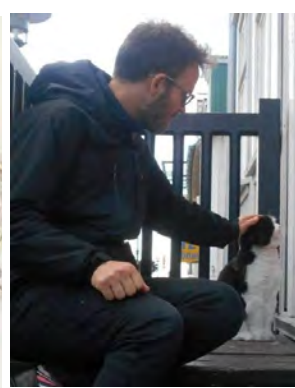


From Google API to go-along interviews: mixing methods to understand active travel infrastructure, behaviour, and attitudes

Professor Rachel Aldred
Director, Active Travel Academy
University of Westminster



*Most of
our
members
&
associates
... although
I ran out of
space!*

Bicycle highways as a 'liquid' policy concept

Arnoud Lagendijk (Radboud University), Huub Ploegmakers (Radboud University)



About Active Travel Studies

Active Travel Studies is a new, peer-reviewed, open-access journal intended to provide a source of authoritative research on walking, cycling and other forms of active travel. In the context of a climate emergency, widespread health problems associated with inactivity, and poor air quality caused in large part by fossil-fuel transport, the journal is relevant and timely. It will perform the critical function of providing practitioners and policy makers with access to current and robust findings on all subjects relevant to active travel.

[TWITTER](#)

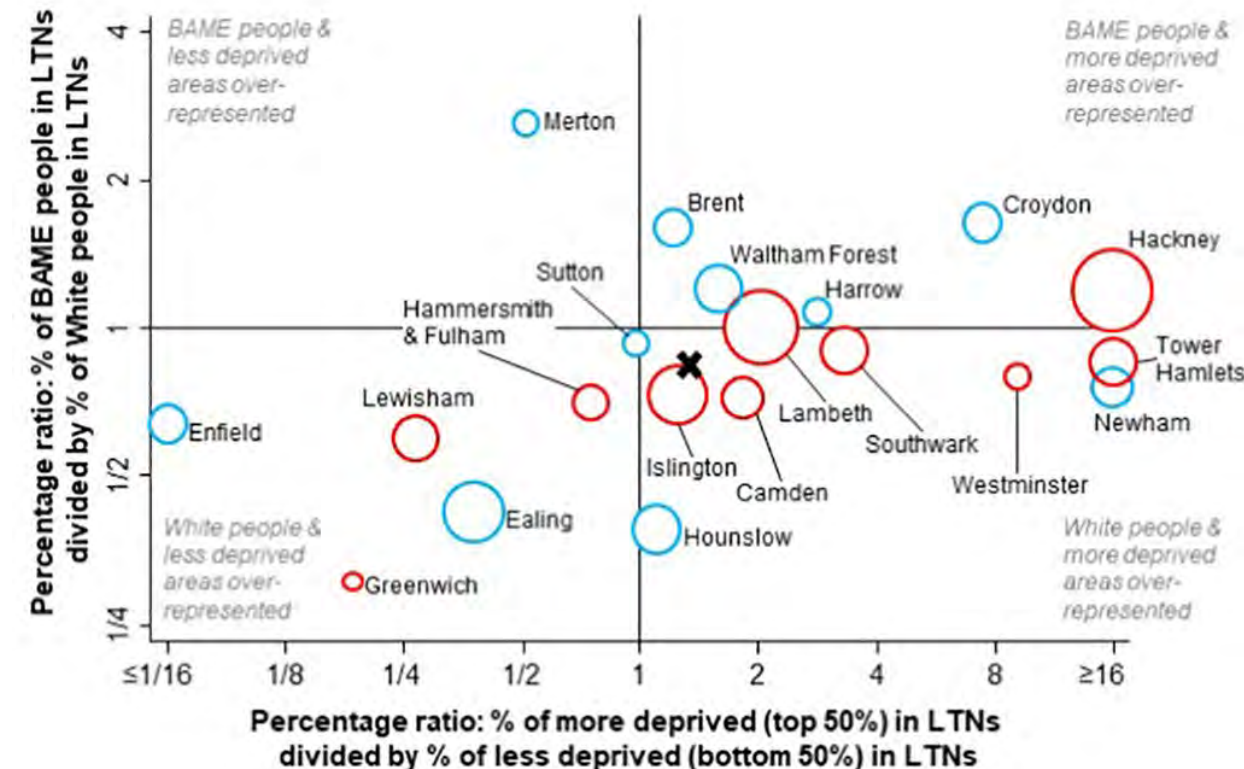
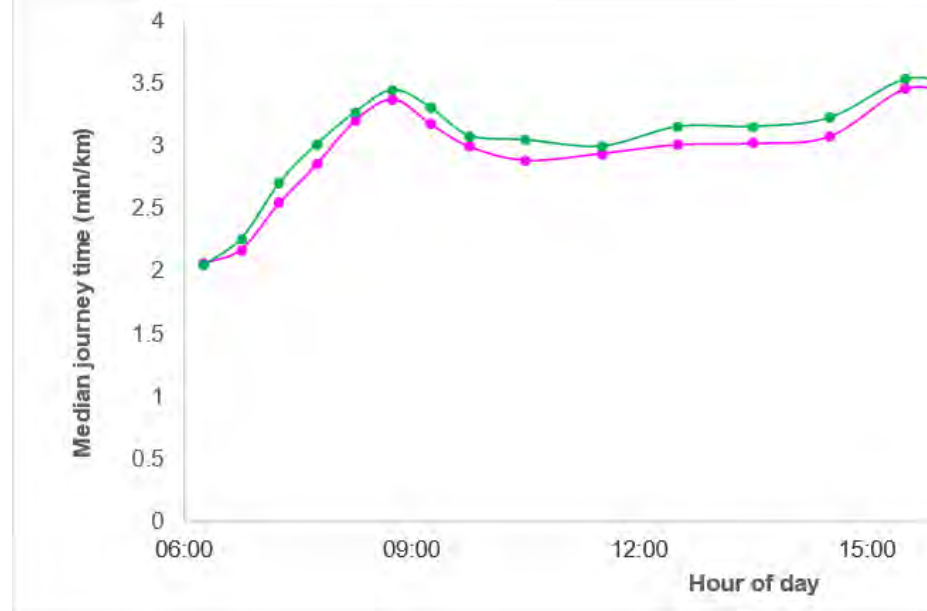
[RSS FEED](#)

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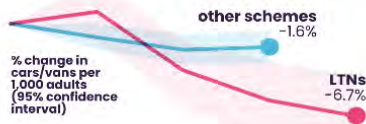
Now published 18 articles (peer review, Platinum Open Access) since set-up last year!

- Policy & practice
- Equity & social justice
- Mixing data & methods



The Impact of Low Traffic Neighbourhoods (or LTNs) in Waltham Forest, London

More weekly walking and cycling among residents, boosting physical and mental health.



Substantial decreases in car and van ownership inside the neighbourhoods after three years, reducing emissions.

Decrease in road traffic injuries inside low traffic neighbourhoods, for pedestrians, cyclists and car occupants alike.

-70%

-18%

Reduction in street crime inside neighbourhoods after three years. No crime displacement to adjacent areas.

Fire Brigade response times unchanged inside the neighbourhoods & slightly faster on boundary roads.

"Road closures in Waltham Forest have not had a significant impact on our services."

- London Fire Brigade Waltham Forest Borough Commander, 2016

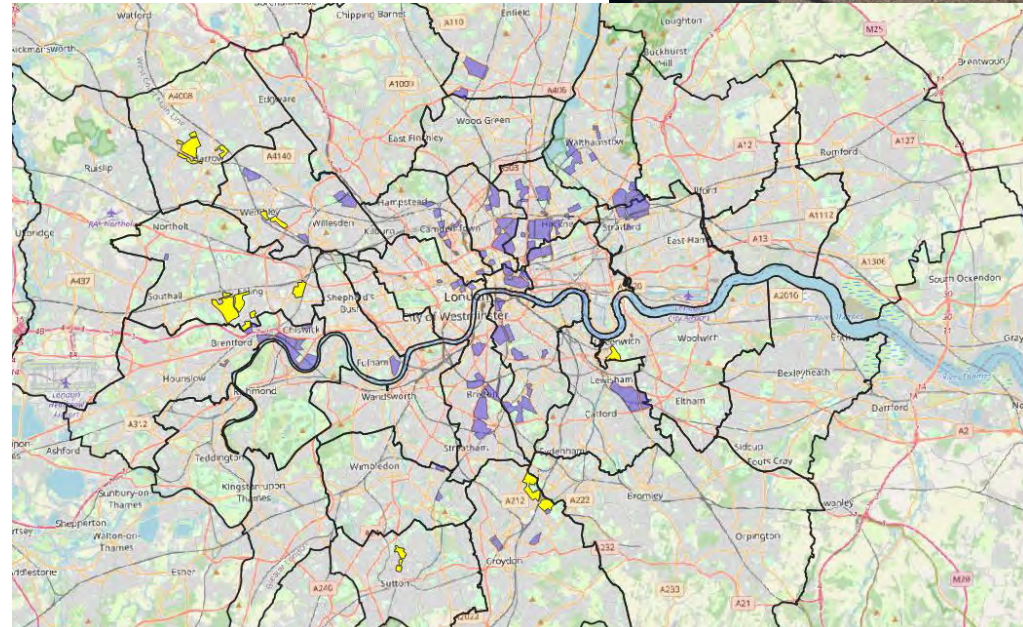
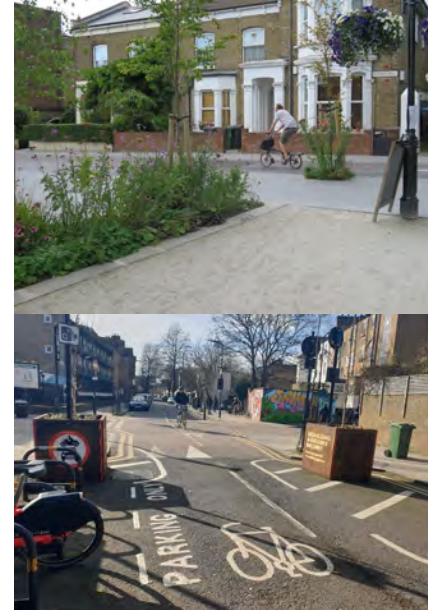
Waltham Forest in Outer London has been introducing LTNs since 2015. All the figures above come from controlled before-and-after studies, published in academic articles.

For sources and more information, see:

wearepossible.org/low-traffic-neighbourhood-briefing

Ongoing collaborative work on active travel schemes including LTNs covers impacts on

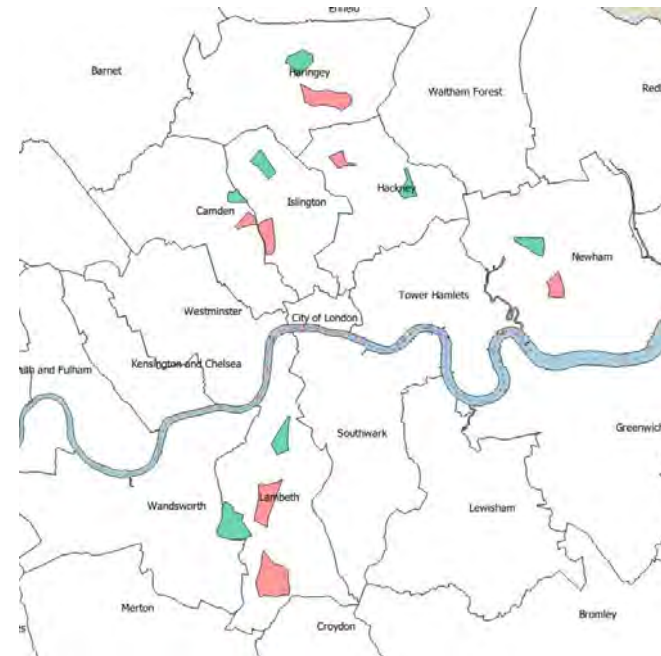
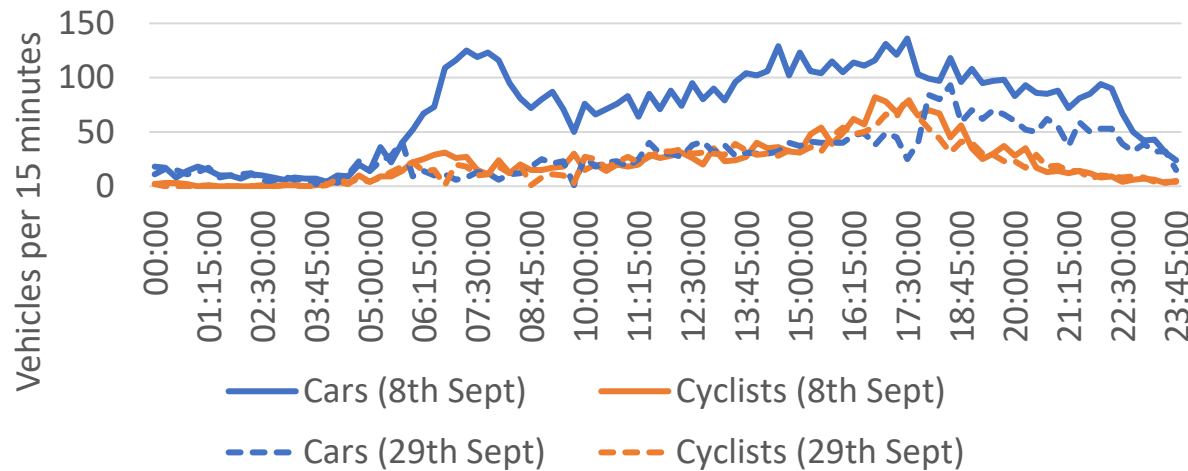
- Active travel
- Physical activity
- Car ownership
- Road injuries
- Crime
- Fire response
- Spatial equity
- Social equity
- Processes





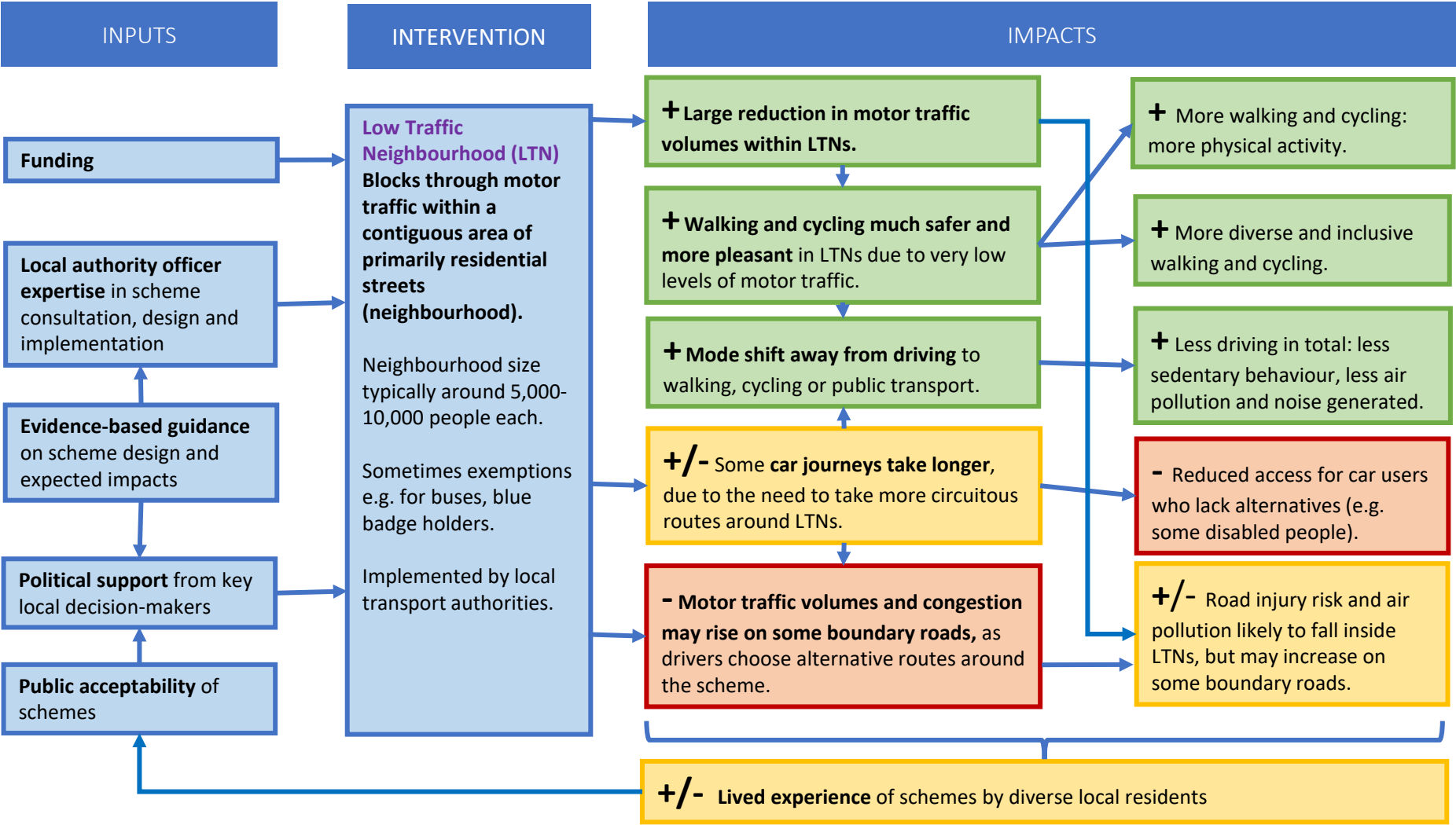
New LTN study: *Low Traffic Neighbourhoods in London*, funded by NIHR (£1.5m, 3.5-year study using mixed qualitative and quantitative methods)

Sensor data, carriageway, cars and cycles only

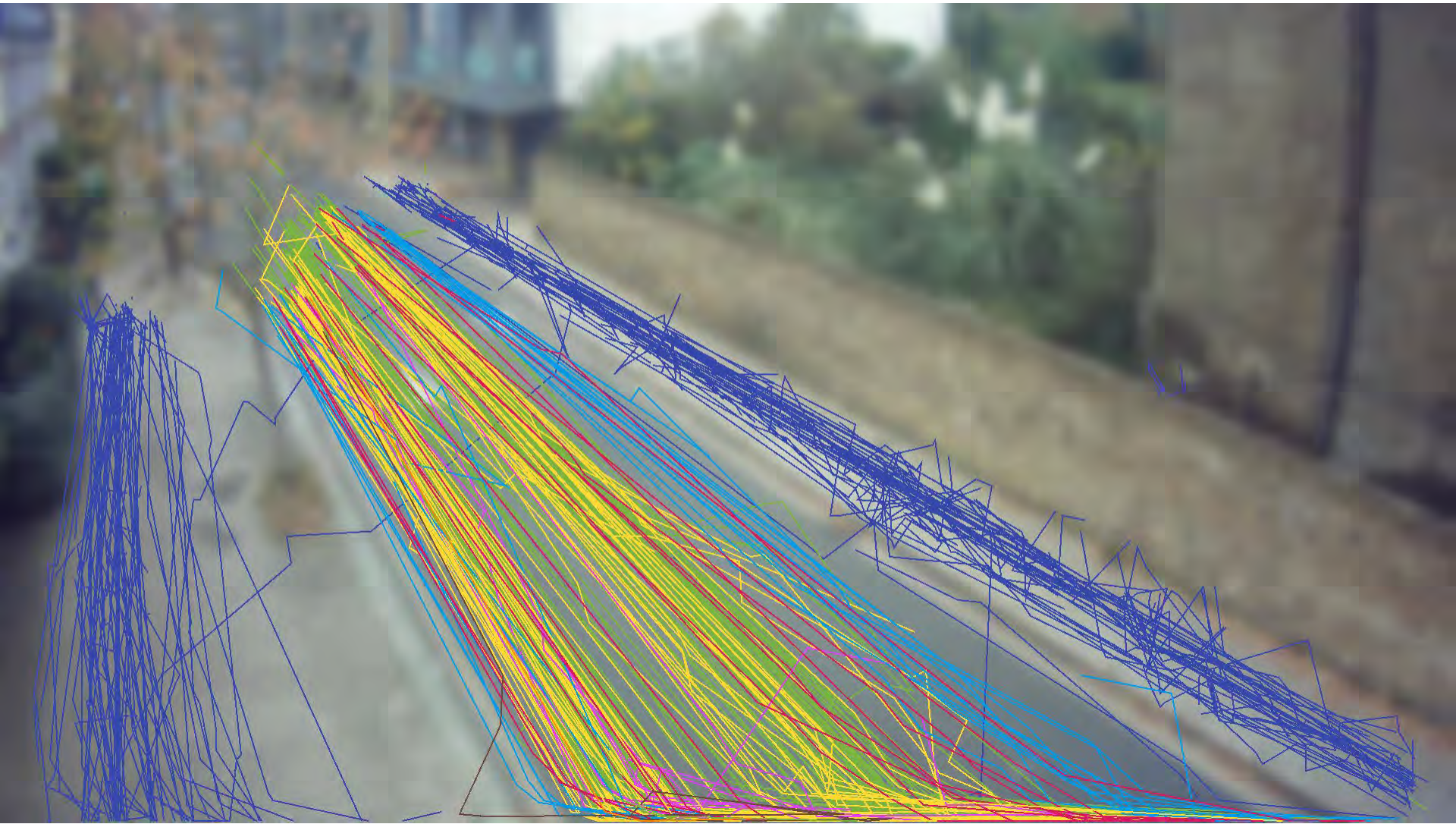


Led by Westminster University, with LSHTM, Cambridge Uni, Imperial College & Transport for All

Logic model for the intervention & key possible + and - impacts being studied



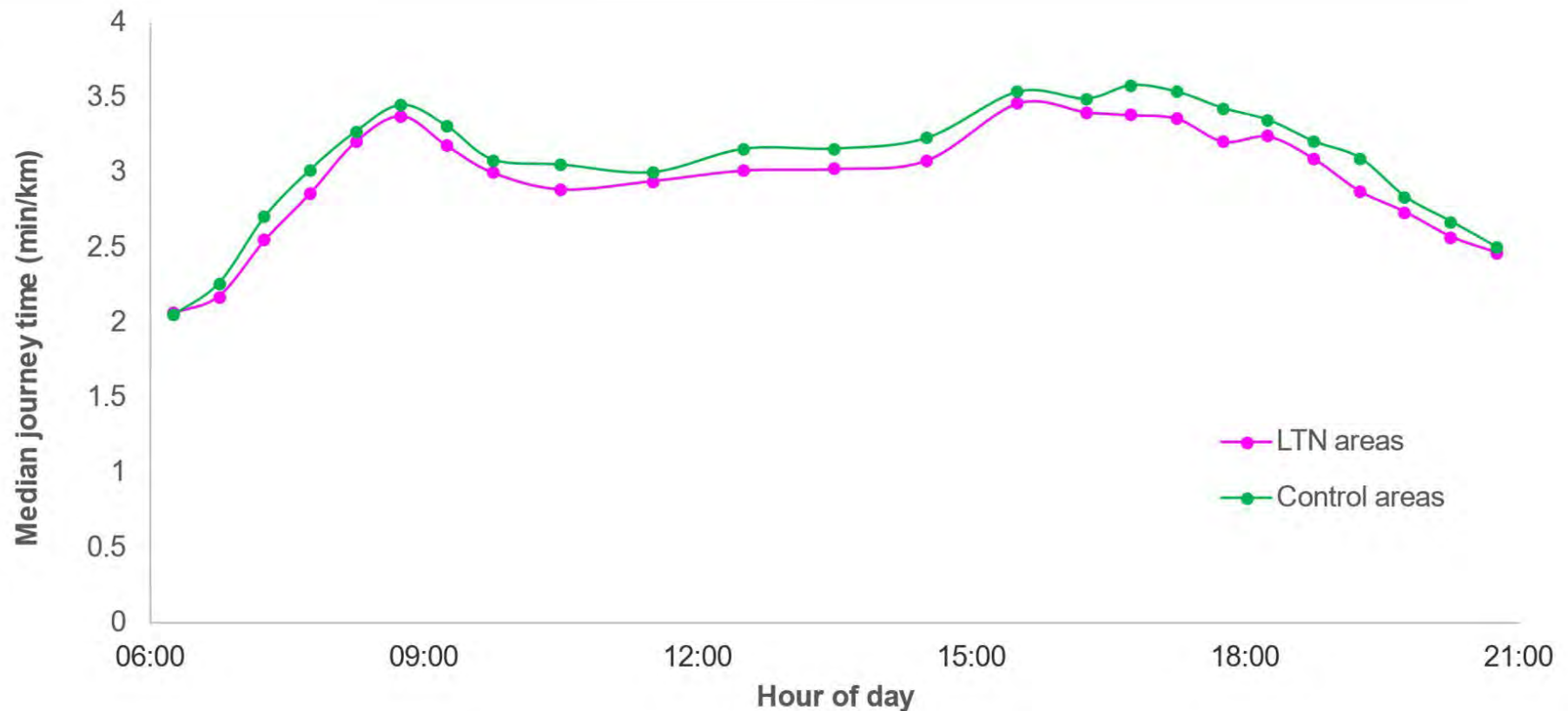
- **RQ1. Volume of active travel (walking and cycling)** inside LTNs. Also: how motor vehicle volumes change, and how much of any increase in active travel inside LTNs is mode shift from cars.
 - Continuous data from 'Vivacity' sensors capture pedestrian & vehicle counts on two desire lines inside each area (=32 sensors).
 - One-off intercept surveys in 2023 will be used to estimate mode shift and new active travel.



- **RQ2. Diversity of active travel users** inside LTNs, including by age group, gender, and use of mobility aids.
 - Annual diversity counts (e.g. % of cyclists who appear to be women, adult & child pedestrians) using pixelated video from all sites

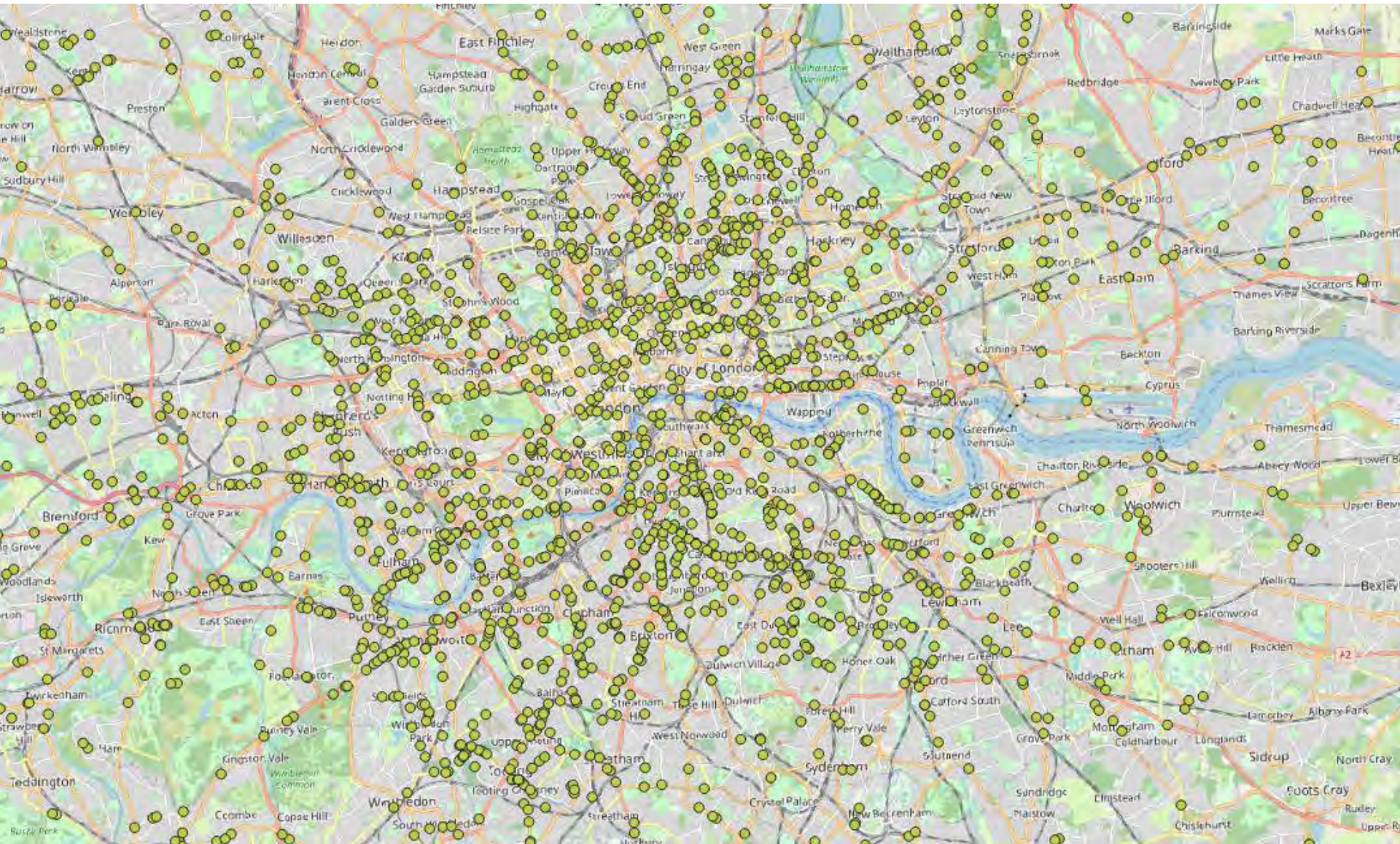


- **RQ3. Congestion** on LTN boundaries. What is the impact soon after implementation, and how does this change over time?
 - Continuous Google API data being gathered to measure congestion on boundary roads for all LTN and control areas.
- **RQ4. Journey times to a range of destinations by car**, and relative speed of car versus active travel trips, for people living in or near to LTNs.
 - Annual Google API data being gathered on car journey times from origins in and immediately surrounding all LTN and control areas.



Median journey time (minutes per km) across boundary road segments by time of day on Tuesdays, from 08/06/2021 to 20/07/2021

- **RQ5. Health and health economic impact of LTNs, via changes in:**
 - Physical activity from above sensor + intercept survey data (RQ1)
 - Injuries from additional secondary analysis of all LTNs in London
 - Air pollution from local authority measures of changes in vehicle volumes inside and around LTNs + modelling.



Qualitative Research Questions

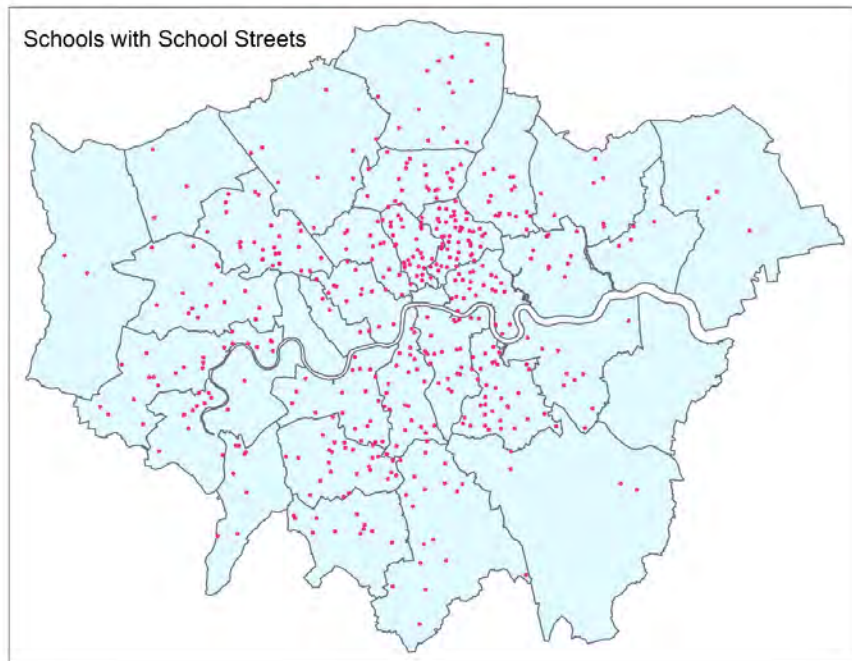
- **RQ6.** What is the **lived experience** of LTNs for those living inside or on the boundary of new schemes? What general or specific scheme elements elicit positive and negative reactions?
- **RQ7.** How can we make LTNs **more inclusive**, including for disabled people?
- **RQ8.** What do **local policymakers** perceive as the barriers and enablers to successfully and equitably implementing LTNs?

Qualitative Research Methods

- **Go-along interviews** (walking/wheeling) with 80 residents in a subset of four selected LTNs in June-September 2022 and again in June-September 2023
- Four **action research events** in-situ at the four selected LTNs in June-September 2023
- Interviews with **12 stakeholders** in the six London boroughs and **12 stakeholders** in the rest of England (also having implemented/ implementing LTN schemes) in 2022, and again in 2023
- **Eight focus groups** with disabled people (virtual and in-situ) in 2023 and 2024, and **one event**

Interviews currently ongoing

PhD project: School Streets (Asa Thomas, mixed qualitative, quantitative, & spatial methods)



Picture: Gayhurst School, Hackney
<https://www.gayhurst.hackney.sch.uk/news/?pid=66&nid=2&storyid=95>

PhD on Children's Independent Mobility (Dr. Holly Weir, mixed & participatory qualitative methods)



TRANSITORY SPACES *Places between places*

E.g. footways,
footpaths,
streets, roads



DESTINATIONS *Places to go*

E.g. parks, playgrounds,
shops, cafes, community
centres



THRESHOLD SPACES *Outside the front door*

E.g. courtyards, doorstep
playspaces, streets,
foyers/corridors

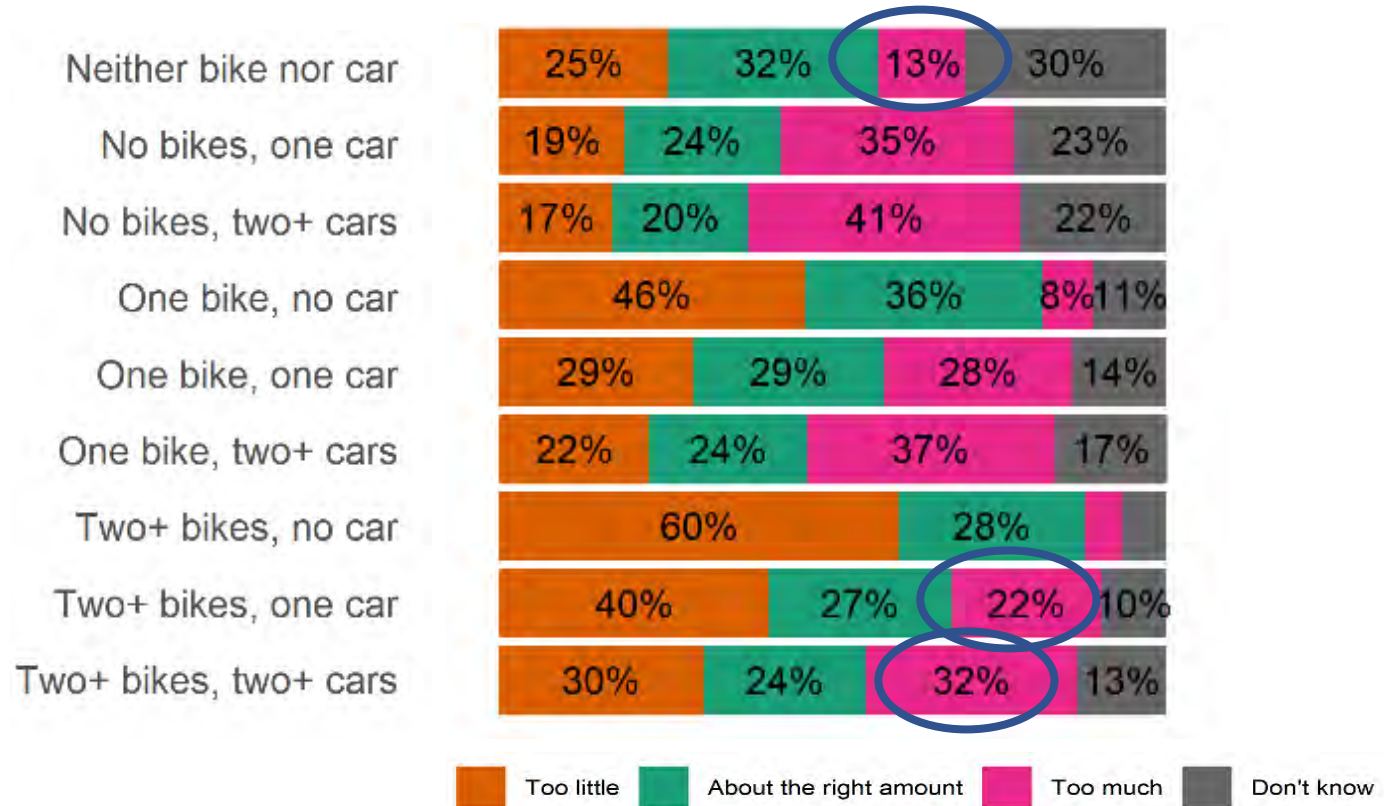


WEDNESDAY

Write about all the times during the day when you were outside or going somewhere in your neighbourhood

What I was doing	Who I went with	Where I was going	What was the weather like?	How I got around	How I felt (tick the one that applies)
walking to school	mum	SX school	cloudy snowy	on foot	☹️ 😐 😊 😊 😊
going climbing	brother & a friend	The castle	cloudy	on foot	☹️ 😐 😊 😊 😊
going home	a friend	home	cloudy	foot	☹️ 😐 😊 😊 😊
					☹️ 😐 😊 😊 😊
					☹️ 😐 😊 😊 😊
					☹️ 😐 😊 😊 😊
					☹️ 😐 😊 😊 😊

What determines attitudes to investment in different forms of transport? (PI Dr Jamie Furlong, cohort study)



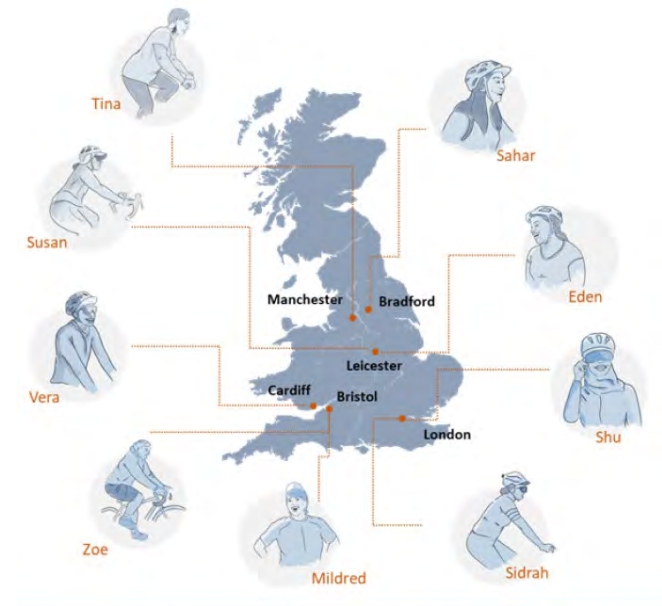
Views on local authority/Transport for London support for cycling by car/bike ownership

Still I Ride

How Women of Colour are challenging discourses in and through cycling

PI: Dulce Pedroso – cycling go-alongs with nine Women of Colour in England and Wales

In a cultural context in which the car dominates and has become normalised, cyclists are often marginalised. For a Woman of Colour, cycling can introduce an additional layer of othering.




Rogue drivers, typical cyclists, and tragic pedestrians (PI Dr. David Fevyer – critical discourse analysis of media texts)

Evening Standard

VIDEO ON ES LOG IN

NEWS SPORT BUSINESS ES MONEY CULTURE INSIDER THE ESCAPIST THE MORE

Pedestrian is killed crossing west London road 'plagued by boy racers'



The crumpled Mazda at the scene of the crash last night. / Supplied by witness via ES reporter Josh Pettitt

By Josh Pettitt | 18 May 2015

A pedestrian trying to cross a road in west London has died after being hit by a sports car.

Headline: Pedestrian is killed crossing west London road 'plagued by boy racers'

Body:

A pedestrian trying to cross a road in west London has died after being hit by a sports car.

Residents along the Great Western Road, Brentford, today described hearing a "loud thud" as a Mazda MX-5 collided with a pedestrian trying to cross the six-lane road yesterday just before 10pm.

Paramedics worked on the stricken man for up to half an hour, but he was pronounced dead at the scene between Gillette Corner and Wood Lane.

Witnesses said the driver of the two-seater convertible, which was badly damaged in the collision, appeared to be shaken and too upset to speak at the roadside.

Pass	Textual Indicators	Social Actors	Themes/Discourses Associated with SA in this category/element
1 – Who is present and who is absent?		Pedestrian – Not Excluded Explicitly referred to in relation to collision related actions in 2 sentences:	
Exclusion Type: Objective Indicators: Oppositional Measure: Radically Excluded/Partially Excluded/Not excluded	Radical – Implied SA not referred to at all Partial – SA backgrounded, referral separate from action	Car Driver – Partial (Backgrounded – slightly contradictory) Referral in 3 sentences, largely separate from collision action ('shaken' x2, arrested x1) In one of the 'driver shaken' sentences, the 'collision' itself is also referred to, but in a subordinate clause in relation to the car the SA was driving rather than to the SA. "Arrested" sentence denotes presence more...	SA roles Contradictory. SA excluded from clear reference to collision action, whilst also appearing as a kind of 'second passenger' in the 'shaken' sentence.

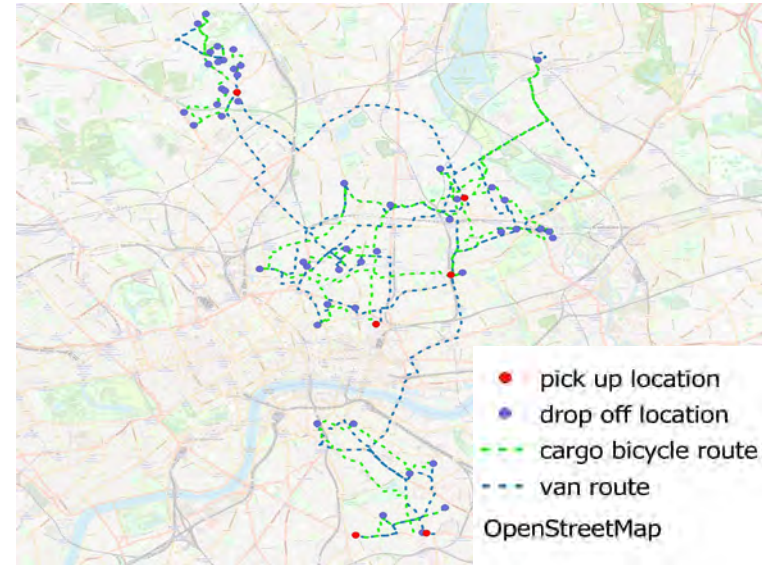
The promise of low-carbon freight (PI Ersilia Verlinghieri, follow-on funding from IOUH)

A Pedal Me freight cycle was on average 1.6 times faster than a van in Inner London

Over 98 days of work sampled, Pedal Me helped save a total of **3,896 Kg of CO₂** and **over 5.5 kg of NO_x**

If this type of service replaced 10% of van-Km currently driven in London would mean saving **133.3 million Kg of CO₂** and **190.4 thousand Kg of NO_x** per year

10% less van km means freeing a total of **384,000 sqm of public space** normally occupied by parked vans, as well as **16,980 hours of vehicle traffic per day**.





Spotlight on six years of a longitudinal survey looking at impacts of active travel interventions in Outer London

Based on research led by Rachel Aldred with Dr. Anna Goodman and Dr. Jamie Furlong, funded by TfL (5 of 6 waves)

Very unusual to have five years follow-up! Meant that we were able to adapt the analysis to look at impacts of low traffic neighbourhoods specifically, after they became of strong policy interest a few years ago.



Transforming cycling in outer boroughs: Mini-Hollands programme

- [What is the Mini-Holland programme?](#)
- [Enfield](#)
- [Kingston](#)
- [Waltham Forest](#)

What is the Mini-Holland programme?

The Mini-Hollands programme is part of the Mayor's [Healthy Streets approach](#). Substantial investment – around £100 million – is helping three outer London boroughs transform into cycling hubs, equipped with high specification Dutch-style infrastructure. Changes include redesigned junctions that are safer for cyclists and pedestrians, segregated cycle lanes on busy roads and reductions in the amount of traffic using residential streets.



Transport Strategy 2018

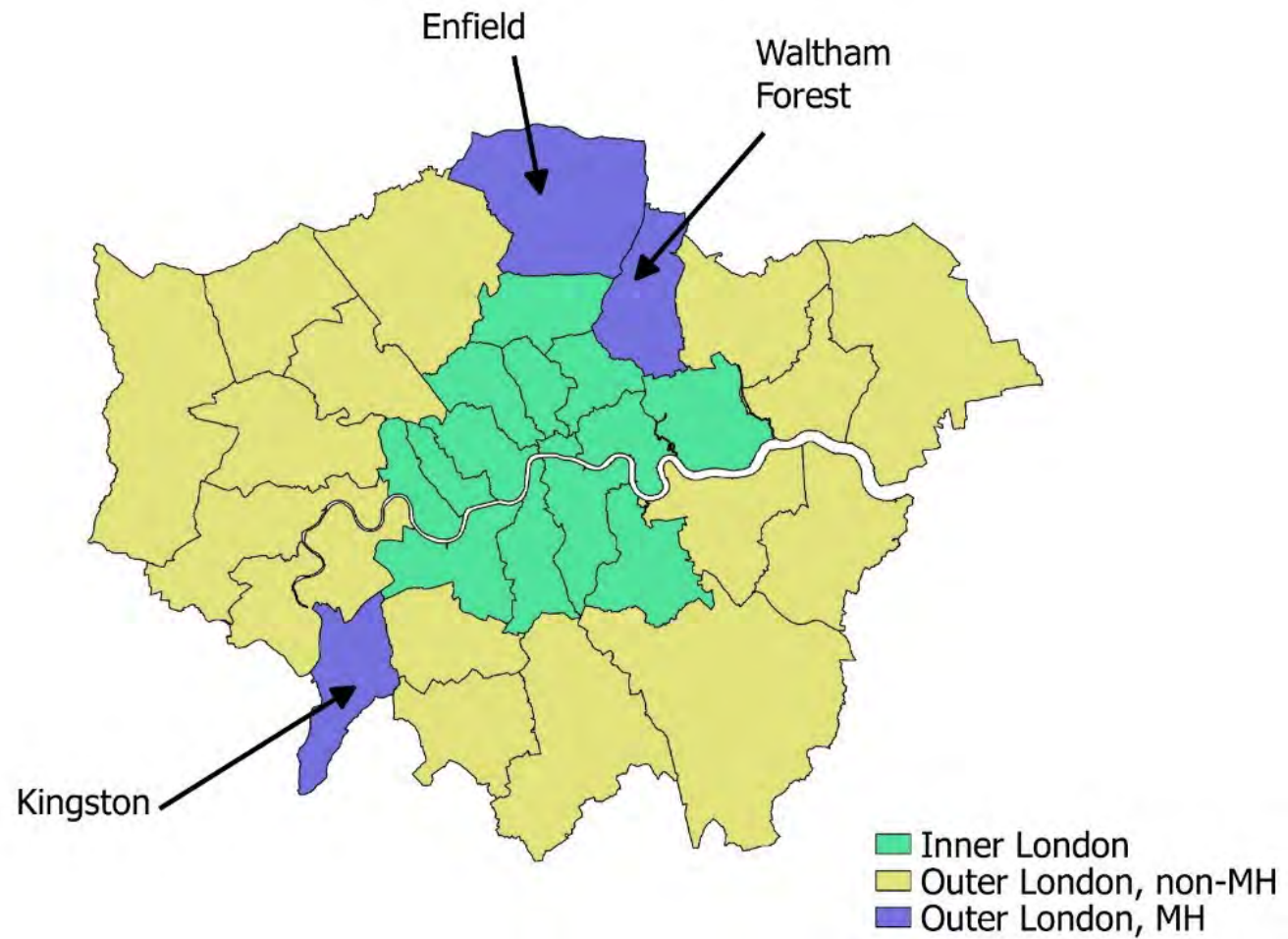
The Mayor's Transport Strategy – a vision for transport covering the next two decades – is now published.



Cycle safety

Road safety concern is the greatest barrier to people cycling in London. Read our plans to make London's roads safer.

LOCATION OF MINI-HOLLAND BOROUGHES



THE PEOPLE AND PLACES SURVEY

Uses a 'natural experiment' approach to examine whether and how proximity to active travel interventions is associated with changes in travel behaviour and attitudes, and change in attitudes to the local environment.

Research questions:

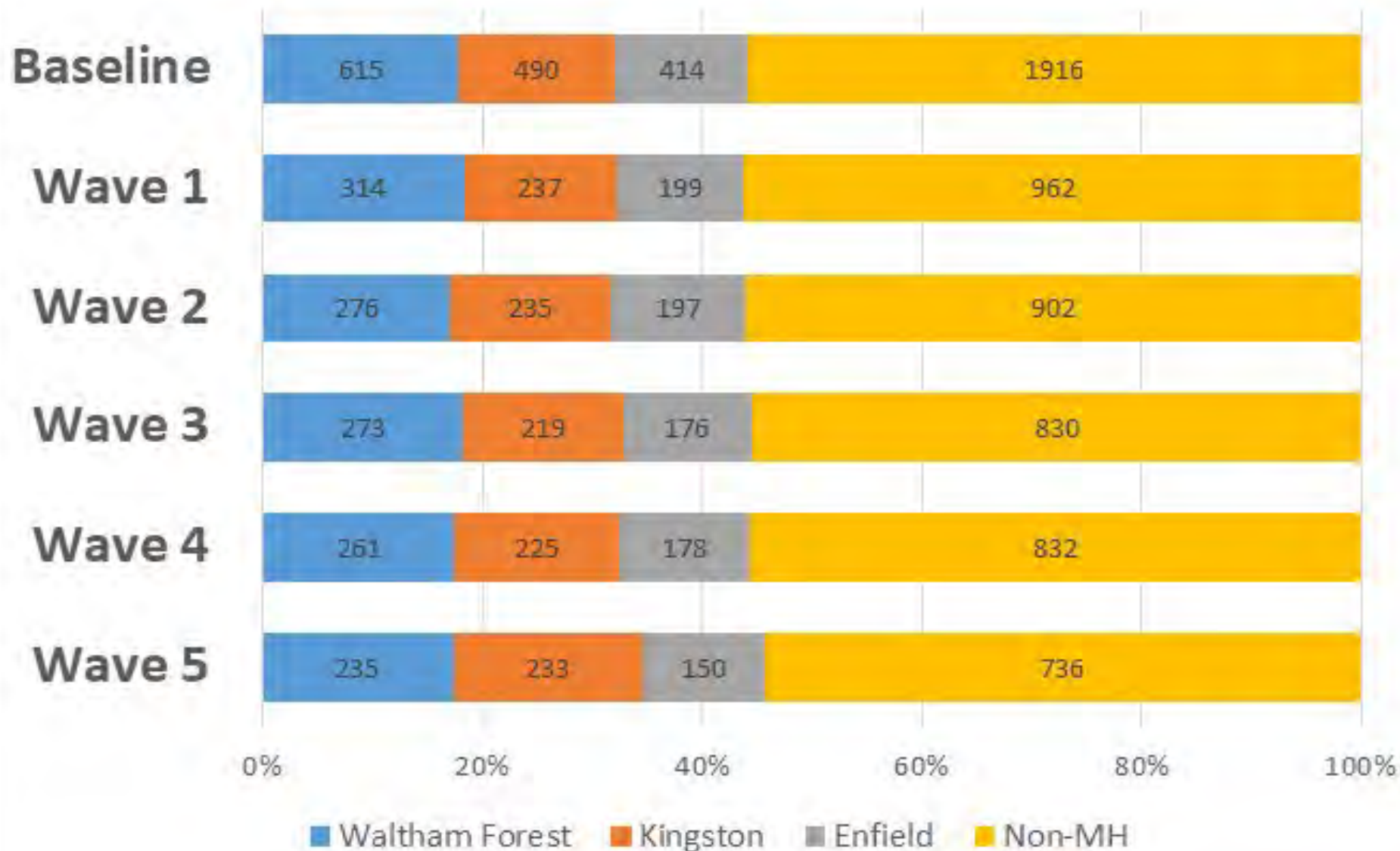
- Are active travel interventions associated with change in levels of cycling, walking, and car use?
- Are they associated with change in perceptions of local environmental quality?
- Are they associated with change in attitudes towards different transport modes?

Study funded by TfL and led by Westminster University

KEY COMPONENTS OF THE ONLINE SURVEY

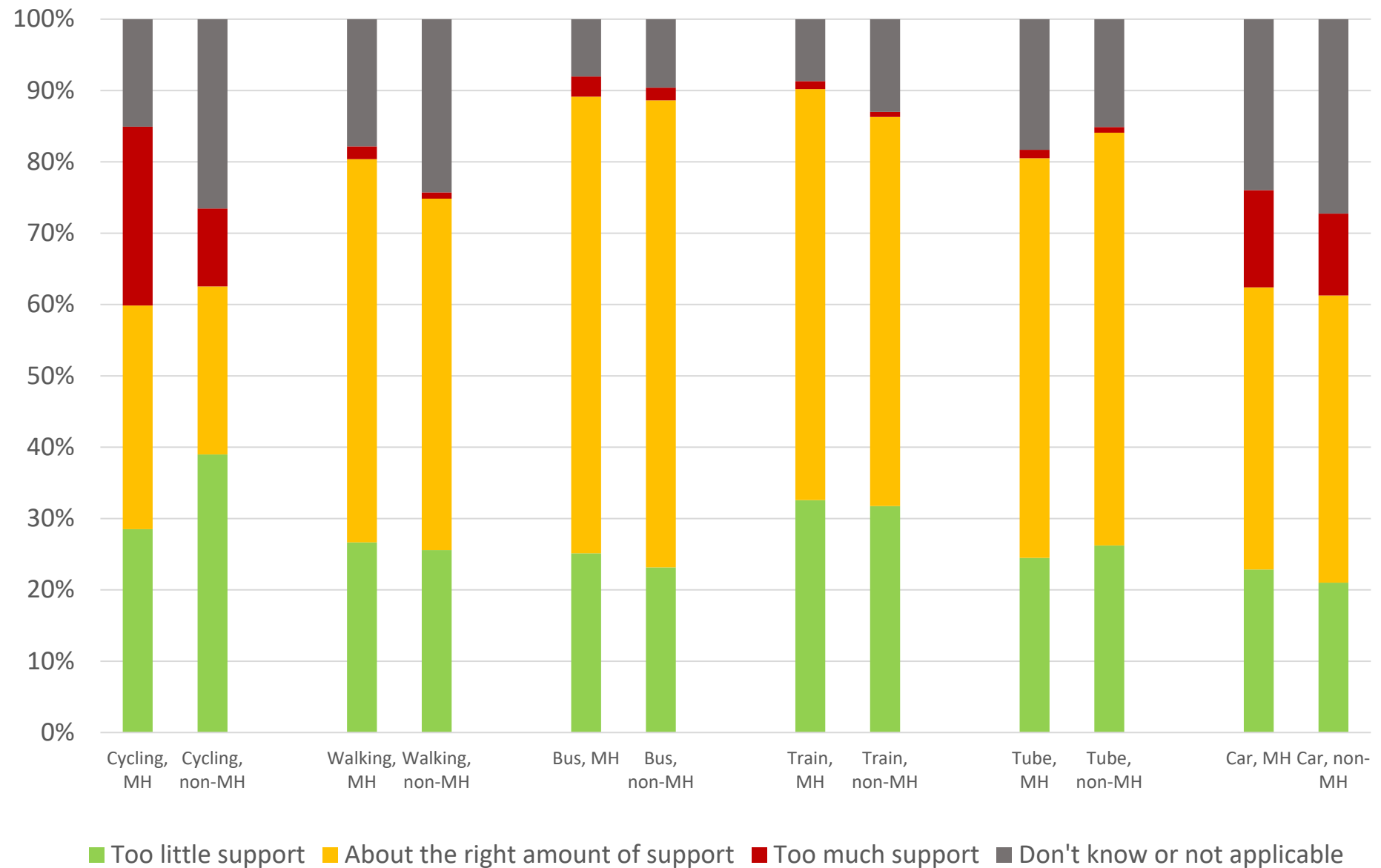
- Week travel diary (any use of different modes, plus time spent walking, cycling, or in a car/van)
 - Supplementary travel behaviour questions
 - Questions on perceptions of the local environment (derived from 'healthy streets' domains)
 - Questions on preferences for using different modes and views on investment/support
 - Demographic questions
-
- Compare change over time in control and intervention groups to isolate intervention impact.

COMPOSITION OF THE SURVEY SAMPLE BY BOROUGH

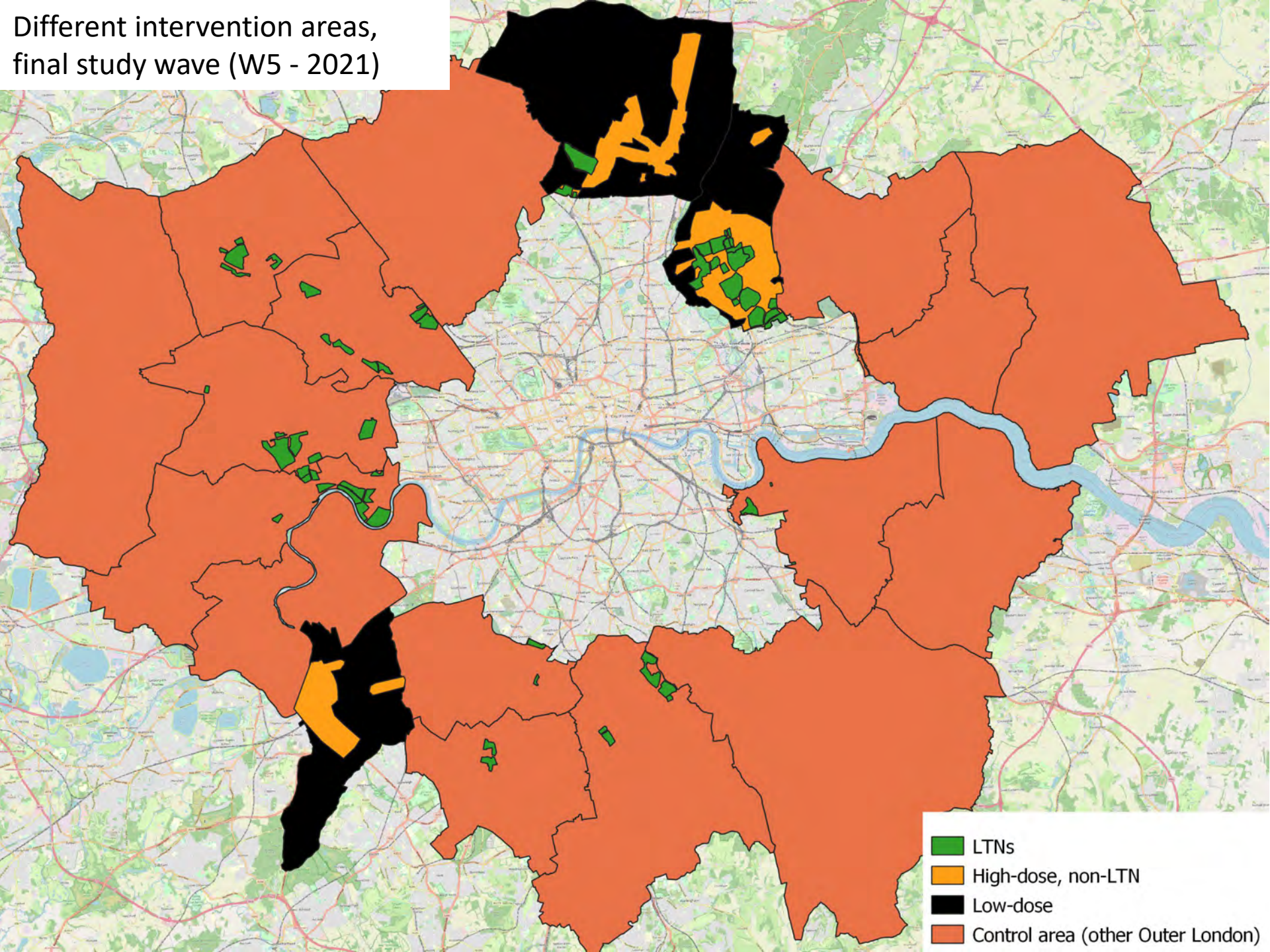


Reversed coded?	Item text	Sample mean (baseline)
	There are places to walk to, such as shops, restaurants, leisure facilities	0.91
Yes	Walking is unsafe because of the traffic	0.68
	My local area is pleasant for walking	0.63
Yes	The area is unsafe because of the level of crime or antisocial behaviour	0.53
	There are enough safe places to cross roads	0.36
	There are good quality pavements for walking	0.25
	My local area has enough places to stop and rest outdoors	0.06
	There are special lanes, routes or paths for cycling	0.00
	My local area is pleasant for cycling	-0.06
	I regularly stop and talk with people in my local area	-0.10
	The area has enough shade or shelter from the weather	-0.22
Yes	Air pollution caused by motor traffic is a problem in my area	-0.27
	My local area is safe for an 8-year-old child to walk alone	-0.30
Yes	Cycling is unsafe because of the traffic	-0.50
	My local area is safe for an 8-year-old child to cycle	-0.76

ATTITUDES TO INSTITUTIONAL SUPPORT (BY LA/TfL) FOR DIFFERENT MODES, AT BASELINE



Different intervention areas,
final study wave (W5 - 2021)





Pics: Joseph Croft (top), We Support Waltham Forest Mini-Holland (bottom)

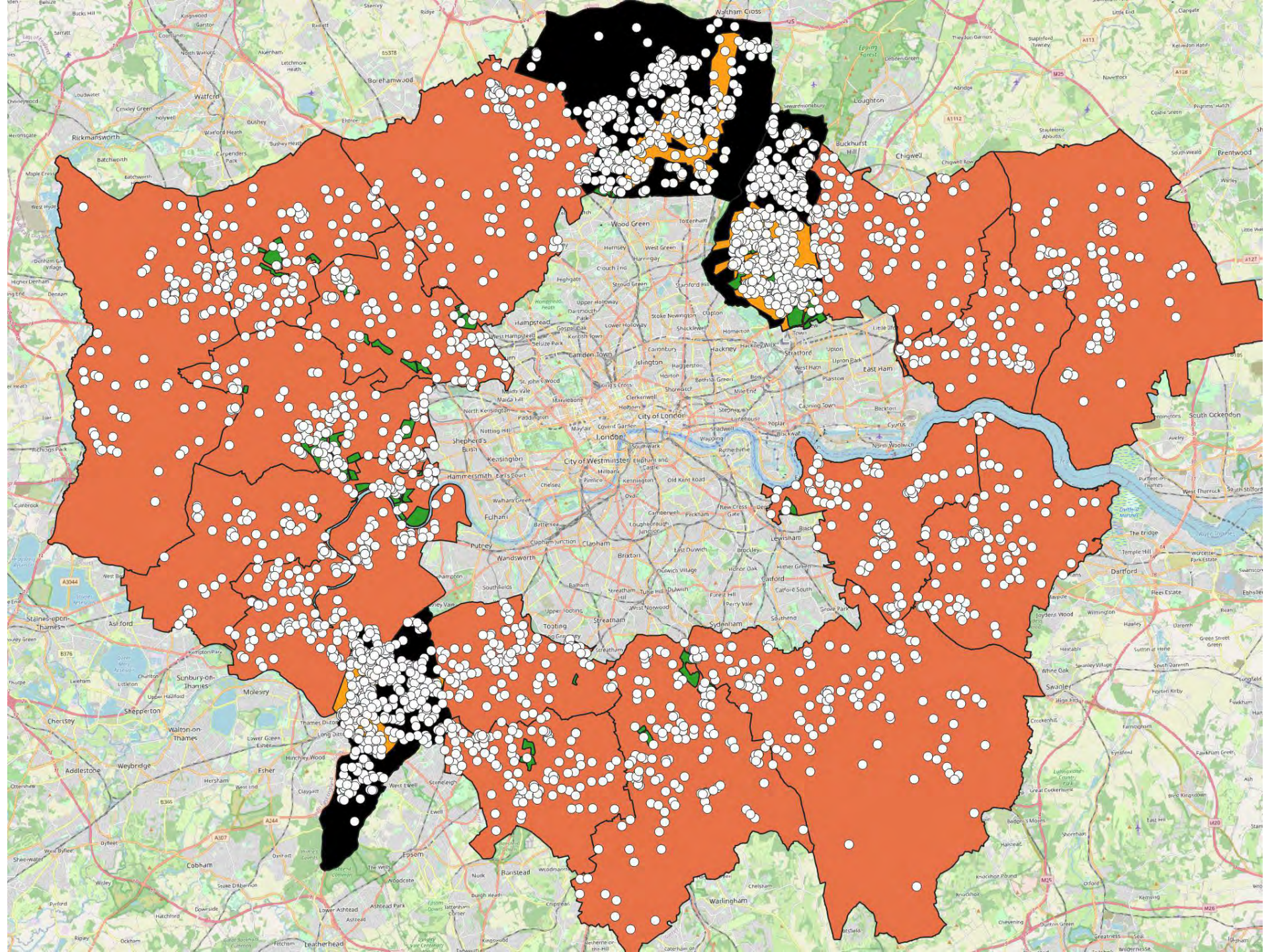
Figure 5.26 Example of a filtered permeability scheme at a junction in Blackhorse Village, Waltham Forest – before and after.



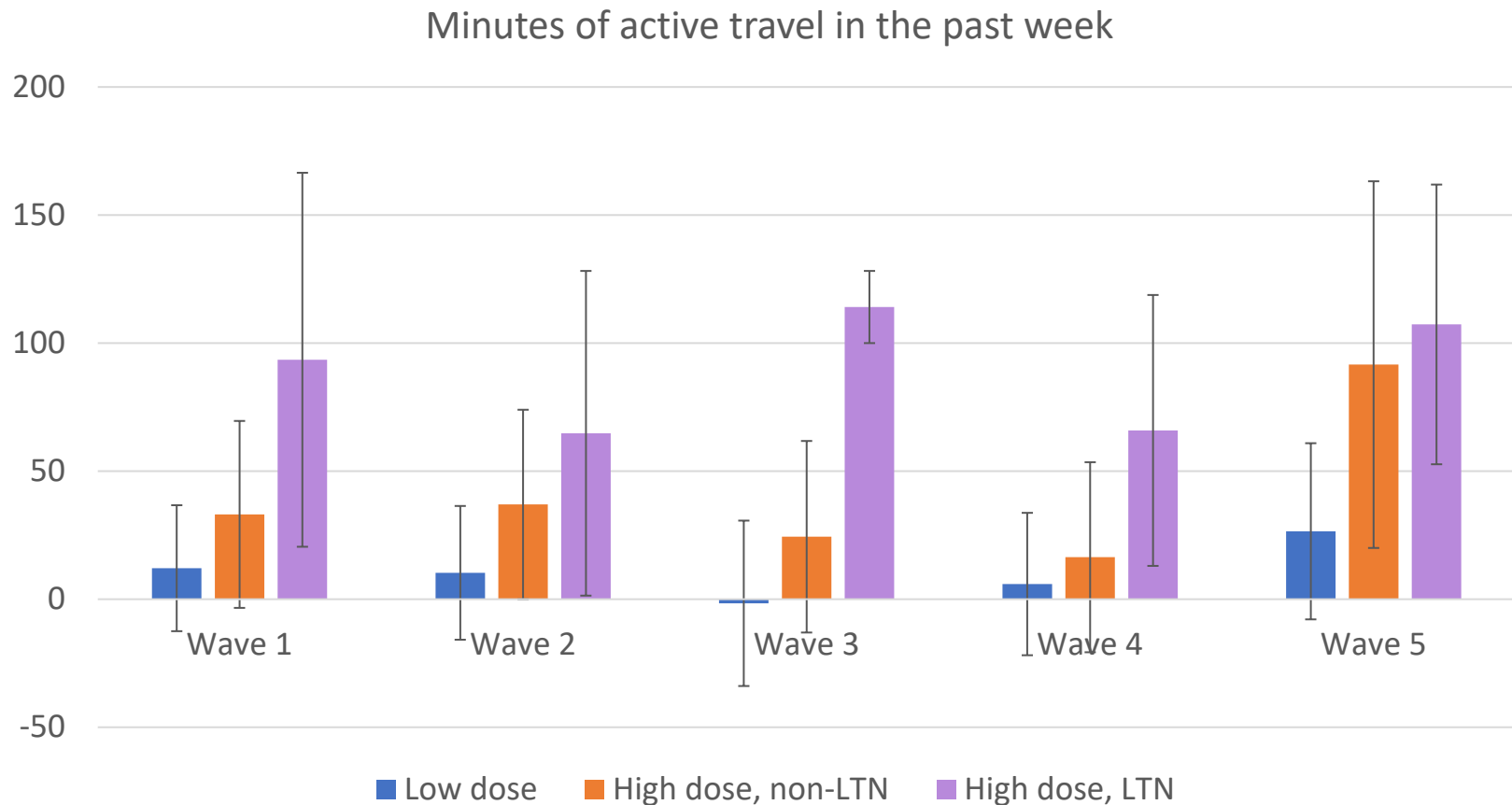
Source: Waltham Forest borough.



‘Emergency’ LTN filter in Hackney

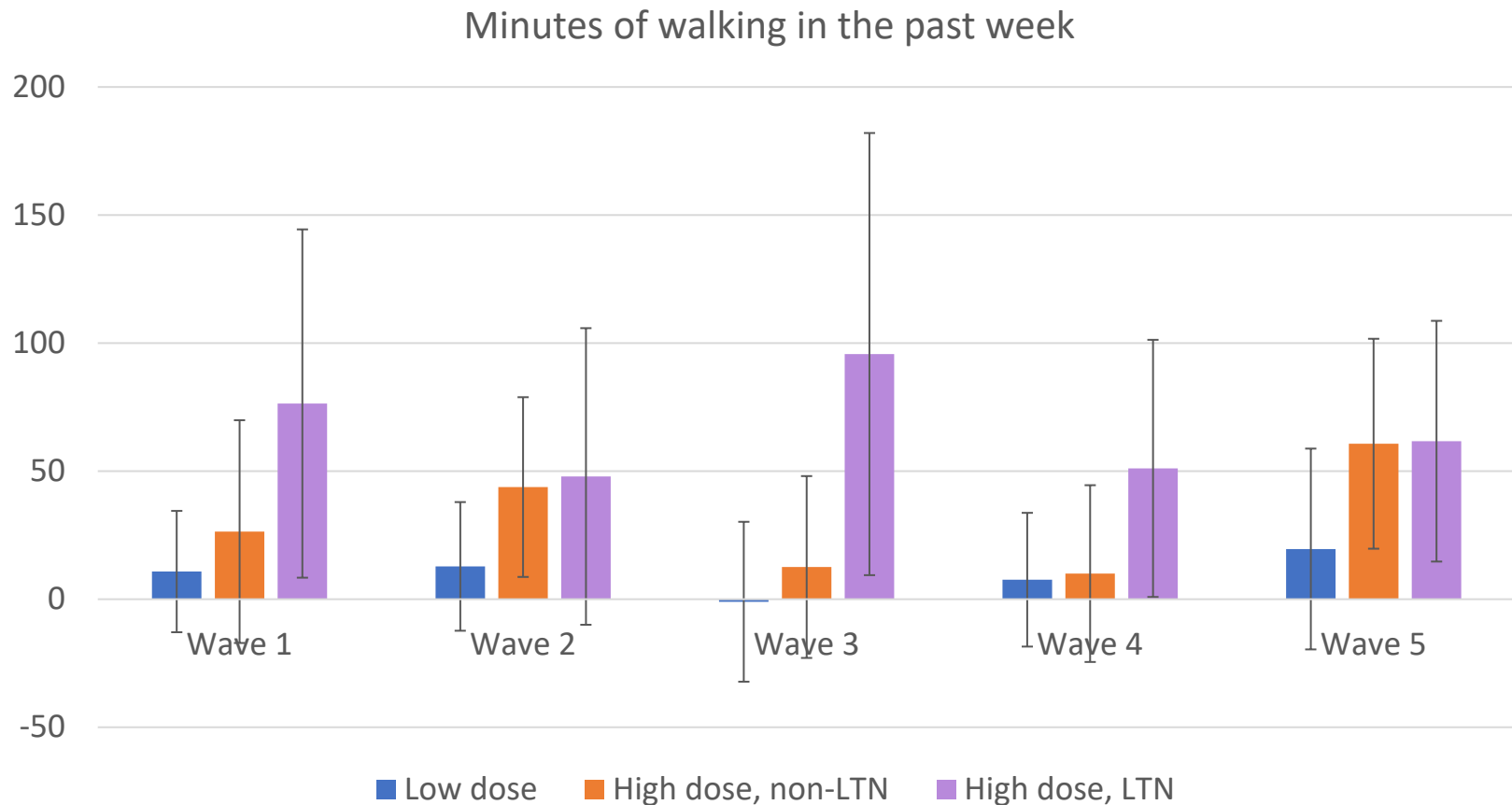


Amount of Active Travel, all waves



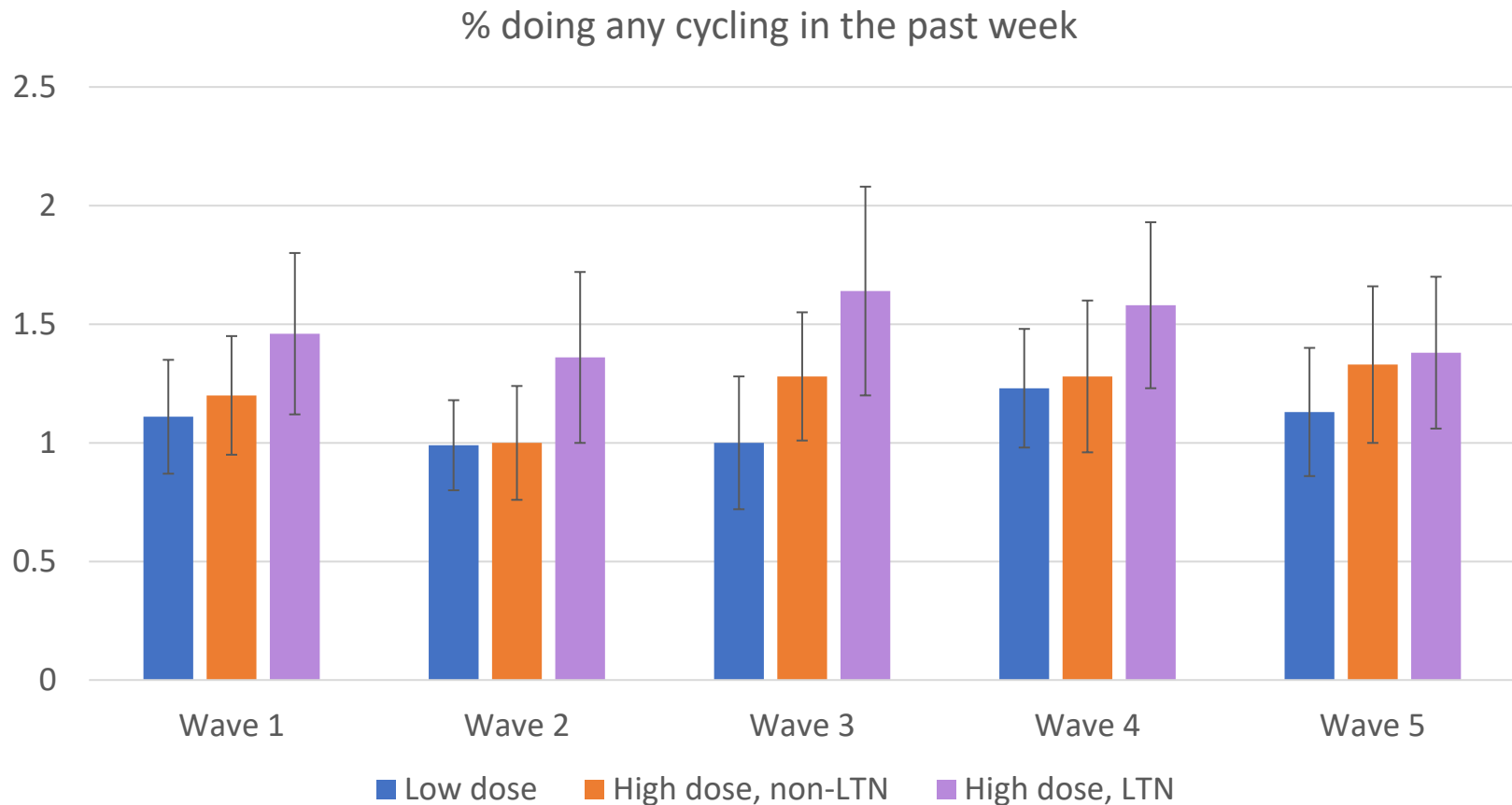
Zero = level of change in control group (95% confidence intervals)

Amount of Walking, all waves



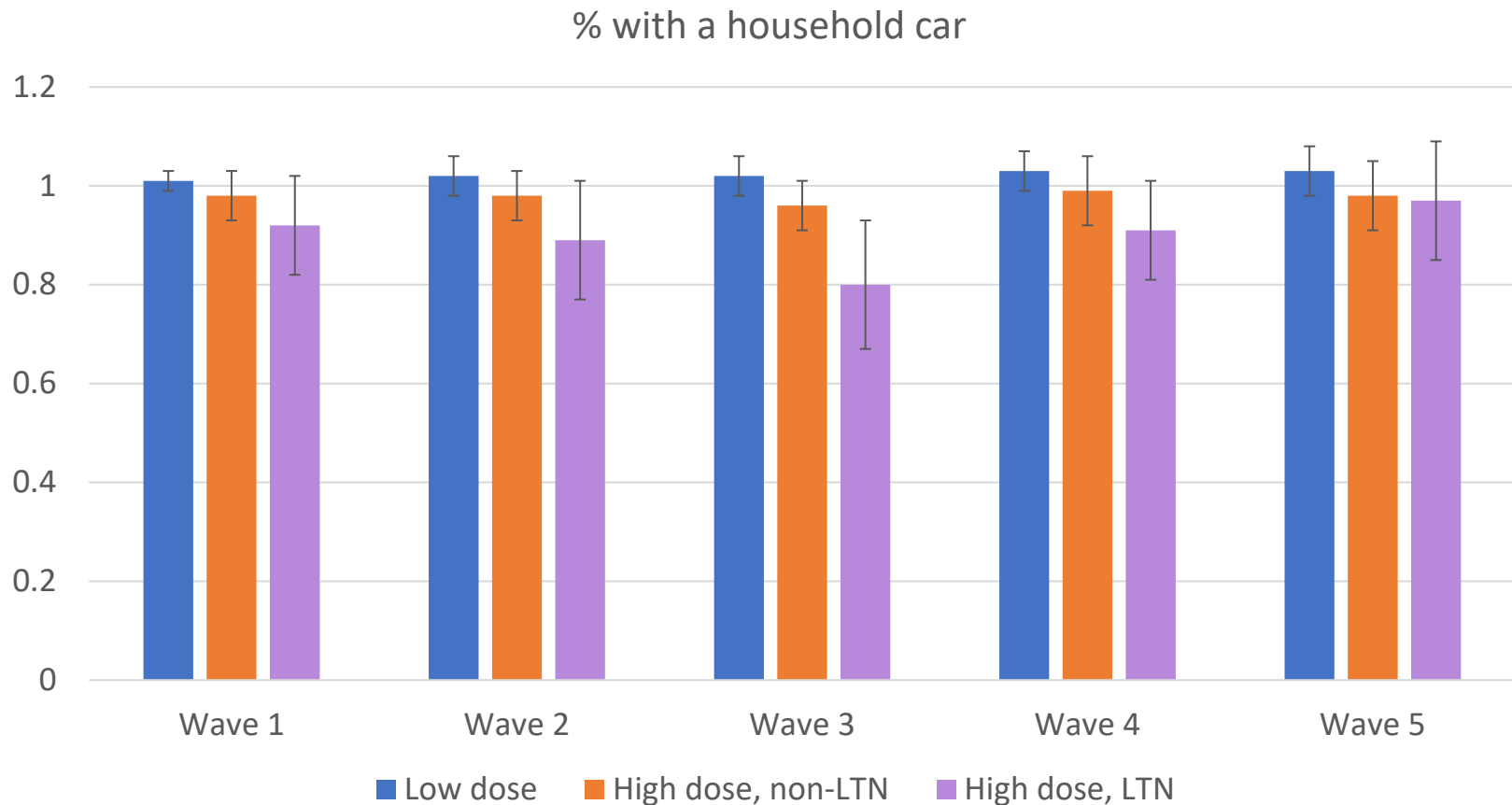
Zero = level of change in control group (95% confidence intervals)

Cycling Participation, all waves



1.0 = level of change in control group (95% confidence intervals)

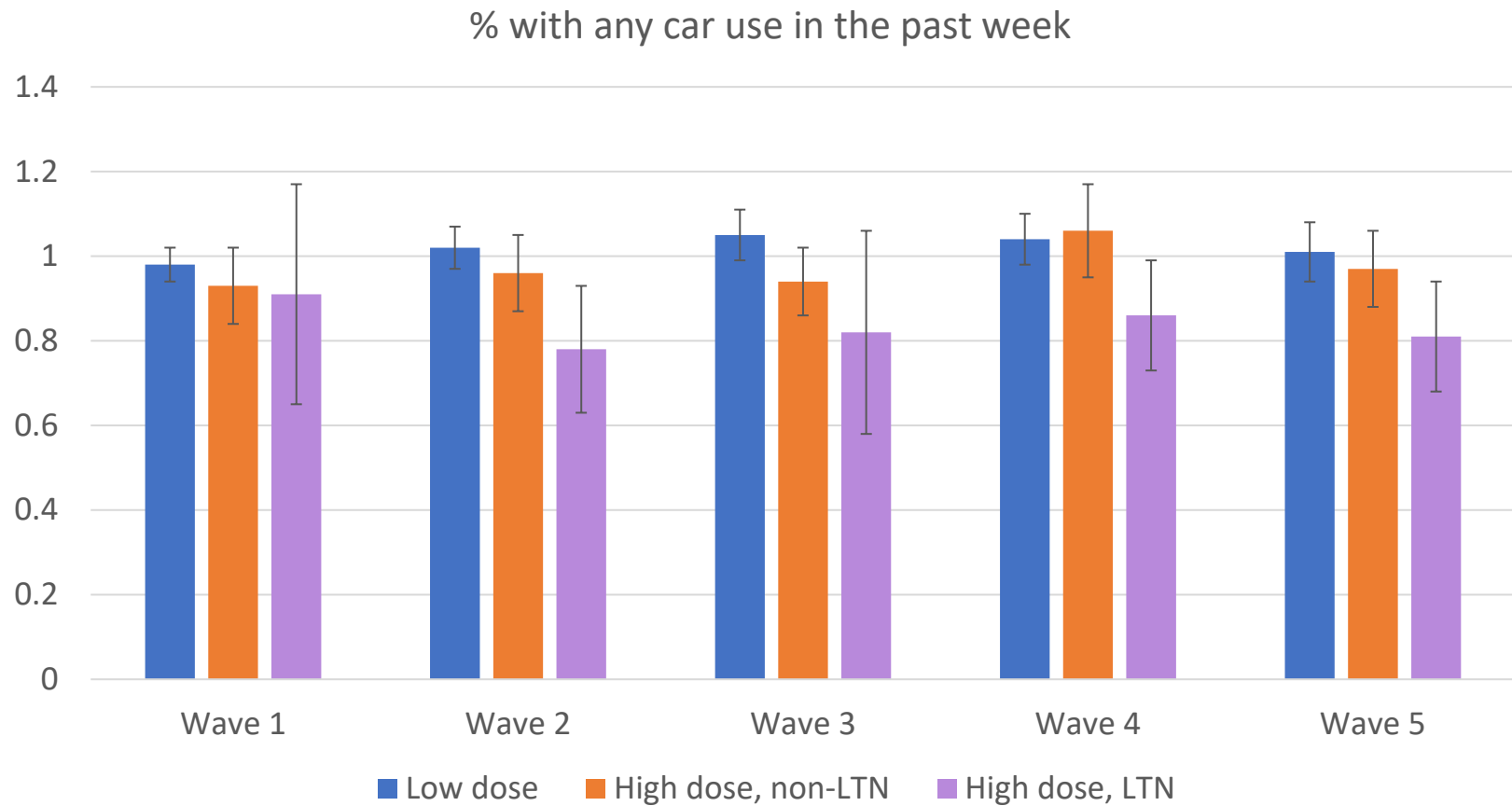
Car Ownership, all waves



See also Goodman, Urban, and Aldred, 2020. The Impact of Low Traffic Neighbourhoods and Other Active Travel Interventions on Vehicle Ownership: Findings from the Outer London Mini-Holland Programme. *Findings*.

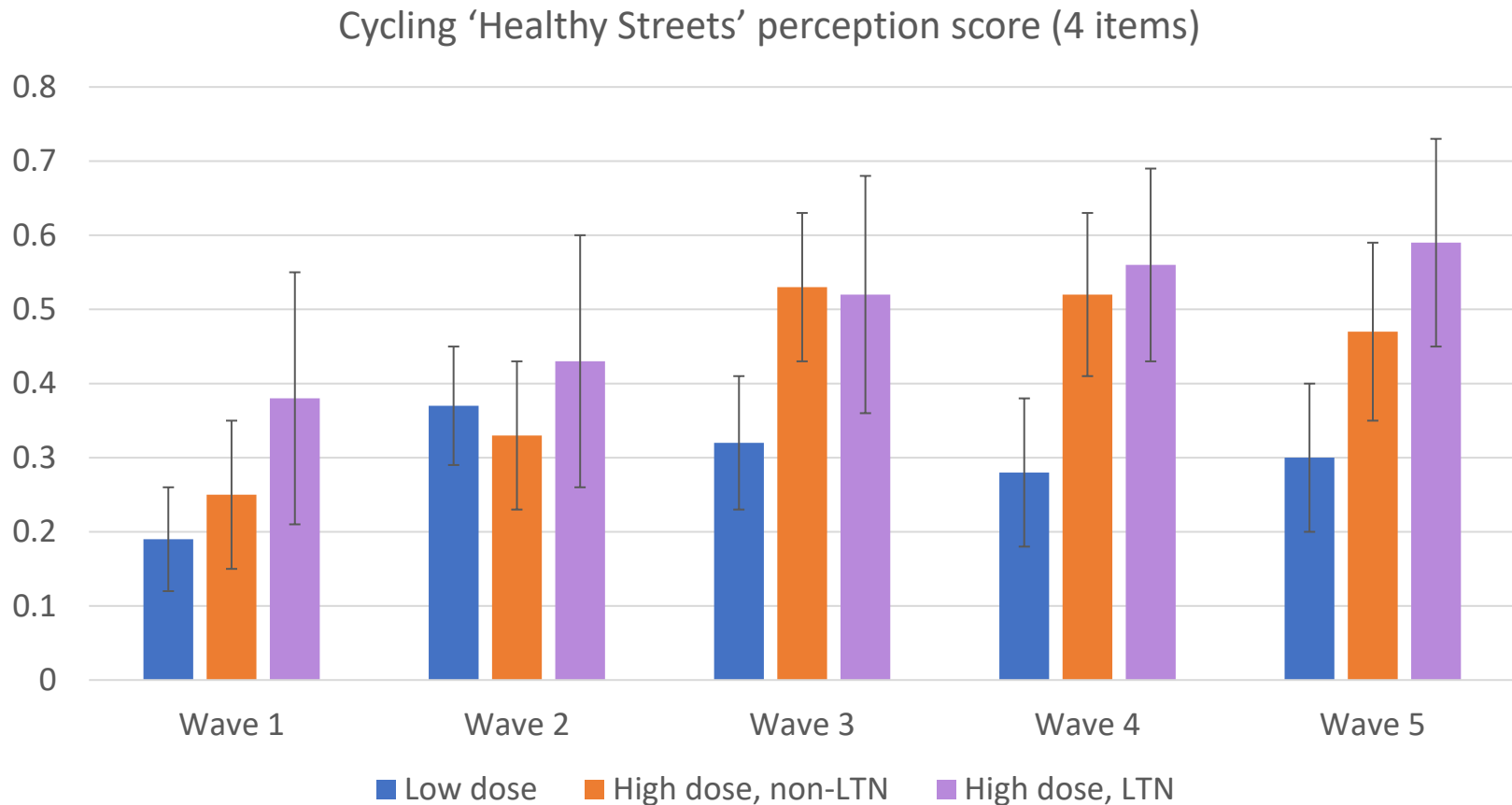
<https://doi.org/10.32866/001c.18200> (uses DVLA data which is better powered to detect impacts)

Any Car Use, all waves



1.0 = level of change in control group (95% confidence intervals)

Change in cycling perceptions, all waves



Zero = level of change in control group (95% confidence intervals)

PEOPLE & PLACES: KEY LESSONS



For travel behaviour, it is actual schemes that make a difference.



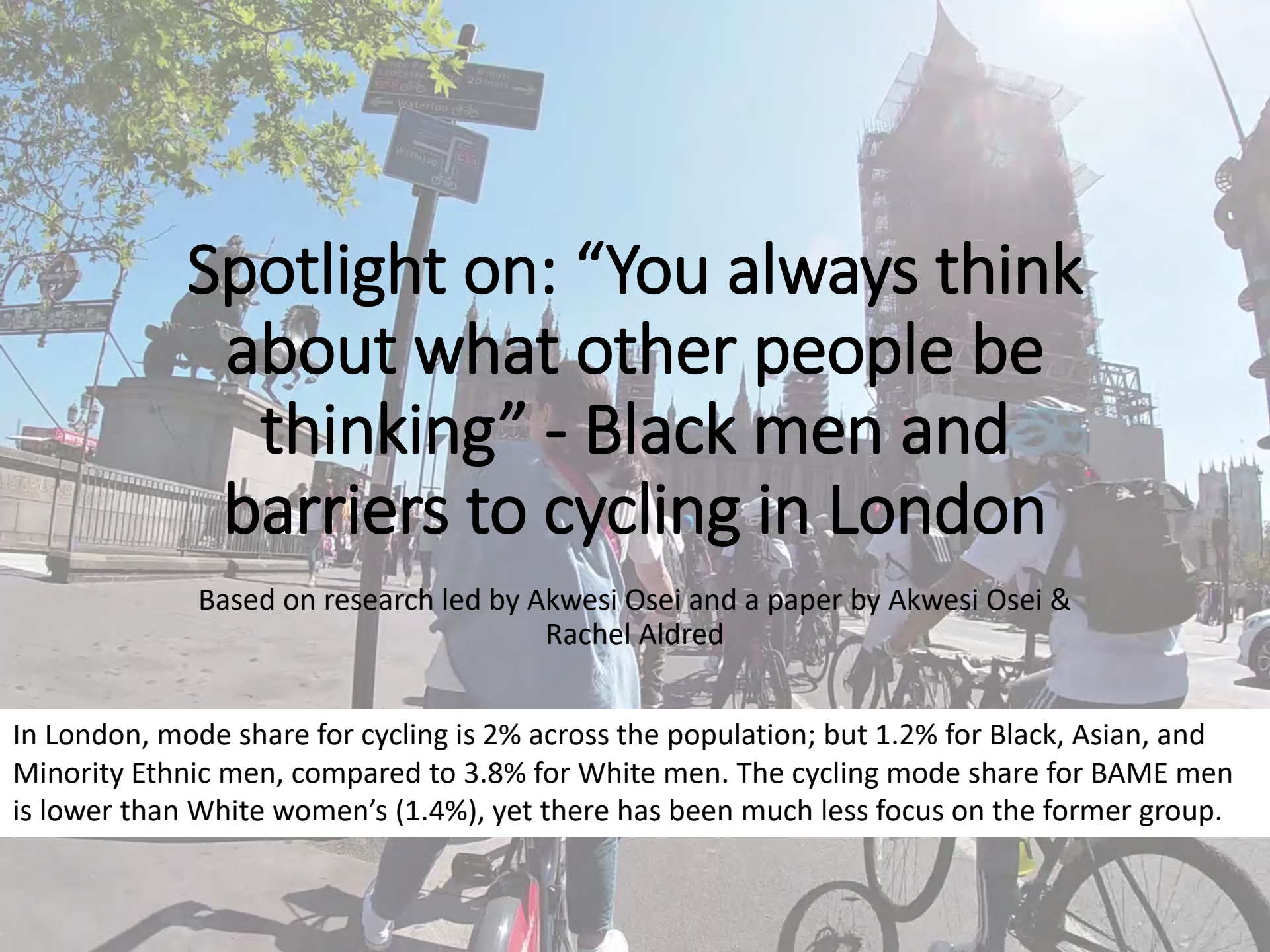
There is a mismatch between scheme impacts and perception (& attitudinal impacts less tied to scheme area than behavioural impacts).



Schemes are controversial (not just in the actual scheme area) but this can decline over time.



Monitoring and evaluation are crucial.



Spotlight on: “You always think about what other people be thinking” - Black men and barriers to cycling in London

Based on research led by Akwesi Osei and a paper by Akwesi Osei & Rachel Aldred

In London, mode share for cycling is 2% across the population; but 1.2% for Black, Asian, and Minority Ethnic men, compared to 3.8% for White men. The cycling mode share for BAME men is lower than White women's (1.4%), yet there has been much less focus on the former group.

Study Methods

Akwesi Osei conducted all interviews in Summer 2021 & led analysis

Qualitative & exploratory approach – ten qualitative interviews & one focus group

Sample: Black or mixed Black men living in Greater London & aged 18-64

Mix of cycling levels/experience

Iterative thematic coding

Findings 1

‘A white man’s thing to do’?

Status, class and affordability

“If you're from a community that's traditionally marginalised or you know you [grew] up like on a council estate, being able to show that you've got through and you've got a bit of status, you can't attach that same status to having a bike.” (Chris)

“I didn't know what the Cycle to Work scheme was...none of my Black friends have used the Cycle to Work scheme. I'm the one that's now trying to tell them.” (David)

“If you had like the top end of a mountain bike or hybrid bike, then like you've probably stolen that, or you use it to sell drugs or stuff like that? Because that's not what the average person could afford, especially in the Black community.” (Tion)

Findings 2

‘Every time you hear a police siren, you think it's for you’:
Stop and Search

“I was actually around my own area, they were like “we’ve seen you cycling around here quite a few times, it is quite suspicious”. I was like I live here... I live down the road. And yeah, it was very vexing, it was very vexing. Ridiculous, wasting my time. Ruined my bike ride.” (Brandon)

“It's not necessarily because you're on a bike, it's just because you're Black and you're doing something in public space.” (Chris)

“When police see like a big group they think these guys are up to trouble or something. That's the main issue. Like we’re literally just trying to enjoy the sun like everyone else. I think gender is a massive thing as well, definitely. I think 4 guys are definitely different to me being the only guy and three other girls. [...] 4 guys they definitely stop us.” (Tinashe)

Findings 3

‘I just feel a bit more disposable’: Racism in wider society

“A couple of times, I've been on a commute, and I've sort of suffered a bit of abuse, either from drivers or other cyclists. And, you know, there have been some racial slurs slung at me as well. It's happened quite a few times. It tends to be sort of van drivers who, as they're driving past, say something out their window.” (Damon)

“I just feel a bit more disposable. I feel like people see us as a bit more disposable whilst on the bikes, that there is less care for our concern.” (David)

“If I was to cycle down to Chelsea or some shit like that...it wouldn't be comfortable. I wouldn't be anyway... 'cause you know what? You know, how people kind of look at you init. “You come over here from whatever ends to deal drugs, to do this, that and the third”. You always think about what other people be thinking.” (Brandon)

Findings 4

‘All you see is
White men and
White women
cycling’:
Representation
and Invisibility

“so we're cycling in the same area and everyone noticed. And these White women were like, “well, there goes one there goes another one”... It's usually White [people cycling], especially in my area... or a few Asians, so to see 10 Black men cycling together like that, it was a bit of a “ohhhh”, yeah I mean so a shock maybe for them...I didn't care to be honest.” (Chris)

“I didn't feel comfortable joining a group near to me because of that perception of white middle-aged men in lycra on expensive bikes. So I joined a club or a network of riders, who kind of looked like me. And that made me a little bit more comfortable.” (George)

“You could be waiting for a bus and see a Black cyclist commuting to work. You know? I mean, when I was growing up that wasn't really a thing either. I don't think it was anyway. So I think that's really helpful.” (Daniel)

Findings 5

Infrastructure
and Culture:
“it made me
think [...] that's actually
a viable
option”

“Ride to work schemes, and an expansion of bike lanes into Tottenham, actually made me consider riding to Canary Wharf, which is something I wouldn't normally consider. Because it's riding on the road, and as confident as a rider I am, I am not comfortable riding on the road because it feels dangerous.” (Ben)

“I do think that the infrastructure isn't there where most Black people are.” (Chizi)

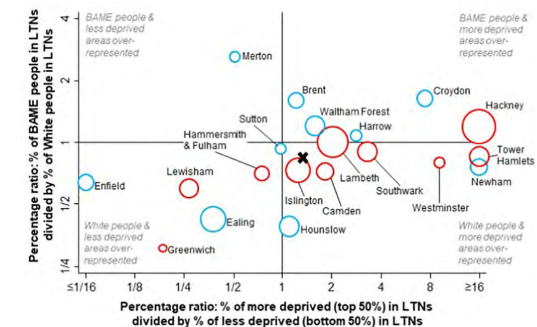
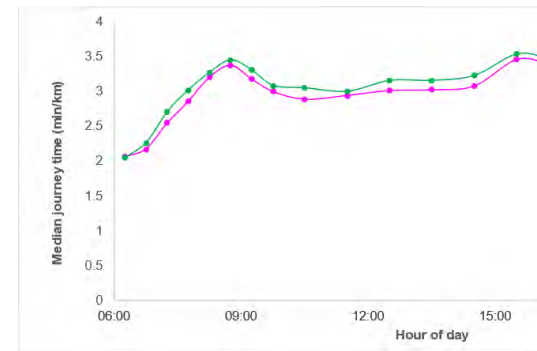
“Going to Enfield, I think that's probably the predominant thing I could say that [cyclists are] mainly White and very male. But when I used to cycle the other way, it was a bit more diverse, especially Walthamstow. You know there's a cycling group here that works with Muslim women and they'll go out on cycle rides and there'll be 20 of them all in hijabs.” (Chris)

Summary

- ‘A pervasive sense of being doubly ‘disposable’, as cyclists in a cycling-hostile system and as Black men within a racist system.’
- Direct and indirect discrimination/exclusion, e.g. overt harassment versus spatial inequalities in infrastructure or access to secure bicycle storage
- Towards a Black cycling ecosystem?
 - “I think there needs to be a place where Black men can talk about cycling. Black men in groups love to talk. I love to talk, so yeah, I think if there was a way for, particularly a Black man on a bike who's keen on getting Black men to cycle to be in that space and [be] a part of the conversation.” (Daniel)

Upcoming challenges include...

- Qualitative GIS analysis.
- Analysing & communicating Google API data analysis.
- Building on interviews & attitudinal analysis to study distribution of bike infrastructure by diversity metrics etc.
- Systematically relating qual & quant data on active travel infrastructure.



From Google API to go-along interviews: mixing methods to understand active travel infrastructure, behaviour, and attitudes

Professor Rachel Aldred
Director, Active Travel Academy
University of Westminster