

Pen-and-paper data collection method for cyclists, in Lisbon

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Lisbon

- *Starter* city
- Rapid evolution
 - 0.2% in 2011 to 2.0% in 2019
- Dynamics
 - Major infrastructure expansion in 2017
 - Bike sharing system in 2018
 - E-scooters in 2019
- Segregated but fragmented cycling network



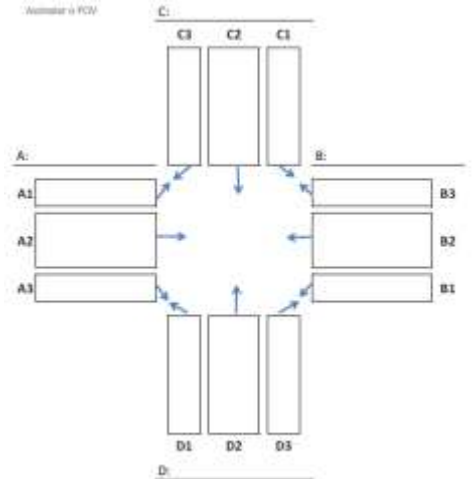
Data collection

- One automatic counter installed, collecting data since 2016
- Information on who is cycling?
 - Shared and private bicycles
 - New modes, such as e-scooters, hoverboards, etc



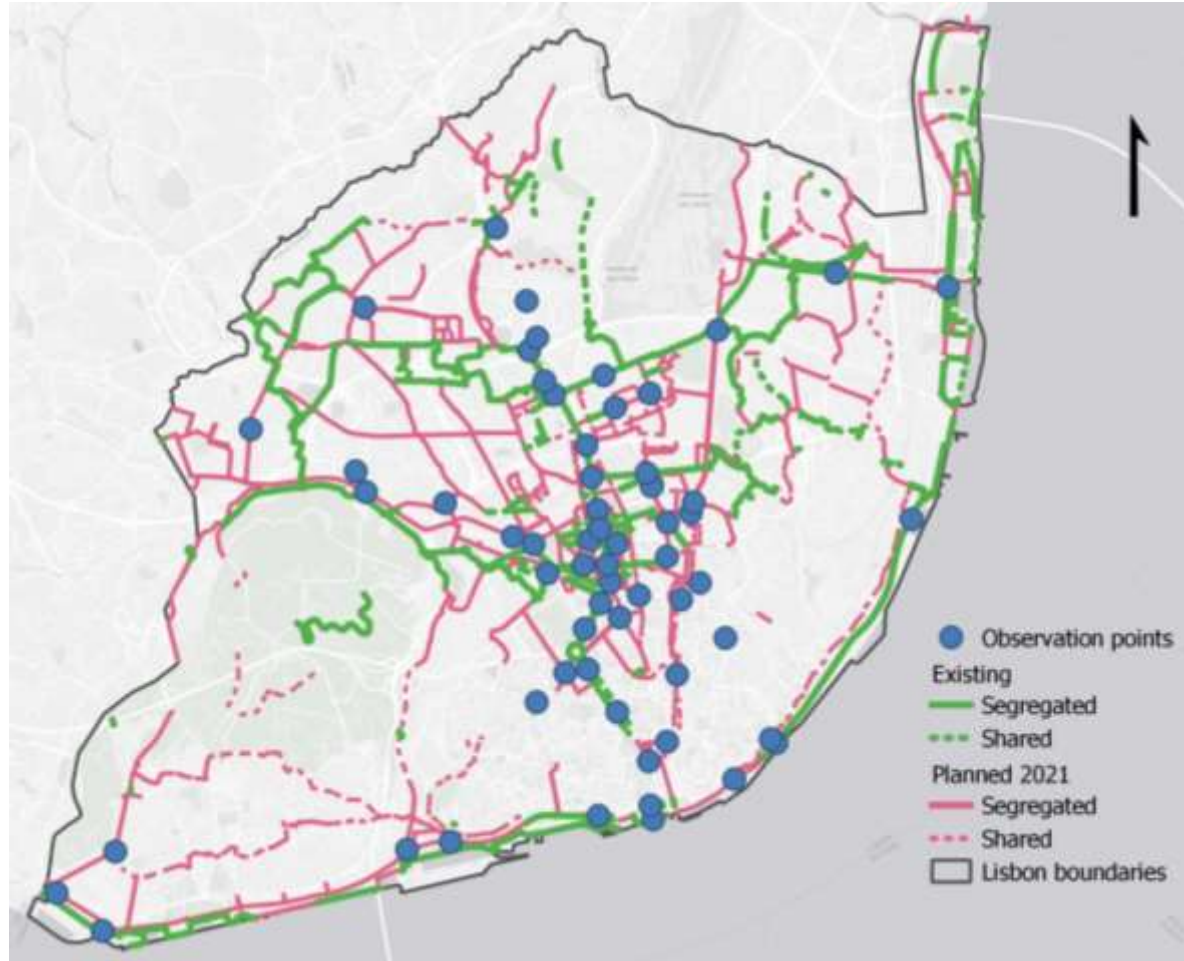
Pen and paper method

- How we do it?
 - Intersections (2 to 4 way)
 - 15min periods, 2h RH peaks >> 4h/day
 - 45 to 60 locations
 - Spring week (late May)
 - Trained and paid labor



Locations

- 60 observation points
 - 45 for two years
- Existing and planned infrastructure
- Commuting trips
- Team of about 10 people
 - 400 counting hours + preparation and data analysis hours



Data collected

- Directions
- Demographics
 - Gender
 - Age: 3 categories
- Shared / private vehicle
- Helmet use
- Bicycle
 - Urban, MTB, folding, e-bike
 - Cargo, children carrying
- Trip purpose
 - Sport/fitness, Leisure, Deliveries
- E-scooter and other

Formulário de coleta de dados de viagens (Handwritten data):

Data: 04 Junho, Zona: Fung, Hora: 19:00, Hora inicio: 19:00, Hora fim: 19:00, Tempo: 00:00, Tipo: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Nome / Não identifico: []
 Idade: []
 Sexo: []
 Altura: []
 Peso: []

Partilha	Sem capacete		Com capacete		+1
	Homen	Mulher	Homen	Mulher	
Partilha	11	2			
Sexo MM		1			
Idade (1-15) MM					
Partilha	1111	6	1111	5	
Sexo MM			111	3	
Idade (1-15) MM	1	1			

de viagem - outros particulares:

Fora cidade		No passeio / no porto	
Tipo percurso		111	3
Tipo bicicleta	1 1	1 1	111 3
Tipo atividade (caravante)			

Mapa de rotas (Handwritten):

Mapa de rotas com pontos A1, A2, A3, B1, B2, B3, C1, C2, C3. Rotas indicadas: Av. Roma, Estoril, F.M.C.

Outros: Não considerar itinerários

Itinerário	Partilha	Particular
Itinerário	1	1

Atenção na cidade

Notas: Há pessoas que fazem a F.M.C. pelo lado sul, paralela à cidade.

Woman



Folding



Woman



Shared



Carrying



Helmet

Man

Off-road

E-bike

Kid



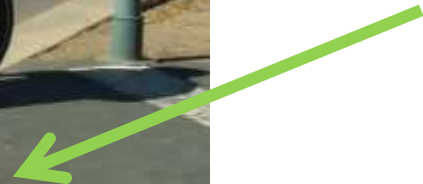
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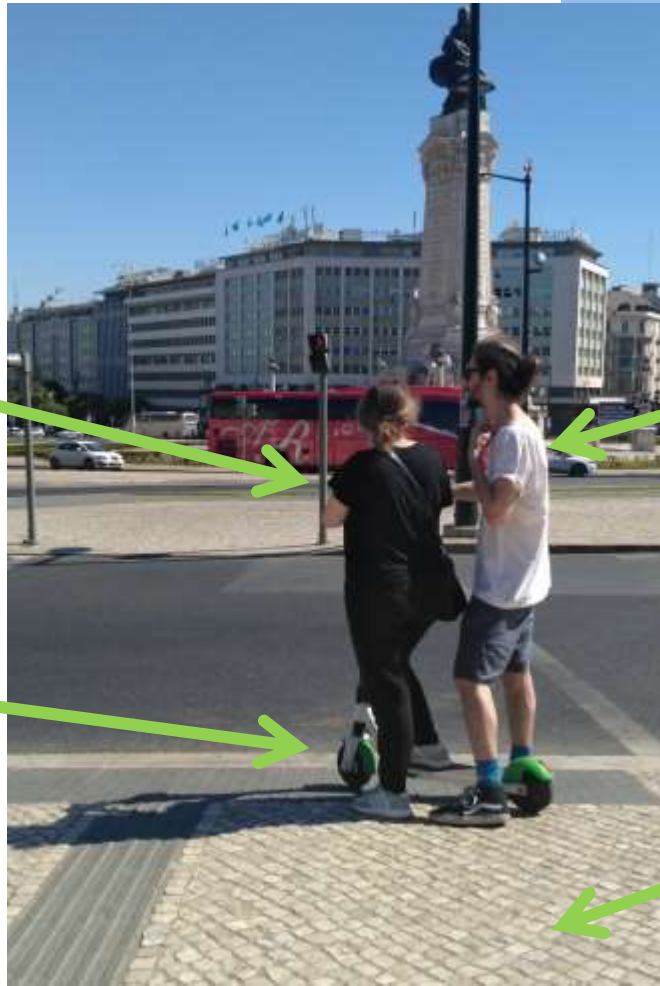


Shared



Cycle path





Women

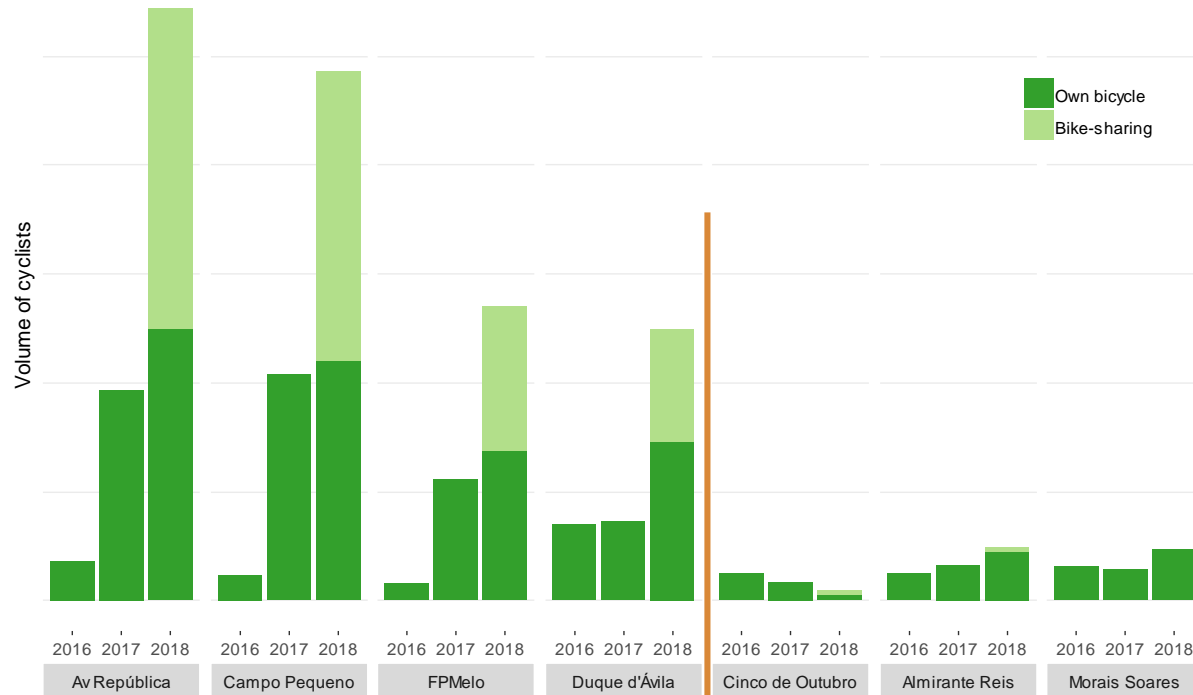
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Shared

Sidewalk

Trends

Comparison of the observed cyclists' volume per location



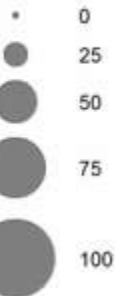
- 3-fold growth between 2016-2017
- An overall 2.5-fold growth between 2017-2018
- Bike-sharing accounted for 34% of all trips in 2018

8:00

2017

2018

Ciclistas



Contagens manuais em Maio
IST - CML

Information relevant for planning

% women



% helmet



% e-bikes



Women's share increased from 17% to 23%,

Helmet use decreased from 47% to 31%

Pros

vs.

Cons

- Lower cost
- Flexibility
 - Locations, features
 - Adapted to infrastructure planning
- Detailed information
 - Directions and characteristics
 - Vehicle types
- Count the cyclists off the dedicated infrastructure
- “Snapshot”
- Tech independent
- Fast data processing
 - Instant profiling

- Not continuous
 - Sample
 - Rush hours
- Demands a good planning and testing
- Dependent on people
 - Observation skills
 - Subjectivity of appreciations from different persons

- Lisbon, a starter city, has been using this method for 4 years
 - Reliable, adaptive to planning processes of infrastructure
- Where people cycle and who they are?
 - Instant profiling of a city
 - Diversity of cyclists
- Between high-tech and low-tech, smart-tech

See you in Velo-City Lisbon!

