Meeting Agenda

A Team

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

1. Introduction & Context
2. Data Approach
3. Analysis
4. Conclusion & Recommendations

Introduction & Context

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Meeting

Course: CO4 LSE Employer Project
Assignment: Final Recommendations
Prepared by: A Team
Prepared for: Thoughtworks
Date: 20 February 2023

Team Name: A Team

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Context

Transport for London (TfL) is a local government body responsible for most of the transport network in London and guided by the Mayor's Transport Strategy 2018 (MTS).

The central aim of MTS is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041.

Introduction & Context

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Business Questions

What are the main factors which influence cycling uptake?

How can improving these factors help contribute to achieving the goal of 80% of all trips in London to be made on foot, by cycle or using public transport by 2041?

Themes of Hypothesis

- How does **infrastructure** affect uptake in cycling?
- How safe is cycling in London and is **safety** affecting uptake in cycling?
- How do **socioeconomic factors** contribute to cycling uptake?

Final Recommendations

Area of Concern	Recommendation Headline	Impact	Complexity	Priority
Infrastructure: Ease of access	1. Expand cycle network in outer London 2. Connect major work and travel hubs 3. Connect cycle network to safe and secure parking spaces	High	High	**Long**
Infrastructure: Safety	1. Improve Junction safety for cyclists 2. Develop segregated cycling lanes 3. Increase traffic calming measures	High	Medium	**Medium**
Ethnic and Minority Groups	1. Offer government subsidies targeting low income and minority groups	Medium	Low / Medium	**Medium**
General Cycling Popularization	1. Make cycling training widely accessible across all age groups – e.g. Schools 2. Utilize targeted social media campaigns to promote safe cycling – e.g. Enfield	Medium	Low	**Short**

Our Approach in Analyzing the data

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How we approached the analysis

1. Looking at the descriptive statistics
2. Understanding patterns and trends within the datasets provided
3. Analysed external data to provide insights and context to patterns and trends
4. Testing our hypothesis to provide recommendations

What were the key data considerations

1. Date range spans 2014-2021
2. In some instances, for the aim of the research data 2020 onwards was excluded due to effects of COVID pandemic
3. Information presented for three main areas: Central, Inner and Outer London
4. Additional resources used includes TFL, ONS, GOV.UK, Open Street (maps)

Our Approach in Analyzing the data

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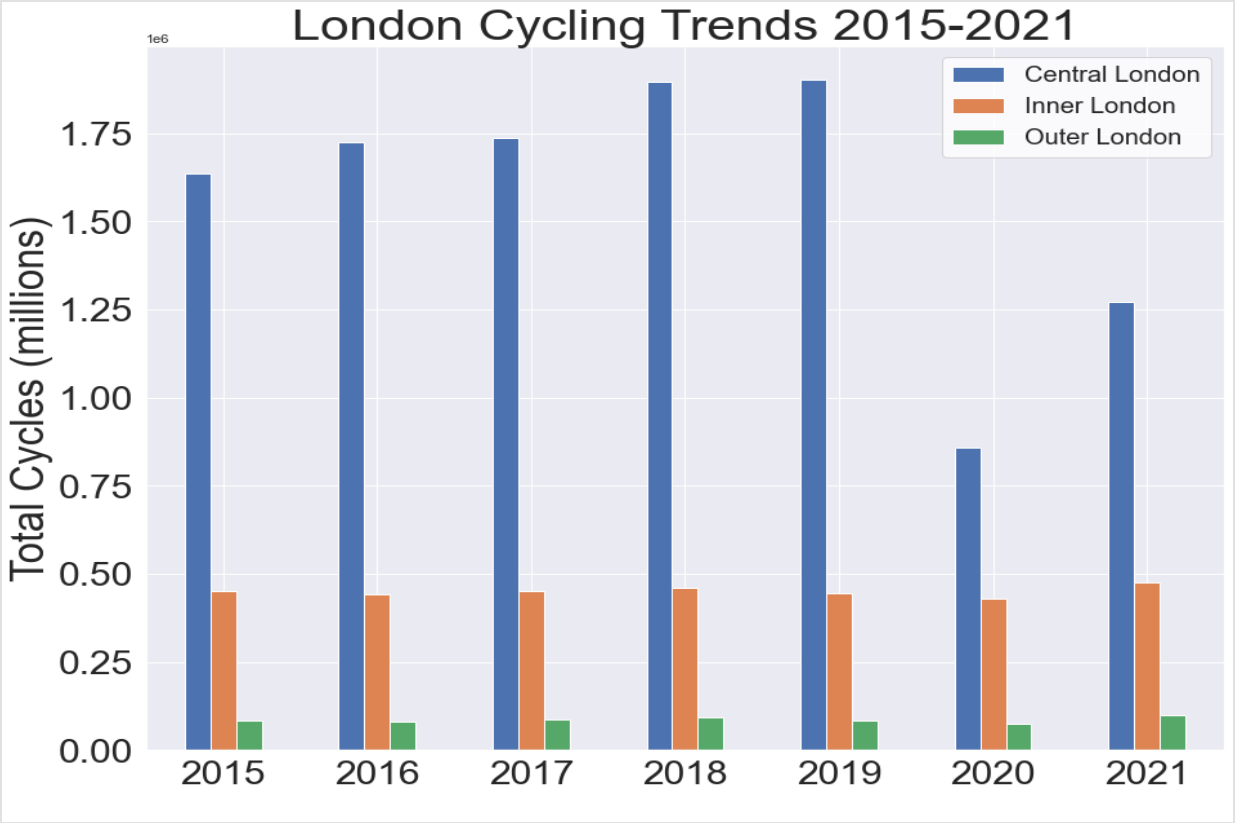
Areas of Analysis we are covering today	
1	Cycling Trends
2	Time Period Trends
3	Modes of Travel to Work
4	Accidents
5	Infrastructure
6	Mini Hollands Case Study
7	Ethnic Groups

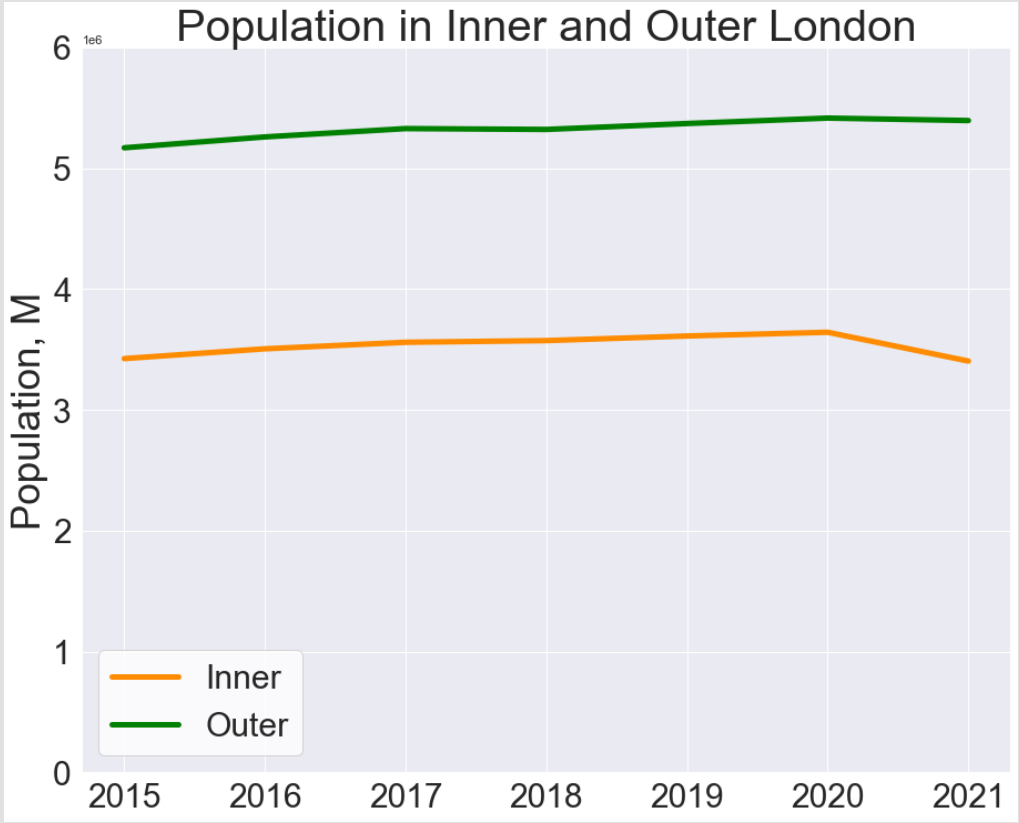
Section Summary

1. **Cycling Trends**
2. **Time Period Trends**
3. **Modes of Travel to Work**

- Opposite trends between number of cycle trips and size of the population in Inner and Outer London.
- Londoners cycle more for leisure purposes in 2021 than in 2017-2019; whilst work related cycle trips remain the most prominent overall.
- Bicycle is overall the 5th most popular method of transport to work; whilst rail (including underground) is the most popular in Inner London and car is the most popular in Outer London.
- Residents of Outer London own more cars but drive mainly as part of their commute comparing to Inner London, who drive more for leisure purposes.
- Residents of Outer London live further away from places of work than residents of Inner London but still within cyclable distances.

1 Cycling Trends

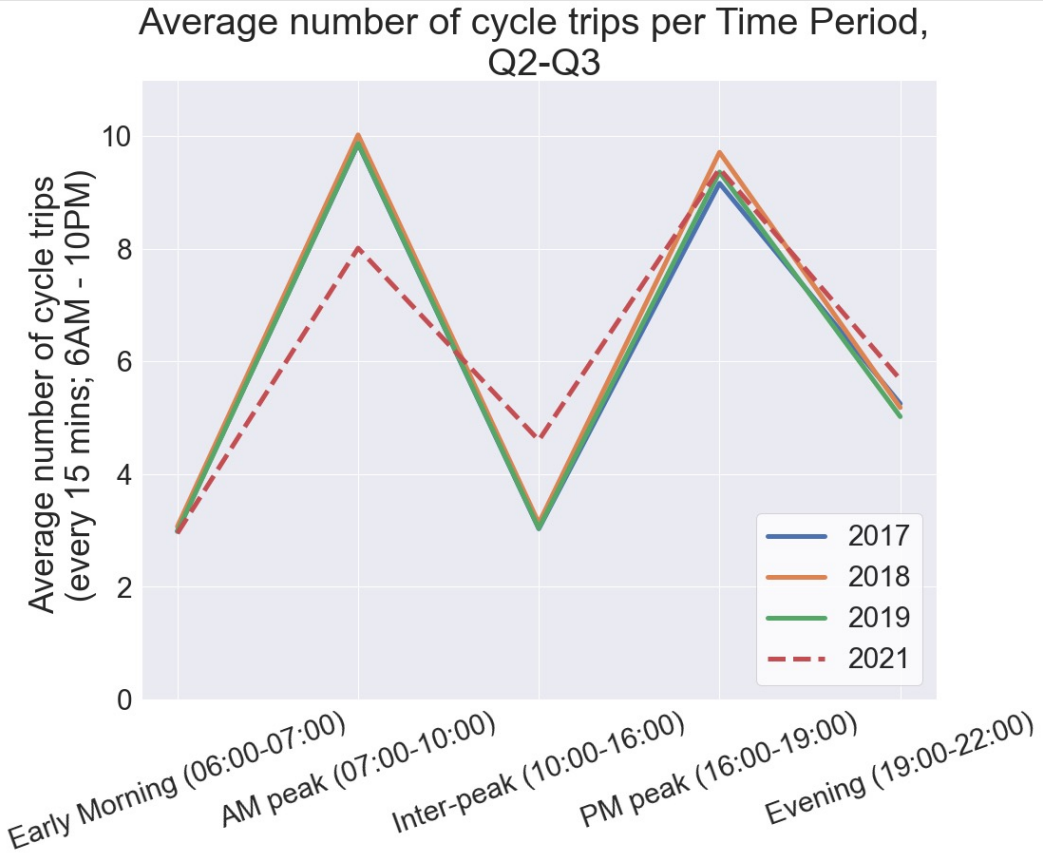




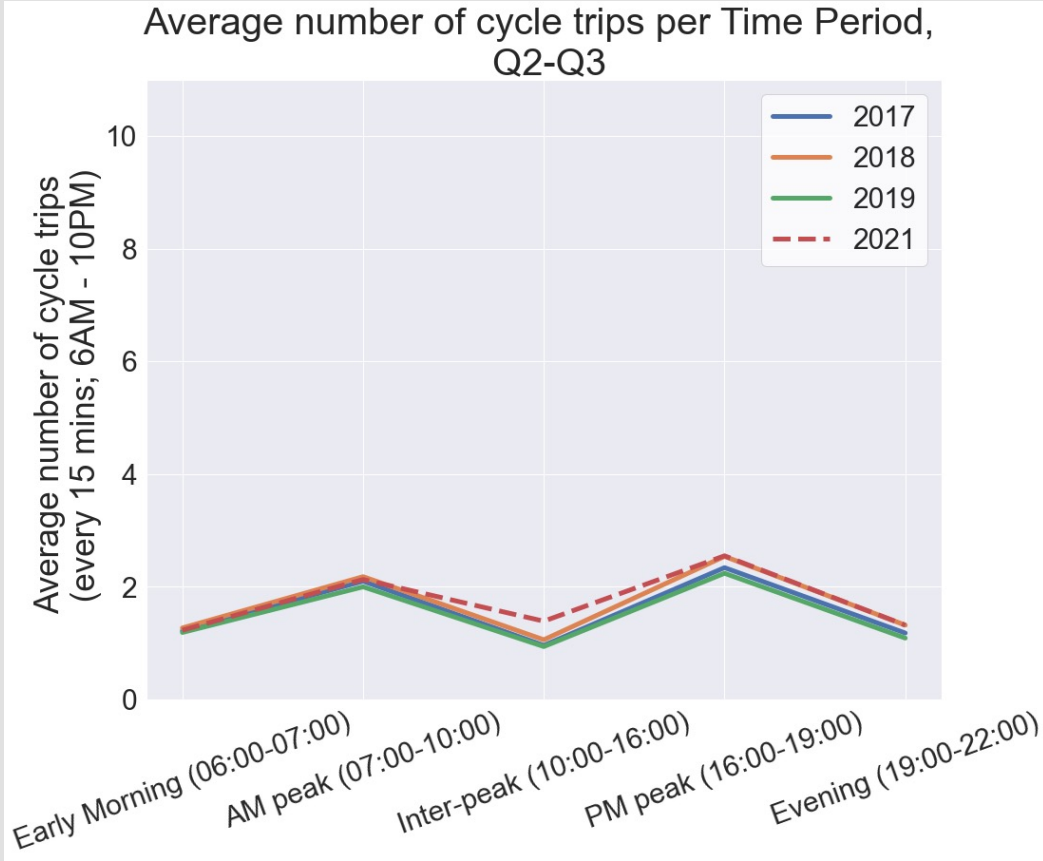
2 Time Period Trends

Average Number of Cycle Trips (every 15 minutes from 6AM to 10PM) for Inner and Outer London

Inner



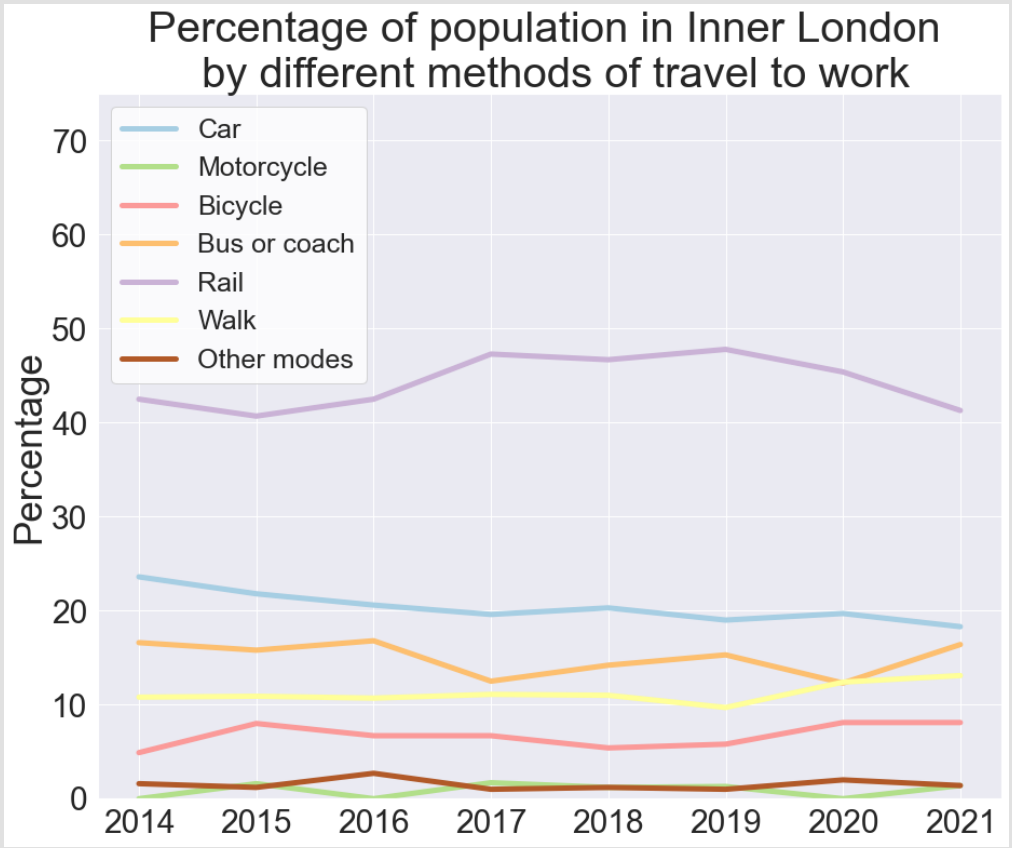
Outer



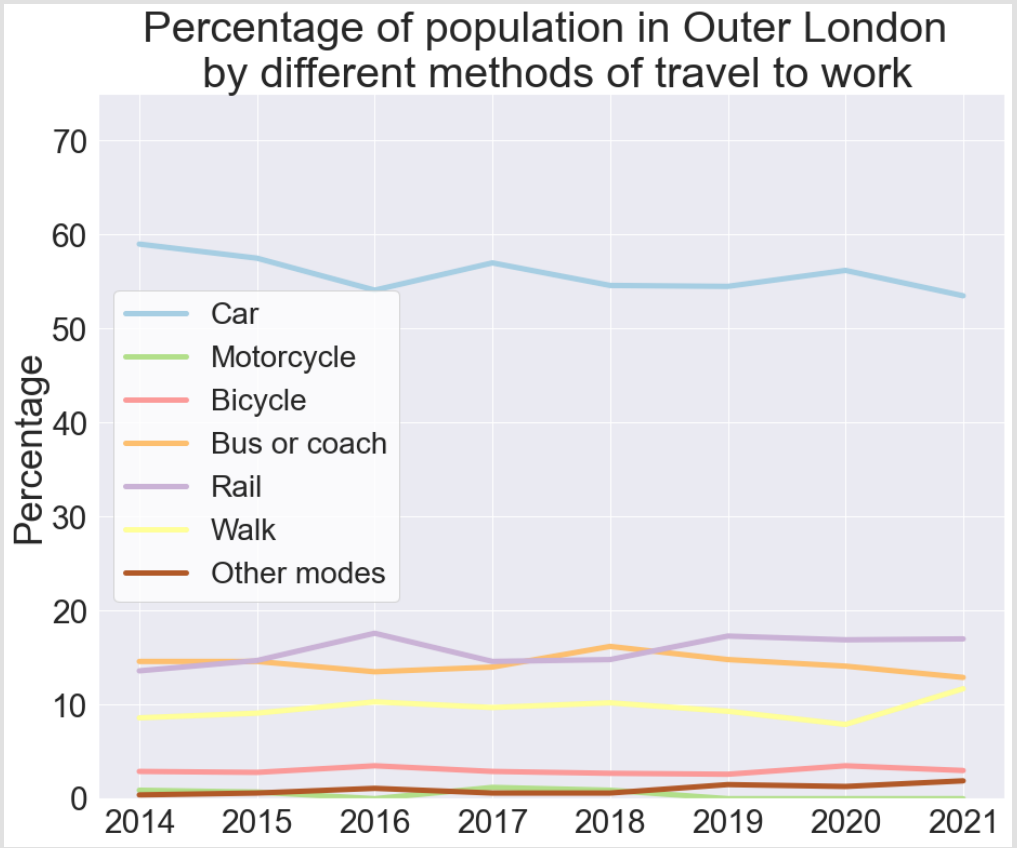
3 Modes of Travel to Work

Usual Method Of Travel To Work for Inner and Outer London

Inner



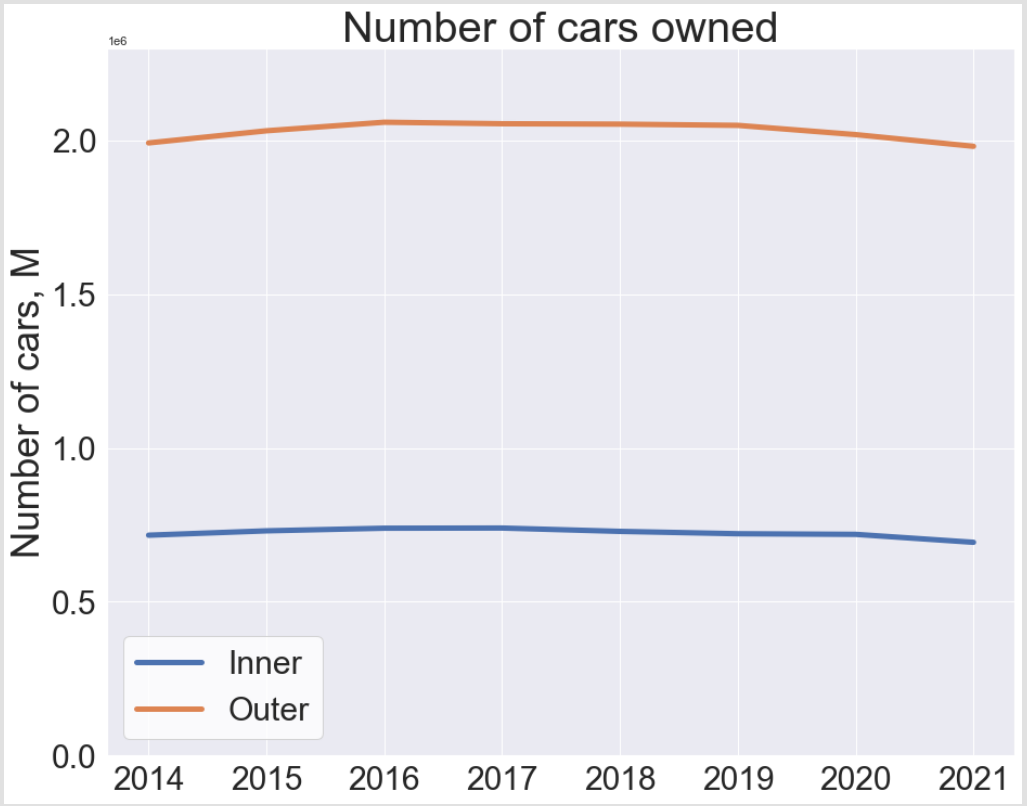
Outer



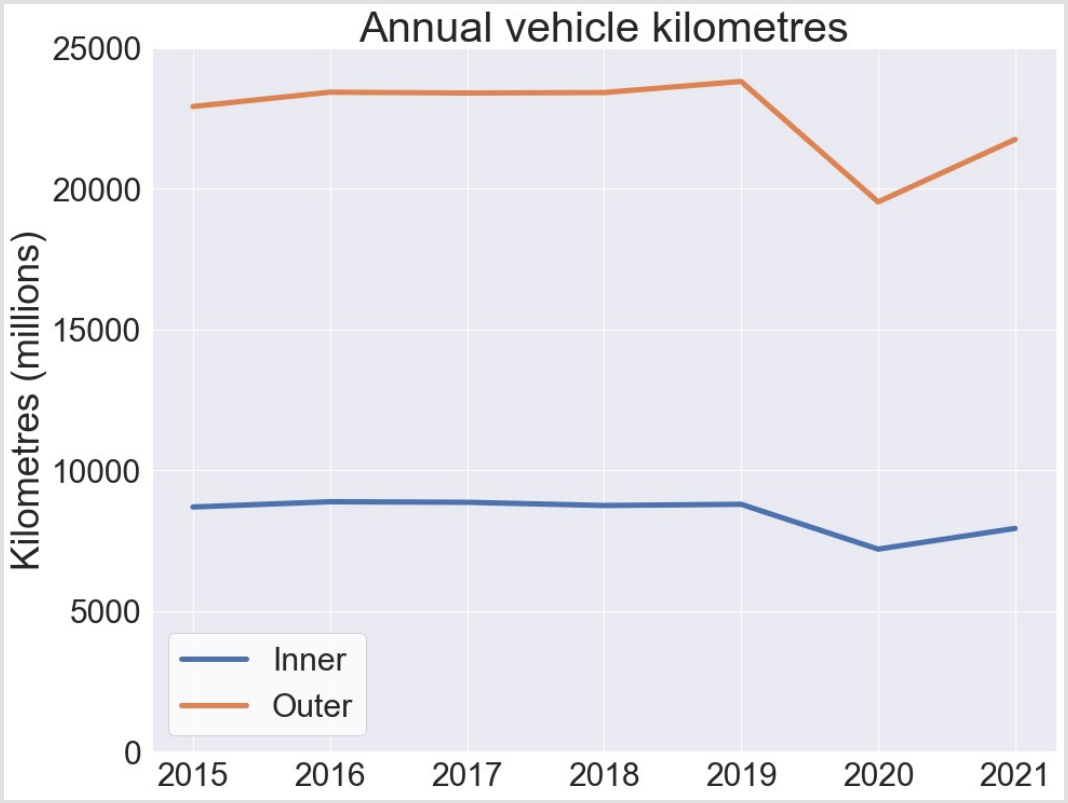
3 Modes of Travel to Work

Number of Cars Owned and Distance Travelled by Car

Number of Cars Owned



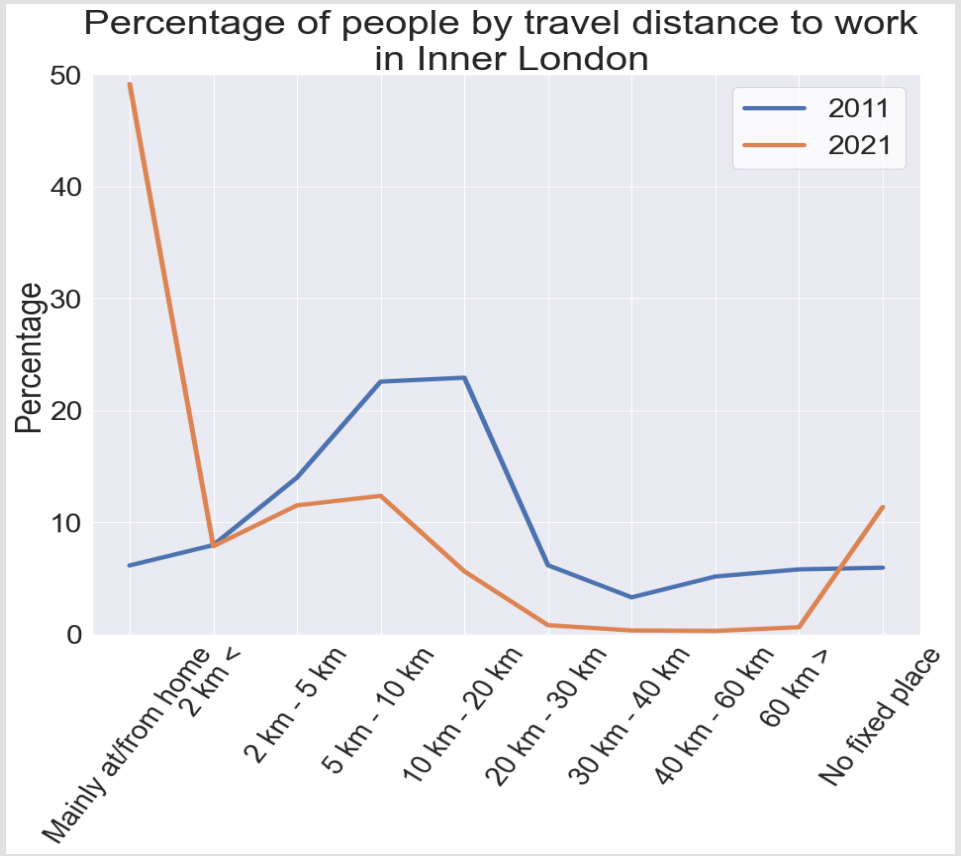
Distance Travelled by Car



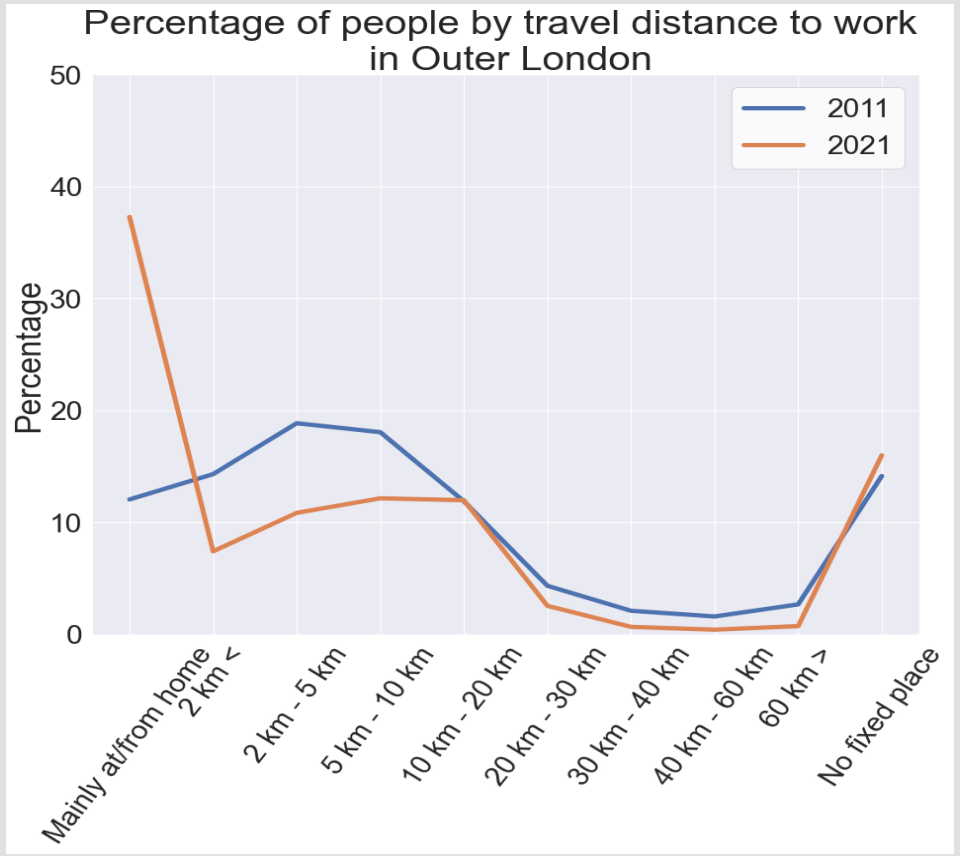
3 Modes of Travel to Work

Distance To Work for Inner and Outer London

Inner



Outer



Section Summary

4 **Accidents**

- Number of cycling accidents are generally stable in London over the 3 years.
- Positive relationship between number of cycles and cycling accidents
- Cycling accidents mainly reported from junctions

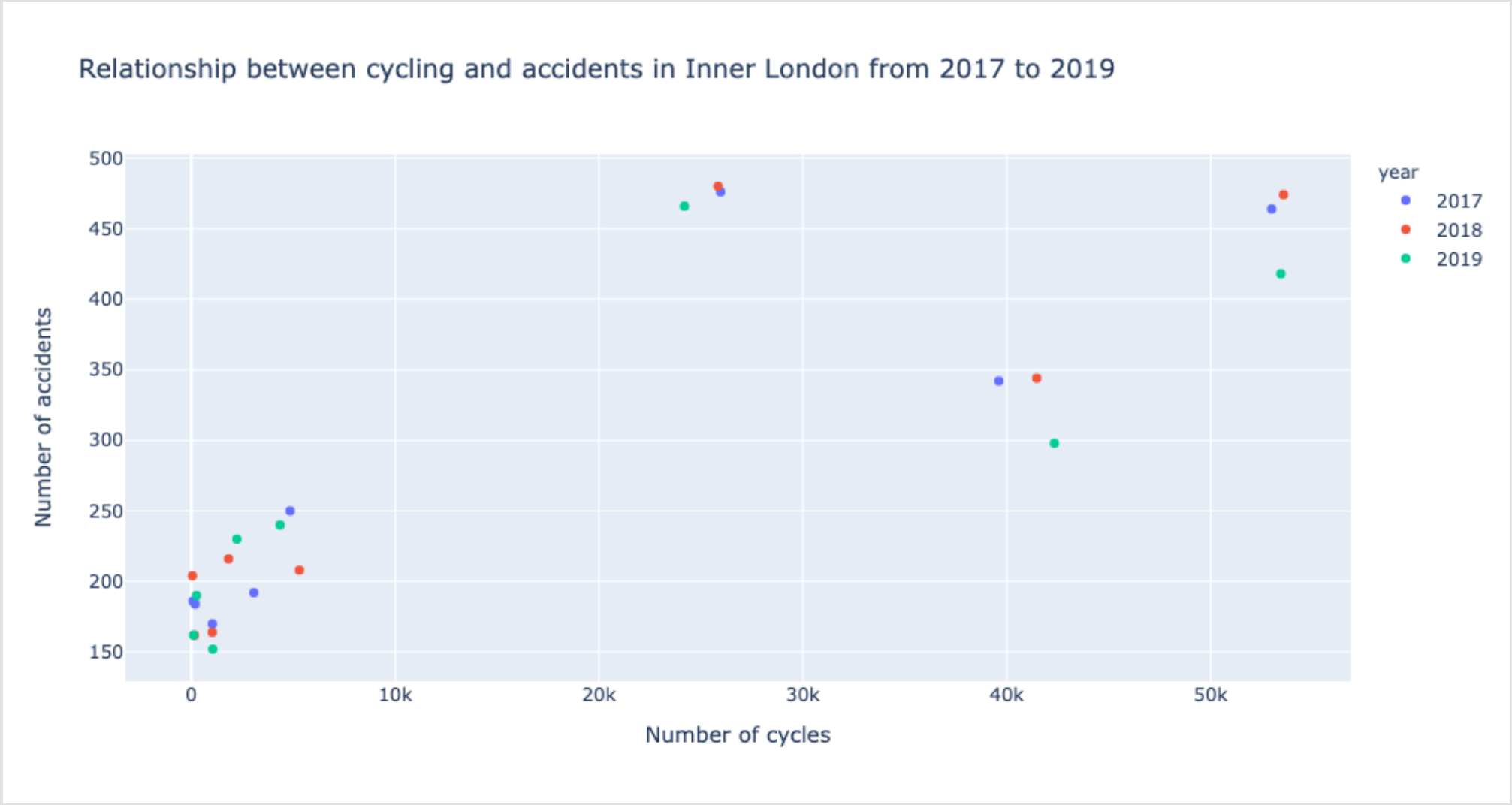
4 Accidents


Cyclist accidents in Inner London from 2017 to 2019
Number of accidents
0
200
400
600
800
1000
1200
1400
Brent
Bromley
Camden
Ealing
Greenwich
Hackney
Hammersmith & Fulham
Haringey
Borough
year
2017
2018
2019

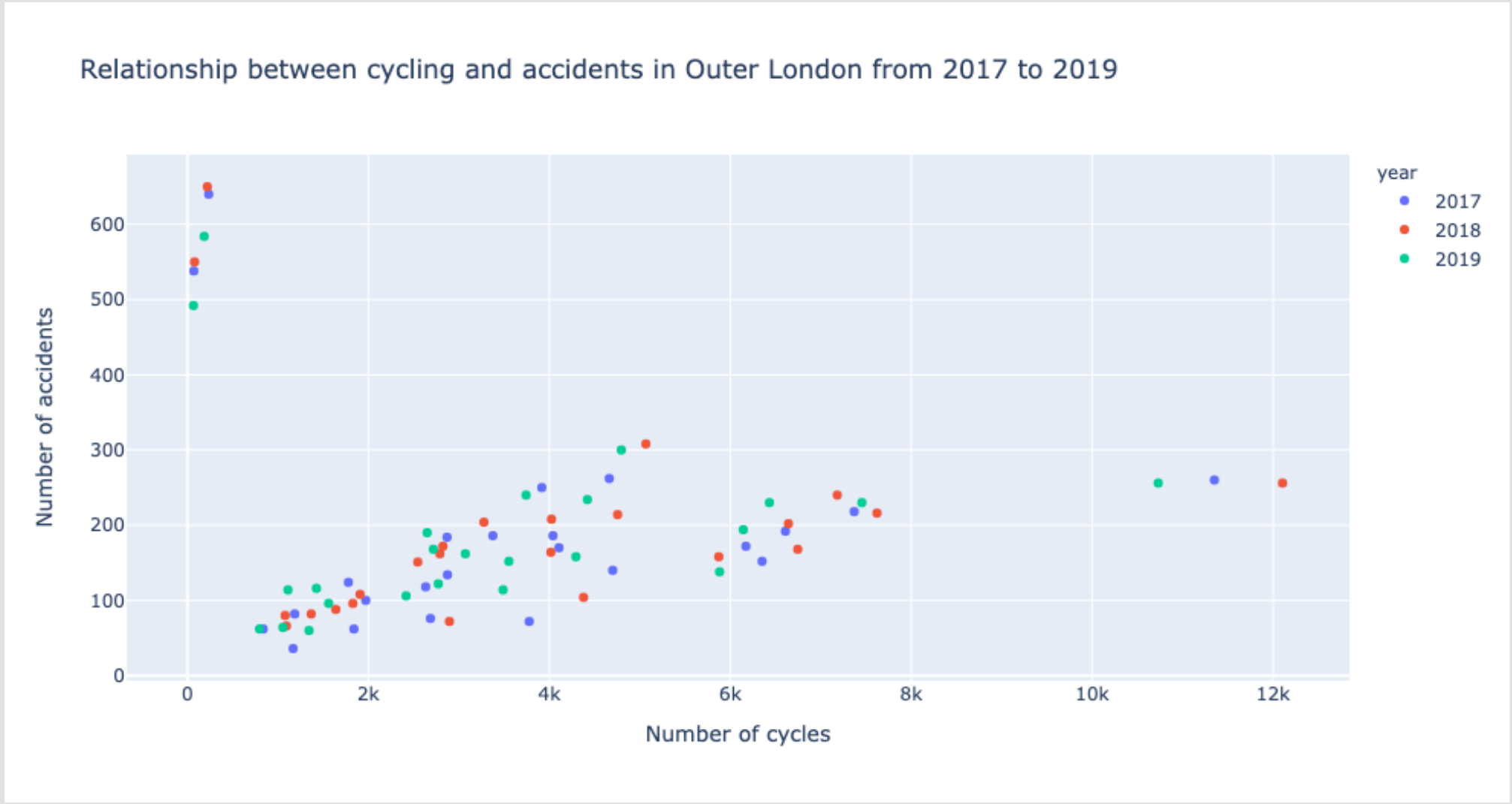
4 Accidents


Cyclist accidents in Outer London from 2017 to 2019
Number of accidents
0
500
1000
1500
year
2017
2018
2019
Barking & Dagenham
Barnet
Bexley
Brent
Bromley
Croydon
Ealing
Enfield
Greenwich
Haringey
Harrow
Havering
Hillingdon
Hounslow
Kingston upon Thames
Lambeth
Lewisham
Merton
Newham
Redbridge
Richmond upon Thames
Sutton
Waltham Forest
Wandsworth
Borough

4 Accidents

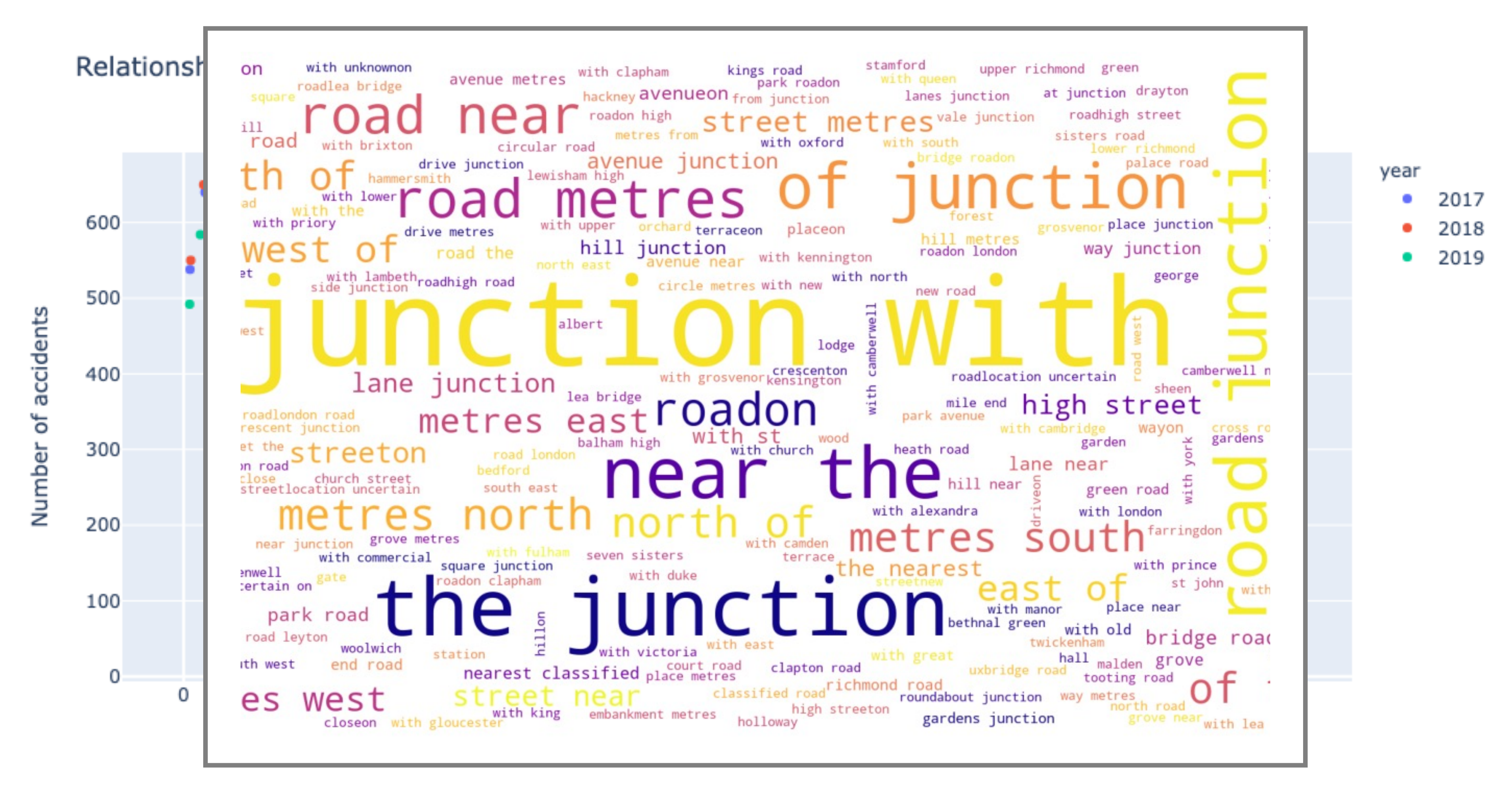

Relationship between cycling and accidents in Inner London from 2017 to 2019
Number of accidents
500
450
400
350
300
250
200
150
0
10k
20k
30k
40k
50k
Number of cycles
year
2017
2018
2019

4 Accidents


Relationship between cycling and accidents in Outer London from 2017 to 2019
Number of accidents
0
100
200
300
400
500
600
0
2k
4k
6k
8k
10k
12k
Number of cycles
year
2017
2018
2019

4

Accidents

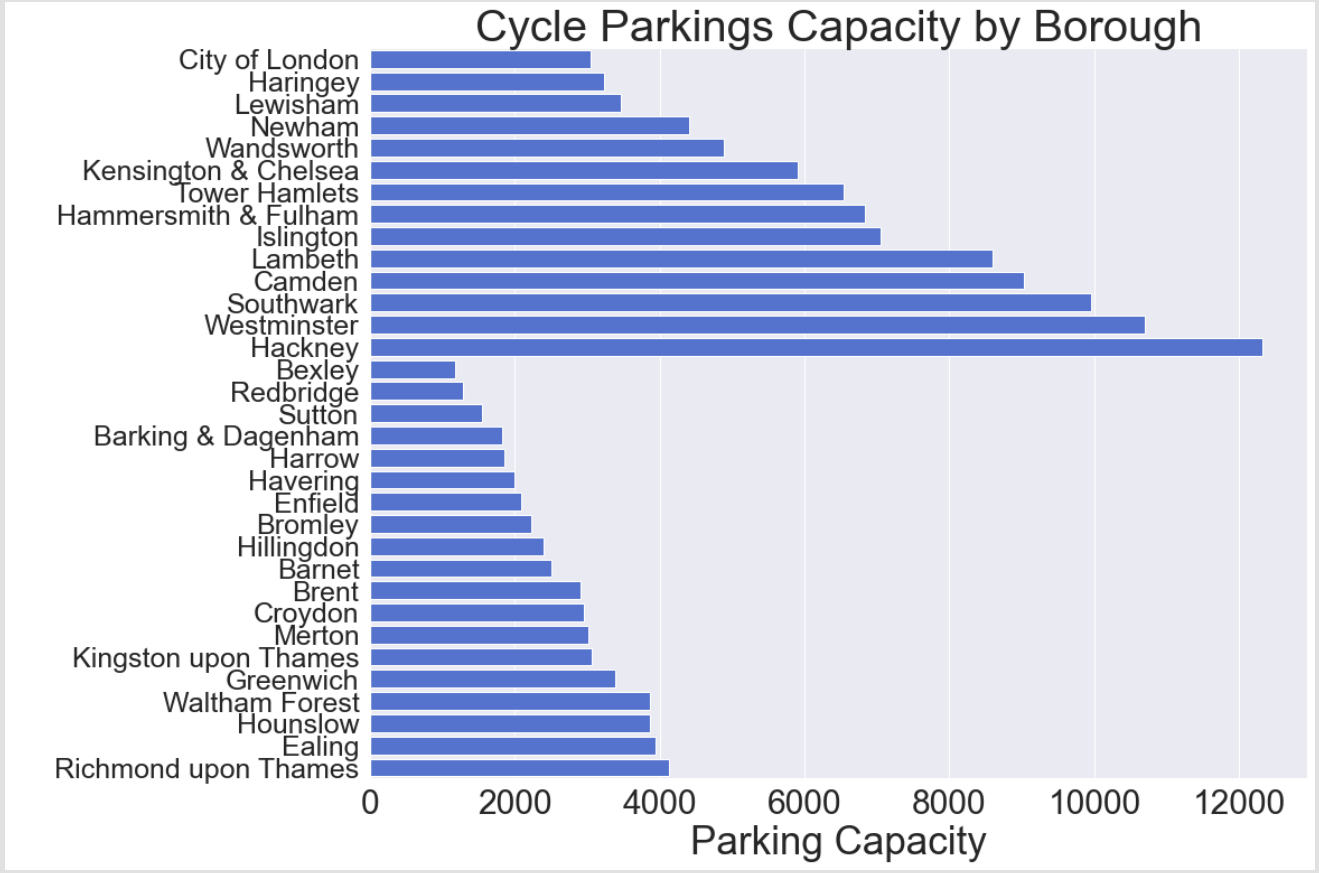

Relationsh
Number of accidents
600
500
400
300
200
100
0
0
year
2017
2018
2019
junction with
road junction
near the
the junction
of junction
road metres
road near
street metres
roadon
high street
metres south
metres north
north of
metres east
west of
lane junction
streeton
street near
east of
the nearest
park road
nearest classified
bridge road
avenue junction
hill junction
es west
th of

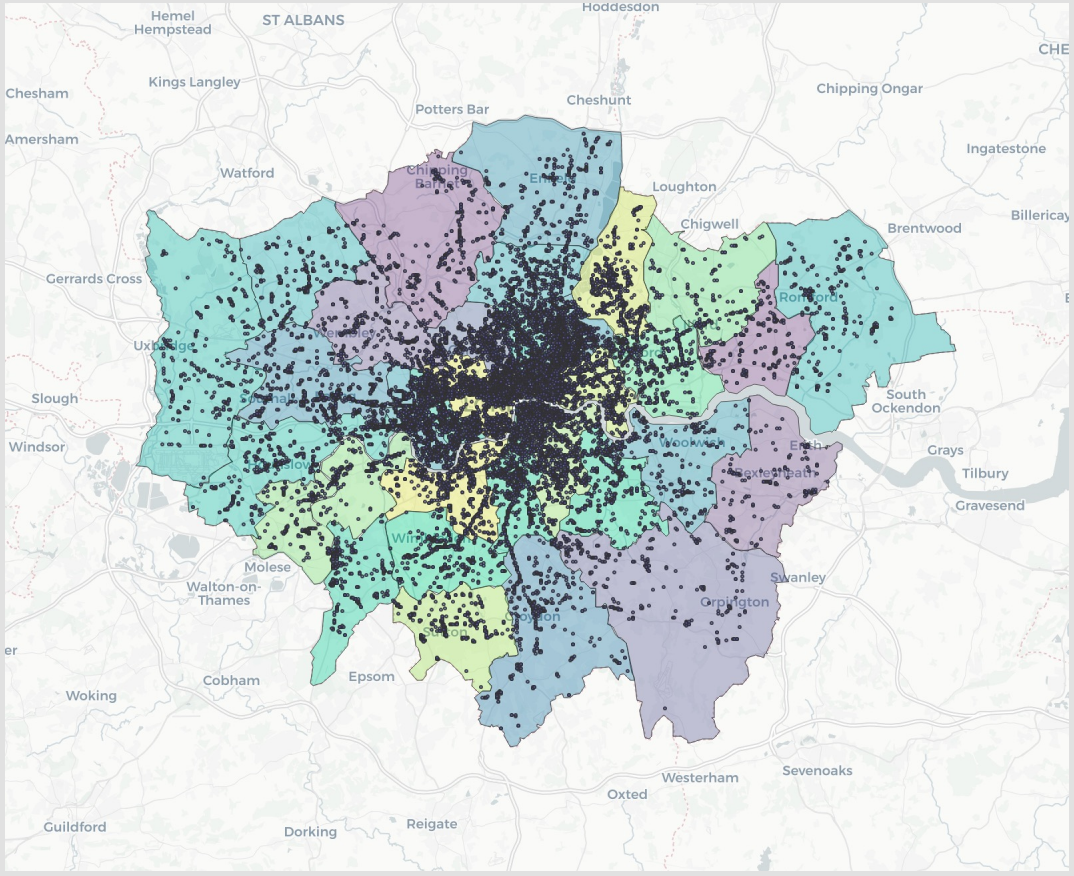
Section Summary

5 **Infrastructure**

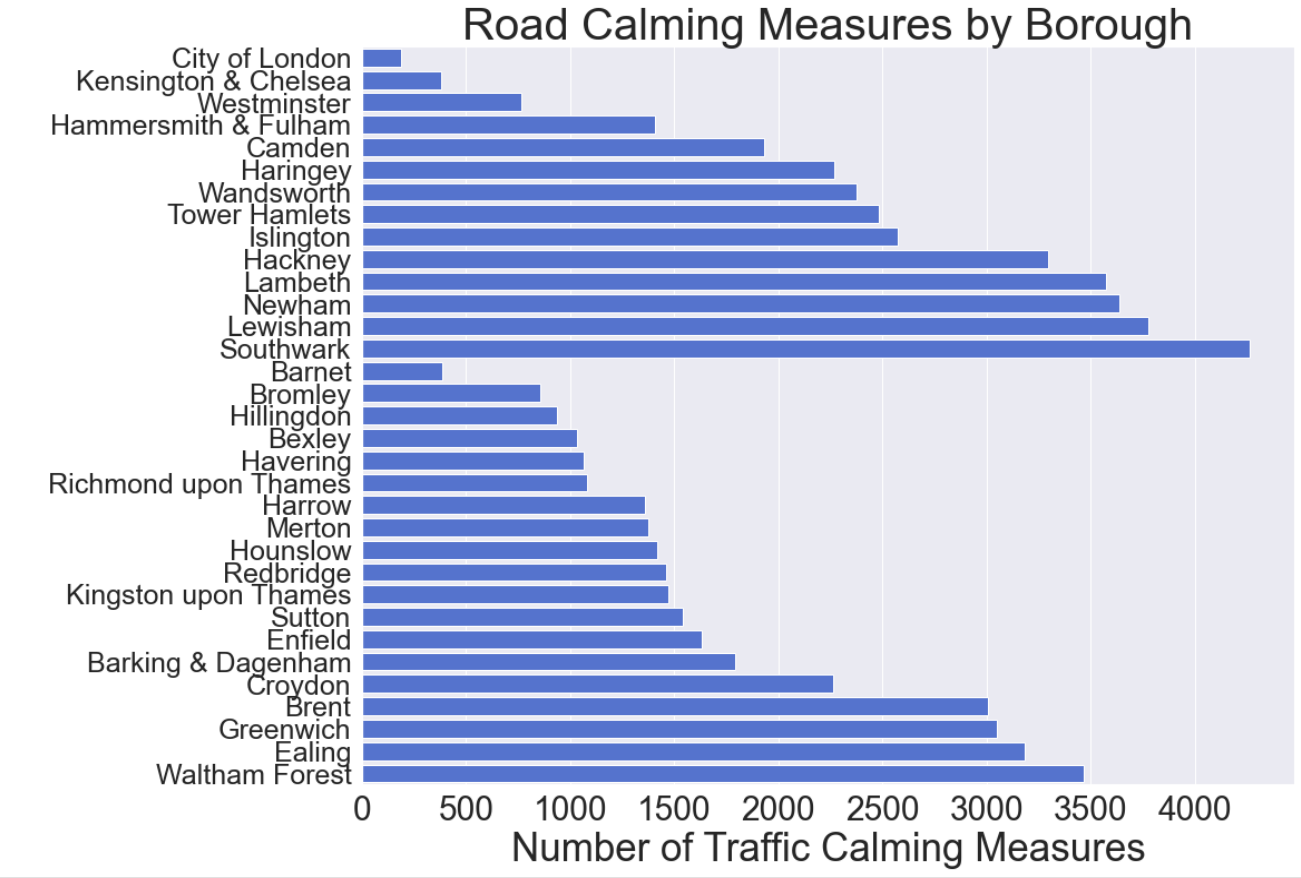
- Fear of collisions and vulnerability on the road are the major factors stopping people from cycling.
- There is a high correlation between the provision of cycling infrastructure and the perception of safety:
    - Signal lights for cyclists and advanced stop lines make junctions safer place.
    - Segregated or partially segregated cycle lanes are only 12%
- Inequality in the development of infrastructure between Inner and Outer London.

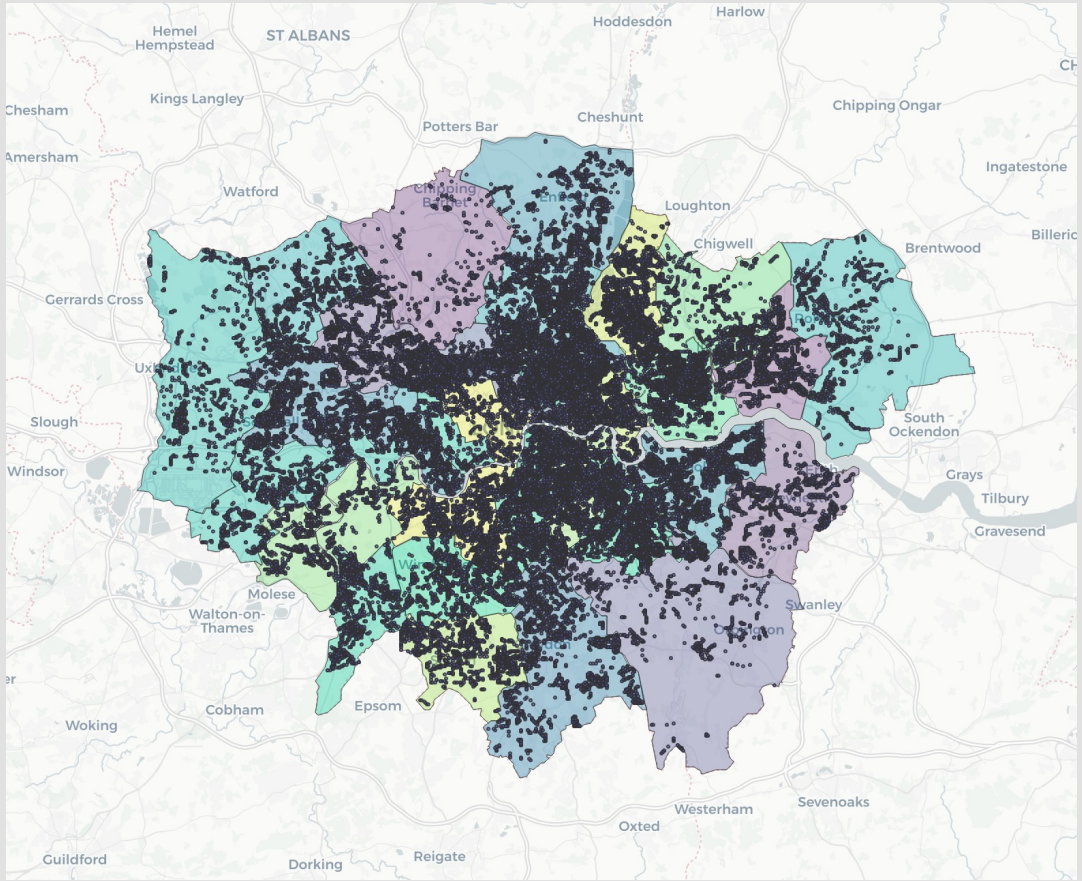
5 Infrastructure: Cycling Parking



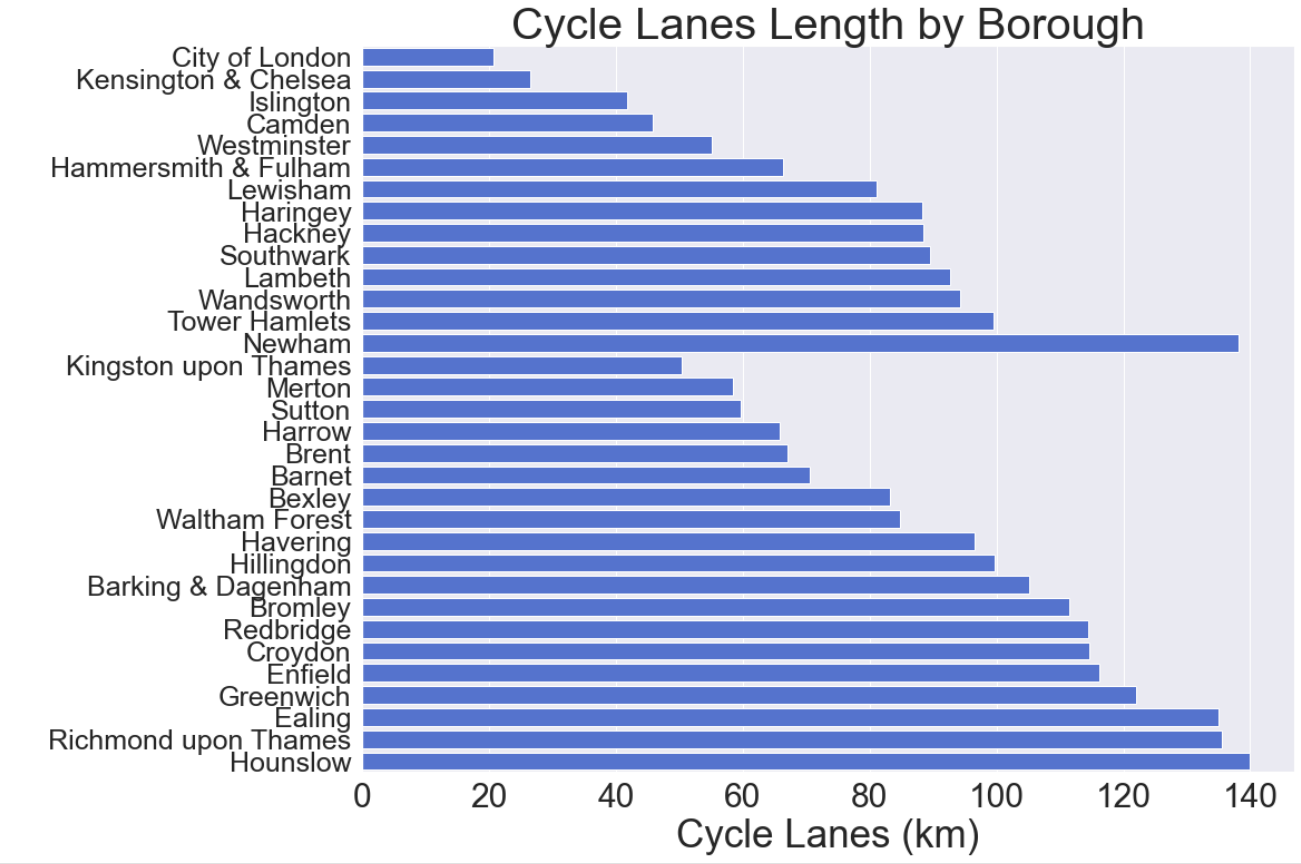


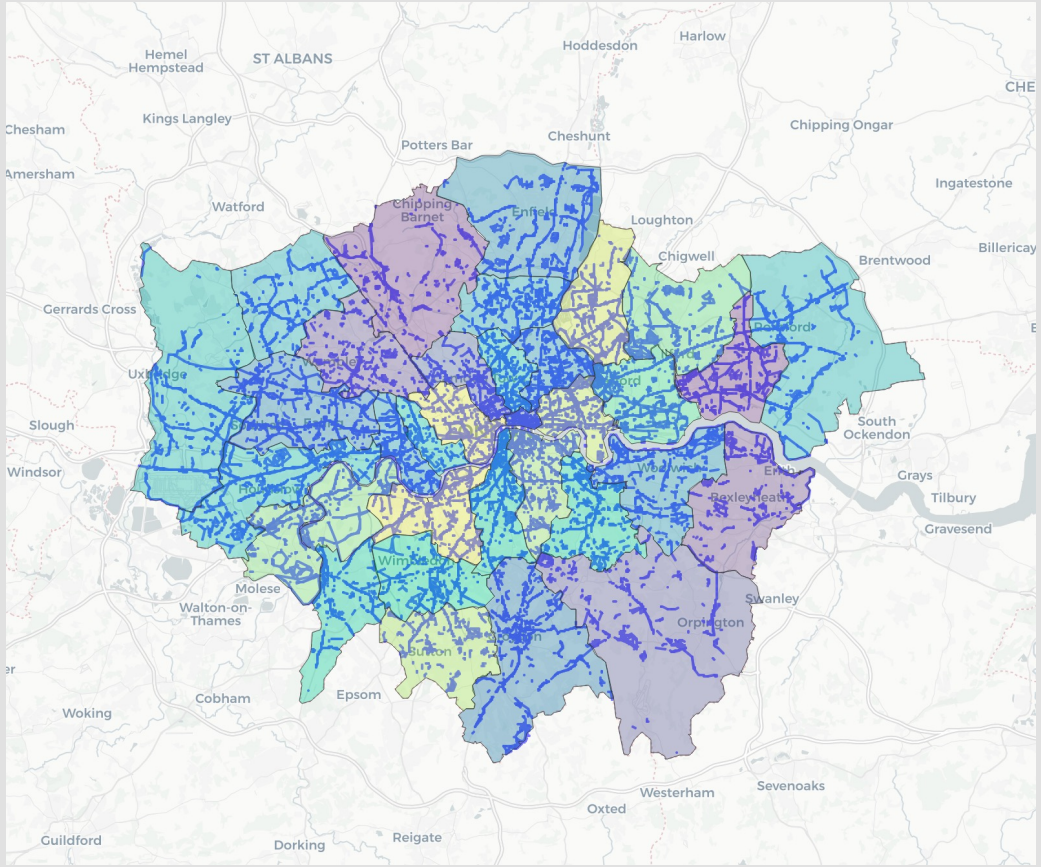
5 Infrastructure: Traffic Calming



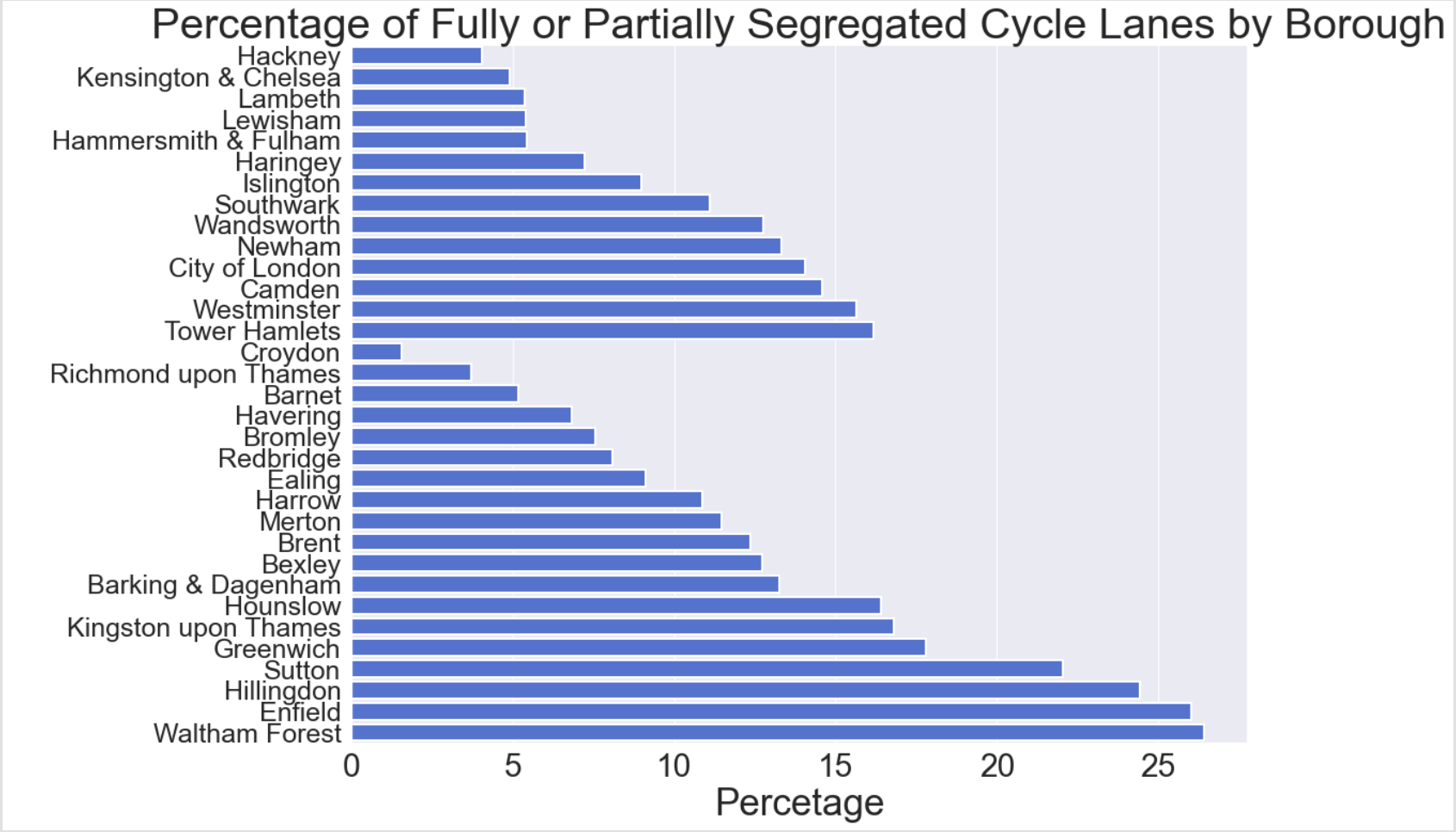


5 Infrastructure: Cycle Lanes

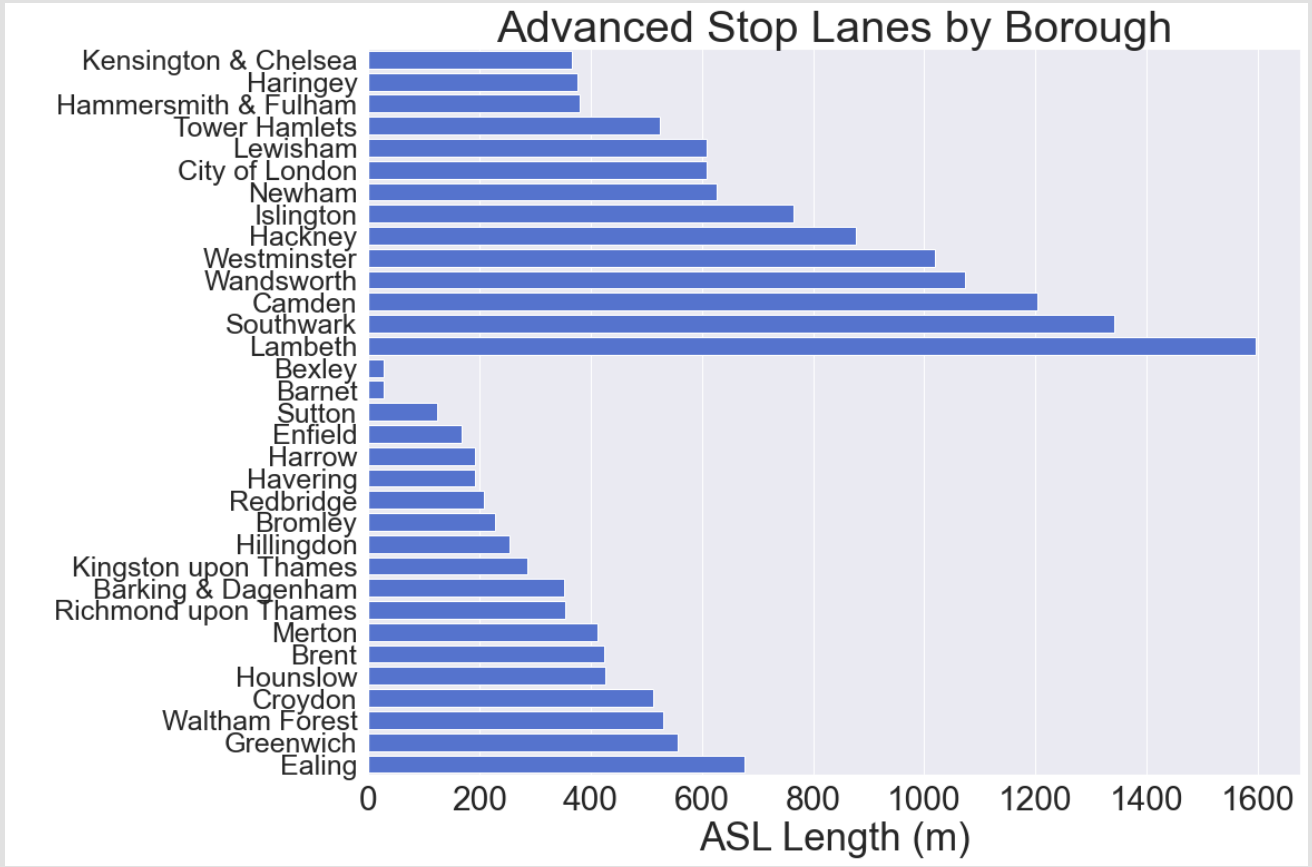


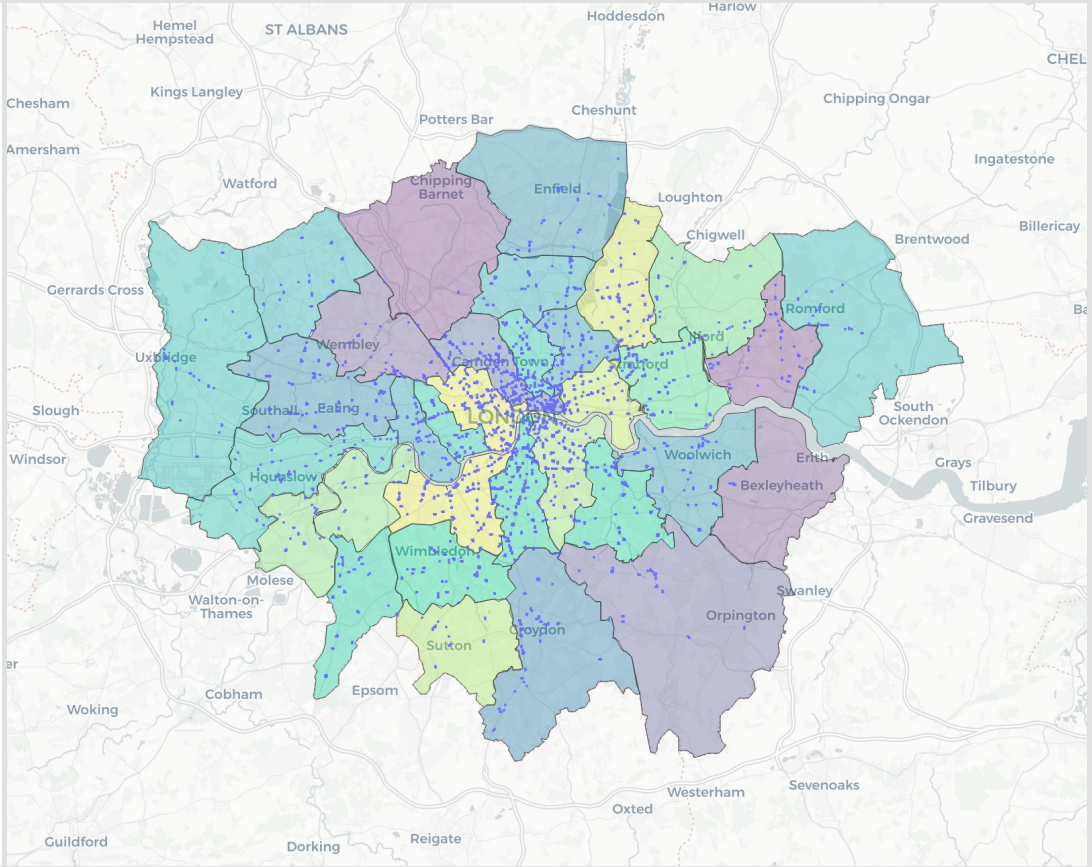


5 Infrastructure: Cycle Lanes

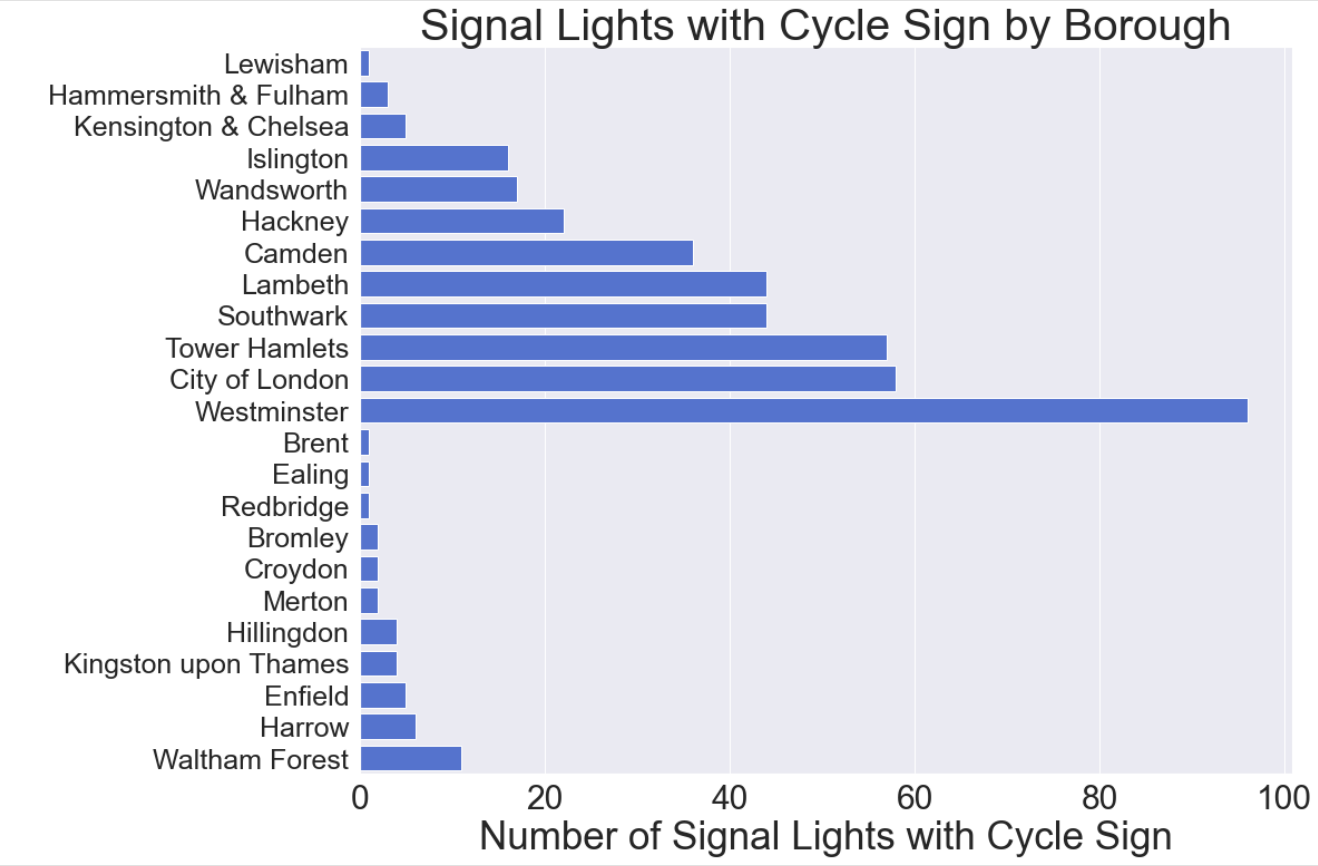


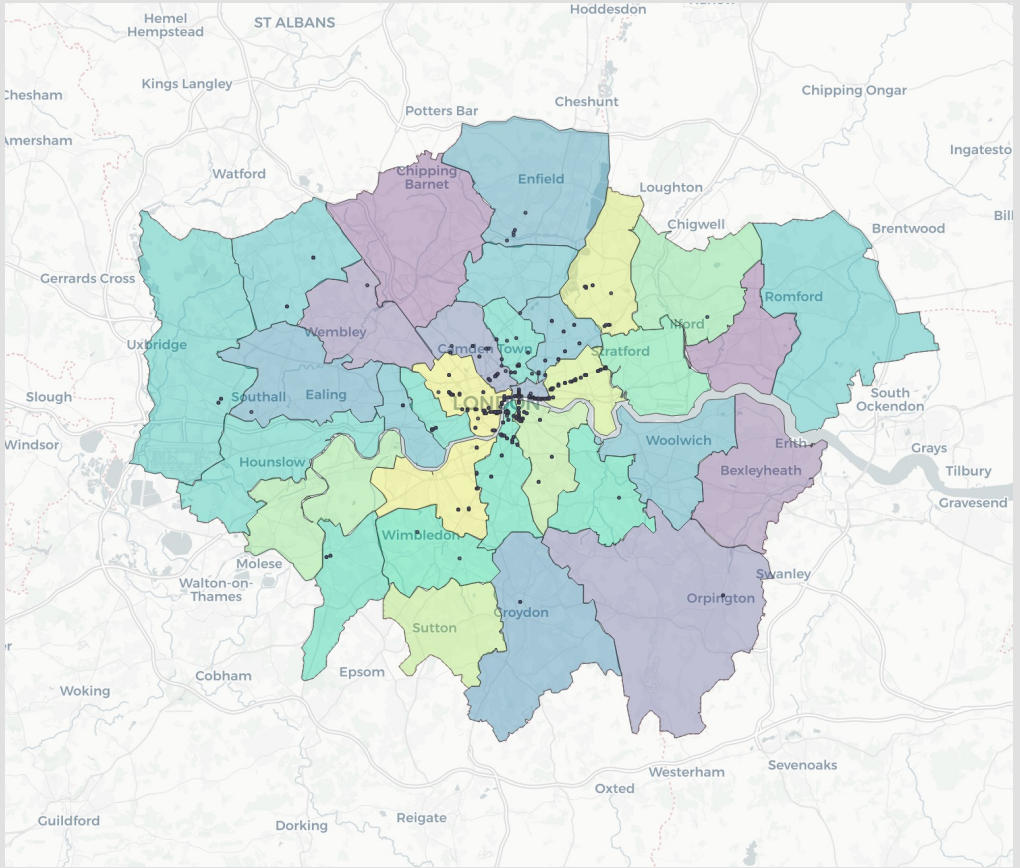
5 Infrastructure: Advanced Stop Lanes (ASL)





5 Infrastructure: Signal Lights for Cyclists





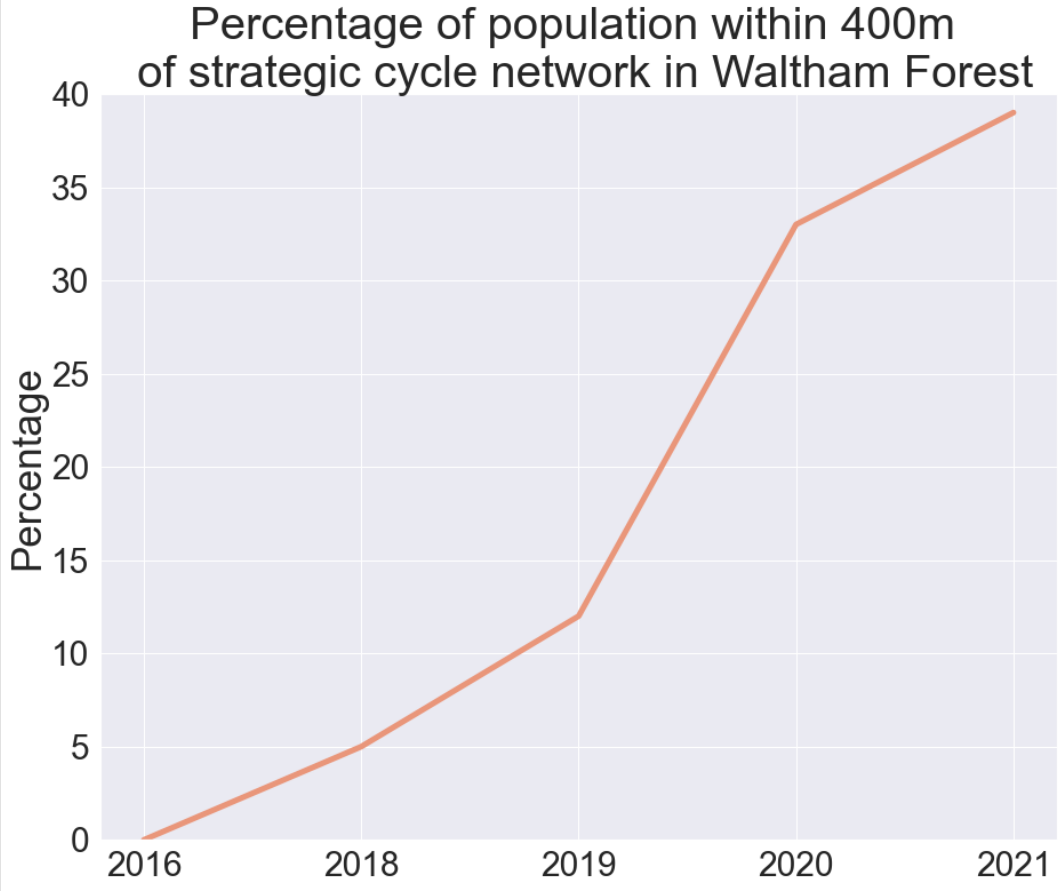
Section Summary

6	Mini Hollands Case Study
7	Ethnic Groups

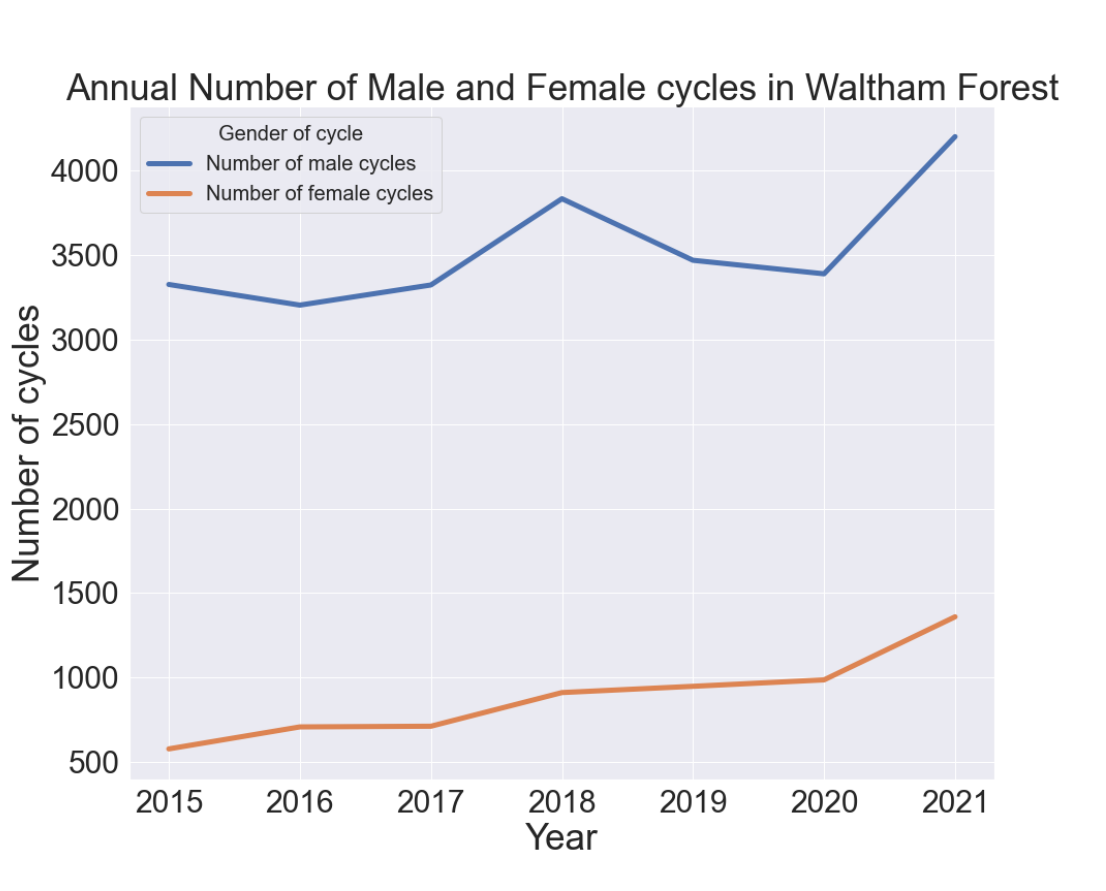
- Mini Hollands can be a success
- Infrastructure and safety can improve female cycling
- Access and owning a bike is a barrier for ethnic groups
- Introduction of government scheme or grants

6 Case Study Waltham Forest: Mini Holland Initiative

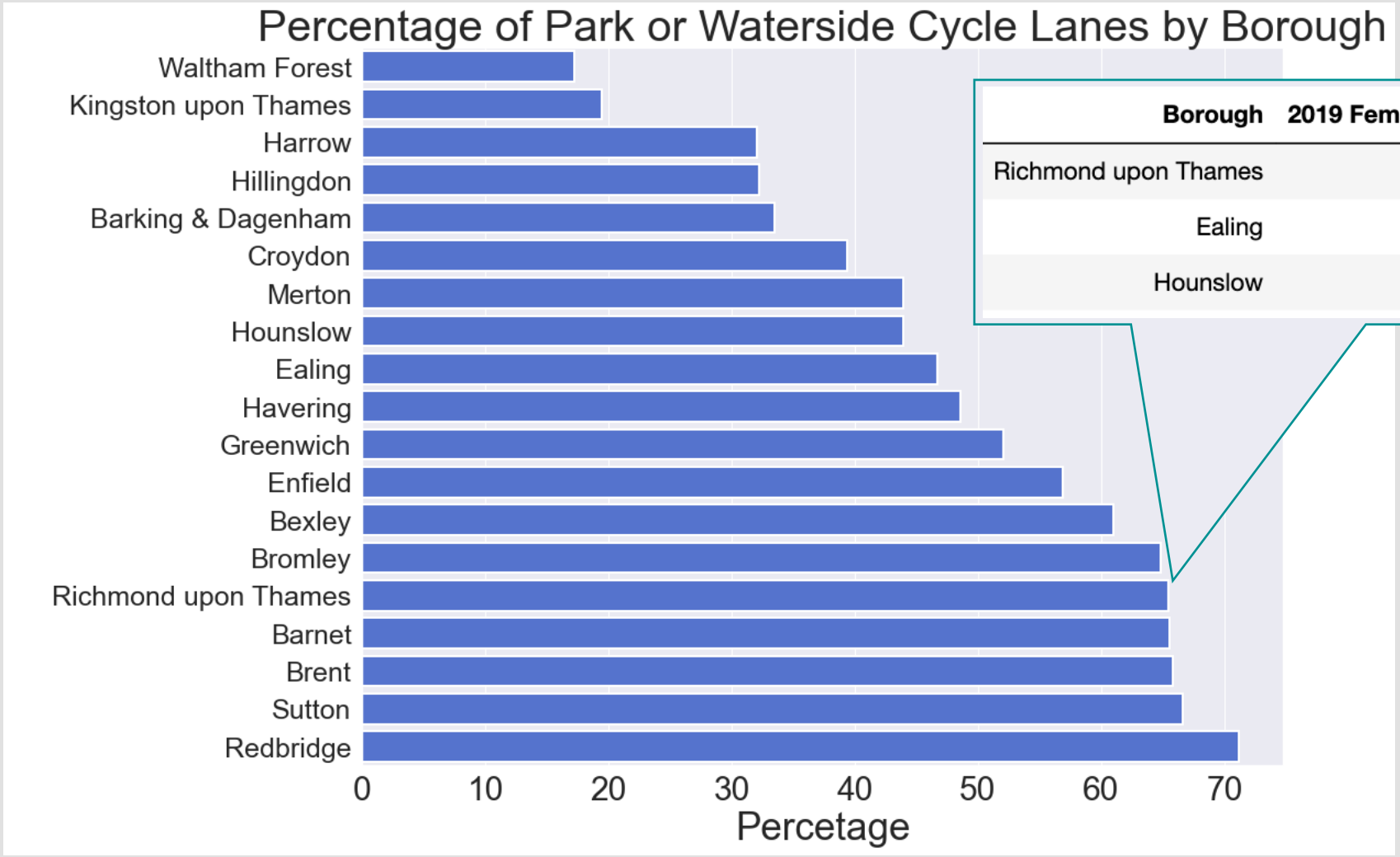
Cycle Network



Male and Female Split

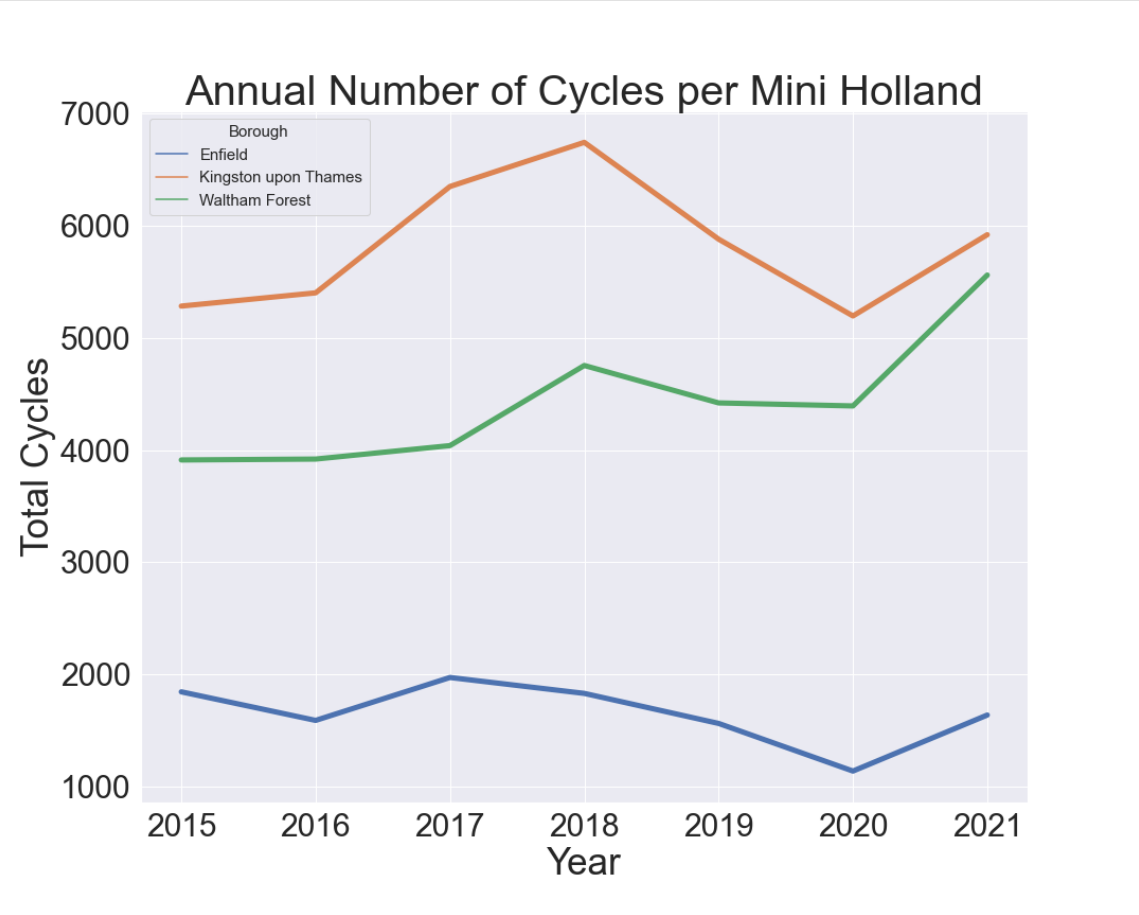


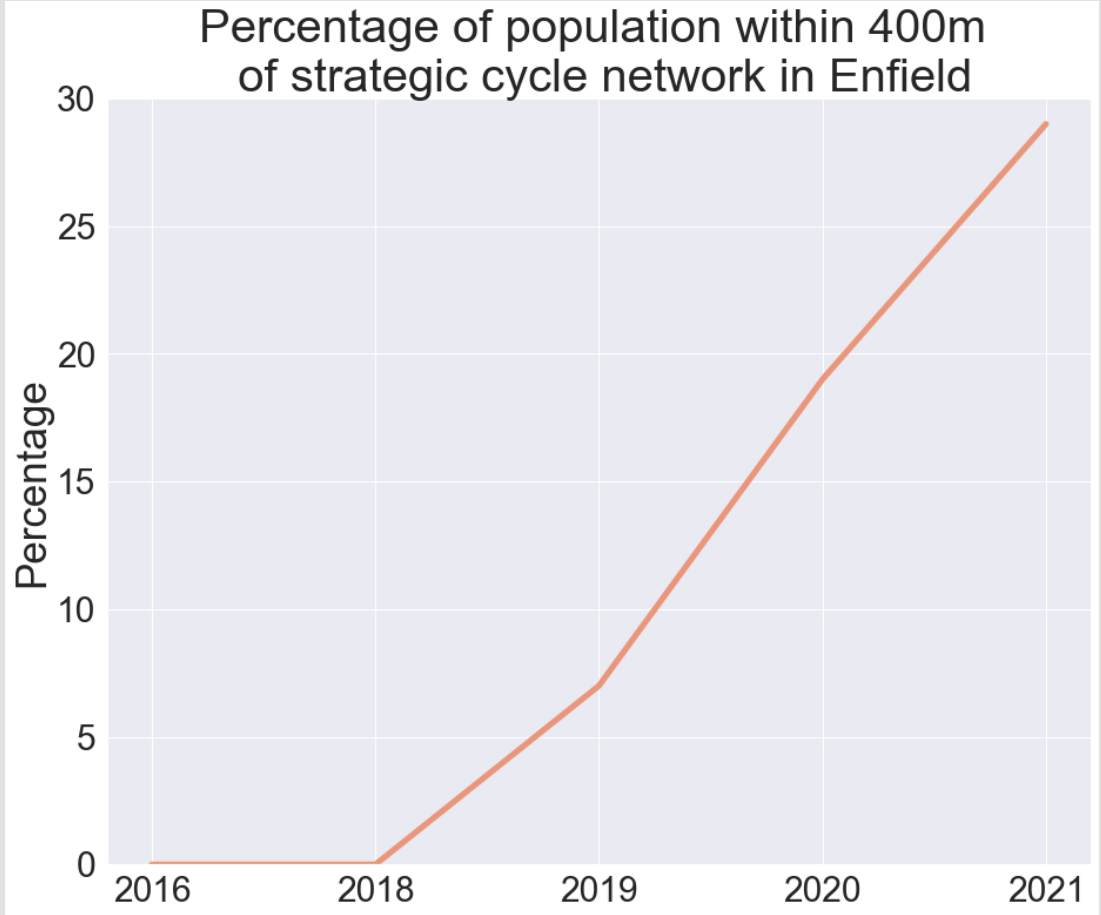
6 Richmond example (parks)



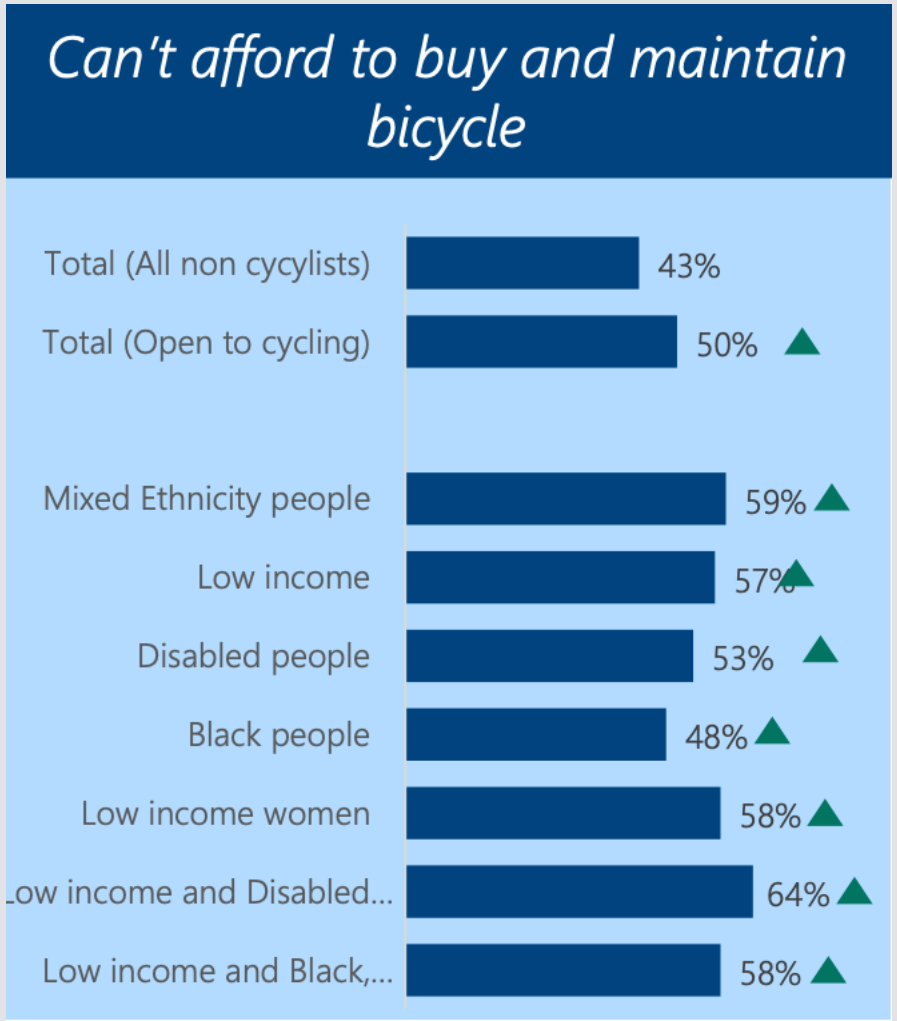
Borough	2019 Female cycles	2019 Total cycles	2019 Total
Richmond upon Thames	2510	10730	198000
Ealing	1637	7455	343000
Hounslow	1165	6433	273000

6 Why has Enfield not worked?





6 Why has Enfield not worked?



	Borough	2019 Total cycles	2019 Black	2019 Pay (£)
1	Kingston upon Thames	5882	8000	742.8
2	Waltham Forest	4421	36000	680.3
0	Enfield	1561	61000	638.9

7 Section Recommendation slide on Ethnic Groups

Cycling Grants London

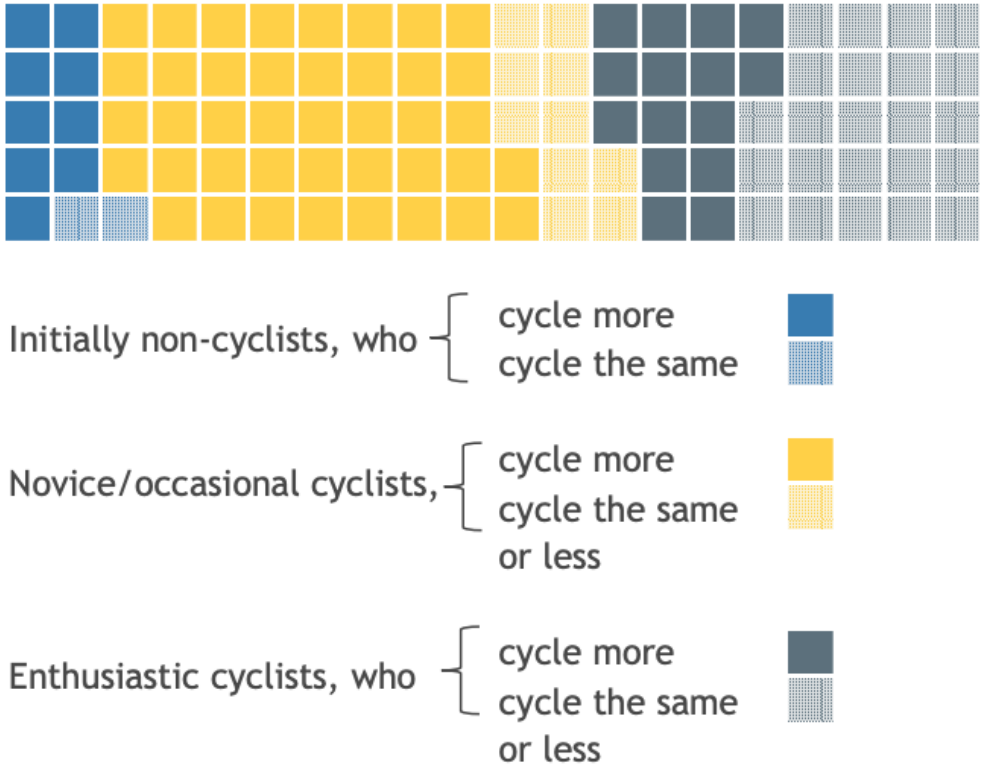
The Cycling Grants London scheme has proved successful in helping overcome barriers to cycling in communities across London. More than 90 local projects and initiatives have been funded since the launch of the scheme in 2015, including:

Limehouse Women's Cycle Project: Run by The Royal Foundation of St Katharine, the project teaches cycling skills to women from the Bengali community. The sessions are led by a female Bengali-speaking instructor and provide an active social network, reducing isolation in the community.

Hackney Bike Workshop: Hackney Bike Workshop is a volunteer-led initiative, teaching bike maintenance skills and providing a professional bike-fitting service. The workshops are open to all, with particular focus on encouraging women, older Londoners and people with reduced mobility to take up cycling.

Ride Side by Side: Ride Side by Side provides people who would normally rely on carers or subsidised taxis with both an alternative way to get around and the opportunity to enjoy the sensation of cycling.

Uptake of cycling by previous cycling activity among cycle-to-work scheme participants



Conclusion

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Final Recommendations

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Appendix

Edge Hypothesis

- How do technological advances affect the uptake of cycling?
- Has the introduction of electric bikes increased cycling uptake?
- How has WFH affected cycling uptake?
- How can government initiatives (Cycle to Work) help increase cycling uptake?
- How has tourism affected cycling uptake?
- Has there been a knock-on effect from Brexit on tourism / immigration to London and thus cycling uptake?

Appendix

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References

- Population of the UK by country of birth and nationality: individual country data
- Population and household estimates, England and Wales: Census 2021
- TSGB0109: Usual method of travel to work by region of workplace
- LIP3 MTS outcomes borough data pack - Dec 2022
- Distance travelled to work (2011)
- Distance travelled to work (2021)
- Cycling Infrastructure Database
- Dangerous Junctions Report (2022)
- Vision Zero Action Plan (2018)
- Cycle Action Plan (2018)
- Ethnic Groups data (2022)
- Cycling potential in London's diverse communities report
- Cycle to hire scheme

Line and Point Features

Infrastructure Summary

Line features:	Point features:
Cycle lanes and tracks: 24,690 lanes with total length 2,860 km	Cycle parking: 23,758 sites and total capacity of 145,942 accessible.
Advanced Stop Lines (ASLs): 3,775 sites with total length 17,32 km	Traffic calming: 65,288 sites. Usually speed humps (vertical) or horizontal (road narrowing).
Restricted routes: 1,378 sites. Cyclists may use if dismount only.	Signals: 438 sites. Allows cyclists move before the traffic on junctions.
Crossings for cyclists: 1,758 sites. Signal controlled crossings for cyclists.	Restricted routes: 175 sites. Stairs or lifts along the cycle path.
	Signs: 118,834 sites. Any signs or road marking including route information for cyclists.

Additional Boroughs with High Ethnic pop and low total cycles

Borough	2019 Total cycles	2019 Black
Barking & Dagenham	1111	59000
Lambeth	185	62000

Borough	2019 Total cycles	2019 Asian
Harrow	797	108000
Redbridge	1426	142000

Appendix

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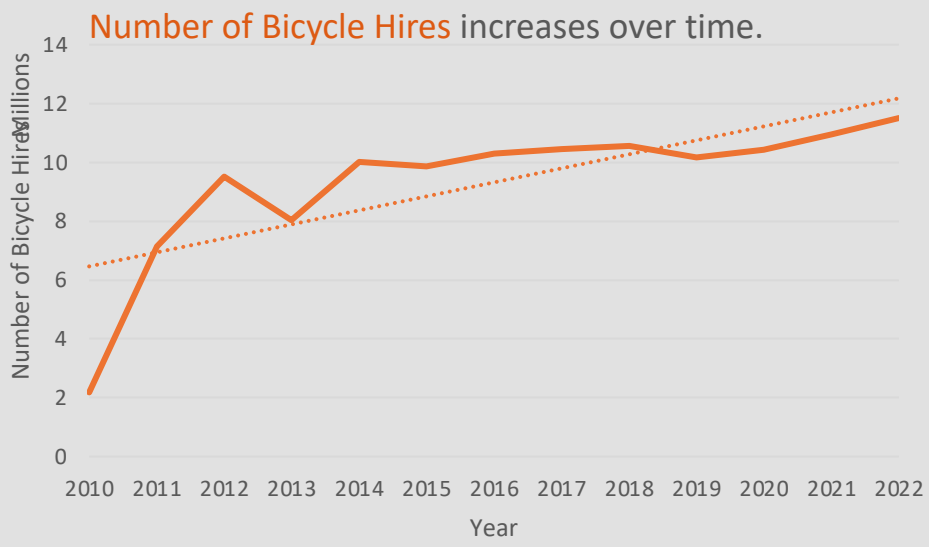
Deeper analysis required into hire cycles?

Data available on TFL about the number of hires of the Santander Cycle Hire Scheme, from 2010-2022 across London.



Insight into several bicycles hires repeating a pattern