Cycling in London
Data analysis

Thoughtworks project – Group 6

Background
Transport Strategy of 2018

- **London's Bold Goal:** Aiming for 80% of trips by walking, cycling, or public transport by 2041.

- **TfL's Cycling Push:** 2018 Transport Strategy invests in cycling infrastructure.

- **Focus on Accessibility:** Expanding cycle lanes, improving street safety, and making cycling inclusive.
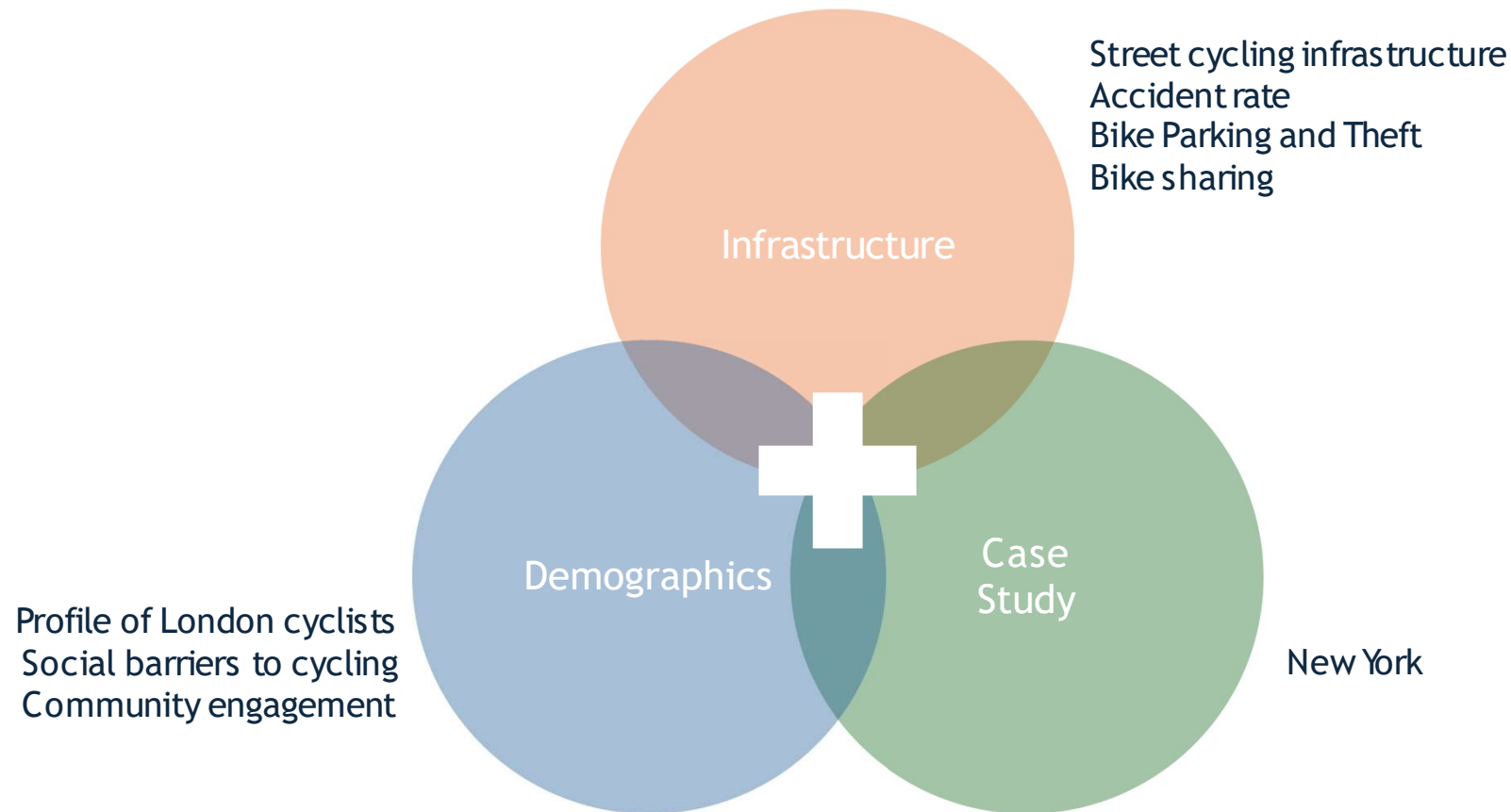

Mayor's Transport Strategy

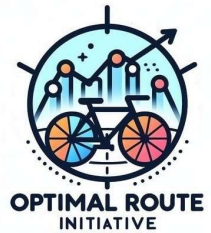MARCH 2018

Business Question

- **Progress Assessment:** Analyse current data to understand how far London has come towards the 2041 target. This involved evaluating metrics like the number of cycling trips and the extent of cycling infrastructure development.

- **Barrier Identification:** Explore the key factors hindering more Londoners from embracing cycling. Including concerns around safety, lack of dedicated cycling lanes, or limited access to secure bike parking.
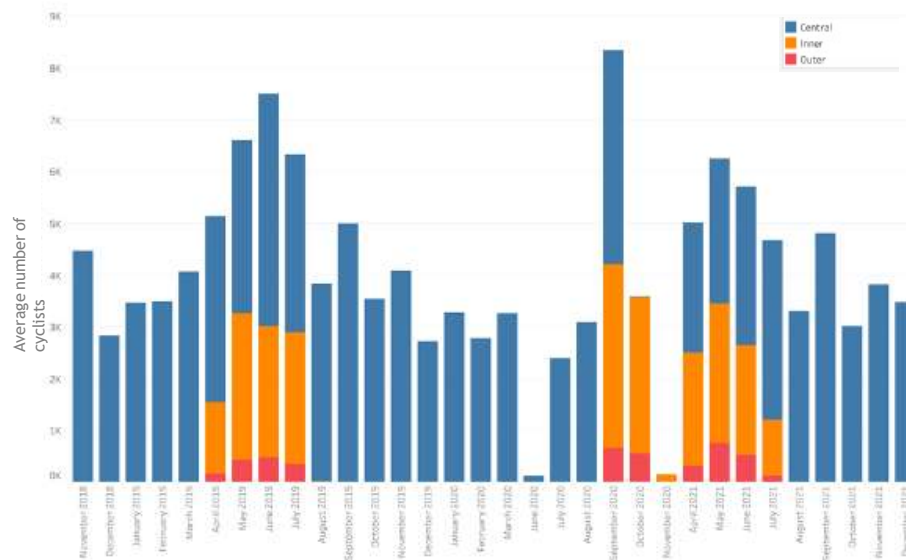
Key question: What would encourage people to cycle more?

Infrastructure

Street cycling infrastructure
Accident rate
Bike Parking and Theft
Bike sharing

Demographics

Case Study

Profile of London cyclists
Social barriers to cycling
Community engagement

New York

Understanding Data Gaps

**Average number of cyclists
Central/Inner/Outer London**

- There is no accurate data of the number of cyclists for Inner/Outer London, as it was collected during spring / summer months only

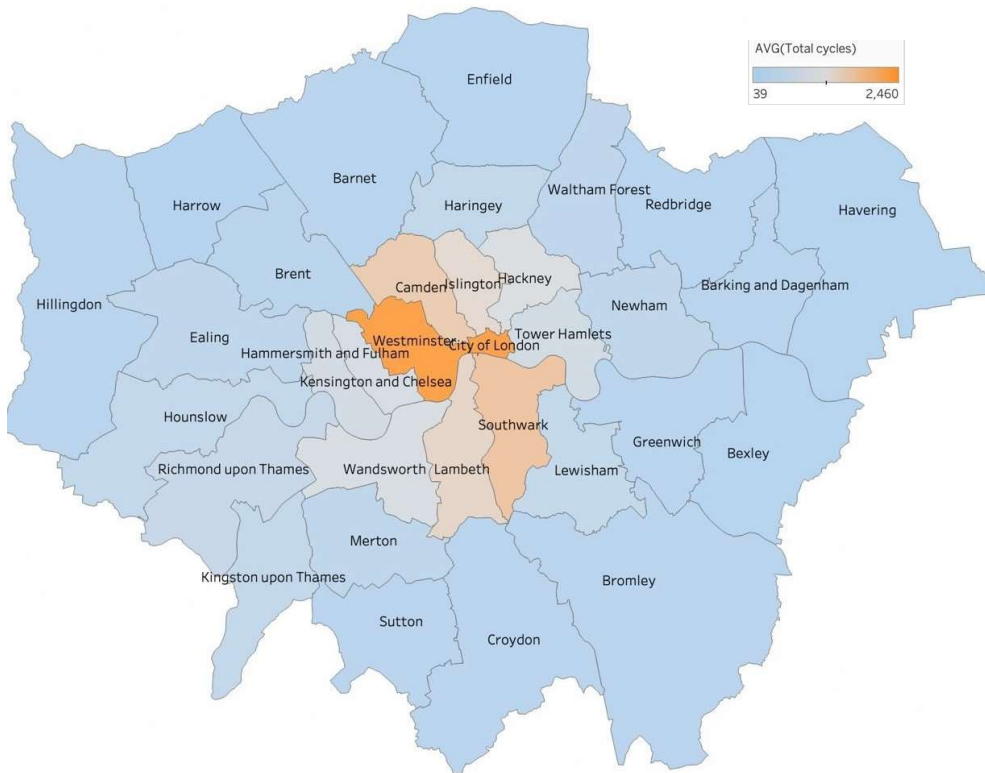- There is no full data for 2020-2021 as the data collection was affected by COVID-19
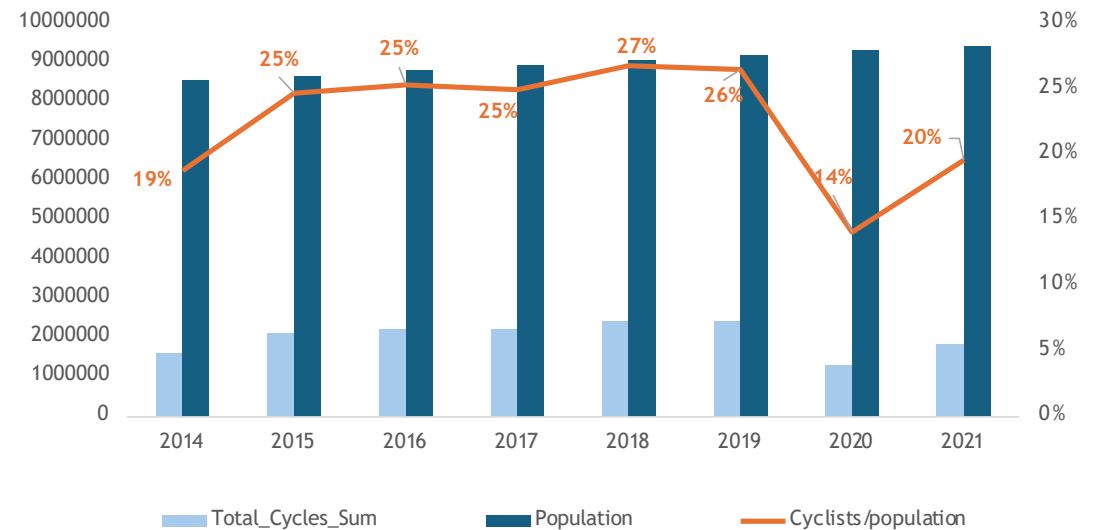
Cycling Behaviour
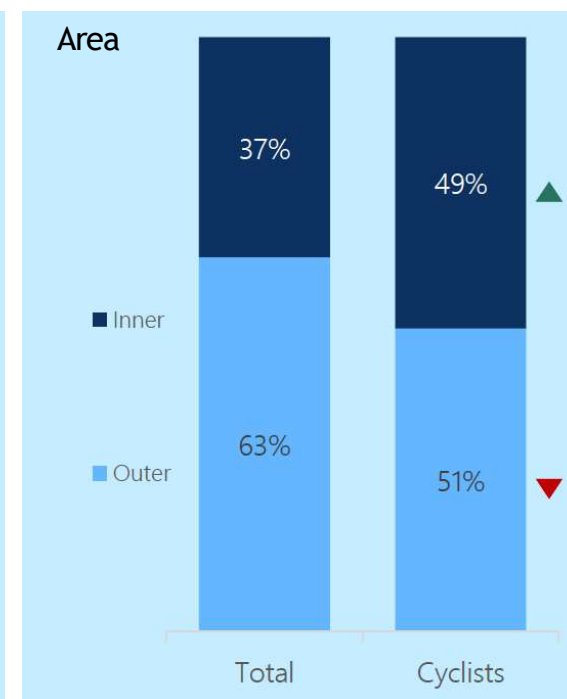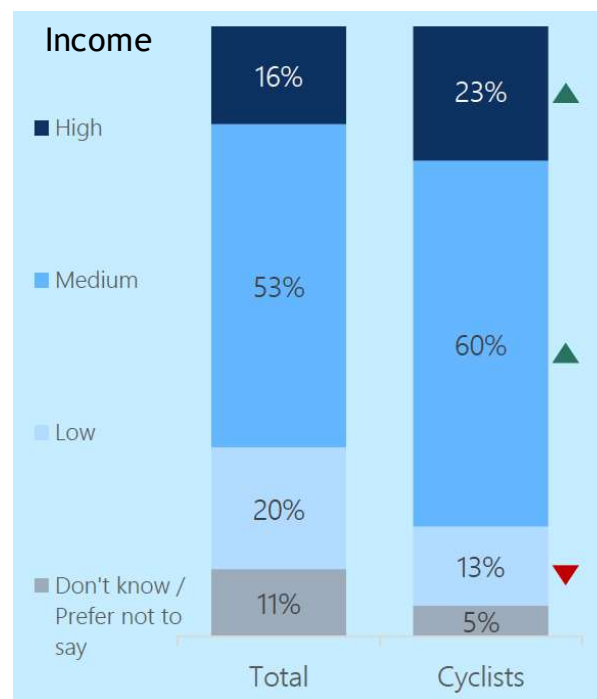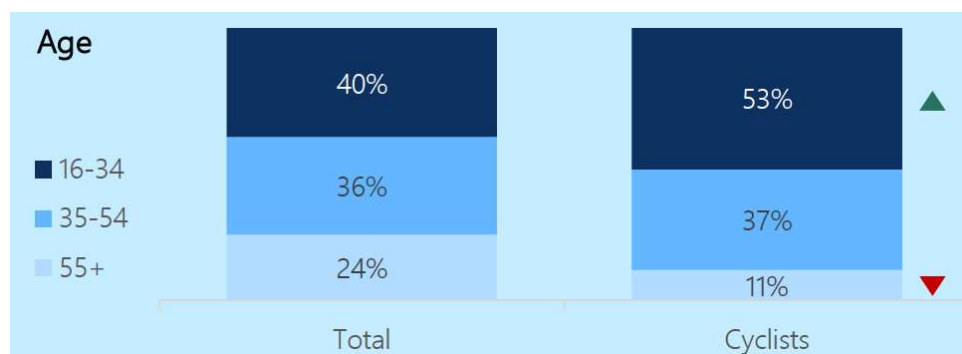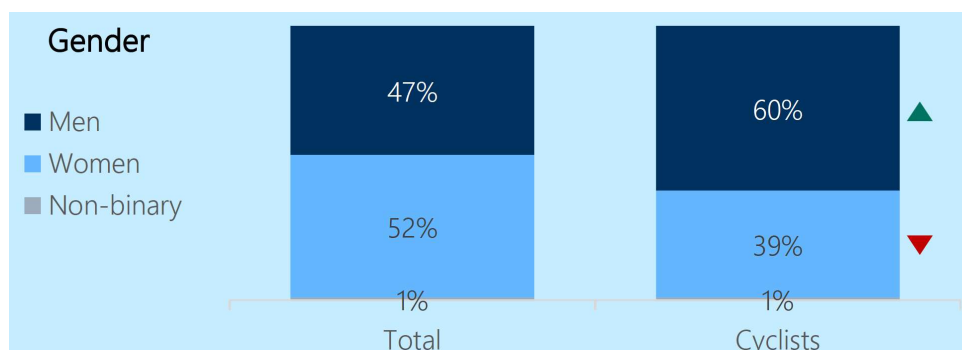
Cycling infrastructure

Case Study

Cycling behaviour

Daily average of bikes per borough

Number of cyclists to population

Who are London's Cyclists? Understanding the Demographics

OPTIMAL ROUTE INITIATIVE

Gender

	Total	Cyclists
■ Men	47%	60% ▲
■ Women	52%	39% ▼
■ Non-binary	1%	1%

Age

	Total	Cyclists
■ 16-34	40%	53% ▲
■ 35-54	36%	37%
■ 55+	24%	11% ▼

Income

	Total	Cyclists
■ High	16%	23% ▲
■ Medium	53%	60% ▲
■ Low	20%	13% ▼
■ Don't know / Prefer not to say	11%	5%

Area

	Total	Cyclists
■ Inner	37%	49% ▲
■ Outer	63%	51% ▼

Cycling potential in London's diverse communities. 2CV. Oct/2021

Cycling behaviour

Cycling infrastructure

Case Study

Exploring London's Cycling Landscape Through Clustering

OPTIMAL ROUTE
INITIATIVE

|	City of London	Central/Inner London	Inner/Outer London	Outer London
Average number of cyclists	Very high	High	Moderate	Low
Traffic level	Low	Moderate/Low	High	Moderate
Cycle lane coverage	High	High	Low/Varied	Low
Accident rate	Low	Low	High	Moderate/High
Parking availability	Moderate	High	Moderate	Moderate/Low
Population density	Low	High	Varied	Varied
		High		

Cycling Surge: Trends in Inner London

**Yearly Average number of cyclists
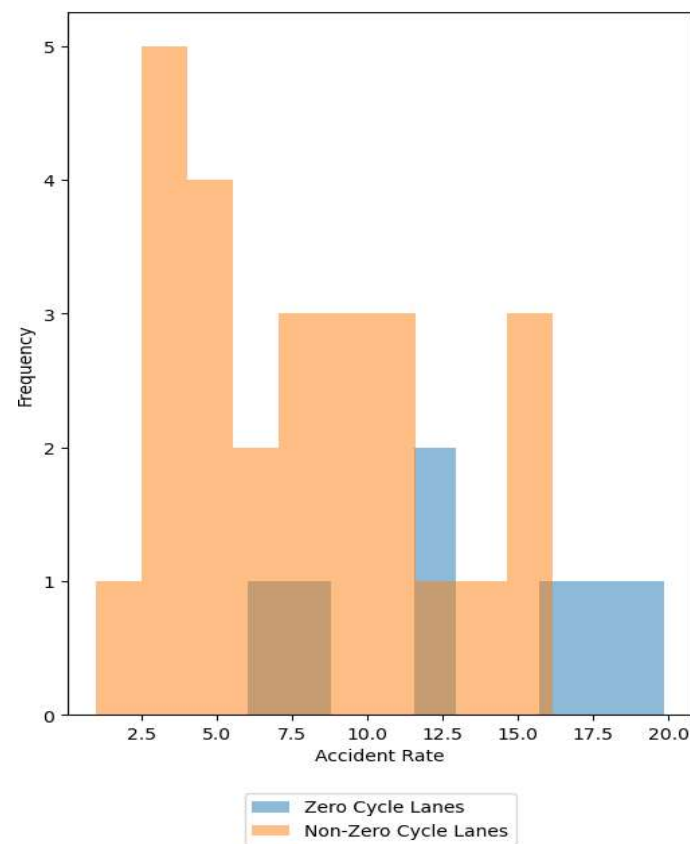Central and Inner London**

■ Cycle lane opening
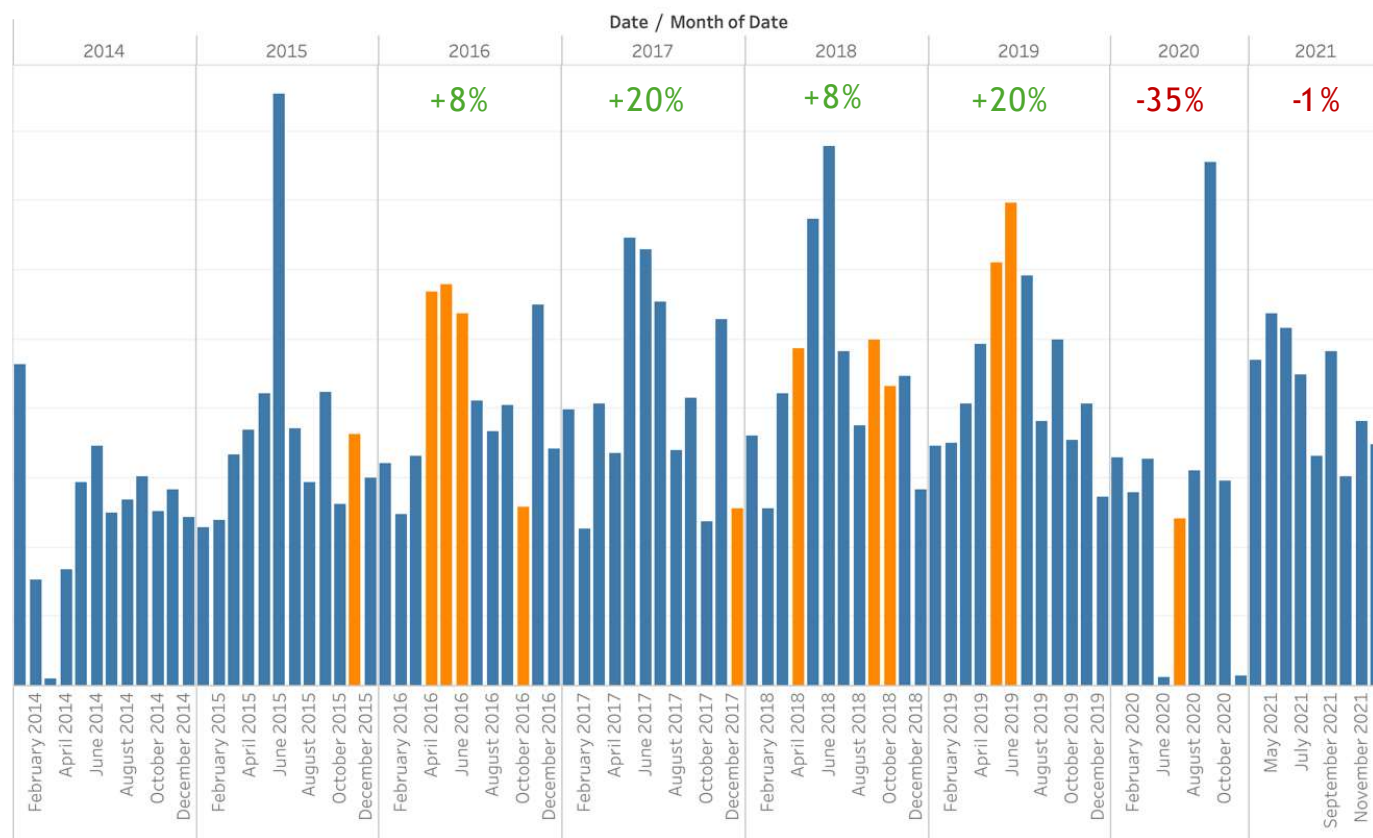
Enhancing Safety to Protected Cyclists

Correlation of accidents rate with protected cycle lanes
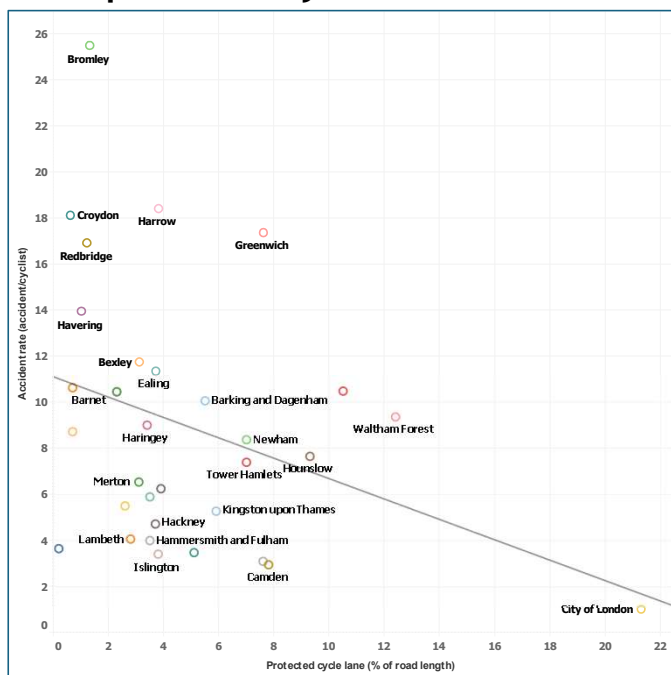
Distribution of accidents rates

Top 5 Borough with high accident rate and zero cycle lane
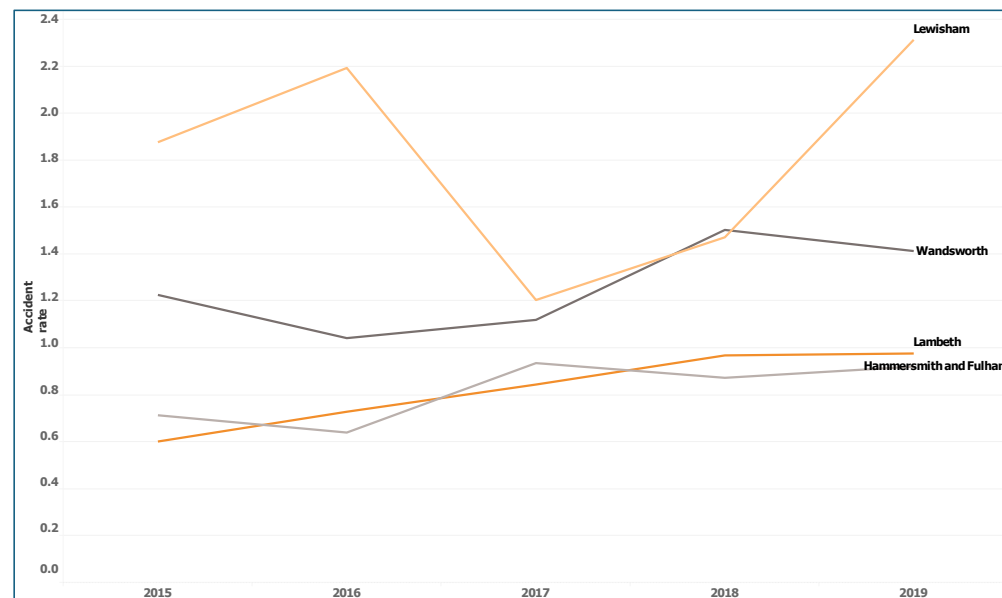Bexley
Bromley
Croydon
Harrow
Harvering

The Double-Edged Sword of London's Cycling Revolution

Boroughs with decreased accident over time

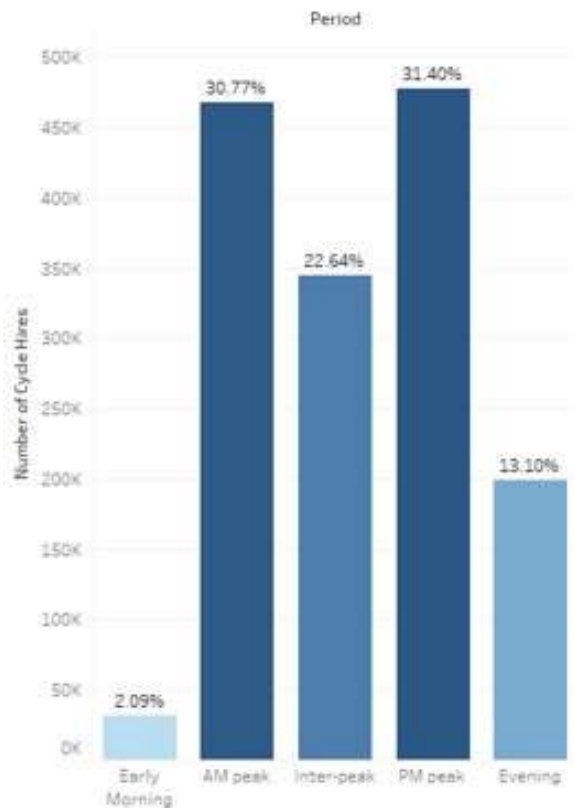**Boroughs with later increase of accident**

Powering London's Commute

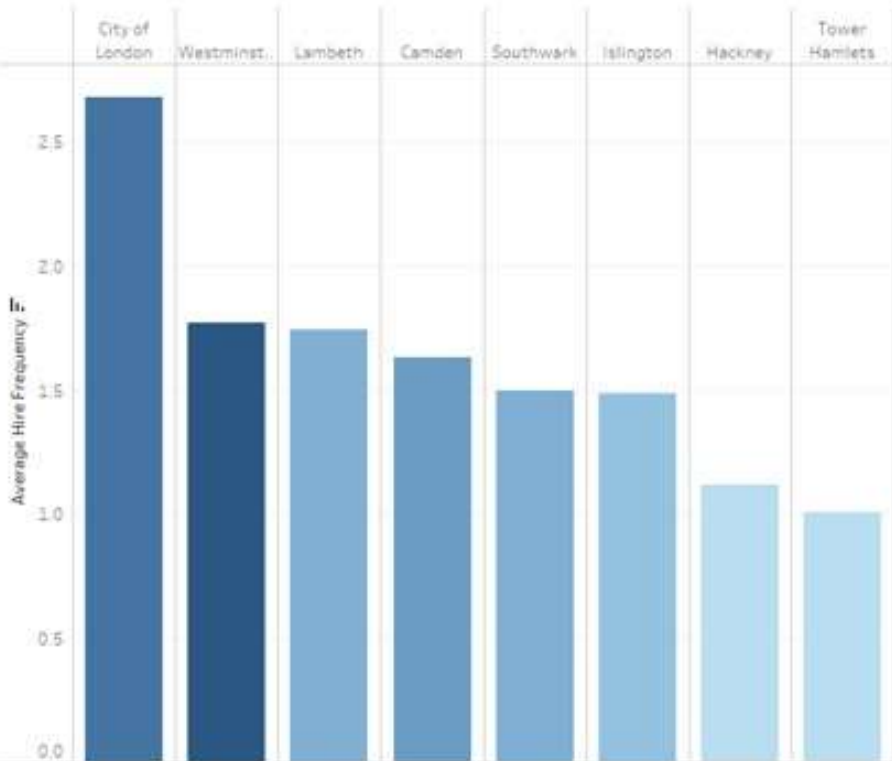## Central London Cycle Hire Trend Analysis (2015-2021)

Cycle Hire % by Period
Coherence with general peak periods indicates Hire to Commute
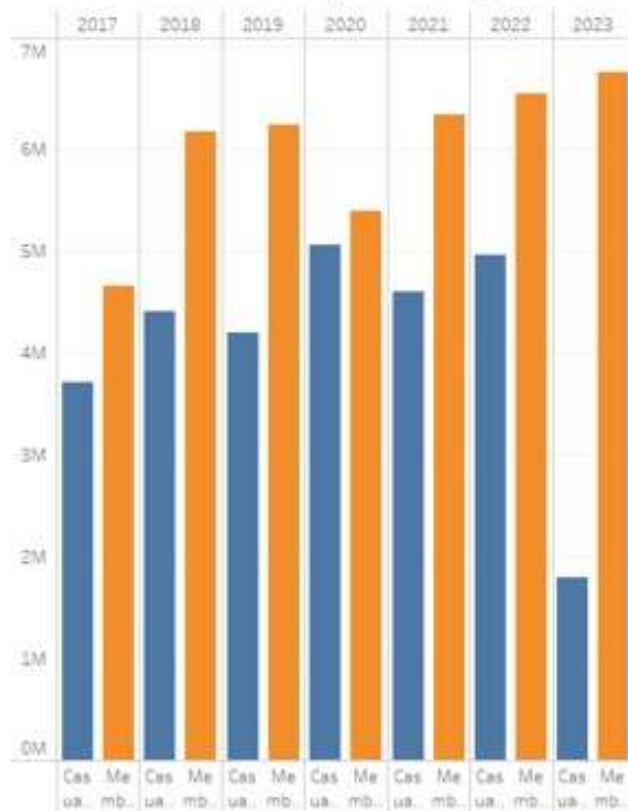
Average Cycle Hires by Borough
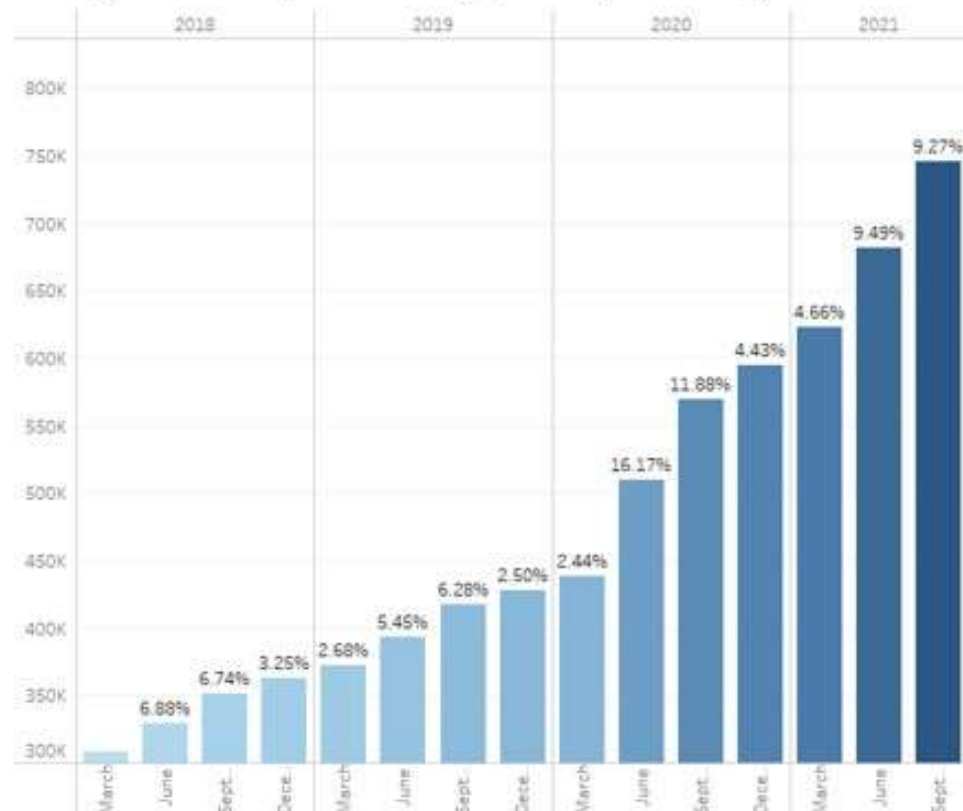Colour represents the total number of Cycle Hires for comparison

Focus on Members. Embrace Trends.

Annual Trends in Casual and Membership Cycle Hires (2017/18-2023)

Casual vs Member Hire (2017-2023)

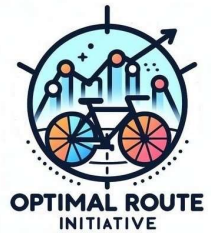### Average Membership Growth % by Quarter (2018-2021)

Cycling behaviour

Cycling infrastructure

Case Study

NYC itiBike Expansion

- Consistent increase in daily cycling trips (2008-2022)
- Higher percentage of male cyclists over time
- Over 1500 miles of bike lanes.
- Over 27,000 bikes.
- Enhances accessibility.
- Reduces barriers such as parking and crime.
- Integrated with public transport.
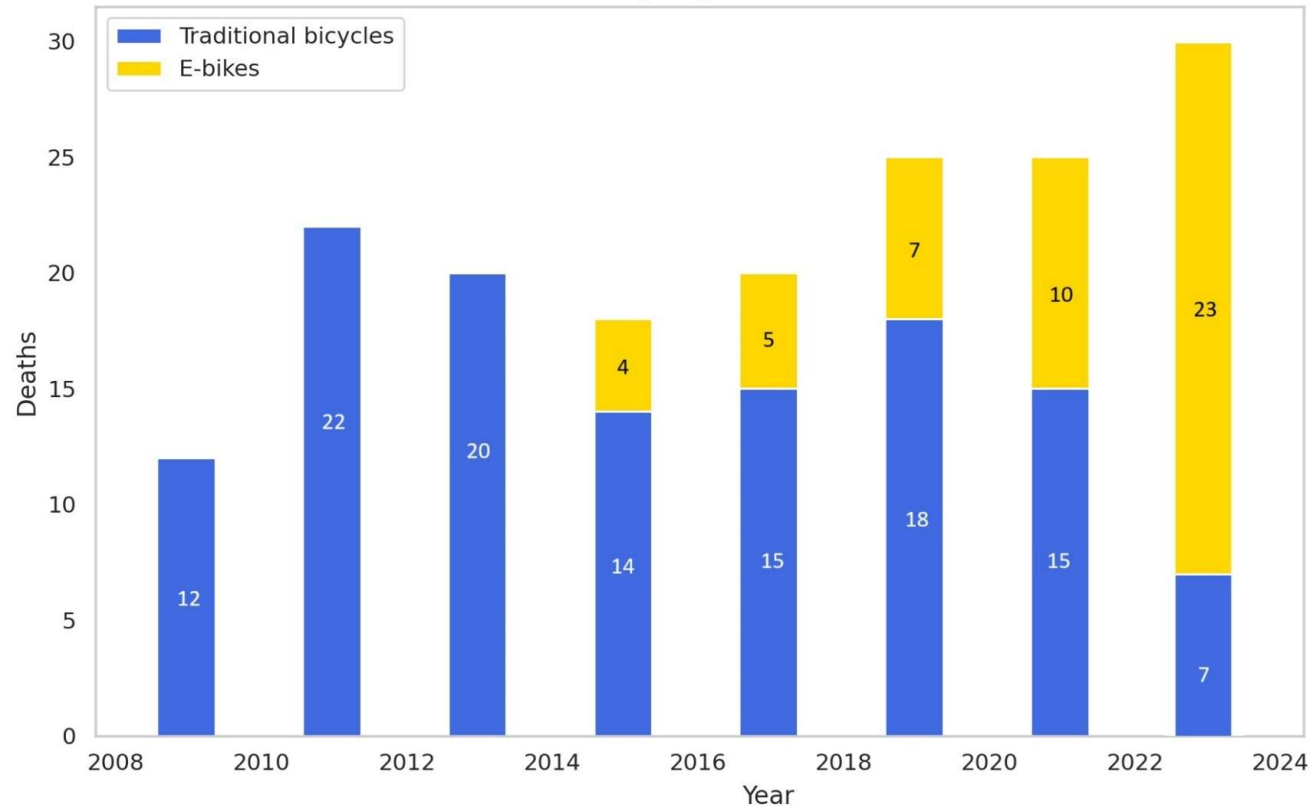

Phase 1 (2013)　　Phase 2 (2015-2017)　　Phase 3 (2019-2024)

NYC – 'Vision Zero' Safety Measures

Cycling Fatalities in NYC

	Fatalities as % of Total Cyclists	Total Cyclists	Total Fatalities
2008	0.03	36000	12
2010	0.06	40000	22
2012	0.05	42000	20
2014	0.04	45000	18
2016	0.04	48000	20
2018	0.05	52000	25
2020	0.04	59000	25
2022	0.05	66000	30

Recommendations

✓ Implement targeted safety improvements such as traffic calming measures, better signage, more visible bike lanes, and education programs to reduce accident rates and enhance cyclist safety.

✓ Launch campaigns to educate both cyclists on road safety, cycling etiquette, and sharing the road responsibly. This could include workshops, public service announcements, and school programmes.

✓ Regularly assess the effectiveness of cycle lanes and related infrastructure by analysing user feedback.

✓ Consider offering income-based discounts for cycle hire schemes and bike acquisition.

✓ Implement systems to monitor the usage of bike lanes and cycling facilities, using sensors or manual counts to gather data on cyclist numbers and patterns.

✓ Expand secure parking facilities to accommodate high usage at key locations such as train stations, shopping centres, and business districts. Develop secure bike storage solutions for residential areas.

Q&A

Appendix

Appendix – Further analysis

1. Evaluate progress have been made since the introduction of the Mayor's of London Transport strategy.

2. Evaluate the increase in population within boroughs with poor cycling infrastructure and provide justification for the recommendations. Create the prediction model of the number of cyclists according to growing population.

3. Evaluate the significant infrastructure developments in New York and Sydney and their impact on cyclist numbers, exploring potential applications to London.

4. Bike sharing -?

5. Analyse the occupancy rates of parking locations relative to public transport stations.

6. Investigate how bike theft impacts cycling demand and propose strategies to mitigate this effect.

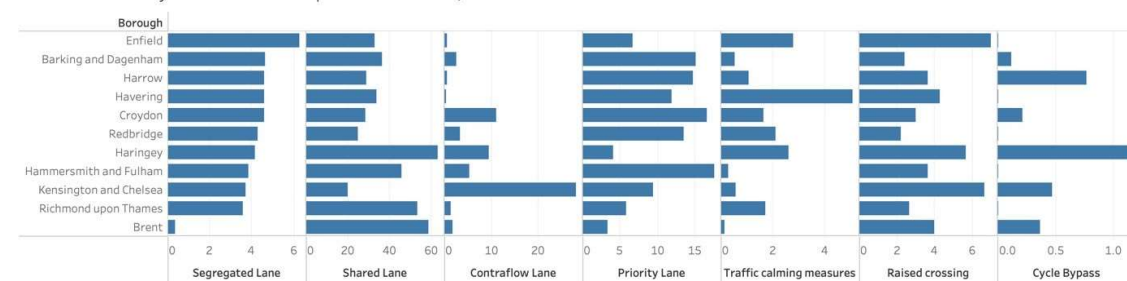# Appendix - Cycling infrastructure

Boroughs Most developed cycling infrastructure
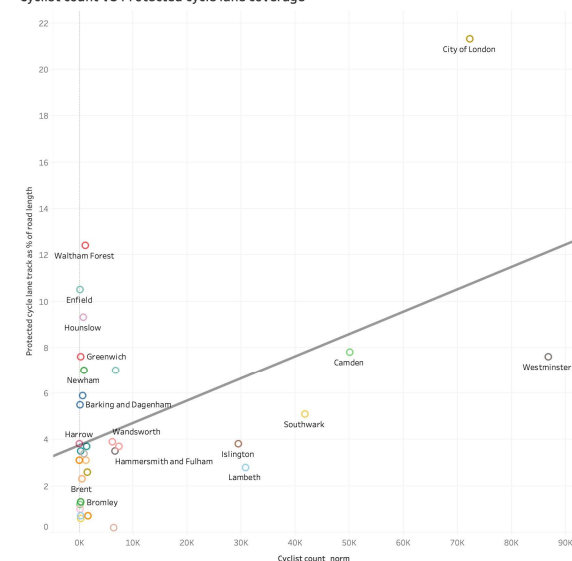The number of cycle lanes with a specific attribute, %
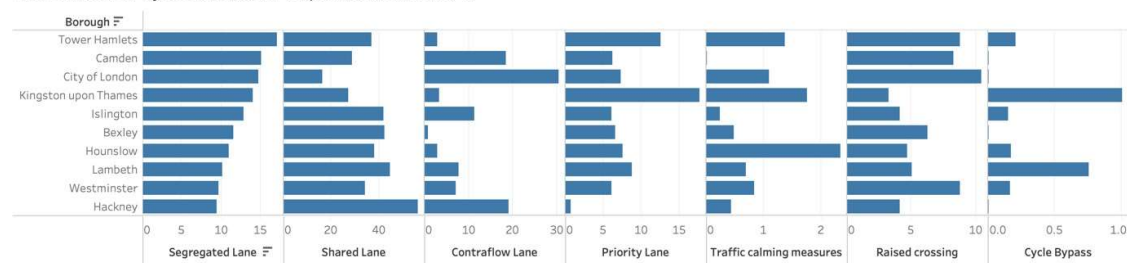
Boroughs Least developed cycling infrastructure
The number of cycle lanes with a specific attribute, %

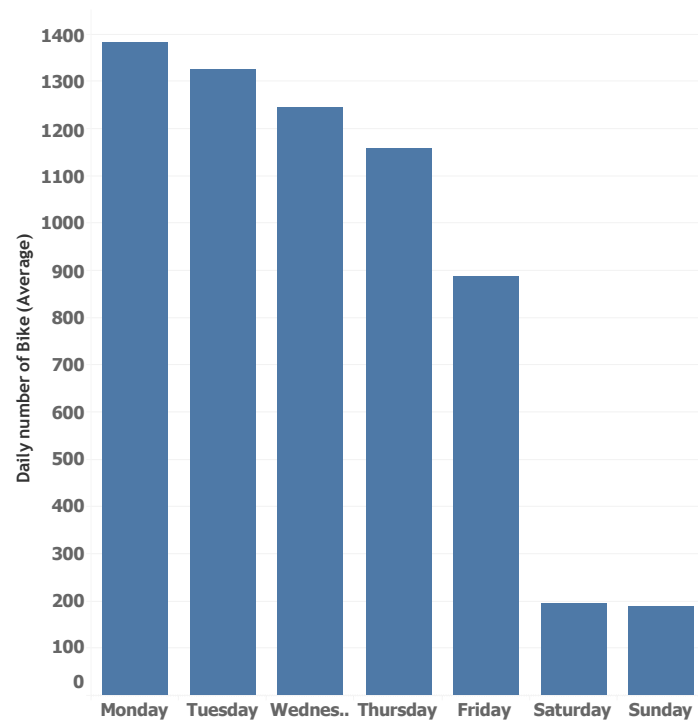Cyclist count VS Protected cycle lane coverage

A positive correlation between the percentage of segregated lanes and the number of cyclists. Boroughs with a higher percentage of segregated lanes tend to have more cyclists.

Save more on your commute!

Comparison of Regular Costs, Discounted Costs, and Annual Savings
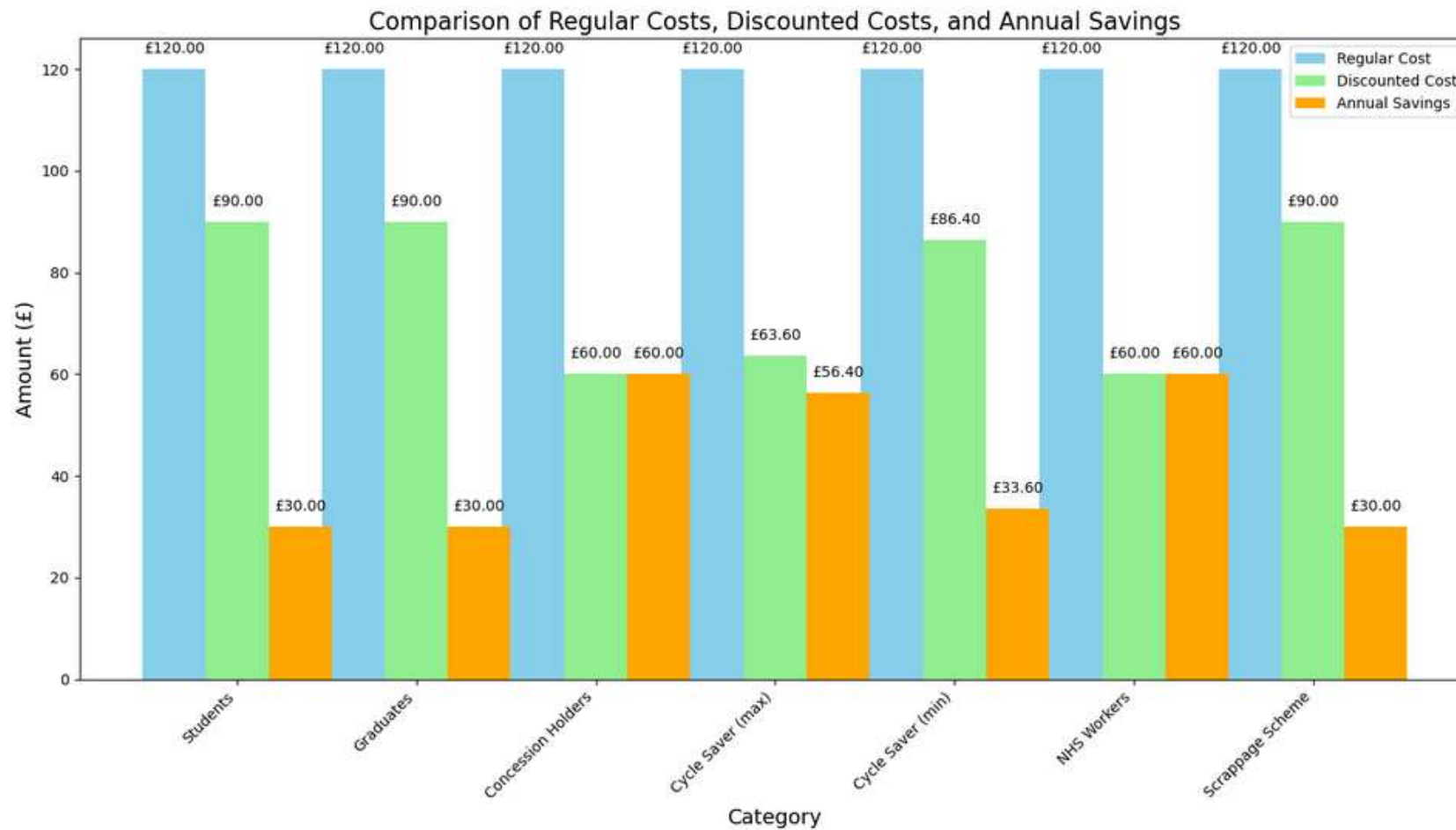
Cycling behaviour: Weekday Warriors & Weather Worriers

Distribution of bikes by day of the week

Impact of Weather on Cycling