OBIS Countries at a glance

OBIS
Optimising Bike Sharing in European cities

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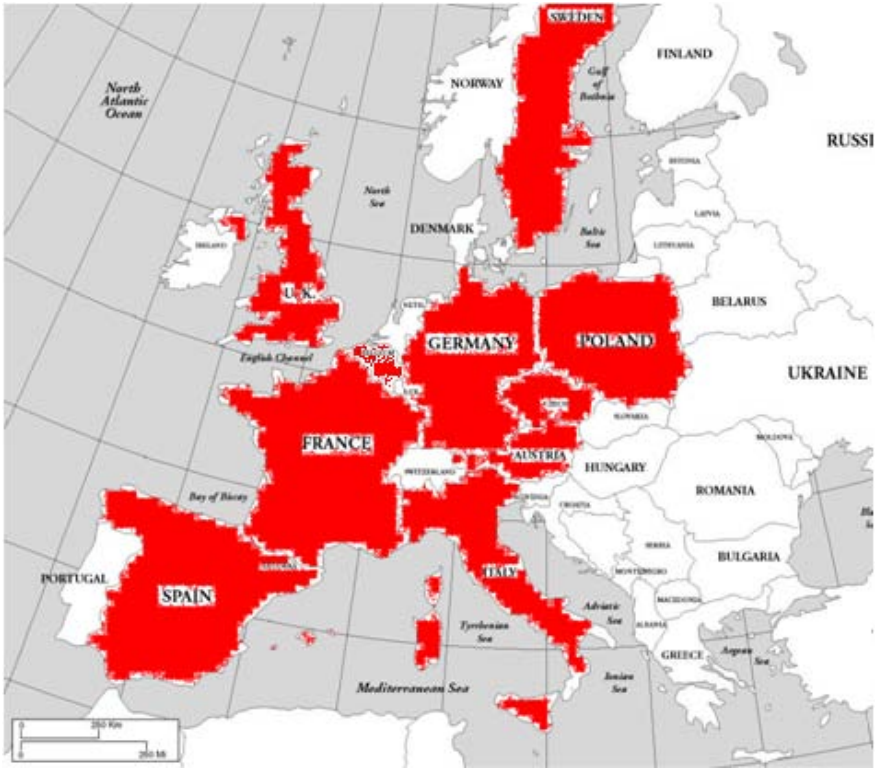
1. The OBIS Sample
2. Success
3. Influencing factors
4. Conclusions

OBIS Countries at a glance

1. The OBIS sample

- 51 bike sharing schemes (BSS) were analyzed
- 48 Cities
- 10 Countries



Country	Number of BSS studied
Austria	4
Belgium	2
Czech Republic	1
France	8
Germany	7
Italy	11
Poland	1
Spain	7
Sweden	4
United Kingdom	6

OBIS Countries at a glance

1.1 Austria

Image: Alberto Castro

Image: Alberto Castro

- 89 cities provided with BSS in Austria in 2008
- Two major providers:
  - Citybike
  - Nextbike
- Special relevance of regional BSS

- 4 cities were analyzed by the OBIS project
  - Vienna: Citybike
  - Salzburg: Citybike
  - Mödling: Freiradl
    - Closed in 2009. Substituted by Leihradl-nextbike (WP4-Demo case)
  - Burgenland: nextbike

1.2 Belgium

Image: Sebastian Robert

- Only 1 city provided with BSS in 2008: Brussels

- 1 city (2 BSS) were analyzed
  - Brussels: Cyclocity
    - Closed in 2009 and substituted by Villo
  - Brussels: Villo!
    - Higher number of stations (100)

1.3 Czech Republic

Image: Jiri Martinek

- 1 city was analyzed
  - Prague: Homeport

- 16 cities provided with BSS in 2008
- 2 BSS
  - Homeport
  - Czech Railways Bike Hire Service (WP4-Demo case)
- Small and low technology BSS

1.4 France

Image: Alberto Castro

- 24 cities with BSS in 2008
- Most of BSS are
  - Large
  - High-tech
- In France are
  - 1st automatic BSS
  - 1st large-scale BSS
  - Largest BSS in Europe

- 7 cities (8 BSS) were analyzed
  - Lyon: Vélo'v
  - Paris: Vélib'
  - Montpellier: Velomagg'
  - Chalons-sur-Saône: Réflex
  - Dijon: Vélodi
  - Orleans: Velo+
  - Rennes
    - Vélo à la carte
    - Vélo star

1.5 Germany

Image: Alberto Castro

- 52 cities with BSS in 2008
- Two major providers:
  - Call a bike
  - Nextbike
- Many BSS work
  - with phone and
  - without stations

- 7 cities were analyzed
  - Berlin: Call a bike
  - Munich: Call a bike
  - Karlsruhe: Call a bike
  - Stuttgart: Call a bike
  - Leipzig: Nextbike
  - Düsseldorf: Nextbike
  - Chemnitz: Stadtfahrrad

1.6 Italy

Image: Alberto Castro

- 125 cities with BSS in 2008
- Two major providers
  - C'entro in bici
  - Bicincittà
- Many BSS are
  - low-tech
  - small

- 11 cities were analized
  - Modena: C'entro in bici
  - Rimini: C'entro in bici
  - Senigallia: C'entro in bici
  - Terlizzi: C'entro in bici
  - Bari: Bicincittà
  - Cuneo: Bicincittà
  - Parma: Bicincittà
  - Brescia: Bicincittà
  - Rome: Bicincittà
  - Bolzano: Bici Bolzano
  - Milano: Bikemi

1.7 Poland

Image: Bikeone. http://www.bikeone.pl/miasto/krakow

- 1 city was analyzed
  - Krakow: Bikeone

- 1 city with BSS in 2008
- Bike sharing is still in development

1.8 Spain

Image: Alberto Castro

- 53 cities with BSS in 2008
- The number of BSS has highly increased due to public subsidies

- 7 cities were analyzed
  - Barcelona: Bicing
  - Seville: Sevici
  - Saragossa: Bizi
  - Pamplona: Nbici
  - Terrasa: Ambicia't
  - Ribera Alta: Ambici
  - Vitoria: Public bicycle system

1.9 Sweden

Image: Alberto Castro

- 3 cities with BSS in 2008

- 3 cities (4 BSS) were analyzed
  - Stockholm: City bikes
  - Örebro: Bike hiring
  - Göteborg
    - Greenstreet
    - Lundby mobility centre

1.10 United Kingdom

Image: Oybike

- 6 cities with BSS in 2008
- Small BSS
- Phone oriented systems

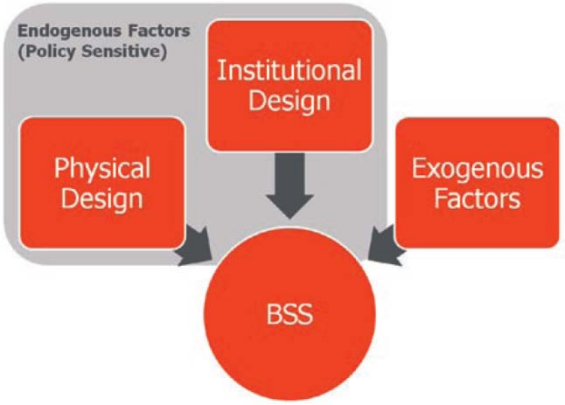
- 6 cities were analyzed
  - London: Oybike
    - Before the implementation of the Barclays Cycle Hire (WP4-Demo case)
  - Reading: Oybike
  - Farnborough: Oybike
  - Cheltenham: Oybike
  - Cambridge: Oybike
  - Bristol: Hourbike

2.1 Notions of success

- Politicians
  - Improve the “city image”
  - Increase cycling
  - Reduce pollution
  - Manage public transport demand
- Operators
  - Visibility
  - Usage
  - Incomes & Costs
  - Efficiency of investment
- Users
  - Accessibility
  - Reliability
  - Comfort and speed

3. Influencing factors

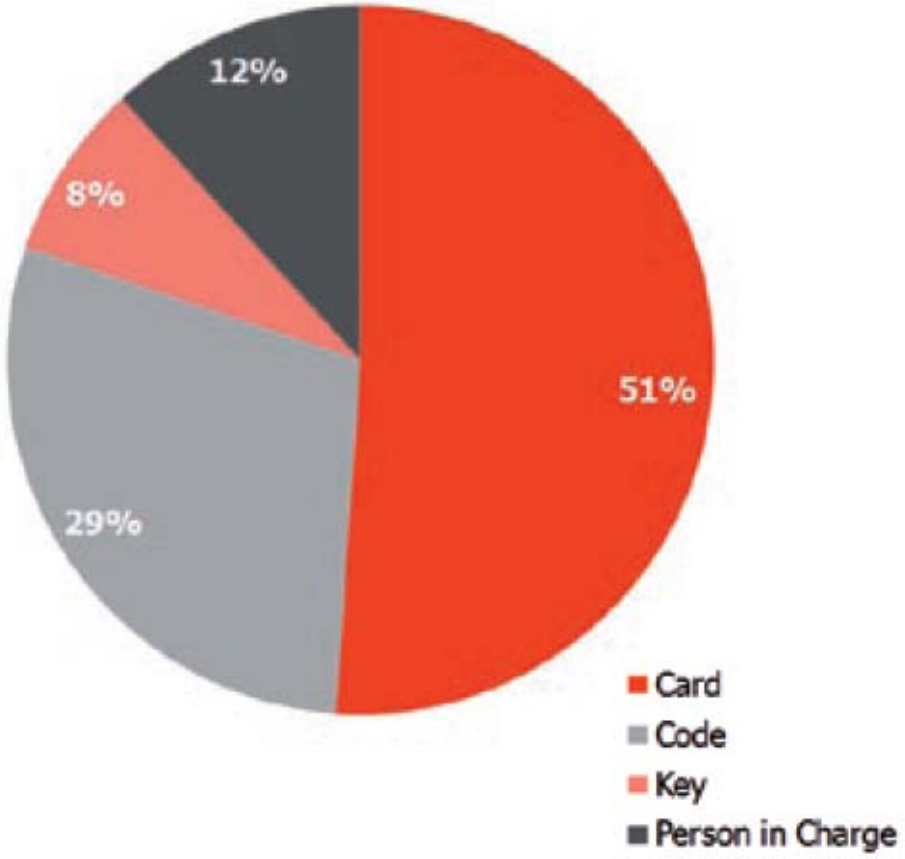
Factors that define BSS and that might influence success



Endogenous factors	Exogenous factors
Physical design	City size
Hardware & Technology	Climate
Service design	Mobility behaviour
Institutional design	Population density
Type of operator	Demographic factors
Contracts and ownership	Economic factors
Financing sources	Geographic factors and topology (hilliness)
Employment opportunities	Existing infrastructure
	Financial situation
	Political situation

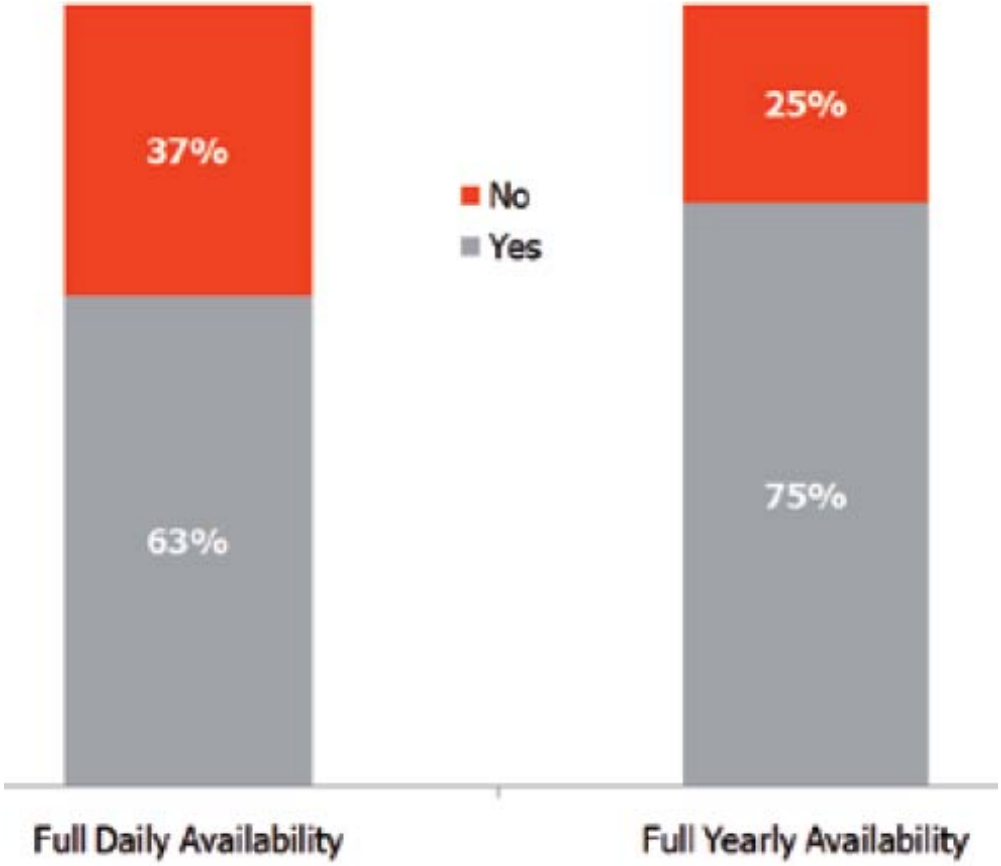
3.1 Endogenous. Technology

- Most of BSS implement high-tech systems



3.2 Endogenous. Availability

- Availability as wide as possible



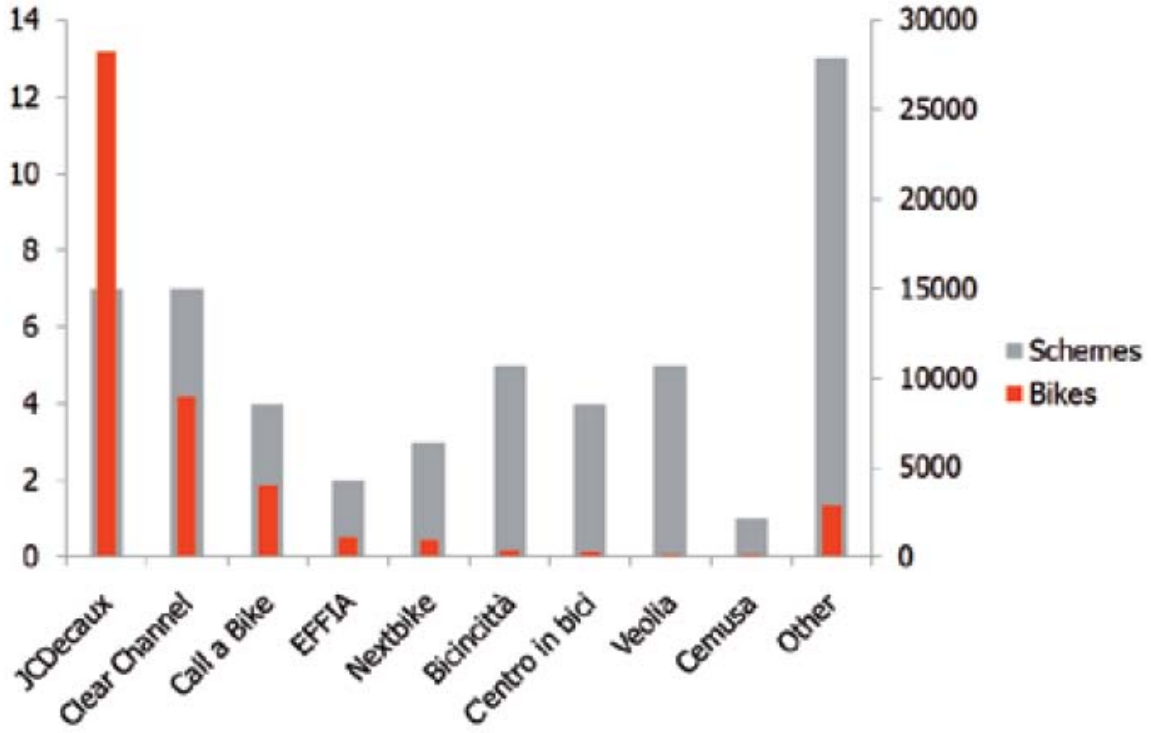
3.3 Endogenous. BSS size

- Wide range of values

	Average	Max	Min
Bikes per 10,000 inhabitants	14.8	105.8	0.1
Stations per 10,000 inhabitants	1.5	6.7	0.1
Docking points per bike	1.7	3.2	1.0

3.4 Endogenous. Operators

- BSS are different depending on the operator → variety of providers is required



3.5 Endogenous. Costs

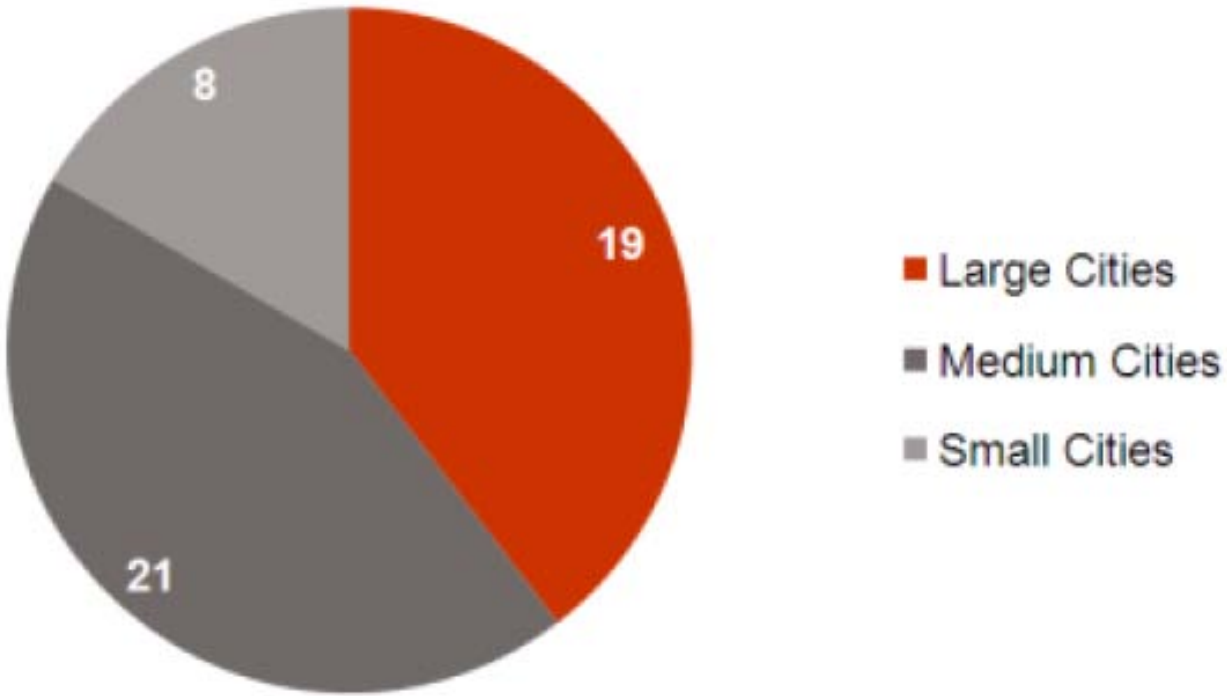
- Example: Bicing in Barcelona
  - Main implementation costs: Stations
  - Main running costs: Redistribution & maintenance

Infrastructure & Implementation	Share of total costs
Station implementation: terminals, docking points and locking technology, station planning, ground work and cabling	70 %
Bikes	17 %
Set-up operations: workshop and logistics	6 %
Communication	5 %
Administration	2 %

Running Costs	Share of total costs
Redistribution of bikes	30 %
Bike Maintenance	22 %
Station Maintenance	20 %
Back-end system	14 %
Administration	13 %
Replacements (bikes, stations)	1 %

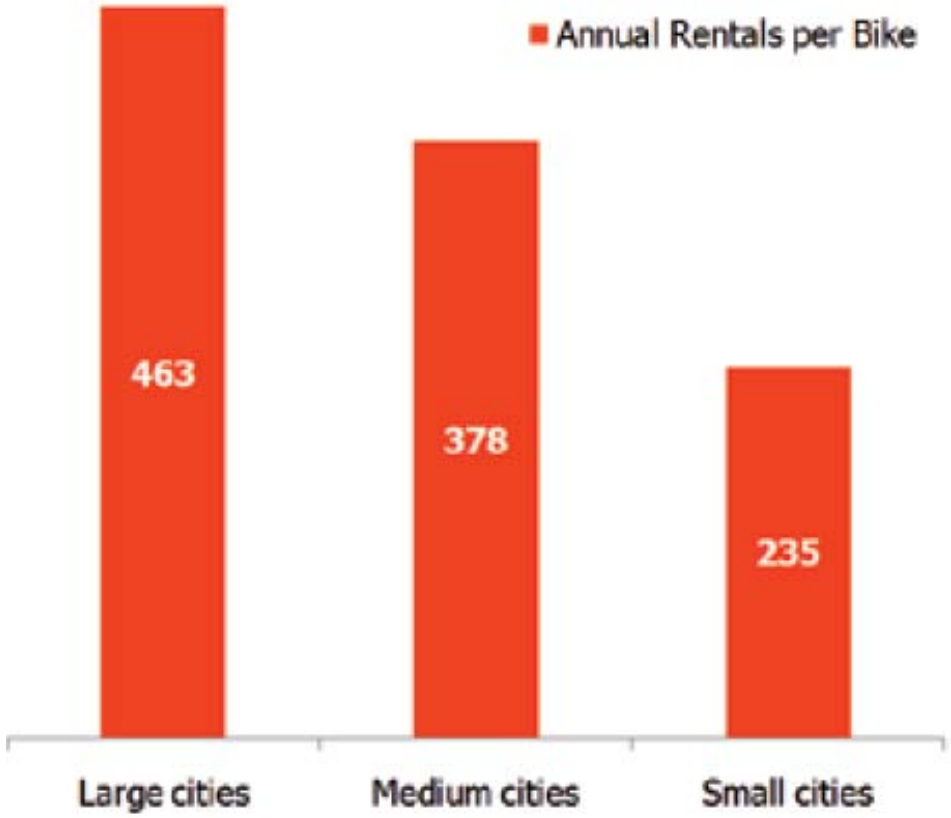
3.6 Exogenous. Population

- Large cities: >500,000 inhabitants → 40%
- Medium cities: 500,000-100,000 inhabitants → 43%
- Small cities: <100,000 inhabitants → 17%



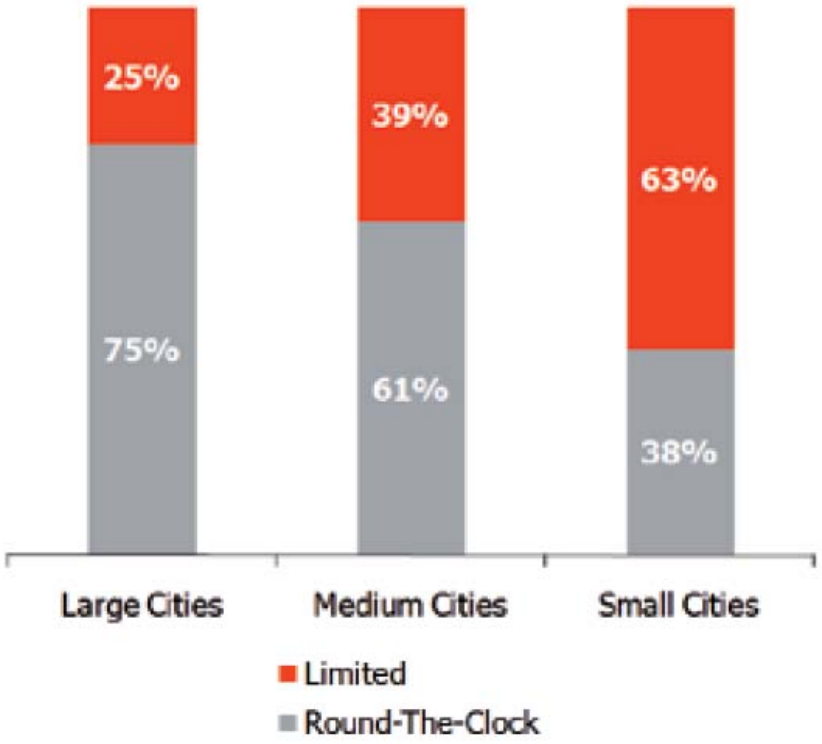
3.6 Exogenous. Population

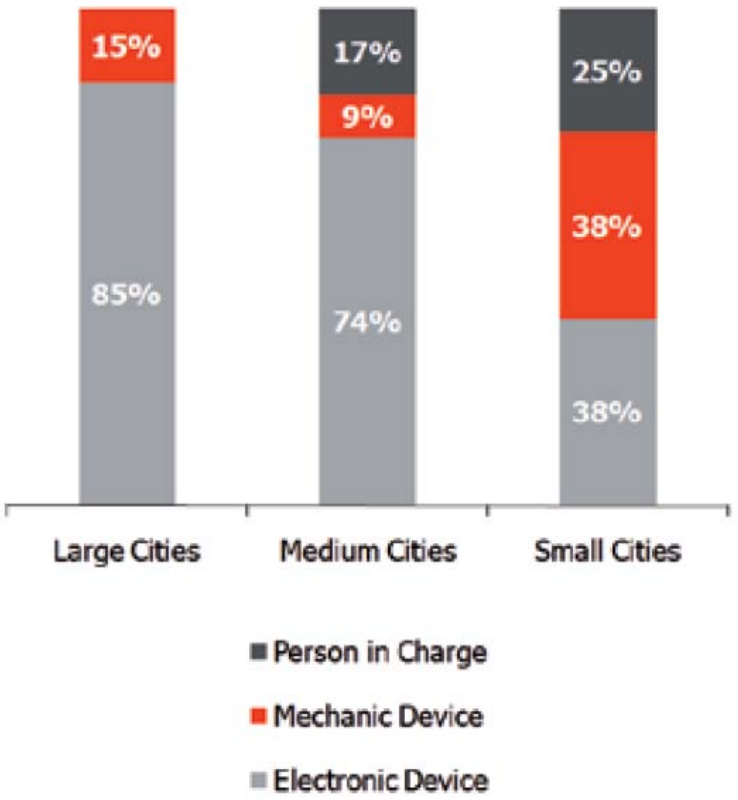
- The number of rents per bicycle is higher in large cities



3.6 Exogenous. Population

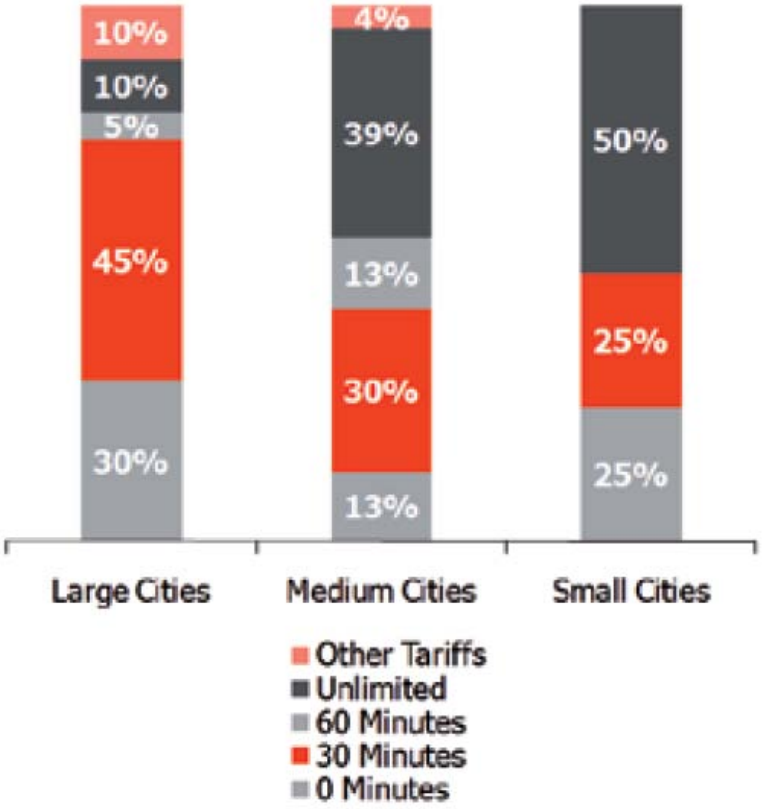
- Technology and availability throughout the day are higher in large cities





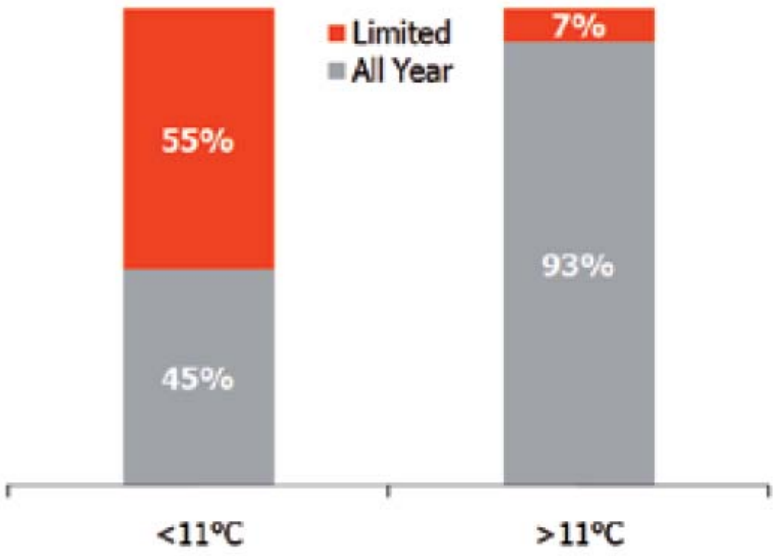
3.6 Exogenous. Population

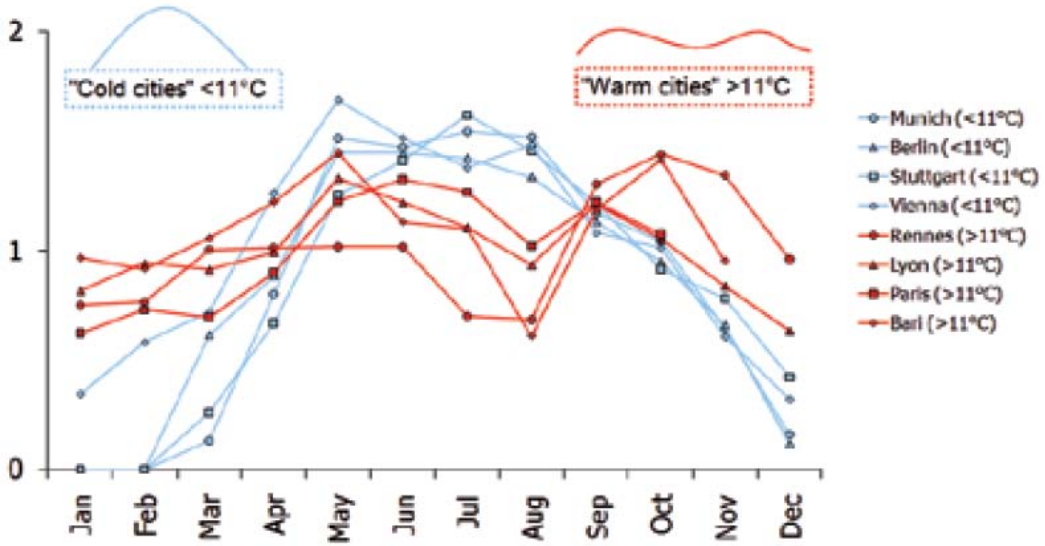
- Most of large cities offer 30 minutes free of charge
- Small cities usually offer unlimited free rental



3.7 Exogenous. Climate

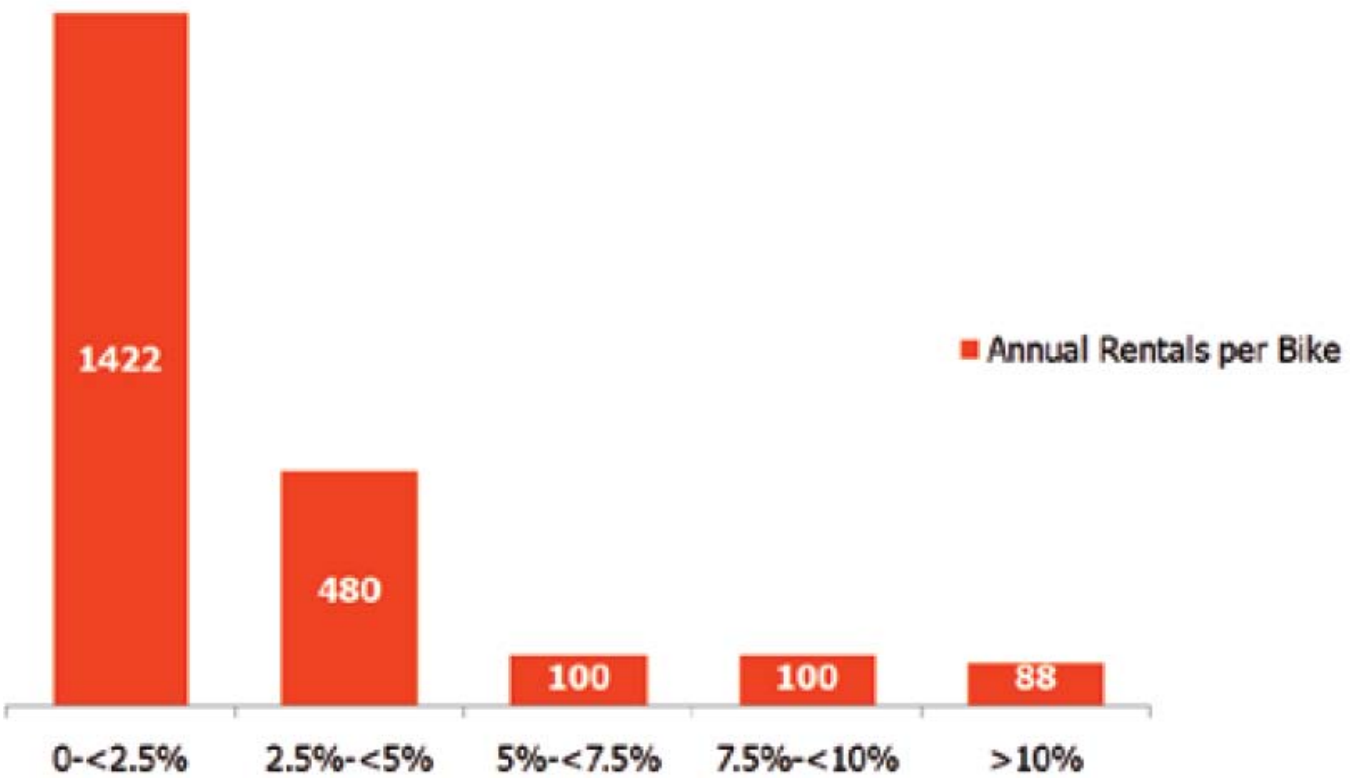
- Less BSS operate all-the-year-round in cold cities
- Different distribution of demand throughout the year
  - Peak in summer cold cities
  - More constant demand in warm cities





3.8 Exogenous. Cycling

- The number of rents per bicycles is higher in cities with lower cycle modal share



4 Conclusions

- It requires a huge work to fully understand how BSS work and how they become successful
- Availability of data is essential to carry out studies, but…
- Unfortunately data are sometimes not available
  - Because data are not compiled in a standardized way
  - Or because they are compiled but they are considered as confidential
- More transparency is needed
- Good practice: Capital bikeshare, BSS in Washington DC

4 Conclusions

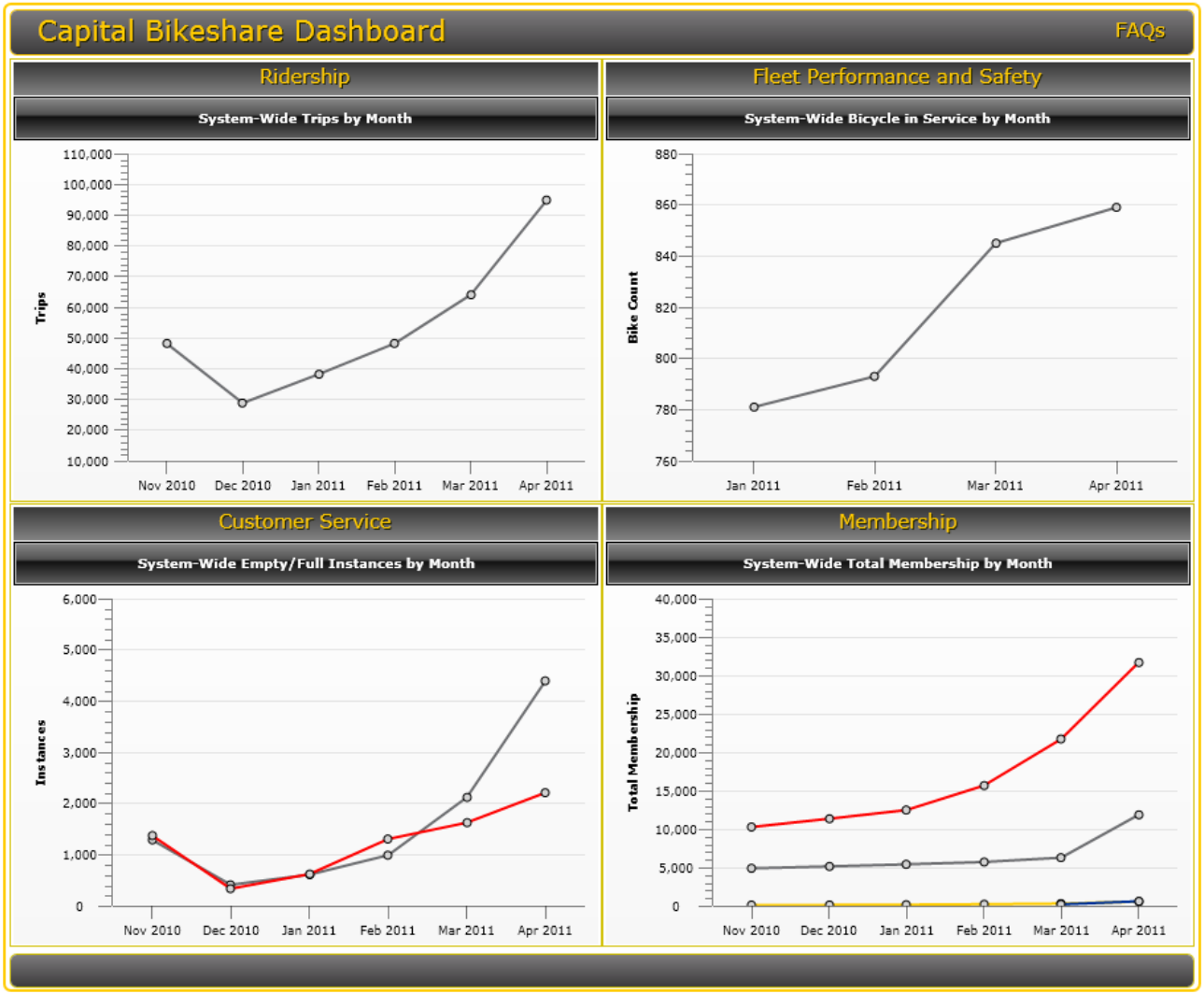


Image: http://cabidashboard.ddot.dc.gov/CaBiDashboard/#Home

Thank you for your attention

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