

The dark side of bike-sharing:

Assessment of existing and discontinued station-based and floating bike-sharing schemes in Spain

Esther ANAYA-BOIG*, Imperial College London

 @anayaesther

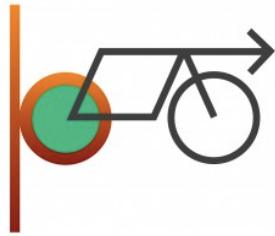
Alberto CASTRO, University of Zurich

Jenny DOUCH, Independent

OBSERVATORY OF BIKE-SHARING IN SPAIN

27th August 2019, London

Who are we?



**Observatorio de la
Bicicleta Pública
en España**

(Observatory of bike-sharing in Spain)

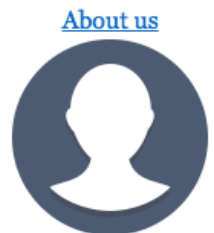
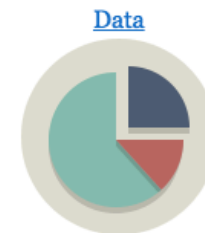
- **Independent** information platform focused on the **critical evaluation** of bike-sharing schemes in Spain.
- Created in 2011, by Esther Anaya, consultant and researcher at ICL, and Alberto Castro, researcher at Uni Zurich. Jenny Douch, an independent researcher, joined the team in 2018.

What do we do?

Most recent studies:

- **Inventory:** Evolution of station-based bike-sharing schemes BSS in Spain (June 2018)
- **Overview of bike-sharing schemes:** Commissioned by Cities for Cycling – a Spanish cycling network (March 2019)
- **Station-based bike-sharing questionnaire of general population:** mode choice, use, behaviour (2015)

www.bicicletapublica.es



Contents

1. From the inventory: Active and wound up schemes as of June 2018.
 - Evolution
 - Survival rates
 - Scheme aging
 - Level of use for 2017
2. From the overview: Active schemes as of March 2019
 - Schemes by type of bicycle
 - Scheme cost by bicycle type
 - Scheme cost by size
 - Scheme cost by management & contract type
 - Dockless timeline
3. Conclusions

Inventory



Systematic inventory of bicycle-sharing schemes in Spain.



Data collection started in 2007.

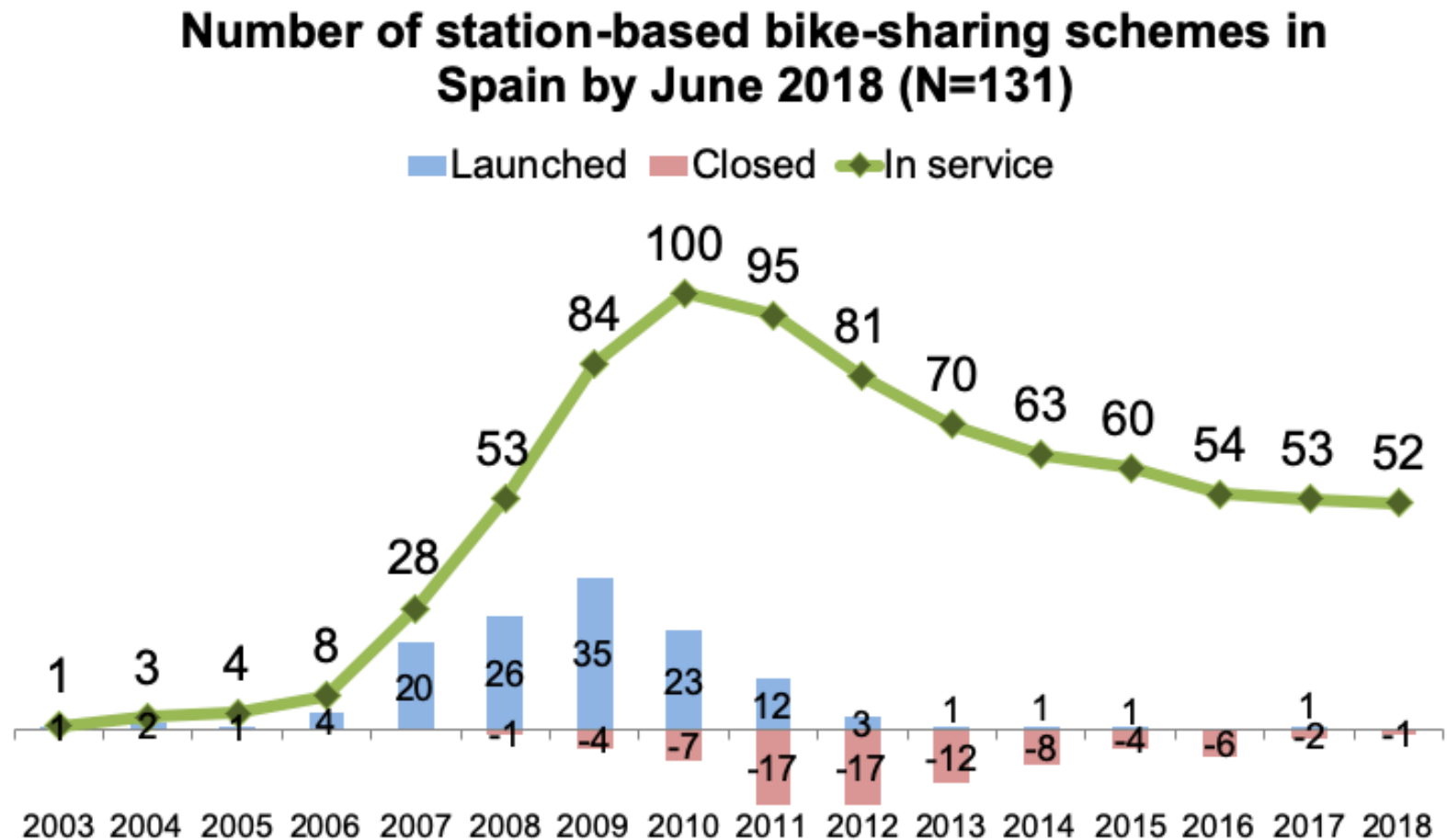


Methods: Google alerts from local media, internet search, commissioned surveys.



Products: blog post series, reports, grey literature, academic literature

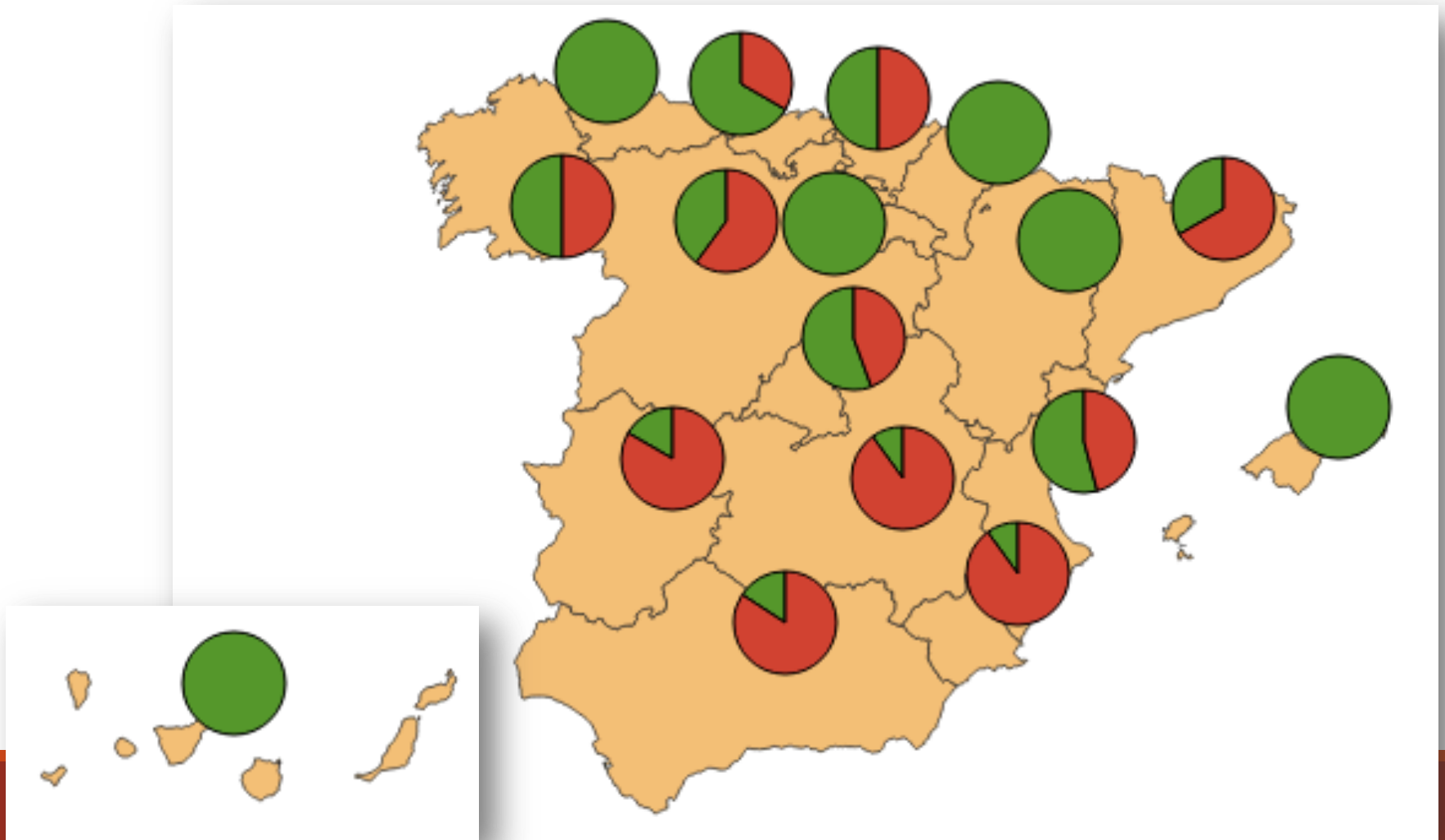
Evolution



Evolution

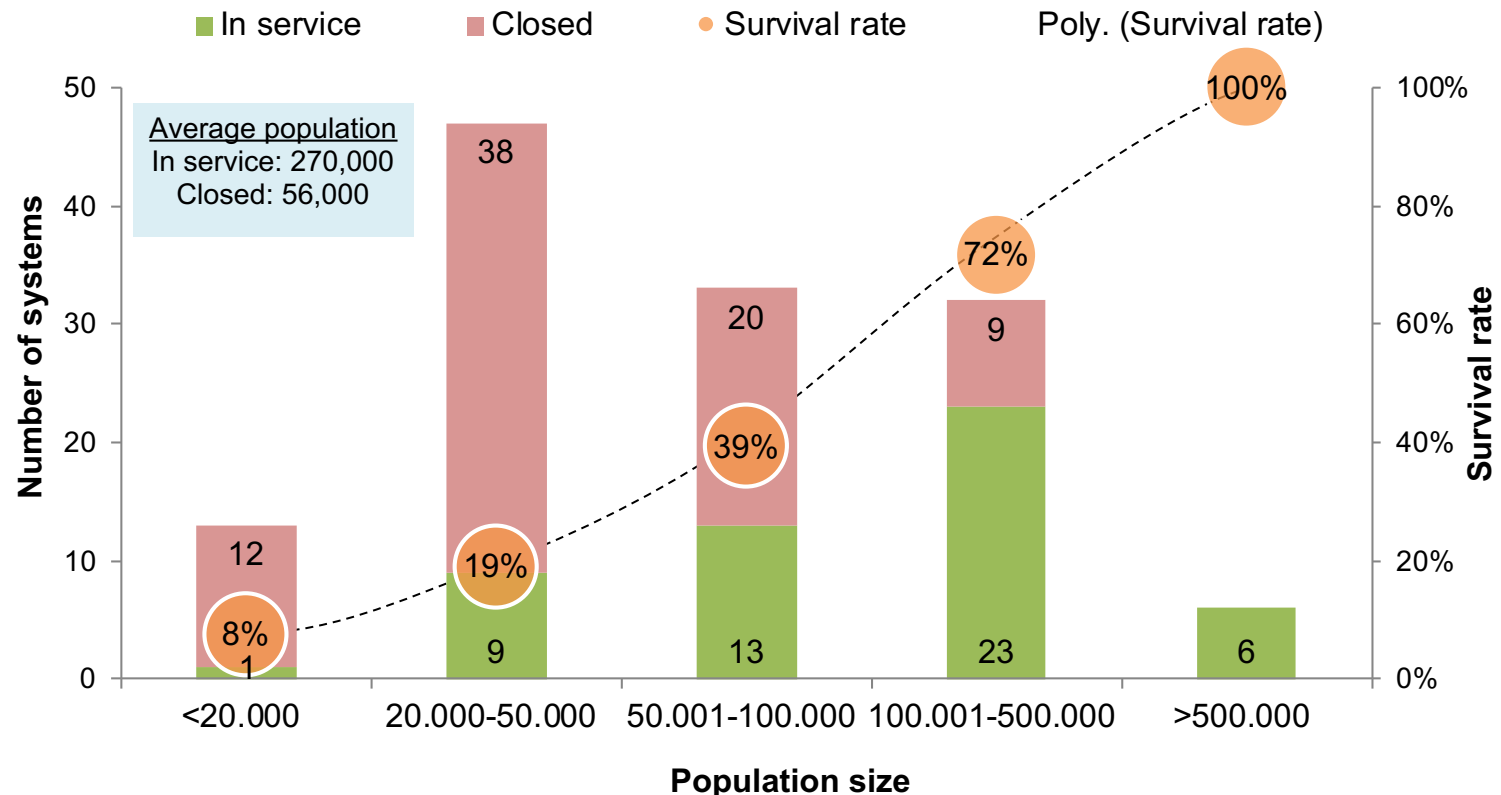


Survival rate by region



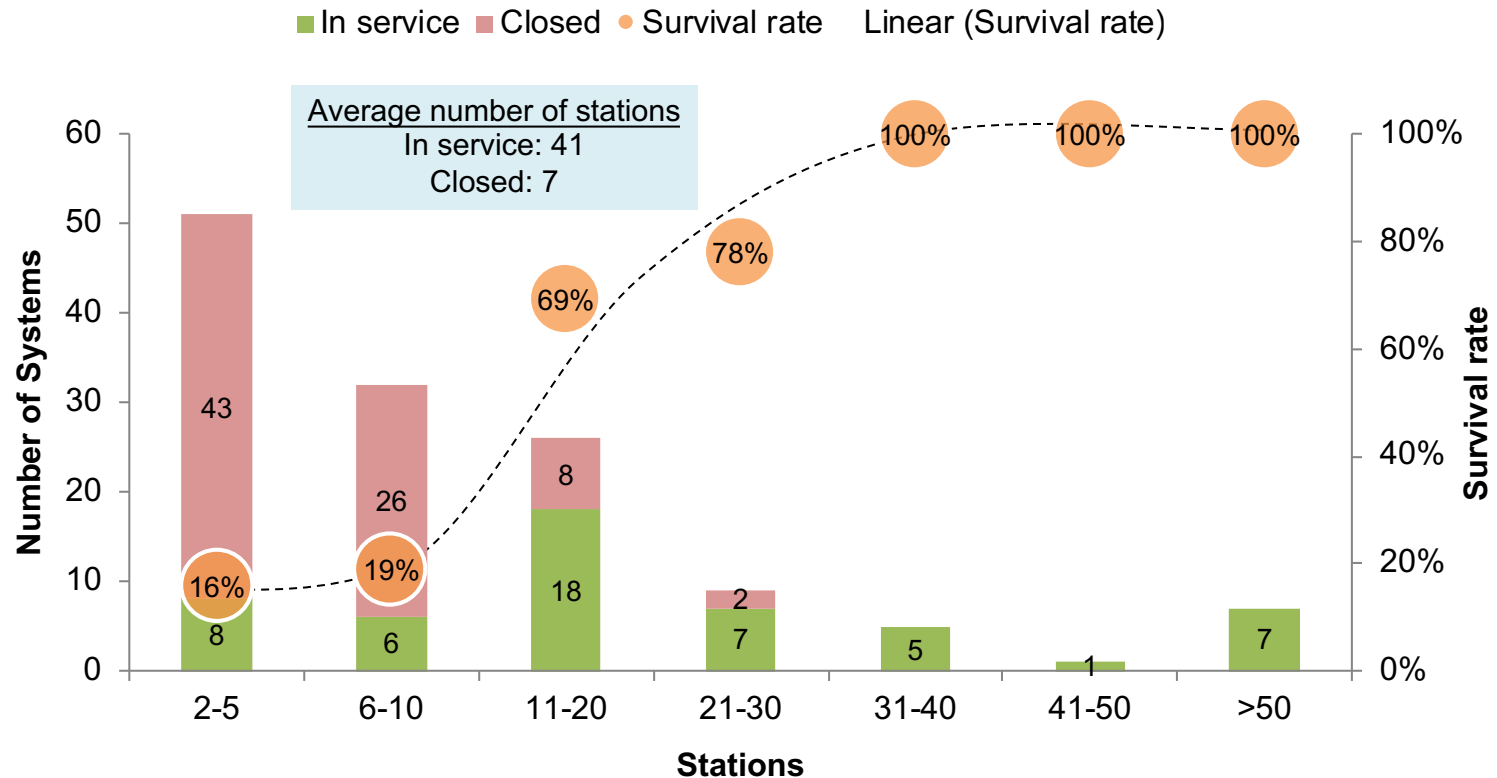
Survival rate by population size

Number of station-based bike-sharing schemes in Spain by population by June 2018 (N=131)



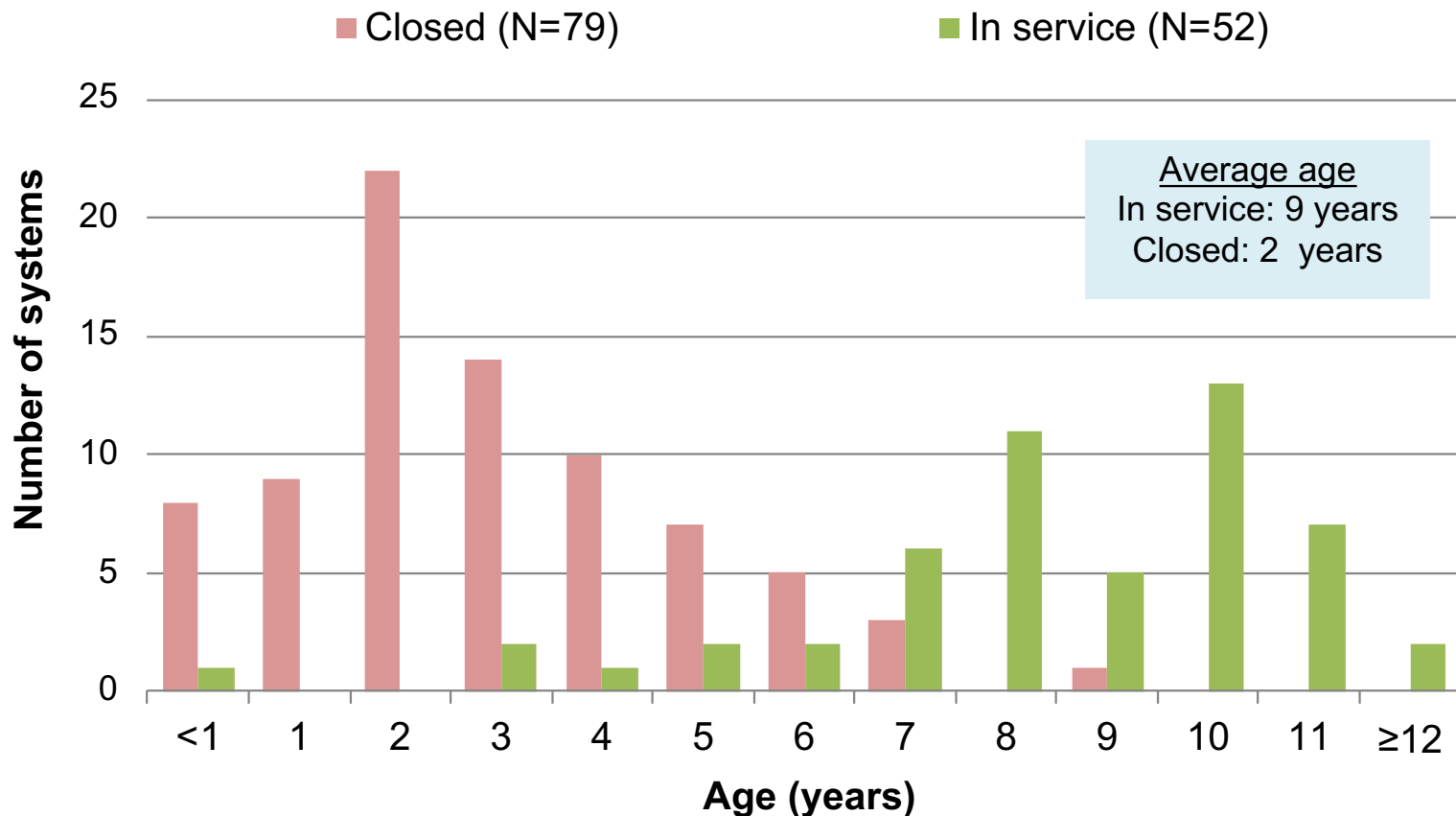
Survival rate by scheme size

Station-based bike-sharing schemes in Spain by number of stations in June 2018 (N=131)



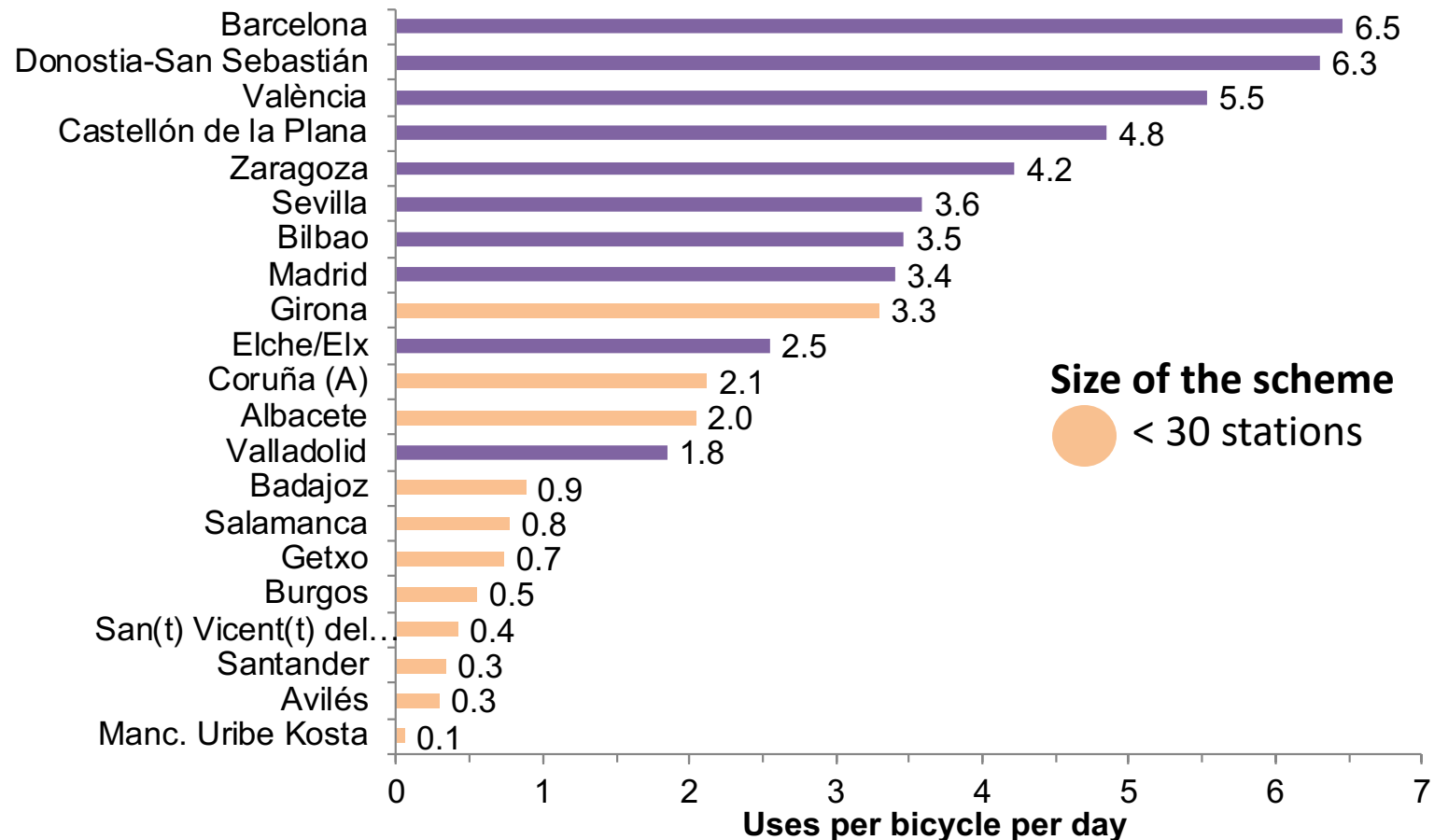
Age of schemes in service and at closure time

Age of station-based bike-sharing schemes in Spain in June 2018



Level of use and scheme size

Intensity of use of station-based bike-sharing bicycles in Spain in 2017, N=21



Overview



Red de Ciudades **por la Bicicleta**



Study commissioned by the Spanish network of Cities for Cycling.



Methods: Online questionnaire or telephone interviews with person responsible for the scheme, internet search.



Includes station-based (all publicly owned) **and dockless systems** (all privately owned)



Updates the inventory and adds **financial information for the first time**

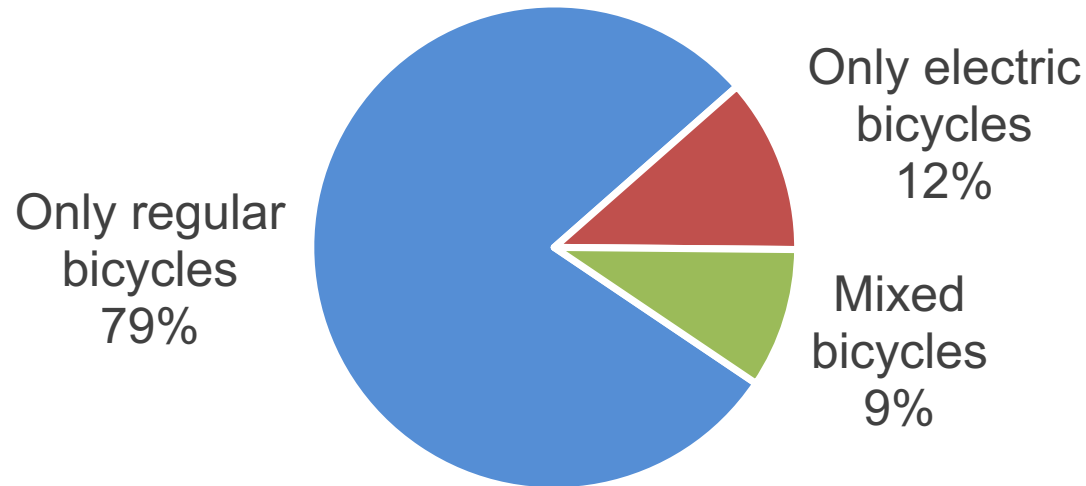
Station-based schemes

All of them publicly owned.



Systems by type of bicycle

**Station-based bike-sharing systems in
Spain by type of bicycle, March 2019
N=43**



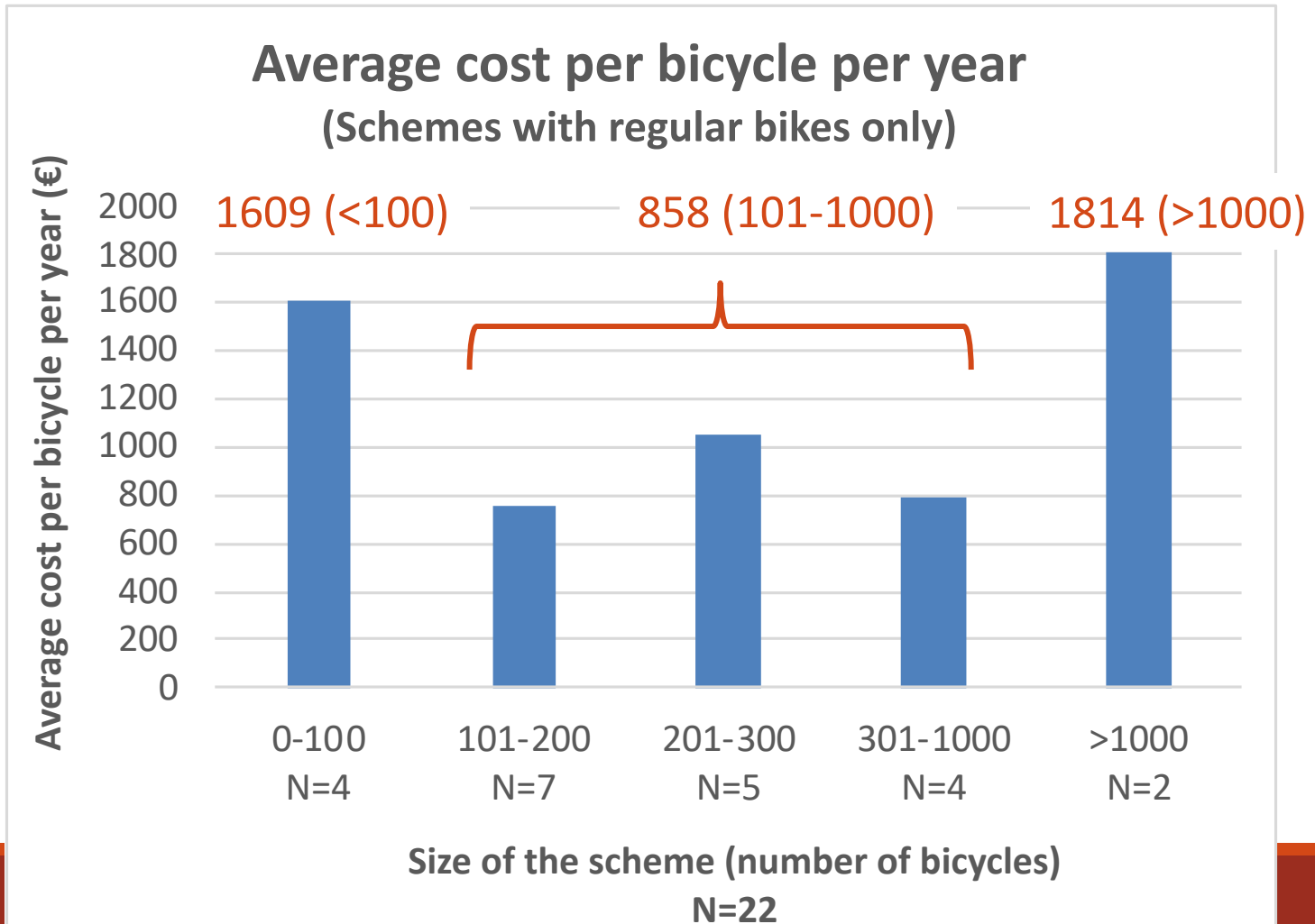
Scheme cost by bicycle type

Type of bicycles	Number of schemes	Annual cost of the scheme by bicycle
		Average (Range) [€]
Regular	22 (73%)	1081 (300-3333)
Mixed	3 (10%)	1986 (1453-2257)
Electric	5 (17%)	3172 (1825-5000)
Total	30* (100%)	1520 (300-5000)

*Schemes operating all year round

0% No scheme generates profits
17% cover the costs
83% generate loss

Scheme cost by size



Scheme cost by management & contract type

Management & contracts	Number of schemes	Average cost per bicycle per year
Direct public management	2	792 €
Publically procured services:		
<i>Management of public services or Provision of services contract</i>	14	912 €
<i>Other contracts in which the contracted parties assume at least part of the risk e.g. Alliance Contracting or Concession Contracting</i>	6	1571 €
Total (only schemes with regular bicycles)	22	1081 €

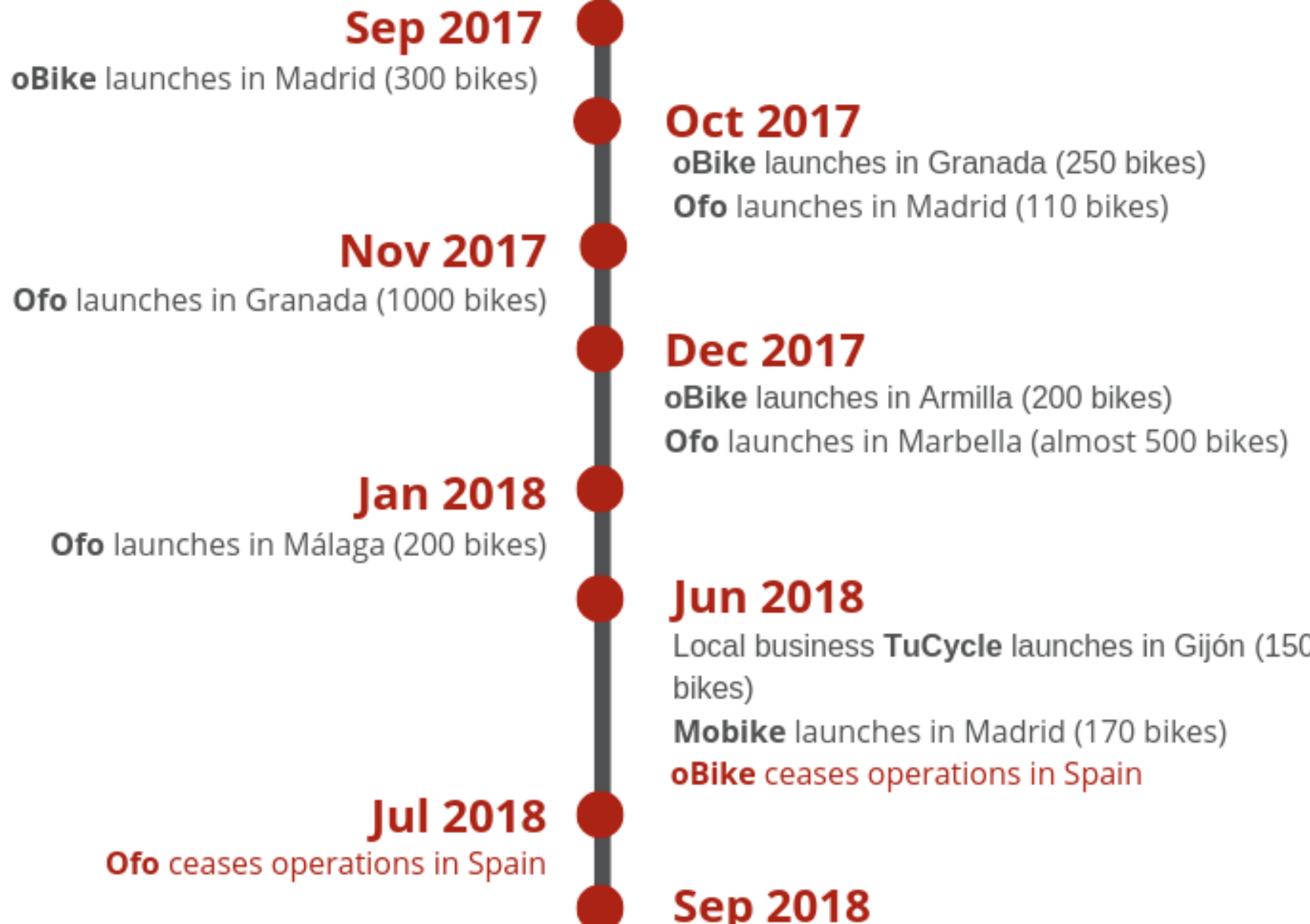
Public Control

Dockless schemes

All of them privately owned.



TIMELINE



Dockless schemes' details

Company (Origin)	Cities	No. of human-powered/e-bikes	Official agreement w/ City Council
Donkey Republic (Denmark)	Barcelona	1000/0	No
	Madrid	50/0	No
Electric RG (Spain)	Zaragoza	0/80	Yes
Mobike (China)	Hospitalet de Llob.	500/0	Yes
	Madrid	500/500	No
	Zaragoza	1000/0	Yes
Scoot (US)	Barcelona	0/1000	Yes
TuCycle (Spain)	Gijón	150/0	Yes
Total		3200/1580	

Dockless schemes' – off the record

- Most of the regulation has been implemented retrospectively, and regulations change overtime
- Madrid is now formalising their agreements and requesting minimum level of fleet maintenance and reporting GPS location reporting of bicycles
- In April 2019 Barcelona introduced a fee of 71,51 € per bicycle per year, contracts will last three years and schemes must have designated parking spaces for their bikes.
- Cities that regulated dockless before they arrived do not have schemes.
- City councils are starting to regulate shared scooters together with dockless (micro-mobility)
- Companies report big challenges in terms of costs and vandalism. Nevertheless, pay per trip is higher than station-based schemes.

Conclusions

- Resilience of station-based schemes seems to rely on prospective and flexible financial planning.
- Public subsidies are crucial for survival, as with most public transport services.
- Would some of these issues improve if we were to define any new CYCLING mobility systems as “public transport services”?
- Some basic technical parameters are still unknown.
 - Need for assessment of local context impact on basic parameters.
 - Systematic national data. Need to create a collective database to produce more powerful statistics.
- Financial issues heavily related to National and Regional policies and managerial institutions.
- Local regulations (especially regarding the use of space) key for a “healthy” integration of new mobility systems such as dockless bike-share.
 - Some regulations to privatize/commodify public space and public bicycle facilities (parking)
- New micro-mobility schemes cannot be understood without acknowledging global phenomena: investment capital - unicorn companies, sharing economy, platform capitalism, etc.

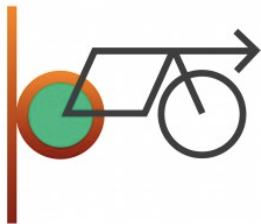
Thank you!

Contact:

Esther Anaya-Boig, Imperial College London

✉ e.anaya14@imperial.ac.uk

🐦 @anayaesther



**Observatorio de la
Bicicleta Pública
en España**

🌐 <http://bicicletapublica.es>