

London's Low Traffic Neighbourhoods: a growing evidence base

This short report summarises new and emerging evidence on Low Traffic Neighbourhoods in London, and how they fit into wider transport planning goals.



High levels of car use harm us all, particularly marginalised groups and those without cars

High levels of car use harm health, the environment, and society. In 2019, 30,007 Londoners were recorded by police as having been injured in road collisions, with 3,780 of those injuries judged serious, and 125 deaths.¹ Motor traffic is a major contributor to air pollution,² which causes an estimated 9,500 early deaths in London annually.³ Traffic noise additionally increases the risk of stroke and premature death.⁴

Groups least likely to use motor vehicles are most likely to be harmed by them. For instance, disabled Londoners and those with health conditions make 32% fewer car trips each day than other Londoners.⁵ Yet as pedestrians, disabled people are five times more likely to be injured by a motor vehicle than non-disabled people.⁶

There is no 'natural' level of car use. The level, and harms, depend on decisions taken by policy-makers.

The most effective way to reduce traffic is to **combine policies that make driving less attractive, and that make alternatives better – mixing 'sticks' and 'carrots'**.⁷ For example, in London's recent history the congestion charge (a 'stick') funded bus investment (a 'carrot'), and London saw a shift away from cars and towards public transport.

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Where Low Traffic Neighbourhoods (LTNs) fit in

LTNs use bollards, planters, and cameras ('modal filters') to remove through motor traffic from neighbourhoods, while retaining motor vehicle access to all homes. **They are both 'carrot' and 'stick', seeking to make walking and cycling more pleasant and safer, while making journeys by car a bit less convenient.**

The approach is a mainstay of Dutch transport planning (called 'unbundling', expressing the aim of removing much motor traffic from local walking and cycling networks), and has contributed to high levels of cycling and cycle safety in the Netherlands.⁸

LTNs do not suit all streets. We are unlikely to be able to remove through motor traffic from major roads, which represent 12% of total road length in London.⁹ LTNs do not replace the need for city-wide control of pollution and speed, or main road interventions like bus lanes or cycle tracks. However, 91% of Londoners live on residential roads, and this varies little by age, gender, income, disability, and ethnicity.¹⁰ Evidence so far suggests LTNs can play a role in reducing car ownership and use, while increasing active travel (walking and cycling) and road safety. Qualitative research suggests ways to make LTNs work better, including for disabled people.

Who lives in London's LTNs?

As of October 2020, 3.7% of Londoners (around 300,000 people) lived in 72 LTNs built between March and September 2020.¹¹

- At the London-wide level, more deprived areas were more likely to receive new LTNs. For example, people in the most deprived quarter of neighbourhoods were 2.5 times more likely to live a new LTN, compared to those in the least deprived quarter. There was little difference by ethnicity, age group, or disability.
- At the local area-level, LTN residents were demographically similar to their neighbours in nearby areas containing boundary roads.

However, patterns of implementation varied across boroughs. Some boroughs mainly implemented LTNs in deprived and/or ethnically diverse areas, others did the opposite. 12 boroughs implemented no LTNs during March–September 2020.

Since October 2020, we believe that 14 LTNs have been removed while a further 29 have been created. As of July 2023, we estimate that 5.0% of Londoners (around 400,000 people) live in LTNs created since March 2020.

LTNs and traffic volumes

A systematic search identified local authority monitoring and evaluation reports for 46 LTNs implemented in 2020 and 2021, in 11 London boroughs.¹² Before-and-after comparisons indicated a substantial reduction in motor traffic inside new LTNs, and a mixed picture with little overall change on boundary roads.

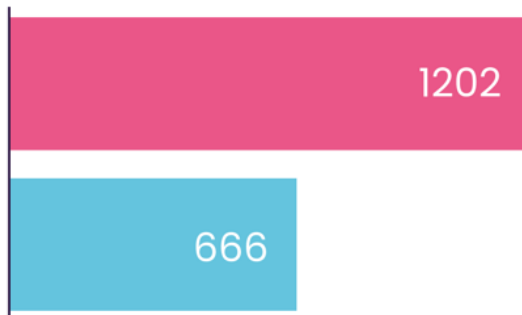
Specifically, inside LTNs these reports showed a median 45% decrease in motor vehicles (mean 46% decrease), relative to the expected background changes in travel behaviour due to the pandemic.

LTN boundary roads showed substantial variation, with a traffic decrease on 47% of boundary roads and an increase on 53%. The median change in motor vehicle numbers was a 5% increase (mean 0.7% increase), relative to the background trend.

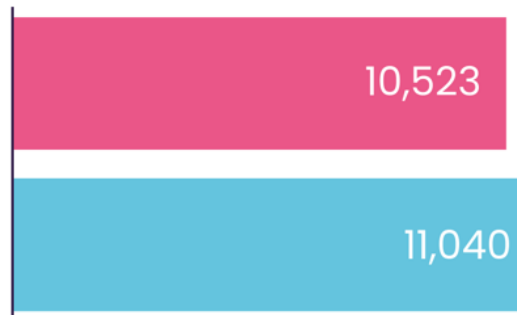
These monitoring reports probably cannot quantify overall area-wide changes in traffic volumes with precision. Nevertheless, we note that the mean traffic decrease on internal roads was ten times larger than the increase on boundary roads (-815 vs +82 motor vehicles per day, relative to expected volumes). This suggests that, across the London LTNs studied, there was a decrease in area-wide traffic.

Expected* and observed† median daily traffic flow

Inside LTNs



LTN boundary roads



* Expected figure based on 'before' data plus background trend

† After LTN implementation

We interpret the relatively small average traffic increase on LTN boundary roads as suggesting that these roads do not experience systematic large-scale traffic displacement. However, we also note that there was considerable variation across boundary roads, with some roads seeing substantial increases in motor traffic, while other roads saw declines. Furthermore, this analysis highlights that motor traffic levels are and remain high on many surrounding main roads. This underlines the importance of complementary policies that target main roads, to mitigate traffic harms (e.g. extending and strengthening the Ultra-Low Emission Zone; enforcing speed limits) and reduce traffic volumes (e.g. reallocating road space to bus or cycle lanes; introducing "pay-as-you-drive" road user charging).

LTNs and car use

There was a considerable reduction in total past-year driving among residents living inside four LTNs introduced in the London Borough of Lambeth in 2020.¹³

From 2018–2020 ('pre') to 2021–2023 ('post'), mean past-year driving decreased by 6% among residents living inside the new LTNs, relative to a control group of residents living elsewhere in Lambeth.

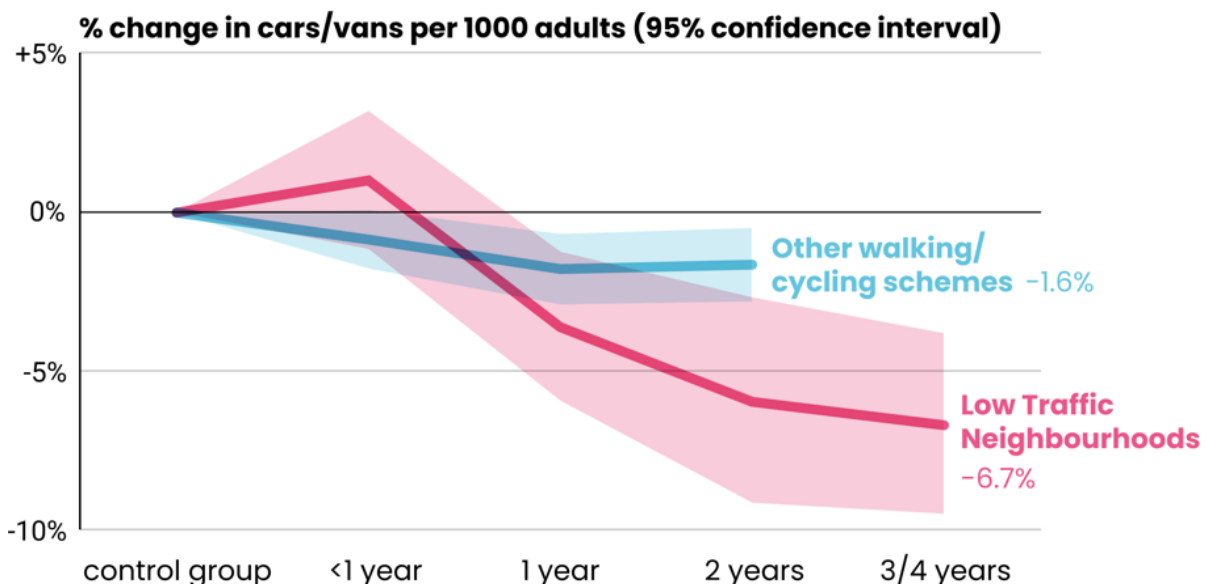
Alongside the evidence in the previous section, this adds further evidence that LTN implementation is associated with a decrease in overall volumes of traffic.

Note also that this study's outcome of 'total past-year driving' includes trips unlikely to be affected by the Lambeth LTNs, e.g. trips outside of London. It is therefore expected that the relative decrease in LTN residents' driving *in their local area* will have been greater than the 6% decrease in total past-year driving.

LTNs and car/van ownership

The London Borough of Waltham Forest has rolled out LTNs since 2015. This was associated with substantially reduced car ownership.¹⁴ The number of cars/vans registered in LTNs dropped 6% after 2 years, relative to the rest of Outer London.

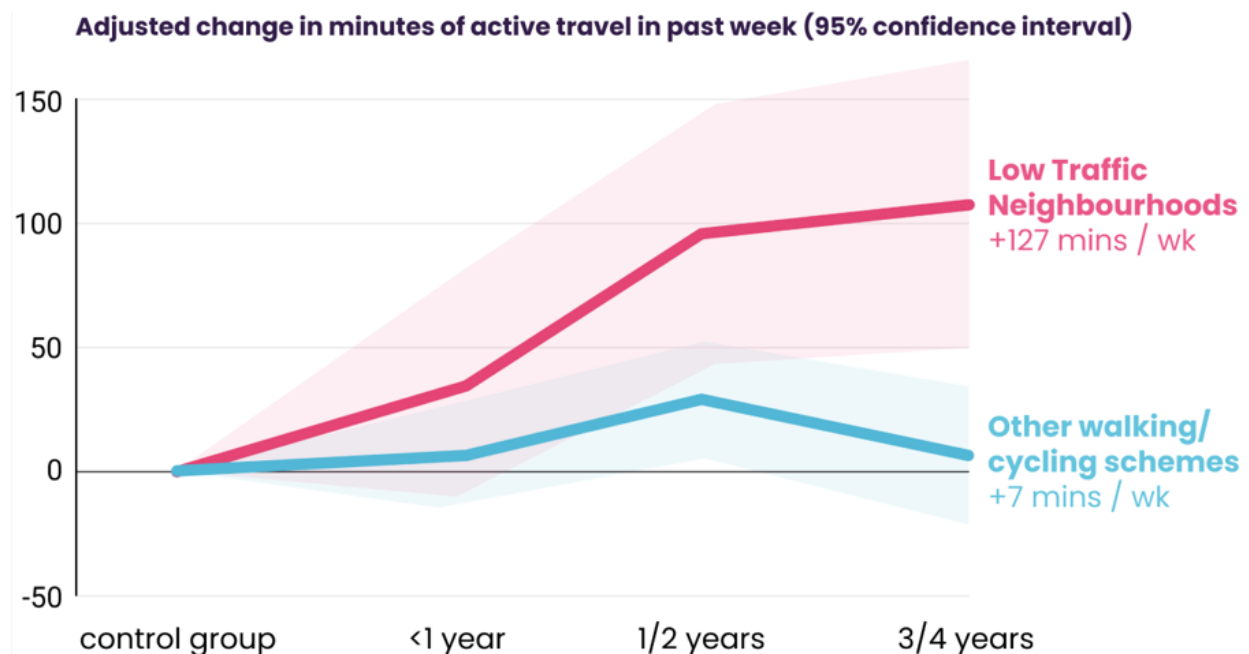
This effect was much larger than that seen in areas just getting e.g. cycle tracks, which dropped 2% after 2 years – although even 2% is good news.



On the other hand, there was no evidence of reduced car/van ownership in Lambeth 2 years after the implementation of LTNs in 2020.¹³ Further evaluation with longer follow-up is warranted, especially as the Waltham Forest drop in car/van ownership took some time to become visible.

LTNs and active travel

After 1-2 years, residents in LTN areas of Waltham Forest showed an increase of around 2 extra hours of active travel per week (relative to the change seen in people living elsewhere in Outer London), with most of this increase coming from walking.¹⁵



Perceptions of how good the local environment was for cycling also improved in areas with LTNs or other walking/cycling schemes. However, there was generally no change in perceptions of other aspects of the local environment.¹⁵

In Outer London areas receiving new LTNs in 2020, the one-year increase in active travel among local residents was around 1 hour per week, similar to that seen after 1 year in Waltham Forest.¹⁵ Perceptions of the local environment generally also changed in ways similar to those seen in Waltham Forest. This provides some evidence of the 2020 schemes having similar impacts to the Waltham Forest schemes.

Local authority monitoring reports yield mixed results, but also provide some evidence of a cycling increase. In June 2021, a systematic search of such reports found cycling data for five LTNs in London, all introduced in 2020 in Lambeth. The median cycling increase was +69% (range +14% to +91%) inside the LTNs and +43% (range +28% to +50%) on boundary roads. This was somewhat larger than the estimated 14% to 38% background increase over the same period.¹⁶

On the other hand, one evaluation of three small LTNs in Southwark found no increase in walking or cycling after 1 year, relative to control areas – indeed, in one LTN the number of cyclists decreased.¹⁷ Further research is therefore warranted, using a larger number of LTNs and with longer follow-up.

LTNs and road safety

Research indicates substantially improved road safety inside LTNs. Inside Waltham Forest LTNs there was around a 70% reduction in numbers of road traffic injuries, with similar declines in risk for people walking, cycling, or in cars.¹⁸

Inside the newer 2020 LTNs there was a 50% reduction in numbers of road traffic injuries in October–December 2020, relative to non-LTN areas. This 50% reduction was largely driven by substantial reductions in pedestrian injury risk.¹⁶ There was no negative impact on boundary road injuries in either case.

“These findings all point to impressive benefits from LTNs and are reassuring in showing that previous benefits seen in Waltham Forest have largely been replicated in other areas. The benefits for road injuries and crime were not as large as found in Waltham Forest, perhaps because the 2020 schemes were still bedding in at the time of the research, but these are still sizeable benefits across a range of important issues.”

– **Dr Anthony Laverty, author**

LTNs and air pollution

Air pollution impacts have been examined for three LTNs implemented in 2021 in the London Borough of Islington. The research found that nitrogen dioxide (NO₂) air pollution reduced by 6% within the LTNs and by 9% in boundary areas, relative to control sites elsewhere in Islington.¹⁹

The same research found non-significant trends towards a traffic decrease of 44% within the three LTNs and a traffic decrease of 9% in boundary areas, relative to controls. With respect to the boundary areas, this trend is somewhat more favourable than the average (mean) traffic increase of 1% on boundary roads that was revealed by a systematic review of local authority monitoring schemes.¹² It will therefore be valuable to conduct further studies measuring or modelling air pollution effects in a larger number of schemes.

LTNs and emergency response times

Research into LTNs implemented in 2020 found no negative impact on emergency response times. Fire Brigade response times were unchanged both inside new LTNs and on LTN boundary roads in the months October 2020 to February 2021, relative to non-LTN areas.²⁰ This was equally true in LTNs that mainly used physical barriers (e.g. planters) and in LTNs that mainly used camera-enforcement.

In Waltham Forest, there was similarly no negative impact on fire brigade response times following the implementation of an LTN.²¹

LTNs and street crime

Research into LTNs implemented in 2020 found largely favourable trends for street crime. In Outer London, crime trends in and around new LTNs were more favourable than in non-LTN areas during October 2020 to February 2021. In Inner London, crime trends were similar to or slightly more favourable than non-LTN areas. This pattern was seen both for total street crime and for direct attacks against the person (e.g. street robbery).²²

In Waltham Forest there was a 10% fall in street crime after the introduction of an LTN, and this effect grew larger over time.²³

LTNs, Twitter, and local council elections

A report examined the Twitter output of incumbent London local councillors in relation to LTNs.²⁴ 21% of councillors tweeted about LTNs at least once between January 2020 and May 2022. Ever tweeting (versus never tweeting) about LTNs had no association with the probability of a councillor holding their seat in the May 2022 local elections, but was associated with a small increase in their vote share in 2022 relative to 2018.

With regard to tweet content, tweets by Labour councillors ranged from neutral to positive in their sentiment towards LTNs, while those by Conservative councillors ranged from negative to neutral. As context, almost all London LTNs have been implemented in Labour-run councils. In the 2022 elections, there was a trend for Labour councillors who tweeted more positively about LTNs to improve their vote share relative to Labour councillors who tweeted more neutrally. There was an opposite trend for Conservative councillors, whose vote share tended to improve more among those tweeting most negatively about LTNs.

To sum up, for incumbent London Labour councillors whose party had implemented LTNs, these findings suggest that publicly supporting LTNs on Twitter did not bring electoral harm and – more tentatively – perhaps brought small benefits.

Attitudes to LTNs among local residents

- The Department for Transport commissioned a household survey of four non-London LTNs in November 2020. It found majority support although the level of this varied by LTN, with Salford highest and Birmingham lowest.²⁵
- A June 2023 survey found that 58% of London adults supported introducing LTNs in London, while 17% were opposed.²⁶

Yet if quantitative surveys suggest majority support for LTNs, why are they so controversial? Qualitative research on an Ealing LTN sheds light on this, providing insight into why LTNs elicit strong reactions both in favour and against.²⁷ The research highlights how individuals and groups differ markedly in their focus and viewpoints in relation to LTNs, influenced by pre-existing cultural and political views.

This includes opposition from a *“minority of the population [that] strongly believes that the car is crucial in their lives, enabling their participation in social and economic life. They perceive that car access and usage are matters of right for the individual, irrespective of societal impact.”*²⁸

Disabled People’s perspectives

Disabled People’s Organisation Transport for All recruited 84 disabled people, mainly from London, who overall felt strongly impacted by LTNs and were critical of how changes were communicated.²⁹ Both positive and negative impacts were reported:

“In terms of the positive impacts of LTNs, participants reported easier or more pleasant journeys; an increase in independence; a decrease in traffic danger and benefits to physical and mental health.

Criticisms included longer journey times for residents, as well as their visitors who provide care and support. This leads to travel becoming more exhausting, expensive, complicated or difficult. There were also cases of a negative impact on mental health, issues with taxis and a perceived rise in traffic danger.

Though with many disabled people experiencing genuine and meaningful benefits from the LTNs, ripping them out and returning to normal isn’t the solution. **‘Normal’ – what we had before – wasn’t accessible enough either**”^{29, p.4}

The report concludes that disabled people need to be more closely involved, to ensure good LTN design and mitigation of possible negative impacts. One suggestion was to offer Blue Badge holders exemptions to LTN camera closures, to provide faster car access for those disabled people who rely on motorised transport. Several London boroughs now use this approach for some or all of their modal filters.

Other ways to improve the implementation of LTNs

- **Improve communication and consultation – but expect controversy:** Improving the consultation process is a theme across many reports.²⁷⁻³⁴ Suggestions range from early and clear engagement; to allowing an open and inclusive debate on the future of the neighbourhood, rather than limiting engagement to the technical details of a scheme. However, it should also be noted that policies restricting car use or reallocating road space away from cars typically are controversial. High-quality engagement can help reduce this, but some degree of controversy may often be inevitable.
 - **Representative surveys could complement consultations:** A report for the Local Government Association covered a range of ‘emergency’ schemes in 4 UK cities, and makes suggestions including the use of representative surveys to complement consultations.³⁰ More robust sampling of resident views is also recommended by Hickman and Afonin, after highlighting how an LTN in Ealing was removed based on an unsampled survey with a 6% response rate.²⁷
 - **Deliver LTNs as one part of a broader programme:** The Centre for London recommends the introduction of complementary measures to boost the effectiveness of LTNs. Options discussed include changes to the street layout (e.g. new cycle tracks or bus priority measures); the introduction of new charges to driving (e.g. parking charges or distance-based road user charging); and changes to how deliveries are made.³¹
- Likewise, a NatCen report covering London and Birmingham LTNs recommends introducing complementary measures to make walking, cycling and public transport more accessible and affordable.³² And a qualitative study of LTNs (‘Active Neighbourhoods’) in Greater Manchester recommends that more be done to improve the walking environment for older and disabled people, e.g. by banning footway parking where this is currently permitted.³³
- **Support capacity in local authorities:** An in-depth analysis of the governance of Oxford LTNs reveals how LTN implementation is complicated by discontinuities between central government expectations versus local government dynamics and available resources. The study highlights the need to support to local authorities’ capacity to deliver schemes adequately.³⁴



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This briefing can be downloaded from <https://wearepossible.org/LTN-briefing2>

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