# INTERREG IVC – CYCLECITIES (1307R4)

# 4.2.1 Report on cities' bike-sharing systems facts & figures

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| Version 4.0 | | | | |

**Disclaimer**

**The information in this document is subject to change without notice.**

# Table of Contents

# i. Abbreviations

| | |
|---|---|
| **BSS** | **Bike sharing system(s) / bike sharing scheme(s)** |
| **EPOMM** | **European Platform on Mobility Management** |
| **MM** | **Mobility Management** |
| **NTUA** | **National Technical University of Athens** |
| **SMU** | **Sustainable Mobility Unit** |
| | |

# 1. INTRODUCTION

During the 20th century planners were focused on the development of cities, and generally on welfare. Eventually it was revealed that this model was not sustainable and it was not possible to continue in that way. During the first decade of the 21st century, the world decided that sustainability is something urgent that should affect all the aspects of our lives. The growing need for sustainability (in terms of economy, environment and society) lead the cities to adopt the solution of bicycle. The "new reality of cities" along with the boom of technology and the uptake of collaborative consumption are the factors that supported the rapid development of BSS.

This document is an output of INTERREG IVC CycleCities project and presents up-to-date Facts & figures on BSSs currently in use in European cities. It also provides evidence on the effectiveness, impact and assessment of certain bike sharing system cases.

CycleCities project aims to build and share knowledge and facilitate good practice transfer and experience exchange among European cities on the integration of cycling into urban mobility management schemes. The project addresses some critical challenges and opportunities for European cities that relate to a number of factors, such as easing of traffic congestion, cost reduction of road transport, need for lower carbon footprint, enhancement of health benefits and reduction of land use consumption. The use of bicycles instead of motorized traffic can highly contribute to these goals.

BSSs are critical components of current policies and practices to address these challenges as part of wider urban mobility management strategies. The key objective of these systems is to provide free or low cost access to bicycles for short distance trips in urban areas as an alternative option to private car use, therefore reducing air pollution, noise levels and traffic congestion. Bike sharing is also linked to motorized public transport either as an alternative

transport mode or as a short distance ('last mile') solution connecting commuters to public transport hubs.

The most valid and widely used definitions for a BSS are the following:

- Bike Sharing Scheme is a self-service, short-term, one-way-capable bike rental offer in public spaces, for several target groups, with network characteristics - working definition from the "OBIS"1 dictionary,

- Bike Share Schemes [BSS], known also as Public-use Bicycles (PUB's), bike sharing or smart bikes, bike sharing schemes [BSS] are short-term urban bicycle rental schemes that enable bicycles to be picked up at any self-serve bicycle station and returned to any other bicycle station, which makes bicycle-sharing ideal for point-to-point trips – definition by ECF2,

- A bicycle sharing system, or bike share scheme, is a service in which bicycles are made available for shared use to individuals on a very short term basis. Bike share schemes allow people to borrow a bike from point "A" and return it at point "B" – Wikipedia3

BSSs lie at the core of urban mobility management strategies. Mobility management is a concept used to promote sustainable transport that manages the demand for car use and favors softer transportation modes such as cycling and walking.

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[1] http://www.obisproject.com/

[2] http://www.ecf.com/advocary/mobility/bike-sharing-scheme/

[3] http://en.wikipedia.org/wiki/Bike-sharing

As defined in EPOMM mobility management user manual[4] "mobility management is primarily a demand orientated approach to passenger and freight transport that involves new partnerships and a set of tools to support and encourage change of attitude and behaviour towards sustainable modes of transport. These tools are usually based on information, communication, organisation, co-ordination and require promotion."

The report on cities' BSSs facts & figures is a foreseen output of CycleCities project as part of activity 4.2.1: "Orientation analysis and series of recommendations on including BSSs in cities' mobility management schemes". Data collection and analysis based on 4.2.1 "Methodology report to collect data on existing bike-sharing systems in European cities", led and supported the development of this report. Facts & figures report will also support the development of the two upcoming outputs of 4.2.1 activity of CycleCities project, i.e.:

1. a report on the efficiency of bike-sharing systems integrated in mobility management schemes

2. recommendations for using bike-sharing systems in European cities

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[4] European Platform on Mobility Management: http://www.epomm.eu/downloads/Usermanual.pdf

## 2. Report purpose and data collection process

The facts & figures report on cities' BSSs aims to:

1. present up-to-date facts & figures on BSSs currently in use in European cities,

2. provide evidence on the effectiveness, impact and assessment of certain BSS cases,

3. allow for valuable insights on the decisive, success factors for sustainable BSSs based on cities' experiences and lessons learned.

Specifically, the BSS report aims to address the following questions:

- *What are the main facts, figures and features of BSSs currently in use in European cities?*

- *To what extent BSSs currently in use have recently proven successful in encouraging short distance cycling (walking, cycling) at the expense of private cars?*

- *How do those involved in deploying and operating BSSs view their impact and effectiveness?*

- *What are the critical factors defining high use rates for BSSs?*

- *What are the key lessons learned in planning, deploying and operating a BSS within an urban setting?*

Data resources were identified and collected through a survey questionnaire focused on the experiences of key experts and actors. The survey questionnaire was designed in order to capture the experience-based views and opinions of key individuals that are actively involved in planning, deploying and operating BSSs in European cities. While the 1st stage of

research aimed at establishing an overview of the current situation and the facts and figures of European BSSs, the questionnaire-based survey rather focused on specific aspects of BSS relating to their effectiveness, associated costs, value-for-money and their overall impact.

Potential respondents were identified based on their knowledge and experience profile in transport planning and urban mobility management with a priority given to individuals that have been directly involved in setting up, deploying or operating BSSs in cities or urban areas.

The survey was carried through an online survey, which lasted 6 weeks (20/09/2013 - 01/11/2013), with use of a custom questionnaire developed to capture the views and opinions of key individuals involved in specific BSS projects. The BSS survey questionnaire was pilot tested through the initial cases identified and fine-tuned based on the adjustments required, such as elimination of open-ended question type and development of closed/multiple choice questions.

# 3. Data validation and analysis

Data processing and analysis, facilitated by a preparation stage of data consolidation, followed a four-step process as described below:

- Step one: defining variables
- Step two: mapping and coding of responses
- Step three: statistical data processing
- Step four: exporting results

Data preparation and processing steps were defined based on the structure of the online survey questionnaire and the BSSs fact sheet, the type and volume of data produced.

## 3.1 Preparation stage: data consolidation

To facilitate data processing and analysis upon survey completion, exported data was validated and consolidated. The BSS survey was conducted through an online questionnaire version gathering a total of 40 responses.

### 3.1.1 Step one: defining variables

Based on the survey questionnaire fields and the survey objectives, variables and levels of measurement were defined in order to process data accordingly. Nominal, ordinal and interval variables were defined in order to facilitate responses coding.

*Nominal or categorical variables* are based on mutually exclusive but not ranked or ordered categories. Yes / No, multiple choice or demographic questions (e.g. age, gender, ethnicity, location, etc.) are usual examples of nominal variables. In the case of the BSS survey's

questionnaire, nominal variables aim to establish a profile for each participating BSS and respondent.

***Ordinal variables*** are based on categories that can be ordered or ranked and therefore questions could include a rating scale. Offering an ordered set of choices, ordinal variables are more flexible than nominal variables and allow evaluation of priority issues, opinions or levels of satisfaction and agreement which in the context of the BSS survey relate to costs, revenues and characteristics of the BSS implementation.

***Interval variables*** measure data ordered in equal intervals on a defined scale (e.g. temperature in Celsius scale). Interval variable types are widely used in surveys to identify levels of agreement to a statement and possible variations or correlations. Although Likert scale[5] is usually treated as an interval variable, in the analysis variables rating in a Likert scale were treated as ordinal, hypothesizing that the intervals among the different choices provided are not equal.

### 3.1.2 Step two: mapping and coding of responses

Prior to data processing, valid responses were reviewed, grouped into categories and mapped to defined variables based on relevance, priority and question type. Questionnaire sections and fields from desk research not allowing for quantitative processing (e.g. open text fields) were not included in the analysis process. In order to investigate possible relations between variables, more than one field were combined. In case of ordinal variables, responses where recoded, where required, in numerical values in order to facilitate quantitative processing.

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[5] http://en.wikipedia.org/wiki/Likert_scale

### 3.1.3   Step three: statistical data processing

The Microsoft Excel application was used to process collected data for survey responses and fields from desk research. Specifically, pivot table data summarization tool was used to automatically sort data and return descriptive statistics of prior specified data and to calculate frequencies for more than one variable at the time.

### 3.1.4   Step four: exporting results

Data were exported in separate spreadsheets summing up and visualising results. Exported results where compared to imported data for any inconsistencies and data processing was repeated if required. Finally, exported results were listed in tables, visualised in graphs and included in the analysis report.

## 3.2   Methodological considerations

In order to evaluate outcomes, basic tools of descriptive statistics (such as frequencies) were used. In general, Likert scale was treated as an ordinal (and not interval) scale, thus not permitting the calculation of means per type of question as a legitimate measure of central tendency[6]. It is worth mentioning that, although the most typical format of a Liker scale is the five-level one, in the analysis of BSS cases an even-point scale of four-levels was used. This choice is not considered to be a problem, as in Likert scale the middle and neutral option can only be assumed and not presented, since the most important characteristic for the scaling method is to remain bipolar, (i.e. measuring either positive or negative response to a statement). For the comparison of factors under examination, and due to the nature of the Likert scale used as well as the type of questions that require the individual evaluation

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[6] Churchill. G. Jr. and Iacobucci D. "Marketing Research, Methodological Foundations", 9th edition, Thomson South-Western

of each statement, a very specific type of methodology was used based on the most "preferred alternative" each time[7].

The method of the most "preferred alternative" takes into consideration all of the specificities of this type of questions as well as the properties of the (ordinal) scale used. In particular, it aims to compare the respondents' perceptions on a number of assumed statements based on their choices on the provided rating scale. In contrast to most methods widely used, this method is appropriate for the specific data analysis, as it does not rely on average scores per statement for all respondents, but simply lists whichever alternative was rated higher by each respondent. Thus, the analysis is essentially performed by respondent (horizontally) and not per statement (vertically). Then a comparison of the most "preferred alternatives" for each respondent takes place, revealing what percentage of the respondents found the specific alternative most preferred each time. A simplified example of the method used is presented in the table below.

Table 1. Example of the most "preferred alternative" method: rating of benefits of BSS

| Respondents | Increasing bike use | Reducing $CO_2$ emissions | Preferred alternative |
|---|---|---|---|
| 1 | 4 | 4 | T |
| 2 | 5 | 2 | I |
| 3 | 4 | 5 | R |
| 4 | 5 | 3 | I |

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[7] See footnote 5.

European Union
European Regional Development Fund

cycle cities

INTERREG IVC
INNOVATION & ENVIRONMENT
REGIONS OF EUROPE SHARING SOLUTIONS

| 5 | 4 | 2 | I |
| 6 | 3 | 4 | R |

*Note: "T" indicates a tie between the two benefits in terms of importance. "I" stands for "Increasing bike use" and "R" for "Reducing $CO_2$ emissions".*

This example is drawn from question 18 of the questionnaire and it is based on hypothetical replies regarding the respondents' preferences.

Let's assume that when asked to evaluate the importance of two benefits, namely "Increasing bike use" (I) and "Reducing $CO_2$ emissions" (R), in a scale from 1: insignificant to 4: very important, the first six respondents replied as presented in table 1.

The conclusions of the method reflect the fact that respondents 2, 4 and 5 (3 out of 6) perceived "Increasing bike use" as more important benefit, respondents 3 and 6 (2 out of 6) perceived "Reducing $CO_2$ emissions" as more important benefit, and respondent 1 perceived them as of equal importance.

This is translated into the finding that 50% (3 out of 6) of the respondents found "Increasing bike use" as more important benefit and 33% (2 out of 6) found "Reducing $CO_2$ emissions" as more important benefit. It should be noted, that when comparing among more than two alternatives (as it is in our case), the final "preferred alternative" is weighed by the average of the preferences that it has acquired.

# 4. Facts and Figures

## 4.1 Respondent demographics

The analysis of the 40 submitted questionnaires regarding the respondent's position (question 25), revealed 30 responses, since there were 10 cases without any answer at all.

Most of the respondents are "Officers" (17) of the Municipality or central authorities, followed by "BSS installation / deployment company representatives" (12), "Central Authority officers" and "BSS representatives" (1 time each).

| Respondent's position | No of responses | % |
|---|---|---|
| Officer | 17 | 57% |
| BSS installation / deployment company representative | 12 | 40% |
| BSS representative | 1 | 3% |
| Sum of responses included in the analysis | 30 | 100% |
| blank | 10 | 25% |
| Grand Total | 40 | |

**Respondent's position**

- Officer — 57%
- BSS installation / deployment company representative — 40%
- BSS representative — 3%
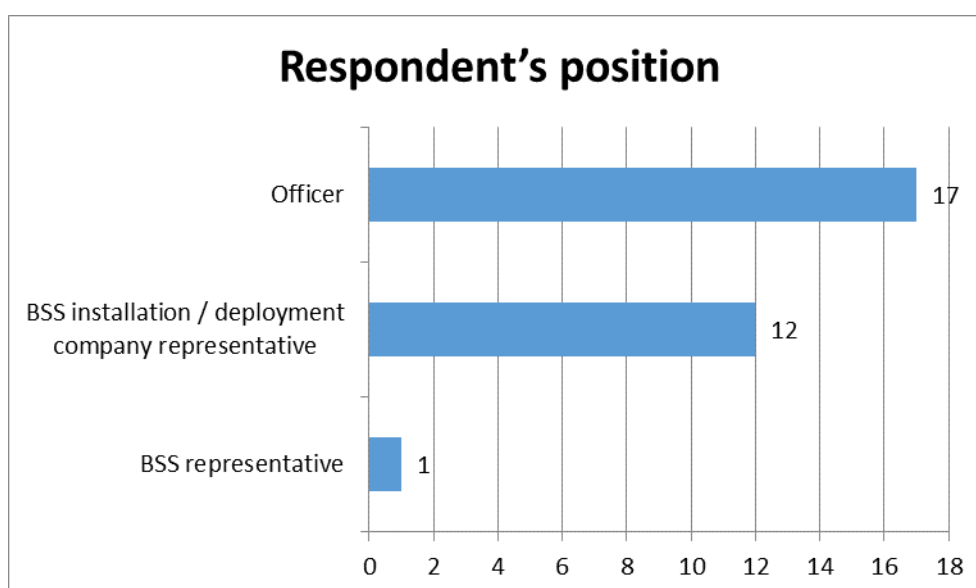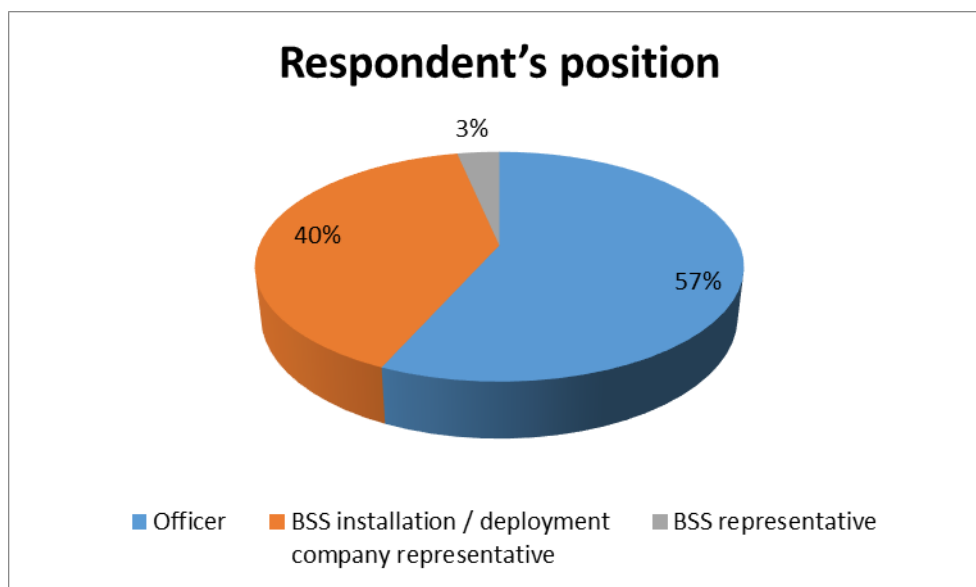
The analysis of the 40 submitted questionnaires regarding the respondent's involvement in BSS's deployment (question 27), revealed 60 responses, since more than one role were described in many cases.

The valid responses which were further analysed amount to 58, since in 2 cases no answer was submitted.

Between the predefined responses the one with the highest frequency was "Planning / design" (17), followed by "Daily operation, performance and maintenance" (14), "Promotion, communication and public participation" (10), "Decision making for establishment" (7).

Other sorts of involvement in BSS's deployment submitted were: "Implementation" (2), "Evaluation", "Investment", "Overseeing setting up the system", "Reporting of the co-financed project" (1 time each).

| Responses | Respondents' involvement in the BSS | No of responses | % |
|---|---|---|---|
| Predefined | Planning / design | 17 | 31% |
| | Daily operation, performance and maintenance | 14 | 25% |
| | Promotion, communication and public participation | 10 | 18% |
| | Decision making for establishment | 7 | 13% |
| Other | Implementation | 2 | 4% |

| | | |
|---|---|---|
| Evaluation | 1 | 2% |
| Investment | 1 | 2% |
| Overseeing setting up the system | 1 | 2% |
| Reporting of the co-financed project | 1 | 2% |
| None | 1 | 2% |
| Sum of responses included in the analysis | 55 | 100% |
| Response is not included in the analysis | 1 | 2% |
| I don't know / I do not wish to answer | 2 | 3% |
| Sum of responses received | 58 | |
| blank | 2 | 3% |
| Grand Total | 60 | |



Respondents' involvement in the BSS

| | |
|---|---|
| Planning / design | 17 |
| Daily operation, performance and maintenance | 14 |
| Promotion, communication and public... | 10 |
| Decision making for establishment | 7 |
| Implementation | 2 |
| Reporting of the co-financed project | 1 |
| Overseeing setting up the system | 1 |
| Investment | 1 |
| Evaluation | 1 |
| None | 1 |

## Respondents' involvement in the BSS

- Planning / design — 31%
- Daily operation, performance and maintenance — 25%
- Promotion, communication and public participation — 18%
- Decision making for establishment — 13%
- Implementation — 4%
- Evaluation — 2%
- Investment — 2%
- Overseeing setting up the system — 2%
- Reporting of the co-financed project — 2%
- None — 2%

## 4.2 BSSs' characteristics

### 4.2.1 Country of origin [Q3]

The analysis of the 40 submitted questionnaires regarding the country of origin of the analyzed BSSs (question 3), resulted that 30 questionnaires were submitted by countries – members of CYCLECITIES' consortium, while the rest were submitted by France and Spain (3 BSSs), Sweden (2 BSSs), Austria and Croatia (1 BSS each).

More responses at country level were submitted from Greece (8 BSSs), followed by Germany (6 BSSs), Italy (5 BSSs), Poland and Slovenia (4 BSSs each), France and Spain (3 BSSs each), Sweden and UK (2 BSSs each), Austria Croatia and Poland (1 BSS each).

| No | Country | Country code | CYCLECITIES' partner | No of BSSs | % |
|---|---|---|---|---|---|
| 1 | Greece | EL | * | 8 | 20% |
| 2 | Germany | DE | * | 6 | 15% |
| 3 | Italy | IT | * | 5 | 13% |
| 4 | Poland | PL | * | 4 | 10% |
| 5 | Slovenia | SI | * | 4 | 10% |
| 6 | France | FR | | 3 | 8% |
| 7 | Spain | ES | | 3 | 8% |
| 8 | Sweden | SE | | 2 | 5% |
| 9 | United Kingdom | UK | * | 2 | 5% |
| 10 | Austria | AT | | 1 | 3% |
| 11 | Croatia | HR | | 1 | 3% |
| 12 | Portugal | PT | | 1 | 3% |
| | Grand Total | | | 40 | 100% |

## BSS by country

- Greece (*): 8
- Germany (*): 6
- Italy (*): 5
- Poland (*): 4
- Slovenia (*): 4
- France: 3
- Spain: 3
- Sweden: 2
- UK (*): 2
- Austria: 1
- Croatia: 1
- Portugal (*): 1

**BSS by country**



Pie chart legend:
- Greece (*) — 20%
- Germany (*) — 15%
- Italy (*) — 12%
- Poland (*) — 10%
- Slovenia (*) — 10%
- France — 7%
- Spain — 7%
- Sweden — 5%
- UK (*) — 5%
- Austria — 3%
- Croatia — 3%
- Portugal (*) — 3%
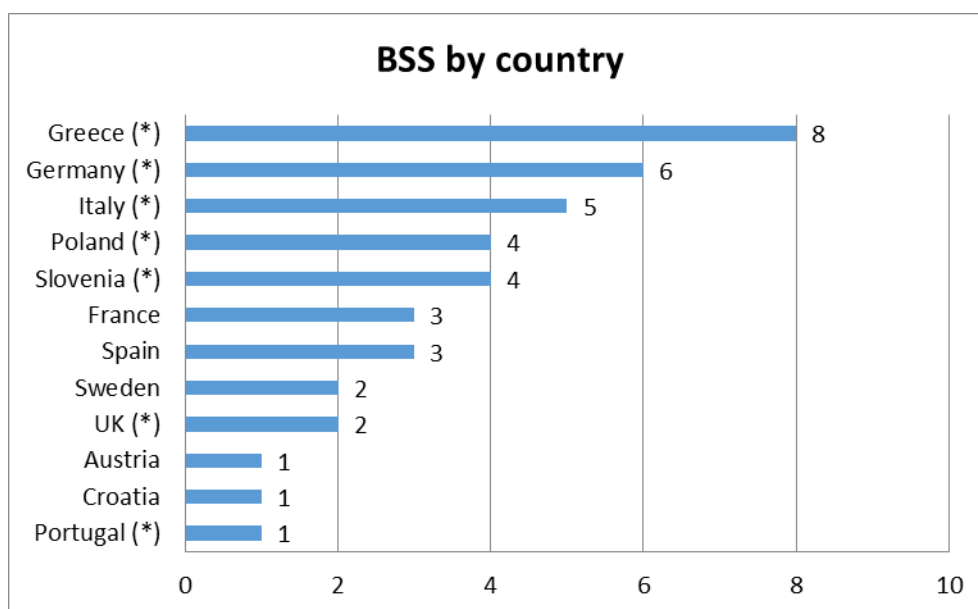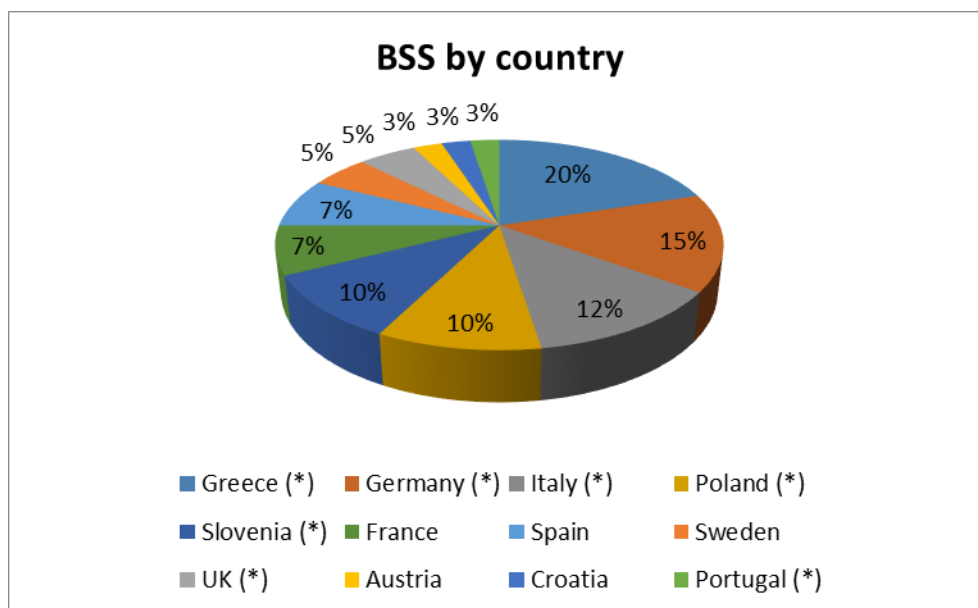
### 4.2.2   City / Municipality [Q2]

The analysis of the 40 submitted questionnaires regarding the city / municipality where the described BSS is implemented (question 2), resulted in gathering data on 50 cities, since Ruhr Area [DE] is a district consisting of 9 cities (Bochum, Bottrop, Dortmund, Duisburg, Essen, Gelsenkirchen, Hamm, Herne, Mülheim, Oberhausen) and the submitted case Municipalities of Koper & Isola [SI] concerns two cities sharing the same BSS. Although, Lower Austria [AT] is a district too, no further data about the consisting cities with developed BSS were submitted. Finally, the submitted case about UK in general could not be specified at a city level during the analysis.

Population data in order to classify the sample cities where found after extended research in internet[8]. All sources used are being mentioned in the Annex table for Question 2.
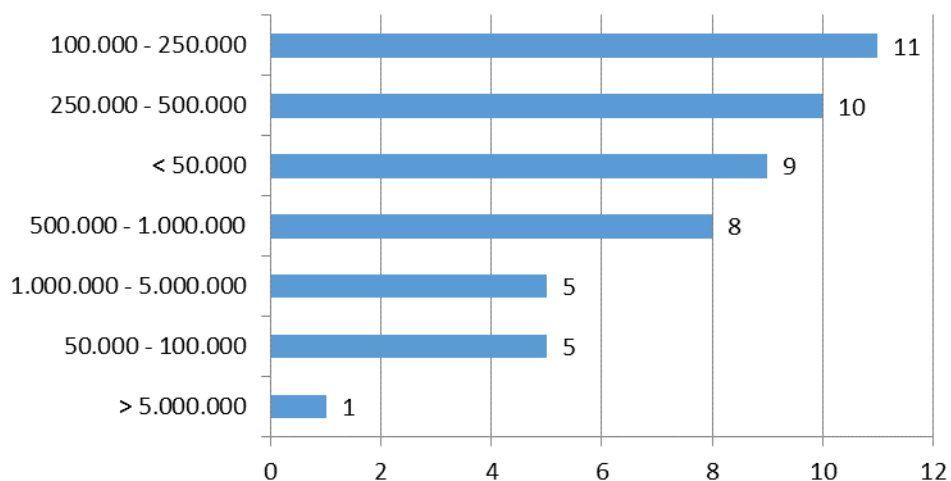
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[8] http://www.citypopulation.de

| No | Country | City / Municipality | Status | Population | Classification of the population |
|----|---------|---------------------|--------|-----------|----------------------------------|
| 1 | Austria | Lower Austria | Federal State & District | 1.625.485 | 1.000.000 - 2.000.000 |
| 2 | Croatia | Zagreb | County | 317.606 | 250.000 - 500.000 |
| 3 | France | Belfort | Agglomeration | 81.415 | 50.000 - 100.000 |
| 4 | France | Clermont-Ferrand | Agglomeration | 261.926 | 250.000 - 500.000 |
| 5 | France | Lorient | Agglomeration | 114.332 | *100.000 - 250.000* |
| 6 | Germany (*) | Berlin | Major city | 3.375.222 | 3.000.000 – 5.000.000 |
| 7 | Germany (*) | Hamburg | Major city | 1.734.272 | 1.000.000 - 2.000.000 |
| 8 | Germany (*) | Leipzig | City | 520.838 | 500.000 - 1.000.000 |
| 9 | Germany (*) | Nuremberg | City | 495.121 | 250.000 - 500.000 |
|  | Germany (*) | Ruhr Area | State & County | 3.069.745 |  |
| 10 | Germany (*) | *Bottrop* | *City with County Rights* | *116.498* | *100.000 - 250.000* |
| 11 | Germany (*) | *Herne* | *City with County Rights* | *154.563* | *100.000 - 250.000* |
| 12 | Germany (*) | *Mülheim* | *City with County Rights* | *166.654* | *100.000 - 250.000* |
| 13 | Germany (*) | *Hamm* | *City with County Rights* | *176.440* | *100.000 - 250.000* |
| 14 | Germany (*) | *Oberhausen* | *City with County Rights* | *210.005* | *100.000 - 250.000* |
| 15 | Germany (*) | *Gelsenkirchen* | *City with County Rights* | *257.607* | *250.000 - 500.000* |
| 16 | Germany (*) | *Bochum* | *City with County Rights* | *362.213* | *250.000 - 500.000* |
| 17 | Germany (*) | *Duisburg* | *City with County Rights* | *486.816* | *250.000 - 500.000* |
| 18 | Germany (*) | *Essen* | *City with County Rights* | *566.862* | *500.000 - 1.000.000* |
| 19 | Germany (*) | *Dortmund* | *City with County Rights* | *572.087* | *500.000 - 1.000.000* |
| 20 | Germany (*) | Usedom | City | 1.838 | < 5.000 |
| 21 | Greece (*) | Gytheio / Anatoliki Mani | City | 4.279 | < 5.000 |
| 22 | Greece (*) | Didymoteicho | city | 9.263 | 5.000 - 10.000 |
| 23 | Greece (*) | Ioannina | city | 65.574 | 50.000 - 100.000 |
| 24 | Greece (*) | Karditsa | city | 38.554 | 20.000 - 50.000 |
| 25 | Greece (*) | Kavala | city | 54.027 | 50.000 - 100.000 |
| 26 | Greece (*) | Nafpaktos | city | 13.415 | 10.000 - 20.000 |
| 27 | Greece (*) | Thessaloniki | city | 315.196 | 250.000 - 500.000 |
| 28 | Greece (*) | Thessaloniki | city | 315.196 | 250.000 - 500.000 |
| 29 | Italy (*) | Cuneo | City | 55.697 | 50.000 - 100.000 |
| 30 | Italy (*) | Milan | Major city | 1.262.101 | 1.000.000 - 2.000.000 |
| 31 | Italy (*) | Padova | City | 207.245 | *100.000 - 250.000* |
| 32 | Italy (*) | Parma | City | 177.714 | *100.000 - 250.000* |
| 33 | Italy (*) | Verona | City | 253.409 | 250.000 - 500.000 |
| 34 | Poland (*) | Opole | Urban County | 120.146 | *100.000 - 250.000* |
| 35 | Poland (*) | Poznan | Major city | 548.028 | 500.000 - 1.000.000 |
| 36 | Poland (*) | Warsaw | Major city | 1.724.404 | 1.000.000 - 2.000.000 |
| 37 | Poland (*) | Wroclaw | City | 632.067 | 500.000 - 1.000.000 |
| 38 | Portugal (*) | Vilamoura / Loulé | City | 14.000 | 10.000 - 20.000 |
| 39 | Slovenia (*) | Ljubljana | Major city | 277.554 | 250.000 - 500.000 |
| 40 | Slovenia (*) | Maribor | Major city | 95.586 | 50.000 - 100.000 |
|  | Slovenia (*) | Mun. of Koper and Mun. of Izola |  | 36.984 |  |
| 41 | *Slovenia (*)* | *Izola* | *City* | *11.209* | 10.000 - 20.000 |
| 42 | *Slovenia (*)* | *Koper* | *Major city* | *25.775* | 20.000 - 50.000 |
| 43 | Slovenia (*) | Velenje / Municipality of Velenje | Major city | 25.329 | 20.000 - 50.000 |
| 44 | Spain | Malaga | Major city | 568.479 | 500.000 - 1.000.000 |
| 45 | Spain | Pamplona | City | 196.955 | *100.000 - 250.000* |
| 46 | Spain | Valence | City | 792.303 | 500.000 - 1.000.000 |
| 47 | Sweden | Gothenburg | Major Locality | 549.839 | 500.000 - 1.000.000 |
| 48 | Sweden | Örebro | Major Locality | 107.038 | *100.000 - 250.000* |
| 49 | UK (*) | Across the UK | NA | NA | - |
| 50 | UK (*) | London | Major city | 8.250.205 | > 5.000.000 |

The majority of the cities for which data were collected are medium-sized (21 cities), followed by small-sized (14 cities) and large-sized cities (13). Lower Austria [AT], Berlin [DE], Hamburg [DE], Milan [IT] and Warsaw [PL] are the five XXL cities in the sample, while London is the only Global city.

| Population (inhabitants) | No of Cities / Municipalities | % | Classification by urban size centre[9] |
|---|---|---|---|
| < 50.000 | 9 | 18% | |
| 50.000 - 100.000 | 5 | 10% | S |
| 100.000 - 250.000 | 11 | 22% | M |
| 250.000 - 500.000 | 10 | 20% | L |
| 500.000 - 1.000.000 | 8 | 16% | XL |
| 1.000.000 - 5.000.000 | 5 | 10% | XXL |
| > 5.000.000 | 1 | 2% | Global city |
| Sum of responses included in the analysis | 49 | 100% | |
| blank | 1 | | |
| Grand Total | 50 | | |

[9] Cities in Europe The new OECD-EC Definition, http://ec.europa.eu/regional_policy/sources/docgener/focus/2012_01_city.pdf

## Cities' population classification

| Population | Count |
|---|---|
| 100.000 - 250.000 | 11 |
| 250.000 - 500.000 | 10 |
| < 50.000 | 9 |
| 500.000 - 1.000.000 | 8 |
| 1.000.000 - 5.000.000 | 5 |
| 50.000 - 100.000 | 5 |
| > 5.000.000 | 1 |

## Cities' population classificatition

| Population | Percentage |
|---|---|
| 100.000 - 250.000 | 22% |
| 250.000 - 500.000 | 20% |
| < 50.000 | 18% |
| 500.000 - 1.000.000 | 16% |
| 50.000 - 100.000 | 10% |
| 1.000.000 - 5.000.000 | 10% |
| > 5.000.000 | 2% |

## Cities' classification by urban size centre



Legend: M · L · S · XL · S · XXL · Global city

Values shown: 2%, 10%, 10%, 16%, 18%, 20%, 22%
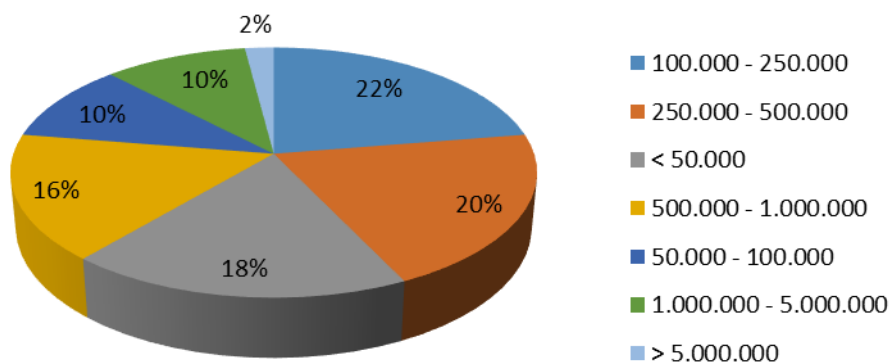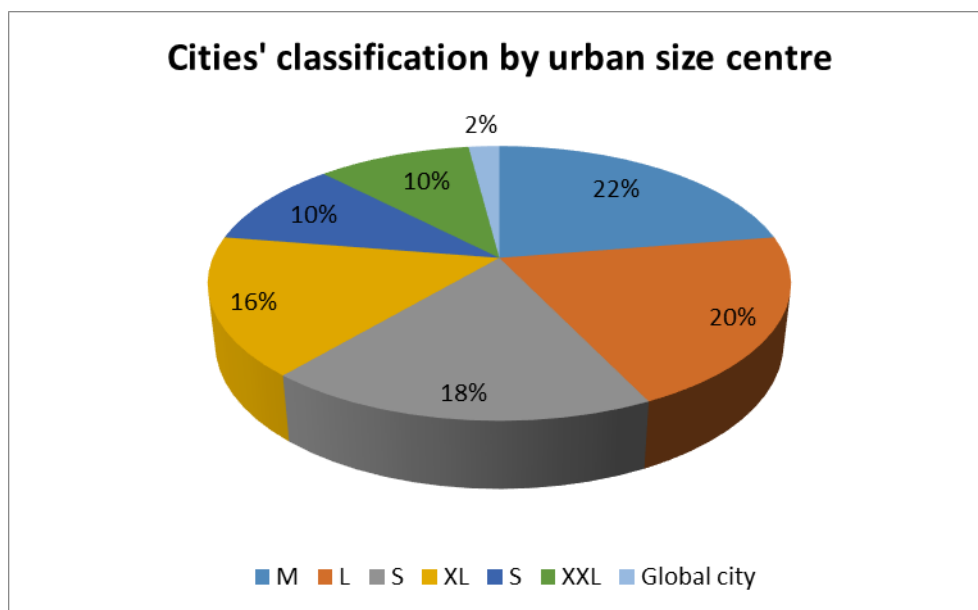
### 4.2.3   Title [Q1]

The analysis of the 40 submitted questionnaires regarding the BSS title (question 1) resulted in gathering data on 10 different BSSs' providers/operators.

In 5 cases (VéLO an orient [FR], Vilamoura Public Bikes [PT], BCikel [SI], Coast Bikes [SI] and Cykelpool Örebro [SE] which was dismissed in March 2013) it was not poss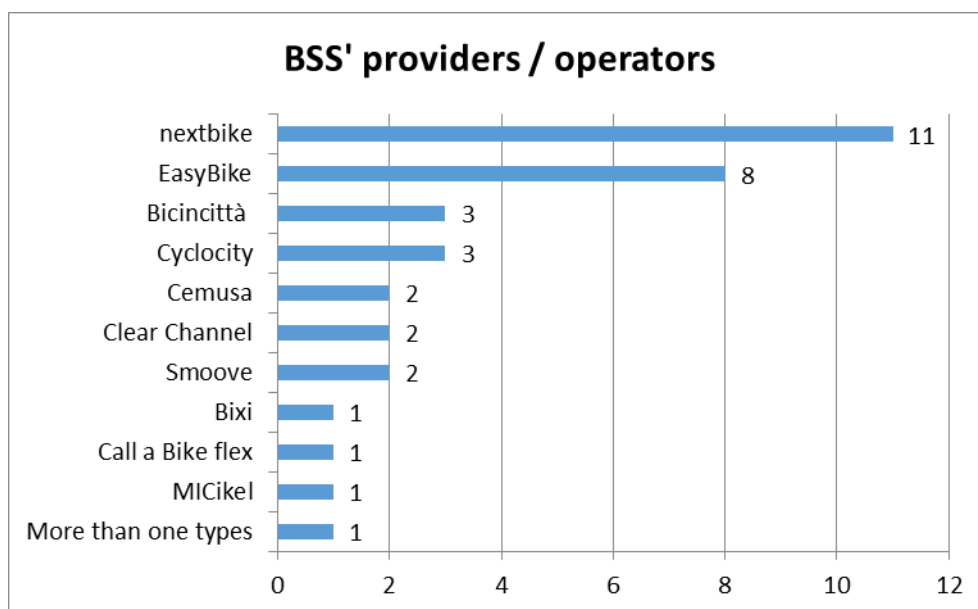ible – not even after extensive internet research in the BSS's websites and other sources[10] - to correlate the BSS title with a BSS provider/operator.

The BSS provider/operator with the highest frequency was "nextbike" (11), followed by "EasyBike" (8), "Bicincittà" and "Cyclocity" (3 times each), "Cemusa", "Clear Channel" and "Smoove" (2 times each) and "Bixi", "Call a Bike" and "MICikel" (1 time each).

---

[10] http://en.wikipedia.org/wiki/List_of_bicycle_sharing_systems

| No | BSS providers / operators | No of responses | % |
|---|---|---|---|
| 1 | nextbike | 11 | 31% |
| 2 | EasyBike | 8 | 23% |
| 3 | Bicincittà | 3 | 9% |
| 4 | Cyclocity | 3 | 9% |
| 5 | Cemusa | 2 | 6% |
| 6 | Clear Channel | 2 | 6% |
| 7 | Smoove | 2 | 6% |
| 8 | Bixi | 1 | 3% |
| 9 | Call a Bike | 1 | 3% |
| 10 | MICikel | 1 | 3% |
| 11 | More than one types | 1 | 3% |
| | Sum of responses received | 35 | 100% |
| | No data available | 5 | 13% |
| | Grand Total | 40 | |

**BSS' providers / operators**

Legend:
- nextbike
- EasyBike
- Bicincittà
- Cyclocity
- Cemusa
- Clear Channel
- Smoove
- Bixi
- Call a Bike flex
- MICikel
- More than one types

Pie chart values: 31%, 23%, 9%, 9%, 6%, 6%, 6%, 3%, 3%, 3%, 3%
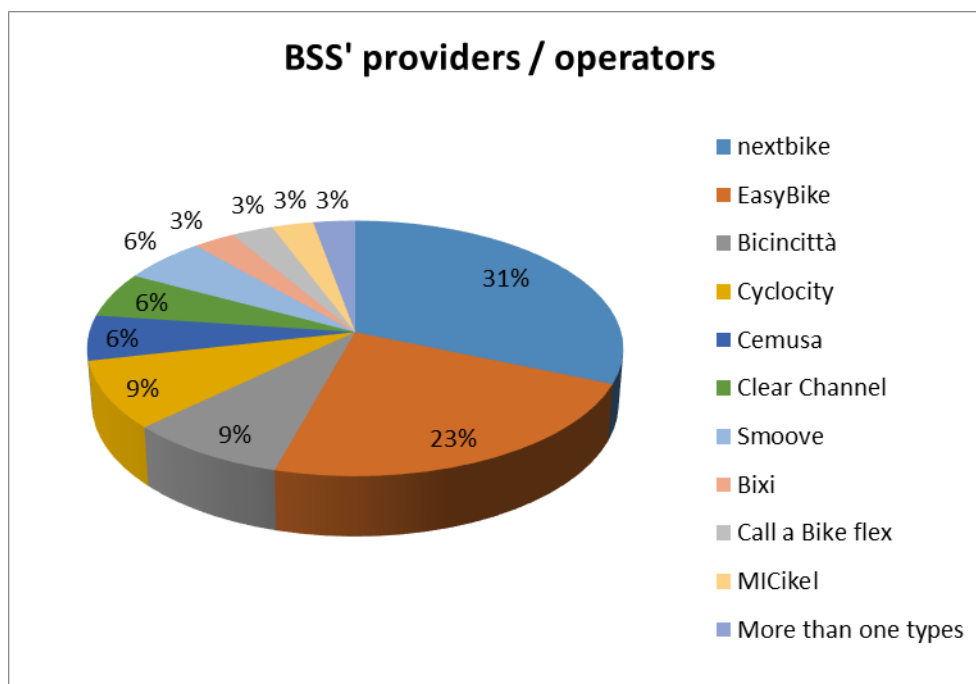
The "nextbike" BSS is implemented in Austria, Croatia, Germany and Poland, the "Cyclocity" BSS is implemented in Spain and Sweden, while "EasyBike", "Bicincittà", "Cemusa", "Clear Channel", "Smoove", "Bixi", "Call a Bike", "MICikel" are implemented each one in a different country participating in the research.

| No | Country | BSS' providers / operators | No of responses |
|----|---------|---------------------------|-----------------|
| 1 | Austria | nextbike | 1 |
| 2 | Croatia | nextbike | 1 |
| 3 | France | Smoove | 2 |
|   |        | NA data | 1 |
| 4 | Germany (*) | Call a Bike | 1 |
|   |        | nextbike | 5 |
| 5 | Greece (*) | EasyBike | 8 |
| 6 | Italy (*) | Bicincittà | 3 |
|   |        | Clear Channel | 2 |
| 7 | Poland (*) | nextbike | 4 |
|   |        | NA data | 1 |
| 8 | Portugal (*) | Cyclocity | 1 |
|   |        | MICikel | 1 |
| 9 | Slovenia (*) | NA data | 2 |
| 10 | Spain | Cemusa | 2 |
|   |        | Cyclocity | 1 |
| 11 | Sweden | Cyclocity | 1 |
|   |        | NA data | 1 |
| 12 | UK (*) | Bixi | 1 |

| | |
|---|---|
| More than one types | 1 |
| Grand Total | 40 |

### 4.2.4  Planning and implementation period [Q4 &Q5]

The analysis of the 40 submitted questionnaires regarding the year of taking the official decision for the deployment of a BSS in each city / municipality of the sample (question 4), resulted in gathering data on 39 BSSs, since no data was submitted for Warsaw [PL].

The analysis of the valid data revealed that the majority of decisions for the deployment of BSSs was taken within 2011 (9 BSSs), followed by 2009 (8 BSSs) and 2008 (5 BSSs).

The analysis of the 40 submitted questionnaires regarding the year of actual implementation of the BSS in each city / municipality of the sample (question 5), resulted in gathering data on 40 BSSs.

Further analysis revealed that the majority of submitted BSSs were implemented in 2012 (15 BSSs), followed by 2013 (9 BSSs) and 2010 (6 BSSs).

Time required for BSS's implementation from official decision taking, was:

- Less than one year in the following 9 cities / municipalities: Zagreb [HR], Clermont-Ferrand and Lorient [FR], Hamburg [DE], Gytheio / Anatoliki Mani, Ioannina and Thessaloniki [EL], Parma [IT], Across the UK
- One year in the following 19 cities / municipalities: Lower Austria [AT], Berlin, Leipzig, Ruhr Area and Usedom [DE], Didymoteicho, Karditsa, Kavala and Thessaloniki [EL], Opole and Poznan [PL], Ljubljana, Maribor Koper, Izola and Velenje [SI], Malaga, Pamplona and Valence [ES] and Gothenburg [SE].
- Two years in the following 3 cities / municipalities: Belfort [FR], Nuremberg [DE], Nafpaktos [EL].

| Year of official decision | Country | City / Municipality | BSS title |
|---|---|---|---|
| 2001 | Germany (*) | Hamburg | StadtRAD Hamburg |
| 2004 | Germany (*) | Leipzig | nextbike |
| | Italy (*) | Cuneo | BICINCITTA' |
| 2006 | Italy (*) | Parma | Punto Bici |
| | Spain | Pamplona | nbici |
| 2007 | UK (*) | London | Barclays Cycle Hire |
| 2008 | Germany (*) | Usedom | Usedom |
| | Italy (*) | Milan | BikeMi |
| | | Padova | Goodbike Padova |
| | | Verona | Verona Bike |
| | Poland (*) | Wroclaw | Wroclawski Rower Miejski |
| 2009 | Austria | Lower Austria | nextbike in rural territories |
| | Germany (*) | Berlin | Call a Bike (DB) / Stadtrad Berlin |
| | | Nuremberg | NorisBike |
| | | Ruhr Area | nextbike - metropolradruhr |
| | Portugal (*) | Vilamoura / Loulé | Vilamoura Public Bikes |
| | Spain | Valence | Valenbisi |
| | Sweden | Gothenburg | Styr & Ställ |
| | | Örebro | Cykelpool Örebro |
| 2010 | Greece (*) | Nafpaktos | Nafpaktos Bike Sharing System |
| | Slovenia (*) | Ljubljana | Bicike(LJ) |
| | | Maribor | BCikel |
| 2011 | France | Belfort | optymo VLS |
| | Greece (*) | Didymoteicho | EasyBike |
| | | Kavala | EasyBike Kavala Bike Sharing |
| | | Thessaloniki | EasyBike (Eco-AUTh) |
| | Poland (*) | Opole | Opole bike |
| | | Poznan | Poznan's City Bike |
| | Slovenia (*) | Municipality of Koper & Municipality of Izola | Coast Bikes |
| | | Velenje / Municipality of Velenje | bicy |
| | UK (*) | Across the UK | Brompton Dock |
| 2012 | France | Lorient | VéLO an oriant |
| | Greece (*) | Gytheio / Anatoliki Mani | Mani bikes |
| | | Ioannina | EasyBike |
| | | Karditsa | Karditsa Bike Sharing System |
| | Spain | Malaga | Malagabici |
| 2013 | Croatia | Zagreb | nextbike Croatia |
| | France | Clermont-Ferrand | C.Vélo |
| | Greece (*) | Thessaloniki | EasyBike |

| Year of official decision | BSS title | % |
|---|---|---|
| 2001 | 1 | 3% |
| 2004 | 2 | 5% |
| 2006 | 2 | 5% |
| 2007 | 1 | 3% |

| | | |
|---|---:|---:|
| 2008 | 5 | 13% |
| 2009 | 8 | 21% |
| 2010 | 3 | 8% |
| 2011 | 9 | 23% |
| 2012 | 5 | 13% |
| 2013 | 3 | 8% |
| Sum of submitted responses | 39 | 100% |
| blank | 1 | 3% |
| Grand Total | 40 | |
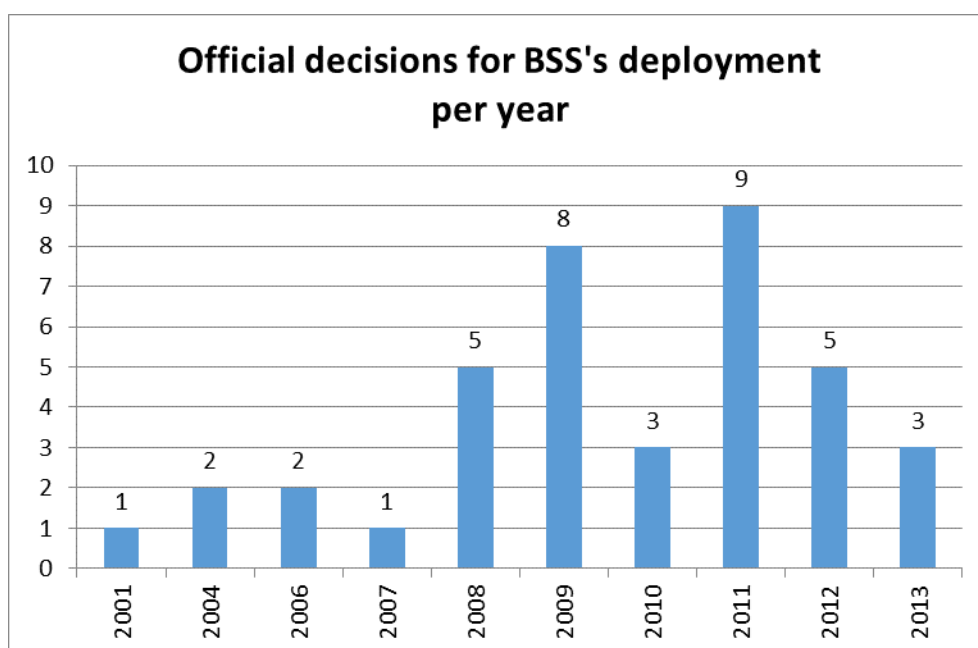


Official decisions for BSS's deployment per year

| Year of actual implementation | Country | City / Municipality | BSS title |
|---|---|---|---|
| 2001 | Germany (*) | Hamburg | StadtRAD Hamburg |
| 2005 | Germany (*) | Leipzig | nextbike |
| 2006 | Italy (*) | Parma | Punto Bici |
| 2007 | Spain | Pamplona | nbici |
| 2009 | Germany (*) | Usedom | Usedom |
| 2010 | Austria | Lower Austria | nextbike in rural territories |
| | Germany (*) | Berlin | Call a Bike (DB) / Stadtrad Berlin |
| | | Ruhr Area | nextbike - metropolradruhr |
| | Spain | Valence | Valenbisi |
| | Sweden | Gothenburg | Styr & Ställ |
| | UK (*) | London | Barclays Cycle Hire |

| Year of actual implementation | Country | City / Municipality | BSS title |
|---|---|---|---|
| 2011 | Germany (*) | Nuremberg | NorisBike |
| | Poland (*) | Wroclaw | Wroclawski Rower Miejski |
| | Slovenia (*) | Ljubljana | Bicike(LJ) |
| | | Maribor | BCikel |
| | UK (*) | Across the UK | Brompton Dock |
| 2012 | France | Lorient | VéLO an oriant |
| | Greece (*) | Gytheio / Anatoliki Mani | Mani bikes |
| | | Didymoteicho | EasyBike |
| | | Ioannina | EasyBike |
| | | Kavala | EasyBike Kavala Bike Sharing |
| | | Nafpaktos | Nafpaktos Bike Sharing System |
| | | Thessaloniki | EasyBike (Eco-AUTh) |
| | Italy (*) | Verona | Verona Bike |
| | | Opole | Opole bike |
| | Poland | Poznan | Poznan's City Bike |
| | | Warsaw | Veturilo |
| | Portugal (*) | Vilamoura / Loulé | Vilamoura Public Bikes |
| | Slovenia (*) | Mun. of Koper & Mun. of Izola | Coast Bikes |
| | | Velenje / Mun. of Velenje | bicy |
| | Sweden | Örebro | Cykelpool Örebro |
| 2013 | Croatia | Zagreb | nextbike Croatia |
| | France | Belfort | optymo VLS |
| | | Clermont-Ferrand | C.Vélo |
| | Greece (*) | Karditsa | Karditsa Bike Sharing System |
| | | Thessaloniki | EasyBike |
| | Italy (*) | Cuneo | BICINCITTA' |
| | | Milan | BikeMi |
| | | Padova | Goodbike Padova |
| | Spain | Malaga | Malagabici |

| Year of actual implementation | BSS title | % |
|---|---|---|
| 2001 | 1 | 3% |
| 2005 | 1 | 3% |
| 2006 | 1 | 3% |
| 2007 | 1 | 3% |
| 2009 | 1 | 3% |
| 2010 | 6 | 15% |
| 2011 | 5 | 13% |
| 2012 | 15 | 38% |
| 2013 | 9 | 23% |
| Grand Total | 40 | 100% |

**Actual implementation of BSS's deployment per year**
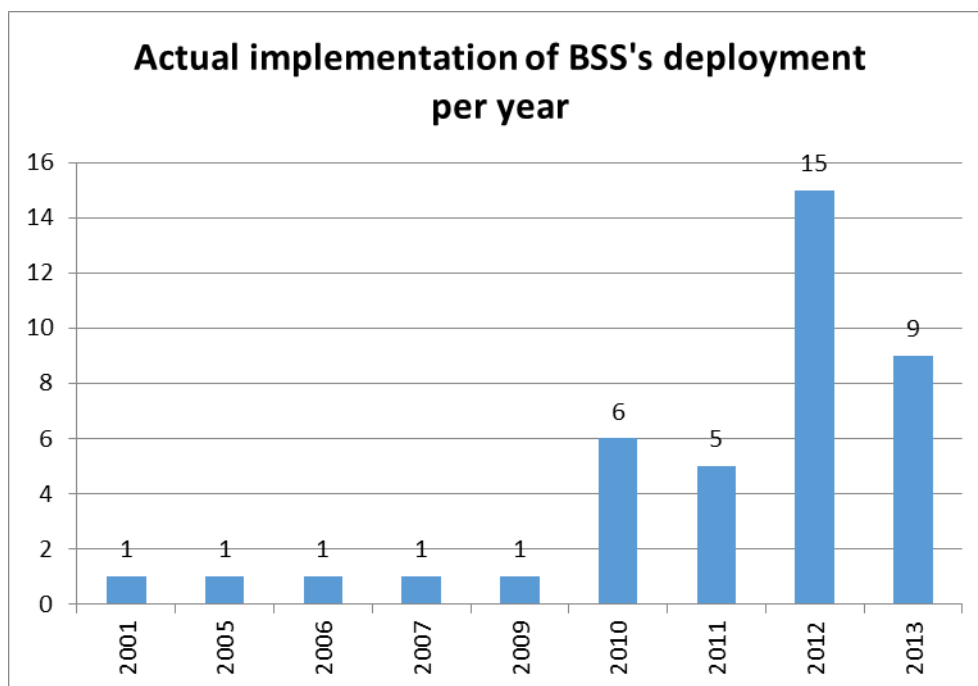
| Country | City / Municipality | BSS title | Planning and implementation period (yrs) |
|---|---|---|---|
| Croatia | Zagreb | nextbike Croatia | Less than 1 |
| France | Clermont-Ferrand | C.Vélo | |
| France | Lorient | VéLO an oriant | |
| Germany (*) | Hamburg | StadtRAD Hamburg | |
| Greece (*) | Gytheio / Anatoliki Mani | Mani bikes | |
| | Ioannina | EasyBike | |
| | Thessaloniki | EasyBike | |
| Italy (*) | Parma | Punto Bici | |
| UK (*) | Across the UK | Brompton Dock | |
| Austria | Lower Austria | nextbike in rural territories | 1 |
| Germany (*) | Berlin | Call a Bike (DB) / Stadtrad Berlin | |
| | Leipzig | nextbike | |
| | Ruhr Area | nextbike - metropolradruhr | |
| | Usedom | Usedom | |
| Greece (*) | Didymoteicho | EasyBike | |
| | Karditsa | Karditsa Bike Sharing System | |
| | Kavala | EasyBike Kavala Bike Sharing | |
| | Thessaloniki | EasyBike (Eco-AUTh) | |
| Poland (*) | Opole | Opole bike | |
| | Poznan | Poznan's City Bike | |
| Slovenia (*) | Ljubljana | Bicike(LJ) | |
| | Maribor | BCikel | |

| Country | City / Municipality | BSS title | Planning and implementation period (yrs) |
|---|---|---|---|
| | Mun. of Koper and Mun. of Izola | Coast Bikes | |
| | Velenje / Mun. of Velenje | bicy | |
| Spain (*) | Malaga | Malagabici | |
| | Pamplona | nbici | |
| | Valence | Valenbisi | |
| Sweden | Gothenburg | Styr & Ställ | |
| France | Belfort | optymo VLS | |
| Germany (*) | Nuremberg | NorisBike | 2 |
| Greece (*) | Nafpaktos | Nafpaktos Bike Sharing System | |
| Poland (*) | Wroclaw | Wroclawski Rower Miejski | |
| Portugal (*) | Vilamoura / Loulé | Vilamoura Public Bikes | 3 |
| Sweden | Örebro | Cykelpool Örebro | |
| UK (*) | London | Barclays Cycle Hire | |
| Italy (*) | Verona | Verona Bike | 4 |
| | Milan | BikeMi | 5 |
| | Padova | Goodbike Padova | |
| | Cuneo | BICINCITTA' | 9 |
| Poland (*) | Warsaw | Veturilo | NA |



BSSs' planning & implementation period
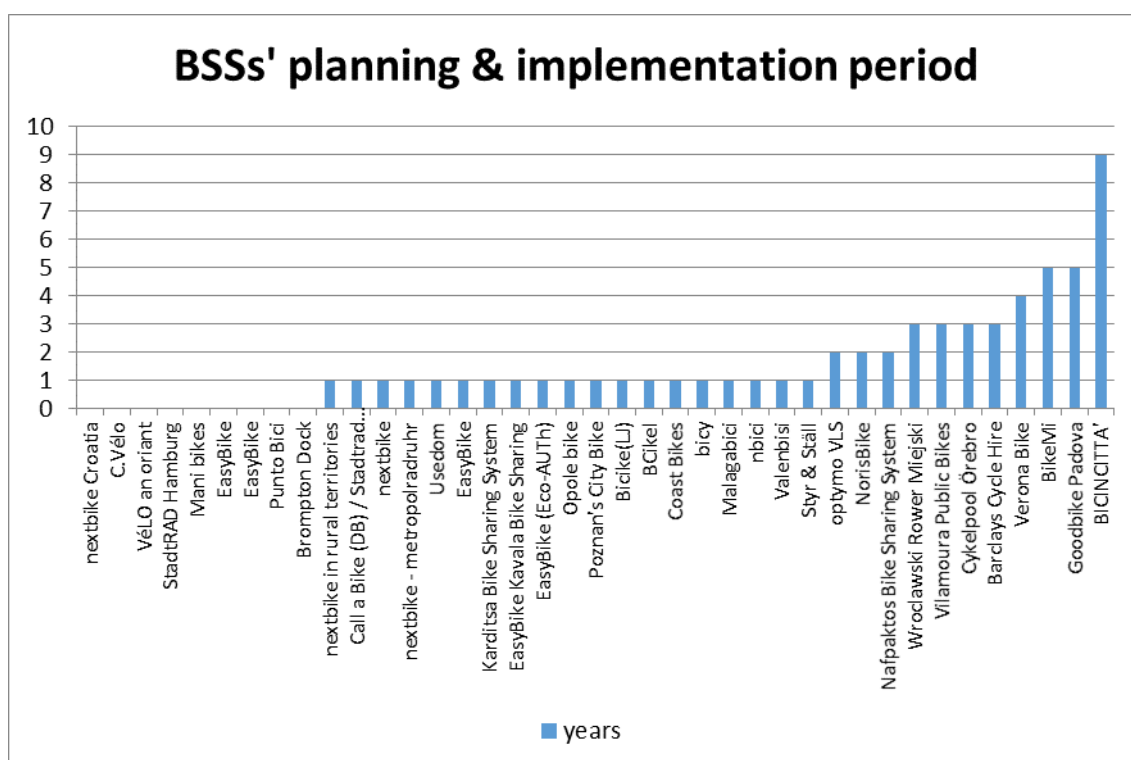
| Planning and implementation period (yrs) | No of BSSs | % |
|---|---|---|
| 0 | 9 | 23% |
| 1 | 19 | 49% |
| 2 | 3 | 8% |
| 3 | 4 | 10% |
| 4 | 1 | 3% |
| 5 | 2 | 5% |
| 9 | 1 | 3% |
| Sum of responses included in the analysis | 39 | 100% |
| blank | 1 | 3% |
| Sum of responses received | 40 | |
| Grand Total | 40 | |



BSSs' planning & implementation period (yrs)

BSSs' planning & implementation period (yrs)
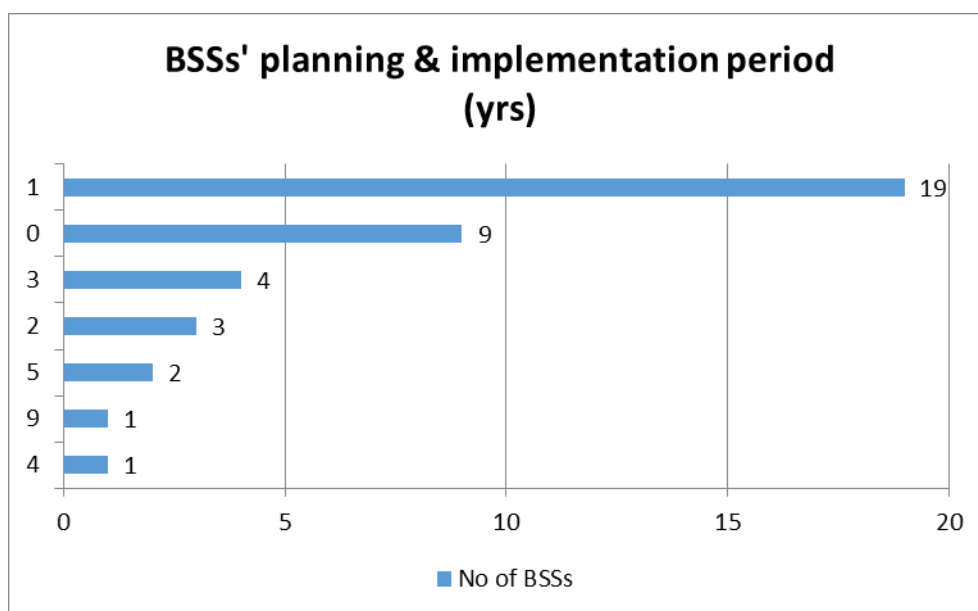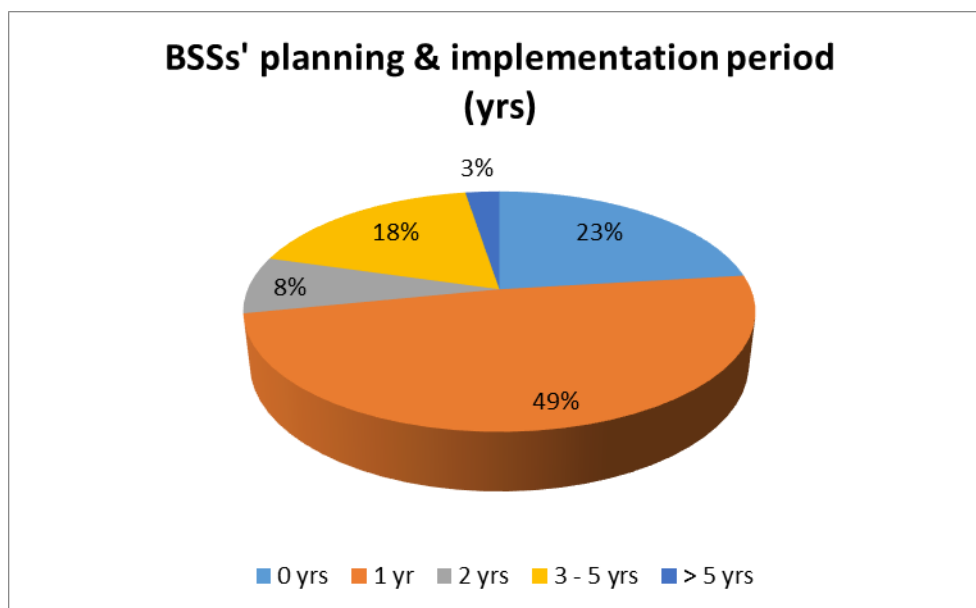
## 4.3 BSSs' operational data

### 4.3.1 User groups [Q6]

The analysis of the 40 completed questionnaires regarding the BSSs' user groups (question 6), revealed 45 responses, since 3 responses were submitted for Maribor's BSS and 2 responses were submitted by the Municipalities of Koper & Izola [SI], which share the same BSS.

The valid responses which were further analysed amount to 42, since there were 2 cases of ignorance / unwillingness (Malaga and Pamplona [ES]) and 1 irrelevant response (Wroclaw [PL]).

The primary group of BSS user was found to be "Commuters to work / school" (26), followed by "Tourists" (8), "People on leisure time" (7) and "Local residents" (1).

| Responses | User groups of BSSs | No of responses | % |
|---|---|---|---|
| Predefined | Commuters to work / school | 26 | 62% |
| | Tourists | 8 | 19% |

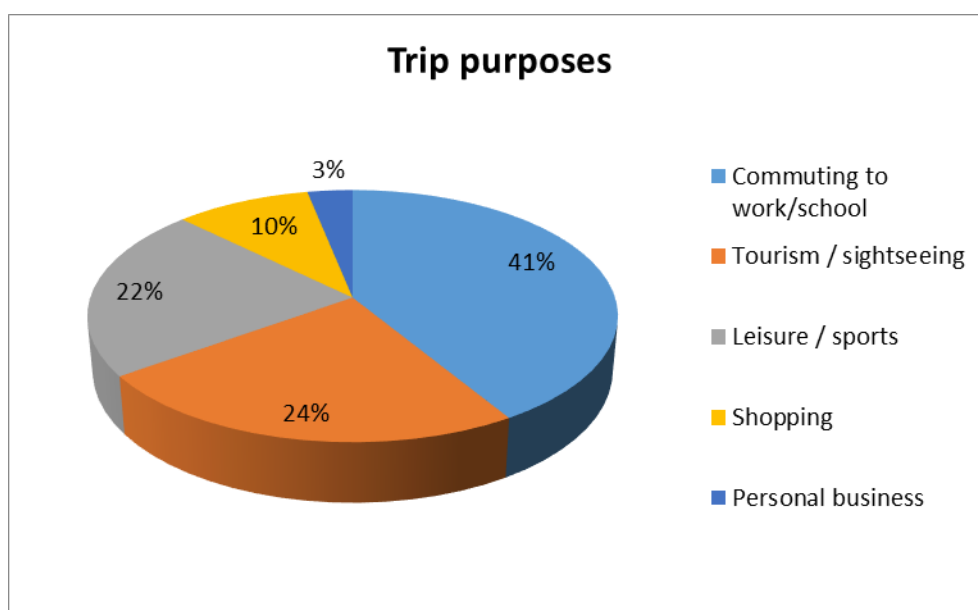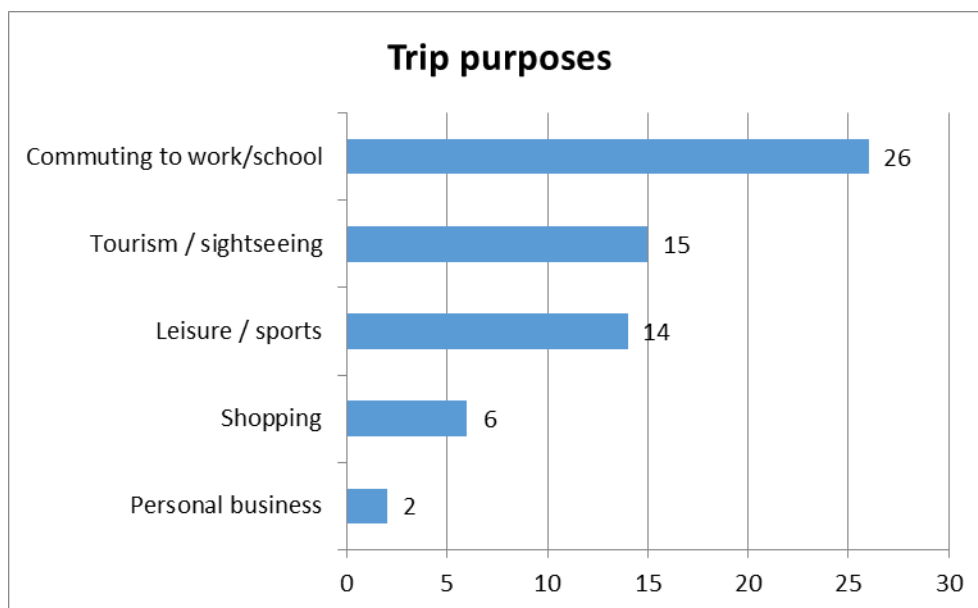| | | | |
|---|---|---|---|
| | People on leisure time | 7 | 17% |
| Other | Local residents | 1 | 2% |
| | Sum of responses included in the analysis | 42 | 100% |
| | I don't know / I do not wish to answer | 2 | 4% |
| | Not included in the analysis | 1 | 2% |
| | Sum of responses received | 45 | |
| | blank | 0 | |
| | Grand Total | 45 | |
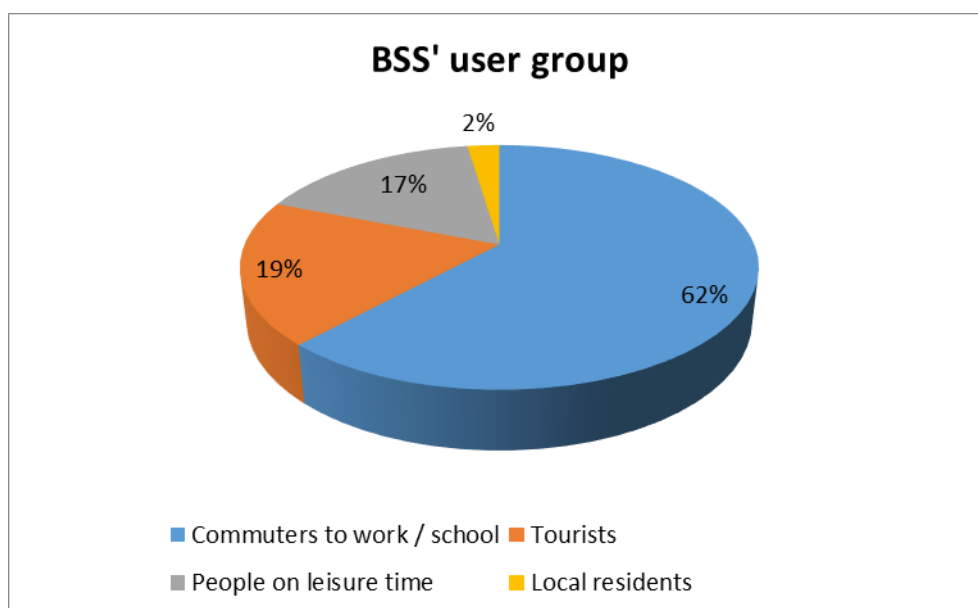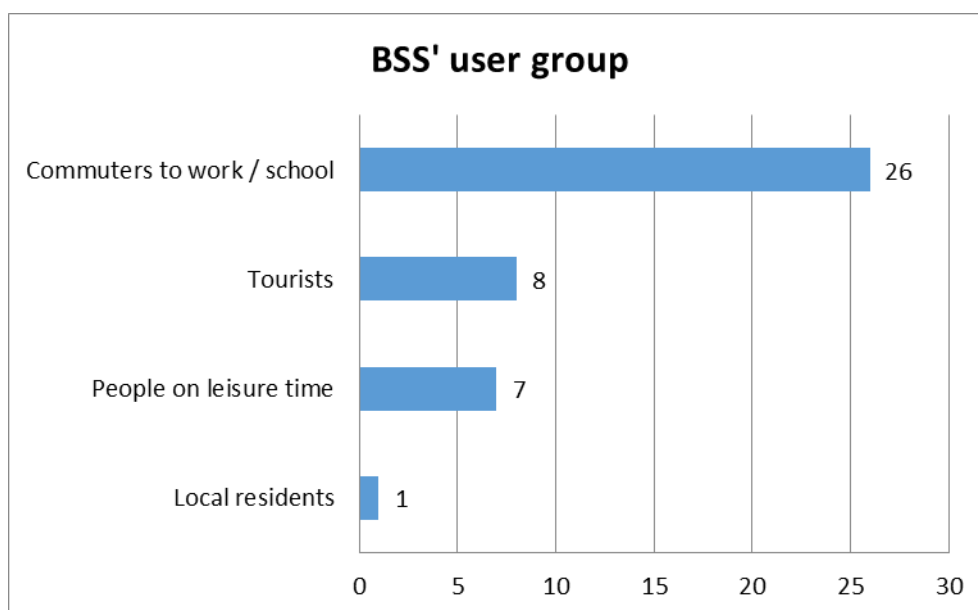
### 4.3.2 Trip purpose [Q7]

The analysis of the 40 submitted questionnaires regarding trip purposes by BSS (question 7), revealed 66 responses, since in many cases more than one response were submitted.

The valid responses which were further analysed amount to 63, since there were 3 cases of ignorance / unwillingness (Maribor [SI], Malaga and Pamplona [ES]).

In full compliance with the responses to the previous question, the main trip purpose by BSS was found to be "Commuting to work / school" (27), followed by "Tourism / sightseeing" (15), "Leisure / sports" (14), "Shopping" (6) and "Personal business" (2).

| Responses | Trip purposes | No of responses | % |
|---|---|---|---|
| Predefined | Commuting to work / school | 26 | 41% |
| | Tourism / sightseeing | 15 | 24% |
| | Leisure / sports | 14 | 22% |
| | Shopping | 6 | 10% |
| Other | Personal business | 2 | 3% |
| | Sum of responses included in the analysis | 63 | 100% |
| | I don't know / I do not wish to answer | 3 | 5% |
| | Sum of responses received | 66 | |
| | blank | 0 | |
| | Grand Total | 66 | |

**Trip purposes**

| Trip purpose | Value |
|---|---|
| Commuting to work/school | 26 |
| Tourism / sightseeing | 15 |
| Leisure / sports | 14 |
| Shopping | 6 |
| Personal business | 2 |



**Trip purposes**

- Commuting to work/school — 41%
- Tourism / sightseeing — 24%
- Leisure / sports — 22%
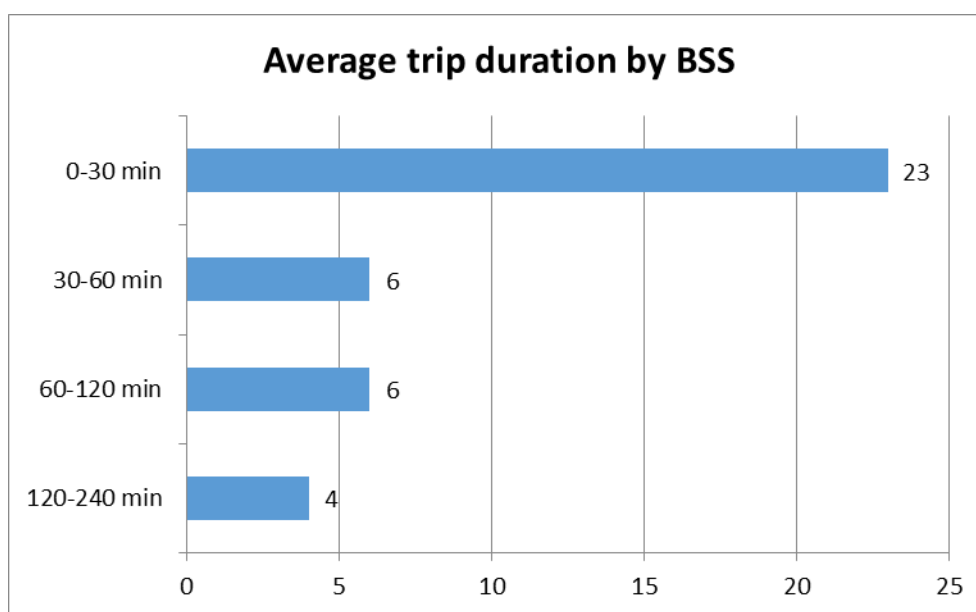- Shopping — 10%
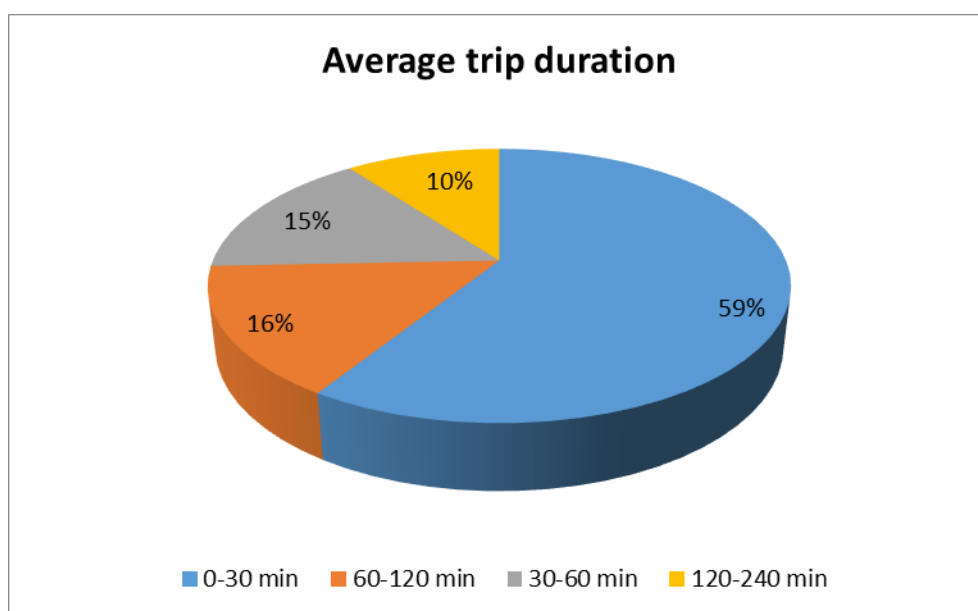- Personal business — 3%

### 4.3.3 Trip duration [Q9]

The analysis of the 40 submitted questionnaires regarding the average trip duration by BSS (question 9)revealed 41 responses, since 2 responses were submitted for Lower Austria's BSS: one for touristic areas and one for cities.

The valid responses which were further analysed amount to 39, since there were 2 cases of ignorance / unwillingness (Leipzig [AT] and Örebro [SE]).

The response with the highest frequency was (as expected) "0-30 mins" (23), followed by "30-60 min" and "60-120 min" (6 times each) and "120-240 min" (4).

| Average trip duration by BSS | No of responses | % |
|---|---|---|
| 0-30 min | 23 | 59% |
| 30-60 min | 6 | 15% |
| 60-120 min | 6 | 15% |
| 120-240 min | 4 | 10% |
| Sum of responses included in the analysis | 39 | 100% |
| I don't know / I do not wish to answer | 2 | 5% |
| Sum of responses received | 41 | |
| blank | 0 | |
| Grand Total | 41 | |



**Average trip duration by BSS**

| Category | Value |
|---|---|
| 0-30 min | 23 |
| 30-60 min | 6 |
| 60-120 min | 6 |
| 120-240 min | 4 |

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cycle cities

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**Average trip duration**



| | |
| --- | --- |
| ■ 0-30 min | ■ 60-120 min |
| ■ 30-60 min | ■ 120-240 min |

### 4.3.4 Area covered [Q8]

The analysis of the 40 submitted questionnaires regarding the proportion of municipality area covered by BSS (question 8), revealed 41 responses, since 2 responses were submitted by the Municipalities of Koper & Izola [SI], which share the same BSS: one for rural and one for urban areas.

The valid responses which were further analysed amount to 38, since there were 2 cases of ignorance / unwillingness (Malaga and Pamplona [ES]) and 1 irrelevant response (Across the UK).

The response with the highest frequency regarding the proportion of municipality area covered by BSS was found to be "10-30%" (11), followed by "<10%" (8), "31-50%" (7), ">50%" and "Spans across several municipalities" (6 times each).

| Proportion of covered area by BSS | No of responses | % |
| --- | --- | --- |
| 10-30% | 11 | 29% |
| <10% | 8 | 21% |
| 31–50% | 7 | 18% |

| | | |
|---|---|---|
| >50% | 6 | 16% |
| Spans across several municipalities | 6 | 16% |
| Sum of responses included in the analysis | 38 | 100% |
| I don't know / I do not wish to answer | 2 | 5% |
| Not included in the analysis | 1 | 2% |
| Sum of responses received | 41 | |
| blank | 0 | |
| Grand Total | 41 | |



Proportion of covered area by BSS



Proportion of covered area by BSS
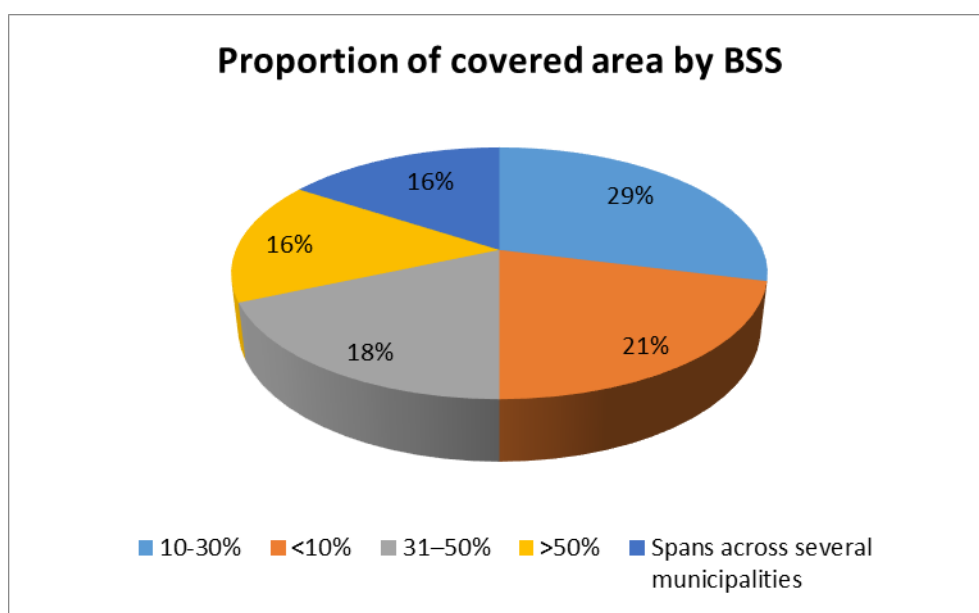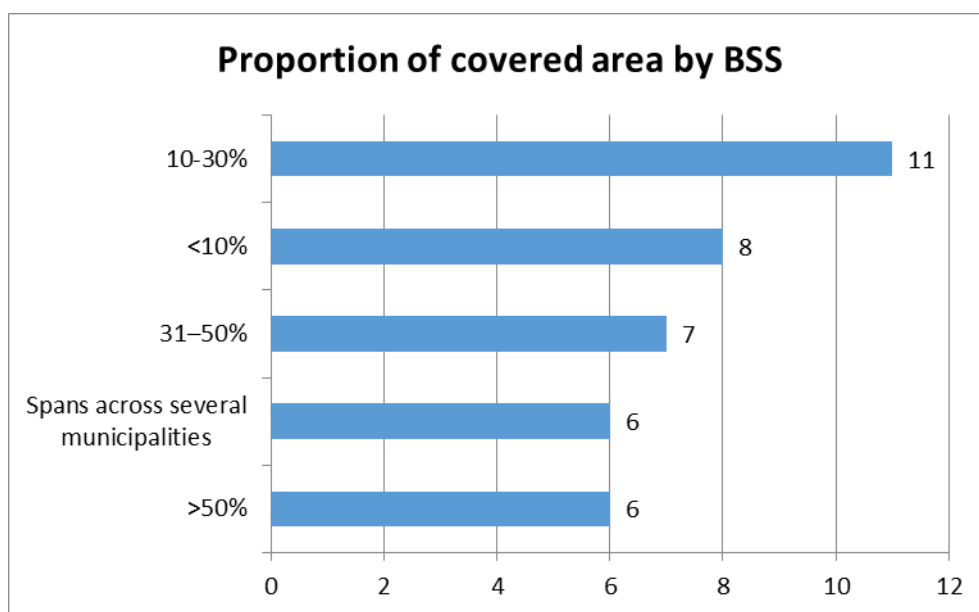
### 4.3.5  Users' satisfaction measurement method [Q10]

The analysis of the 40 submitted questionnaires regarding BSS users' satisfaction measurement method (question 10), revealed 48 responses, since in the cases of Lower Austria [AT], Karditsa, Kavala, Nafpaktos, Thessaloniki [EL] and Ljubljana [SI] two different methods were submitted.

The valid responses which were further analysed amount to 40, since there were 7 cases of ignorance / unwillingness and 1 case of irrelevant respond (Wroclaw [PL]).
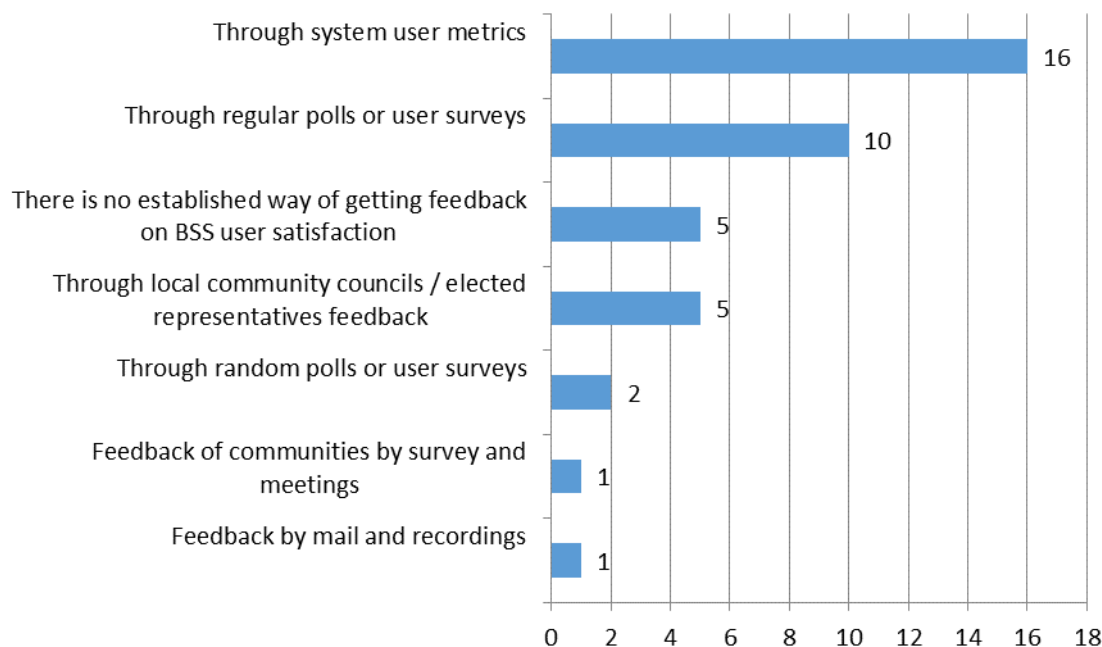
The predefined response with the highest frequency was found to be "Through system user metrics" (16), followed by "Through regular polls or user surveys" (10), "Through local community councils / elected representatives feedback" (5).

Other users' satisfaction measurement methods submitted were: "Through random polls or user surveys" (2), "Feedback by mail and recordings" and "Feedback of communities by survey and meetings" (1 each).
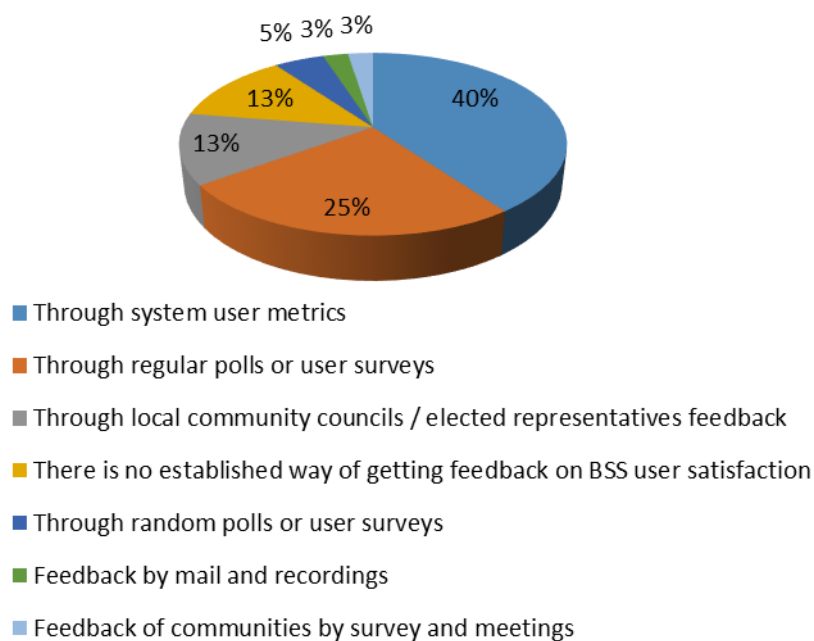
Finally, in 5 cases of BSS there is no established way of getting feedback on BSS user satisfaction.

| Responses | BSS users' satisfaction measurement method | No of responses | % |
|---|---|---|---|
| Predefined | Through system user metrics | 16 | 40% |
| | Through regular polls or user surveys | 10 | 25% |
| | Through local community councils / elected representatives feedback | 5 | 13% |
| | There is no established way of getting feedback on BSS user satisfaction | 5 | 13% |
| Other | Through random polls or user surveys | 2 | 5% |
| | Feedback by mail and recordings | 1 | 3% |
| | Feedback of communities by survey and meetings | 1 | 3% |
| | Sum of responses included in the analysis | 40 | 100% |
| | I don't know / I do not wish to answer | 7 | 15% |
| | Not included in the analysis | 1 | 2% |
| | Sum of responses received | 48 | |
| | blank | 0 | |
| | Grand Total | 48 | |

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## BSS users' satisfaction measurement method

| Method | Value |
|---|---|
| Through system user metrics | 16 |
| Through regular polls or user surveys | 10 |
| There is no established way of getting feedback on BSS user satisfaction | 5 |
| Through local community councils / elected representatives feedback | 5 |
| Through random polls or user surveys | 2 |
| Feedback of communities by survey and meetings | 1 |
| Feedback by mail and recordings | 1 |

## BSS users' satisfaction measurement method

Pie chart values: 40%, 25%, 13%, 13%, 5%, 3%, 3%

- Through system user metrics
- Through regular polls or user surveys
- Through local community councils / elected representatives feedback
- There is no established way of getting feedback on BSS user satisfaction
- Through random polls or user surveys
- Feedback by mail and recordings
- Feedback of communities by survey and meetings
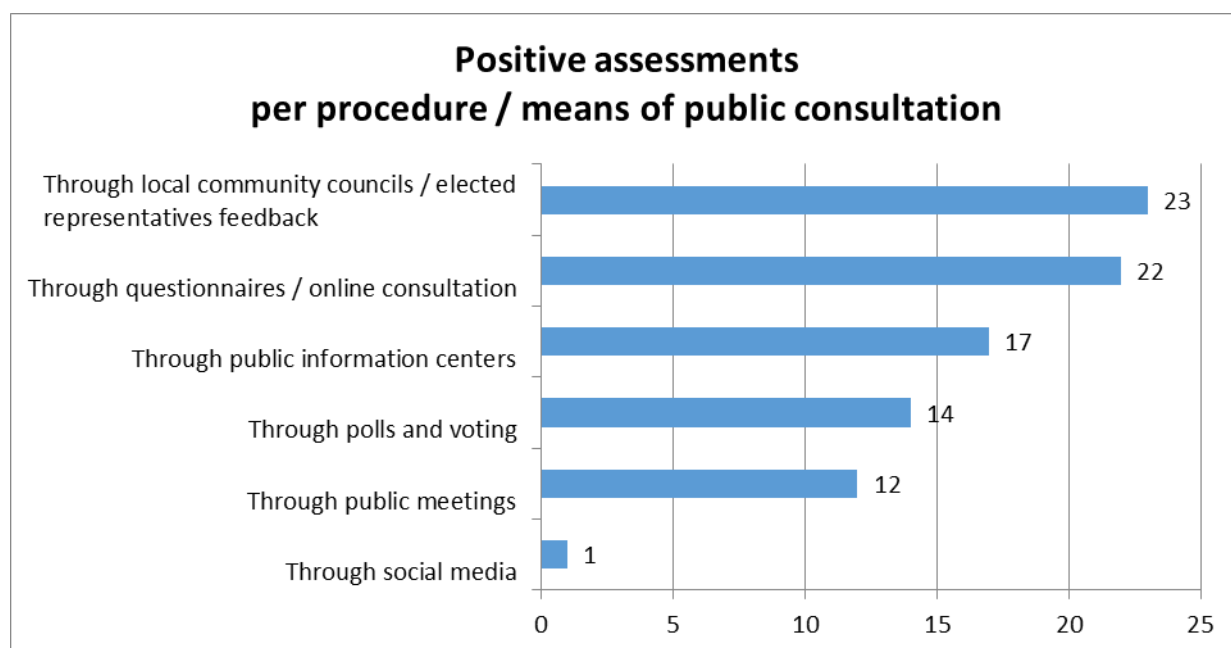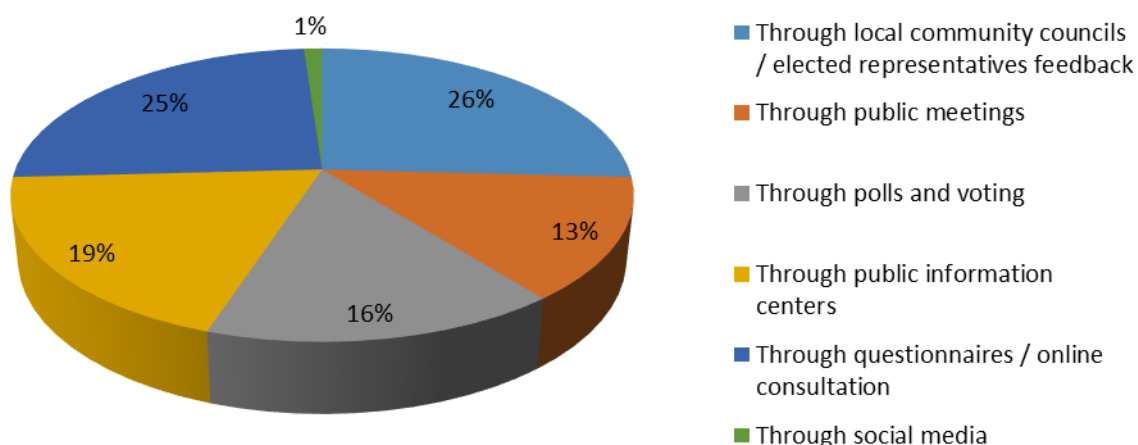
## 4.3.6 Assessment of public consultation regarding the implementation of BSS [Q11]

The analysis of the 40 submitted questionnaires regarding the assessment of public consultation as regards the implementation of BSSs [Q11], revealed that the procedure of public consultation with the highest sum of positive assessments ("Adequate" & "Somewhat sufficient") was through "local community councils / elected representatives feedback" (23 positive responses in total), followed by "questionnaires / online consultation" (22 positive responses in total), "public information centers" (17 positive responses in total).

| Responses | Procedure / Means | Sum of positive assessments | % |
|---|---|---|---|
| Predefined | Through local community councils / elected representatives feedback | 23 | 26% |
| | Through questionnaires / online consultation | 22 | 25% |
| | Through public information centers | 17 | 19% |
| | Through polls and voting | 14 | 16% |
| | Through public meetings | 12 | 13% |
| Other | Through social media | 1 | 1% |
| | Grand Total | 89 | 100% |

**Positive assessments per procedure / means of public consultation**

- 1%
- 25%
- 26%
- 19%
- 13%
- 16%

- Through local community councils / elected representatives feedback
- Through public meetings
- Through polls and voting
- Through public information centers
- Through questionnaires / online consultation
- Through social media

The public consultation procedure which received more responses as:

- "Adequate" was through "local community councils / elected representatives feedback" (14 BSSs), followed by "questionnaires / online consultation" (9 BSSs), "public information centers" (8 BSSs), "polls and voting" (5 BSSs), "public meetings" (3 BSSs) and "social media" (1 BSS),
- "Somewhat sufficient" was through "questionnaires / online consultation" (13 BSSs), followed by "local community councils / elected representatives feedback", "public meetings", "polls and voting" and "public information centers" (9 BSSs each),
- "Somewhat insufficient" was through "polls and voting" and "public meetings" (8 BSSs each), followed by "questionnaires / online consultation" (5 BSSs), "public information centers" (3 BSSs) and "local community councils / elected representatives feedback" (2 BSSs)
- "Inexistent" was through "public information centers" (11 BSSs), followed by "public meetings" and "polls and voting" (10 BSSs each), "local community councils / elected representatives feedback" and "questionnaires / online consultation" (7 BSSs each).
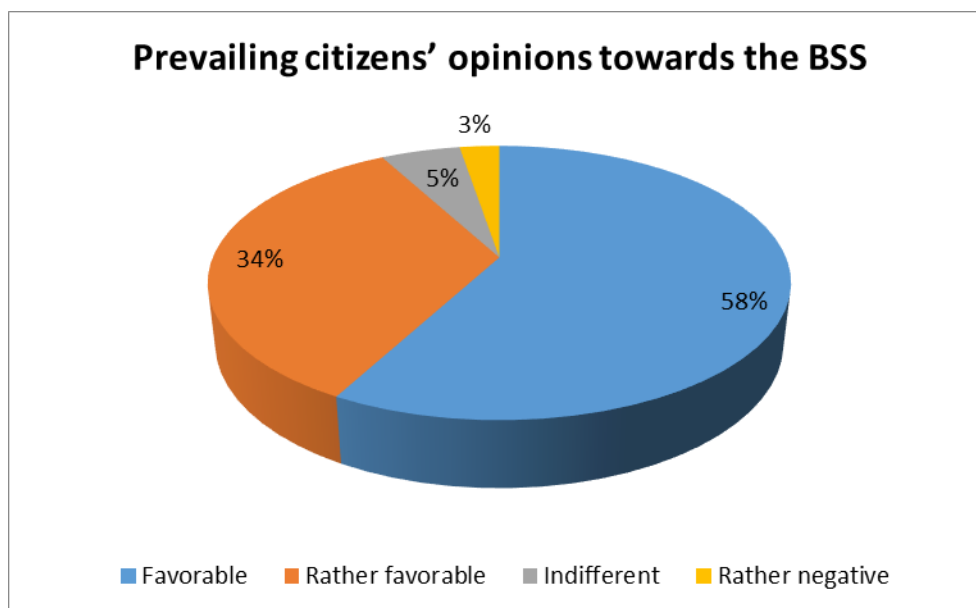
### 4.3.7 Prevailing citizens' opinions towards the BSS [Q12]

The analysis of the 40 submitted questionnaires regarding the prevailing citizens' opinions towards the BSS (question 12), revealed 38 valid responses for further analysis, since there were 2 cases of ignorance / unwillingness (Malaga and Pamplona [ES]).

The predefined description with the highest frequency was found to be "Favorable" (22), followed by "Rather favorable" (13), while responds "Indifferent" (2) and "Rather negative" (1) were left far behind.

| Prevailing citizens' opinions towards the BSS | No of responses | % |
|---|---|---|
| Favorable | 22 | 58% |
| Rather favorable | 13 | 34% |
| Indifferent | 2 | 5% |
| Rather negative | 1 | 3% |
| Sum of responses included in the analysis | 38 | 100,0% |
| I don't know / I do not wish to answer | 2 | 5% |
| Sum of responses received | 40 | |
| blank | 0 | |
| Grand Total | 40 | |

**Prevailing citizens' opinions towards the BSS**

- Favorable — 58%
- Rather favorable — 34%
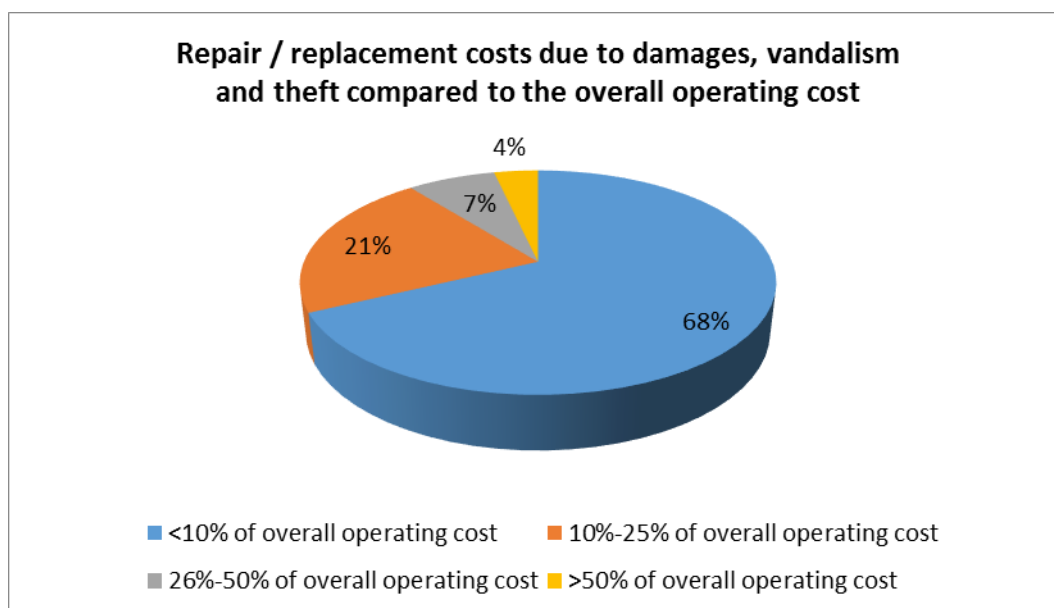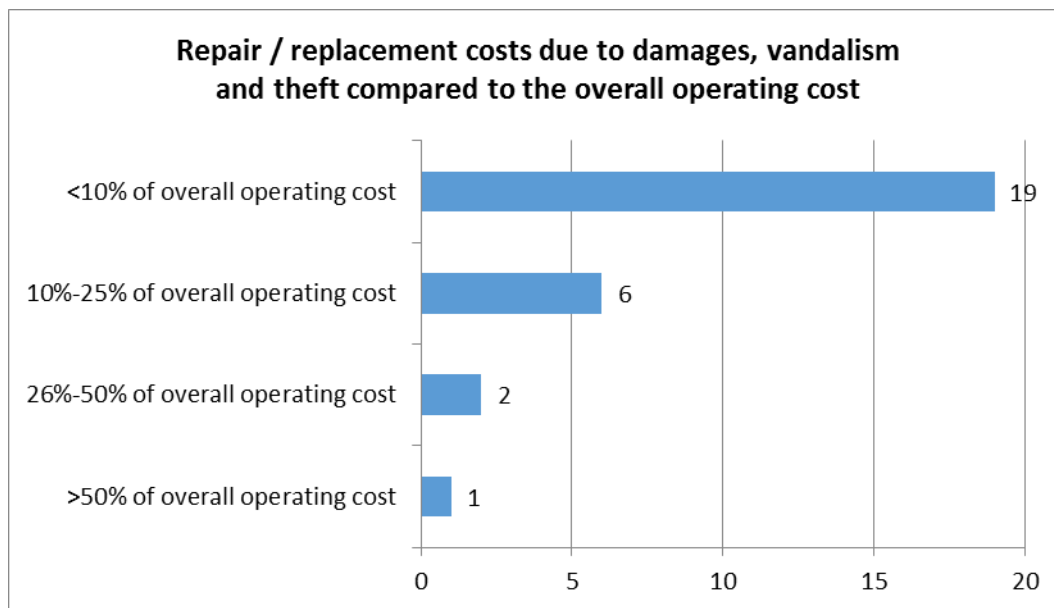- Indifferent — 5%
- Rather negative — 3%
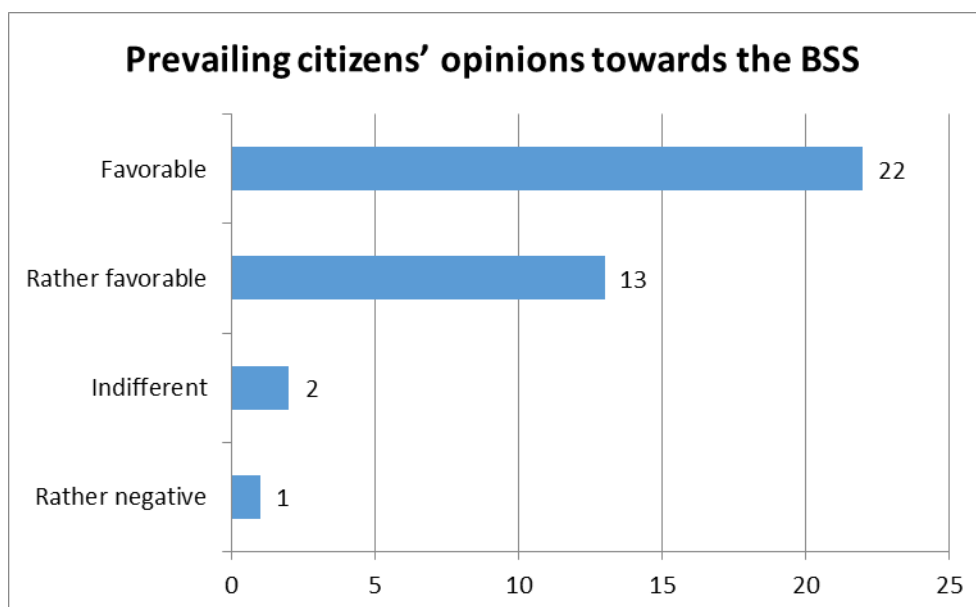
## 4.4 Costs and economic results

### 4.4.1 Repair / replacement compared to the overall operating cost [Q13]

The analysis of the 40 submitted questionnaires regarding the repair / replacement costs due to damages, vandalism and theft compared to the overall operating cost (question 13), revealed 28 valid responses, since there were 12 cases of ignorance / unwillingness.

The estimation with the highest frequency was "<10% of overall operating cost" (19), followed by "10%-25% of overall operating cost" (6), "26%-50% of overall operating cost" (2), ">50% of overall operating cost" (1).

| Repair / replacement costs due to damages, vandalism and theft compared to the overall operating cost | No of responses | % |
|---|---|---|
| <10% of overall operating cost | 19 | 68% |
| 10%-25% of overall operating cost | 6 | 21% |
| 26%-50% of overall operating cost | 2 | 7% |
| >50% of overall operating cost | 1 | 46% |
| Sum of responses included in the analysis | 28 | 100,0% |
| I don't know / I do not wish to answer | 12 | 30% |
| Sum of responses received | 40 | |
| blank | 0 | |
| Grand Total | 40 | |

Repair / replacement costs due to damages, vandalism and theft compared to the overall operating cost



Repair / replacement costs due to damages, vandalism and theft compared to the overall operating cost

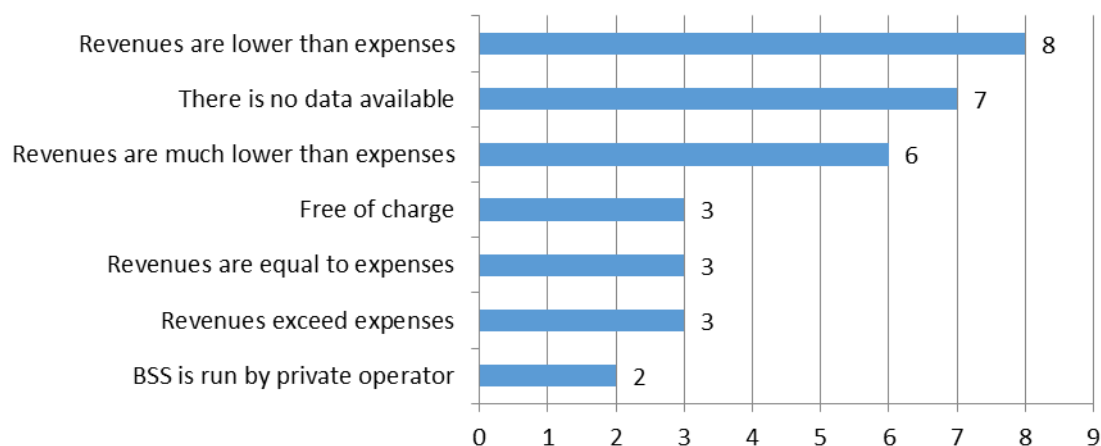## 4.4.2 Economic results [Q14]

The analysis of the 40 submitted questionnaires regarding the average economic results of the BSS in the last 3 years of operation (question 14), revealed 32 valid responses, since there were 8 cases of ignorance / unwillingness.

The predefined responses with the highest frequency was "Revenues are lower than expenses" (8), followed by "There is no data available" (7), "Revenues are much lower than expenses" (6), "Revenues exceed expenses" (3), "Revenues are equal to expenses" (3).
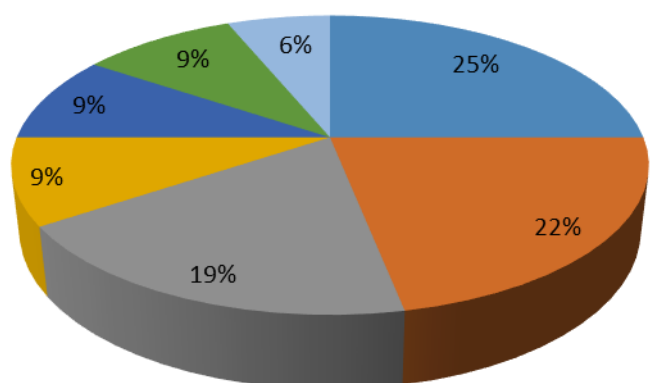
In 3 cases BSS use is free of charge while in the case of Gothenburg [SE] the BSS is operated by a private company and the respondent did not submit any estimation.

| Responses | Average economic results of the BSS in the last 3 years of operation | No of responses | % |
|---|---|---|---|
| Predefined | Revenues are lower than expenses | 8 | 25% |
| | There is no data available | 7 | 22% |
| | Revenues are much lower than expenses | 6 | 19% |
| | Revenues exceed expenses | 3 | 9% |
| | Revenues are equal to expenses | 3 | 9% |
| Other | Free of charge | 3 | 9% |
| | BSS is run by private operator | 2 | 6% |
| | Sum of responses included in the analysis | 32 | 100% |
| | I don't know / I do not wish to answer | 8 | 20% |
| | Sum of responses received | 40 | |
| | blank | 0 | |
| | Grand Total | 40 | |

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## Average economic results of the BSS in the last 3 years of operation

| Category | Value |
|---|---|
| Revenues are lower than expenses | 8 |
| There is no data available | 7 |
| Revenues are much lower than expenses | 6 |
| Free of charge | 3 |
| Revenues are equal to expenses | 3 |
| Revenues exceed expenses | 3 |
| BSS is run by private operator | 2 |

## Average economic results of the BSS in the last 3 years of operation

- Revenues are lower than expenses — 25%
- There is no data available — 22%
- Revenues are much lower than expenses — 19%
- Revenues exceed expenses — 9%
- Revenues are equal to expenses — 9%
- Free of charge — 9%
- BSS is run by private operator — 6%

### 4.4.3 Main sources of revenue [Q15]

The analysis of the 40 submitted questionnaires regarding the main sources of revenues for the operation of BSS (question 15), revealed that the predefined responses with the highest frequency were "User fare" and "Advertisement" (27 BSSs each), followed by "Contract with public authority" (20 BSSs) and "Grants/Donations" (19 BSSs).

Other sources of revenue submitted were: "Municipal budget" (2 BSSs), "Contract with corporate clients and universities", "Events" and "More than one financial sources" (1 BSS).

| Responses | Main sources of revenue | Responses included in the analysis | % |
|---|---|---|---|
| Predefined | User fare | 27 | 28% |
| | Advertisement | 27 | 28% |
| | Contract with public authority | 20 | 20% |
| | Grants/Donations | 19 | 19% |
| Other | Events | 1 | 1% |
| | Contract with corporate clients and universities | 1 | 1% |
| | Municipal budget | 2 | 2% |
| | More than one financial sources | 1 | 1% |
| | Grand Total | 98 | 100% |

**Main sources of revenue**

- User fare
- Advertisement
- Contract with public authority
- Grants/Donations
- Municipal budget
- Contract with corporate clients and universities
- Events
- More than one financial sources
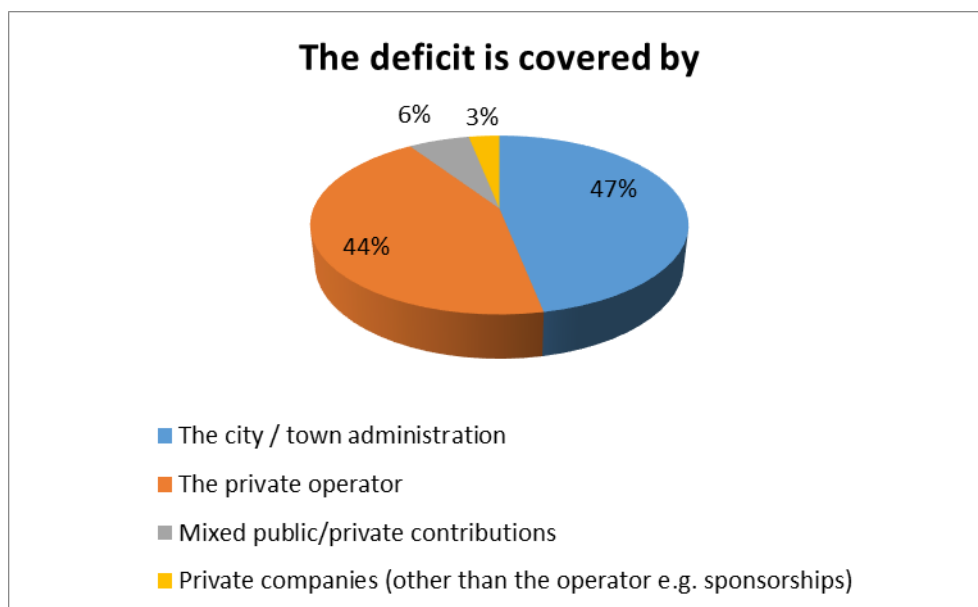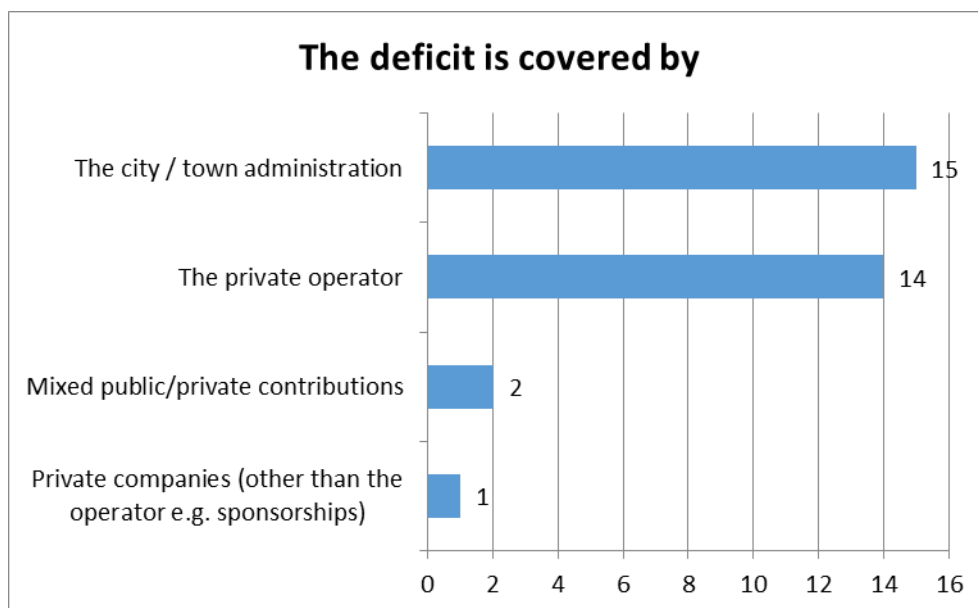
1%
2% 1% 1%
19%
20%
28%
28%
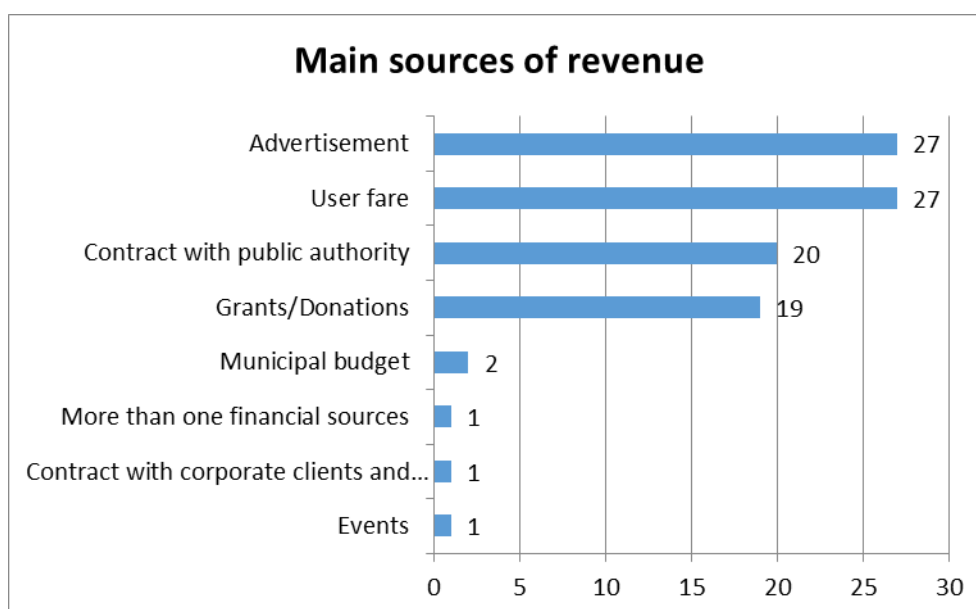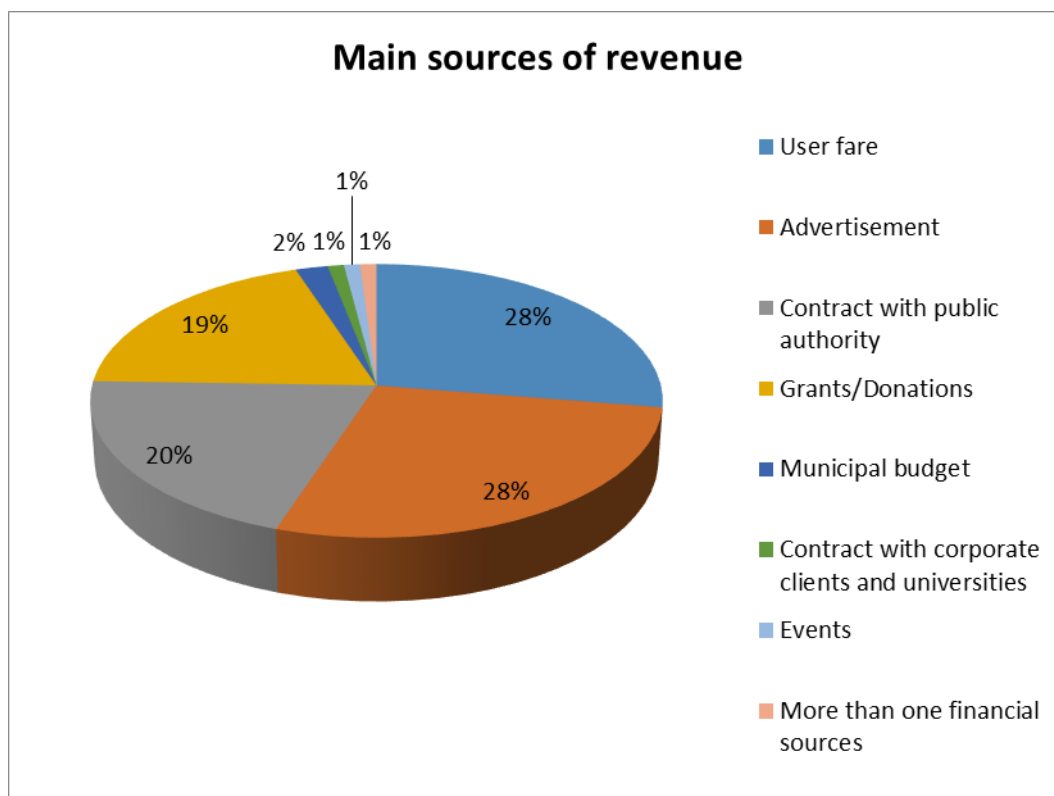
### 4.4.4 Cover of deficits [Q16]

The analysis of the 40 submitted questionnaires regarding who covers the deficits in case of negative economic result by BSS operation (question 16), revealed 32 valid responses, since there were 6 cases of ignorance / unwillingness and 2 cases without any answer at all (Milan [IT], Across the UK].

The response with the highest frequency was found to be "The city / town administration" (15), followed by "The private operator" (14), "Mixed public / private contributions, (2), "Private companies (other than the operator e.g. sponsorships)" (1).

| The deficit is covered by: | No of responses | % |
|---|---|---|
| The city / town administration | 15 | 47% |
| The private operator | 14 | 44% |
| Mixed public / private contributions | 2 | 6% |

| | | |
|---|---|---|
| Private companies (other than the operator e.g. sponsorships) | 1 | 3% |
| Sum of responses included in the analysis | 32 | 100% |
| I don't know / I do not wish to answer | 6 | 16% |
| Sum of responses received | 38 | |
| blank | 2 | 5% |
| Grand Total | 40 | |

## The deficit is covered by

The city / town administration — 15

The private operator — 14

Mixed public/private contributions — 2

Private companies (other than the operator e.g. sponsorships) — 1

## The deficit is covered by

- 47% The city / town administration
- 44% The private operator
- 6% Mixed public/private contributions
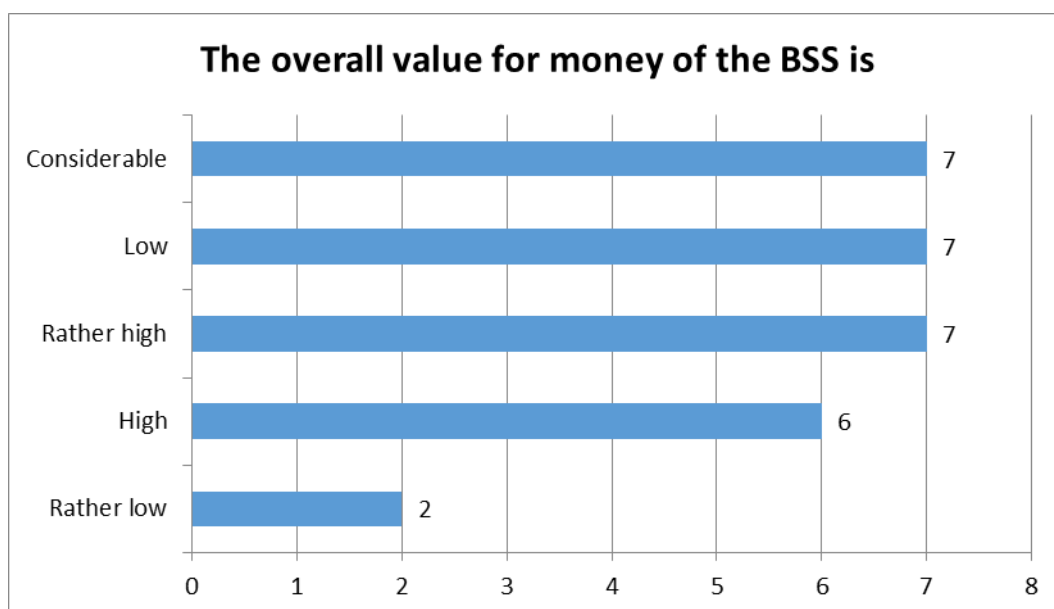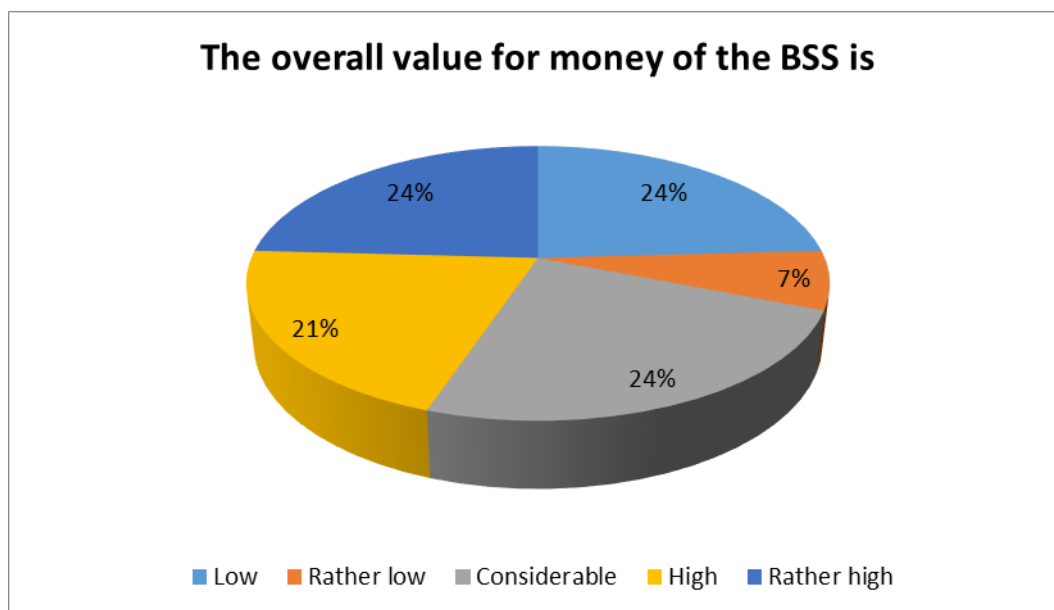- 3% Private companies (other than the operator e.g. sponsorships)

### 4.4.5 Assessment of overall value for money [Q17]

The analysis of the 40 submitted questionnaires regarding the respondent's assessment of BSS's overall value for money (question 17), revealed 29 valid responses, since there were 10 cases of ignorance / unwillingness and 1 cases without any answer at all (Milan [IT]).

Each one of the predefined estimations "Low", "Considerable" and "Rather high" was selected in 7 BSS cases. The overall value for money was found "High" in 6 BSS cases and "Rather low" in 2.

| The overall value for money of the BSS is | No of responses | % |
|---|---|---|
| Considerable | 7 | 24% |
| Low | 7 | 24% |
| Rather high | 7 | 24% |
| High | 6 | 21% |
| Rather low | 2 | 7% |
| Sum of responses included in the analysis | 29 | 100% |
| I don't know / I do not wish to answer | 10 | 26% |
| Sum of responses received | 39 | |
| blank | 1 | 3% |
| Grand Total | 40 | |



The overall value for money of the BSS is

| | |
|---|---|
| Considerable | 7 |
| Low | 7 |
| Rather high | 7 |
| High | 6 |
| Rather low | 2 |

The overall value for money of the BSS is

- Low: 24%
- Rather low: 7%
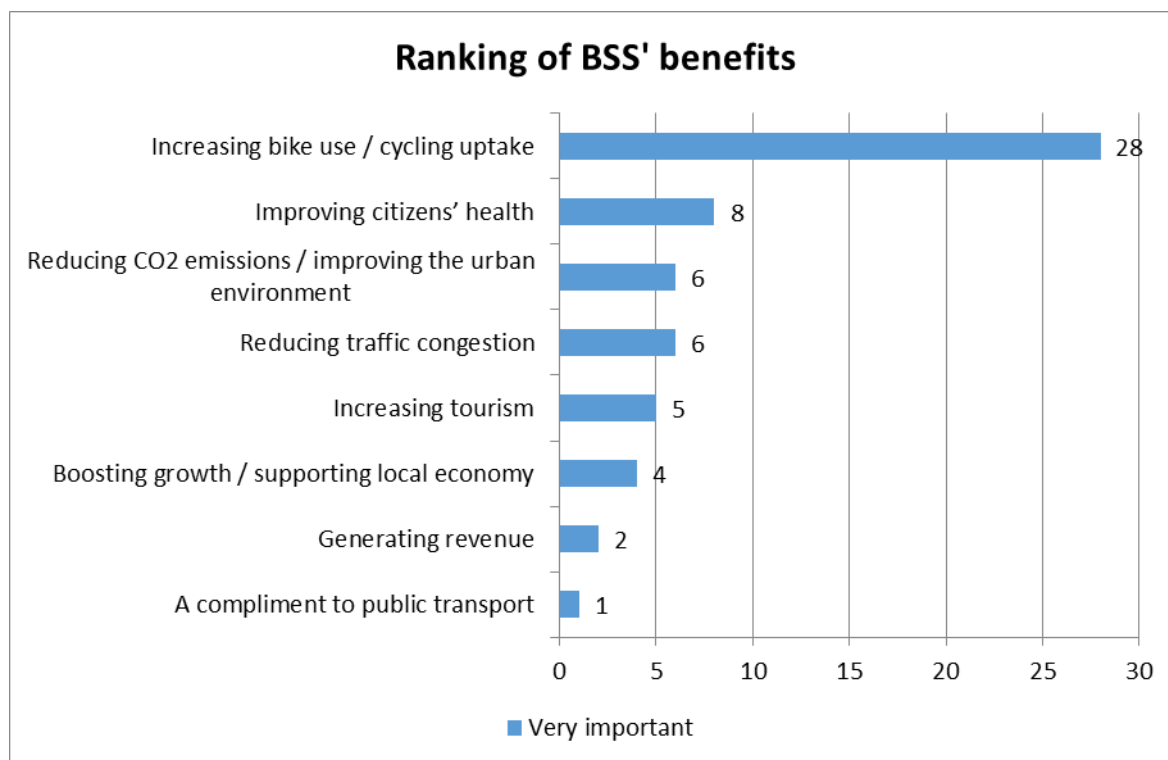- Considerable: 24%
- High: 21%
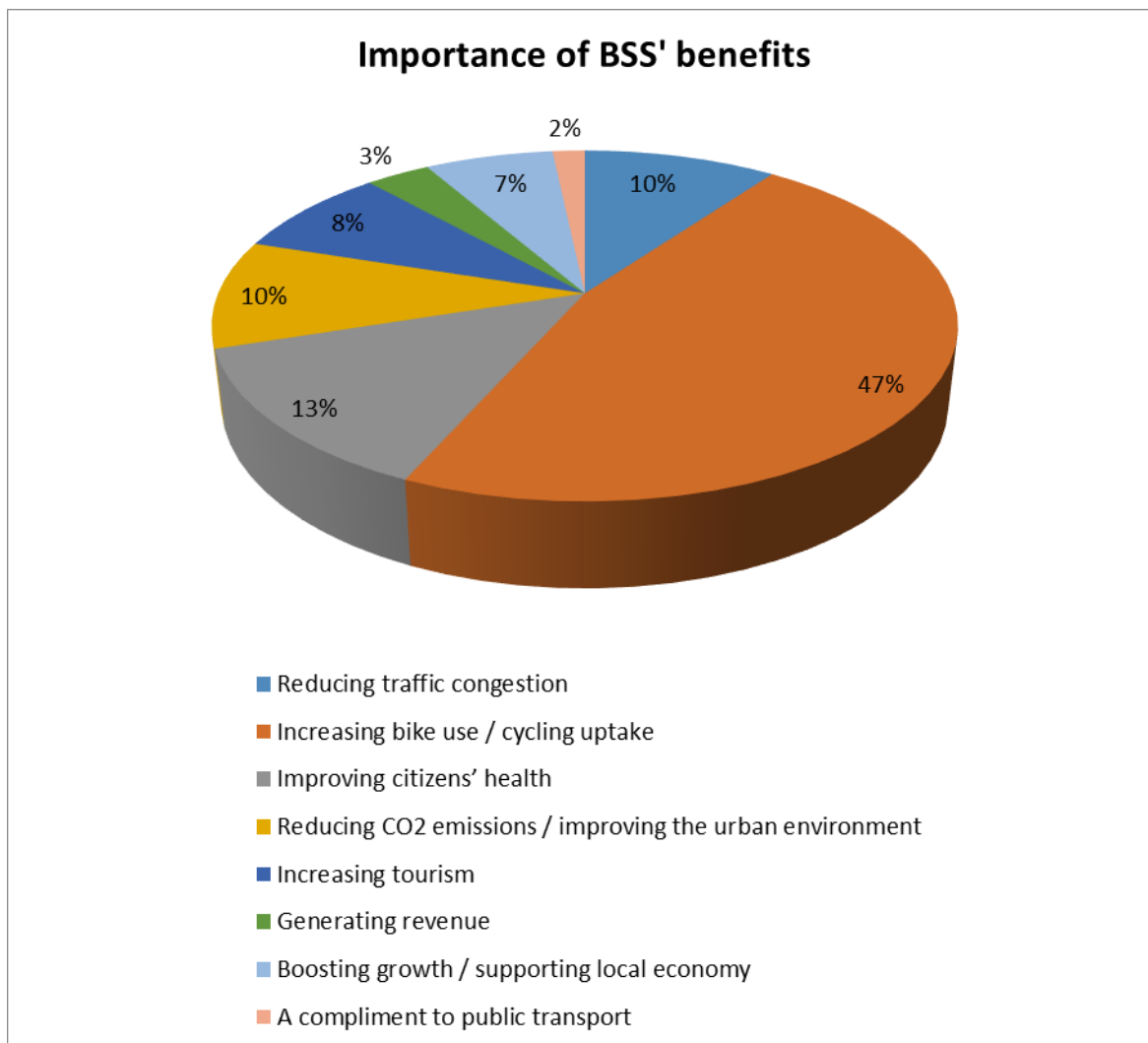- Rather high: 24%

## 4.5 Impacts and prospects

### 4.5.1 Major benefits [Q18]

The analysis of the 40 submitted questionnaires regarding seven (7)7 predefined benefits of BSSs (question 18), revealed that concerning:

- "Reducing traffic congestion" BSS' contribution was considered "Quite important" in 14 submitted BSS cases,
- "Increasing bike use / cycling uptake" BSS' contribution was considered "Very important" in 28 submitted BSS cases,
- "Improving citizens' health" BSS' contribution was considered "Quite important" in 16 submitted BSS cases,
- "Reducing $CO_2$ emissions / improving the urban environment" BSS' contribution was considered "Slightly important" in 17 submitted BSS cases,
- "Increasing tourism" BSS' contribution was considered equally "Slightly" and "Quite important" in 14 submitted BSS cases,
- "Generating revenue" BSS' contribution was considered "Insignificant" in 17 submitted BSS cases,
- "Boosting growth / supporting local economy" BSS' contribution was considered "Insignificant" in 11 submitted BSS cases.

Finally, in 1 submitted case (Gothenburg [SE]) BSS was assessed as a "Very important" compliment to public transport.

## Ranking of BSS' benefits

| Benefit | Value |
|---|---|
| Increasing bike use / cycling uptake | 28 |
| Improving citizens' health | 8 |
| Reducing CO2 emissions / improving the urban environment | 6 |
| Reducing traffic congestion | 6 |
| Increasing tourism | 5 |
| Boosting growth / supporting local economy | 4 |
| Generating revenue | 2 |
| A compliment to public transport | 1 |

■ Very important

**Importance of BSS' benefits**

- Reducing traffic congestion
- Increasing bike use / cycling uptake
- Improving citizens' health
- Reducing CO2 emissions / improving the urban environment
- Increasing tourism
- Generating revenue
- Boosting growth / supporting local economy
- A compliment to public transport

### 4.5.2 Major challenges, disadvantages or negative aspects [Q19]

The analysis of the 40 submitted questionnaires regarding seven (7) predefined issues which can be considered as challenges, disadvantages or negative aspects of BSSs (question 19), revealed that:

- "High operating cost" was assessed as "Quite important" parameter in 15 submitted BSS cases,
- "High investment/start up cost" was assessed as "Quite important" parameter in 18 submitted BSS cases,

- "High prices for users" was assessed as "Insignificant" parameter in 17 submitted BSS cases,
- "Injuries and safety issues" was assessed as "Insignificant" parameter in 18 submitted BSS cases,
- "Insufficient technical support and maintenance (e.g. repair, replacement)" was assessed as "Quite important" parameter in 14 submitted BSS cases,
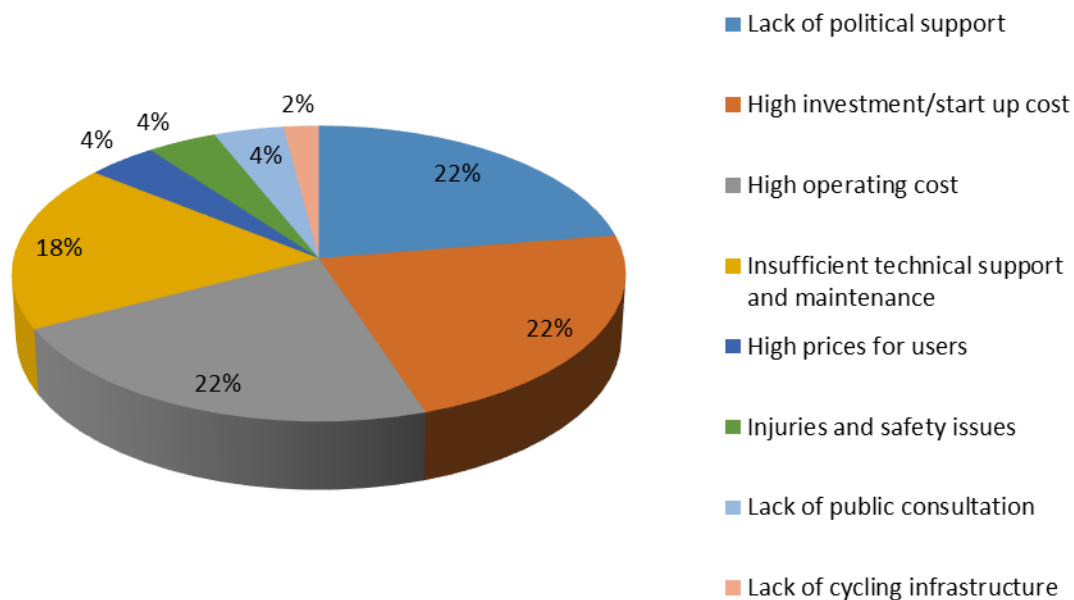- "Lack of political support" was assessed as "Quite important" parameter in 12 submitted BSS cases,
- "Lack of public consultation" was assessed as "Slightly important" parameter in 14 submitted BSS cases,

Finally, in 1 submitted case (Zagreb [HR]) "Lack of cycling infrastructure" was assessed as a "Very important" parameter.

| Responses | BSS' major challenges, disadvantages or negative aspects | Very important | % |
|---|---|---|---|
| | High operating cost | 11 | 22% |
| | High investment/start up cost | 11 | 22% |
| | Lack of political support | 11 | 22% |
| Predefined | Insufficient technical support and maintenance | 9 | 18% |
| | High prices for users | 2 | 4% |
| | Injuries and safety issues | 2 | 4% |
| | Lack of public consultation | 2 | 4% |
| Other | Lack of cycling infrastructure | 1 | 2% |
| | Grand Total | 49 | 100% |

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## Ranking of BSS' disadvantages

| Disadvantage | Value |
|---|---|
| Lack of political support | 11 |
| High investment/start up cost | 11 |
| High operating cost | 11 |
| Insufficient technical support and maintenance | 9 |
| Lack of public consultation | 2 |
| Injuries and safety issues | 2 |
| High prices for users | 2 |
| Lack of cycling infrastructure | 1 |

## Ranking of BSS' disadvantages

- Lack of political support — 22%
- High investment/start up cost — 22%
- High operating cost — 22%
- Insufficient technical support and maintenance — 18%
- High prices for users — 4%
- Injuries and safety issues — 4%
- Lack of public consultation — 4%
- Lack of cycling infrastructure — 2%

### 4.5.3 Accompanying actions / measures [Q20]

The analysis of the 40 submitted questionnaires regarding the actions / measures which were implemented in combination with the deployment of the BSS (question 20). revealed 92 responses, since more than one predefined responses were submitted in most BSS cases and in addition in 3 cases other actions / measures were described.

The valid responses which were further analysed amount to 86, since there were 3 cases of ignorance / unwillingness (Malaga and Pamplona [ES], Örebro [SE]) and 3 irrelevant responses (Hamburg [DE], Wroclaw [PL], Maribor [SI]).

The predefined response with the highest frequency was "Bicycle lanes development" (21), followed with a small difference by "Awareness raising campaigns" (19) and "Partnership with public transport sector" (18). Responses with low frequency were relevant to parking regulations: "Car parking space limitation measures" (11) and "Off-street parking amenities" (9).

Other actions / measures submitted were: "Cycle hire through an agency", "Development of bicycle lanes" and "Rewarding users" (1 time each).

Finally, in 5 cases there were no other measures taken.

| Responses | Following actions / measures | No of responses | % |
|---|---|---|---|
| Predefined | Bicycle lanes development | 21 | 24% |
| | Awareness raising campaigns | 19 | 22% |
| | Partnership with public transport sector | 18 | 21% |
| | Car parking space limitation measures | 11 | 13% |
| | Off-street parking amenities | 9 | 10% |
| | No other measure | 5 | 6% |
| Other | Cycle hire through an agency | 1 | 1% |
| | Development of bicycle lanes | 1 | 1% |
| | Rewarding users | 1 | 1% |
| | Sum of responses included in the analysis | 86 | 100,0% |
| | I don't know / I do not wish to answer | 3 | 3% |
| | Not included in the analysis | 3 | 3% |
| | Sum of responses received | 92 | |
| | blank | 0 | |

| | |
|---|---|
| Grand Total | 92 |

## Following actions / measures
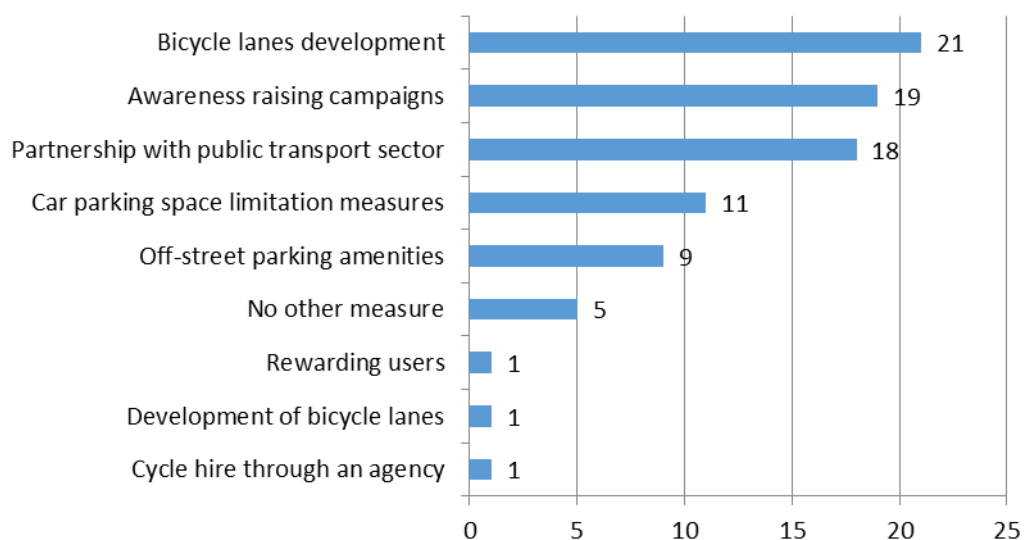


## Following actions / measures
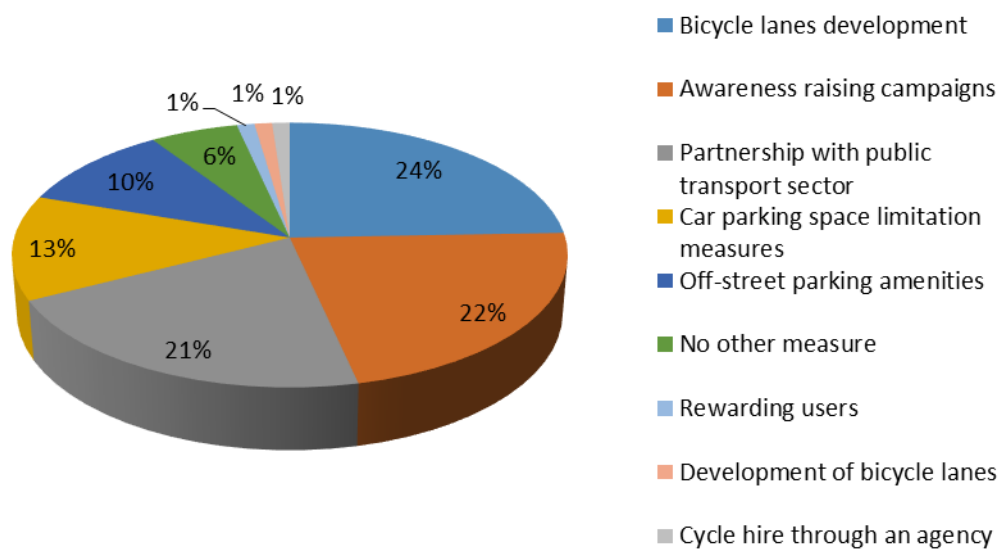
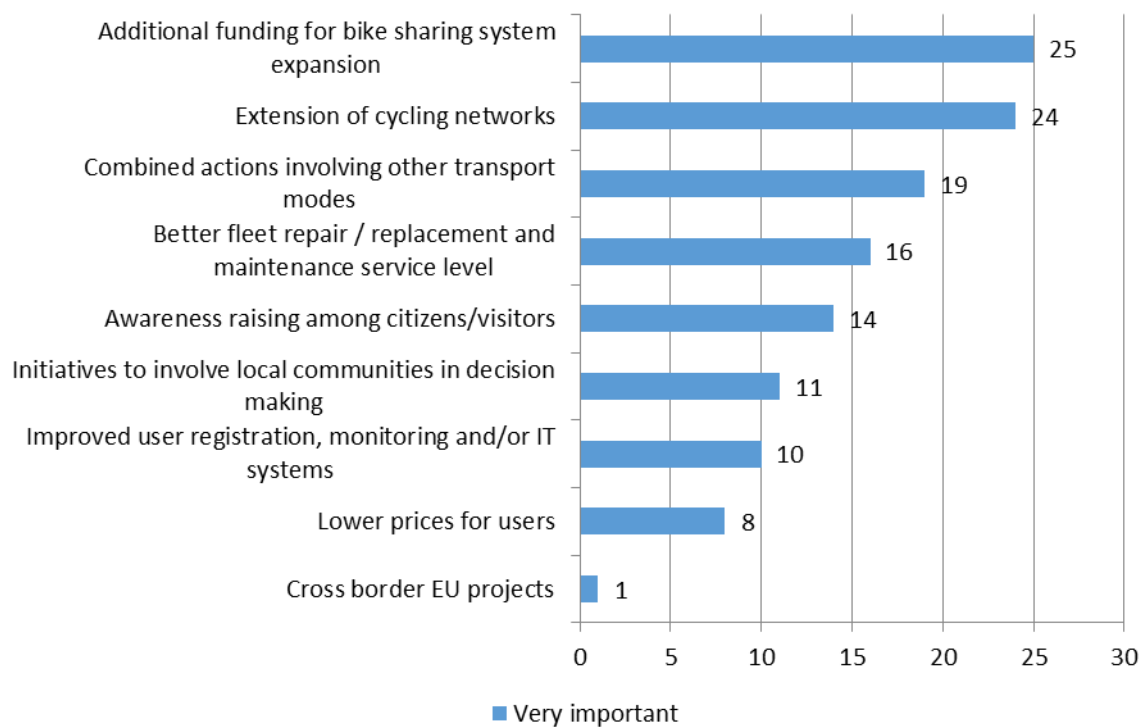### 4.5.4 Additional support measures [Q21]

The analysis of the 40 submitted questionnaires regarding the predefined additional measures or initiatives that can increase BSS' value for the city and improve its performance (question 21), revealed that:
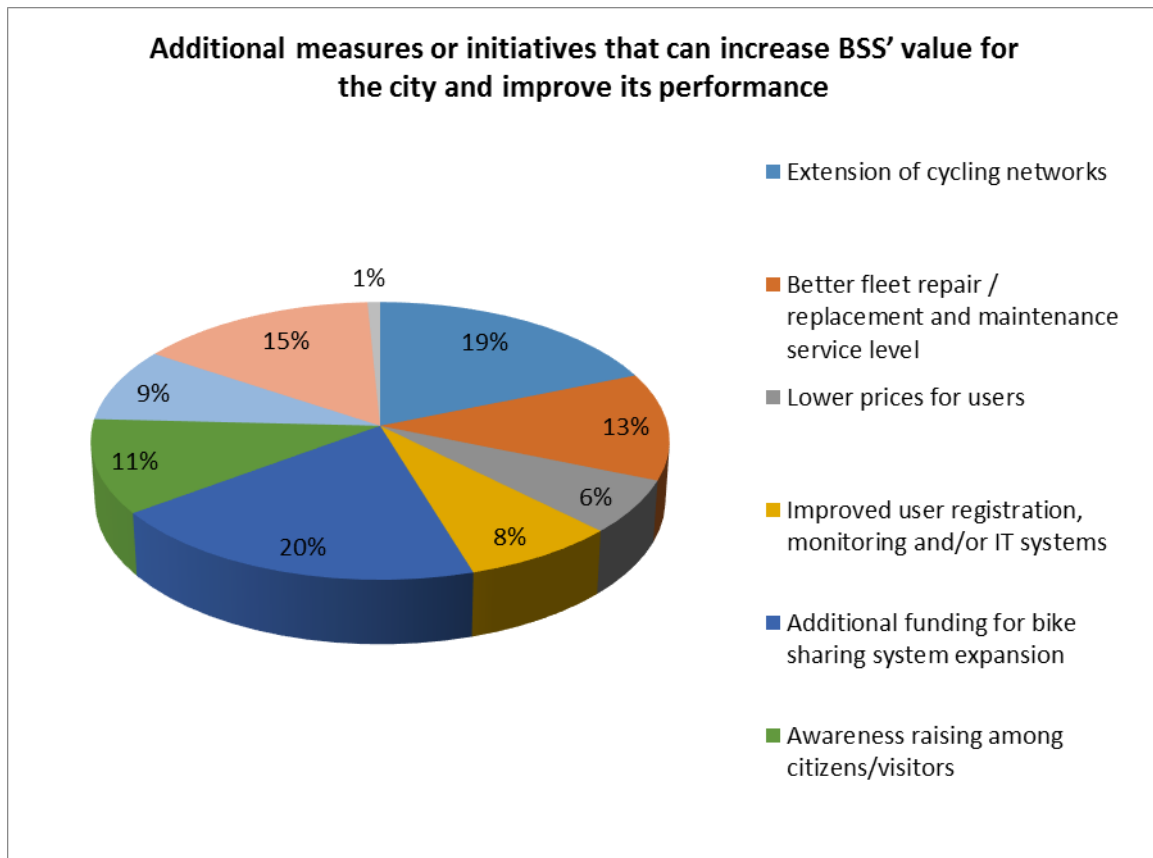
- "Extension of cycling networks (e.g. bike lanes, stations)" was assessed as "Very important" in 24 submitted BSS cases,
- "Better fleet repair / replacement and maintenance service level" was assessed as "Very important" in 16 submitted BSS cases,
- "Lower prices for users" was assessed as "Quite important" in 19 submitted BSS cases,
- "Improved user registration, monitoring and/or IT systems" was assessed as "Quite important" in 19 submitted BSS cases,
- "Additional funding for bike sharing system expansion" was assessed as "Very important" in 25 submitted BSS cases,
- "Awareness raising among citizens/visitors" was assessed as "Quite important" in 16 submitted BSS cases,
- "Initiatives to involve local communities in decision making" was assessed as "Quite important" in 13 submitted BSS cases,
- "Combined actions involving other transport modes (e.g. integrated public transport fares and networks)" was assessed as "Very important" in 19 submitted BSS cases.

Finally, in 1 submitted case (Zagreb [HR]) "Cross border EU projects (EU funded)" was assessed as a "Very important" additional measure.

| Respones | Additional measures or initiatives that can increase BSS' value for the city and improve its performance | Very important | % |
|---|---|---|---|
| Predefined | Additional funding for bike sharing system expansion | 25 | 20% |
| | Extension of cycling networks | 24 | 19% |
| | Combined actions involving other transport modes | 19 | 15% |
| | Better fleet repair / replacement and maintenance service level | 16 | 13% |
| | Awareness raising among citizens/visitors | 14 | 11% |
| | Initiatives to involve local communities in decision making | 11 | 9% |
| | Improved user registration, monitoring and/or IT systems | 10 | 8% |
| | Lower prices for users | 8 | 6% |
| Other | Cross border EU projects | 1 | 1% |
| | Grand Total | 128 | 100% |

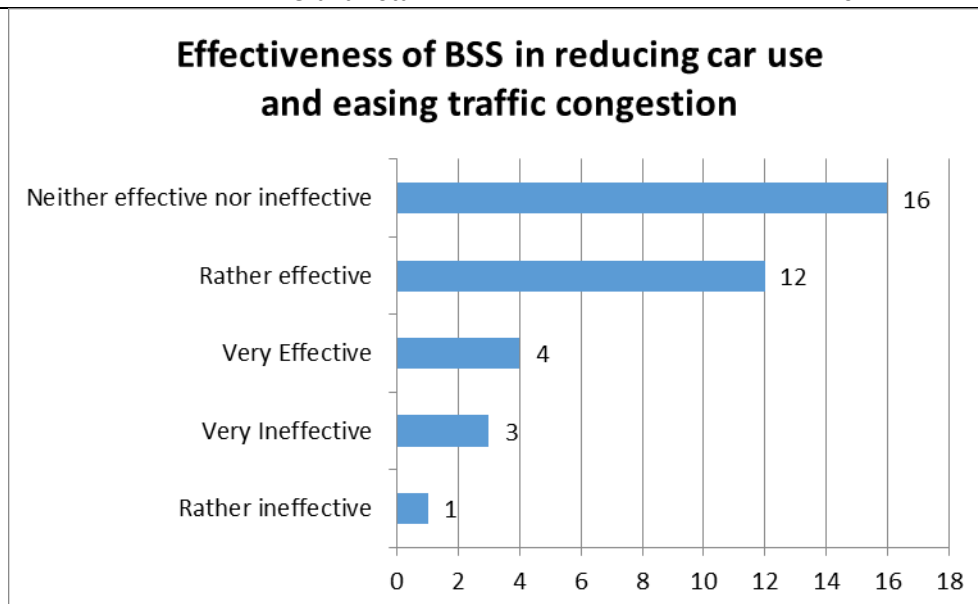Ranking of additional measures or initiatives that can increase BSS' value for the city and improve its performance

- Additional funding for bike sharing system expansion — 25
- Extension of cycling networks — 24
- Combined actions involving other transport modes — 19
- Better fleet repair / replacement and maintenance service level — 16
- Awareness raising among citizens/visitors — 14
- Initiatives to involve local communities in decision making — 11
- Improved user registration, monitoring and/or IT systems — 10
- Lower prices for users — 8
- Cross border EU projects — 1

■ Very important

Additional measures or initiatives that can increase BSS' value for the city and improve its performance

- Extension of cycling networks
- Better fleet repair / replacement and maintenance service level
- Lower prices for users
- Improved user registration, monitoring and/or IT systems
- Additional funding for bike sharing system expansion
- Awareness raising among citizens/visitors

### 4.5.5 Effectiveness of BSS [Q22]

The analysis of the 40 submitted questionnaires regarding the respondent's assessment on the effectiveness of BSS in reducing car use and easing traffic congestion (question 22), revealed 36 valid responses, since there were 4 cases of ignorance / unwillingness.

The predefined response with the highest frequency was found to be "Neither effective nor ineffective" (16), followed by "Rather effective" (12) and "Very Effective" (4), which if added, they equate the neutral assessment.

Thankfully, for the prospect of BSS the negative assessments were few: "Very Ineffective" (3) and "Rather ineffective" (1).

| Effectiveness of BSS in reducing car use and easing traffic congestion | No of responses | % |
|---|---|---|
| Neither effective nor ineffective | 16 | 44% |
| Rather effective | 12 | 33% |
| Very Effective | 4 | 11% |
| Very Ineffective | 3 | 8% |
| Rather ineffective | 1 | 3% |
| Sum of responses included in the analysis | 36 | 100% |
| I don't know / I do not wish to answer | 4 | 10% |
| Sum of responses received | 40 | |
| blank | 0 | |
| Grand Total | 40 | |

## Effectiveness of BSS in reducing car use and easing traffic congestion

**Effectiveness of BSS in reducing car use and easing traffic congestion**

- Very Effective
- Rather effective
- Neither effective nor ineffective
- Rather ineffective
- Very Ineffective

3% · 8% · 11% · 33% · 44%
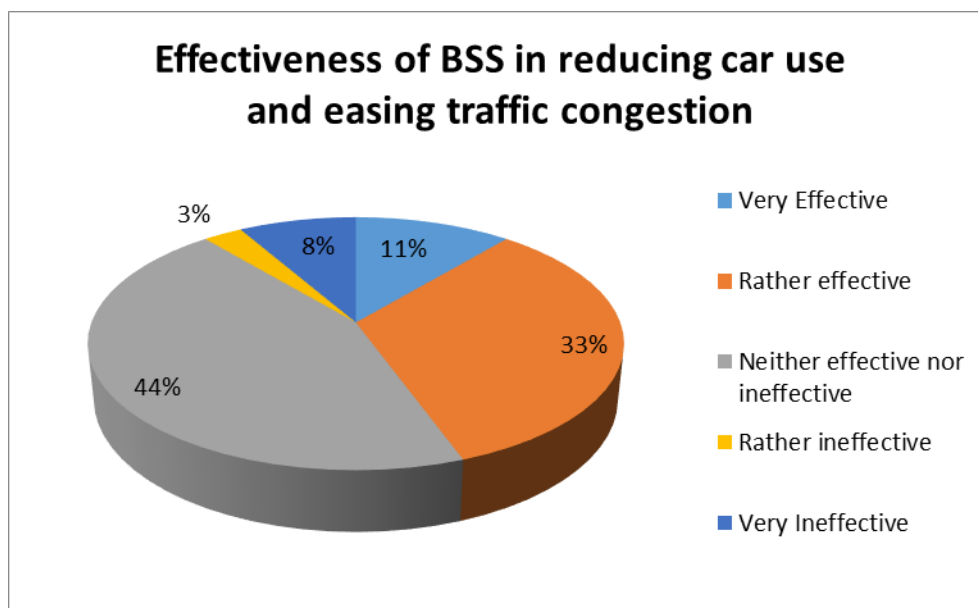
### 4.5.6 BSS's prospects [Q23]

The analysis of the 40 submitted questionnaires regarding the prospects of BSS (question 23), revealed 38 valid responses, since there were 2 cases of ignorance / unwillingness (Wroclaw [PL] and Maribor [SI]).

The prospect with the highest frequency was found to be the "Expansion" (28), followed by "Maintenance" (7), "Depends on the usage" (1), "Expansion is not expected" (1), while in the case of Örebro [SE] the BSS has been dismissed since March 2013.

| Responses | Future of BSS | No of responses | % |
|---|---|---|---|
| | Extended | 28 | 74% |
| Predefined | Maintained | 7 | 18% |
| | Discontinued | 1 | 3% |
| Other | It depends on the usage | 1 | 3% |
| | Expansion is not expected | 1 | 3% |
| | Sum of responses included in the analysis | 38 | 100% |
| | I don't know / I do not wish to answer | 2 | 5% |
| | Sum of responses received | 40 | |
| | blank | 0 | |
| | Grand Total | 40 | |

Future of BSS



Future of BSS
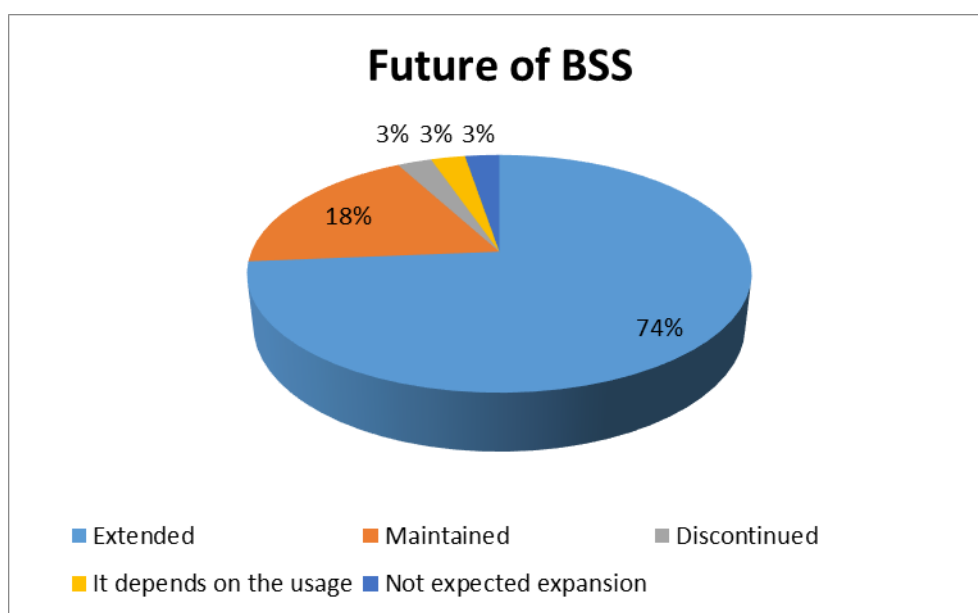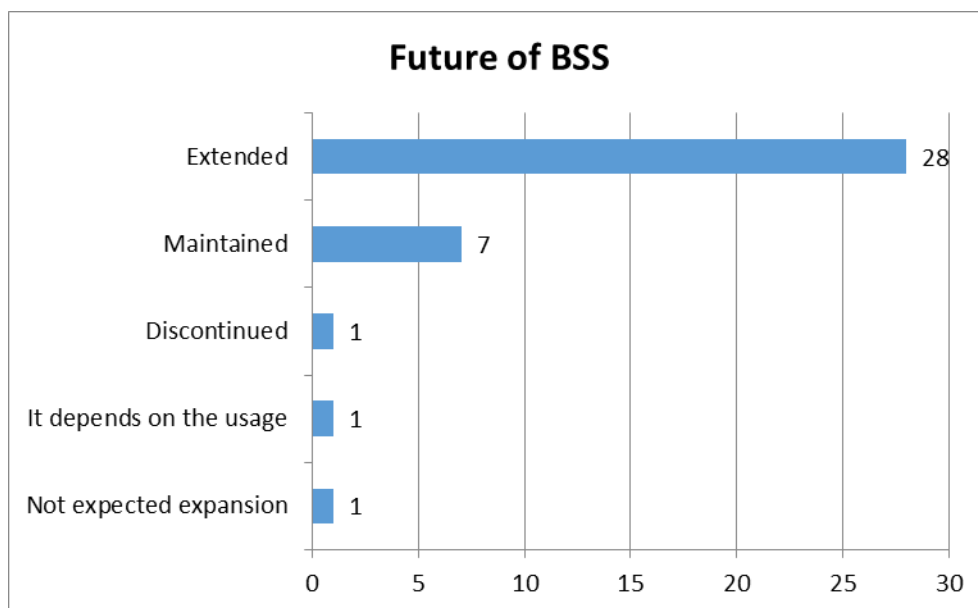
### 4.5.7  Lessons learned [Q24]

The analysis of the 40 submitted questionnaires regarding the single most valuable leasson learned in deploying and operating the BSS (question 24), revealed 48 responses, since more than one lessons were described in many cases.

The valid responses which were further analysed amount to 37, since 1 response was not included in the analysis and in 10 cases no answer was submitted. The submitted responses were grouped into 16 different lessons.
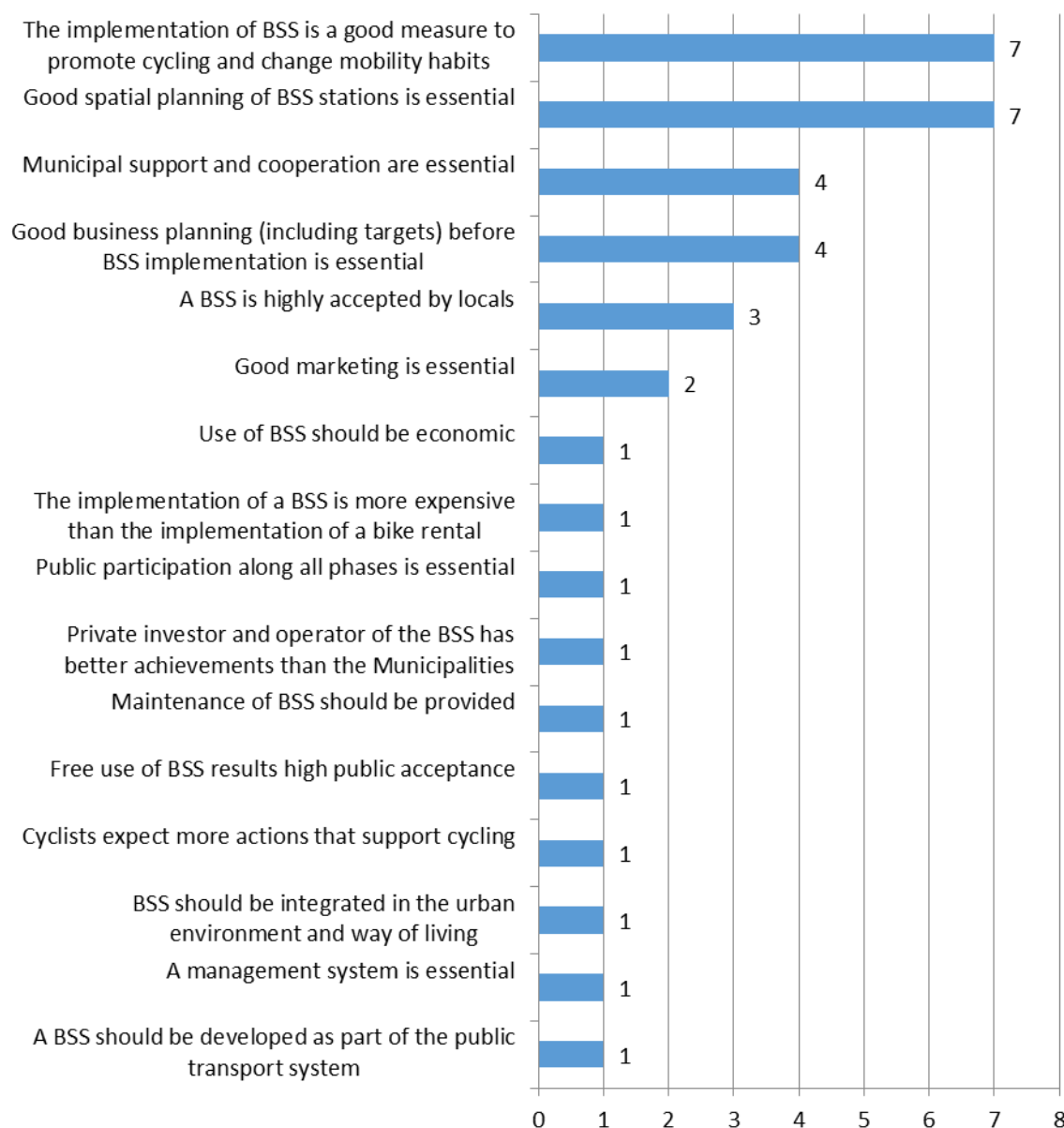
The most valuable lessons learned were found to be:

- "Good spatial planning of BSS stations is essential" and The implementation of BSS is a good measure to promote cycling and change mobility habits (7 cases each)
- "Good business planning (including targets) before BSS implementation is essential" and "Municipal support and cooperation are essential" (4 cases each)
- "A BSS is highly accepted by locals" (3 cases)
- "Good marketing is essential" (2 cases)
- The rest 10 lessons were submitted one (1) time each.

| No | Lesson learned | No of responses | % |
|---|---|---|---|
| 1 | Good spatial planning of BSS stations is essential | 7 | 19% |
| 2 | The implementation of BSS is a good measure to promote cycling and change mobility habits | 7 | 19% |
| 3 | Good business planning (including targets) before BSS implementation is essential | 4 | 11% |
| 4 | Municipal support and cooperation are essential | 4 | 11% |
| 5 | A BSS is highly accepted by locals | 3 | 8% |
| 6 | Good marketing is essential | 2 | 5% |
| 7 | A BSS should be developed as part of the public transport system | 1 | 3% |
| 8 | A management system is essential | 1 | 3% |
| 9 | BSS should be integrated in the urban environment and way of living | 1 | 3% |
| 10 | Cyclists expect more actions that support cycling | 1 | 3% |
| 11 | Free use of BSS results high public acceptance | 1 | 3% |
| 12 | Maintenance of BSS should be provided | 1 | 3% |
| 13 | Private investor and operator of the BSS has better achievements than the Municipalities | 1 | 3% |
| 14 | Public participation along all phases is essential | 1 | 3% |
| 15 | The implementation of a BSS is more expensive than the implementation of a bike rental | 1 | 3% |
| 16 | Use of BSS should be economic | 1 | 3% |
| | Sum of responses included in the analysis | 37 | 100% |
| | Response is not included in the analysis | 1 | |
| | Sum of responses received | 38 | |

| blank | 10 |
|---|---|
| Grand Total | 48 |

## Lessons learned

| Lesson | Count |
|---|---|
| The implementation of BSS is a good measure to promote cycling and change mobility habits | 7 |
| Good spatial planning of BSS stations is essential | 7 |
| Municipal support and cooperation are essential | 4 |
| Good business planning (including targets) before BSS implementation is essential | 4 |
| A BSS is highly accepted by locals | 3 |
| Good marketing is essential | 2 |
| Use of BSS should be economic | 1 |
| The implementation of a BSS is more expensive than the implementation of a bike rental | 1 |
| Public participation along all phases is essential | 1 |
| Private investor and operator of the BSS has better achievements than the Municipalities | 1 |
| Maintenance of BSS should be provided | 1 |
| Free use of BSS results high public acceptance | 1 |
| Cyclists expect more actions that support cycling | 1 |
| BSS should be integrated in the urban environment and way of living | 1 |
| A management system is essential | 1 |
| A BSS should be developed as part of the public transport system | 1 |

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## Lessons learned



- Good spatial planning of BSS stations is essential — 19%
- The implementation of BSS is a good measure to promote cycling and change mobility habits — 19%
- Good business planning (including targets) before BSS implementation is essential — 11%
- Municipal support and cooperation are essential — 11%
- A BSS is highly accepted by locals — 8%
- Good marketing is essential — 5%
- Other lessons — 27%

# 5. REFERENCES

[1]     DeMaio, P., (2009) Bike- sharing: History, Impacts, Models of Provision, and Future. Journal of Public Transportation, 12(4), 41-56

[2]     EPOMM. European platform on mobility management. Database of cases on cycling:

http://www.epomm.eu/

[3]     EPOMM. Mobility management user manual

http://www.epomm.eu/downloads/Usermanual.pdf

[4]     Fishman, E., Washington, S., and Haworth, N. (2013) Bike Share: A Synthesis of the Literature, Transport Reviews: A Transnational Transdisciplinary Journal, 33(2) 148-165

[5]     Midgley, P., (2011) Bicycle- Sharing Schemes: Enhancing Sustainable mobility in urban areas. Commission on Sustainable Development, Nineteenth Session, New York

[6]     OECD (2004) National Policies to Promote Cycling. Organisation for economic Cooperation and Development, European Conference of the Ministers of Transport, Paris.

[7]     Optimising bike sharing in European cities – OBIS project

http://www.obisproject.com

[8]     Optimising Bike Sharing in European Cities. A Handbook. OBIS, June 2011.

http://www.obisproject.com/palio/html.run?_Instance=obis&_PageID=200&_LngID=21&_CatID=7&pic=0&_CheckSum=2100674166

[9]  Pucher, J., Dill, J., and Handy, S., (2010) Infrastructures, programs, and policies to increase bicycling: An international review. Preventive Medicine, 50, 106-125.

[10]  Shaheen, S., Guzman, S., and Zhang, H. (2010) Bikesharing in Europe, the Americas, and Asia. Transportation Research Record: Journal of the Transportation Research Board, 2143, 159–167.

[11]  Zhili, L., Xudong, J., Wen, C., (2012) Solving the Last Mile Problem: Ensure the Success of PublicBicycle System in Beijing, Social and Behavioral Sciences, 43, 73 – 78.

# 6. Annex

## BSS survey questionnaire template

### SECTION A: BIKE SHARING SYSTEM IDENTITY

1. Bike sharing system title (if applicable) *"[Type your reply here]"*
2. City / municipality *"[Type your reply here]"*
3. Country *"[Type your reply here]"*
4. Year of official decision: *"[Drop down list of years]"*
5. Year of actual implementation: *"[Drop down list of years]"*

### SECTION B: USER PATTERNS INFORMATION

6. Based on your knowledge, who would you describe as the <u>primary</u> user group of the bike sharing system?
   o Commuters to work / school
   o Tourists
   o People on leisure time
   o Don't know / Do not wish to answer
   o Other, please specify: *"[Type your reply here]"*
7. Based on your experience, the bike sharing system is mainly used for:
   *(Please select <u>only</u> up to two)*
   o Commuting to work/school
   o Leisure / sports
   o Shopping
   o Tourism / sightseeing
   o Don't know / Do not wish to answer
   o Other, please specify: *"[Type your reply here]"*
8. What is the proportion of the municipality area covered by the bike sharing system?
   o <10%
   o 10-30%
   o 31–50%

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o >50%
o Spans across several municipalities
o Don't know / Do not wish to answer
o Other, please specify: *[Type your reply here]"*

9. Based on your knowledge, what is the average duration of each trip by users?
o 0-30 min
o 30-60 min
o 60-120 min
o 120-240 min
o Other, please specify: *[Type your reply here]"*
o Don't know / Do not wish to answer

10. How is the bike sharing system user satisfaction measured? *(Please select all that apply)*
o Through system user metrics
o Through regular polls or user surveys
o Through local community councils / elected representatives feedback
o There is no established way of getting feedback on bike sharing system user satisfaction
o Don't know / Do not wish to answer
o Other, please specify: "[Type your reply here]"

11. How do you assess the public consultation as regards the implementation of this bike sharing system? *(Please rate from 1 to 5)*

|  | 1: Inexistent | 2: Somewhat insufficient | 3: Somewhat sufficient | 4: Adequate | 5: Don't know / Do not wish to answer |
|---|---|---|---|---|---|
| Through local community councils / elected representatives feedback | ◯ | ◯ | ◯ | ◯ | ◯ |
| Through public meetings | ◯ | ◯ | ◯ | ◯ | ◯ |

| | | | | | |
|---|---|---|---|---|---|
| Through polls and voting | ◯ | ◯ | ◯ | ◯ | ◯ |
| Through public information centers | ◯ | ◯ | ◯ | ◯ | ◯ |
| Through questionnaires / online consultation | ◯ | ◯ | ◯ | ◯ | ◯ |
| Other…*(Please specify and score)* | ◯ | ◯ | ◯ | ◯ | ◯ |

**12.** How would you describe the prevailing citizens' opinions towards the bike sharing system?
  o Favorable
  o Rather favorable
  o Indifferent
  o Rather negative
  o Negative
  o Don't know / Do not wish to answer
  o Other, please specify: "[Type your reply here]"

**SECTION C: COSTS & ECONOMIC RESULTS**

**13.** What is your estimation regarding repair / replacement costs due to damages, vandalism and theft compared to the overall operating cost?
  o <10% of overall operating cost
  o 10%-25% of overall operating cost
  o 26%-50% of overall operating cost
  o >50% of overall operating cost
  o Don't know / Do not wish to answer

**14.** What are the average economic results of the bike sharing system in the last 3 years of operation?
  o Revenues exceed expenses
  o Revenues are equal to expenses
  o Revenues are lower than expenses

- o Revenues are much lower than expenses
- o There is no data available
- o Don't know / Do not wish to answer
- o Other, please specify: *"[Type your reply here]"*

15. Please indicate the main sources of revenue of the bike sharing system: *(Please rate from 1 to 5)*

|  | 1:<br><br><10% of total revenues | 2:<br><br>10% - 40% of total revenues | 3:<br><br>41% - 89% of total revenues | 4:<br><br>>90% of total revenues | 5:<br><br>Don't know / No answer |
|---|---|---|---|---|---|
| Revenue from user fare | ◯ | ◯ | ◯ | ◯ | ◯ |
| Revenue from advertisement | ◯ | ◯ | ◯ | ◯ | ◯ |
| Revenue from contract with public authority | ◯ | ◯ | ◯ | ◯ | ◯ |
| Revenue from grants/donations | ◯ | ◯ | ◯ | ◯ | ◯ |
| Other…*(Please specify and score)* | ◯ | ◯ | ◯ | ◯ | ◯ |

16. In case of negative results, deficits are covered by:
- o The city / town administration
- o The private operator
- o Private companies (other than the operator e.g. sponsorships)
- o Mixed public/private contributions
- o Don't know / Do not wish to answer
- o Other, please specify: *"[Type your reply here]"*

17. How would you describe the overall value for money of the bike sharing system?
- o Low

- o Rather low
- o Considerable
- o Rather high
- o High
- o Don't know / Do not wish to answer

## SECTION D: IMPACT & PROSPECTS

**18.** What are the major benefits of the bike sharing system? *(Please rate from 1 to 5)*

|  | 1:<br><br>Insignific ant | 2:<br><br>Slightly importan t | 3:<br><br>Quite importan t | 4:<br><br>Very importan t | 5:<br><br>Do not know / No answer |
|---|---|---|---|---|---|
| Reducing traffic congestion | ○ | ○ | ○ | ○ | ○ |
| Increasing bike use / cycling uptake | ○ | ○ | ○ | ○ | ○ |
| Improving citizens' health | ○ | ○ | ○ | ○ | ○ |
| Reducing CO2 emissions / improving the urban environment | ○ | ○ | ○ | ○ | ○ |
| Increasing tourism | ○ | ○ | ○ | ○ | ○ |
| Generating revenue | ○ | ○ | ○ | ○ | ○ |
| Boosting growth / supporting local economy | ○ | ○ | ○ | ○ | ○ |

| Other: | ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|---|
| *"[Type your reply here]"* | | | | | |

**19.** What are the major challenges, disadvantages or negative aspects of the bike sharing system?
*(Please rate from 1 to 5)*

| | 1:<br><br>Insignificant | 2:<br><br>Slightly important | 3:<br><br>Quite important | 4:<br><br>Very important | 5:<br><br>Do not know / No answer |
|---|---|---|---|---|---|
| High operating cost | ○ | ○ | ○ | ○ | ○ |
| High investment/start up cost | ○ | ○ | ○ | ○ | ○ |
| High prices for users | ○ | ○ | ○ | ○ | ○ |
| Injuries and safety issues | ○ | ○ | ○ | ○ | ○ |
| Insufficient technical support and maintenance (e.g. repair, replacement) | ○ | ○ | ○ | ○ | ○ |
| Lack of political support | ○ | ○ | ○ | ○ | ○ |
| Lack of public consultation | ○ | ○ | ○ | ○ | ○ |
| Other: | ○ | ○ | ○ | ○ | ○ |

| *"[Type your reply here]"* | | | | | |
|---|---|---|---|---|---|
| | | | | | |

20. The deployment of the bike sharing system took place in combination with the following actions/measures: (Please select all that apply)
    - o  Bicycle lanes development
    - o  Off-street parking amenities
    - o  Partnership with public transport sector
    - o  Car parking space limitation measures
    - o  Awareness raising campaigns
    - o  No other measure
    - o  Don't know / Do not wish to answer
    - o  Other, please specify: *"[Type your reply here]"*

21. What are in your opinion the additional measures or initiatives that can increase bike sharing system's value for the city and improve its performance. *(Please rate from 1 to 5)*

| | 1:<br><br>Not important at all | 2:<br><br>Quite unimportant | 3:<br><br>Quite important | 4:<br><br>Very important | 5:<br><br>Do not know / No answer |
|---|---|---|---|---|---|
| Extension of cycling networks (e.g. bike lanes, stations) | ○ | ○ | ○ | ○ | ○ |
| Better fleet repair / replacement and maintenance service level | ○ | ○ | ○ | ○ | ○ |
| Lower prices for users | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Improved user registration, monitoring and/or IT systems | ○ | ○ | ○ | ○ | ○ |
| Additional funding for bike sharing system expansion | ○ | ○ | ○ | ○ | ○ |
| Awareness raising among citizens/visitors | ○ | ○ | ○ | ○ | ○ |
| Initiatives to involve local communities in decision making | ○ | ○ | ○ | ○ | ○ |
| Combined actions involving other transport modes (e.g. integrated public transport fares and networks) | ○ | ○ | ○ | ○ | ○ |
| Other: *"[Type your reply here]"* | ○ | ○ | ○ | ○ | ○ |

**22.** In your opinion, how effective has the bike sharing system been in reducing car use and easing traffic congestion?
- ○ Very Effective
- ○ Rather effective
- ○ Neither effective nor ineffective
- ○ Rather ineffective
- ○ Very Ineffective
- ○ Don't know / Do not wish to answer

**23.** Based on your knowledge, in the following years the bike sharing system is going to be:
- ○ Extended
- ○ Maintained
- ○ Scaled down

- o Discontinued
- o Don't know / Do not wish to answer
- o Other, please specify: *"[Type your reply here]"*

24. In your opinion, what is the single most valuable lesson learned in deploying and operating the bike sharing system? *"[Type your reply here]"*

## SECTION E: PERSONAL INFORMATION

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25. Position *"[Type your reply here]"*
26. Affiliation *"[Type your reply here]"*
27. What was your involvement in this bike sharing system?
    - o Decision making for establishment
    - o Planning / design
    - o Daily operation, performance and maintenance
    - o Promotion, communication and public participation
    - o Don't know / Do not wish to answer
    - o Other please specify: *"[Type your reply here]"*
28. I would like to receive information about the results of this survey
    - o Yes
    - o No
    - o Don't know / Do not wish to answer
29. Name *"[Type your reply here]"*
30. E-mail (it will only be used to send you the results of this survey): *"[Type your reply here]"*
31. Phone *"[Type your reply here]"*