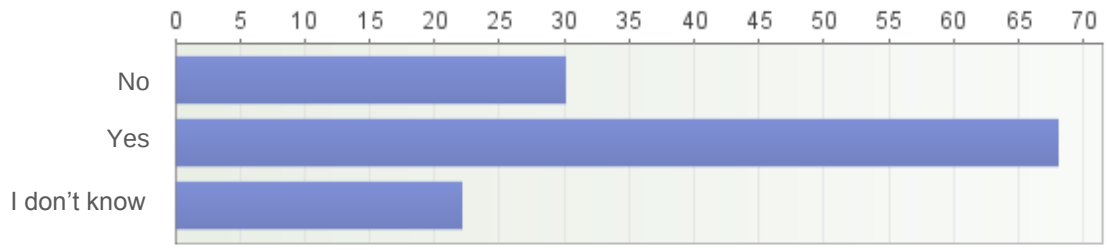

Figure 10. Answers to question 9: “would you need a basket to carry cargo on the bike?” (N=120)

The majority respondents answered that they would in fact need a basket (55,8%). However, 25% answered that they wouldn’t. 18,3% of people responded that they did not know.

Moving on to the following question, number 10. This question was another one concerning payment and ties in the factor of mobility-as-a-service -- how different payment options could be provided. 120 answers were gathered and there was no option to choose many answers.

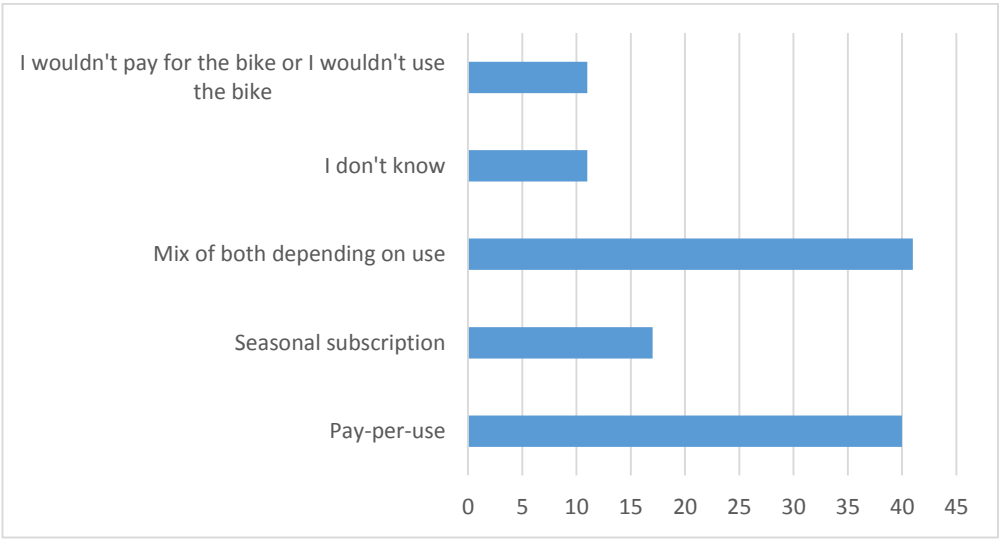

Figure 11. Responses to question 10: “would you rather pay by monthly subscription or prefer a pay-as-you-go model?” (N=120)

As shown above, most respondents prefer a pay-per-use model or would like to keep the freedom to choose which payment method they prefer depending on how much use. The ability to choose which way to pay is the same type of model that many public transport cards have, in Tampere area the TKL card. The combined percentage is 67,5% of these

results. 14,2% wanted to pay via seasonal subscription. 18,3% of people did not know, didn't want to pay for the bike or would not use the bike.

The idea behind the next question, question 11, was to understand what locals think about how long distances are most effective to make with the bike instead of other transportation methods, e.g. walking or public transportation. This is an important question because it helps guide how close stations must be and how pricing would be. Every respondent answered this question and it was not open for many choices.

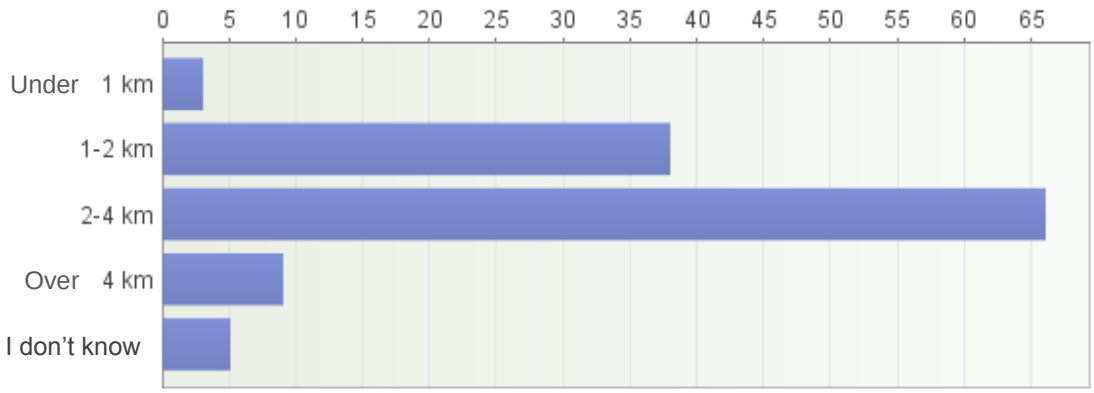

Figure 12. Results for question 11: "how long distances is the city bike most effective for in your opinion?" (N=121)

54,5% of respondents thought that a distance of 2-4 km was the best distance to make with the city bike. 30,6% of respondents thought a distance of 1-2 km was best for cycling instead of other ways of moving.

Question 12 was another practical question – to find out if locals would rather drive a traditional bike or an electric bike, if they do not know or if they do not mind which. This is to see which kind of bikes should be manufactured to Tampere. Everyone answered this question (N=121) and it was not open for many choices. 19,8% of respondents chose the electric bike. The old-fashioned bike was more popular with 38% preferring to cycle traditionally. However, 34,7% did not mind which bike they would drive – either one is fine. 7,4% did not know which one they would prefer.

The following question 13 was an open-end question. The respondent was allowed to leave comments, opinions and ideas about city bikes to Tampere. Because the questions are closed and do not leave much room for free commenting, the author wanted to leave a

space for respondents to express themselves. This open-end question gathered 34 comments, of which one was invalid and not included in the analysis and they were all translated by the author with a free hand.

Summerized, there were more positive comments than negative. Many people expressed that they were happy that Tampere would finally get a city bike scheme and that it's a nice idea. One person commented that the bikes should be implemented when the tramline is complete. However, one respondent would like to see the bikes on the road already before the trams. Respondents wanted there to be stations also in the suburbs, not only in the city center. There were many respondents who expressed that city bike rental, initialization and use should be possible with the TKL bus card and that the rental process should be made as easy as possible without bureaucracy. Most commenters agreed that a progressive payment model is the best (no one commented any other payment model). Some people answered that they would use the city bikes in situations such as if their own bike is in need of repair or do not have their bike with them, or if the stations would be tactically placed near public transport stops. Some respondents applauded the Helsinki system, saying that a similar system put in place in Tampere (as Helsinki's) cannot fail. Some commenters said that they live further away from the center and cannot see themselves using the bike on a daily basis, but however warmly support the idea and will use the bike sometimes leisurely.

Some answerers were afraid of vandalism or stealing, especially after nights out (with alcohol in the mix). They were also concerned of maintenance of bikes. One person commented that he/she was afraid of the aggressive car driving culture in Finland and that cycling (and city bikes) will become more popular when the safety issue is addressed.

Regarding the specifics of the bike and stations, the bike should be easily recognizable and stations clearly marked (with a specific color, for example). Someone commented that local artists could paint the stations and bikes to make them unique and recognizable. Stations could become meet-up places for friends. The bike should be lightweight, preferably closer to 10kg. The bike should be easily adjustable.

7 Final Thoughts and Discussion

Regarding the analysis of the results, there are many insights that this survey produced. The public, on a whole, would like for the city bikes to be inexpensive or free of charge. It is evident that locals do not trust the bike scheme enough just yet – only a small percentage considered swapping their own bike to only using the city bikes.

There were quite a few issues respondents were concerned with. Most of the concerns dealt with bike condition and city infrastructure. The city must defend cyclist's roads because this is a major concern for respondents. Right now this is a tricky task because of the ongoing tram constructions and many would like the scheme to be in place only after the tramline is complete. The city and the bike rental company must enforce maintenance of the bikes and make sure broken bikes are fixed as soon as possible. It should be easy to report a broken or victimized bike. Because many also feared vandalism, security features should be put in place to minimize vandalism and to penalize possible wrongdoers. Also, 46% of respondents who answered question 7, chose that they are concerned with there not being enough stations in the city. A recommendation for calming this unease would be to install a station-less city bike scheme or hybrid stations. In this way users wouldn't have to fear that there aren't enough slots to return their bike at the wished station. This is backed up by one commenter, who wished for a station-less city bike scheme. There should be enough hybrid areas around the city, not forgetting the suburbs.

The answer that gathered most clicks for reasons of city bike use were utilitarian reasons, of which most popular were trips to public transportation stops. It's evident that locals wish to combine city cycling with urban public transportation. A lot of respondents commented that they wish that bike hire, payment and configuration could be done with the TKL bus card. It seems that most locals are accepting city cycling as a part of their daily, public mobility pattern. The author highly suggests making it as easy as possible to merge all types of urban mobility together without extra bureaucratic procedures. One commenter said that there should preferably be no registration prior to start using the bikes.

However, it's important to also take into consideration recreational users. Because many chose options sightseeing and exercise, we must take care that bike stations are close to popular gathering places and attractions. Stations should cater to those who use the bike to keep fit, for example near jogging paths and parks in the nature.

In regards to the specifics of the bike itself, it seems that most respondents still prefer a traditional bike. However, a large percent did not mind if the bike was electric or not. The

bike should be easily adjustable according to height and weight of the user and should be lightweight. Many people hoped that the bike would have a basket connected.

Despite the hesitation described above, a few commented that they believe city bikes to Tampere would be a great idea. Regarding how often locals would use the bike, the average value was 2,51, which rounded up gives the answer of “sometimes – a few times a month.” This gives reason to believe that the bikes will in fact be used.

For the end, I would like to reference Vaarala & Översti (2017) with their excellent analysis of city bikes. The pursuit for increasing cycling doesn’t happen only by bettering infrastructure. It happens by taking cyclists into consideration in every aspect in the mobility environment (from planning stages to maintenance) and influencing a positive attitude for cycling. Influencing attitudes happens through campaigns and events. City bikes bring cycling closer to members of society, also to those who do not cycle. A well-functioning bike scheme markets itself really and this is the way to pass on a positive vision of biking.

7.1 Assessing the Research’s Reliability and Validity

Regarding researches, it’s important to take the factors of reliability and validity into consideration. These two concepts are common in quantitative research. Readers need to be able to trust the information provided. The concept of validity answers the question: do the methods used in the survey measure what they were supposed to measure? When there is absolutely no validity in the research, it is worthless. Little validity or no validity at all means that the empirical part or the whole research is either slightly or not at all focused on what it was meant to focus on. Is the research at hand enough to make the intended conclusions? (Hiltunen 2009) If the author doesn’t clearly state his/her exact goal for the research, he/she can unintentionally analyze the wrong things. (Heikkilä 2014)

Reliability measures the consistency and repeatability of the results. Reliability is high if results aren’t based on coincidence but can be repeated. For example, fallacious or flawed measures or wrongly made interpretations lower reliability. (Hiltunen 2009). Other issues that lower reliability are a too small respondent rate or fallaciously targeted target group. (Heikkilä 2014)

Because all of the answers of the survey were gathered in Finnish (though a link for the English version was offered) the author translated all the results into English to her best ability. However, translation mistakes and misinterpretations may have occurred from a

linguistic standpoint. Misinterpretations may have occurred by the author during translation, for example, not finding the exact expressions to present the respondent's answer in its fullest potential. Exact translations for proverbs, sayings, idioms and so on are rarely available and leave room for error. Furthermore, the reader may also misinterpret the findings because of the same reasons. This is an issue for the reliability of the research.

Because the research was intended solely for locals of Tampere, it's impossible to know if the respondent was in fact a resident of Tampere. However, the risks were minimized by posting the survey on Facebook in Tampere groups and given to those I know that live in Tampere. The cover letter for the questionnaire also included a warning to exclude those who don't reside in Tampere.

Concerning the issue of validity, the questions were all thought of together with the director of the author's and focused on the topic well. The research gathered planned usage purposes of the bike and general opinions. It was a good idea to leave a space for free commenting, because locals are very motivated to influence their community and closed questions don't leave room for commenting. I believe the research gives a genuine demonstration of residents' opinions of the planned city bike.

7.2 My Own Learning

City bike schemes have been a hot topic for many cities around the world for many reasons lately. Whether the reasons are environmental, social or health related, city bike schemes give an urban and trendy enhancement to a city. This topic was very interesting and motivating to me from the beginning. My interest kept me motivated to research this issue. Also, I had a feeling of genuinely wanting to influence the society with this topic.

In all honesty, I had troubles staying focused on the narrowed down topic and keeping my thesis streamlined. I changed my chapters around many times trying to decide which order is the most reader friendly. I had difficulties with my survey because I didn't understand how much one must take in to consideration all kinds of answers to make sure there is a choice for everyone. In the beginning I blindly wrote only a few choices, but later I realized after a test run for the survey that maybe not everyone has a clear opinion about the subject as I do myself and I cannot demand this. I also realized that I must take care to not unintentionally guide the respondent to answer something because that would alter the results. Also, because many of my references were in Finnish, it was sometimes a slow process to translate everything.

Considering this is the first thesis I have ever made independently, I think I handled it well and was proud of myself for completing it. I have presented my theory part without bias and quantitative survey analysis without “sugarcoating” or modifying the results in any way. I have understood the process of making a high-quality research – for example, pulling survey questions from theory systematically.

In my opinion the survey was successful and reached its goal. All of the survey questions were pulled systematically during theory writing, so they answer the questions of general opinions, and planned usage purposes of the bikes, as supposed to. The author hopes that this thesis has influence and value when implementing city bike plans to Tampere. The author believes this thesis’s topic is valuable for renewing the community’s mobility stigmas.

Regarding the subject of follow-up, I suggest that after the first operational season the bikes are launched in Tampere, a satisfaction research is conducted to see what locals think of the bikes so far. If the same issues rise up as in this thesis, they must be corrected accordingly. It would also be interesting to conduct a survey including tourists or those living in other municipalities to see if instructions for configuration and use are clear enough.

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Appendices

Appendix 1. Questionnaire in English

Citybikes Tampere

This questionnaire regards general opinions and planned usage purposes about city bikes in Tampere. The respondant must be living in Tampere or a nearby municipality of Tampere. The answers are completely anonymous and will be used for Milka Mannila's bachelor's thesis (Haaga-Helia AMK). The thesis aims to understand if city bikes are suitable for Tampere or not.

City bikes are publicly shared, short-term rental bikes meant for quick accessibility at an inexpensive price. A city bike scheme allows individuals to rent a bike at bike station A and to return it to station B. A city bike scheme consists of bikes and stations. The pursuit is to integrate city bikes into public transportation, making them a part of public transport, to facilitate "door to door" moving.

Thank you for your help!

1. Male or female? *

- Male
- Female
- I don't want to specify

2. Your age group? *

- 12-17
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 or older

3. Your place of residence? *

This questionnaire is intended for residents of Tampere (or those living in a nearby municipality).

- Tampere
- Nearby municipality of Tampere

4. If a public bike scheme were to be put in place in Tampere, how often would you be likely to rent a bike? *

	never	rarely (about 1-3 times a year)	sometimes (about 1-3 times a month)	often (about 1-2 times a week)	very often (more than 3 times a week)	
Never	○	○	○	○	○	Very often

5. How much would you be ready to pay for the bike hourly? *

- Nothing, because I won't use it
- It should be free
- 1€-3€
- 5€-8€
- over 9€

6. If you own a bike, would you consider only using city bikes instead?

- I don't own a bike
- Yes
- No
- I'm not sure

7. What is the main challenge or fear you see personally with using the bike? (you can chose many)

- Bad weather conditions
- Bad physical shape
- Other physical difficulties
- City infrastructure (not enough bike lanes, or space to cycle etc.)
- There wouldn't be enough pick-up and drop-off stations in the city
- Fear of own safety while cycling
- Too long distances within the city to cycle
- Other, what?

8. What kind of trips would you make with the city bike? (you can choose many)

- [ ] Trips to education or work
- [ ] Trips to hobbies or other freetime/social activities
- [ ] Trips to public transportation stops
- [ ] Sightseeing
- [ ] Exercising
- [ ] None of the above or I would not use the bike

9. Would you need a basket to carry cargo on the bike?

- ( ) Yes
- ( ) No
- ( ) I don't know

10. Would you rather pay by seasonal subscription or prefer a pay-as-you-go model for the bike?

- ( ) Seasonal subscription
- ( ) Pay-per-use
- ( ) A mix of both depending on use
- ( ) I don't know
- ( ) I wouldn't pay for the bike at all or I wouldn't use the bike

11. How long distances is the city bike most effective for in your opinion when compared to other means of public transport or walking?

- ( ) Under 1km
- ( ) 1-2 km
- ( ) 2-4km
- ( ) Over 4km
- ( ) I don't know

12. Would you rather drive an electric or traditional bike?

- ( ) Electric
- ( ) Traditional
- ( ) Either, I don't mind
- ( ) I don't know

13. Here you can leave comments, opinions or ideas about Tampere city bikes if you wish.

Submit

Appendix 2. Questionnaire in Finnish

Kaupunkipyörät Tampereelle

Kyselyssä kerätään yleisiä mielipiteitä kaupunkipyöristä Tampereelle sekä niiden käyttötarkoituksista. Kysely on tarkoitettu ainoastaan tamperelaisille (ja lähikuntalaisille). Vastaamiseen menee n. 2-5 min. Tulokset käsitellään anonyymisti ja ne käytetään opinnäytetyössä (Milka Mannila, Haaga-Helia AMK.), jossa pohditaan, sopisivatko suunnitteilla olevat kaupunkipyörät Tampereelle.

Kaupunkipyöräjärjestelmän tarkoituksena on vuokrata yhteiskäyttöpyöriä. Pyöriä yleensä käytetään kaupunkialueella lyhyisiin matkoihin. Pyörät pyritään integroimaan julkiseen liikenteeseen muuttaen niitä osaksi julkista liikennetta ja mahdollistaen "ovelta ovelle" liikkumisen. Yleensä kaupunkipyöräjärjestelmässä on lainattavia pyöriä sekä pyöräasemia ja pyörän saa lainata miltä tahansa asemalta ja palauttaa mille tahansa asemalle.

Kiitos avustasi!

1. Sukupuolesi? *

- Mies
- Nainen
- En halua määritellä

2. Ikäryhmäsi? *

- 12-17
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 tai vanhempi

3. Asuinpaikkakuntasi? *

- Tampere
- Tampereen lähikunta (Nokia, Kangasala, Ylöjärvi, Lempäälä, jne.)

4. Jos Tampereelle tulisi kaupunkipyöräjärjestelmä, kuinka usein vuokraisit pyörän?

	En ikinä	Harvoin (muutaman kerran vuodessa)	Silloin tällöin (muutaman kerran kuukaudessa)	Usein (1-2 krt viikossa)	Hyvin usein (yli 3 krt viikossa)	
En ikinä	○	○	○	○	○	Hyvin usein

5. Kuinka paljon olisit valmis maksamaan kaupunkipyörän käytöstä **tunneittain**?

- En mitään, koska en aio käyttää
- Kaupunkipyörän käyttö tulisi olla ilmaista
- 1-3€
- 4-8€
- yli 9€

6. Jos omistat oman pyörän, harkitsisitko siirtyväsi ainoastaan kaupunkipyörän käyttäjäksi?

- En omista pyörää
- Kyllä
- Ei
- En osaa sanoa

7. Mikä on isoin näkemäsi haaste tai pelko kaupunkipyörän käytössä? (voit valita useampi)

- Huonot sääolosuhteet
- Heikko fyysinen kunto
- Muut fyysiset haasteet
- Kaupungin infrastruktuuri (ei tarpeeksi pyöräilykatuja tai -tilaa, yms.)
- Kaupungissa ei olisi tarpeeksi nouto- ja jättöpyöräasemia
- Oman turvallisuuden pelko pyöräilessä
- Liian pitkät pyöräilymatkat tai -etäisyydet
- Muu, mikä?

8. Millaisia matkoja tekisit tai haluaisit tehdä kaupunkipyörällä? (voit valita useampi)

- ☐ Työ/koulumatkat
- ☐ Matkat harrastuksiin tai vapaa-ajan viettoon
- ☐ Liitäntämatkat (julkisen liikenteen yhteyden varrelle)
- ☐ Sightseeing-ajelua
- ☐ Liikunnan vuoksi
- ☐ En käyttäisi pyörää tai ei mikään ylläolevista

9. Tulisitko tarvitsemaan korin pyörään tavaroillesi?

- ○ En
- ○ Kyllä
- ○ En osaa sanoa

10. Maksaisitko pyörästä käytön mukaan vai ottaisitko mieluummin kausilipun?

Käytön mukainen maksu: jokainen käyttö maksaisi tietyn verran erikseen. Maksat vain siitä, kuinka paljon käytät pyörää. Kausilippu: sovittu kertamaksu, joka maksetaan kerrallaan. Oikeuttaa pyörien käyttöön ilman ylärajaa koko ennaltamääritytyn kauden aikana.

- ○ Käytön mukaan
- ○ Kausilippu
- ○ Sekoitus molempia riippuen käyttömäärästä
- ○ En osaa sanoa
- ○ En maksaisi pyörästä ollenkaan tai en tulisi käyttämään pyörää

11. Millaisiin pituuksiin on kaupunkipyörä mielestäsi tehokkain ratkaisu verrattuna muihin julkisen liikenteen kulkuneuvoihin tai kävelyyn?

- ○ Alle 1 km
- ○ 1-2 km
- ○ 2-4 km
- ○ yli 4 km
- ○ En osaa sanoa

12. Ajaisitko mieluummin sähköpyörällä vai perinteisellä?

- ○ Sähköpyörä
- ○ Perinteinen
- ○ Samantekevää
- ○ En osaa sanoa

13. Tähän voit halutessasi lisätä kommentteja, ideoita tai ajatuksia kaupunkipyöristä Tampereelle.

Lähetä

Appendix 3. Open-end comments for Question 13

1. Only when the tram lines have been completed!
2. Perhaps for shorter distances in the city center (and surrounding regions) that are too far to walk to, especially during times when public transport is unavailable (night-time, Sundays, etc.)
3. It's a great idea! I live quite far from the city center, so personally I cannot see myself using the city bike on a daily basis. I do see it as a useful idea however, especially if I use public transport to travel to the center and then could use a city bike to get around. Also, it would be useful if some relatives come over, we could hop on the bikes and enjoy a nice bike ride in the city!
4. The best solution would be to offer the service for free for a certain amount of time, for example for the first three hours, and after that time for a small fee. The idea is wonderful when thinking about job welfare, the environment, and air quality. I believe this idea would be extremely beneficial to the economy, and this is why I believe there should be a certain time period of free travel.
5. It could work, but personally I travel by car, rollerblades, or by taxi.
6. In Vienna, Austria, there is a possibility to borrow bikes from various metro stations either for free or for a small fee, so using the same idea as presented in the questionnaire.
7. Bike-renting spots should also be available outside the city center, so inhabitants living in the suburbs would also be able to get some use out of the city bikes. I personally use my own bike travelling from the suburbs to the city center.
8. Cycling should only be available on the designated bike paths.
9. It's a nice idea.
10. The city bikes should be able to be rented using the public transport card.
11. A good addition to the bike-renting system would be to be able to pay with the money on the public transport cards.
12. I live in the city center and I own a few bicycles, so personally I would not have much use out of this system, but I warmly support this idea and I believe there would be a big enough target group for the city bikes.
13. I travel either by bike or bus (and in the future by tram) in Tampere. I could see myself using a city bike for example when I have taken the bus from home to the center to meet a client (and I would have to be looking representable), but later on my way home I could use the city bike just for the sake of exercising, and when it does not matter if I smell like sweat or not. The drop off station for the bike would not even have to be next to my house; I would not mind having to walk a longer way to get home.

It would also be nice to use a city bike when friends from different regions or cities come to visit me in Tampere. It would give me much more freedom to travel than the bus, especially during the warmer months.
In the questionnaire I chose the option to pay 1-3€ per use, but in my opinion 3 € is already quite a high price point for occasional use. If the price was 1 €, then that would already be cheaper than travelling by bus! The pricing could be set up by hourly rates, for example, 1 €/ 2 hours, 2 € / 5 hours, 10 € / 24hours.
14. Payment should be somehow integrated into the public transport card. The question posed in the survey about hourly rates seems a bit extreme, as city bikes are generally used for shorter distances and time periods.
15. The renting system for a city bike should be as easy as possible. Preferably no registration, and payment could be using contactless payment with a debit/credit card. The system in London is a good example for Tampere: the first 30 minutes are free, and after that there is a progressive price to pay.
16. To implement and improve the city bike system, the prime target groups (pedestrians who also use public transport, and tourists) should be taken into special account. Using a mobile phone to sign up would be a good idea. I think I would use a city bike especially if my own bicycle would be in need of repairs. The pick-up stations for the bikes should obviously be in the city center, but also there should be a larger radius for the stations (for example in Hervanta).
17. An important factor in the implementation of city bikes for a relatively small target group is that a large portion of the expenses should be paid by the city bike users. The city's financing should focus on bicycle infrastructure and the bike stations.
18. Would be great if city bikes would finally become a reality.
19. 1) the service should be available year-round, but during the winter the number of bikes could be lessened. 2) there should be a large number of stations, outside the city center as well. 3) The payment and renting should be able to work with a variety of payment methods, most importantly with the public transport card. 4) There should be a large availability of the bikes at all stations, so the service provider has to transport the bikes based on demand. 5) The stations should not be in the way of the actual bike paths, but should be put in parks, town squares, and parking lots. 6) This is obvious, but the system should be based on fixed stations, instead of gps-locating (like for example in China).
20. The system in Helsinki is a good example, with payment based on usage. I would use a city bike if for example I do not have my own bicycle with me and if the pick-up/drop-off stations are conveniently close to public transport stops.
21. 1) Who would maintain the city bikes? 2) The sand and gravel used in the streets in the winter and fall can break tires easily. 3) Vandalism? 4) Adjustment possibilities on the bike for personalization should also be taken into account.

22. For question 11 I chose 2-4 km, but I would have also liked a possibility for over 4 km. For people living outside of the city center, I believe use of the city bikes would be very occasional. I use my own bike when travelling, or I use my car if I have to transport things.
23. A very good example for Tampere's city bikes is the system in place in Helsinki.
24. The city bike idea is nice, but I strongly believe vandals would break or damage the bikes rather quickly.
25. I would want the city bikes to be put into use in Tampere even before the tram is completed. Once the tram lines have been completed, travelers would be able to connect public transport with the city bikes based on their own needs.
26. It is impossible for me to answer how often I would use the city bike. It completely depends on the execution.
27. The bikes should be recognizable based on color and the pick-up and drop-off stations should be clearly indicated. The stations could even be customized with local art, for example! They could become known areas to meet up or gather with friends.
28. The city bikes that are available today are much too heavy and stiff compared to regular, high-quality bikes, and are not at all comfortable. The weight of the city bikes should be closer to 10kg rather than the average weight of almost 20kg they are nowadays. Because of this reason, I personally would not like to use a city bike.
29. I would suggest station-less city bikes. In Tampere, the transportation culture should be improved by banning stopping on bike paths and pedestrian paths, as well as banning cars. The attitude of the police should also change, and bicycle rules should be implemented and enforced. Cycling is not a fun summer hobby, it is a method of transportation. A priority should be to make cycling and cyclers more equal on the road. Cycling will become safer and easier, once biking and the city bikes become more popular.
30. On question 8 there is no option for running errands.
31. The stations should be implemented in a way to give bicycles the same standing as other vehicles. The stations should thus be within parking lots and it should be permitted to ride the bike on the roads if there is no designated bike path.
32. On question 8, I chose the option of trips to public transport stops, even though it's more likely for me to just use my bicycle to get to the city center. During my work day however, I could use the city bike to run errands to the post office or to my accountant's.
33. It should absolutely be possible to pay for with the bus card and use of bikes should be included in the seasonal subscription payment.