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"I was a loser before, and now I'm a winner!": Perceptions and lived experience of Low Traffic Neighbourhoods

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ABSTRACT

A recent policy intervention being implemented across UK cities is Low Traffic Neighbourhoods (LTNs). The purpose of LTNs is to remove through-traffic from residential streets by strategically placing bollards and planters at key locations to block passage of motor cars while allowing cyclists and other micromobilities to pass through. LTNs are intended to bring proposed benefits including improved road safety for walking and cycling, a better-quality environment and improved public health. There has been much debate about the likely 'winners' and 'losers' of LTN interventions and reactions from the public have been divided. This article reports a study that investigated the perceptions and lived experience of residents who lived in, and along the boundary of, LTNs in the east of Oxford city, UK.

Our starting premise is that LTNs reconfigure everyday lives, not just through infrastructure, but through emotion, identity, and contested claims to space, and that they are never merely infrastructural, but are political, affective, and shape, and are shaped by, how people move. To investigate this we used a combination of interviews and mobile 'go-long' interviews with residents who self-identified as 'supporters' or 'opponents' of the LTNs. This allowed us to reveal the complexity and nuance of opinion of LTNs based on personal and household circumstances. We highlight the disruption that such interventions can make, both positively and negatively, to a sense of belonging and point to the importance of citizen participation in the development of well-intentioned city policies that inevitably create both 'winners' and 'losers'.

1. Introduction

The dramatic rise in private car ownership across the globe and the corresponding growth and circulation of cars on roads has created a major challenge for governments across the world in dealing with their impact in cities. In response, city authorities are implementing urban policies to reduce congestion, the impact of pollution from transport on public health, and road traffic related injuries and fatalities (Crozet, 2020). In the UK, the implementation of Low Traffic Neighbourhoods (LTNs) by local municipalities is one approach targeted at encouraging people to use their cars less and to walk, cycle and wheel more, by making streets safer and more pleasant. LTN schemes typically involve strategic placement of bollards and planters at entry roads to residential areas to inhibit passage of motorised through-traffic while allowing cyclists and other micro mobilities (e.g. electric scooters) to pass through. Automatic Number Plate Recognition (ANPR) cameras are sometimes installed to facilitate the passage of emergency-service vehicles and public-service vehicles such as buses, licensed taxis, postal service providers and public waste vehicles.

Urban interventions such as LTNs are increasingly presented by policy makers as inevitable responses to the interconnected challenges of car dependency, local air and noise pollution, road safety, and tackling the climate emergency. However, the favoured speed of delivery over slow and gradual democratic deliberation has led to criticism of lack of meaningful engagement with communities affected by such strategies resulting in such policies being perceived as distant, imposed from above, and insufficiently responsive to local realities (Dudley et al., 2022). Within this context, interventions like LTNs risk being experienced not as urban transformation for collective wellbeing, but as top-down redistributions of everyday mobility and access that appear to benefit some over others and risk intensifying social polarisation. This is often compounded by community campaigns frequently presenting LTNs as producing clearly defined benefits for some groups (e.g. safer and quieter streets) and disbenefits for others (e.g. increased congestion

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on boundary roads) with competing forms of legitimacy expressed through social media (Powell, 2025). Meanwhile, the media tendency has been to reinforce division with regards to LTNs and to highlight their utility in attempts to generate a 'culture war' by political groups wishing to impose their own ideology (Grant, 2023; Quinn, 2023). Such framings tend to reduce complex everyday encounters with infrastructure to politicised binary positions, leaving little room for ambivalence, contractions and shifting perspectives over time. Residents' experiences of LTNs are rarely static or singular – interventions related to LTNs may be celebrated for improving local safety for children, while simultaneously resented for disrupting habits of mobility and social connection. Attending to how residents interpret, contextualise and make sense of these changes is essential to understanding not only the outcomes of such policies, but the conditions under which urban change is negotiated, contested and accepted in everyday life.

In this paper we report a study that aimed to understand residents' perceptions and experience of LTN schemes in Oxford UK and the impact on personal activity and travel behaviour. We start from the premise that LTNs reconfigure everyday lives, not just through infrastructure, but through emotion, identity, and contested claims to space. Although LTNs as an urban policy are often presented as a technical response to traffic, climate, or public health challenges, they are never merely infrastructural, they are political, affective, and shape, and are shaped by, how people move and their sense of belonging within the community.

We begin this article by providing a brief context to the rise of the LTN within UK national policy and developments in relation to street design and the putative benefits, resulting tensions, and evidence of impact (section 2). Then, in section 3 we introduce our study focus: the case of the East Oxford LTNs. In section 4 we provide details of the approach and methods we used to investigate the lived experience of residents living in (and on the boundary roads of) LTNs. Section 5 reports findings and the key themes that emerged from our analysis. In section 6 we critically reflect on those findings and draw out key lessons and possible implications for policy makers. We finish in section 7 highlighting study limitations and directions for future research.

2. UK sustainable transport policy, approaches to street design and emergence of the Low Traffic Neighbourhood

The global push to reduce carbon emissions, in line with United Nations Sustainable Development Goals (United Nations 2019)[1] and the Paris Agreement (United Nations, 2015)[2] has brought the contribution of transport to climate change into sharp focus. Globally, the transport sector accounts for around one-fifth of carbon dioxide emissions three-quarters of which is from road transport and half of that from road passenger traffic (Ritchie, 2020). In the UK, domestic transport accounts for around 30% of domestic carbon emissions, the majority of which is from road vehicles (UK DfT, 2024). The UK strategy for decarbonising transport, reducing congestion and pollution, and improving transport related public health, is laid out in the government's plan, *Decarbonising Transport* (DfT, 2024). This sets out commitments and the actions needed to decarbonise the entire transport system in the UK and includes objectives to reduce emissions across all transport modes; cut costs for businesses and consumers through cleaner technologies; improve air quality to enhance public health; and tackle congestion to create more efficient transport networks. The overall target is to achieve net zero greenhouse gas emissions by 2050 – a commitment enshrined in government legislation passed by UK parliament in 2019. While these commitments remain in place, recent assessments show that progress in reducing transport emissions has been slower than required (CCC, 2025). The strategy also includes the goal for half of all journeys in towns and cities to be walked or cycled by 2030. To this end the government is providing funding to local governments to invest in infrastructure for walking and cycling and wheeling ('active travel') as well as other measures, including LTNs, to reduce car use and encourage active travel.

2.1. Emergence of policies and guidance shaping UK street design

The idea that traffic should be inhibited from using residential streets as through routes is not new. LTNs evolved from various policy developments and practices in the UK spanning several decades. The most significant development was the publication, in 1963, of *Traffic in Towns* – known as the 'Buchanan Report' after lead author Colin Buchanan. This laid out a vision for the 'design of urban areas for the motor age' and the relationship between routes and buildings. Buchanan stressed that streets need to be recognised for their primary function and that residential areas, 'urban rooms', should be protected from rising levels of motor traffic that should instead be distributed along 'urban corridors'. Since the Buchanan Report there have been various policies and measures over the decades to manage traffic on residential streets including various forms of 'traffic calming'. In 2007, the *Manual for Streets* was published which provided geometric guidelines for designing low trafficked residential streets (in England and Wales). Though this document was welcomed in most parts, there were criticisms that the guidance could have gone further in limiting the permeability for motor vehicles while providing full permeability for walking and cycling (Melia, 2008).

More recent developments have incorporated the notion of 'filtered permeability'. The implementation of so-called 'Mini-Hollands' in the London boroughs of Enfield, Kingston and Waltham Forest (Transport for London, 2013) showcased how road space can be redesigned to discourage short car trips and encourage walking and cycling while also improving the public realm. In 2019, Transport for London launched a further programme for 'Liveable Neighbourhoods' by providing funding, 'to transform London's streets into places where people choose to walk, cycle and use public transport, not to drive' (TfL, 2019). Then in February 2021, the UK government announced a £5 billion funding package to promote active travel and bus services along with new statutory Network Management Duty Guidance instructing local authorities to reallocate road space *for* cycling and walking including the closure of residential streets to create Low Traffic Neighbourhoods (UK DfT, 2020) – later withdrawn by the Conservative Government in 2023 as part of political manoeuvring prior to the 2024 general election.

With the advent of the Covid-19 pandemic, in May 2020 local authorities were encouraged to bid for a slice of the £220 million Emergency Active Travel Fund (EATF) to support the installation of temporary measures to mitigate lack of public transport and support active travel. Successful recipients were instructed to start schemes within *four weeks* of receiving funding and to complete schemes within *eight weeks*. This was underpinned by new regulatory controls that attempted to balance the need for statutory consultation with speedy implementation and the threat of a reduction in funding if conditions were not met (UK DfT, 2024). As Dudley et al. (2022) highlight, this created tensions at the local level revolving around the political acceptability of such schemes that directly seek to reduce car use rather than 'nudge' people to change their travel behaviour. Four further tranches of the Active Travel Funds (ATF) supported long-term projects including Low Traffic Neighbourhoods that, while focused on active travel, also provided opportunities to improve the public realm in residential areas (UK DfT, 2025). The incoming Labour government of July 2024 pledged full support to local authorities wishing to roll out LTN schemes (Carey, 2024).

2.2. Low traffic putative benefits and tensions

LTNs are intended to bring proposed benefits to the community

[1] adopted in September 2015
[2] signed in December 2015

including improved road safety and environmental quality through less motor traffic and the potential to encourage more people to walk and cycle for short journeys therefore improving public health. Reduced motor traffic within the LTN also offers the potential for community wellbeing through 'Liveable Streets' (Appleyard, 1982) typified by more social interaction among neighbours and the ability of children to play out in the street. On the other hand, there is a danger that traffic is simply diverted to boundary roads, often in more deprived areas, resulting in congestion and associated traffic pollution increasing along those routes.

LTNs have now become a widespread urban intervention across cities in the UK and are often framed as tools for regeneration. As Carpenter and Howard (2024) note, LTNs can contribute not only to manage traffic but to reshape neighbourhoods socially and environmentally but their implementation has become a focal point of public contention, revealing a complex interplay between policy goals, public perception and lived experience. Indeed, governance of LTNs has been characterised by a tension between centralised ambition and local complexity. As Dudley et al. (2022) pointout (using the case of Oxford) the UK government's push for rapid LTN deployment during the COVID-19 pandemic created tension within local authorities, who were left to implement contested policies without adequate guidance and resources. Councils faced the contradictory pressures of having to consult communities while acting quickly to meet funding conditions. This resulting sense of imposition – especially when experimental traffic orders were introduced without proper public consultation – seems to have increased public resistance, showing the limitations of top-down approaches to environmental policy.

2.3. Evidence of impact

Despite contested perceptions of the impacts of LTNs, quantitative studies consistently demonstrate that, in practice, LTNs achieve substantial reductions in traffic and improvements in safety. In a meta-analysis of 46 LTNs across London, Thomas and Aldred (2024) found an average reduction of 47.8% in vehicle volumes on internal roads, with only marginal changes on boundary roads – suggesting traffic evaporation rather than displacement. Likewise, in the London Borough of Waltham Forest, LTNs led to significant reductions in road injuries across all travel modes, without increasing danger on adjacent streets (Laverty et al., 2021). There is some evidence, therefore, that LTNs promote safer, more liveable neighbourhoods, even if such outcomes are not always perceived locally. LTNs have also been demonstrated to deliver measurable environmental benefits. In the London borough of Islington, nitrogen dioxide concentrations fell both within LTNs and at their boundaries following implementation (Yang et al., 2022), supporting claims that LTNs can reduce air pollution without displacing it. A study in Oxford used acoustic sensors in the Temple Cowley area on the city's east side, and found that after the LTNs' introduction, the soundscape shifted from human-made noise to more natural sounds, such as birdsong – suggesting an improvement in environmental quality (Leach et al., 2024).

Equity remains an issue of contention. Aldred et al. (2021) found that LTNs in London were more likely to be implemented in deprived areas with high proportions of BAME (Black, Asian, and Minority Ethnic) residents, challenging the claim that such schemes favour affluent neighbourhoods. However, the study also revealed wide variation across boroughs, with some areas entirely lacking LTN coverage. Moreover, concerns persist about impacts on groups reliant on car access, such as disabled residents, shift workers, and ethnic minorities living on major roads excluded from interventions. These distributional tensions underscore the importance of context-sensitive policy design and implementation. In relation to concerns about emergency vehicle access, Goodman et al. (2021) analysed response times across 72 LTNs in London and found no significant delays in fire service attendance regardless of whether LTNs included physical or camera-enforced filters. Instead, a reduction in congestion-related delays was observed. Nevertheless, perceptions and fear of impaired access remain widespread, again highlighting the gap between measurable outcomes and lived experiences.

Qualitative studies investigating experience and perceptions of LTNs are limited with some evidence emerging from the cities of Birmingham, Manchester and London. Using thematic analysis of consultation data generated by residents in the city of Birmingham, Pritchett et al. (2024) highlighted the variegated and often polarised experience between those who welcomed improved safety and walkability and those living on boundary roads or who were more reliant on cars. Discontent arose not only from the physical changes in traffic flow, but also from emotional and spatial dynamics, particularly those of exclusion and belonging. In an earlier study of Manchester and surrounding areas, Larrington-Spencer et al. (2021) highlighted concerns among the community with regards accessibility and inclusion across intervention areas. Finally, more recent work by Verlinghieri et al. (2025) in London has highlighted the dissonances between what counts for residents and what is counted in quantitative data when the focus is traffic congestion.

In the introduction we highlighted how LTNs are not merely tools for managing traffic: they are interventions that reshape the rhythms, meanings, and struggles of urban life itself. This section has demonstrated the profound tension between technical success and social dissatisfaction and contestation. While there is evidence suggesting that LTNs improve air quality, reduce traffic, and enhance safety, these benefits are not uniformly perceived or experienced. Understanding public response to LTNs requires more than statistics. There is a need to attend to the lived experience of residents, shaped by the textures of place, the currents of politics, and the dynamics of power. To this end we now turn to an investigation of residents' perceptions and experience of LTNs in East Oxford, UK.

3. Case context: Oxford and the East Oxford Low Traffic Neighbourhoods (LTNs)

The city of Oxford (approximately 152,000 population) in the County of Oxfordshire has long been regarded as an innovator in terms of transport policy relative to other UK cities. In 1973, the city opted to *limit* rather than accommodate the private car and to persuade people to use the bus, cycle or walk through adoption of *A Balanced Transport Policy* (City of Oxford, 1973). As highlighted by Jones (1989; p231) writing at the tail end of the 1980s, the constraints of the historic centre and tight green belt preventing urban sprawl meant that, *'…the city has had to face up to the conflicting needs of different road user groups at an earlier date and in more acute form than cities of comparable or larger size'*.

One response to this challenge was for the city to become one of the first in the UK to adopt bus-based park and ride (P&R). In December 1973, the Redbridge P&R car park opened in the south of the city with dedicated bus services operating between the site and the city centre (Oxfordshire Blue Plaques Scheme, n.d.). Despite mixed results, Redbridge P&R was soon hailed as a success and blue-print (Parkhurst, 1995) and other P&R sites were developed in Oxford city and in other towns and cities in the UK. In the 1990s further measures to encourage a shift away from car use were introduced and included increased car parking charges in the central area; bus priority on key arteries into the city; instalment of cycle tracks; and improvements to the pedestrian environment including the pedestrianisation of the main retail shopping street (Cornmarket Street). Oxford, however, is not immune to the fact that in the UK, the planning and design of transport infrastructure has traditionally neglected walking and cycling (Pooley et al., 2013). Despite being the UK's self-proclaimed 'Cycling City', Oxford ranks poorly in terms of provision for, and levels of, active travel compared to other European countries (Buehler & Pucher, 2012). Indeed, the local authority has even gone as far as to recognise that conditions are 'very poor' (Oxfordshire County Council, 2020).

To the present era; Oxford's Local Transport and Connectivity Plan

2022–2050, adopted by full Council in July 2022, includes the ambition: (i) to reduce 1 in 4 car trips by 2030; (ii) deliver a net zero transport system by 2040; and (iii) have zero, or close as possible, road fatalities or life-changing injuries by 2050 (Oxfordshire County Council, 2022). The sustainable urban mobility plan has been evaluated as having a strong focus on public health through promoting active travel (Kasraian et al., 2024).

As set out in section 2, in May 2020 local authorities were encouraged to bid for a slice of the £220 million Emergency Active Travel Fund (EATF). Oxfordshire County Council was successful in its bid for funding. This allowed the development of LTNs in the east of the city having been identified as fundamental to promoting active travel and achieving a target increase in cycling by 50% by 2031 (Oxfordshire County Council, 2020). The first LTNs were installed in March 2021 in the Cowley area covering Temple Cowley, Church Cowley, and Florence Park neighbourhoods on the eastern side of the city. Much of the housing in the area was built between the 1920s and 1960s to house workers involved in car production at 'Plant Oxford' operated by BMW and currently employing around 5000 people. Following a monitoring exercise, the decision was made by Council in July 2022, for them to remain in place (Oxfordshire CC, n.d.[1]). Further LTNs were implemented in inner east Oxford covering the Divinity Road area, St. Clement's area, and St. Mary's area – the 'East Oxford LTNs' (Fig. 1). This area comprises predominantly more densely arranged terraced housing (built in the late nineteenth and early twentieth century) located along narrow streets with little or no private off-street residential car parking. This means private car parking is only permitted in designated parking bays – located half on the footway and half on the carriageway due to narrow streets – by applying for a residential permit to use the city's controlled parking zones (CPZ). LTN schemes all incorporated traffic

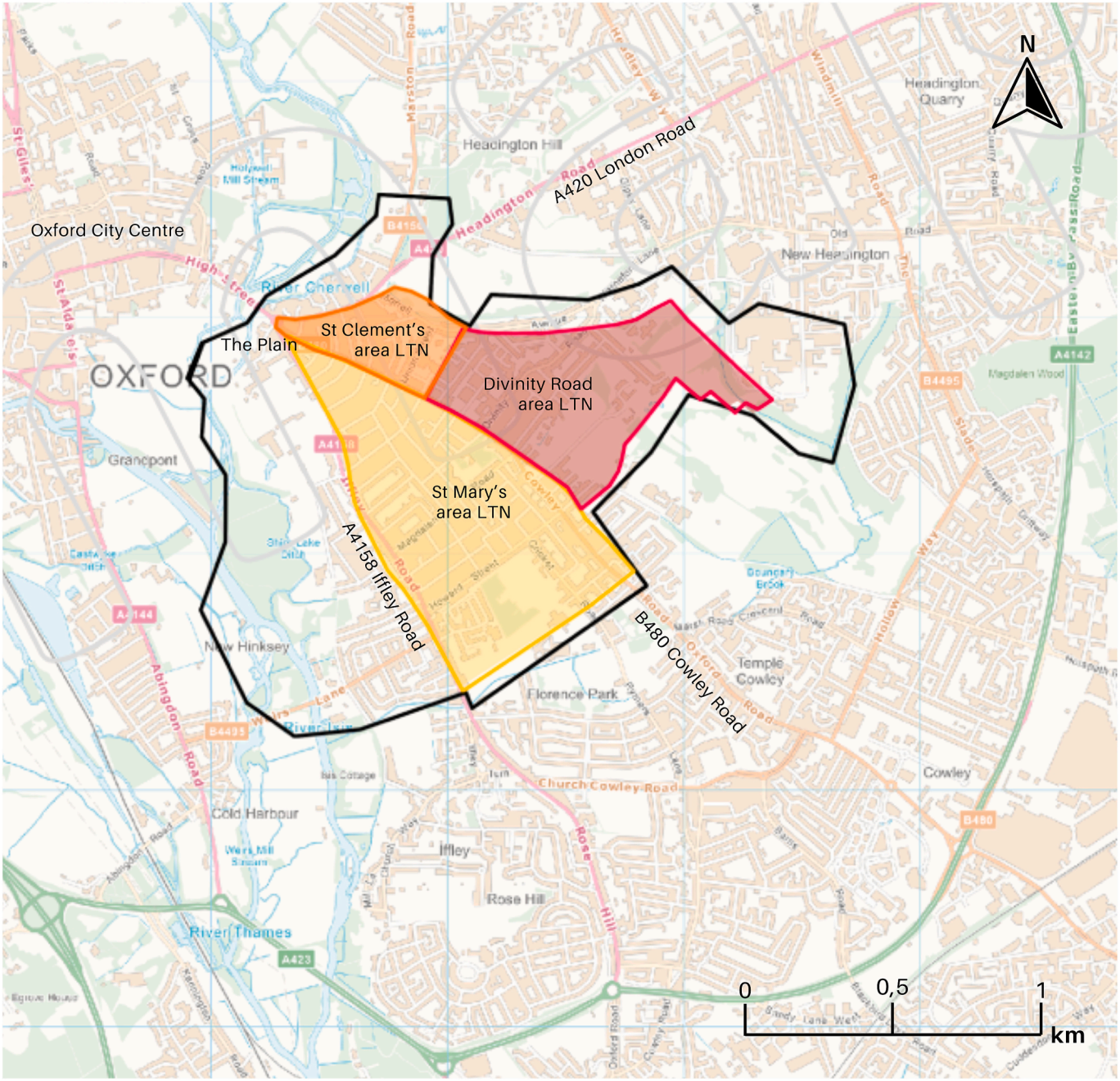

Fig. 1. The East Oxford LTNs: Divinity road area; St. Clement's Area, St. Mary's Area. Source: adapted from Oxfordshire County Council and Digimap.

filters in the form of bollards and planters providing point closure for motor vehicles while maintaining access for pedestrians and cyclists (Fig. 2). The East Oxford LTNs were implemented in May 2022 and initially trialled for 18 months through an experimental traffic regulation order (ETRO) and then adjusted to incorporate a mixture of physical barriers (Fig. 3) and Automatic Number Plate Recognition (ANPR) filters that permitted passage by taxis and licences private hire vehicles (Fig. 4).

Oxford's LTN schemes are regarded as the most ambitious in the country and the most contested (Dudley et al., 2022). Indeed, the east Oxford area has a history of similar experiments in the 1980s, but these had received kickback from businesses and members of the public. This resulted in a few road closures being made permanent, some treated with traffic calming measures, and others reopened fully (Bhatia, 2021). The recent installation of LTNs appeared to have reopened old wounds. In February 2023, the city became the focal point for the UK's 'low-traffic protests' where thousands of protestors demonstrated against Oxford's LTN schemes (Quinn, 2023). The East Oxford LTNs gained further media attention in April 2023, when they featured on the BBC's prime time current affairs programme, Panorama (BBC, 2023) and the print media reported vandalism of bollards and threats to local Councillors who supported the scheme (Grierson, 2023). Despite contestation, in October 2023, the decision was made by Council to make the LTN permanent (Oxfordshire County Council, n.d.[2]).

4. Approach and methods

The data in this study were generated from qualitative interviews

Fig. 3. Southfield Road Bollard (with unofficial affixed sign - see inset image - taking lyrics from British folk musician Yusuf / Cat Stevens' 'Where do the children play?' released November 1970 by Island Records). Source: Authors.

that were part of a funded study titled, Understanding Mobility and Activity in the Low Traffic Neighbourhood. The study involved posting an invite to approximately 5000 residents living in the East Oxford LTNs during the summer of 2024 inviting them to take part in an online survey about their experience and perceptions of the East Oxford LTNs. The survey was hosted on the Qualtrics[XM] online platform and targeted at

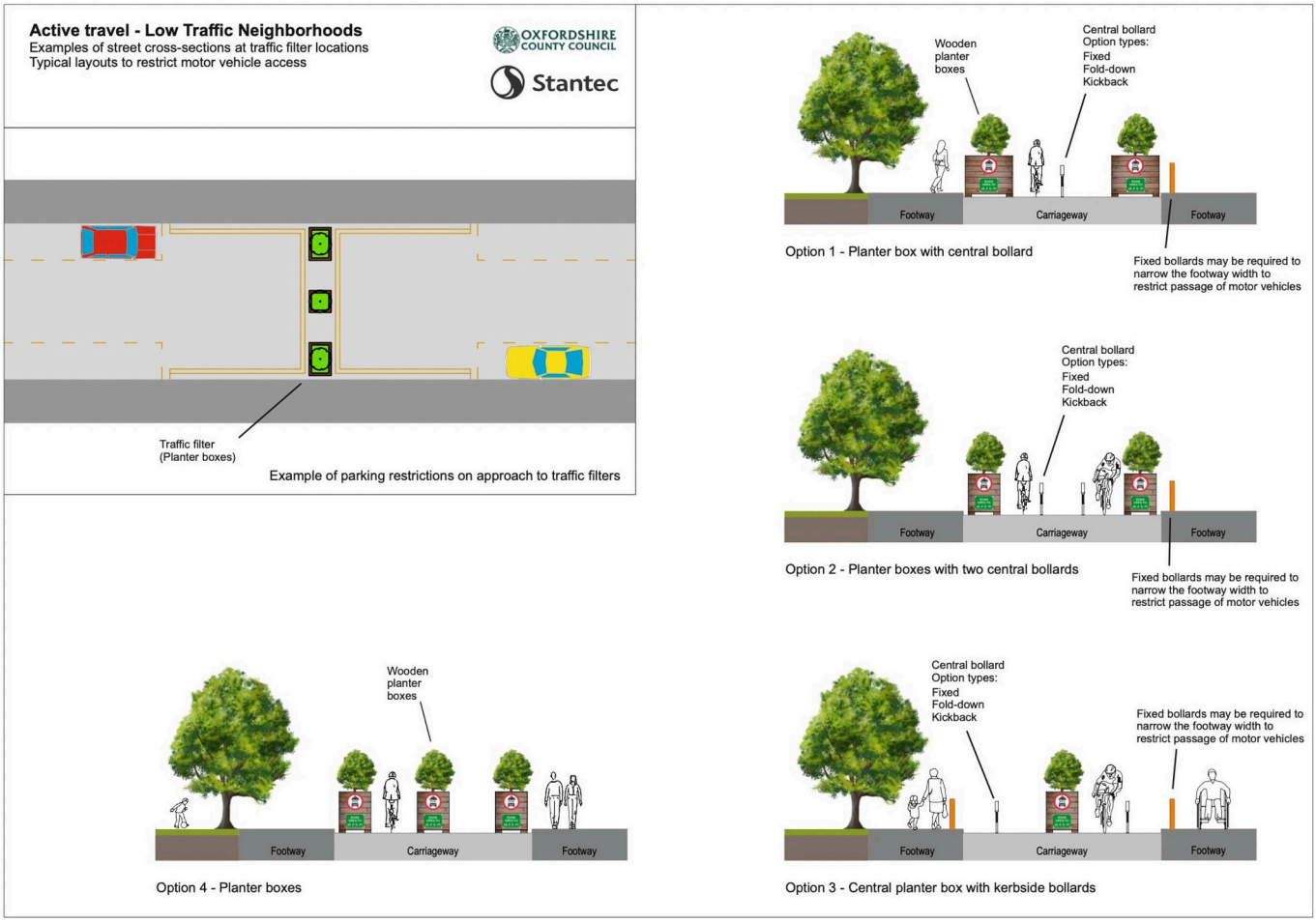

Fig. 2. Typical layout at traffic filter locations. Source: Oxfordshire county council.

Fig. 4. Magdalen Road bollard with automatic number plate recognition (ANPR). Source: authors.

adult householders aged 18 plus. The survey gathered data about respondents (e.g. age, gender, health etc.) and their household (e.g. residential address, household composition, car availability etc.) and a series of modules focused on perceptions of the LTN and its impact (travel behaviour and other activities). Respondents were also asked to indicate their overall level of support for the East Oxford LTN on a scale of one (low support) to ten (high support). At the end of the survey respondents were also able to indicate whether they were willing to participate in a follow up interview. The survey generated responses from 528 residents – results have been reported in Jones and Yardim Meriçliler (2025) – with around one-third agreeing to take part in follow-up interviews. The focus of this paper is the qualitative component that unpacked the lived experience of the LTNs which involved conventional interviews as well as mobile interviewing while on the move (aka 'go-alongs').

Interviews – A total of 30 respondents living at separate addresses spread across the LTNs (within the LTNs and along boundary roads) were involved in follow-up interviews during the autumn and winter of 2024. Participants were selected to ensure a diversity of people who indicated different levels of support for the LTNs in their response. Interviews took place either online or at the participant's home or a mutually agreed space and lasted around 45 minutes (see Supplementary Material for interview schedule). Interviews were transcribed and shared with participants for them to confirm accuracy.

Mobile methods ('go-alongs') – A subset of 15 participants from the initial interviews took part in a mobile 'go-along' interview (Carpiano, 2009; Kusenbach, 2003). This involved accompanying them on a regular journey they made from their home and enabled a situated understanding of mobility experience when moving through (and in some cases, beyond) the LTNs (Boas et al., 2020; Buscher & Urry, 2009). The field research involved interviewing participants about their experience and observing their emotions while they interacted with infrastructure and other people along their journey. Journeys typically started from participants' homes and took anything from twenty minutes to three hours to complete. Most of the go-alongs took place within the local neighbourhood but some extended to other parts of the city centre. All fieldwork was conducted by the authors and in most cases, interview material was validated with participants.

Approach to analysis – First, it should be noted that all authors were 'close' rather than peripheral to the data. Each author played an active role in generating the data during the fieldwork stage and conducted analysis collaboratively in repeated sessions of group discussion during the interpretative enterprise to reach consensus. To analyse the dataset, we were guided by the six phases of Reflexive Thematic Analysis (RTA) set out by Braun and Clarke (2006, 2021). We also found Byrne's (2022) worked example on health and wellbeing education research useful in facilitating reflection on the theoretical underpinnings of RTA and helping us to operationalise the theoretical assumptions of our own data in relation to the study from which it was generated. For our study, we adopted a constructionist epistemology acknowledging the importance of recurrence of themes but also the importance of meaning and meaningfulness on the part of the researcher (in interpreting data) and also on the part of the participant in terms of different levels of expression on the importance of a theme (ibid.) Our approach also followed a critical orientation by examining the mechanisms that inform the construction of systems of meaning. That is, we were not only interested in participants' experience of reality but also their construction of social reality within the wider social context and discourses on LTNs. Finally, while our approach to analysis was inductive insofar that it adopted a 'data driven' approach and generated codes based on the content of the data it is, to some extent, theory driven given that we solicited stakeholder input into the design of our survey of residents to gauge attitudes about LTNs and purposively selected participants for interviews from this sample. We also designed a semi-structured interview and therefore the types of questions in that interview and the responses we received during interviews, to some extent, shaped how we coded data (Kvale & Brinkmann, 2008). We acknowledge therefore, that there is an element of induction *and* deduction in our overall approach. Before we explain the process of analysis we followed below, we should also state that we sought to produce 'latent codes' that seek to go beyond description of what participants have said (i.e. 'semantic coding') and that, '...attempt to identify hidden meanings or underlying assumptions, ideas or ideologies that may shape inform the descriptive or semantic content of the data' (Byrne, 2022; p1397). We were also attuned to participants expressing their values and emotions given the (presumed) divisive nature of the topic.

During the *first phase*, all three authors familiarised themselves with participant interview transcripts (n = 30) generated from the sit-down interviews and a series of vignettes generated from the mobile interviews (n = 15) – see Supplementary Material. When reading the transcripts and listening to the audio recordings we did so with consideration of the guiding questions suggested by Emerson et al. (2011; p177) (albeit for ethnographic fieldnotes) which we adapted to our study topic): *(i) How do participants talk about, characterise, and understand LTNs? (ii) What are people doing? How has this changed since the implementation of the LTNs? What are they trying to accomplish? (iii) How, exactly, do they do this? What specific means and/or strategies do they use? (iv) What assumptions are they making? (v) What do I see going on there?* and in relation to fieldnotes; (*vi) What did I learn from these notes? (v) Why did I include them?* In the *second phase*, we each applied semantic coding, or 'essence capturing' (Saldaña, 2013; p7) to six transcripts. These were selected (based on scores from the survey on level of support for the East Oxford LTN) to represent two participants who indicated that they were 'anti-LTN'; two who indicated they were 'pro-LTN'; and two who indicated that they were neither 'anti-LTN' or 'pro-LTN'. The authors then collated, compared and refined their codes into an initial coding framework. The remaining transcripts (n = 24) were divided equally, and each author applied the agreed initial coding framework but were free to modify or add codes (recording adjustments on a memo). The authors then compared their coding activity and developed a final coding framework – see supplementary material. Then each author retrospectively coded their batch of transcripts using the agreed framework before swapping and reviewing each other's batch of coded transcripts to ensure consistency in the application of the framework. *Phase three* involved the authors generating initial themes (i.e. an outcome of coding, categorisation or analytical reflection (Saldaña, 2013; p14)), or 'shared pattern meaning', by revisiting codes applied to all transcripts and considering overlapping and potentially connected codes that represent broad ideas or concepts. A visual map consisting of

themes and sub-themes was developed. *Phase four* involved recursively developing, reviewing and then naming themes until authors were satisfied that a suitable thematic map had been produced (Fig. 5). *Phase five* involved defining themes and developing accompanying narrative along with selected data extracts to illustrate the themes. *Phase six* was to provide a valid and compelling account of our data which we reveal in the next section.

Ethics – The study was approved by Oxford Brookes University Research Ethics Committee (registration number: 231763). All participants gave their written consent to the interview and the use of anonymised quotations and visual material generated during the fieldwork. For the purposes of confidentiality, all names cited in the following text are pseudonyms.

5. Findings

5.1. Participant sample

A summary of the thirty participants who took part in interviews is shown in Table 1. Those fifteen who also took part in additional go-along interviews are indicated with an asterisk (*). All names used in this manuscript are pseudonyms. The participants represented members of an established neighbourhood residing in the area for at least six years and anywhere upwards towards fifty years. Individuals travelled by different means of transport, but nearly all had access to a car in their household. They represented people of different ages, genders, ethnicities, economic status, health status, and different household types.

The social survey discussed in the previous section and reported in Jones and Yardim Meriçliler (2025) identified the 'level of support for LTNs' was 6.5 (on a scale of one to ten). This was 6.2 for the sub-sample of participants taking part in interviews and therefore closely matches the average score from the survey sample from which it was drawn. The sub-sample for interviews consisted of just over half ($n = 16$) of all participants who indicated a higher than average level of support for LTNs (i.e. scored over 6.5, ranging from 8 to 10 points) – 'supporters' for the purposes of this article – with the remainder ($n = 14$) indicating below average score (i.e. below 6.5, ranging from a score of 1 to 5) – 'opponents'. Our survey also identified that those living on boundary roads of LTNs were *more likely* to record a lower score. However, it should be noted that the sample of participants who took part in qualitative interviews also comprised 'supporters' who lived on boundary roads (i.e. George and Patrick) as well as 'opponents' who lived within an LTN ($n = 11$).

A collection of case summaries for the 30 participants (Table 1) has been provided as Supplementary Material. These provide readers with detail of each participant's household circumstances and mobility and help to inform the findings reported in this section. Findings are organised into three sections corresponding with the thematic map (Fig. 5). Firstly, in section 5.1, we highlight *perceptions* of the impact of the LTNs, notably on the natural and social environment and the local economy. Second, in section 5.2, we highlight participants' *experience* of the impact of LTNs in relation to travel behaviour and other activities (lifestyle and health) and how they perceive this to have impacted (their) sense of community and belonging (i.e. *genius loci*). Finally, in section 5.3, we highlight participants' perceptions and experiences of the *process* of planning and implementation of the East Oxford LTNs by the local government. Throughout the three sections we try to convey the feelings and emotions expressed by our participants (Saldaña, 2013; pp. 105–107) from the perspective of those who support, and those who oppose, LTNs.

5.2. Perceived impact of LTNs

Supporters of the LTNs generally expressed joy and satisfaction with their installation. The majority who lived in the LTNs commented on the dramatic improvement to the streets outside their front doors describing them as quieter, safer and more sociable. The impact of the LTNs was described as 'transformational' in terms of the reduction in traffic and associated noise and air pollution and improvement to the quality of the environment. Martin, living within the LTN, explained how he was now

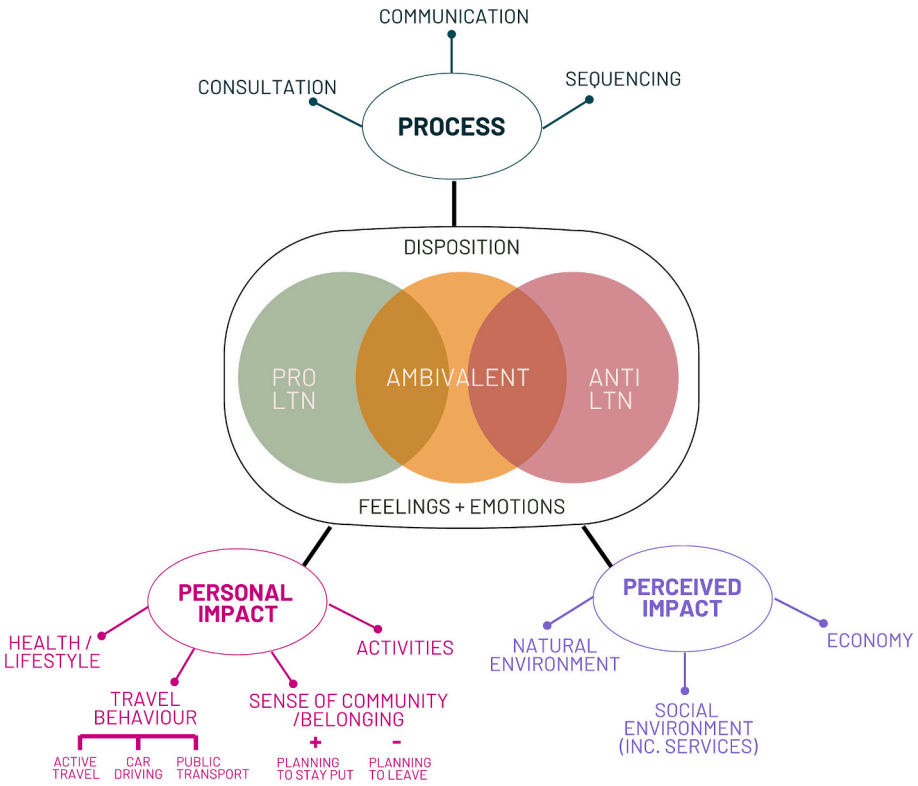

Fig. 5. Key themes identified through thematic analysis of the research data.

Table 1
Characteristics of participants who took part in interviews and mobile methods.

Name	Gender	Age category	Ethnicity	Health status	Economic status	Household type	Duration (yrs) at current address	LTN or boundary road	Car Driving Licence	Car Availability at household	Bike availability	LTN Score	Support for LTN [3 cat]
Kevin	M	40s	White	Good	In paid full-time work	Couple with child(ren) U16	10	within LTN	Yes	Yes	Yes	10	High
Liam	M	70s	Mixed or multiple ethnic groups	Fair	Retired	Single adult	30	within LTN	Yes	Yes	No	1	Low
Jackie *	F	70s	Mixed or multiple ethnic groups	Good	Retired	Couple	30	within LTN	Yes	Yes	Yes	1	Low
Ellie *	F	60s	White	Fair	Permanently disabled	Single adult	47	within LTN	No	No	Yes	10	High
Natascha *	F	40s	White	Good	In paid full-time work	Couple with child(ren) U16	45	within LTN	Yes	Yes	Yes	9	High
Iqbal *	M	40s	Asian or Asian British	Good	In paid full-time work	Couple with child(ren) U16	7	within LTN	Yes	Yes	Yes	1	Low
Alan *	B	50s	White	Good	Retired	Couple	40	boundary road	Yes	Yes	Yes	3	Low
Brian	M	60s	Other ethnic group	Good	In paid part-time work	Couple	7	within LTN	Yes	Yes	Yes	5	Moderate
George *	M	40s	White	Very good	In paid full-time work	Couple with child(ren) U16	9	boundary road	Yes	Yes	Yes	10	High
Martin *	M	80s	White	Very good	Other	Single adult	10	within LTN	Yes	Yes	Yes	10	High
Patrick	M	70s	White	Very good	Retired	Couple	50	within LTN	Yes	Yes	Yes	9	High
Henry	M	20s	Black, Black British, Caribbean or African	Very good	In paid full-time work	Adult living with parents	20	within LTN	Yes	Yes	Yes	1	Low
Daniel *	M	60s	White	Good	Retired	Couple	18	within LTN	Yes	Yes	Yes	3	Low
Charles	M	30s	White	Very good	In paid full-time work	Couple with child(ren) U16	6	within LTN	Yes	Yes	Yes	10	High
Isaac *	M	60s	White	Very good	Retired	Couple	20	boundary road	Yes	Yes	Yes	1	Low
Fiona *	F	40s	White	Good	In paid part-time work	Couple with child(ren) U16	13	boundary road	Yes	Yes	Yes	5	Moderate
Laura	F	30s	White	Good	In paid full-time work	Couple with child(ren) U16	17	within LTN	Yes	Yes	Yes	10	High
Natalie *	F	70s	White	Very good	Retired	Single adult	9	within LTN	Yes	No	Yes	1	Low
Matthew *	M	50s	White	Good	In paid full-time work	Couple with child(ren) U16	15	within LTN	Yes	Yes	Yes	9	High
Omar	M	60s	Asian or Asian British	Very good	In paid full-time work	Couple	35	within LTN	Yes	Yes	Yes	4	Moderate
Holly	M	80s	White	Good	Retired	Couple	30	within LTN	Yes	Yes	Yes	10	High
Jessica	F	40s	White	Good	In paid part-time work	Couple	20	within LTN	Yes	Yes	Yes	9	High
Katherine *	F	30s	White	Very good	In paid full-time work	Couple	8	within LTN	Yes	Yes	Yes	10	High
Diana	F	50s	White	Very good	In paid full-time work	Couple	35	within LTN	Yes	Yes	Yes	7	Moderate
Emily	F	40s	White	Good	In paid full-time work	Couple	6	within LTN	Yes	Yes	Yes	10	High
Grace	F	50s	White	Bad	In paid part-time work	Couple	25	within LTN	Yes	Yes	No	1	Low
Alice *	F	30s	White	Very good	In paid part-time work	Single adult	8	within LTN	Yes	Yes	Yes	10	High
Bethany	F	60s	White	Bad	Retired	Single adult	40	within LTN	Yes	Yes	Yes	2	Low
Ian*	M	50s	White	Good	In paid full-time work	Couple with child(ren) 16+	25	within LTN	Yes	Yes	Yes	1	Low
Frank	M	70s	White	Good	Retired	Couple with child(ren) 16+	35	within LTN	Yes	Yes	Yes	9	High

* Denotes participants who also took part in a 'go-along' interview as part of mobile methods. Note: All real names have been replaced by pseudonyms.

able to leave his window open at night to let in fresh air and that he had noticed that increased biodiversity both in his own garden as well as along footways and gutters, *'In a radical way, it's transformational of our personal lives, quieter, cleaner, safer, healthier'* (Martin, 80s, lived within LTN). These benefits were mainly felt within the LTN as opposed to boundary roads. As Laura put it:

'We've said, "it feels like being on holiday!". You just come off the very busy road – which I do see has got an awful lot worse. But you turn into any of these side streets… and it's completely different. It's just a lovely place to be'. Laura, 30s, lived within LTN.

Many supporters thought that the neighbourhood within LTNs had become safer for people to walk and cycle, particularly for families with young children, and that they had noticed that more people were doing so. There was a perception by some those small businesses, especially cafes, had flourished in certain parts of the East Oxford LTNs since their installation, and some thought that this had brought people together, for example, to organise an online community forum and an annual street festival. Many expressed delight over the opportunities to chat with neighbours, for example, Heather pointed out that the road closure on her street meant that she had experienced more serendipitous interactions with neighbours:

'I know my neighbours better because I see them. I see them walking too. So that's really nice, actually. I mean, I very rarely walk [down to the shop at the bottom of the road] without seeing somebody. And that's, that's really nice. It's a nice observation. I like that, yeah, yeah. Nearly always. I go back to my husband and say, "I saw whoever it is I saw." You know, yeah, nearly always'. Heather, 70s, lived within LTN.

Despite the positive stance on LTNs, some negative aspects were highlighted by their supporters. There was dismay about the level of vandalism to some bollards and aggression by some drivers when the scheme initially opened. There was also the feeling that conditions had deteriorated along boundary roads because of increased motor traffic and frustration that the scheme had been 'watered down' since taxis were subsequently permitted to drive through parts of the LTNs (via ANPR gates). There was also concern that (mainly delivery) motorbikes, mopeds and adapted e-bikes were capitalising on the filtered permeability, often moving at speed through the neighbourhoods.

'The scooters [mopeds] are a problem. Actually, they're even more now. I think a lot of people have bought scooters to try and drive around the LTNs, even though that's not allowed. You know, LTNs aren't supposed to let the [scooters go through], but lots of people have bought those as a solution'.

Charles, 30s, lived within LTN.

Those who lived within LTNs and supported them often acknowledged their 'privileged' status. They expressed sympathy for those who needed to use their cars for work and for elderly or disabled people who may need to rely on their car for everyday mobility. However, there was some scepticism that the impact of the LTNs on car travel times had been exaggerated by some members of the 'anti-LTN lobby'. For example, George, who lived on an LTN boundary road, expressed dismay that the scheme has been divisive but felt that much of the controversy came from misinformation with some residents falsely claiming they are 'locked in' or restricted to a 15-minute radius and that this had emerged from conspiracy theories circulating about the ulterior motives of 15-minute city programmes.

'The opposition to LTNs isn't about logic. It's about emotion, misinformation, and a deep unwillingness to change. No matter what data you show, some people just won't listen.'

George, 40s, lived along a boundary road.

Brian was one supporter of LTNs who acknowledged the divisions but felt that the curtailment of traffic was necessary because a balance had to be struck between reasonable access by motor traffic and good standard of environment. He recognised that he and his family, who were car-less and relied heavily on active travel, had benefited from this rebalance:

'I was a loser before, and now I'm a winner! I don't deny that there are some people who are more inconvenienced, but a lot of people have benefited from improved road safety, are getting fitter because of cycling, and have less asthma. It's a nicer, more pleasant environment, leading to better quality sleep. I think overall, those who are losing out are experiencing inconvenience, but sometimes there are other options available to them. Those who are winning are benefiting in the right ways, particularly in terms of mental health and overall well-being.'

Brian, 60s, lived within LTN.

Opponents of the LTNs generally perceived that they made mobility by car unnecessarily difficult as places now took longer to get to because of the need to circumnavigate LTN zones using boundary roads that had become busier. While they felt that the LTNs had benefited people travelling on foot or by bike within the zones, particularly those travelling with children, they were sceptical whether LTNs had the effect of encouraging more people to walk and cycle or encouraged children to play out in the street. They often talked about what they felt was a disproportionate impact on older or disabled members of the community who they perceived had more difficulty making journeys on foot and particularly by cycle. Indeed, the challenge of getting some members of the community to cycle was highlighted. For example, Omar, an Asian male who himself cycled to work, expressed doubt over whether LTNs would encourage older Asian females out of cars and onto bikes:

'When it comes to Asian women, they are rare. It's very rare for them to ride a bicycle. You may notice it. Young people do that, maybe, but we are talking about mature people who own their houses and that. In this area, they don't tend to use bicycles. Women. And they still prefer to use a car if they can'.

Omar, 60s, lived within LTN.

Opponents regarded LTNs as unfairly penalising some sections of the community. The strongest opponents were those who felt that they needed to use their cars for work, to drop children at school, or because it was their main means of getting around (some because of a health issue or disability). Alan talked about LTNs as a class issue; policy imposed by middle-class groups lacking adequate consideration of working-class residents, small business owners and taxi drivers as well as older and disabled people. He was keen to point out that the focus should be on reducing commuter traffic and that local people should not be penalised:

'I'm not against the LTNs – it might sound like I am, but I'm not. I actually think controlling traffic is really important, but you need to understand that there's commuter traffic trying to cut across East Oxford twice a day, and there are local people who want to make short journeys. The challenge is how to adapt the neighbourhood so short journeys remain viable and relatively green while not putting up barriers that make it difficult for elderly or disabled people who rely on cars'.

Alan, 60s, lived along a boundary road.

People living along boundary roads were much more likely to be unhappy with LTNs. Fiona was an interesting case in that she strongly opposed LTNs but mainly used her bike to move around the city with her small children and was a major proponent of sustainable travel. She was one of several people who lived near a major junction on a boundary road and wanted to see more radical action to reduce traffic across the city and not just in certain neighbourhoods. On completion of a cycling go-along to drop her children off at nursery using an e-bike, child seat and child trailer, Fiona explained her stance:

'I'm sort of in a group of people who would technically or ethically be in favour of LTNs, and all of my friends are in that group. But I'm absolutely not. I'm there sort of with, you know, the people who are saying, "This is a class issue, actually". And, you know, these comfortably off people in the nice neighbourhoods get less traffic, while the less affluent people on the busier streets get more traffic'.

Fiona, 40s, lived along a boundary road.

Several opponents thought that emergency service vehicles were taking longer to access certain areas of the neighbourhood because of reduced permeability or congestion along main routes. Businesses were also perceived to have been negatively affected due to increased difficulty accessing them by car. Some participants described how they had

witnessed drivers of delivery vehicles having difficulty turning and typically having to reverse out of LTNs which sometimes caused damage to parked vehicles. Others pointed out problems with the increase in vehicles parked illegally in the entrances to plugged streets along boundary roads, and general lack of maintenance of bollards and planters which they felt added to the general untidiness of the area. Ian, for example, was one of those who expressed frustration about lack of maintenance of LTN infrastructure:

'What's annoying is they put all these things in the street and then don't have the maintenance budget to keep them looking nice. Now, they look like shit holes. And because they look like shit holes, they get used as fly tipping, and then that makes it uglier. So, it's like, yeah, great. Put these dumps at the end of the street and don't look after them properly. That's my biggest bug bear, is that they're not looking after them as well'.

Ian, 50s, lived within LTN.

5.3. Personal impact of LTNs

Many supporters stated that the implementation of LTNs did not have a significant impact on the way they travelled because they already walked and cycled for short distances. Despite this, many conveyed how they had forfeited some short journeys by car in favour of walking or cycling, for example, to access the local shops in poor weather when they may have typically jumped in the car. People in households with small children also expressed that they felt less anxious about traffic and were more likely to walk or cycle with their families rather than drive or to allow their children to walk and cycle to school alone. As Kevin, in his 40s, who lived in a household with children put it, *'Before the LTN, the roads felt chaotic– now my kids can cycle to school without me worrying constantly' adding, 'I used to rely on the car for short trips, but now I cycle almost everywhere—it just makes sense'.*

Both supporters and opponents talked about being more strategic about their car use. For example, those with discretion over when they travelled, timed their journeys to avoid peak congestion. Jackie and her partner were retired and shared their frustration of how they were spending more time travelling to collect their grandchildren from school by car but how for other journeys to activities they were able to avoid peak travel hours:

'The impact on us is that [car] journeys take longer. Yeah, and that we have to make different arrangements for some journeys. That's the impact on our life. That's yeah, it's not, in the scheme of things, it's not a big deal'.

Jackie, 70s, lived within LTN.

Others expressed that they had *no choice* but to use their car at certain periods for certain purposes and were resigned to journeys taking longer by car. A go-along journey with Alan, for example, highlighted the complex adaptations he had made in response to the LTN. To attend his weekly evening pottery class, he would walk 15 minutes across the boundary of the LTN to pick up a friend's car where he stored his pottery tools and drive it to college in the city centre. His friend also went to the same pottery class, but they worked in the city centre and usually took public transport. At the end of class his friend would drive the car home and drop Alan before returning to their home (see supplementary material – 'Go-along observation: Alan'). Participants also described or were observed re-routing their journeys to avoid traffic congestion on boundary roads and explained how they now conducted multi-purpose trips. For example, on a go-along journey by car with Iqbal and his two children to drop them at different schools, we travelled along a residential street within an LTN that paralleled the boundary road. Iqbal explained that this was to avoid joining the boundary road earlier and having to queue in traffic. He explained how his journey now took nearly twice as long now the LTNs were in place but he felt obliged to escort his children as part of his caregiving duties. He was resigned to the situation and stated that he remained calm while stuck in traffic even when congestion was bad and he knew that his children were going to be late for school. He also explained how family shopping trips had been impacted and how he now drove his car to a nearby store on his side of the barrier to load up on produce to avoid circumnavigating the LTN to access the previous establishment that he frequented:

'For households like mine, from an Asian background, the shops that serve our essentials—like rice, flour, meat, and other food—we used to be able to drive to Cowley Road, park outside, load the car with a month's worth of shopping, and come back. That's not so easy to do now, and I think people have suffered trying to get to those locations'.

Iqbal, 40s, lived within LTN.

A few participants expressed that, in certain situations, they had simply decided *not* to travel at all while others had reduced some of their car use and were making more local journeys, for example to local grocery stores, on foot. Ellie, in her 60s, and living in an LTN, felt particularly aggrieved as she was disabled and relied on a wheelchair accessible vehicle to get around but was not permitted to pass through the ANPR controlled gate near her home which would give her the most direct route to access local shops: '*I had a wheelchair-accessible vehicle and freedom – and now it's been taken away …people who can walk and cycle love it. People like me are just left behind.*' Frustrated by the lack of discretion for people in her situation, Ellie explained how she had stopped travelling by car to some parts of the city because, *'it's just not worth the hassle'.*

Interestingly, nearly all our participants said that they enjoyed living in Oxford. Nearly all expected to remain in their current property apart from one couple who were planning on downsizing and Fiona (quoted earlier) who was considering moving specifically because, as she explained, the worsening environment and social interactions outside of her door that her and her family had experienced since the installation of LTNs:

'Lots of beeping and shouting and things like that. It's made us want to move. Definitely. I think we should move to Marston [a quieter neighbourhood with good walking and cycling access to the city centre], because it just feels like an angry place to be which is not that nice'.

Fiona, 40s, lived along a boundary road.

5.4. Governance (planning and implementations of East Oxford LTNs)

As stated in the introduction, the governance of LTNs has been characterised by a tension between centralised ambition and local complexity. Three themes that were recurrent during interviews among both supporters and opponents of the East Oxford LTNs were issues around *sequencing, consultation*, and *communication*. There was frustration that major schemes had not been completed prior to LTNs being implemented, namely: proposed bus gates on key routes in which only buses and other authorised vehicles can go through had been delayed, and a replacement railway bridge at Oxford railway station which meant that the western arterial road to the city remained closed. It was felt that this could have alleviated congestion at key points in the network and reduced negative attitudes towards LTNs. There was a feeling, particularly among older and disabled participants, that the Council lacked understanding of the challenges that some people faced who needed to use their cars and that schemes were 'imposed' without proper consultation and that legitimate concerns were obscured by the misinformation being shared on social media by some members of the online community vehemently against the schemes. It was felt that a more effective communication strategy was required to tackle these false claims. Martin's quote illustrates this conundrum:

'In terms of public policy, things might have been handled better with more consultation…but the opposition to low traffic neighbourhoods has been, I think, ramped up by people in whose interests it is to ramp up opposition.

I think the planners could have been more radical, and I think they could have made the changes more palatable to people by ensuring that the bus services were visibly improved and easy to make, that would have sweetened the pill'.

Martin, 80s, lived within LTN.

In summary, whilst supporters felt that LTNs were a step forward, many felt that the LTN programme of implementation could have been

better handled. Opponents recognised that something had to be done to tackle traffic but felt that the issue was complex and LTNs were not the solution. Across both groups there was the desire for more substantial measures to encourage and support people to travel more sustainably but that did so in a way that benefitted city's residents outside of designated LTNs. Unfortunately, the perceived damage that had been done to social relations due to the emotional response from both those who supported and those who opposed the LTNs was illustrated in quotes by Daniel and Isaac:

'I think one of the most disappointing impacts of the LTNs is the amount of local friction that it's caused. You know, I've got two neighbours who still aren't speaking to each other because they were on different sides. And you know it's been very divisive. I think it's not one of those things. I think people's reactions to it are largely kind of emotional. So, they're not. It's not a situation that you can really improve, because you can't talk somebody round to your point of view. So, I think that's been one of the really serious impacts. Actually kind of shattered some of the sense of community that there was in places before'. Daniel, 60s, lived within LTN, supported LTNs.

'It's been astonishing. When I engage with people who are pro-LTN, I am often cast as a "petrolhead" or someone in league with [mentions well-known right-wing commentators] which is frustrating. I'm not against reducing car traffic. In fact, I love Oxford and I'm passionate about cycling. I want to see Oxford become a city like many in Europe that has successfully reduced car traffic. Even central London has become much more pleasant due to their efforts to reduce traffic. So, I'm not anti-LTN, I'm anti-car traffic in urban environments!' Isaac, 60s, lived along a boundary road, opposed LTNs.

6. Discussion

In this paper we analysed interview accounts of thirty participants living in the East Oxford Low Traffic Neighbourhoods in the city of Oxford UK to understand their lived experience. Our analysis also included observations of participants while on the move in and beyond LTNs.

Although LTNs are generally regarded as making a positive impact across intended outcomes (Aldred et al., 2021; Goodman et al., 2021; Laverty et al., 2021; Leach et al., 2024; Thomas & Aldred, 2024; Yang et al., 2022) we found wide variation in level of support often depending on personal and household circumstances. Our findings attempted to understand the complexity of opinion about their perceived impact and unpick the nuance in opinion among supporters and opponents of LTNs and their emotional responses. We highlighted the adaptations to personal lifestyles and mobility that had been made by residents in response to LTNs and that attitudes towards LTNs were rarely fixed or unambiguous; rather, participants expressed complex and often emotionally charged positions which included both perceived benefits and frustrations. And while studies have shown a trend in reduced car use among residents living in London's LTNs (Aldred et al., 2021, 2024), participants in our Oxford study felt that, while their personal and household car use had reduced and walking and cycling increased, this was marginal compared to the more transformative mobility transition anticipated by the policy. Furthermore, we did not find strong evidence of increased reliance on public transport following the introduction of LTNs.

We illustrated that there is convergence among supporters and opponents of LTNs that something needed to be done to tackle motor traffic, but we identified a multiplicity of perspectives on how this should be achieved. Foremost, participants across groups expressed concerns about the burden of transition being unevenly distributed, and called for more comprehensive, city-wide investment in alternative transport infrastructure, particularly public transport improvements and safer cycling provision (beyond residential streets), and a focus on tackling problems on boundary roads. This highlights a key tension: LTNs are perceived as focusing on neighbourhood-level configuration, while many residents framed traffic as a systemic urban problem which requires better coordination and network-wide solutions.

We also highlighted convergence across groups on the importance of involving the public in planning and development of LTNs so that citizens do not feel disadvantaged and excluded. Corresponding with findings by Pritchett et al. (2024) from their study of consultation responses to LTNs in the city of Birmingham, UK, we also found that discontent was linked to emotional responses related to exclusion and belonging. We highlighted how statutory arrangements put in place by the national government meant quick implementation of LTN schemes by local authorities often with limited time and resources for in-depth consultation (Dudley et al., 2022). In the case of Oxford, the local government was presented with the challenge of rapidly delivering a significant sustainable transport intervention without the necessary prerequisites (e.g. bus service and cycle infrastructure improvements) as part of a phased approach to implementation. This had created palpable tensions within the community, reinforcing narratives of imposition rather than collective transition.

It is notable that Oxford has ambitious strategies to reduce car use and deliver a net zero transport system by 2040 and zero (or close to zero) road fatalities or life-changing injuries by 2050 and these are underpinned with a strong focus on public health through supporting active travel (Kasraian et al., 2024). To this end, the Council has adopted a zero-emission zone in the central area of the city with a phased approach to expansion while (at the time of writing) a temporary congestion charge is in operation across the city (Oxfordshire County Council, 2025). The aim of this is to deter polluting cross-town car traffic and channel it along the outer ring road to reduce the volume of traffic on arterial routes including boundary roads of LTNs. In keeping with the city's notoriety as 'innovator' in terms of transport policy relative to other UK cities, Oxford launched what will be one of the biggest UK fleets of electric buses outside London (Go-Ahead Company, 2024). The Council is also experimenting with e-bike and e-scooter public hire schemes and is developing walking and cycling infrastructure to try to consolidate its self-titled 'City of Cycling' status.

However, despite these 'innovations', our study highlights the need for careful sequencing of capital spending on transport interventions and avoidance of inverted strategy. Public acceptability of transport policy rests not only on environmental ambition, but also on policy coherence and existing supportive measures. In the Oxford case, frustrations expressed by those less supportive of the LTNs and the palpable sense of 'imposition' prior to any commensurate improvements to the transport system (e.g. bus gates and completion of bridge at Oxford rail station) appears to have increased public resistance and demonstrates the limitations of top-down approaches to policy. To ensure more widespread acceptance of the benefits of LTNs, governments would be wise to offer a clearer package of support to municipalities enabling them to sequence capital spend on city-wide sustainable transport interventions prior to implementation of LTNs. These programmes could also enhance the 'place function' (Jones & Boujenko, 2009) of boundary roads as well as areas within LTNs broadening the focus away from traffic engineering towards urban design and placemaking. Area approaches that reduce traffic and improve liveability, particularly the opportunity for children's outdoor play and activity, may be more palatable to the wider public as a quid pro quo. As our investigation into the lived experience of LTNs demonstrates, clear communication strategies and sound participatory processes are critical if the long-term success of LTNs are to be embedded as part of a natural transition to more liveable neighbourhoods and more sustainable travel (Belcher et al., 2021; Bosetti et al., 2022).

Finally, our findings highlight the practical importance of attending to nuance when considering the social acceptability of LTNs. Framing a binary of 'winners and losers' – as we allude to in the title for this article – risks obscuring the conditional and relational ways in which change is experienced. Participants in this study rarely occupy stable positions of complete support or opposition; rather, many articulated ambivalent, shifting evaluations in which perceived benefits and frustrations coexisted within individual experiences. Recognising this complexity

challenges the tendency to conceptualise public opinion as polarised camps, redirecting attention towards everyday negotiations needed to reconcile environmental aspirations with the demands of mobility, accessibility, care and place attachment.

This nuance matters because policy success depends not only on aggregate benefits, but also on residents feeling their diverse needs and concerns are addressed in decision-making. Our findings suggest that ambivalence should be understood not as resistance to change, but as an expression of unresolved tensions within mobility transitions. That is, 'winner' and 'loser' positions emerge as fluid rather than fixed, shifting over time, and in relation to household circumstances, infrastructural provision, and personal adaptation. Does policy acceptability mean eliminating all experiences of loss? An impossible task. Rather, maximising acceptability is contingent on burdens and benefits being perceived as distributed fairly and informed by residents having meaningful opportunities to access and shape transport changes. In this respect, nuance is not simply an analytical insight but a politically consequential dimension of policy design.

7. Conclusion

This article, to our knowledge, is one of only a few studies that have attempted to understand residents' perceptions and lived experience of LTNs. Our qualitative approach using in-depth qualitative interviews and mobile methods augments (predominantly) quantitative research on LTNs by providing a richer insight into life in the LTNs. Our study started from the premise that LTNs reconfigure everyday lives, not just through infrastructure, but through emotion, identity, and contested claims to space, that they are never merely infrastructural, but are political, affective, and shape, and are shaped by, how people move. We hope to have demonstrated the disruption that such interventions can make, both positively and negatively, to a sense of belonging and of the importance of citizen participation in the development of well-intentioned city policies.

The limitations of our study should be acknowledged. Our study is based on a small sample of participants set within a specific social, cultural and geographical setting and as such we cannot generalise our findings to life in other LTNs within Oxford or the UK let alone to similar interventions across the globe. Seasonal differences in mobility may influence attitudes and future research could consider this. The focus was perceptions and lived experience and we are unable to quantify actual levels of behaviour in relation to mobility or other activity. Nevertheless, idiographic qualitative approaches can help reveal the complexities of everyday lives and practices in different social and cultural settings that may provide broader lessons for policy adoption and decisions around infrastructure investments in cities and its sequencing.

Geo-coordinates

Howard Street Bollard: 51°44′29"N 1°13′46"W | Magdalen Road Bollard: 51°44′35"N 1°13′59"W | Southfield Road Bollard: 51°44′49"N 1°13′39"W.

CRediT authorship contribution statement

Tim Jones: Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Nurgül Yardim Meriçliler:** Writing – review & editing, Investigation, Formal analysis, Data curation. **Micaela Mancini:** Writing – review & editing, Investigation, Formal analysis, Data curation.

Ethical statement

Study approved by Oxford Brookes University Research Ethics Committee (UREC Registration No: 231763).

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cities.2026.106862.

Data availability

Data from this project has been deposited at RADAR, the Institutional Repository of Oxford Brookes University. Study DOI: doi:10.24384/dbb4-pk83

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