CASE STUDY

Low Traffic Neighbourhoods
| London

Modal filters on a road in Kingston upon Thames, one of the boroughs with LTNs.

London is often recognised as a leader in urban transport innovation. Its world-famous Tube, dense bus network and growing cycling network have helped make sustainable modes available for daily travel.

Yet historically, car dependency was deeply entrenched across much of the city. Poor air quality and negative health outcomes were among its most visible consequences. Congestion was a key issue too—residential streets, which make up around 80% of London's road network, became increasingly affected by rat-running, as navigation apps diverted drivers away from congested main roads. This was further compounded by an inactivity crisis—many short trips that could be walked or cycled were still made by car due to unsafe roads and a lack of protected infrastructure, particularly for vulnerable groups.[56]

To address these challenges, the Mayor's Transport Strategy (MTS) embedded the Healthy Streets Approach as its central framework—a people-centred vision for making streets safer, healthier and more inviting for everyone. Alongside city-wide measures, initiatives such as Low Traffic Neighbourhoods (LTNs) were introduced at the neighbourhood scale to encourage a shift in travel behaviour towards more active and low-carbon modes, with the ambition that 80% of all trips in London would be made on foot, by bike or by public transport by 2041.[57]

London
in numbers

Area (2025)
1,572 km²

Population (2025)
9.65 million

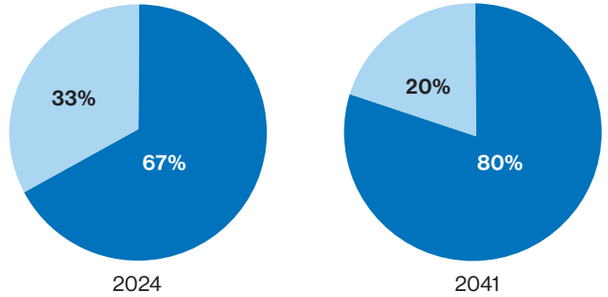
Population Density (people per km²) (2025)
~6,139

NOx Pollution Resulting from Road Transport
~50%

Fatal Collisions with Speed Reported as a Contributing Factor (2024)
~50%

Congestion Cost per Driver (2024)
£942
London topped the INRIX 2024 Global Traffic Scorecard as the most congested city in Europe

Modal Share



* Sustainable mobility modes include walking, cycling, public transport and personal mobility devices.

Mayor's Transport Strategy (MTS)

Informed by the Healthy Streets Approach, the MTS sets out a plan for how the city will shift towards sustainable mobility, with an emphasis on walking, cycling and other forms of active mobility.

The main goals of the MTS are to:

- Improve air quality and enhance public health
- Reduce car dependency
- Transition to a zero-emission bus fleet by 2034

Sources: Greater London Authority (Area,[58] Population,[59] Population Density[60]), Transport for London (Modal Share,[61] NOx Pollution,[62] Fatal Collisions with Speed Reported,[63] Mayor's Transport Strategy[64]), INRIX (Congestion Cost[65]) (see endnotes for citations in full)

RECLAIMING RESIDENTIAL STREETS

LTNs emerged as a simple yet effective strategy to translate some of the ambitions of the MTS on the ground. They gathered momentum through the Mini-Holland active travel programme, which combined protected cycle lanes, redesigned town centres, safer crossings and public realm improvements. LTNs were a central tool within this wider approach to reduce through-traffic on residential streets by using modal filters, bollards or planters, and by prioritising the needs of pedestrians and cyclists.

When COVID-19 hit, the city faced a new imperative—keeping people moving safely while public transport capacity was reduced. More than 100 LTNs appeared across London in less than a year to promote walking and cycling as viable alternative transport modes. However, the rapid rollout revealed several challenges such as perceived unfairness, displacement of traffic to boundary roads and lack of consultation, resulting in mixed responses from the public.[66]

A crowd outside the Ealing Council House protesting the LTN scheme in 2021.

LESSONS FROM WALTHAM FOREST AND EALING

Varied experiences in two of London's boroughs illustrate how different implementation approaches shaped the outcomes of LTNs.

In Waltham Forest, the council had been laying the groundwork to introduce LTNs since 2018, engaging residents and stakeholders before any schemes were in place, and using their feedback to refine features and address concerns. With the implementation of the LTNs, early resistance gave way to broad local support as residents experienced quieter streets, cleaner air and safer spaces for walking and cycling. By 2020, the borough had recorded significant rises in active travel and improvements in air quality and road safety—evidence that reclaiming local streets could deliver cross-domain gains when supported by careful co-creation and sufficient time for adaptation.[67]

In contrast, when the Ealing council introduced LTNs in 2020, they rolled out multiple LTNs rapidly and without sufficient public engagement. As a result, concerns over traffic displacement to boundary roads, lack of access to emergency access services, and perceived negative impacts to local businesses triggered strong resident pushback, leading to the removal of most of the schemes within a year.[68]

These contrasting experiences highlight the need for effective planning with careful phasing and communication, underpinned by strong governance. They also highlight that LTNs do deliver co-benefits when they are part of a broader neighbourhood transformation. When paired with protected cycle infrastructure, an improved public realm and complementary services, LTNs make alternatives to driving genuinely attractive—particularly when equity is considered so that benefits and impacts are fairly distributed across different user groups.

INTERPRETING LOW-TRAFFIC NEIGHBOURHOODS THROUGH A CROSS-DOMAIN LENS

The framework was applied to the LTN programme retrospectively to study its cross-domain impacts, drawing on evidence from schemes across multiple boroughs. The assessment draws upon a combination of published academic studies, borough-level monitoring reports, and strategic policy documents, including the MTS and Transport for London's Healthy Streets Approach, to conduct the analysis. The Prioritisation Tool was applied to determine outcome priorities for the LTN programme. While these weightings were not part of the original planning process, they serve to demonstrate how the framework can reflect local priorities and support cross-domain interpretation in future applications.

PILLAR	PRIORITY	RATIONALE
MOBILITY	High	Reducing through-traffic and improving infrastructure for walking and cycling were central to the LTN model.
ENVIRONMENTAL	High	Improving air quality and reducing noise pollution were some of the key motivations of the LTNs, particularly in areas affected by high traffic volumes and congestion.
SOCIAL & HEALTH	High	Addressing road safety, improving conditions for active travel and responding to broader public health concerns, including low physical activity levels, were very important considerations for the LTNs.
ECONOMIC	Low	Economic outcomes were not a primary focus for the LTNs, although improved street environments may influence local activity and access to neighbourhood amenities.

The outcome priorities for the LTN programme, as determined by the application of the Prioritisation Tool.

MOBILITY PILLAR OUTCOMES

- According to London-wide studies, the median number of vehicles on the roads inside LTNs has decreased from 1,200 to 650 per day, with 74% of streets within LTNs recording reduced traffic and minimal impacts on peripheral traffic.[69,70] In addition, residents living inside LTNs have shown behavioural shifts towards active modes of transport.
- A longitudinal study of the boroughs involved in the Mini-Holland programme from 2017 to 2021 found that people walk or cycle more often, with average walking and cycling time increased by up to 66 minutes and over 20 minutes, respectively, compared to control areas.[71] Many short car trips have also been replaced by local journeys on foot or by bike.
- In parts of the Dulwich Village LTN, 20% of people cycling at peak times were found to be children, reflecting the extent to which reduced traffic enables younger residents to use streets more independently.[72]
- Car and van ownership among residents of Waltham Forest LTNs fell by 6% between 2015 and 2019, and residents within the Lambeth LTN reported a 6% reduction in miles driven—suggesting that LTNs influence travel behaviour beyond the immediate neighbourhood and over sustained periods.

ENVIRONMENTAL PILLAR OUTCOMES

- Air pollution levels, particularly NO_2, dropped inside many of the LTNs. Those in the borough of Islington saw an average decline of NO_2 by 8.9% and 5.7% at the periphery and within the boundaries, respectively, compared to control groups.[73]
- However, some boroughs experienced mixed effects, with boundary roads recording no change or marginal increases in NO_2.[74] This underscores the need to balance potential trade-offs in air quality on boundary roads if broader network management measures are not in place.

SOCIAL & HEALTH PILLAR OUTCOMES

- Streets in Waltham Forest's LTNs were found to be 3 to 4 times safer for walking and cycling—without creating negative impacts on safety at their boundaries. Over 40% of residents within LTNs in Birmingham, Bournemouth, Ipswich and Salford also experienced an increase in road safety.[75]
- Road injuries fell by around 35% inside LTNs and 2% at boundaries, demonstrating that removing through-traffic makes streets safer for people walking and cycling.[76]
- A 10% reduction in crime was recorded in Waltham Forest's LTNs from 2012 to 2019.[77]
- In Waltham Forest, no adverse changes to emergency service response times were observed, and there is some evidence of marginal improvement on boundary roads.
- The cleaner air, lower noise levels and additional space for play and social life have been found to contribute to everyday health gains. In Waltham Forest, 31% of survey respondents agreed that LTNs help to foster a sense of community in the neighbourhood, while 29% felt that LTNs improved social ties.[78]
- Evidence also highlights the differentiated impacts of LTNs on specific user groups; for instance, people with specific accessibility needs can experience easier and more pleasant journeys, greater independence, and benefits to both physical and mental health.[79]

ECONOMIC PILLAR OUTCOMES

- Survey results showed a moderate economic uptick within LTNs in Birmingham, Bournemouth, Ipswich and Salford, with 14% to 17% of respondents visiting local dining places and shops more frequently after implementation.[80]
- Despite tangible economic benefits, there is awareness that public improvements need to safeguard against gentrification, potential decline in footfall if the scheme is not well-received, and rising rents that could price out local businesses. [81]

Mapping the cross-domain outcomes associated with Low-Traffic Neighbourhoods.

The cross-domain impacts of LTNs highlight their role not just as local traffic measures, but as part of a wider shift in how London approaches mobility and street use. This shift is reflected across the city's broader transport strategy: the Elizabeth Line has demonstrated how transformative infrastructure can generate economic uplift and improve connectivity at metropolitan scale, while the Ultra Low Emission Zone has shown how bold policy can deliver measurable improvements in air quality across a complex, multi-borough city. The strong public support for Oxford Street Pedestrianisation further illustrates how Londoners' appetite for liveable streets extends well beyond any single neighbourhood.

Together, these initiatives reveal how a city can align governance, infrastructure, and community engagement in pursuit of shared urban objectives—and in doing so, offers a compelling model of what sustained commitment to sustainable mobility can achieve.