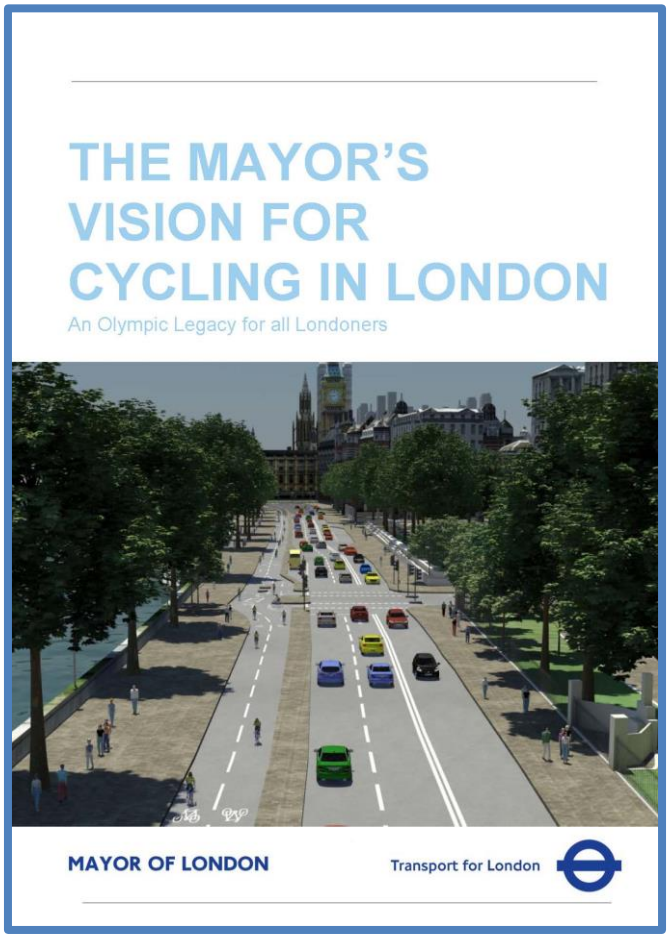
How Low Traffic neighbourhoods can reduce motor traffic and improve health

Professor Rachel Aldred
Active Travel Academy, University of Westminster
r.aldred@westminster.ac.uk
@RachelAldred

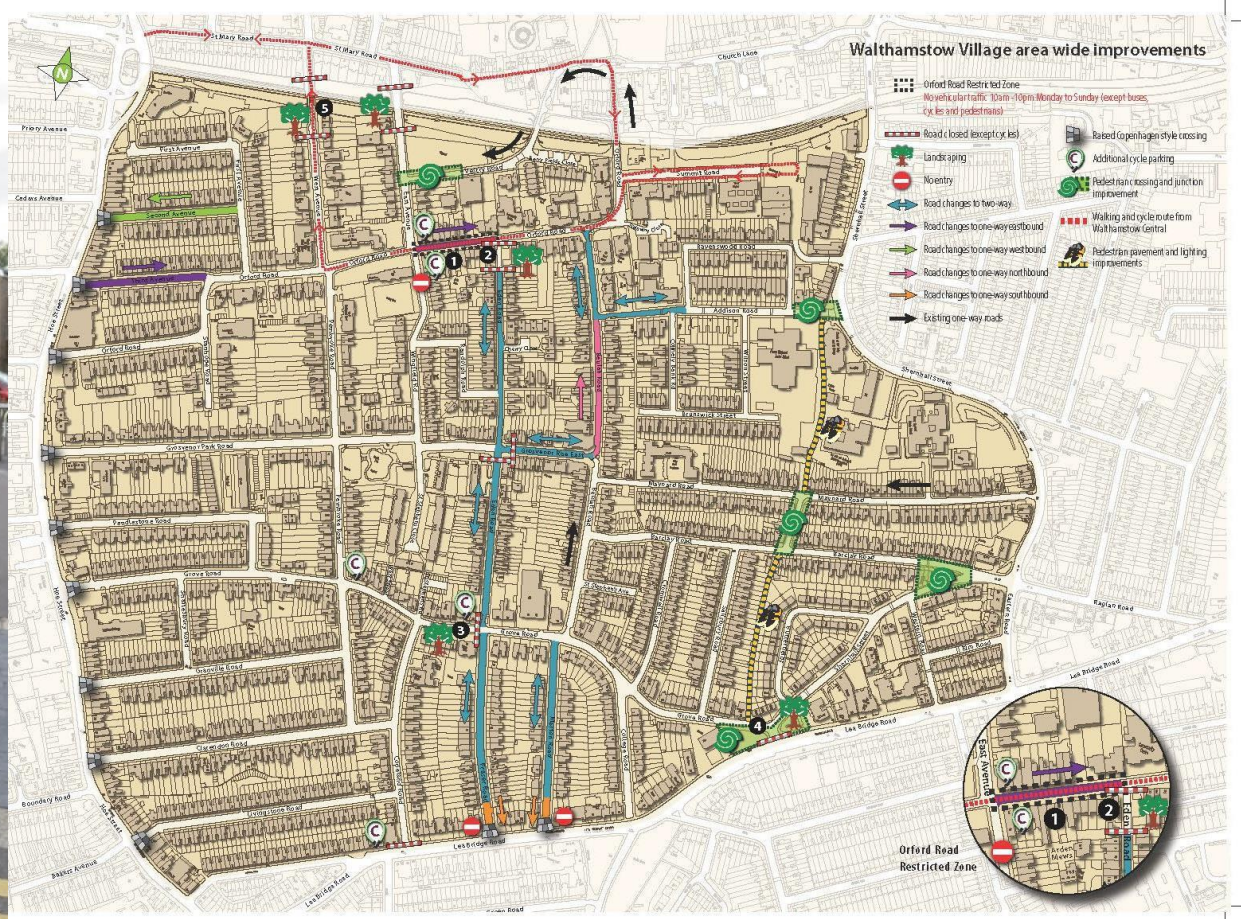
UNIVERSITY OF WESTMINSTER

ACTIVE TRAVEL ACADEMY

THE MAYOR'S VISION AND THE MINI-HOLLAND PROGRAMME



- Around £100m invested in active travel infrastructure in three Outer London boroughs from 2015-21
- Dutch-level investment per head over a period of 5-6 years
- Included Low Traffic Neighbourhoods, which were also built from 2020-elsewhere in London



LOW TRAFFIC NEIGHBOURHOODS: Schemes for areas

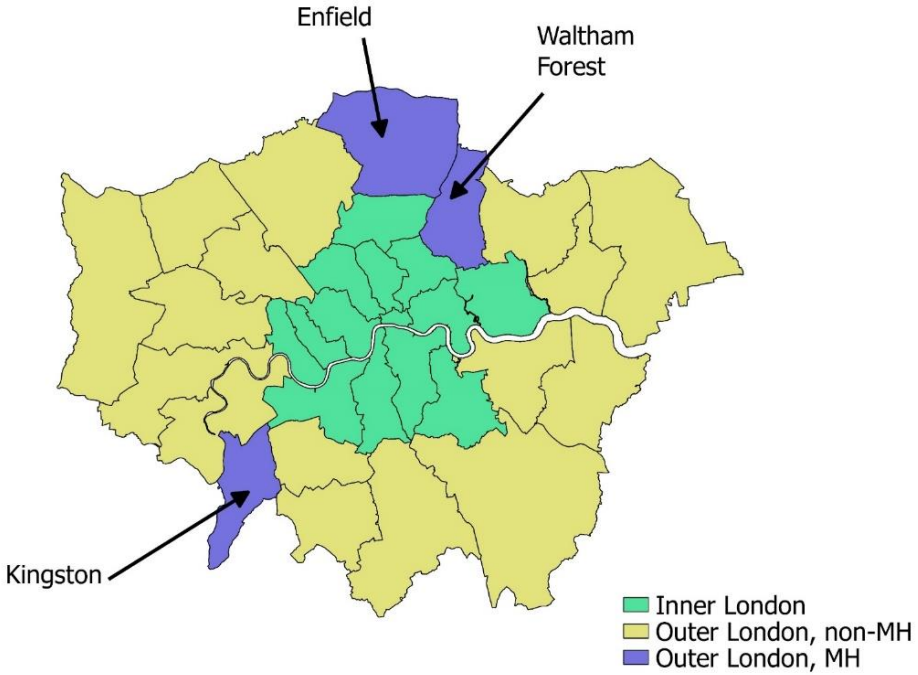
- ‘Modal filters’ block motor traffic but not walking/cycling, or other permitted uses (e.g. Blue Badge)
- Can be physical or camera gates, including bus gates
- Sometimes new one- or two-way working
- High streets can be included
- Aim to remove through motor traffic from neighbourhood


ORFORD RD

THE PEOPLE AND PLACES SURVEY (2016-21)

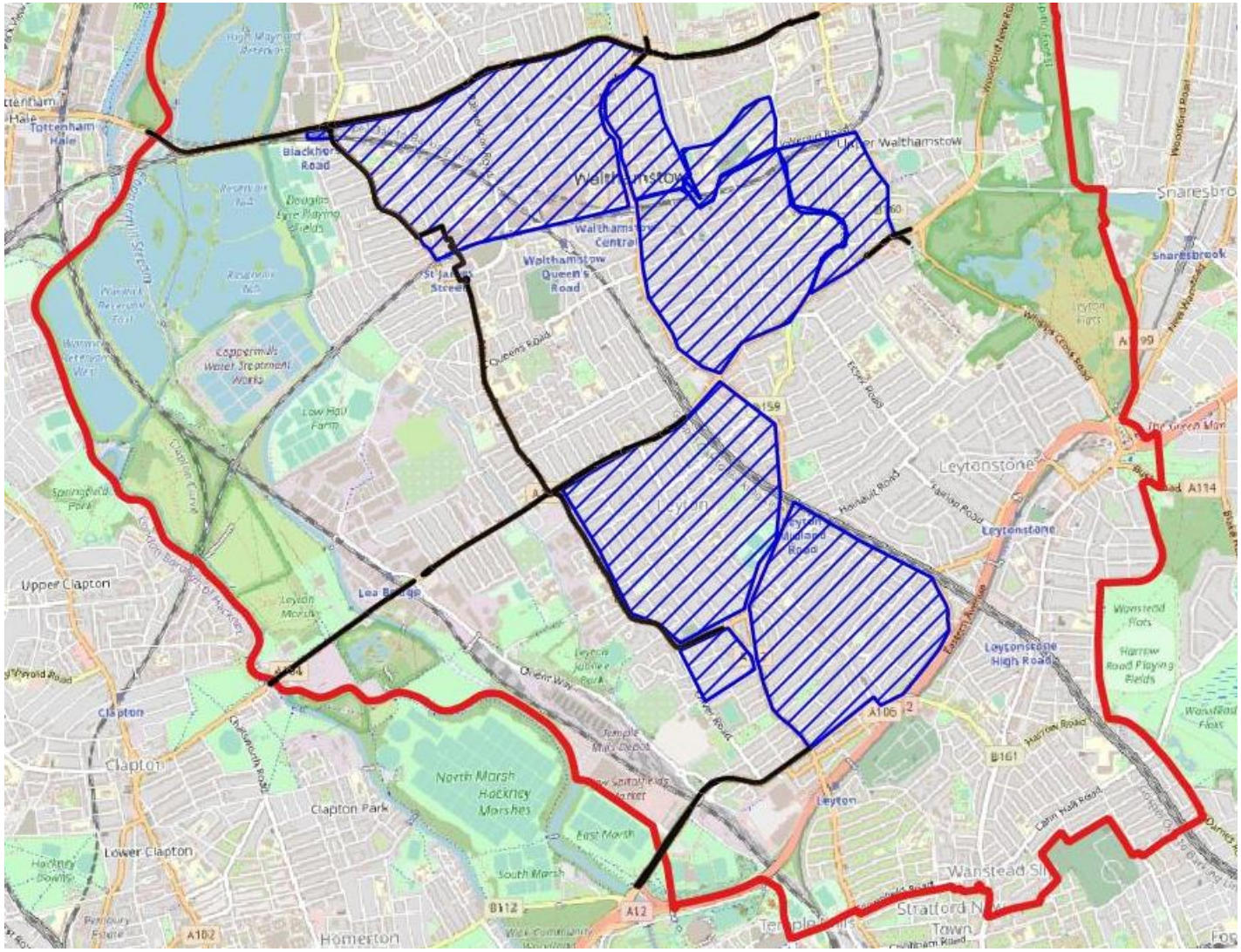
- **The main primary source for our LTN research.**
- **Longitudinal study with c.1500 Outer Londoners participating annually at each of Waves 1-5.**
- **Uses a 'natural experiment' approach to examine whether and how proximity to mini-Holland interventions is associated with changes in travel behaviour and attitudes and change in attitudes to the local environment.**

Study funded by TfL and led by Westminster University



Results published at most recently https://www.sciencedirect.com/science/article/pii/S2214140524000173 also e.g. https://www.sciencedirect.com/science/article/pii/S2214140520301626, https://findingspress.org/article/17128, https://findingspress.org/article/21390, https://www.sciencedirect.com/science/article/pii/S0965856417314866

LTNS IN WALTHAM FOREST: 2015-



- Map shows some of the LTNs introduced in the South of the borough (shaded in blue) and new cycle tracks (in black), part way through the study

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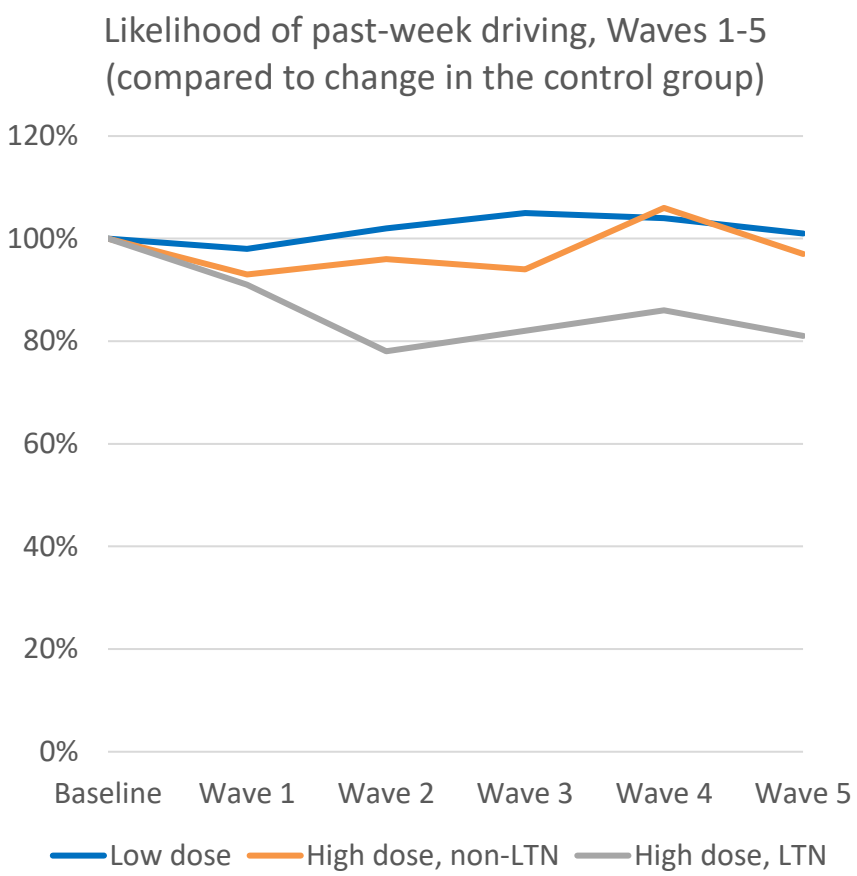
LTN AREAS SAW REDUCED LIKELIHOOD OF RESIDENTS DRIVING



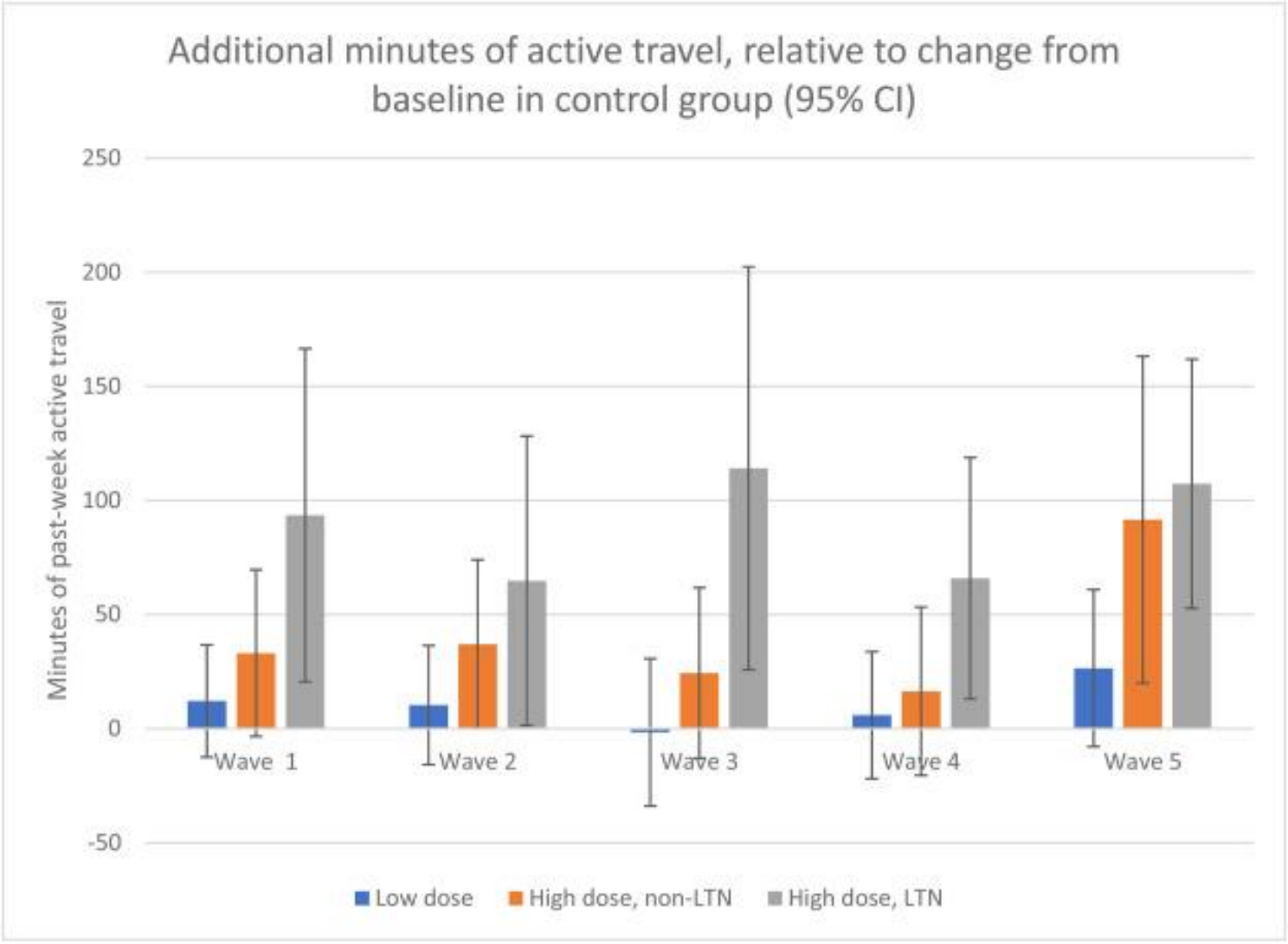
The People & Places survey data showed trends towards reduced car ownership and/or use in the LTN areas, especially at Wave 2 onwards, although not all trends are statistically significant every year.

The decline in past-week car use, for instance, is around 20% each year from Wave 2 onwards.

Definitions

Low-dose – MH borough but not near any schemes
High-dose, non-LTN – living near active travel scheme/s – such as a new cycle track - but not in an LTN
High-dose, LTN – living in an LTN (usually also near to other active travel schemes)
Changes are all compared to changes in control group in other Outer London boroughs

LTN AREAS SAW SUBSTANTIAL GROWTH IN ACTIVE TRAVEL



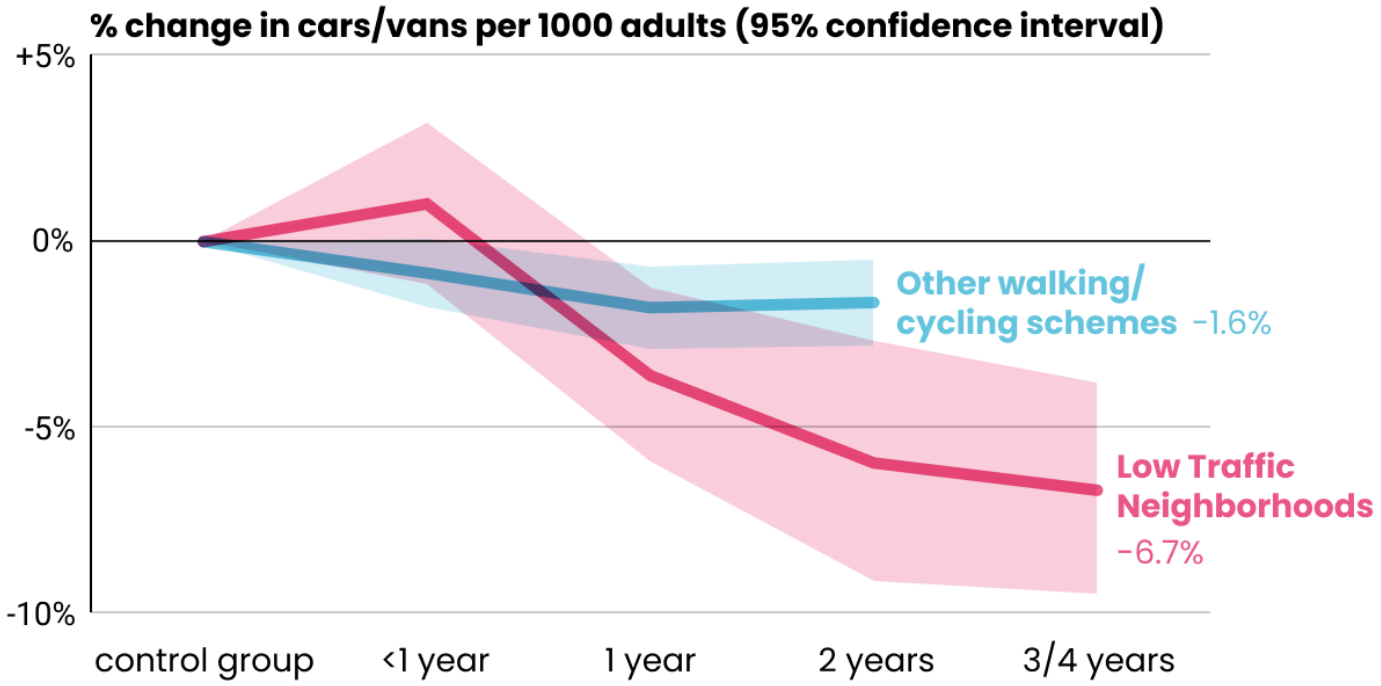
THE MINI-HOLLAND PROGRAMME GENERATED LARGE HEALTH ECONOMIC BENEFITS

- The high-dose ‘mini-Holland’ area generated over 20 years a health economic benefit of £1,056m, of which £821m came from reduced mortality due to additional physical activity.
- The total health economic benefit is around ten times the programme cost.
- Each year, there are 37 deaths avoided and 753 years of life lost (YLL) avoided, with 535,421 sick days avoided.
- For the LTN areas within the mini-Holland boroughs, the health economic benefit is £443m, around 40% of the whole programme benefit.

https://www.sciencedirect.com/science/article/pii/S2214140524000173

LTN AREAS SAW REDUCED CAR OWNERSHIP

The number of cars or vans registered in Waltham Forest LTNs dropped 6% after two years, which is consistent with the survey data suggesting decline in car ownership and/or use.



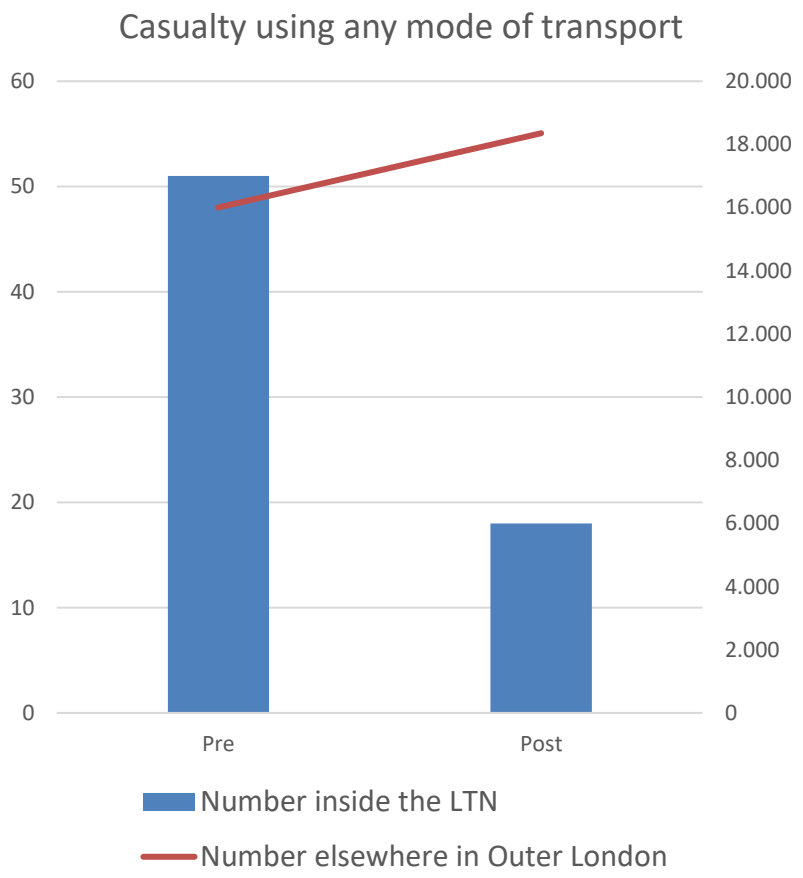
https://doi.org/10.32866/001c.18200

LTN AREAS SAW REDUCED ROAD INJURIES

Approximately a 70% reduction in road traffic injury risk per trip on roads within these LTNs, for pedestrians, cyclists, and car occupants alike.

No negative impact found on LTN boundary roads

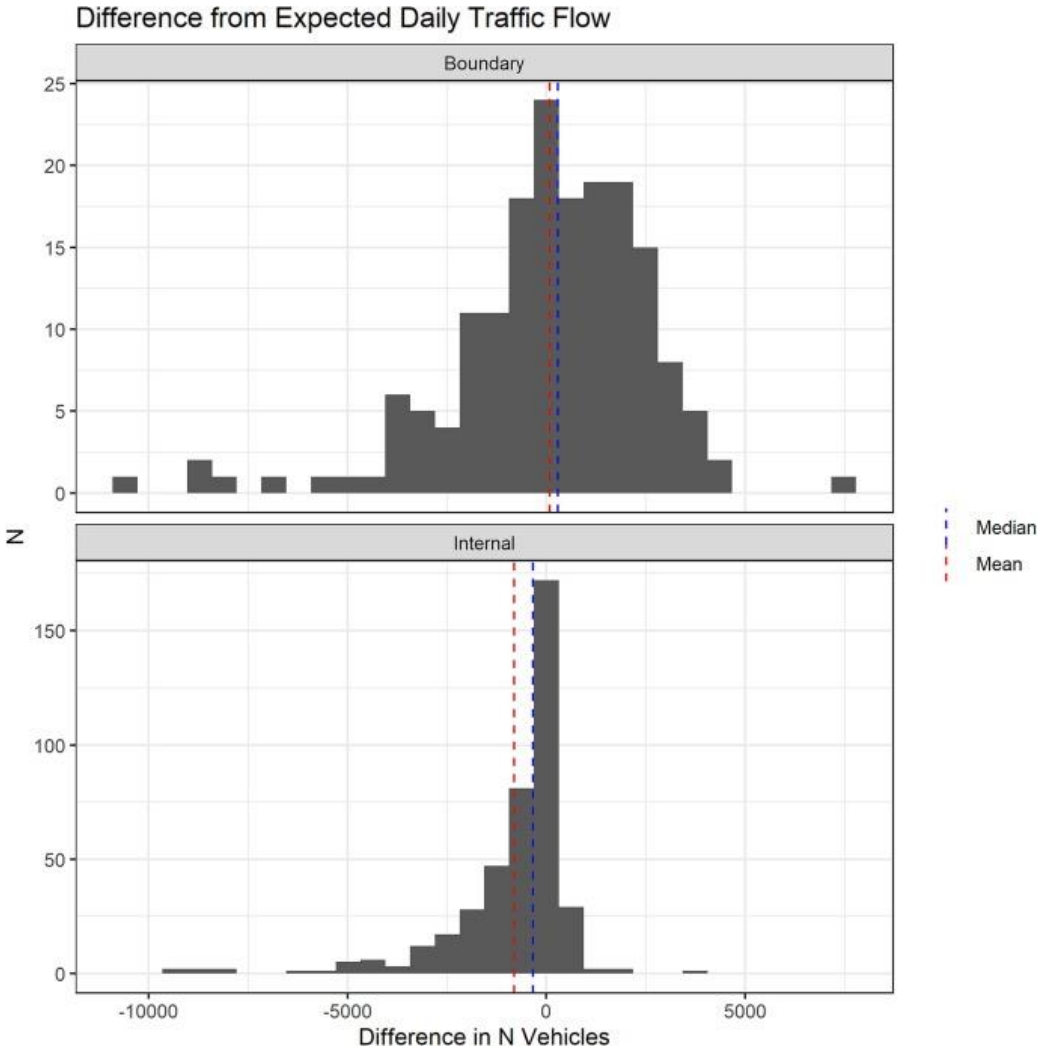
https://doi.org/10.32866/001c.18330



PAN-LONDON EMERGENCY LTNS

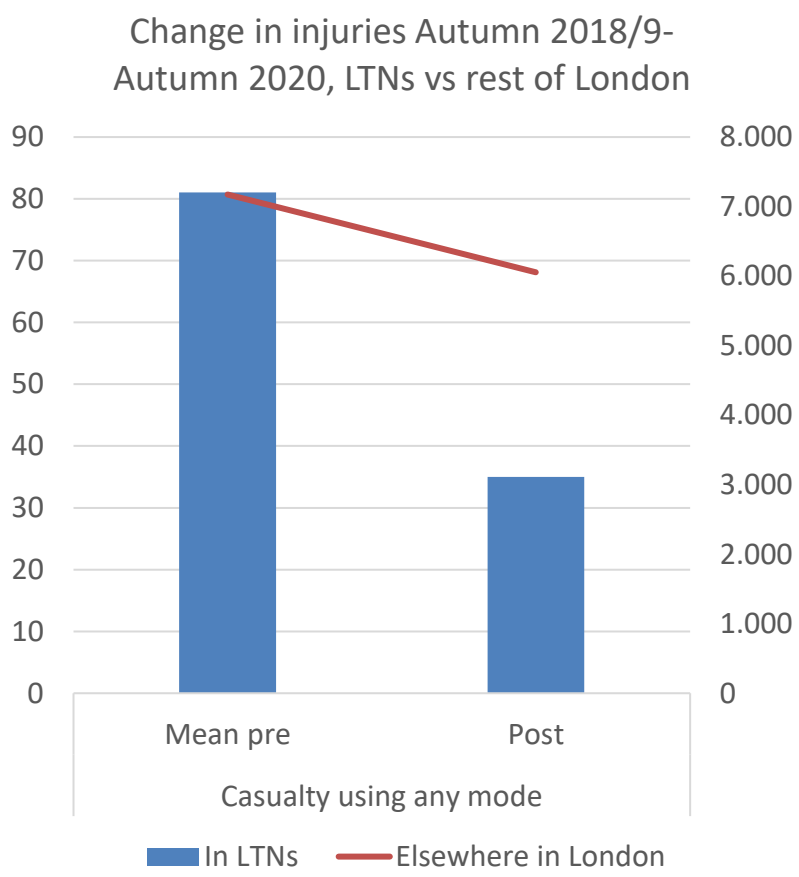
We have also been studying more recent ‘emergency’ LTNs introduced in 2020-1 across London. This has included incorporating them within the TfL-funded ‘People and Places’ longitudinal study of Outer Londoners, and research specifically looking at their impacts using e.g. road injury data.

CHANGES IN MOTOR TRAFFIC IN 2020-1 LTNs



Systematic review of local authority monitoring data, published as https://www.sciencedirect.com/science/article/pii/S2213624X23001785

LTN AREAS SAW REDUCED ROAD INJURIES



Injuries halved by comparison to the background trend, and again we found no statistically significant change in injuries on LTN boundary roads. This time it was pedestrian injury reduction driving the change.

https://findingspress.org/article/25633-impacts-of-2020-low-traffic-neighbourhoods-in-london-on-road-traffic-injuries

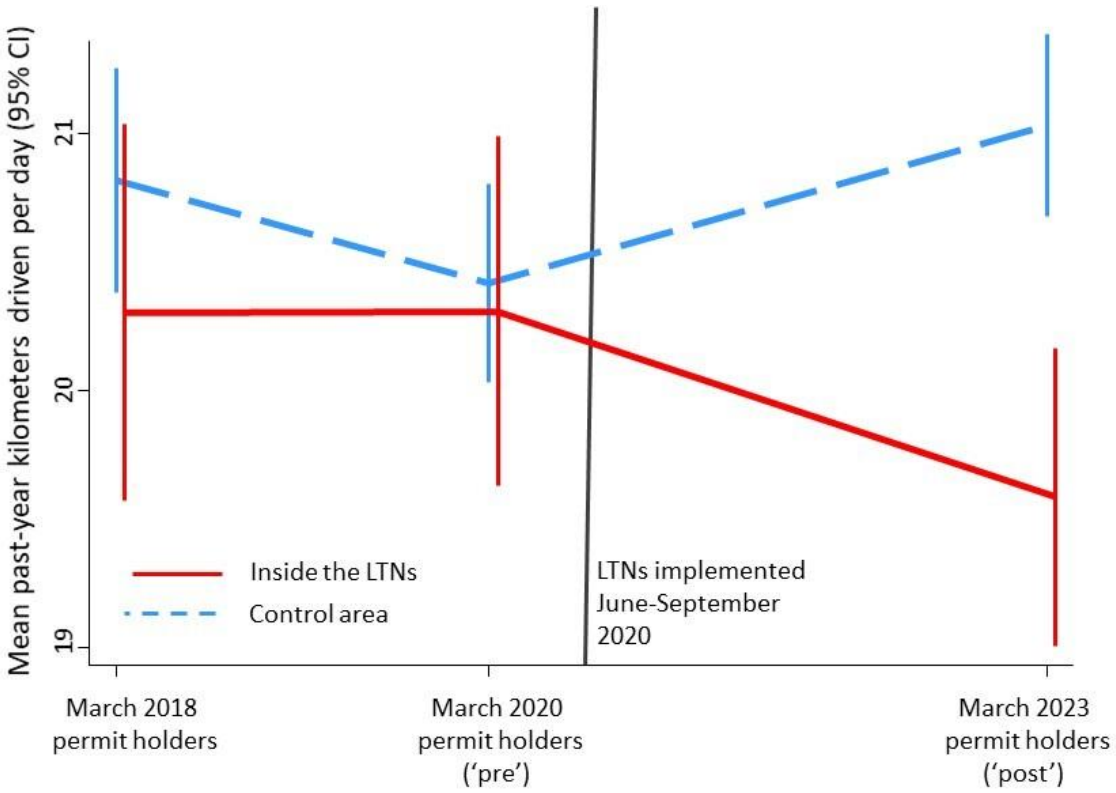
LAMBETH LTNS: REDUCED DRIVING

Our findings suggest that residents started driving less once their area became an LTN.

We examined how residents' driving changed after the implementation of LTNs in Lambeth, London. We used postcode plus numberplate data from controlled parking zones, matched to annual MOT records.

From 2018-2020 ('pre') to 2021-2023 ('post'), mean average past-year driving decreased by 0.7km/day among residents living inside the new LTNs and increased by 0.6km/day among residents in control areas elsewhere in Lambeth.

This is a relative decrease of 1.3km/day in LTN versus control areas, or a 6.4% relative decrease.

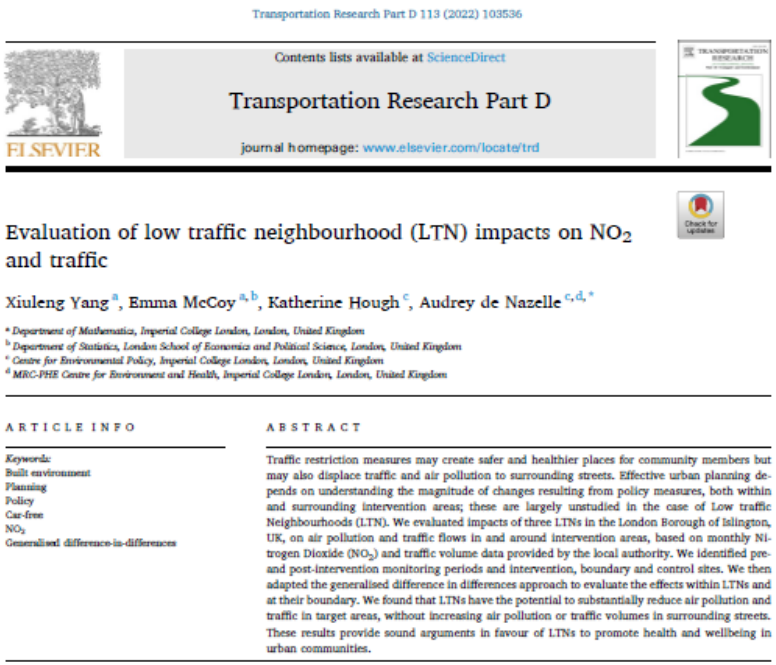


https://findingspress.org/article/75470-the-impact-of-2020-low-traffic-neighbourhoods-on-levels-of-car-van-driving-among-residents-findings-from-lambeth-london-uk

YANG ET AL STUDY – LOWER POLLUTION

- Yang et al used Nitrogen Dioxide data and traffic volume counts to examine the effects of three LTNs in Islington. They found:

- LTNs reduced NO2 both within intervention areas (5.7%) and in boundary areas (8.9%)
- Traffic volumes were reduced by 58.2% within LTNs and by 13.4% at LTN boundary sites.



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Evaluation of low traffic neighbourhood (LTN) impacts on NO_2 and traffic

Xiuleng Yang [a], Emma McCoy [a,b], Katherine Hough [c], Audrey de Nazelle [c,d,*]

[a] Department of Mathematics, Imperial College London, London, United Kingdom
[b] Department of Statistics, London School of Economics and Political Science, London, United Kingdom
[c] Centre for Environmental Policy, Imperial College London, London, United Kingdom
[d] MRC-PHE Centre for Environment and Health, Imperial College London, London, United Kingdom

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ABSTRACT

Traffic restriction measures may create safer and healthier places for community members but may also displace traffic and air pollution to surrounding streets. Effective urban planning depends on understanding the magnitude of changes resulting from policy measures, both within and surrounding intervention areas; these are largely unstudied in the case of Low traffic Neighbourhoods (LTN). We evaluated impacts of three LTNs in the London Borough of Islington, UK, on air pollution and traffic flows in and around intervention areas, based on monthly Nitrogen Dioxide (NO_2) and traffic volume data provided by the local authority. We identified pre- and post-intervention monitoring periods and intervention, boundary and control sites. We then adapted the generalised difference in differences approach to evaluate the effects within LTNs and at their boundary. We found that LTNs have the potential to substantially reduce air pollution and traffic in target areas, without increasing air pollution or traffic volumes in surrounding streets. These results provide sound arguments in favour of LTNs to promote health and wellbeing in urban communities.

Yang et al, 2022, https://pdf.sciencedirectassets.com/271737/1-s2.0-S1361920922X00126/1-s2.0-S136192092200362 5/

SUMMARY

- Motor traffic levels generally reduce inside LTNs in London, with no systematic pattern on boundary roads.
- The LTNs have led to more walking and cycling, with some evidence of reduced driving and car ownership.
- There is some evidence of reduced air pollution both inside LTNs and on boundary roads.

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