



First OBIS outputs

Bike-sharing transferability



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OBIS

Optimising Bike Sharing in
European cities
www.obisproject.com

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First OBIS outputs

Bike-sharing transferability



Content

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3. Data basis
4. Country reports
5. Transferability study

B. Bike-sharing transferability

1. Key questions
2. Sample
3. Opening hours
4. Technology
5. Service throughout the year
6. Monthly demand
7. Period free of charge
8. Bicycles per 10,000 inhabitants
9. Rents per bicycle

A2. Template

- Main relevant data of:
 - Bike-sharing schemes (BSS)
 - City
 - Country

Microsoft Excel - OBIS_WP2_D21_Country Study and Market Potential Template_final version revised_TUW-IVV_20081205_04.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

100%

Reply with Changes... End Review...

H443

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	COUNTRY STUDY AND MARKET POTENTIAL TEMPLATE v.04													
2														
3	CASE 1													
4	Ch	Se	Grc	Question										
5														
6	0	Overview												
7	0	0	0	1	City provided with BSS	0								
8	0	0	0	2	Commercial Name of the BSS	0								
9	0	0	0	3	Website	0								
10	0	0	0	4	Operator	0								
11	0	0	0	5	Start (dd.mm.yy)	00.01.1900								
12	0	0	0	6	Status	0								
13	0	0	0	7	Possibility to return the bike in other city	0								
14														
15	1	Scheme Analysis												
16														
17	1	0	0	1	Commercial Name of the BSS									
18	1	0	0	2	Website									
19														
20	1	1	MUNICIPAL FRAMEWORK											
21						Data	Source	Reliability	Comment					
22	1	1	1	1	Municipalities									
23	1	1	1	1	Possibility to return the Bike in other City									
24	1	1	1	1	Number of Cities involved in the System									
25														
26														
27	1	2	GEOGRAPHICAL FACTORS											
28						Unit	Data	Source	Reliability	Comment				
29	1	2	1	1	Qualitative Evaluation of BSS Area Morphology									
30	1	2	1	1	Quantity of Slopes in the BSS Area	drop-down text								
31	1	2	1	2	Hardness of Slopes in the BSS Area	drop-down text								
32	1	2	2	1	Quantitative Evaluation of BSS Area Morphology: ADAVD Index									
33	1	2	2	1	Average Daily Accumulated Vertical Displacement	(meter)								
34														
35														

Remember:

NS *If the answer makes no sense*

NA *If the data is not available*

Mandatory to fill in

Optional to fill in

A3. Data basis

- OBIS partners compiled the information
- The template was fulfilled
- Data basis
- 51 BSS
 - 48 Cities
 - 10 Countries

Microsoft Excel - OBIS_WP2_Common Country Study and Market Potential Data File_20100308_3.1.xls

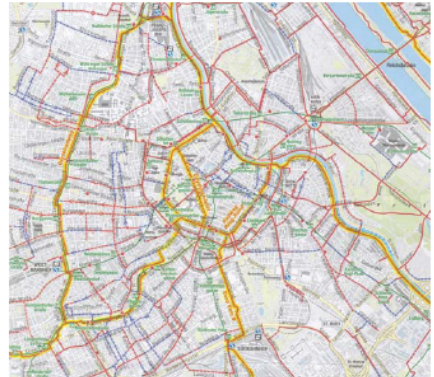
	AK	AL	AM	AN	AO	AP	AQ	AR	AS
Overview									<100,000
City provided with BSS	Cambridge - UK	Orebro - SE	Bari - I	Modena - I	Rimini - I	Parma - I	Salzburg - AT	Brescia - I	Ribera Alta - E
Commercial Name of the BSS	OYBike	Örebro Cykelstade	Bari in Bici	Centro in bici	Rimini in Bici	Punto Bici Bike Sh	Citybike	Bicimia	Ambici
Website	Oybike. (2009). "Oy www.orebro.se/cy	http://biciincitta.co	www.comune.mod	http://www.rimonia	www.infomobility	http://www.citybik	http://www.bicimia	http://www.ambici.com	
Operator	OYBike (Veolia Tra	Örebro municipali	Amtab S.p.a	Consorzio solidar	Centro Fiori a r. l.	Infomobility	Objekt Werbung	Brescia Mobilita	Urban Bikes
Start (dd.mm.yy)	00.05.2008	01.01.1978	01.11.2007	2004	15.09.2008	00.06.2006	29.12.2005	05.06.2008	NA
Status	Running	Running	Running	Running	Running	Running	Running	Running	Running
Scheme Analysis									
ORGANISATIONAL MODEL									
Rolls	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders	Name of the Stakeholders
Provider of the Bikes	OYBike (Veolia Transpo	Cykeltidhyrning	Comunare Srl	Centro in bici	Turo Fulvio	Comunare Srl	Gewista	Comunare Srl	Urban Bikes
Operator of the System	OYBike (Veolia Transpo	Örebro municipality	Amtab S.p.A	Consorzio solidarietà ag	Centro Fiori a r. l.	Infomobility	Objekt Werbung	Brescia Mobilita	Bicied
Owner of the System	OYBike (Veolia Transpo	Örebro municipality	Comune di Bari	Comune di Modena	Comune di Rimini	Infomobility	Gewista	Brescia Mobilita	Mancomunidad de la R
Equipment of the Bikes									
Way to unlock the Bike	Code	Key	Card	Key	Key	Card	Card	Card	Card
Number of different Kinds of Bicycle	1	4	1	1	1	1	1	1	1
System provided with fixed Stations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Internet information about free Bikes & Parking	Yes	No	No	Yes	Yes	Yes	NS	Yes	Yes
	Data	Data	Data	Data	Data	Data	Data	Data	Data
Integration of BSS into Public Transport									
Integrated ticket BSS-PT	No	No	No	No	No	No	No	No	No
# of Train Stations provided with BS Station	0	0	1	3	1	11	0	1	2
# of Metro Stations provided with BS Station	0	NS	0	NS	NS	NS	NS	NS	1
KINDS OF FARE & COST FOR USERS									
Fares	Fares	Fares	Fares	Fares	Fares	Fares	Fares	Fares	Fares
Deposit	No	No	No	Yes	Yes	Yes	No	Yes	No
Mandatory Deposit	NS	NS	NS	20.00	10.00	10.00	NS	25.00	NS
Amount of Money									
Hire	SMS&Call	in Person \ phone call	in Person	in Person	in Person	in Person	Card	Card	Card
Way to hire									
Cost of Hire (accumulated)									
Official Name or Description of the Fare	1-Shot PIN	hour	Bari in Bici	Centro in bici	Rimini in bici	Punto bici Bike Sharing	Normal Fare	Annuale Bicimia	Yearly ticket
Period of Validity of the registration	NS	NS	365	365	365	365	NS	365	365
Cost of registration	n (n)	3.67	10 (n)	n (n)	n (n)	n (n)	25 (n)	1 (n)	n (n)6 (n)

A4. Country reports

- Summary of data basis
- Readable layout
 - Text
 - Images
 - Tables
- 10 Country reports
- Description of:
 - National bike-sharing market potential
 - Existing BSS (about 1 page)
 - Cities (about 1 page)
- Available in the OBIS website

1.1 Vienna

Although the west part of Vienna is situated on a hilly area, most of the city is flat since it lies on the Danube's plain. Vienna is the capital, the biggest and the most populated city in Austria. It is also an important tourist destination in Europe. Vienna has moderate central European continental climate.



Although Vienna has an extensive cycle network, cycling share is still very low (3%) compared with other Austrian or European cities. The objective of the last Transport Plan, edited in 2003, is to reach the 8% of cycling share by 2020. Around 0.06% of the annual municipal budget is assigned for this goal.

It is allowed to transport a bike in train and metro coaches of the Viennese public transport network. Nevertheless access in the metro network carrying a bike depends on the time working days and Saturdays.

Figure 1-2: Cycle network in the center of Vienna

Population ^(a)	Area ^(b)	Tourists per year ^(c)	Technology access in households			
			Mobile ^(c)	Internet ^(c)	Bank Card ^{(d)(e)}	
1,680,266	414.88 km ²	3,933,814	90.9%	75.0%	81.0%	
Temperature			Precipitation			
Average ^(f)	Maximal ^(c)	Minimal ^(c)	Amount ^(g)	Days ^{(f)(g)}	Average ^(f)	
10.1°C	34.9°C	-16.1°C	620 mm	93	13.2 km/h	
Modal Split ^(h)						
Private vehicle	PT	Bicycle	Walking	Internal trips ^(h)	Daily trips per person ⁽ⁱ⁾	Cycling travel time ^(j)
	35%	34%	3%	28%	79.62%	2.7
Accidents per year ^{(k)(l)}		Injured persons per year ^(k)		Dead persons per year ^(k)		Bike thefts per year ^(d)
Total	Cycling	Total	Cycling	Total	Cycling	per year ^(d)
5,184	617	6,757	567	35	3	7,415
Car ownership ^(k)		Roads ^(k)	30 km/h zones ^(k)	Cycle network ^(k)	Cycle lane against 1 way ^(k)	Bike parking spaces
395.1 cars/1,000	1.70€/single	2,794 km	1,303 km	1,090 km	176 km	18,000 bikes

(a)2009. (b)2003. (c)2006. (d)2008. (e)National data. (f)Average 1971-2001. (g)>1mm precipitation. (h)2005. (i)1991. (j)2004. (k)2007. (l)Injured persons involved

Table 1-4: Facts and figures of Vienna

A5. Transferability study

- First processing of the data basis
- Analysis of main relevant factors when implementing BSS
- Available in the OBIS website

3. Characteristics of bike sharing schemes

A total of 51 BSS were analyzed by OBIS.

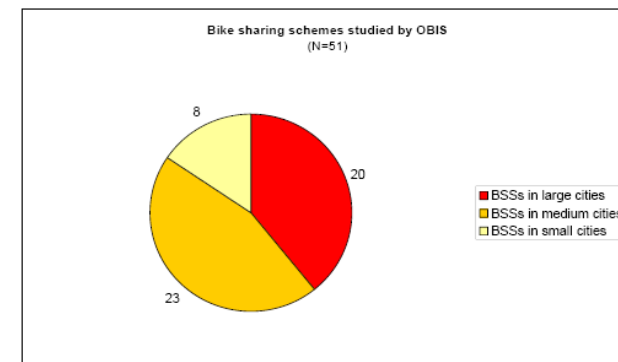
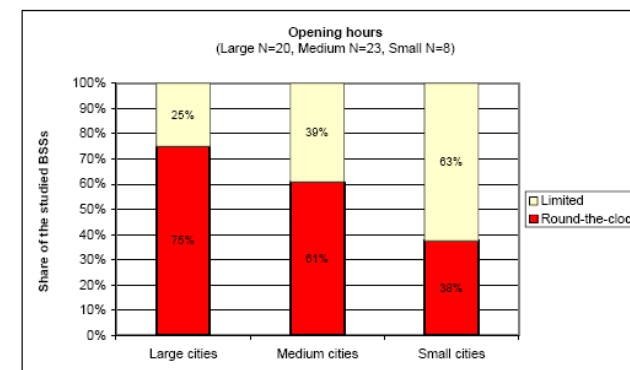


Figure 3-1: Number of bike sharing schemes analyzed, sorted by city size.

The study shows several findings about the characteristics of the BSS:

- 75% of BSS located in large cities offer **twenty-four seven** services in contrast to the 38% of BSS in small cities.





First OBIS outputs

Bike-sharing transferability



B1. Key questions

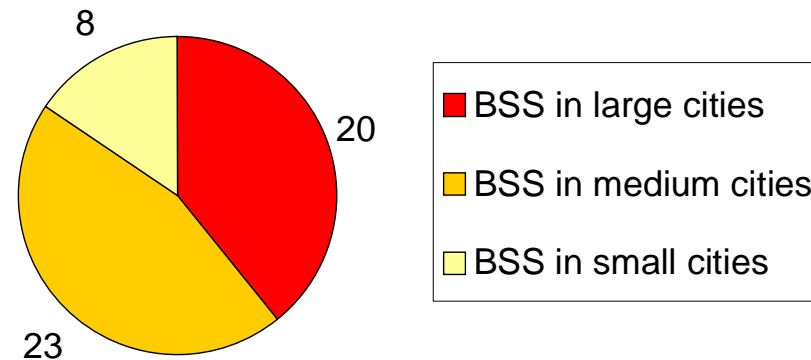
For a given city...

- 1. What are the most convenient opening hours of a BSS?*
- 2. What is the most convenient technology at the BSS station?*
- 3. Which period of availability is the most convenient?*
- 4. In which season will the BSS manage a peak of demand?*
- 5. How long should be the rental period free of charge?*
- 6. How many bicycles may be necessary?*
- 7. How many yearly rents can be expected?*

B2. Sample

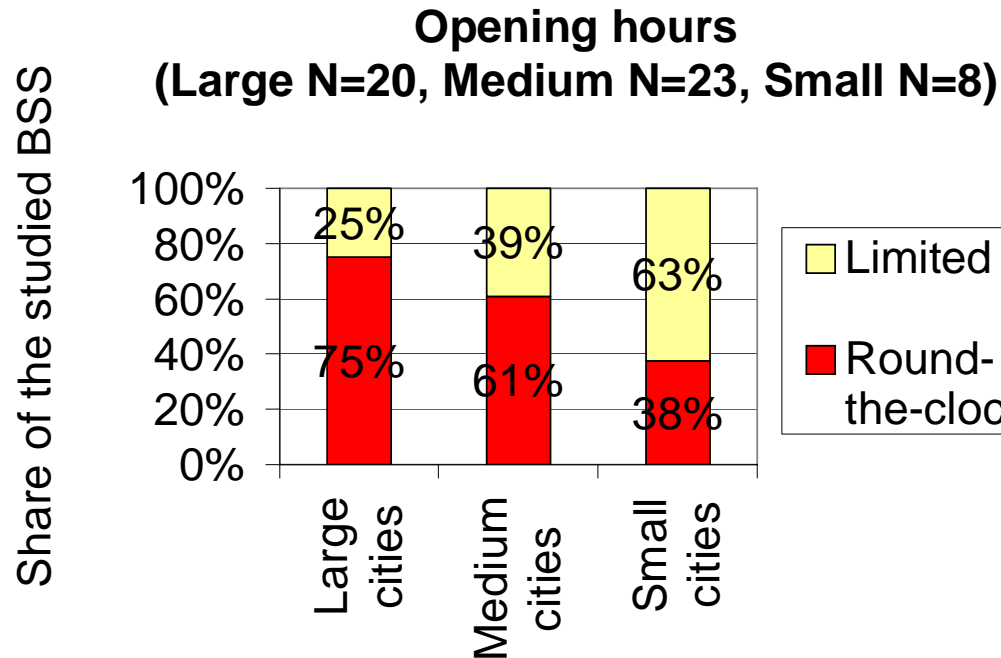
- 51 BSS were studied
 - 48 cities
 - 10 countries
- Results were sorted by city-size
 - Large cities: >500,000 inhabitants
 - Medium cities: 500,000-100,000 inhab.
 - Small cities: <100,000 inhabitants

Bike sharing schemes (BSS) studied (N=51)



B3. Opening hours

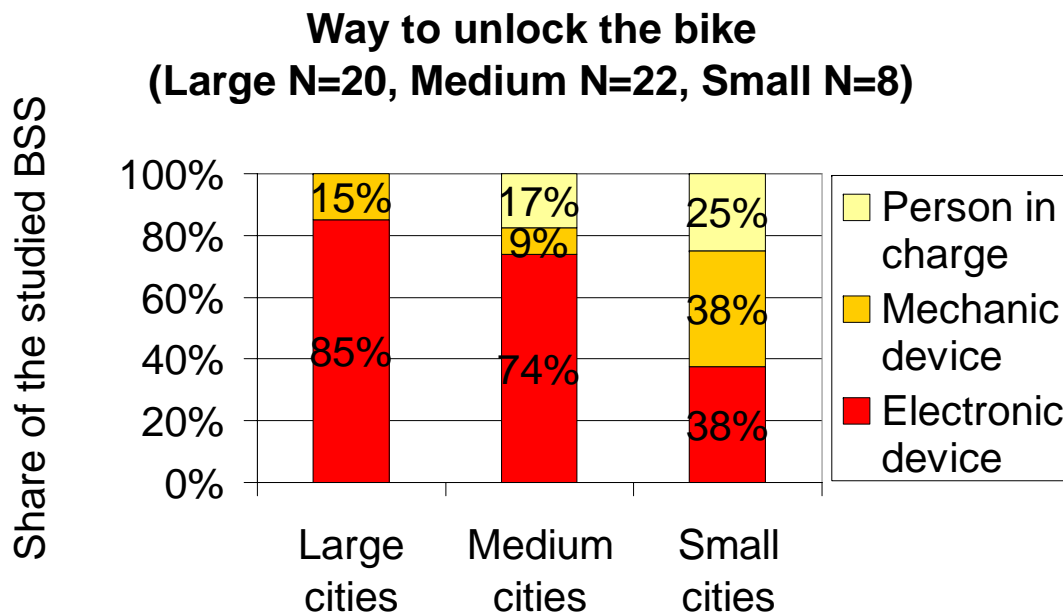
1. What are the most convenient opening hours of a BSS?



- The larger the city, the wider the opening hours
- Reason:
 - Technology at the station

B4. Technology

2. What is the most convenient technology for the BSS station?

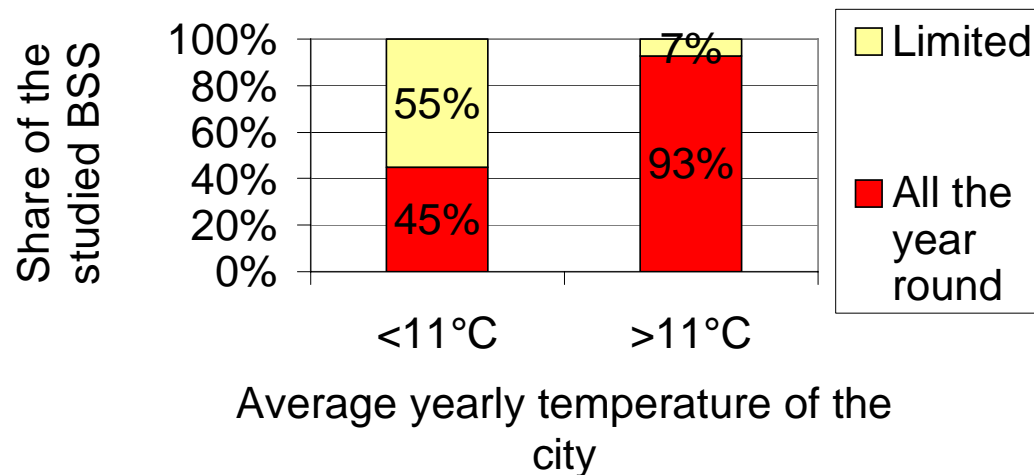


- The larger the city, the higher the technology at the BSS station
- Reasons:
 - High-tech equipment is costly and smaller cities have limited budget
 - Technology access is lower in smaller cities

B5. Service throughout the year

3. What is the most convenient period of availability?

Availability throughout the year
(<11°C N=20, >11°C N=14)

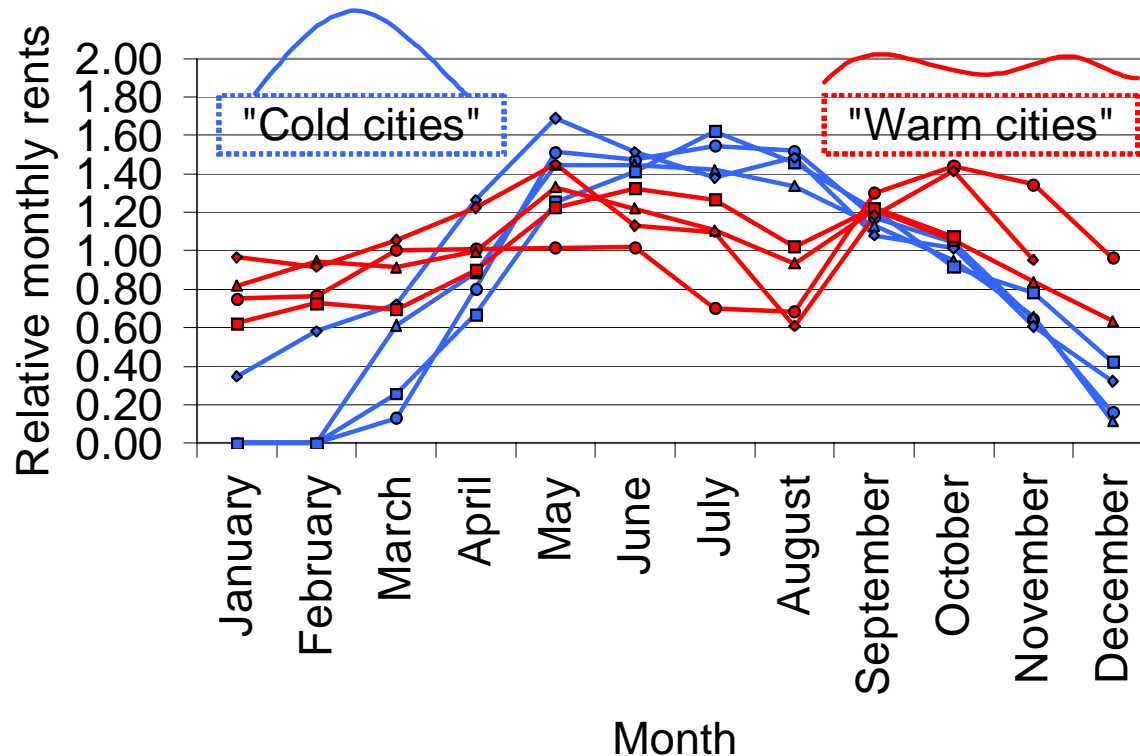


- Climate has influence
- The warmer the city, the wider the availability throughout the year
- Reason:
 - Low demand during winter

B6. Monthly demand

4. In which season will the BSS manage a peak of demand?

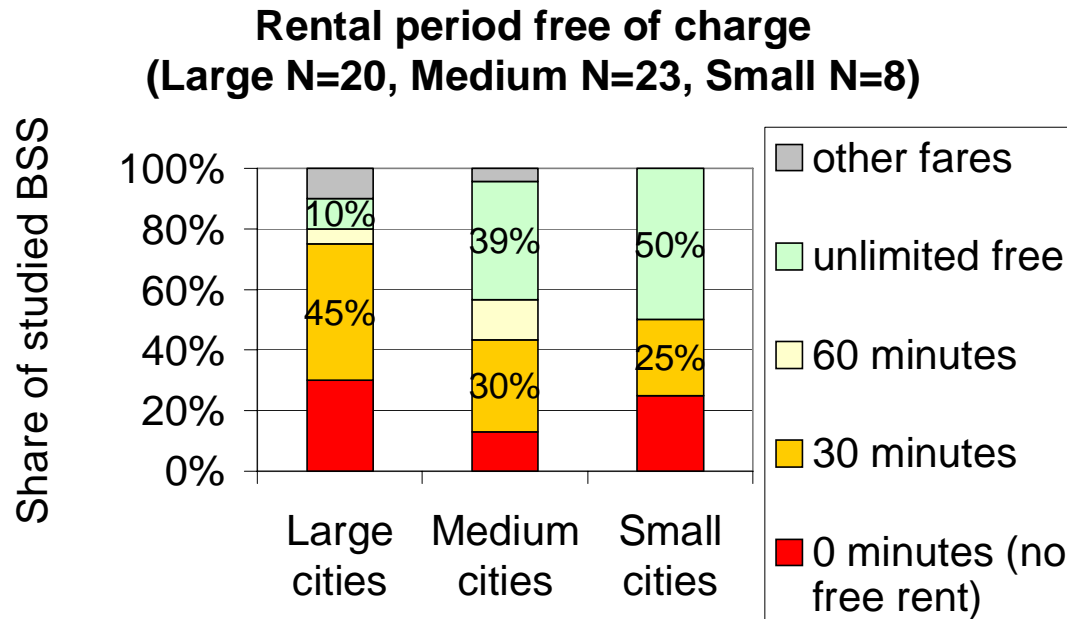
Demand throughout the year (N=8)



- Cold cities (<math>< 11^{\circ}\text{C}</math>)
 - Demand fluctuates
 - Peak in summer
 - Very low in winter (uneconomical)
- Warm cities (>math>> 11^{\circ}\text{C}</math>)
 - Relative constant demand
 - High demand in spring and autumn

B7. Period free of charge

5. How long should be the rental period free of charge?

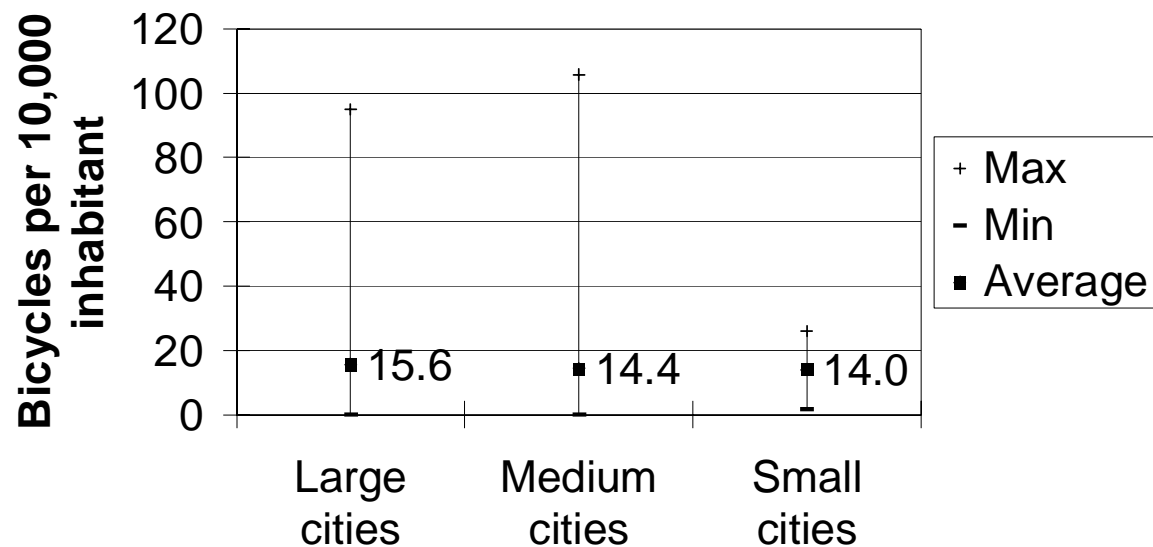


- Many BSS offer rental periods without charge because it might encourage use
- The smaller the city, the higher the share of BSS with unlimited free rental
- The larger the city, the higher the share of BSS with 30 minutes free of charge

B8. Bicycles per 10,000 inhab.

6. How many bicycles might be necessary?

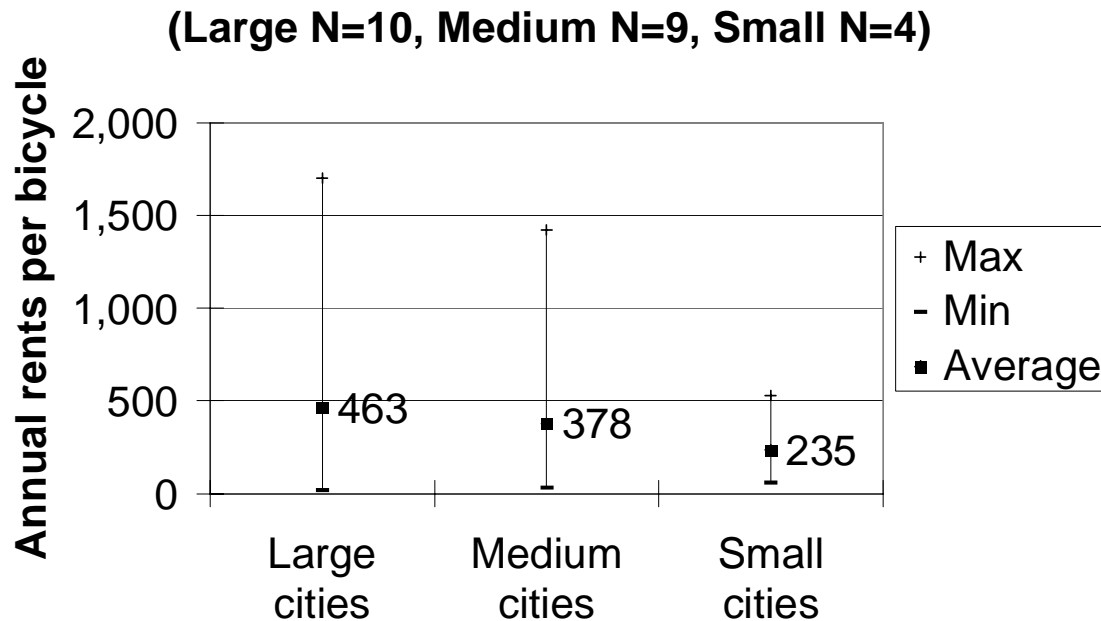
(Large N=11, Medium N=9, Small N=4)



- Wide range of values within each city-size
- Average is similar in all city-sizes

B9. Annual rents per bicycle

7. How many yearly rents can be expected?



- Wide range of values within each city-size
- The larger the city, the higher the number of rents per bicycle
- Reasons:
 - High population density
 - High PT usage



First OBIS outputs

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Thank you for your attention

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