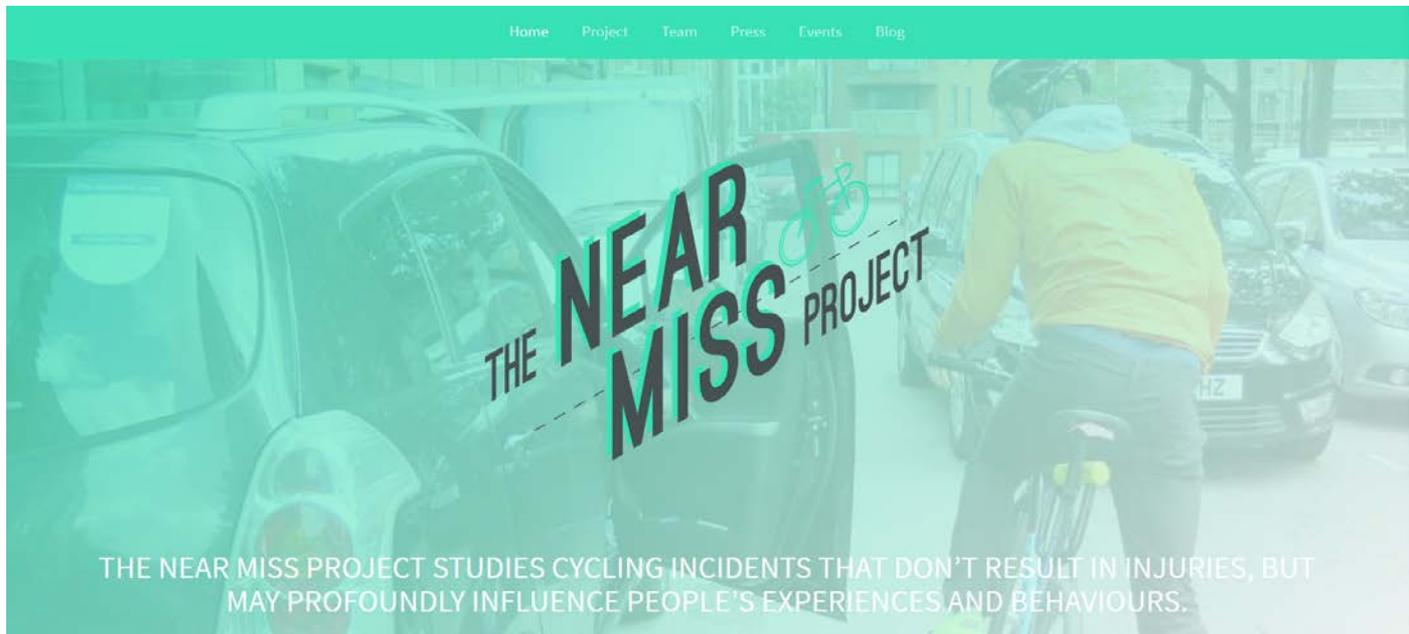


Our Unequal Streets: everyday experiences as barriers to cycling

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Studying Near Misses

- Potential predictor of injury collisions
- ‘Experienced risk’ and impact on uptake
- Power relations and inequalities on our streets

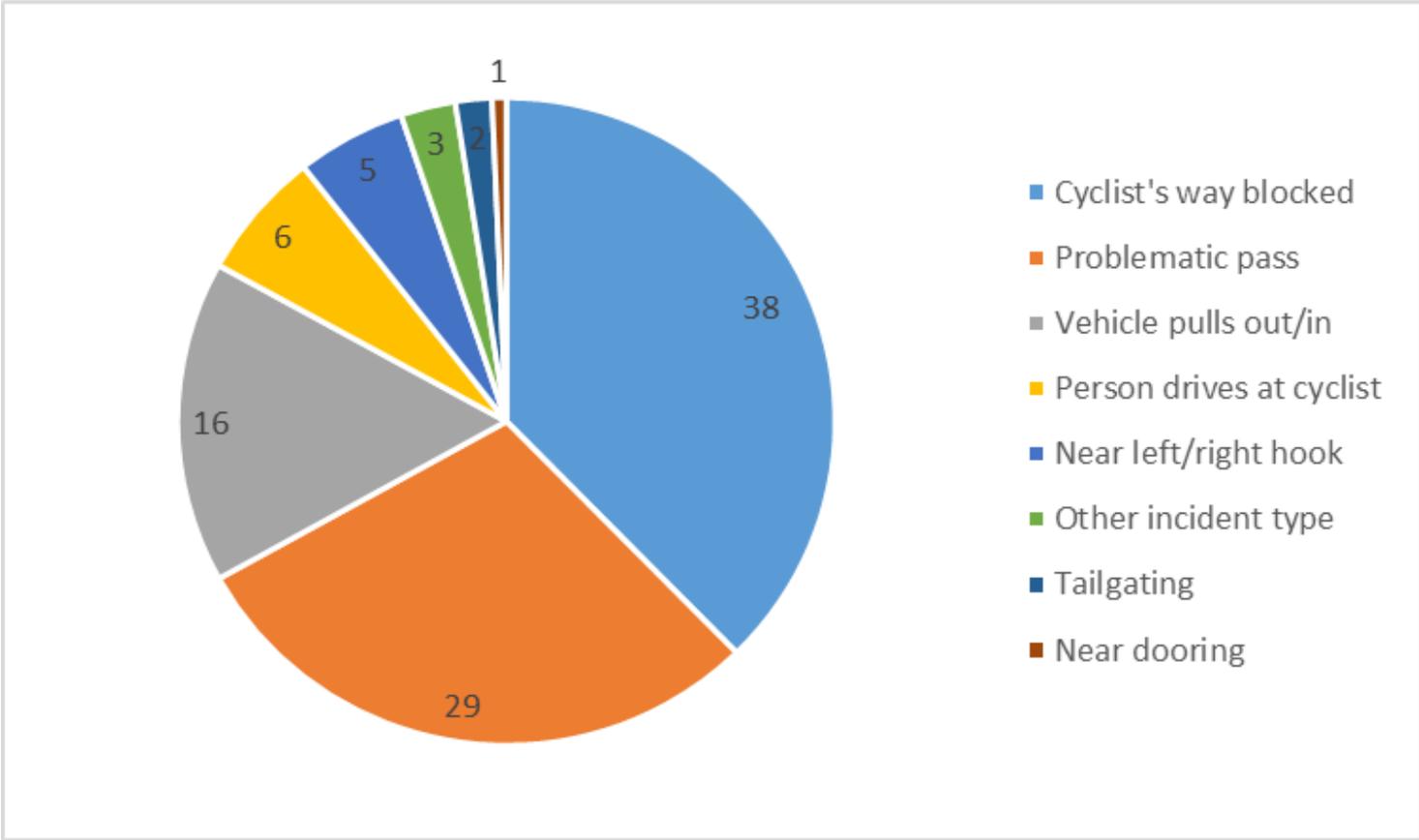


Comparing injury and non-injury incident rates

Type of Incident	Rate per year, regular UK commuting cyclist
Death	.000125 (once every 8,000 yrs)
Reported serious injury	.0025 (once every 400 yrs)
Reported slight injury	.015 (once every 67 yrs)
Any injury (reported or not)	.05 (once every 20 yrs)
Harassed/abused	20
'Very scary' incident	60
Any non-injury incident	450

Final three figures derived from Near Miss Project data. First four derived from published academic sources – see journal article for full details.

What are 'incidents'?



Some – but not all – map closely to injury collision types

Incident rates by gender

	Rate per hr	Rate per mile	Mean distance (miles)	Mean speed (mph)
Women (425)	2.78	.423	11.5	8.4
Men (1101)	2.27	.240	16.7	11.0

Gender differences in distances and speeds are likely to exist in wider populations.

Underlying factors shaping incident rates

- Modelling logged incidents per mile
 - Looking at what predicts incident rates; ability to identify underlying factors
 - Included e.g. time of day, gender, age, cyclist speed, weekday/weekend etc.
- **Many factors dropped out (e.g. gender), except cyclist speed, which had by far the largest standardised coefficient**
 - Adjusted R-square of 0.477

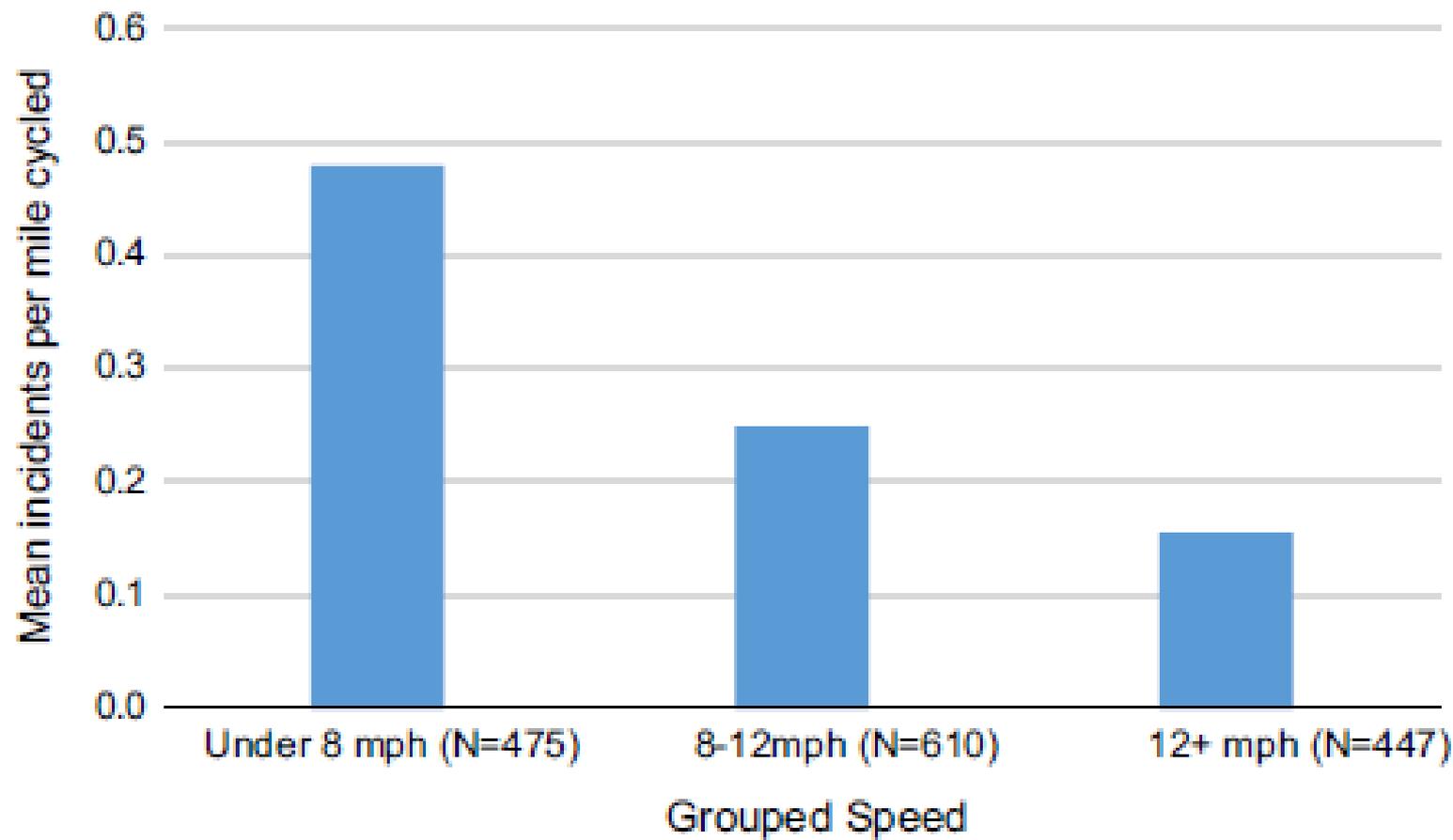


Fig. 5. Variation in mean incident rates by grouped speed.

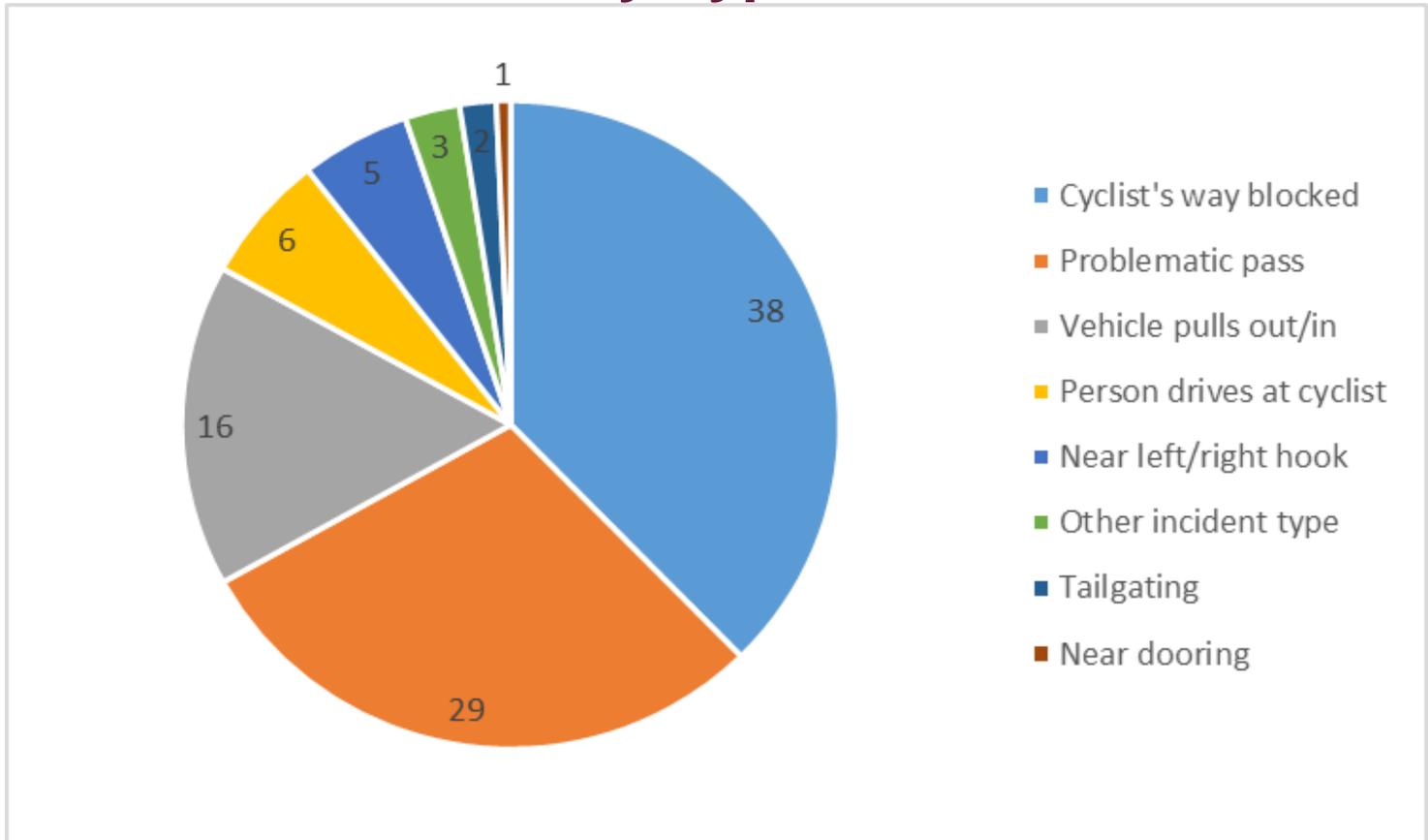
Impacts of incidents

- Incidents involving motors were significantly more scary (18.1% vs. 5.7% ‘very scary’)
- Incidents involving large vehicles were significantly more scary (24.0% of HGV incidents, 22.8% of bus/coach incidents)
- Almost one in four dooring, hooking & passing incidents were ‘very scary’, but only one in twenty blocking incidents were ‘very scary’

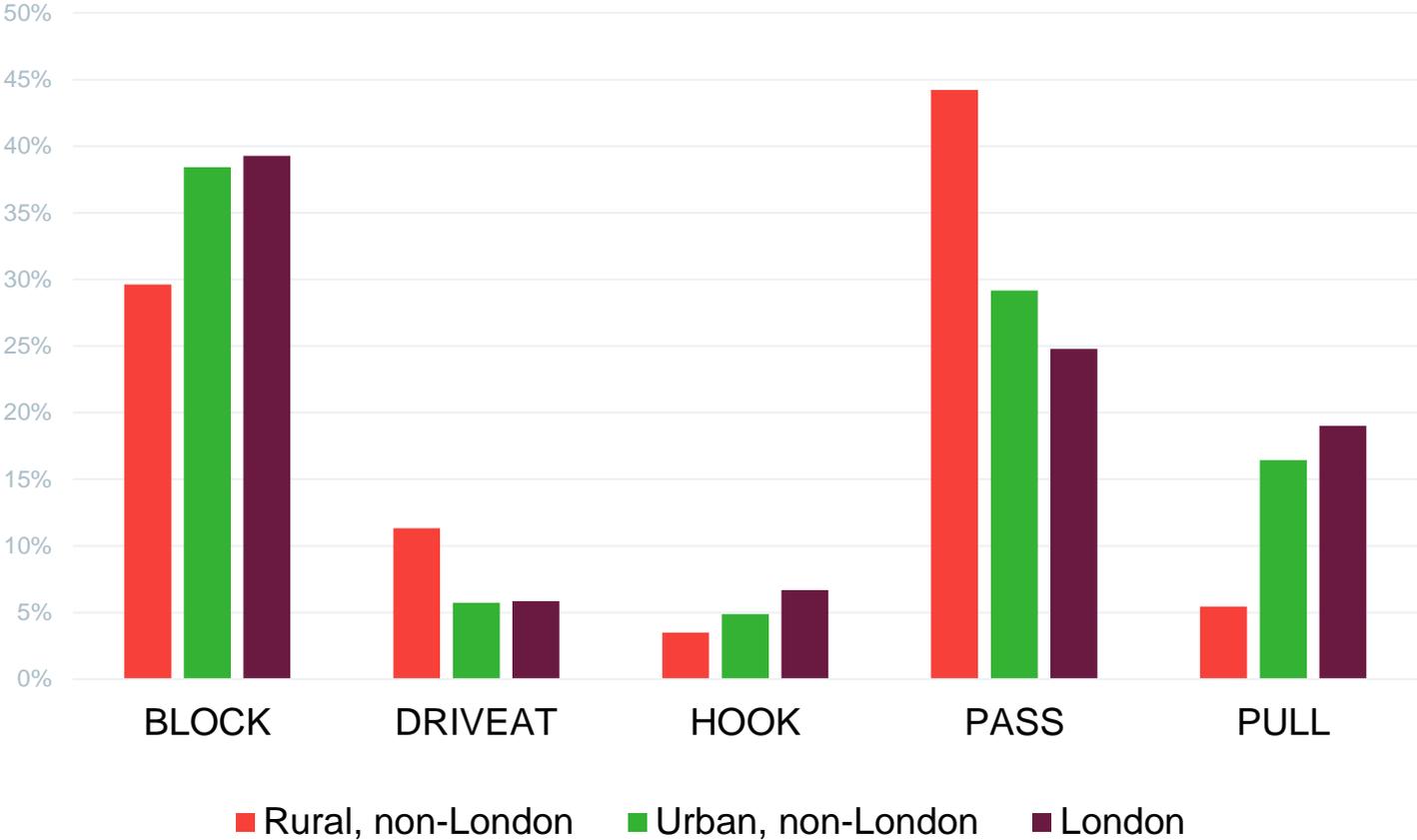
Regression modelling

- Predicting ‘how scary’ an incident is on 0-3 scale
- Variables included person- and incident-level factors e.g. incident type, ORU involvement
- Largest standardised coefficient for a ‘passing’ incident, followed by pulling out, hook, and ‘driving at’ incidents, then inv. of HGVs or buses/coaches
 - E.g. experiencing a passing rather than a blocking incident is associated with an increase of 0.70 in the scariness rating.
 - E.g. involvement of HGVs is associated with an increase in scariness of 0.41 compared to an incident not involving HGVs

CLOSE PASSES: second most common type, & most common 'scary' type of incident



Common in urban areas, but particularly typical in rural areas



Close pass examples #1

- ‘I was on approach towards a central refuge for pedestrians. Having checked it was safe to manoeuvre I took the lane through the refuge gap. Car came very close behind at speed and then overtook close to get through refuge gap and around me.
- [Felt] worried and angry - worried at rate of approach from behind and angry that the driver could not wait but chose to put me in danger.
- Carried on cycling, as this happens all the time!’

Close pass examples #2

- ‘This is a 20mph road, car came past very close (punishment pass) at well in excess of the speed limit. Then slowed down to avoid triggering speed camera, only to accelerate hard again afterwards.
- [Felt] upset at the seeming disregard for my safety; to be honest it’s normal on this stretch of road.
- Just got my head down and carried on.’

Close pass examples #3

- ‘[The] car behind which had been driving up close and then backing off over took me. The passenger shouted abuse as they passed and then cut sharply in front of me.
- [Felt] resigned and angry but it is rare that I cycle up this hill in this road position without abuse, being overtaken closely, having a car drive up close on my back wheel or repeated use of their horn. Sometimes all of these from the same vehicle.’

How frequently do they happen?

- ‘1–2% of overtakes came within 50 cm of the rider no matter how they were dressed.’
 - Walker et al 2014:
<http://www.sciencedirect.com/science/article/pii/S0001457513004636>
- Tallies with Near Miss Year 1 analysis
- Using Walker we can estimate number of very close passes given road length, speeds, volumes

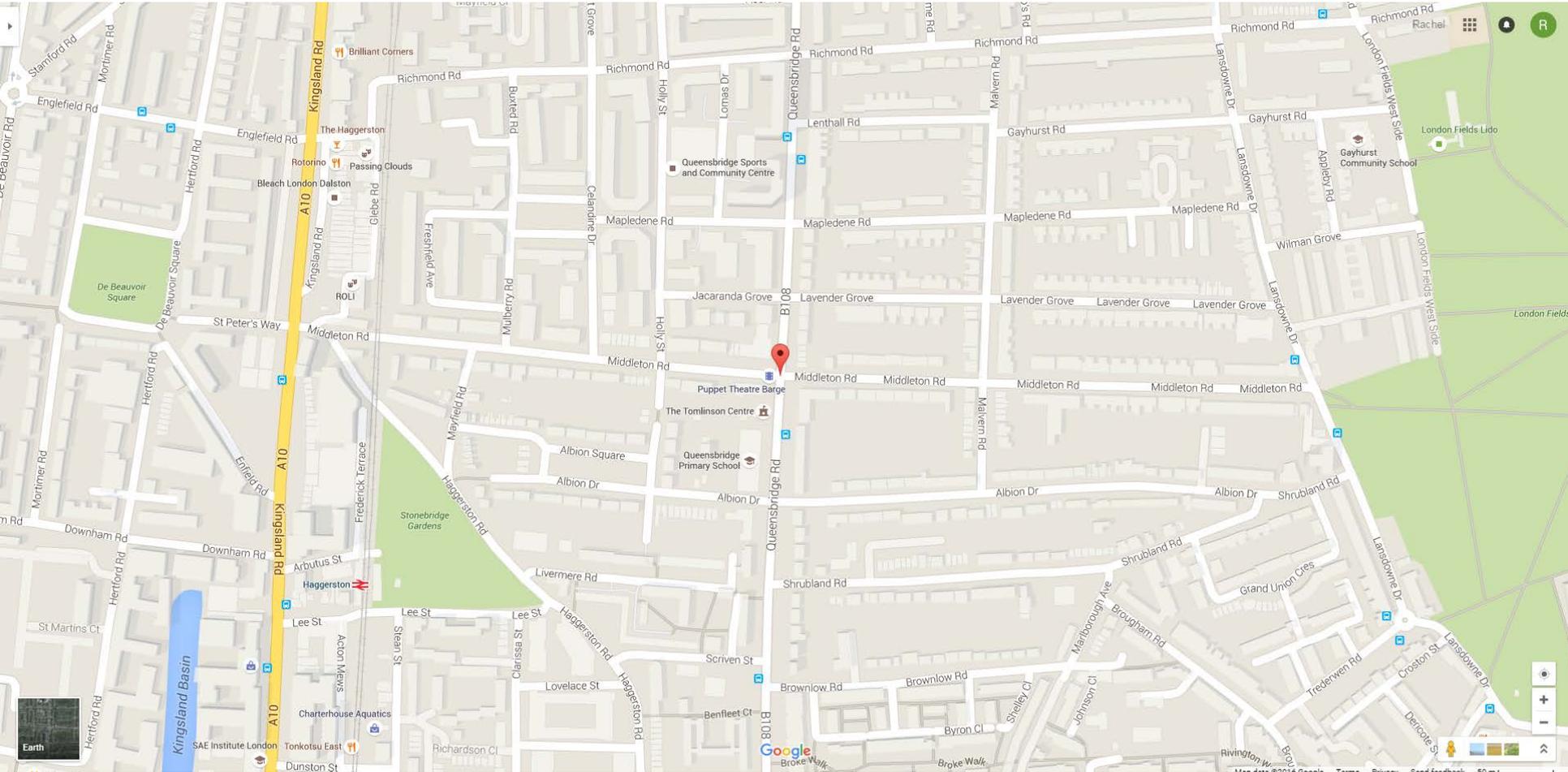
Middleton Road case study



Photographer: Dr. Neil Clifton, available at

https://commons.wikimedia.org/wiki/File:Middleton_Road,_London_E8_-_geograph.org.uk_-_500209.jpg

Location



Traffic volumes and close passes

- Middleton Road is around a kilometre long
- Two-way daily motor traffic flow around 4,000 vehicles according to LBH count data.
 - Part of London Cycle Network and a popular commuter route.
- Plans to block it to through motor traffic – what difference would this make?
- Using trip rates and household numbers, I calculated residential motor traffic flow would be <400 vpd.
- **So what difference does 4,000 versus 400 motor vehicles make?**

Middleton Road: close pass rates

- Assuming (i) motor traffic is flowing at 30kph and (ii) a cyclist is riding at 15kph.
- Two-way peak flow of just over 4,000 motor vehicles might =c. 300 mvph in the dominant peak direction.
- A cyclist riding at 15kph, during peak hour would be overtaken by ten motor vehicles in one trip along the length of Middleton Road.
- **For a regular commuter, that's 100 overtakes per week = one or two very close passes per week**
 - **Compared to one every two months if <400 mvpd**

Impact on a new cyclist?

- suggestions in qualitative data



Close pass feelings

- ‘I remember thinking “one day one of these is just going to hit me from behind with no warning and kill me”’
- ‘Scared and extremely angry. Why can these people find time to stop and shout abuse but not to drive safely?’
- ‘Very nervous and unsafe - it would only take one driver to miscalculate the close distance in passing me to knock me over. This has happened to me in the past, not on this particular road.’

Our Unequal Streets

- Main and residential roads often hostile for cycling
- Regular near misses = everyday incivility, violence and threat
- Infrastructural and cultural change necessary (linked)



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