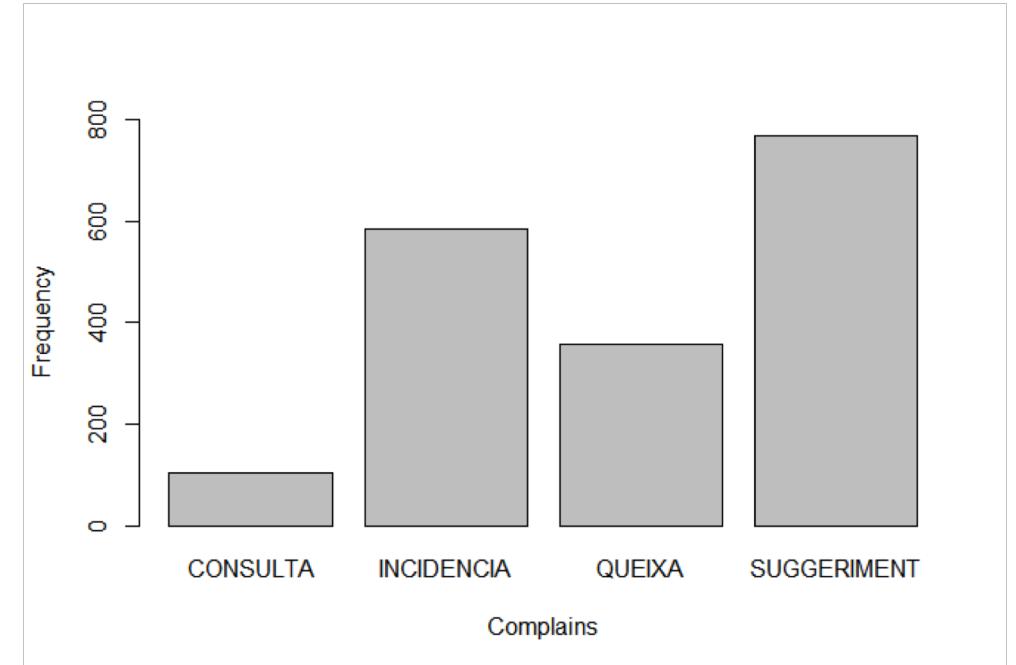


Identifying Problem Areas in Barcelona's Bike Lanes

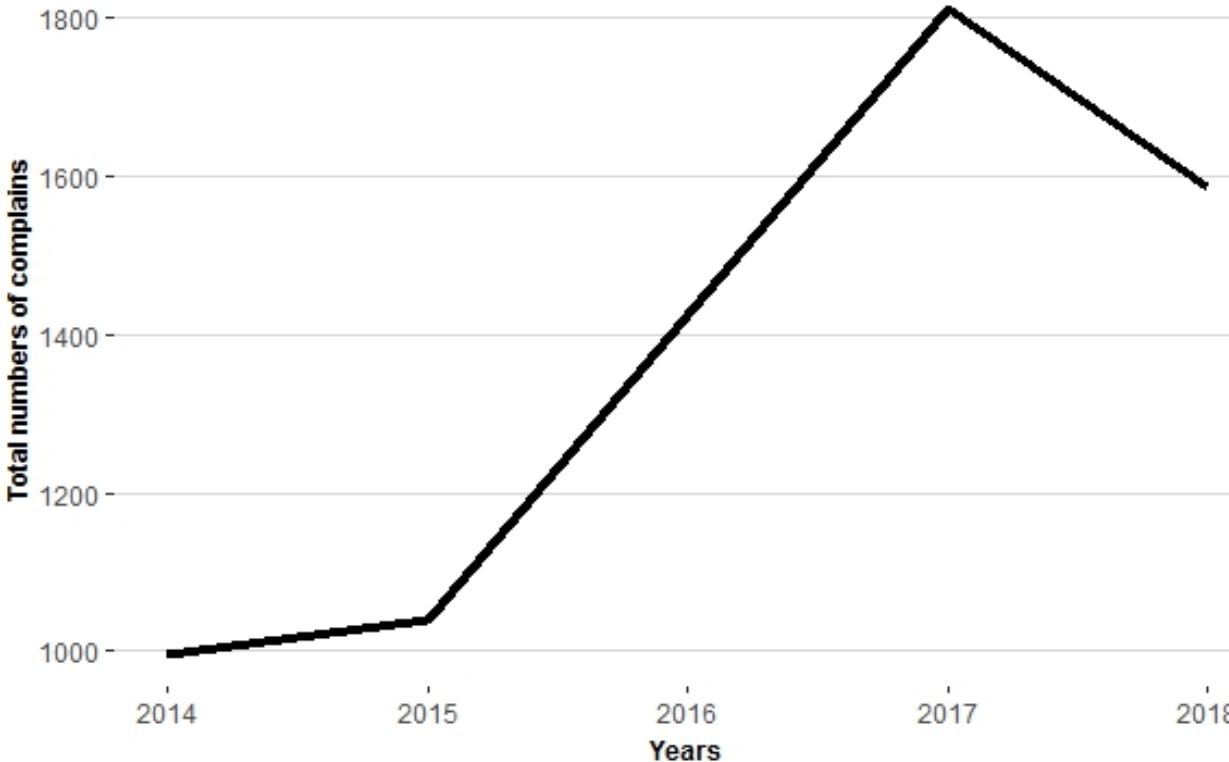
Josep Espasa, Claire Kelley, Paolo Chevalier, Amos Chinomona

Data Sources

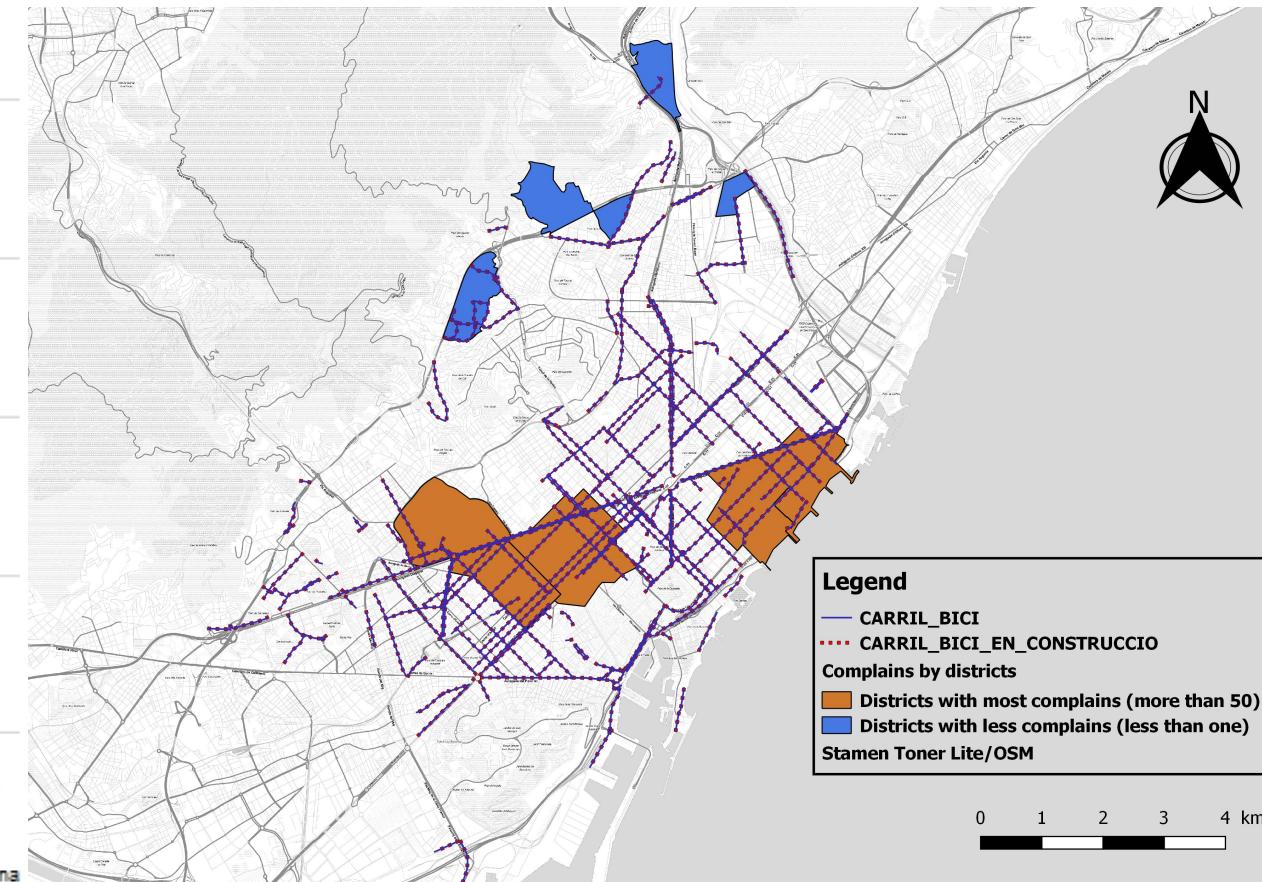
- Bike Accidents (2017)
- Complaints (2018)
- Bike Paths
- Neighborhood Age and Income (2016)
- Bike usage omnibus (2015-2017)



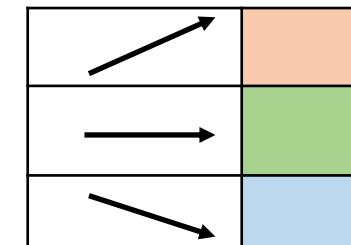
Evolution of complains from 2014 to 2018



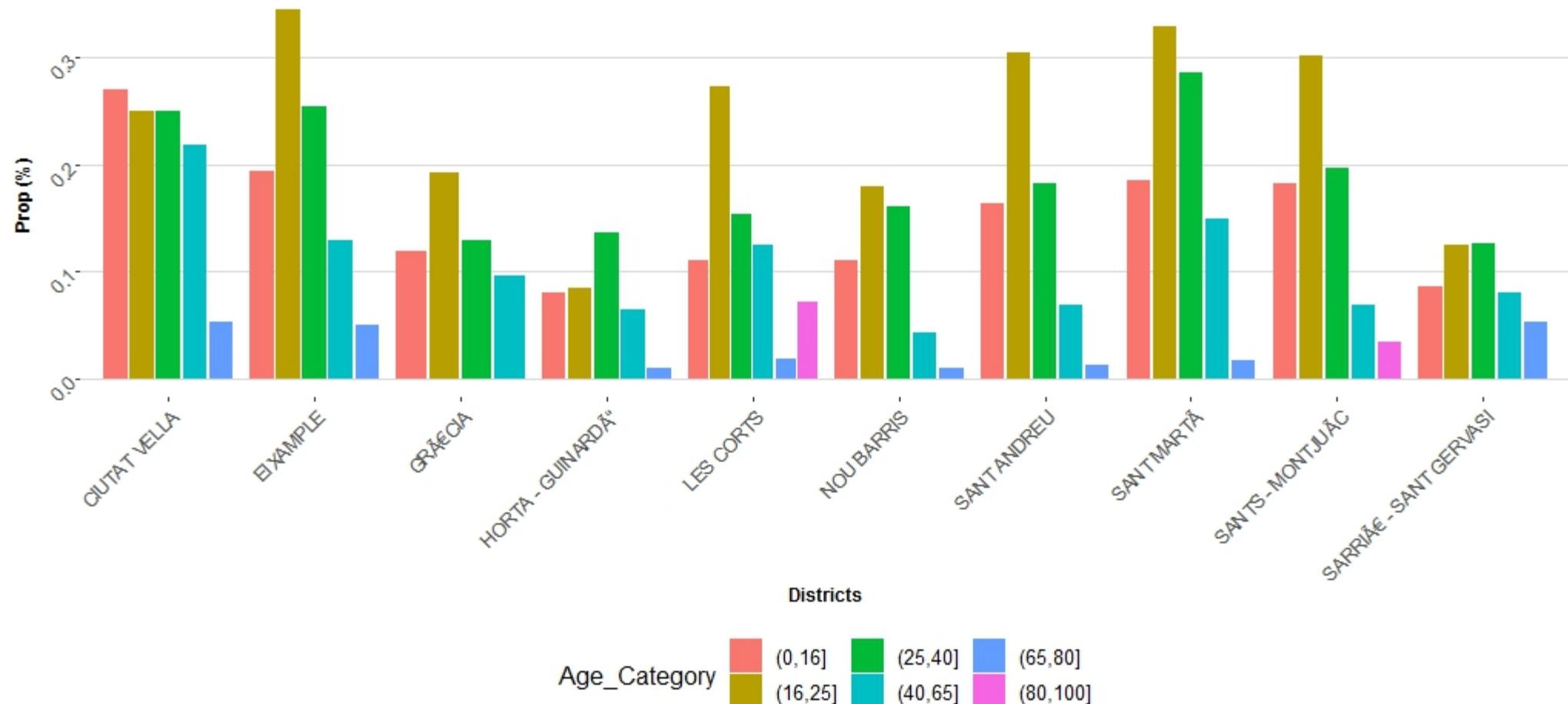
Source: City Council of Barcelona
Open Data BCN, Dataset 'Incidencias, quejas, sugerencias, consultas y agradecimientos gestionados por el Ayuntamiento de Barcelona'.



	2014	2015	2017	2018
New bicycle lane (change of location)	10%	11%	21%	24%
New bicycle parking (change of location)	21%	23%	19%	22%
Discipline problems with bikes	21%	17%	20%	21%
Abandonned Bicycles	20%	16%	14%	13%
Incidents in Bicing services	8%	7%	7%	5%
Marking Bicycle lane	NA	NA	1%	4%
Incidents Bibycle lane	12%	13%	3%	2%

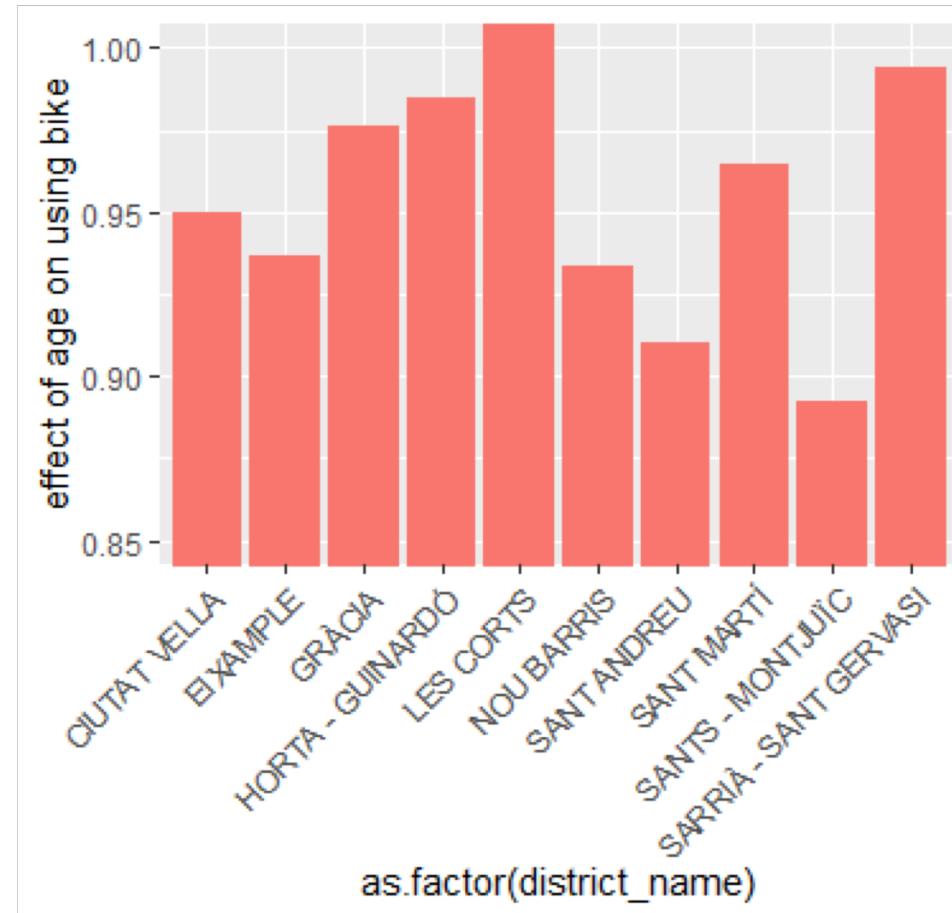


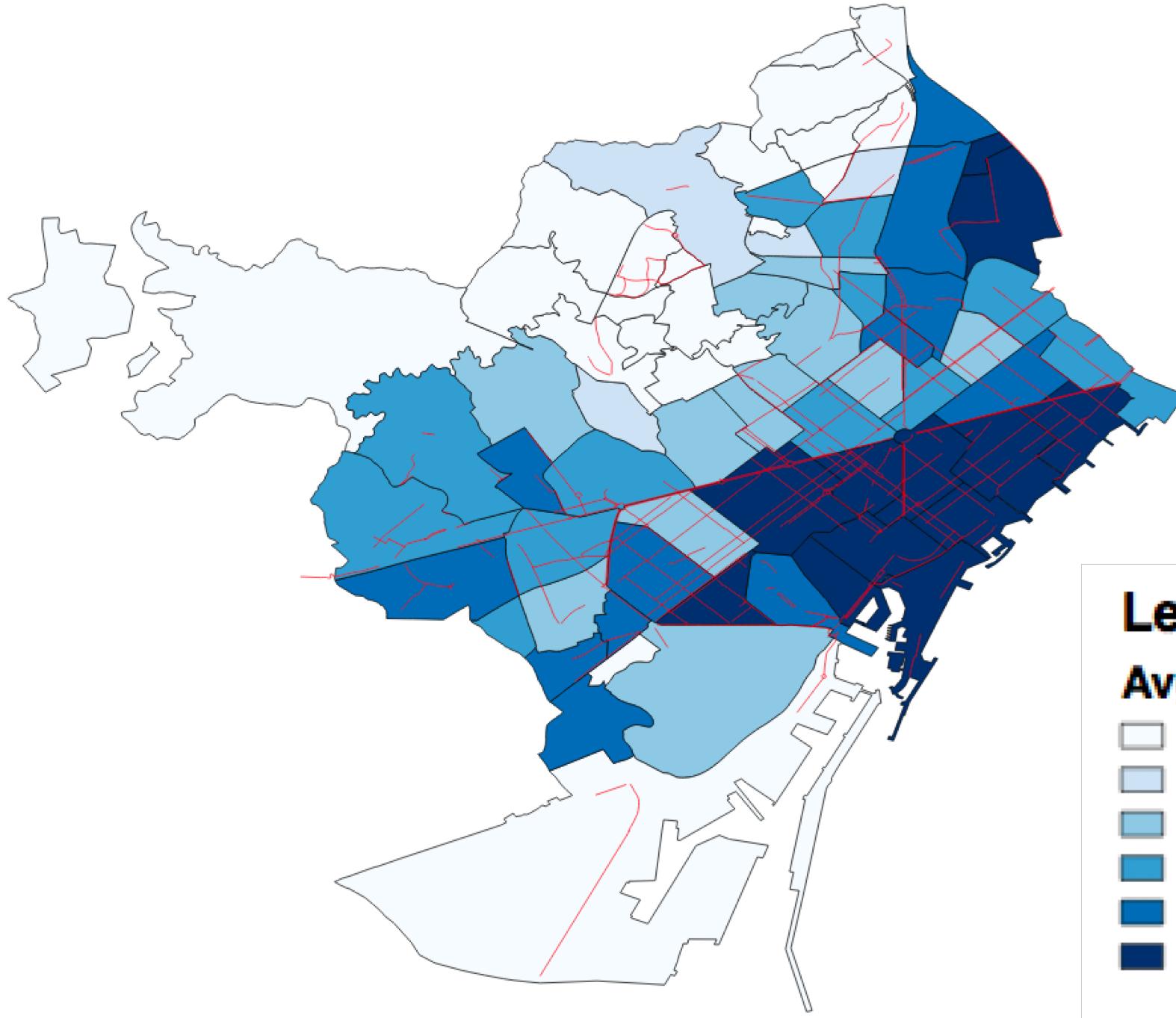
Bike Usage in Barcelona



Source: City Council of Barcelona
Open Data BCN, Dataset 'Omnibus 2015 to 2017'.

Negative effect of Age





Legend

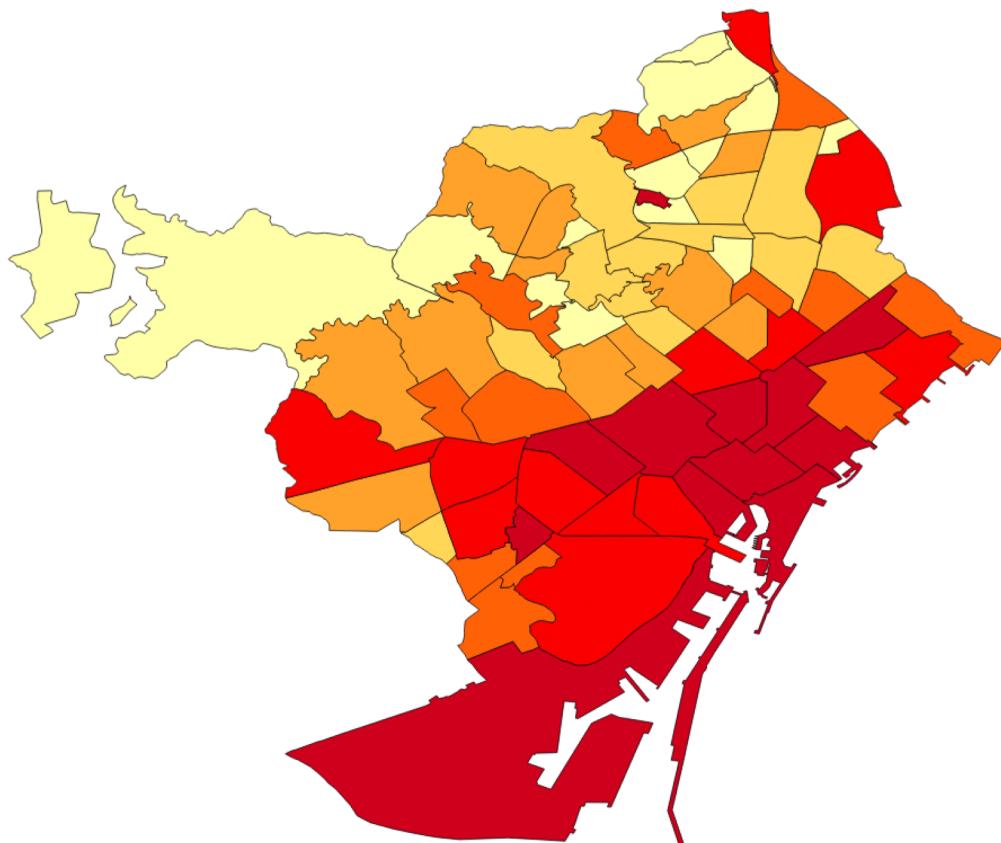
Avg Bikes Per 10k Residents

0.0 - 0.0
0.0 - 3.3
3.3 - 17.3
17.3 - 30.0
30.0 - 50.5
50.5 - 178.5

Legend

Accidents Per 10k Residents (2017)

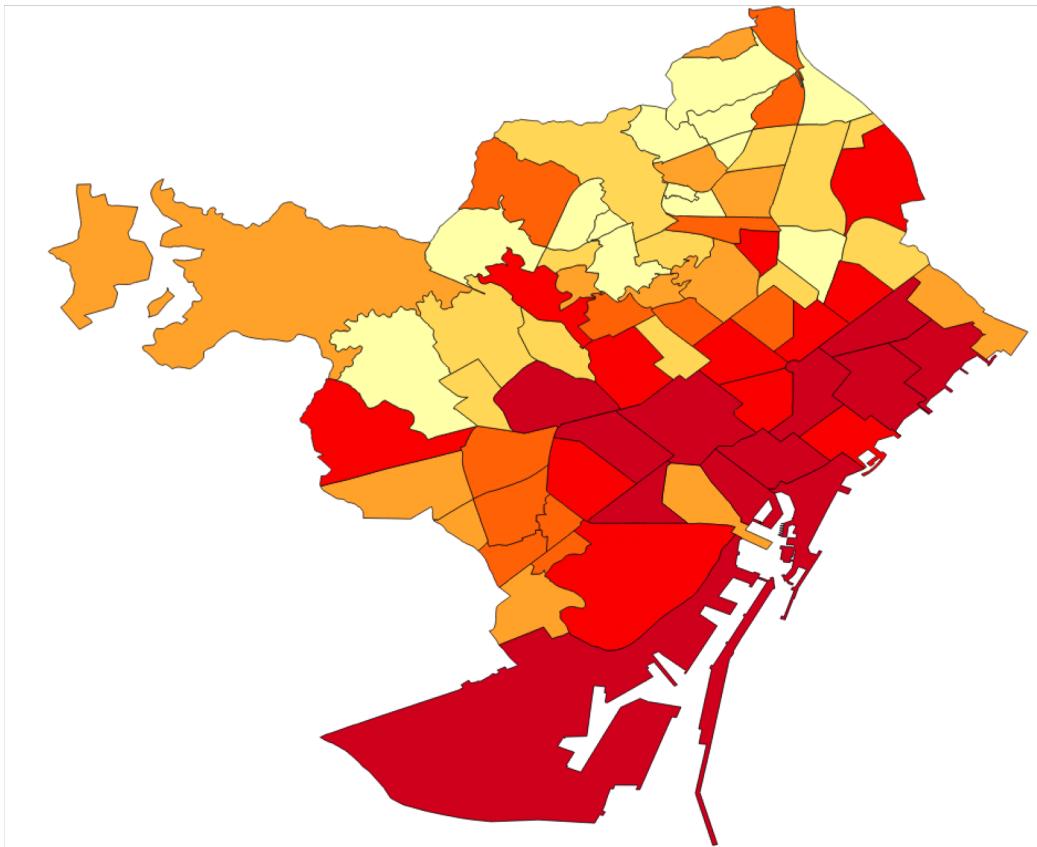
- 0.0 - 0.8
- 0.8 - 1.6
- 1.6 - 2.6
- 2.6 - 5.4
- 5.4 - 8.6
- 8.6 - 43.9



Legend

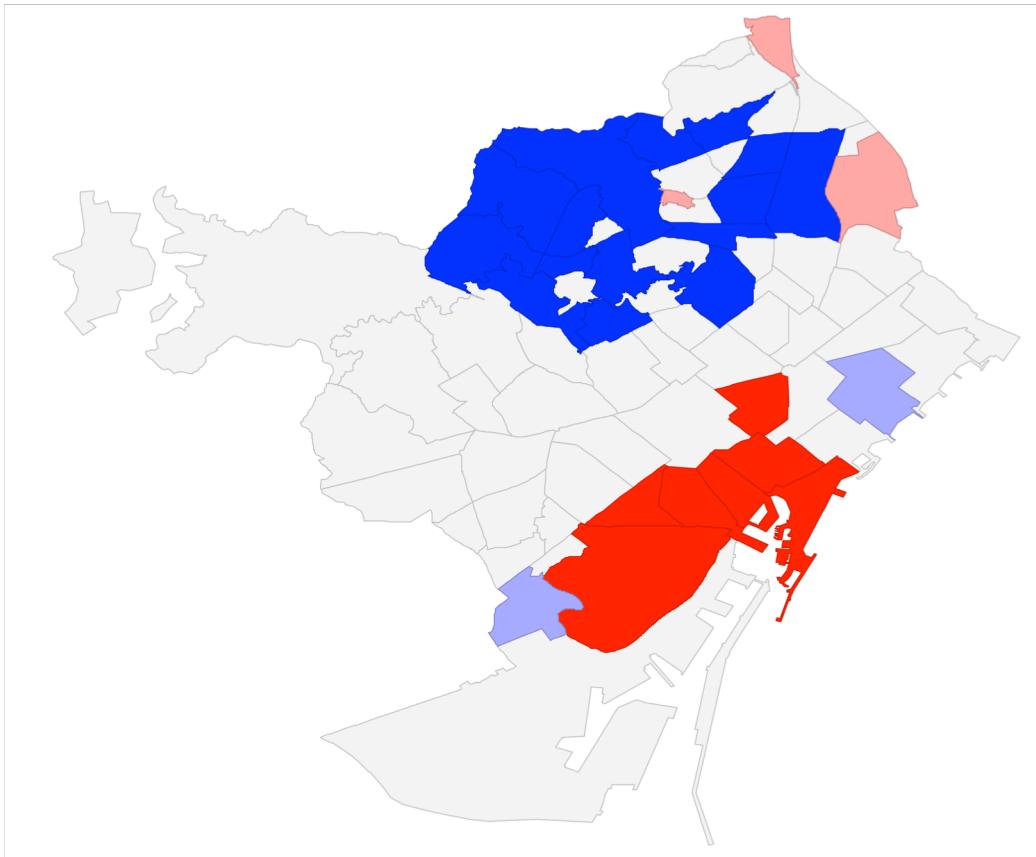
Complaints Per 10k Residents (2018)

- 0.00 - 2.40
- 2.40 - 4.40
- 4.40 - 6.43
- 6.43 - 8.96
- 8.96 - 13.86
- 13.86 - 69.90

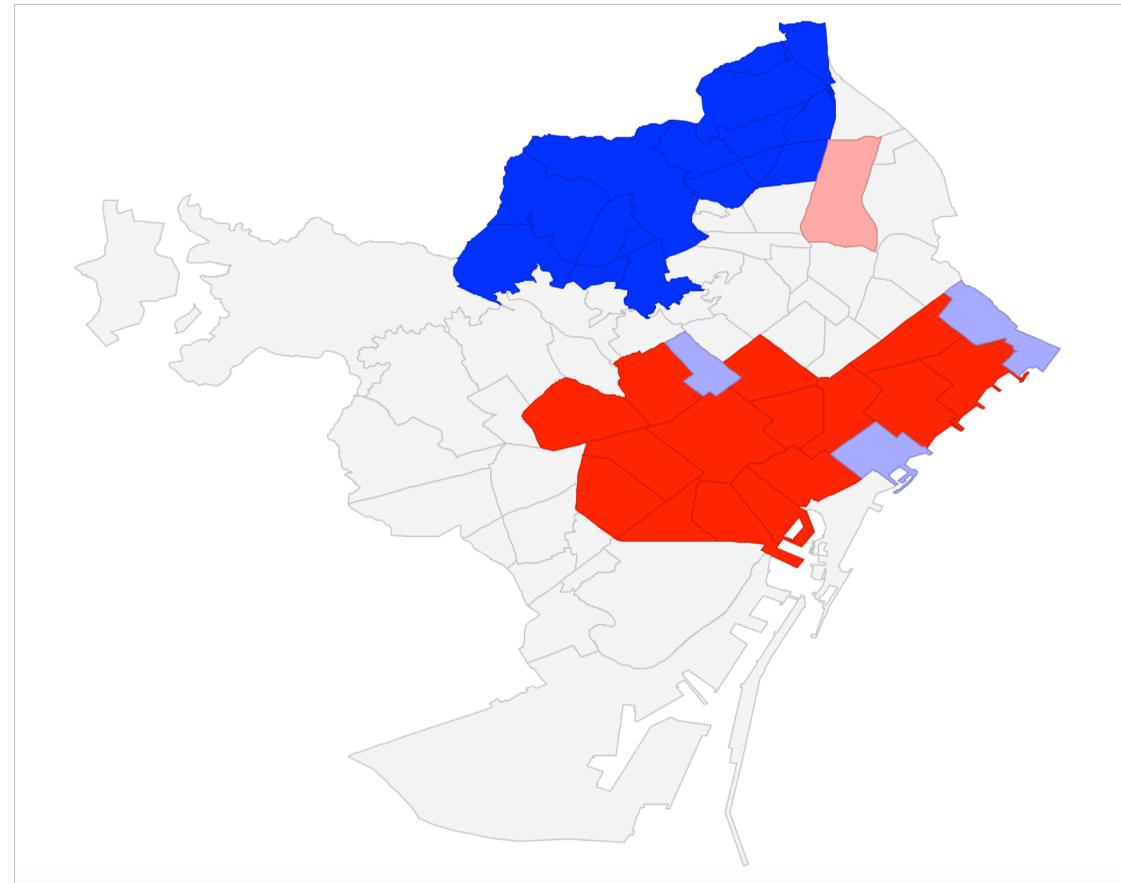


“Hot Spots”

Accidents



Complaints



Further Directions

- Prioritize expansion of bike lanes based on customer suggestions
- Prioritize repair/improvement of signage based on intersections with high accidents rates
- Predict Spending on future bike lines based on changes in demand
- Further review of equitable access to biking- are certain populations not being served correctly (perhaps parents with children, or older adults)
- Analyze Text of Complaints to discover patterns and more specific details