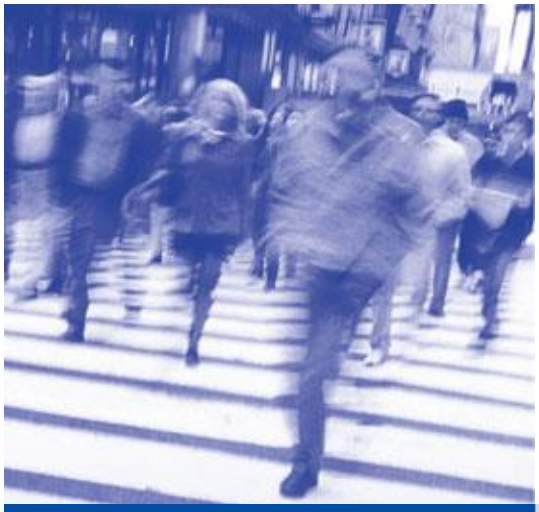

2020 CiViTAS
Cleaner and better transport in cities

PORTIS

Status report

Status Report on New Mobility Lifestyles in Klaipėda

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Dissemination level:	Public

2020 CiViTAS
Cleaner and better transport in cities
PORTIS

THE CIVITAS INITIATIVE
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Abstract

This status report contains a summary on activities carried out in measure 2KLA1 *Adapting bike-sharing system.*

Klaipeda City Municipality Administration and Smart Continent LT (SC LT) participated in the implementation of above-mentioned measure.

Project Partners

Organisation	Country	Abbreviation
1 City of Antwerp	BE	ANTWERP
2 Port Authority	BE	APA
3 Province Antwerp	BE	PROVANT
4 De Lijn	BE	DE LIJN
5 NMBS, Federal Road association	BE	NMBS
6 Traject	BE	Trajeck
7 Department Mobility and Public Works, Flemish Government	BE	BAM
8 City of Aberdeen	UK	ACC
9 Aberdeenshire Council	UK	A-Shire
10 Aberdeen Harbour Board	UK	AHB
11 Nestrans	UK	Nestrans
12 Robert Gordon University	UK	RGU
13 City of Trieste	IT	COM TS
14 Port Authority	IT	APT
15 Trieste research and science consortium AREA	IT	AREA
16 Trieste transport	IT	TT
17 University of Trieste - Department of Engineering and Architecture	IT	DIA
18 City of Constanta	RO	PMC
19 ADI Constanta metropolitan Area	RO	ADI-ZMC

20 Centre for European Development Association	RO	CED
21 Ovidius University	RO	OUC
22 Association for alternative energy MED Green	RO	MEDGreen
23 C.N. APM Constanta (Port)	RO	APM
24 City of Klaipeda LT	LT	KMSA
25 Klaipėdos keleivinis transportas	LT	KKT
26 Smart Continent LT	LT	SC LT
27 Ningbo University	CN	NBU
28 The University Court of the University of Aberdeen	UK	UNIABDN
29 Transport & Mobility Leuven (TML)	BE	Belgium
30 EIP	EIP	RO
31 Austrian Mobility Research, FGM-AMOR	BE	FgM AMOR
32 Vectos	UK	VECTOS
33 ISINNOVA – Institute of Studies for the Integration of Systems	IT	ISINNOVA

Document History

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09-07-2019	Ieva Girdvainienė Simona Juknevičiūtė	Draft version of Status Report	Draft Internal	SC LT internal
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12-08-2019	Eglė Drungienė, Ieva Gridvainienė	Preparation of Status Report	Draft	SC
23-10-2019	Eglė Drungienė	Preparation of Status Report final version	Final	SC

Status: Draft, Final, Approved, and Submitted (to European Commission).

Dissemination Level: PC = Project Coordinator, SC=Site Coordinator, TC=Technical Coordinator, EM=Evaluation Manager.

Table of Contents

List of Figures

List of Tables

1. Executive Summary

This measure consist of a study on the establishment of bike-sharing system in Klaipeda as well as a case study of the implementation of the CityBee Bike-sharing System in Klaipeda and the implementation of a bicycle storage system.

The bike-sharing market is very dynamic and briskly changing. While we were in the process of carrying out a study on the establishment of a bike-sharing system in Klaipeda, the private enterprise Citybee had started to provide its services in Klaipeda city and maritime region, as it had already provided services in other cities in Lithuania (Kaunas, Vilnius).

Plans to introduce a bicycle-sharing system in Klaipeda were abandoned as Klaipeda City Municipality decided not to compete with private enterprises and the implementation of a bicycle storage system in the city was chosen instead.

The bicycle storage system in Klaipeda is still being developed and will include collective bicycle storage facilities located in 3 school areas along with one individual storage complex located in the residential area in northern part of the city. It is hoped that bicycle storage facilities located near schools will encourage students to choose bicycles for traveling to and from school, to spend their leisure time actively, and bicycle storages located near residential area will encourage adults to choose a bicycle for a trip to work or to the city, therefore increasing usage of public transport, walking and cycling by Klaipeda city residents, and decreasing commuting by cars.

As one of the measure’s activities, networking events with stakeholders (residents, car drivers, public transport users, cycle/walking groups, general public, commuters, city planners) were organized to present the concepts of bike-sharing and bike storing, and an internet survey was carried out in order to complement the networking events as well as determine what type of bike storing facilities would appeal the most to users, what kind of storage locks would be the best and what location of the storage units would encourage people to use bike storing facilities more often. The results of the survey were taken into account when deciding on the location of the storing units.

Because of the change of circumstances in Klaipeda as to the city bicycle rent and sharing systems situation, several actions were not implemented at all: pilot testing bike-sharing system in Klaipeda, establishing a living laboratory for testing the implementation of study's solutions and evaluation of the pilot project were replaced by the establishment of a bike-storing system.

2. Introduction

There are six measures planned in the project PORTIS in Klaipeda:

- WP1 1KLA1 Adapting good practices in SUMP: exchange of best practices on planning, implementation of urban mobility objectives, optimization of public transport
- WP1 1KLA2 Establishing a city and port cooperation platform: organization of seminars between port operators, city planners, community of port workers, intermediaries - Ministry of Transport and Communications
- WP2 2KLA1 Developing a bike-sharing system: optimal bike-sharing system administration model
- WP3 3KLA1 Modernizing the traffic management system: modernization of intelligent transport systems
- WP3 3KLA2 Prioritizing public transport: analysis of traffic flow data, development of public transport management
- WP3 3KLA3 Establishing an integrated design for traffic information signage.

The implementation of the bicycle-sharing system in Klaipėda city corresponds to 2KLA1 and is part of the H2020 project CIVITAS PORTIS work package 2: New Mobility Lifestyles for Port Cities. The main objectives of the package are:

- Develop new and strengthen existing mobility concepts and solutions to reduce the use of cars and the number of parking spaces they need;
- To change travel habits with collective and more active passenger transport to meet the needs of urban and suburban residents;
- Identify collective, active and intermodal mobility options for specific target groups (urban, suburban, city guests, tourist), ensuring the free movement of these groups;
- Work in communities to understand mobility needs and people's mindset;
- Analysis of flows between city and port as well as between city centre and outlying areas;
- Streamline and harmonize the distribution of pedestrian, cyclist and public transport spaces.

At present, the society has many choices (private cars, car sharing, buses, bicycles, etc.) on how to travel, but usually chooses to do it by personal car. However, the growing number of cars in cities poses a variety of problems related to air pollution, congestion, noise levels, and the cars distort the image of the city, and the infrastructure they need is leaving smaller areas of green space. New opportunities are therefore being sought to reduce the level of automation and provide the public with convenient and attractive alternatives. One of them is bicycle-sharing systems. Bicycle-sharing systems are available all over the world in cities such as Shanghai, London, Paris, Berlin, Washington, Helsinki and others. The idea of bicycle-sharing has also been implemented in Vilnius, the capital of Lithuania. More than 700 different cities around the world have implemented this idea. Its essence is to give the public the opportunity to carry out short trips by using environmentally friendly vehicles. Individuals can choose a bike at the desired location and leave it at the next bike-sharing pick up-drop off points.

3. Implementation

2KLA1 is a part of WP2 New Mobility Lifestyles for Port Cities. This work package focusses on the implementation of demonstration measures locally.

Task 2.1: Reducing city-port car dependency with enhanced active modes

Objectives of the measure:

- Study on the bike-sharing system establishment and development
- Development of a public bike-sharing system in the city
- Development of infrastructure for a bike-sharing system

3.1. Study on the bike-sharing system establishment in Klaipeda

In the implementation of measure 2KLA1, a study on the bike-sharing system establishment in Klaipeda was prepared on May 30, 2017 by Smart Continent LT. It was aimed to analyse bicycle-sharing systems and offer the best alternative to Klaipeda – sharing layouts, technical solutions and system capabilities have been analysed and a system administration model that would be most appropriate in Klaipeda city was suggested.

The study reviews the bicycle infrastructure of Klaipeda city, the layout and types of bicycle paths and their length.

The study highlights the main attractions of the city, and provides examples of a bicycle-sharing system in six different countries to find the best solutions that can be applied to the bicycle-sharing system in Klaipeda. Six cities have been selected for this purpose: Vilnius (Lithuania), Antwerp (Belgium), Warsaw (Poland), Copenhagen (Denmark), Luxembourg (Luxembourg) and Helsinki (Finland). Unique and modern solutions are presented: different types of terminals, bicycle stands, security solutions in the above-mentioned study.

In many European cities, bicycle-sharing systems offer free rides for the first 30 minutes. For a longer period of cycling a fixed amount of money is required, that may be different in different cities. The aim of making users pay after 30 minutes is to encourage short-term cycling. Most often, city residents, guests and tourists are offered standard bicycles with 3 gears, anti-smear protection, adjustable seats and lights at the front and rear of the bicycle. However, in Warsaw, customers can use tandem bicycles and bicycles for children. Electric bicycles are offered in Copenhagen. It is important to note that bicycle-sharing pick up-drop off points are usually located near major city attractions such as supermarkets, cultural sites, as well as bus and train stations. Organized implementation of the idea of bicycle-sharing provides an opportunity for urban, suburban residents and city guests to move around the city freely, choosing an environmentally friendly means of transport. Most often bicycle-sharing services are managed by private companies. CycloCity in Vilnius and Vel'oh in Luxembourg are managed by JCDecaux. Otherwise, the bicycle-sharing service can be administered by the municipality. Such model is used in Warsaw. Usually there are 10-12 bikes at one rental point in the bicycle-sharing system.

The study also provides recommendations for the development of a bicycle-sharing system, which states that it is recommended to install 12 bicycle rental stops in the whole city of Klaipeda, with 120 bicycles distributed throughout the stops, allocating 10 bikes at each. Each of these stops should be equipped with 25 bicycle parking spaces, so that service users are convinced that they will find a free space upon arrival at one of the sharing points and will be able to leave the rented bicycle comfortably and effortlessly. The price of one bike is about 800 Eur, the price of the stations is about 400 thousand Eur. The total cost of installing a bicycle-sharing system in Klaipėda would be about 496 thousand Eur, but the price may fluctuate by

20-30%, depending on the decisions made, the equipment chosen and its specifications. There are also recommendations for the model of administration of the bicycle-sharing system.

3.2. Case study of the implementation of the bicycle-sharing system CityBee in Klaipeda

Considering that since 2017 a bicycle-sharing service offered by the private company CityBee was launched in Klaipeda city, a case study of this company was carried out, analysing the company‘s performance in Klaipeda, Kaunas and Vilnius cities. Since its inception, CityBee has been able to attract more and more consumers. The company's bike-sharing service has become an alternative to the bicycle rental service, providing people with the freedom to choose their journey time and final destination. CityBee bikes can be picked up and stored using bicycle stops in different parts of the city, or even in different seaside towns, without restricting the journey to the city of Klaipeda alone. Bicycle pick up – drop off points are mainly located in the old town of Klaipeda, in the centre of the city and next to the main attractions of the city, but there are no stops in the southern Klaipeda districts, which limits the possibilities of the citizens to travel from home to work or back using CityBee bikes. The existing stops are designed for entertainment, sightseeing or trips from the city centre to various locations, including the Klaipeda City Free Economic Zone (FEZ). In order to use CityBee services, it is necessary to download a smart app and sign up by linking a gadget with a payment card, so payment for the service is executed by this gadget automatically at the end of the trip. The service is quite popular, so the smart app is updated every year and the number of bikes is increased both in the seaside and in other cities.

The services provided by CityBee both in Klaipeda and Kaunas are very popular and well developed, and are growing every year, while in Vilnius CityBee faces the main and biggest competitor Cyclocity, whose bicycle rental service is more popular than CityBee. CityBee services in Klaipeda city are more suitable for city guests or residents who want to cycle in the city centre or to work from the city centre, but do not take into account the need for users to travel from home to work back, as in the residential districts of Klaipeda (southern districts) there are no stops, and the closest stops are too far for users to walk to the bike without any inconvenience. The situation is similar in Kaunas – despite the fact that there are more bicycle stops in Kaunas, but most of them are concentrated in the city centre, near the attractions of the city, and only a few include further residential areas.

3.3. Bicycle storage service in Klaipeda city

At the time of preparing the study on the bike-sharing system establishment in Klaipeda, a private enterprise CityBee started introducing its bike-sharing system in Klaipeda city. Taking into account this change in the bike rental and sharing market in the city, Klaipeda City Municipality decided that it does not want to create a competition for a private business enterprise, therefore it was decided that the best solution to this situation would not be implementing a bicycle-sharing system but rather a bicycle storage service, that would result in a new service for city residents.

Klaipeda City Municipality is installing bicycle storage containers: according to the data in 2017, bicycle storages were planned to be installed in the Žardės Square, the storage units were planned to be made of glass, look modern and consist of two stories, and they were planned to be installed next to apartment buildings. However, the alternatives presented to Klaipeda residents in 2019 did not fulfil all of the criteria listed – storage units were depicted as one story, many of the alternatives were made of metal and did not look modern. The city residents were offered many possible options, both concerning the locks of the storage units

and their appearance (see Figure 1), and the units were planned to be built on the streets of Rambynas and Paryžiaus Komunos, near the multi-storey apartment houses.

Figure 1: Bicycle storage design options for residents (Source: klaipeda.diena.lt)

Under the measure 2KLA1, 2 network events with stakeholders (residents, car drivers, public transport users, cycle/walking groups, general public, commuters, city planners) were carried out:

- during the first event the study on the bike-sharing system establishment in Klaipeda prepared by Smart Continent was presented to the participants, the concept of a bicycle-sharing system was presented, the experiences of other countries with the bike-sharing system were presented, as well as opportunities to adapt the system to Klaipeda city were discussed;
- during the second event the concept of bicycle storage was introduced. The Klaipeda City Municipality decided to replace the bicycle-sharing service with a bicycle storage service as CityBee introduced its services to the Klaipeda bike rental market. Since very few people gathered at the second event, Klaipeda City Municipality conducted a survey as well, to better take into account the expectations and opinions of the population concerning the bicycle storage service.

In December 2018 – January 2019 the Klaipeda City Municipality conducted an online survey of Klaipeda residents, that showed that about 60% of the residents of Klaipeda city see individual storing units as more attractive than the shared ones, more than half of Klaipeda residents said they would use this type of bicycle storage if it were near the house. About 56% of the residents thought that a smartphone app would be the preferred lock system, with the most modern bike storage units with glass roofs appearing to be the most attractive to the population (see option 5 in Figure 1).

Additional attention was brought to habits of population movement: in view of the population density, it was decided to install bicycle storage facilities in the southern part of the city, with 22 out of 36 schools residing in the southern part and with a high population density. The fact that many schools are close to bicycle lanes (less than 300m away) was also taken into account. Schools were surveyed whether they would like to encourage students to ride

bicycles and actively use the bike storing services provided, 3 schools were selected to receive a shared long-term bicycle storage facility (see Figure 2).

Figure 2: Long-term bike storage facilities near the public schools

Taking into account the survey conducted and its results, the municipality decided to install one bicycle storage facility with individual containers (see Figure 3) in the northern part of the city.

Figure 3: Long-term bike storage facilities in residential area, decided upon taking into account the results of the survey

Klaipeda City Municipality plans to install more long-term bicycle storage facilities throughout the city.

A similar service (private containers for bicycle storage) was introduced in 2015 by Klaipeda City Passenger Transport (KKT), which had 10 bicycle storage containers installed. The first contract with a cyclist was signed in 2015. In October 2016 all containers were occupied, and about two-thirds of the containers were used regularly – at least 15 days a month. Bicycle

storage service is free, but it is necessary to have an electronic bus ticket and a long-term contract, no short-term storage service is provided. In order to get people interested in this innovation, KKT even offered the residents of Klaipeda free 7 or 3 day tickets for public transport. It is worth noting that an electronic ticket must be bought for the entire duration of the contract and the ticket must be without discount. The bicycle storage contract also states that the bicycle must be stored in the storage container no later than by 10 a.m., however no pick-up time is stated, but it should be noted that further travel must be carried out by public transport using a long-term ticket, which is necessary in order to sign the contract.

Containers in Klaipeda are located near the Hospital bus stop (see Figure 4), but it was planned to extend the service to other parts in the city – Tilžės street, Vingis or Mogiliovo streets.

Figure 4: Bicycle storage containers at Hospital bus stop (Source: Kauno Diena)

Bicycle storage containers are the most successful means of combined public transport in Klaipeda, where passengers leave their bikes safely locked in storage containers and continue their journey by bus. Another alternative to bicycle storage – bicycle poles – has become less popular because it does not protect the bicycle from vandalism.

4. Results / impacts

In implementing this measure, a study on the bike-sharing system establishment in Klaipeda and a Case study of the implementation of the bicycle-sharing system CityBee in Klaipeda were carried out.

Since Klaipeda City Municipality decided not to compete with private business (CityBee company in Klaipeda), plans to introduce a bicycle-sharing system in Klaipeda were abandoned, and implementation of bicycle storage service in the city was chosen instead.

The bicycle storage system in Klaipeda will include shared bicycle storage facilities built in 3 school areas and one individual storage complex built near apartment buildings. It is hoped that bicycle storages located near schools will encourage students to choose bicycles for traveling to and from school and spend their leisure time actively, and bicycle storages next to apartment buildings will encourage adults to choose a bike to go to work or to the city.

Network events implemented under this measure informed the residents of Klaipeda about the bike-sharing and bike storing opportunities, events were supplemented with a survey of residents, which was taken into account when planning the locations of bicycle storage facilities.

The services offered by CityBee led to deviations from the primary target (Implementing bike-sharing system) and therefore it is difficult to assess the impact of introduced bike storing system in Klaipeda city, because it was only implemented in 2019 and is still in progress, therefore there is no reliable data as of the time of preparing this status report. The expected values are projected to drop both in commuters by car and commuting travel times due to implementation of the new system that allows people to drive around city using a bicycle as well as not get stuck in traffic. The new system should decrease the modal share of other means of transport, including cars in the city, as more people will be enabled to use bikes (see Table 1).

Indicator	Before	After	Change, %
Number of city-port commuters by car	-	*	-4%*
Commuting travel time (all modes, in minutes)	40 min	34 min*	-15%*
Modal share of public transport, cycling and walking in city	Year 2015 PT 43,5% Cycling 1,3% Walking 6,8% Other (including cars) 48 %	Year 2020* PT 46,5% Cycling 2% Walking 7% Other (including cars) 44%	Year 2020* PT +6,9% Cycling +53,8% Walking +2,9% Other (including cars) -8,3%

Table 1: Impacts on mobility in Klaipeda city

*Expected values that should be reached by 2020 as according to estimated impacts of PORTIS project

Some urban residents, living in multi-story apartment buildings do not have access to sustainable alternatives for a personal car – the apartments are rather small, so residents cannot keep a bicycle at home, therefore a problem of storage arises. The bike storing system in Klaipeda city solves this problem at least partially – school pupils are offered safe storage for their bikes while they study and multi-story apartment building residents are offered an opportunity to keep their bikes safely in the storing units, as well as potentially encourage people to buy bicycles because the Klaipeda City Municipality offers a safe place to keep them.

5. Lessons learnt

The market of bicycle rent and sharing services is changing rapidly, therefore, fast adaptation to changing circumstances is required. During the implementation period of measure 2KLA1 the situation of bicycle-sharing service available in Klaipeda city has changed – a private enterprise CityBee has expanded its services to the seaside, including Klaipeda city, and the bike-sharing system started to fully function in 2017, just as the study on the bike-sharing system establishment in Klaipeda was being prepared. Taking into account this change of circumstances, it was required of Klaipeda City Municipality to respond quickly, so the municipality decided not to compete with newly established business system, but to compliment it by establishing a bike storing service instead.

The bike storing service contributes to the sustainable urban mobility, by providing city residents with new alternatives for sustainable movement around the city. City residents and tourists can use the newly developed bike-sharing system, provided by CityBee, but they can also choose to use their own bikes, having in mind that there are safe places to leave the bikes when they reach their destination. Such an adaptation to changing circumstances by Klaipeda City Municipality was very successful and provided the residents of Klaipeda city with even more sustainable movement options than was planned by the project.

6. Conclusions

Considering that as the study on the bike-sharing system establishment in Klaipeda was being prepared, CityBee started providing bike-sharing services in Klaipeda city, Klaipeda City Municipality decided to change its course of action and implement a bike storing system instead.

Network events implemented under this measure informed the residents of Klaipeda about the bike-sharing and bike storing opportunities, the events were supplemented with a survey of Klaipeda city residents, that helped decide of the locations of bike storing facilities.

The bicycle storing system in Klaipeda is expected to include shared bicycle storage facilities built in 3 school areas and 1 individual storage complex built near apartment buildings in the northern part of the city. It is hoped that bicycle storages located near schools will encourage students to choose bicycles for traveling to and from school and spend their leisure time actively, and bicycle storages next to apartment buildings will encourage adults to choose a bike to go to work or to the city, therefore leading to a decrease in commuting time and a number of commuters using cars meanwhile increasing modal share of walking, biking and using public transport in the city.

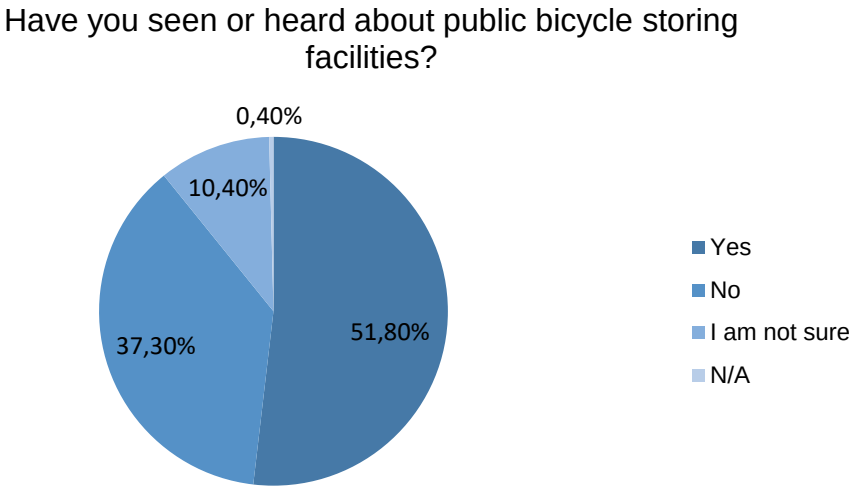
It is difficult to assess the impact of introduced bike storing system in Klaipeda city, because it was only implemented in 2019 and is still in progress, therefore there is no reliable data as of the time of preparing this status report. The expected values are projected to drop both in commuters by car and commuting travel times due to implementation of the new system that allows people to drive around city using a bicycle as well as not get stuck in traffic. The new system should decrease the modal share of other means of transport, including cars in the city, as more people will be enabled to use bikes.

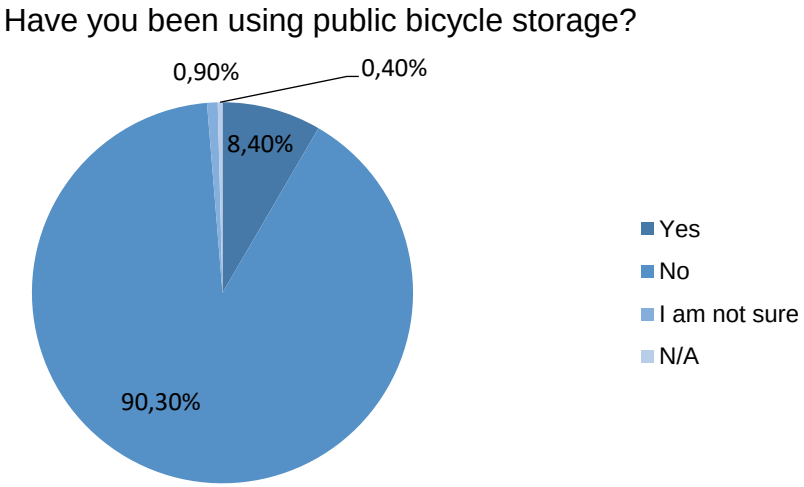
The bike storing service contributes to the sustainable urban mobility, by providing city residents with new alternatives for sustainable movement around the city. City residents and tourists can use the newly developed bike-sharing system, provided by CityBee, but they can also choose to use their own bikes, having in mind that there are safe places to leave the bikes when they reach their destination. Such an adaptation of Klaipeda City Municipality to changing circumstances in bike-sharing market was very successful and provided the residents of Klaipeda city with even more sustainable movement options than was planned by the project.

Due of the change of aforementioned circumstances in Klaipeda city bike-sharing situation, several actions were not implemented at all: pilot testing bike-sharing system in Klaipeda, establishing a living laboratory for testing the implementation of study's solutions and the evaluation of the pilot project were replaced by establishment of bike-storing system and conducting of a Klaipeda city resident survey.

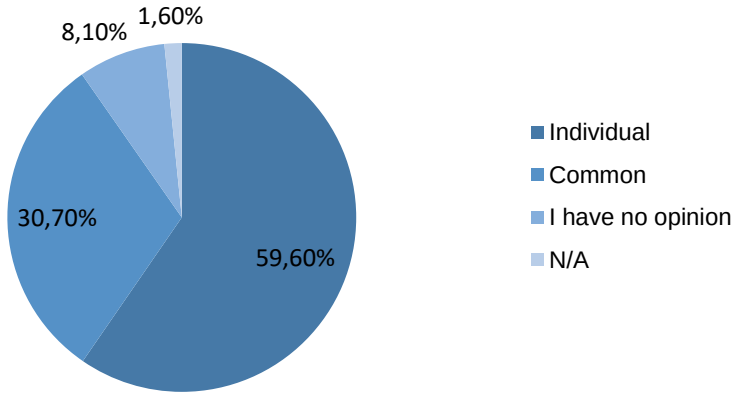
Annex 1

Results of the survey conducted by Klaipeda City Municipality in December 2018 – January 2019

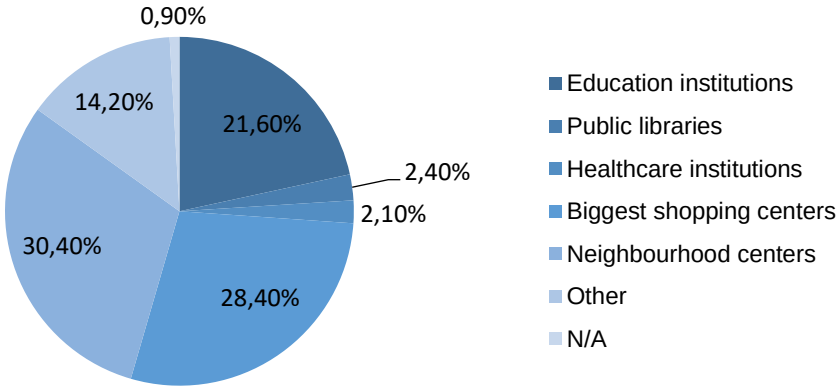




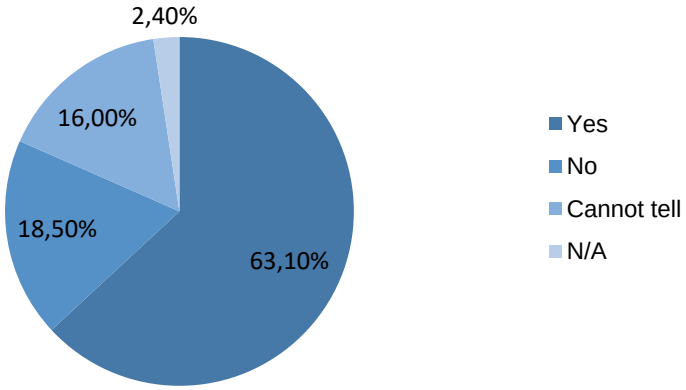
Which type: single (individual) or multiple (common) bicycle storing facilities are the most attractive?

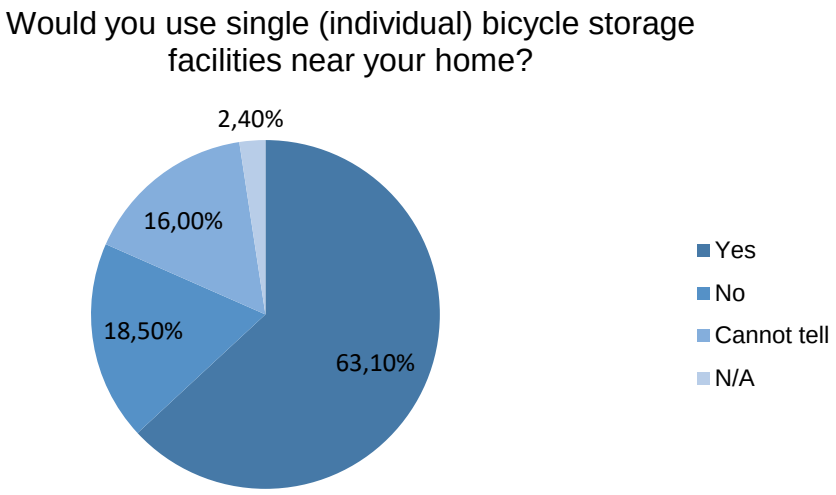


Next to which facilities would you recommend installing common bicycle storage?



Would you use single (individual) bicycle storage facilities near your home?





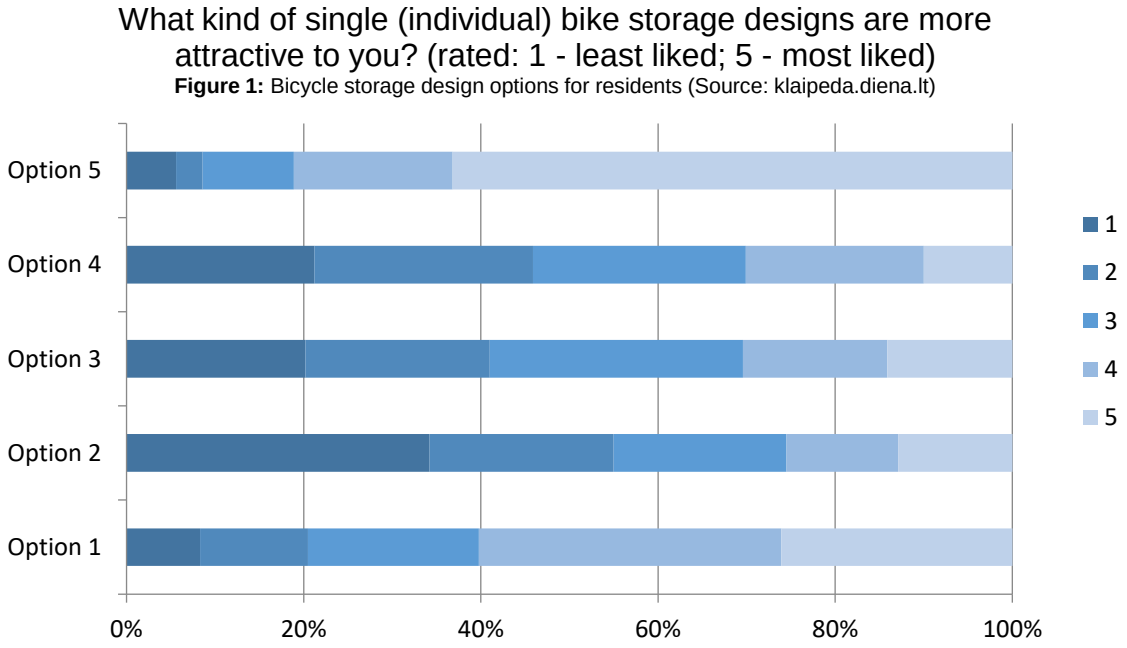
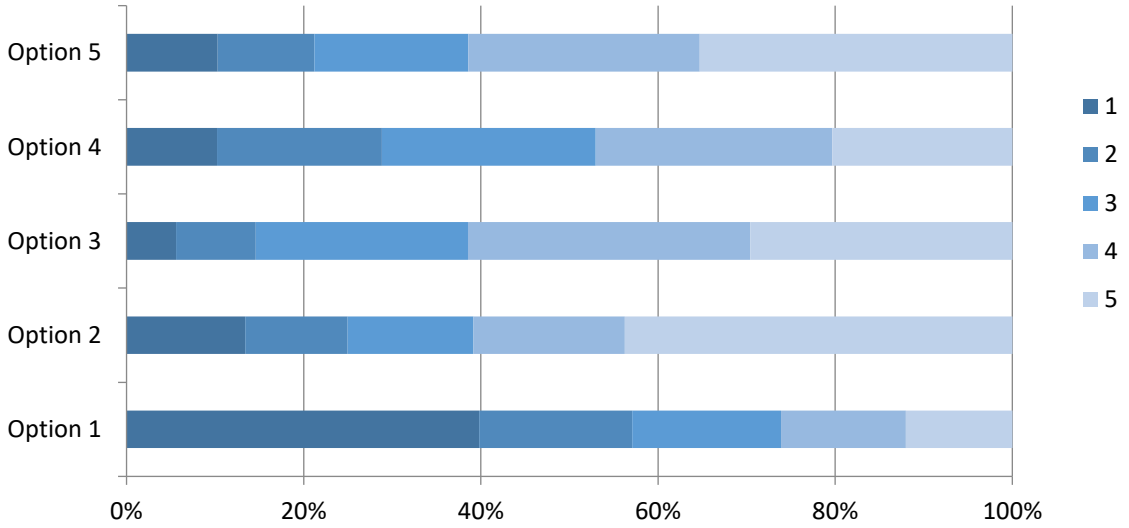
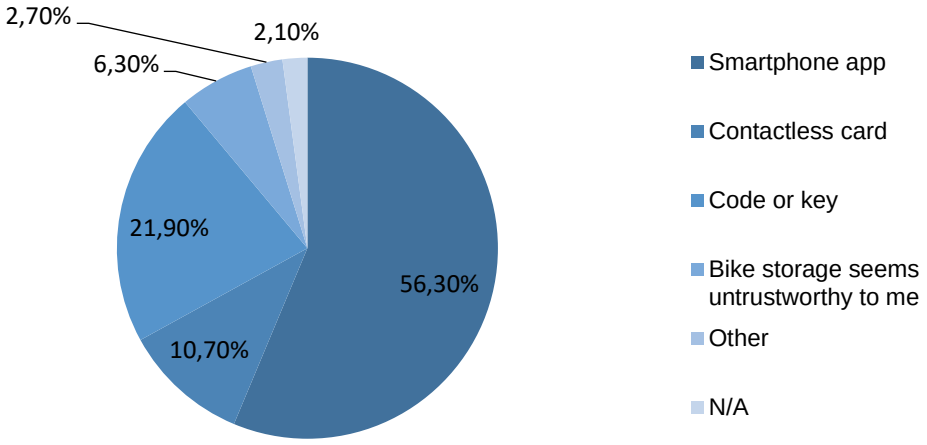


Figure 1: Bicycle storage design options for residents (Source: klaipeda.diena.lt)

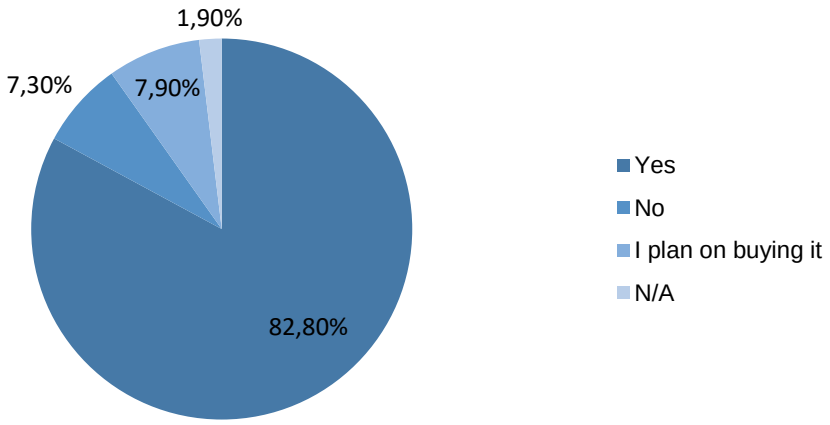
What kind of multiple (common) bike storage designs are more attractive to you? (rated: 1 - least liked; 5 - most liked)



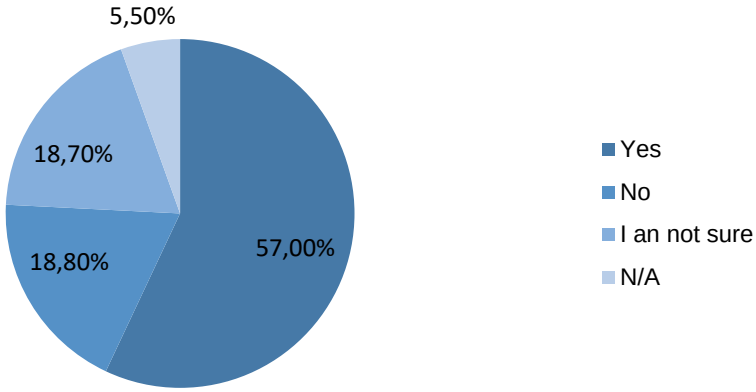
What type of locking system would you prefer?



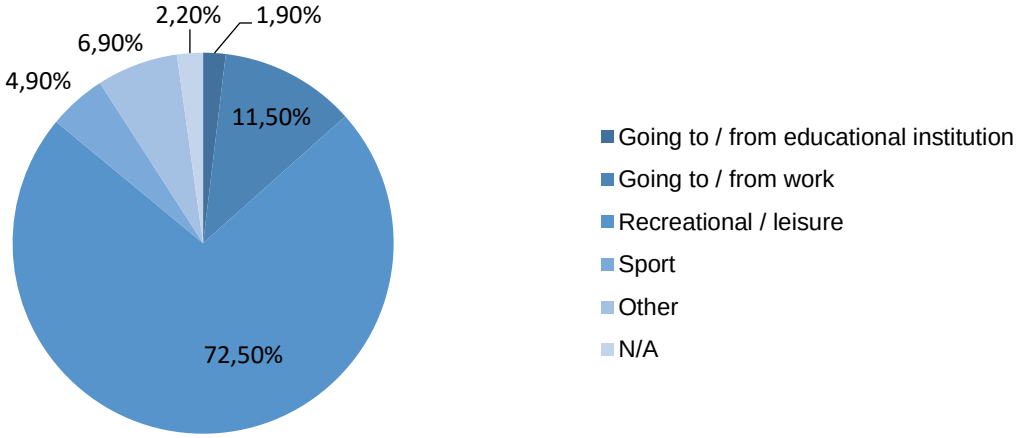
Do you own a bike?



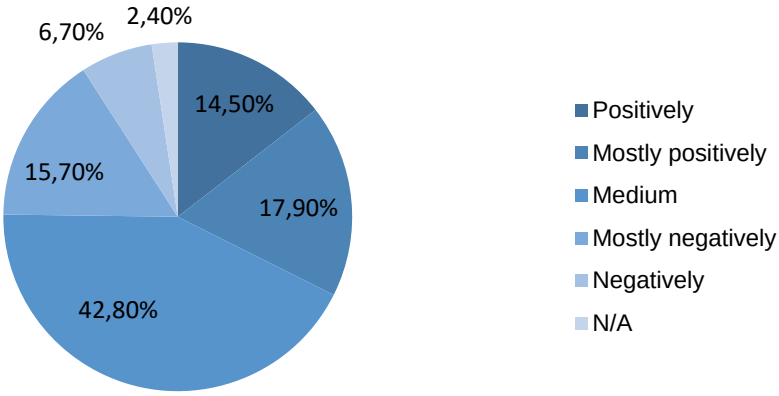
Would a bicycle storage near your home encourage you to buy a bicycle?



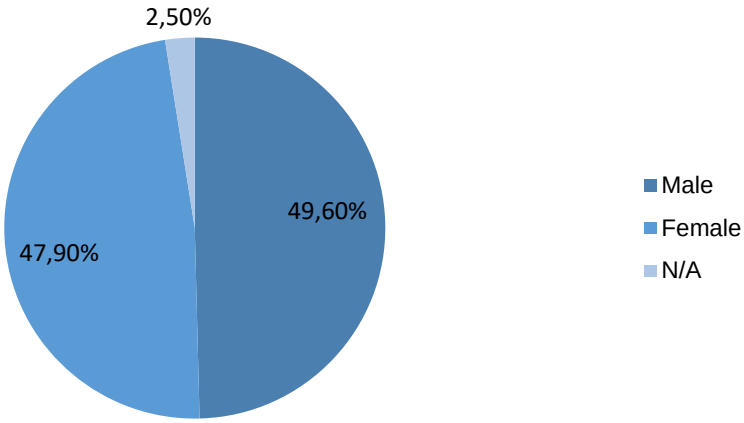
What is your most common purpose for cycling?



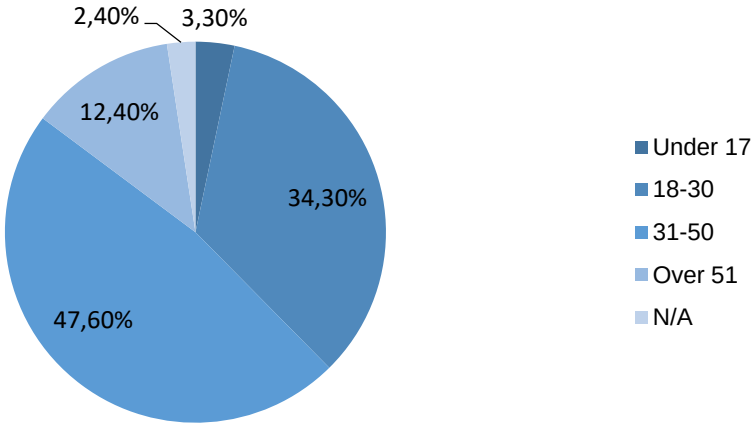
How do you evaluate the bicycle paths and storage infrastructure in Klaipeda city?



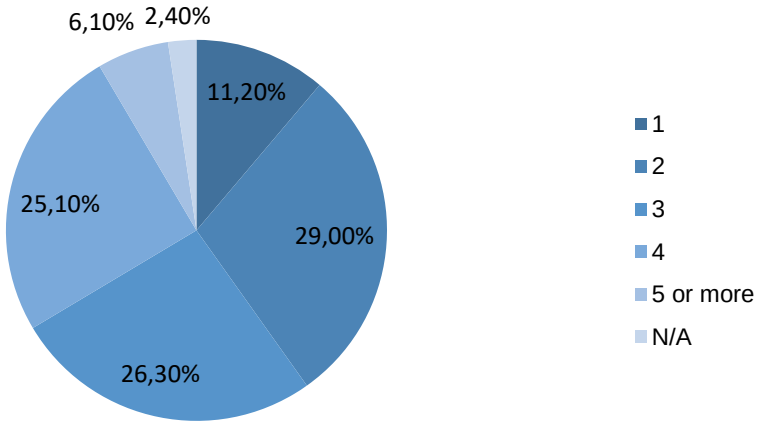
What is your sex?



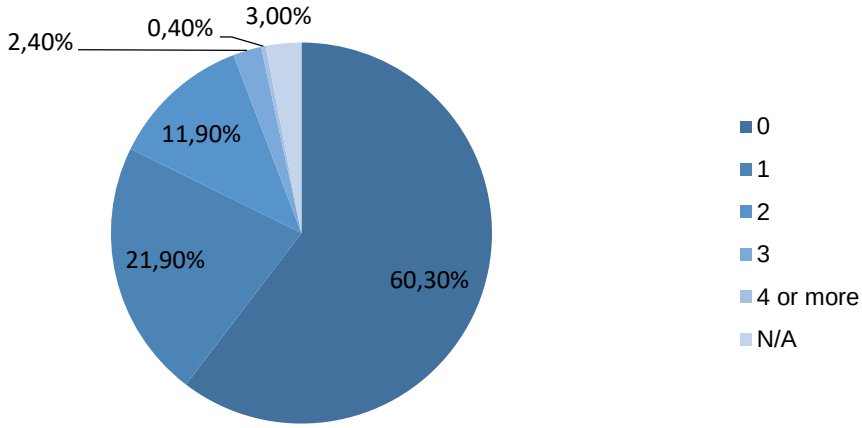
What is your age?



Your household size (number of people in the family)?



How many school-age children are in your family?



Your place of residence?