Cabinet
Tuesday, 19 July 2022

SUPPLEMENTARY DOCUMENTS – ITEM 6
PART 2

This page is intentionally left blank

Emergency Active Travel Tranche 1: Cowley LTN Evaluation report

VERSION AND DATE	Changes
V 1.0 – 19/01/2022	1st draft completed
V 2.0 – 27/01/2022	Review & update
V3.0 – 24/06/2022	Additional analysis using data up to April 2022
V4.0 – 29/06/2022	Review & update

Main authors

Innovation Hub - Oxfordshire County Council

Additional authors

Oxford City Council

Emergency Active Travel Tranche 1: Cowley LTN Evaluation report

Executive summary

This report covers analysis across a series of key areas, both within the Low Traffic Neighbourhoods (LTNs) themselves, and on their boundary roads (defined as the roads immediately surrounding the LTNs, which are not impacted by the traffic restrictions imposed).

The pandemic made this evaluation particularly challenging, as we could not rely on historic trends. Over the preceding year, there were periods of lockdown, schools and university closures, furloughed positions and a high number of employees working from home. This was followed by a much less constrained picture, whereby 15 million people in the UK had received the first dose of their COVID vaccinations by mid-February, and 32 million doses were received by mid-April. This change alone allowed significantly more freedom of movement and associated increases in traffic levels were seen generally. The challenge has been to isolate the effect of LTNs from other factors.

Where possible, we used data collected before COVID-19. These were combined with data from comparison sites, used to better understand how Low Traffic Neighbourhoods have impacted the area, by comparing the changes in travel patterns with other locations that would reflect other confounding factors, such as COVID restrictions (i.e. to reflect that overall traffic patterns have been changing in the period of this evaluation due to other factors than the LTN). Pre-existing differences between control and intervention sites prior to the LTNs, was then taken into account to create an adjusted impact figure for the different metrics considered.

In this executive summary we are only summarising the changes from the updated analyses. The original executive summary covering all original measures can be found in Annex E.

The key conclusions from this analysis are given below:

Traffic/modal volumes:

Data from December 2021 to April 2022 on traffic volume (car, pedestrian and cycle) for the Cowley LTNs and for car traffic on the boundary roads surrounding them was added to the initial reporting period for March 2021 to November 2021.

Traffic volumes within the LTN area

Car volumes within the LTNs have continued to decrease over the additional months following the preliminary report. When compared to control sites, in these months there has been a relative reduction of 60% in car traffic within the LTNs against 2019, or 53% when accounting for the relatively lower car levels within the LTN area

prior to its implementation compared to controls. Over the full evaluation period (March 2021 to April 2022), the adjusted reduction was 47%.

When compared to pedestrian volumes in 2019 and against control sites, discounting January as an anomaly, there has been an increase in pedestrian levels within the LTNs, with April showing a peak where footfall was almost 47% higher than 2019 in comparison to control sites. In April, footfall was greater than 2019 levels, unlike control sites which show footfall consistently much lower than 2019 levels. Overall, for the full evaluation period, the adjusted increase in footfall was 17%.

Cycle volumes show less clear trends. Having reached and slightly exceeded 2019 levels in November and December, they dropped below 2019 levels again between January and March 2022; however, by April, they recovered above 2019 levels. Adjusted volumes *tentatively* suggest an overall improvement since the LTN went in place of 24%, but this should be treated cautiously.

Traffic volumes on the LTN boundary roads (roads immediately surrounding, but outside the LTNs)

On average across the boundary roads, there has been a slight improvement (reduction) in car traffic since the preliminary reporting period, when compared to control sites and 2019 levels. Car traffic was still higher than both control and 2019 levels until April 2022, when traffic volumes dipped below 2019 levels for the first time since LTN implementation. The factored increase in traffic over the full period (March 2021 – April 2022) was 2.3% as compared to 3.1% when looking only up to November 2021.

Air Quality

We can now add November and December 2021 data to March to October 2021; all 2021 data has now been fully ratified. Data from 2022 is unratified and is therefore incompatible with 2021 data and cannot be used for comparison. The analysis shows that annual average nitrogen dioxide (NO2) levels from the four LTN monitoring sites in 2021 have increased by an average of 13% compared to 2017-2019 and when corrected for the effects of Covid.

The monitors used in this analysis are on LTN boundary roads, with Cowley Road/Oxford Road continuing to have the most significant relative worsening of air quality. It should be noted however that at none of the LTN test sites was there a breach of the current UK NO2 annual mean limit value of 40ug/m3. The annual average corrected NO2 levels at the boundary road monitoring sites ranged from 26 to 35ug/m3. By way of comparison, St Christopher's school which is within the LTN, recorded 13ug/m³. At the time of writing, this monitoring site has insufficient historic data for any trend to be deduced.

Bus time impact

The addition of data points from November 2021 to April 2022 has not significantly changed the overall trends of the preliminary report. PM peak outbound service times along the Cowley Road (although making some improvements between

November and April) remain worse in 2021 and 2022 versus the base year of 2019; the impacted route times, were also proportionally higher than the control route.

Journey time impact

Similarly to bus times, the addition of data points from November 2021 to April 2022 has not significantly changed the overall trends of the preliminary report. Henley Avenue consistently shows an increase in journey times in both directions of between 6 and 9%, whereas Oxford Road generally shows a decrease in, or similar journey times, for most times of the day.

Noise

Ten acoustic sensors were deployed in and around Temple Cowley LTN from March 2021 to May 2022, in an experimental study to capture noise impact in relation to changes in traffic movement.

Almost all locations experienced a reduction in the loudness of noise after the introduction of the LTN. Regarding the quality of sound, the amount of noise which is believed to be human-generated (anthropogenic) reduced everywhere, by approximately 10%, with larger shifts seen inside the LTN itself.

Table of Contents

Table of Figures

Introduction

To provide assurance, capture learnings and guide future decision making, Oxfordshire County Council set out an extensive evaluation framework of the active travel interventions. This work was led by the Innovation HUB's Future of Mobility team, and was conducted in collaboration with leading universities, businesses, the City Council and other County Council teams.

This evaluation framework was originally established for the DfT funded Tranche 2 Emergency Active Travel Fund intervention. The Cowley LTNs were funded under Tranche 1 of the Emergency Active Travel Fund and therefore were originally out of scope. However, due to the overlap with the Tranche 2 Active Travel schemes such as the East Oxford LTNs and Quickways, the framework has been extended for a bespoke evaluation to capture learnings and inform decision making.

Due to the period during which the interventions took place, and of the COVID pandemic effects, there are significant variations and complications in the data analysis. This report uses the metrics suggested in the original submission, along with ones raised in interactions with local stakeholders.

In the following sections the methodology and evaluation, using individual metrics, has been presented first. These relate to traffic volume, speed, air quality, public transport and emergency services. When the preliminary report was written, the noise pollution work was still underway, and we provided an update in the appendices. Then, we looked at the analysis of the surveys undertaken, especially regarding travel choices, attitudes towards cycling and walking, and perception of safety. Our preliminary conclusions can be found as an Annex to this report. A new conclusion has been included in this update which combines the individual metrics with some recommendations for future schemes.

Since the preliminary report was completed at the end of January 2022, monitoring has continued, and further analysis of the data to the end of April 2022 undertaken. Reports analysing the new data and any impact on previous findings, are presented in a new 'Updated reports' section.

Background

From March 2021, Oxfordshire County Council introduced a trial of three Low Traffic Neighbourhoods (LTNs) within the Cowley area. A Low Traffic Neighbourhood is an area where through-traffic is prevented via physical barriers or camera enforcement so that residents can enjoy a quieter neighbourhood and feel safer when they walk, cycle or go by wheelchair[i].

This meant the introduction of traffic filters at specific points across Church Cowley, Temple Cowley and Florence Park. Traffic filters are either planters or bollards, (see Appendix A for a map of locations). Note, camera-controlled filters were not in place during the period of analysis for this report, but are included in the locations map.

The Cowley LTNs were introduced using Experimental Traffic Regulation Orders (ETROs) following approval by the council in January 2021[ii]. This enables a potential maximum 18-month trial deployment, allowing the Council and residents to assess the impacts before a decision is made regarding their permanency. A decision will be made whether to continue the trial deployment in February 2022, and whether to make it permanent towards the end of the 18-month trial, should the decision in February be to continue the trial.

Low Traffic Neighbourhoods (LTNs) were proposed for Oxford in the Oxford Local Cycling and Walking Infrastructure Plan (LCWIP)[iii] – approved by cabinet in March 2020 – as an effective way of promoting walking and cycling, in line with Council's objectives of public health, decongestion, climate change and air quality, and in line with central government policy. The chronic congestion issues Oxford faces cannot be overcome by building new roads, and a step change in modal shift from private cars to active travel (walking and cycling) is needed.

Temple Cowley, Church Cowley and Florence Park (Cowley) were chosen as priority areas in response to residents' complaints about traffic and to improve the cycle routes running through the neighbourhoods.

In May 2020, in response to the COVID-19 pandemic, the Government issued statutory guidance[iv] as an update to the 2004 Traffic Management Act (TMA)[v] requiring councils to take measures to reallocate road space to promote cycling and walking, including the use of filters to create LTNs.

In July 2020, the Government issued 'Gear Change'[vi], which set out the Government's policies to promote cycling and walking and included an ambition for a roll-out of LTNs across the country. The government committed to spending £2bn in supporting active travel schemes through funding to local authorities. So far, two tranches of funding have been awarded.

The Cowley LTNs were originally proposed as part of the first tranche of Emergency Active Travel Funding, to support requirements under the TMA. Due to resourcing and funding issues, implementation was delayed. The time was used to develop the schemes in more detail with local resident groups and local members.

Following further Government guidance, issued in November 2020, emphasising the need for consultation with the public to ensure local support for the Active Travel

measures, the Council decided to conduct an informal consultation with the public and other stakeholders prior to implementation. This was undertaken in tandem with its statutory obligation to consult with emergency services and other statutory consultees.

Individual metric discussion

COVID-19 and lockdowns have significantly changed travel patterns from March 2020. These changes present a significant confounding factor in monitoring the impact of the LTNs. While COVID-19 impacts have been factored into evaluation methods, caution should be taken in drawing conclusions.

The metrics used for the evaluation are presented below. The key metrics relate directly to the success criteria of the scheme, while secondary metrics were recognised as equally important and were included later on. There has also been considerable work on evaluating the impact or monitoring the deployment of other interventions funded by the same grant, such as School Streets, which is out of scope of this report.

Key Metrics	Additional Metrics	Out of scope
• Volume of different modes • Vehicle Speed Change • Perceived Safety • Air Quality (AQ)	• Noise pollution • Emergency Response times • Bus time reliability	• EDI- undertaken by other team • School Streets or Wayfinding • Monitoring of scheme deployment

Figure 1 Metrics used for the evaluation

These metrics consisted of multiple data sources; as such like-for-like analysis, including standardisation of the data, was necessary for statistical consistency (to minimise errors) as well ease of comparison. Direct, and Difference-in-Difference comparisons were used as appropriate and feasible, and an outline of these methodologies is given later in this report, where first used.

Sensor data collection and analysis	Telematic data analysis	Surveys	Information from other services
• Percentage change in walking cycling and cars, modal shift • Air Quality measures • Noise pollution	• Speed analysis • Journey Time	• Perception of Safety • Perception of improvement	• Emergency Services delay • Public Transport reliability

Figure 2 Metrics to date mapping

First, we examine the metrics based on data analysis, before moving to survey analysis.

While other areas of the county may have been impacted by the LTN interventions, we will focus on two areas:
- **Primary effects**, on the location that the LTNs were implemented ("LTNs")
- **Secondary effects**, on areas that might be impacted because of the LTN implementation. The main secondary effects we will consider main roads adjacent to the LTNs (hereafter referred to as "boundary roads").

Road User Volumes

Figure 3 Vivacity Lab Sensor

Both LTNs and boundary roads have been monitored by Vivacity Labs object identification sensors since early 2019. These sensors count and classify a variety of road users including cars, pedestrians and cyclists, using machine vision. No personal data is collected, and the raw images of the camera are not used.

Vehicle counts from 2019 have been set as baseline and the year 2020 has been excluded, as due to COVID-19 it does not represent a period of "Business as Usual".

LTN Boundary Roads

In this evaluation, one Vivacity Labs sensor has been selected on each boundary road for each LTN.

Sensors were selected based on completeness of data during the periods of interest (February-November, 2019 and 2021). These sensors (see Appendix A for map of locations) are located at:

- B480 (Cowley Rd) southeast of Marsh Road
- A4158 (Henley Ave) northwest of Church Cowley Road
- B4495 (Hollow Way) northeast of Oxford Road
- B4495 (Church Cowley Rd) at Rymers Lane
- A4158 (Rose Hill Rd) at Ashhurst Way

COVID-19 measures have impacted traffic flows across Oxford in 2021. To account for this, several comparison sites were monitored in other similar areas of Oxford that would have experienced minimal impacts attributable to the LTNs. These sites include

- A4165 (Banbury Road) south of Marston Ferry Road
- A4144 (Abingdon Rd) south of Weirs Lane
- A420 (London Road) east of Headley Way
- B4495 (Headley Way) at London Road
- A4165 (Banbury Rd) north of A40
- A4144 (Woodstock Rd) south of A40

LTN Area

Vivacity Labs sensors are also monitoring locations within the LTNs. Sensors were selected based on completeness of data during the periods of interest (February-November, 2019 and 2021). These sensors are located at:

- Rymers Lane at Church Cowley Road (Florence Park LTN)
- Cowley Rd north of Newman Road (Church Cowley LTN)
- Long Lane at Newman Road (Church Cowley LTN)

COVID-19 measures have impacted traffic flows across Oxford in 2021. To account for this, comparison sites were monitored in other similar roads in Oxford that would have experienced minimal impacts attributable to the LTNs. These sites include:

- Windmill Road north of St Leonard's Road
- Ashhurst Way at Rose Hill Road
- Moreton Road at Banbury Road
- Minns Business Park at West Way

Data analysis

LTN Boundary Roads

To monitor the impacts of LTN barriers on vehicle volume, the number of cars (i.e. excluding other types of vehicle such as LGV & HGV) passing each sensor in both directions have been combined to calculate a daily average for each month from February through November for Cowley LTN boundary roads and comparison sites.
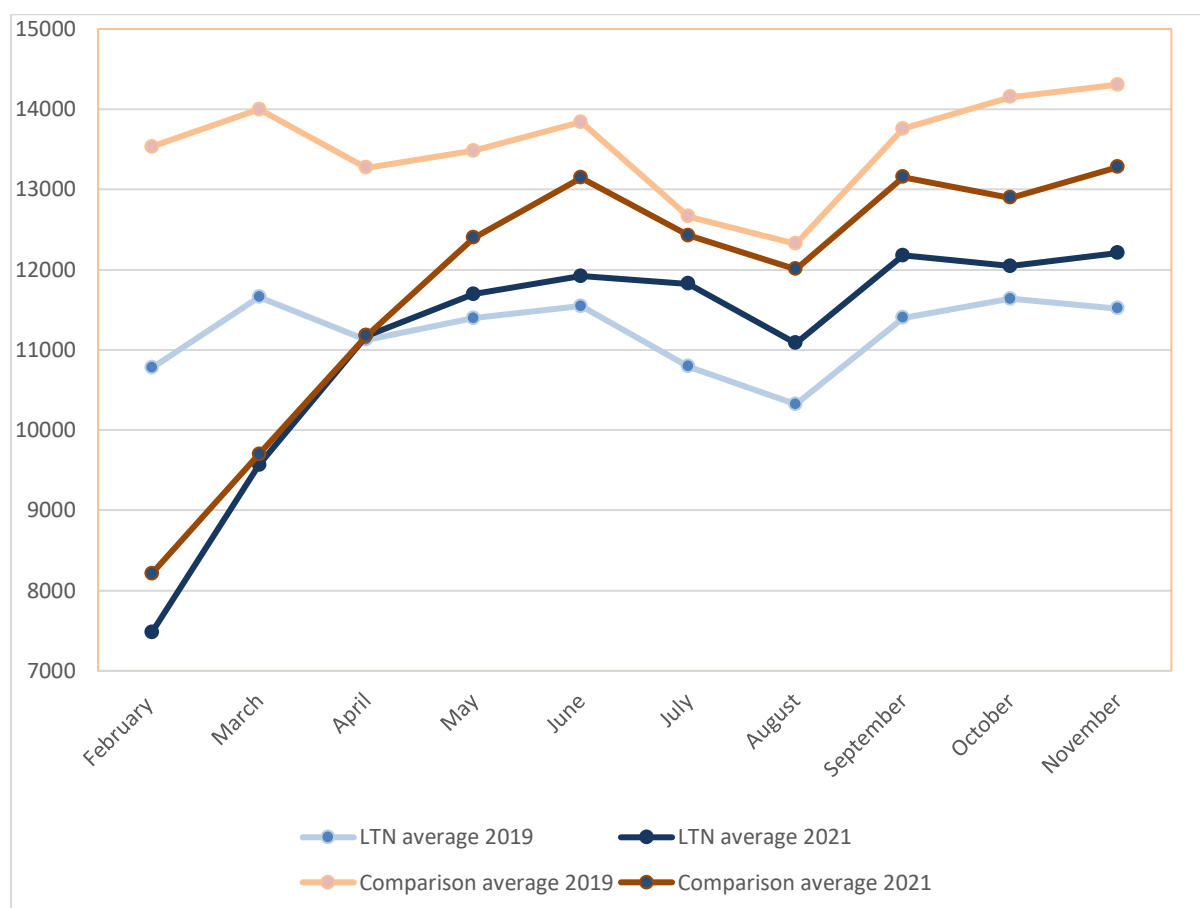
Figure 4 Average daily car counts, Cowley LTN Boundary Roads and Comparison sites, 2019 and 2021

Average daily car counts increased on both the Cowley LTN boundary roads and control sites between February and June 2021 as traffic returned to a more normal pattern following the removal of COVID-19 measures implemented in winter 2020-21. This period coincided with the installation of Cowley LTN barriers in March and April.

From July, traffic volume in 2021 stabilised, roughly tracking traffic volume from 2019. From May 2021, traffic volume on Cowley LTN boundary roads have exceeded 2019 levels while the average traffic volume at control sites have not reached 2019 levels.

To evaluate the impact of the LTNs on traffic volume, the percentage change in traffic volume has been calculated for LTN boundary roads from 2019 to 2021. To account for COVID-19, the percentage change in traffic volume has been similarly calculated at control sites. The percentage change at control sites from 2019 to 2021 has been deducted from the percentage change on LTN boundary roads, creating a "difference-in-difference" metric to help account for variation in Oxford traffic flows over time due to COVID-19 measures and impacts.

The following formula has been used to calculate the difference in difference, for each mode (cars, pedestrians or cyclists) separately:

(Change in Volume at intervention area compared to 2019) - (Change in Volume at control area compared to 2019)
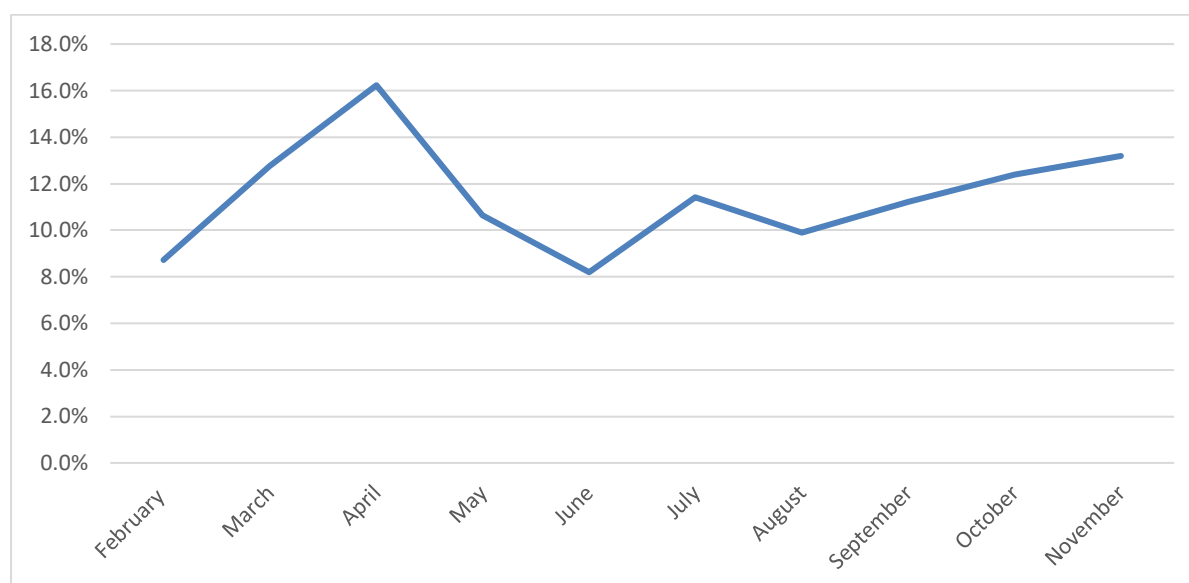
Figure 5 Relative difference in monthly average change LTN boundary roads to comparison sites (average daily cars)

In February 2021, before any LTN measures were put in place, Cowley LTN boundary roads experienced 8.7% more traffic than comparison sites in proportion to 2019 traffic levels. This suggests that other factors are likely to be impacting on the comparative increased traffic levels on the boundary roads compared to comparison sites. We should therefore be cautious in attributing all of the additional traffic to the LTN.

In March and April, when LTN barriers were installed, there was a significant proportional increase in traffic flows with the difference increasing to a peak of 16.2% in April, which implies that some of the additional traffic was, initially at least, generated by the implementation of the LTNs. This is a significant finding, but not surprising as a "settling period" is predicted in literature, during which time people change their travel habits. While two months is not unusual, this may have been extended by the gradual roll out of the schemes.

Following the initial implementation period, the difference in 2021 traffic volume as compared to 2019 decreased to 8.2% in June, before slowly increasing to 13.2% in November. Overall, from March through November 2021, traffic volume has increased by 11.8% from 2019, in proportion to traffic volume changes in comparison sites. If we deduct the initial difference in difference figure of 8.7% (already apparent in February) from this 11.8%, we might cautiously deduce (since this weights 1 month's data quite significantly) that 3.1% of additional traffic on these roads is generated via the LTNs.

This analysis is for overall traffic volumes on LTN boundary roads; however, traffic changes are not consistent across all LTN boundary roads or during all times (peak times are likely to be more severely impacted). In absolute terms, while traffic levels have remained below 2019 levels on Henley Ave (95%) and Church Cowley Rd (95%), from March through November, traffic levels on Hollow Way, Rose Hill Rd and Cowley Rd were between 105% and 107.5% of 2019 levels. It is worth noting, however, that even where traffic is lower than 2019 levels, it is still comparatively higher than it is in control areas (though not necessarily entirely due to the LTNs, as outlined above).
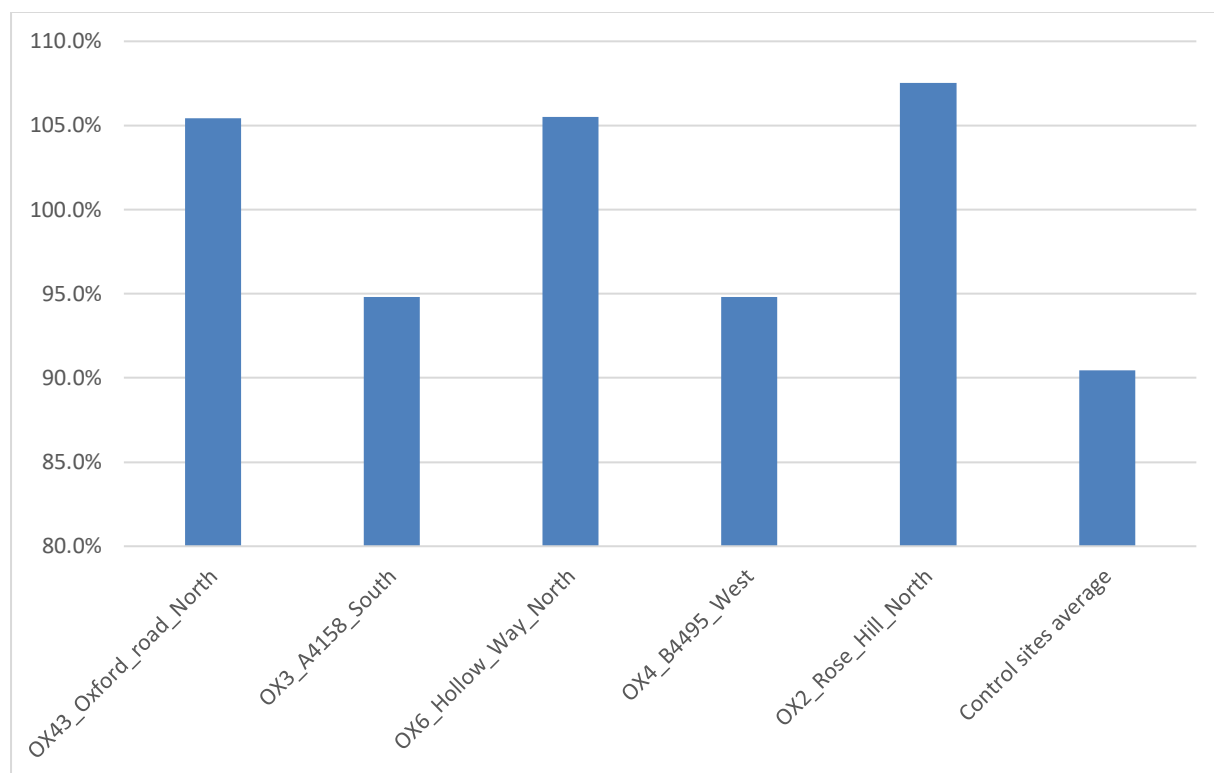
Figure 6 Change in daily car counts during March through November 2019 and 2021

When factored against the control sites and adjusted to remove the influence of outliers, the impact seems to have been most significant on Rose Hill North (seeing a relative 11% increase in traffic volume), whilst Hollow Way North experienced a relative improvement in traffic volume (-8%) following LTN implementation – this was due to particularly high relatively traffic levels in February 2021 pre-LTN, so whilst it is still higher post-intervention than the levels of traffic in 2019, it is comparably less high than in February. See figure 7.
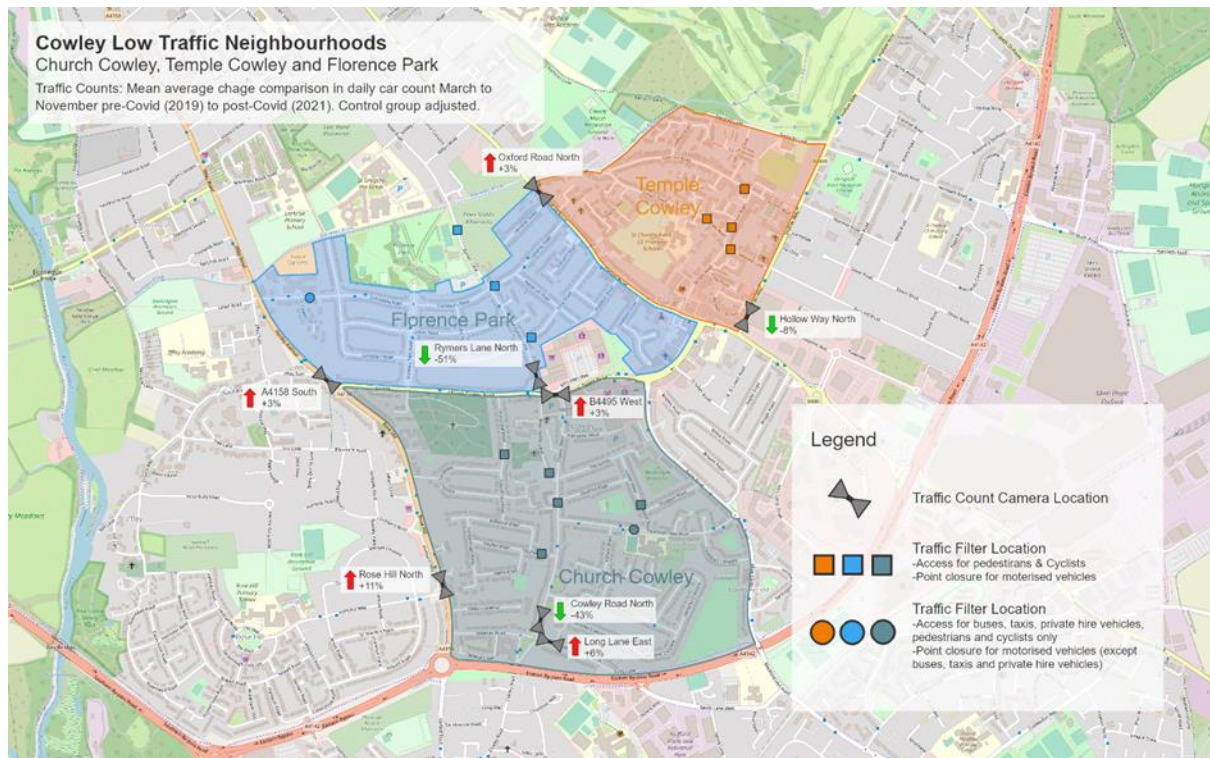
Figure 7 Mean average traffic count change in daily cars, March to November 2021 compared to 2019

LTN Area

To evaluate the impacts of LTN barriers on road user volume, the number of cars, pedestrians and cyclists passing each sensor in both directions have been used to calculate a daily average for each type of road user each month from February through November for sensors within the Cowley LTNs and comparison sites. Car, pedestrian and cyclist counts are addressed separately in the sections below.

Traffic Volume

Traffic counts (covering car vehicle movements) in 2019 were relatively similar in both the Cowley LTNs and comparison sites, averaging 4083 and 4245 per day respectively. Following the implementation of LTNs, there was a marked and sustained reduction in car counts within the Cowley LTNs.
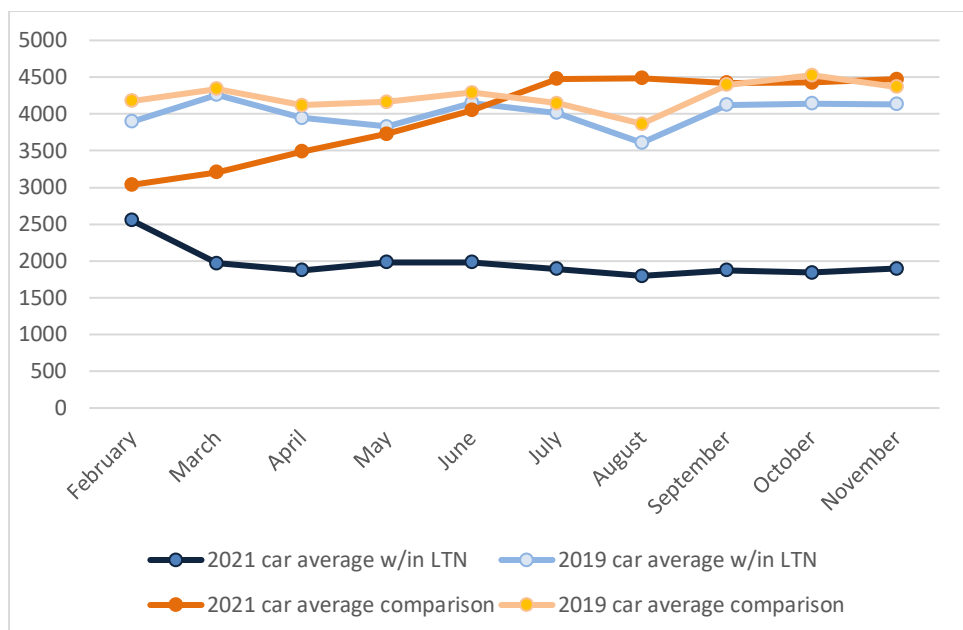
Figure 8 Average daily car counts, within Cowley LTN and Comparison sites, 2019 and 2021

While comparison sites saw a continued increase in car counts in 2021 until July, sites within the Cowley LTN dropped in March and stayed at this lower level through November. Comparison sites plateaued at around 4450 cars/day from July to November, car counts within the LTNs have averaged 1860 cars/day during the same period.

Overall, from March through November, car counts within the Cowley LTNs during 2021 were 47.3% of car counts in the same period during 2019 while car counts at comparison sites were 96.2%. Using comparison sites as a benchmark, car counts within the LTNs have decreased by 48.9% from 2019, in proportion to traffic flow changes in comparison sites; adjusted to factor out pre-LTN differences in February, the decrease is 42%. From July through November, this proportional reduction in car counts is even greater, at 51.2%.

Of the monitoring sites within the Cowley LTNs, the most impactful decrease in car counts has been experienced on Cowley Road north of Newman Road. Between March and November 2019, car counts at this site averaged 7,237 per day, dropping to 3,312 per day in 2021. Rymers Lane also saw significant reductions in movements from 3929 in 2019 to 1430 in 2021 for the March-November periods. Long Lane East, however, has seen a slight increase in traffic levels, proportionally more in keeping with the boundary roads; however, overall traffic volume on this road is very low in comparison to the other locations monitored (averaging 899 movements per day March to November 2019 vs 963 in 2021).

Pedestrian Volume

Pedestrian volumes during 2019 were significantly higher in comparison sites than they were within the Cowley LTNs, averaging 593 and 395 per day respectively between March and November.
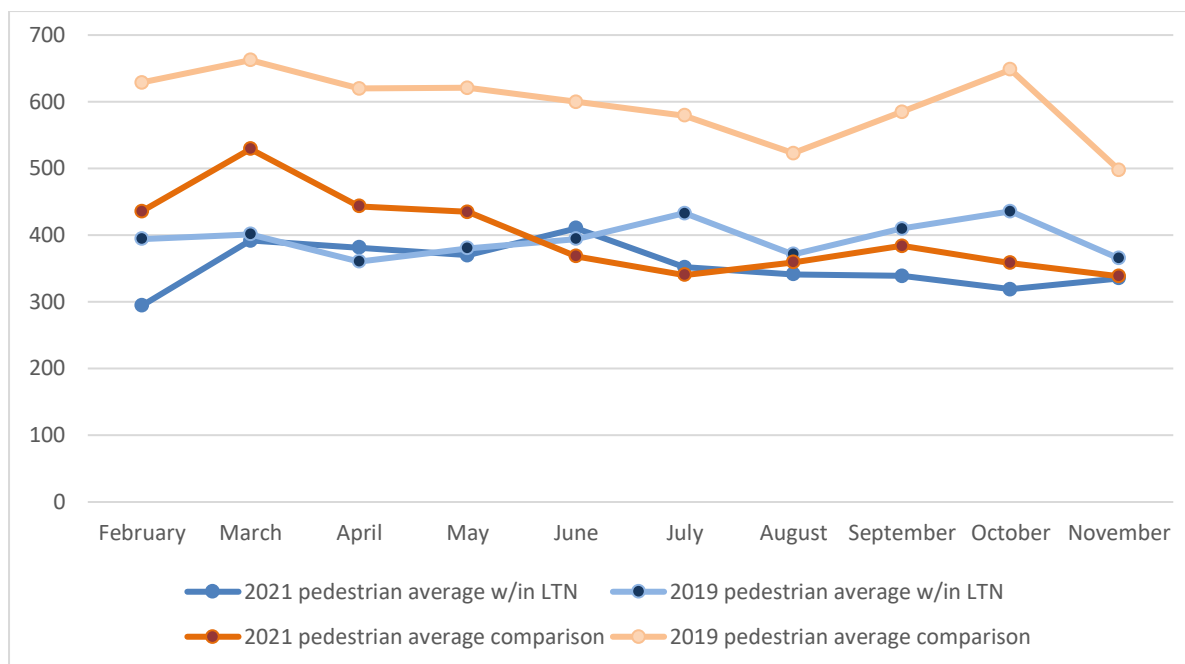
Figure 9 Average daily pedestrian counts, within Cowley LTN and Comparison sites, 2019 and 2021

While pedestrian volumes at comparison sites were significantly lower in 2021 as compared to 2019, pedestrian volumes within the Cowley LTN experienced a much smaller drop and at times exceeded 2019 levels.

Overall, from March through November, pedestrian volumes within the Cowley LTNs during 2021 were 91.2% of pedestrian volumes in the same period during 2019 while pedestrian volumes at comparison sites were 66% of 2019 levels. Using comparison sites as a benchmark, and adjusting to remove pre-LTN differences in February, pedestrian volumes within the LTNs have increased by 19% from 2019, in proportion to pedestrian volume changes in comparison sites.

Cycling

Cycling volumes during 2019 were significantly lower in comparison sites than they were within the Cowley LTNs, averaging 128 and 248 per day respectively between March and November.
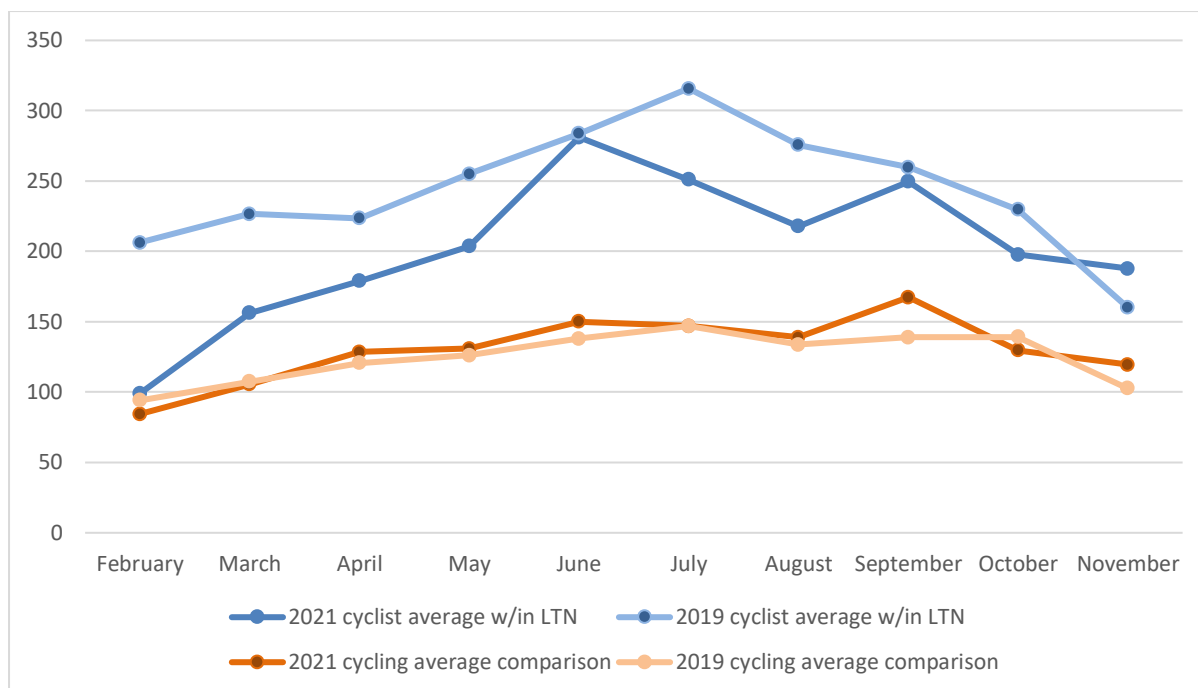
Figure 10 Average daily cycling counts, within Cowley LTN and Comparison sites, 2019 and 2021

While cycling volumes in comparison sites are very similar in 2019 and 2021, cycling volumes within the Cowley LTNs have had a more complex trajectory. In February 2021, before LTN barriers were put in place, cycling volumes in the Cowley LTNs were 48% of 2019 volumes while at comparison sites volumes were 89.8% of 2019. Similarly to car traffic counts on boundary roads, this pre-existing difference-in-difference indicates that external factors are influencing this lower cycling level in the Cowley LTNs compared to control sites.

Following the installation of LTN barriers, cycling counts within the Cowley LTN steadily increased from these much lower volumes at a greater rate than comparison sites until June, when Cowley LTN volumes reached the same volumes as 2019.

Overall, from March through November, cycling volumes within the Cowley LTNs during 2021 were 86.3% of cycling volumes in the same period during 2019 while cycling volumes at comparison sites were 105.5%. Including the effect on comparison sites, cycling volumes within the LTNs appear to have decreased by 19.3% from 2019, in proportion to cycling volume changes in comparison sites.

However, these lower cycling volumes within the LTNs should be taken in the context of proportionally much lower volumes in February, before barriers were put in place, which were already showing a proportional decrease in cycling of -41.7% compared to control sites. As such, if we factor out this -41.7% which pre-dated the LTNs, the LTNs can be shown to have had a positive impact on cycling levels within them – increasing relative cycling levels by 22.5% over the March to November period. By November, in fact, cycling levels were just starting to slightly exceed 2019 levels for the same month. This proportional increase in cycling within the LTN compared to control sites is shown below:
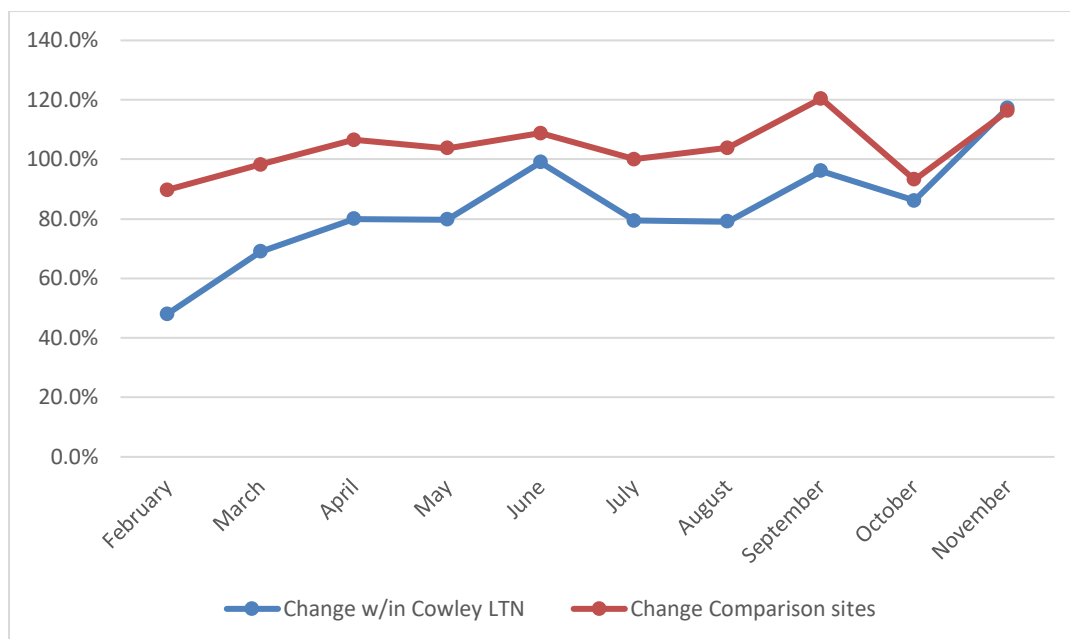
Figure 11 Change in monthly average cycling count 2019 to 2020 within Cowley LTN and comparison sites

Cycling telematics

One of the primary objectives of LTNs is to increase levels of cycling by making roads within the LTNs safer and more appealing to cycle by reducing car traffic levels. Among the Oxford Cycle & Walking Network, the Cowley LTNs are expected have the greatest impact on Oxford Cycling Route (OXR)16, which runs through both Florence Park and Church Cowley LTNs, mainly along Littlemore Rd, Beauchamp Lane, and Rymers Ln (see figure 12 below). To understand the impact of the LTN barriers on cycling levels on this key corridor, a section of OXR 16 in the centre of the Florence Park LTN was monitored along Rymers Ln between Campbell Rd and Florence Park using data from Strava.

Figure 12 OXR 16 cycle route, running through Church Cowley and Florence Park LTNs

Two comparison sites, on Oxford cycling routes a similar distance from the city centre along residential roads similar roads to Rymer's Lane were also monitored:

- Jack Straw's Lane (OXR 11)
- Charlbury Road (OXR 5)

Routes were monitored with Strava cycling telematics data. Strava provides anonymised cycling journey data from a mobile app that accesses a mobile device's GPS tracking device. Although there are many individuals providing data, they are still a small proportion of overall cyclists. Moreover, the sample is self-selecting (people who volunteer their data) and thus prone to bias towards some behaviours. Typically, Strava cyclists may use their cycles more for recreational rides. Thus, we only use this here indicatively.

In the route segments analysed, one or more trip in any direction was totalled for each month. When compared to the cycling counts from Vivacity Labs sensors, those represented in Strava accounted for 5.4% of cyclists on Rymers Ln at Church Cowley Rd.
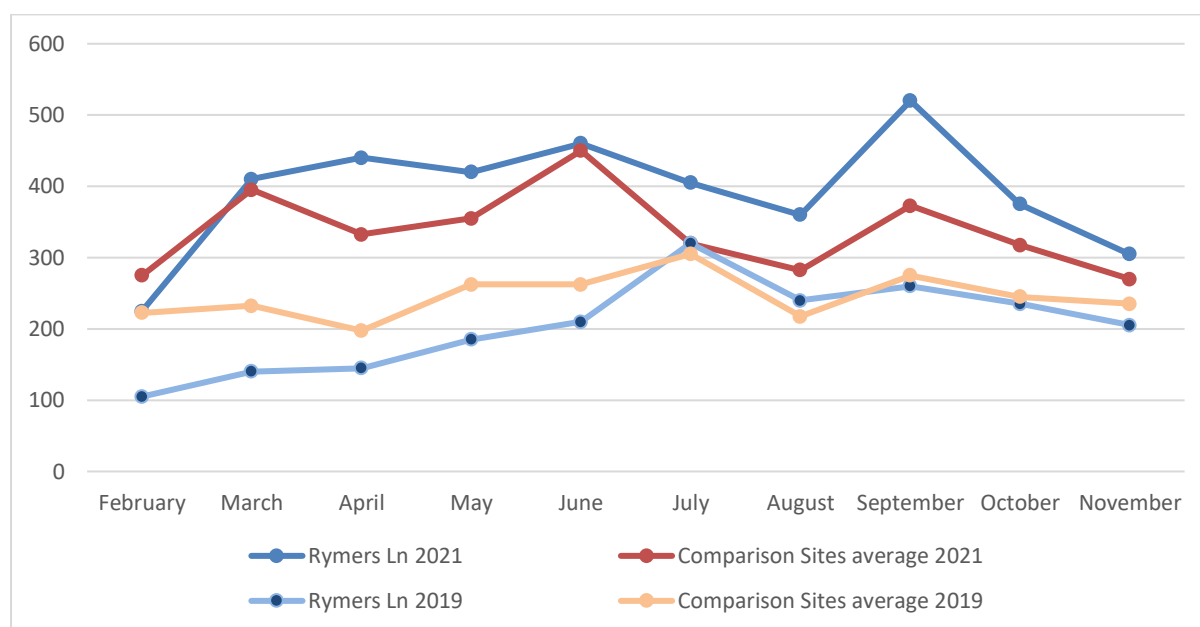
Figure 13 Total monthly Strava cycling volumes, within Rymers Ln and Comparison sites, 2019 and 2021

Overall, Strava cycling numbers have increased between 2019 and 2021. In comparison sites, the number of cycling trips recorded between March and November increased from 2019 to 2021 by 39%. Cycling trips recorded on Rymer's Lane increased by 90%. When the increase in comparison sites is discounted against the increase on Rymer's Lane, cycling trips increased by 51%.

This data has some differences from the data from sensors however, which suggest decreases in cycling in the area compared to 2019 levels in absolute terms. This discrepancy may be explained by:

1) Overall Strava membership has increased between 2019 and 2021 – this will lead to additional journeys being tracked, but does not necessarily suggest an increase in the number of journeys being undertaken.

2) Strava is more commonly used by leisure cyclists than commuter cyclists. It is possible that leisure cycling has increased within the LTN area between 2019 and 2021, but this increase has been off-set by the COVID-related decrease in commuter cycling in terms of absolute numbers of cycling trips.

However, it is important to note the positive trend from existing Strava users.

Journey Time

Telematics data were used relating to trips' origin and destination, and speed. This data was collected by INRIX via the use of GPS tracking of vehicles. As such, it only accounts for a portion of trips within an area (usually between 4-12% of total vehicles) and provides an indication of proportional numbers and speeds of traffic. Trips correspond to locations of vehicular movement, along with their speeds. Speed data corresponds to speed and journey time at road segments.

The road segments defined by INRIX primarily correspond to references related to OpenStreetMap and were kept consistent across 2019 and 2021.

The journey time information is also averaged across different time-windows, such as AM Peak (7:45 AM to 9:45 AM), PM Peak (3:45 PM – 5:45 PM) and Inter-peak (rest of day apart from AM and PM peak). The below tables show the journey times on the boundary roads of the Florence Park LTN, selected as indicative. In particular, the data is for Henley Avenue and Oxford Road. The map below shows the segments with the highest quality of speed data.
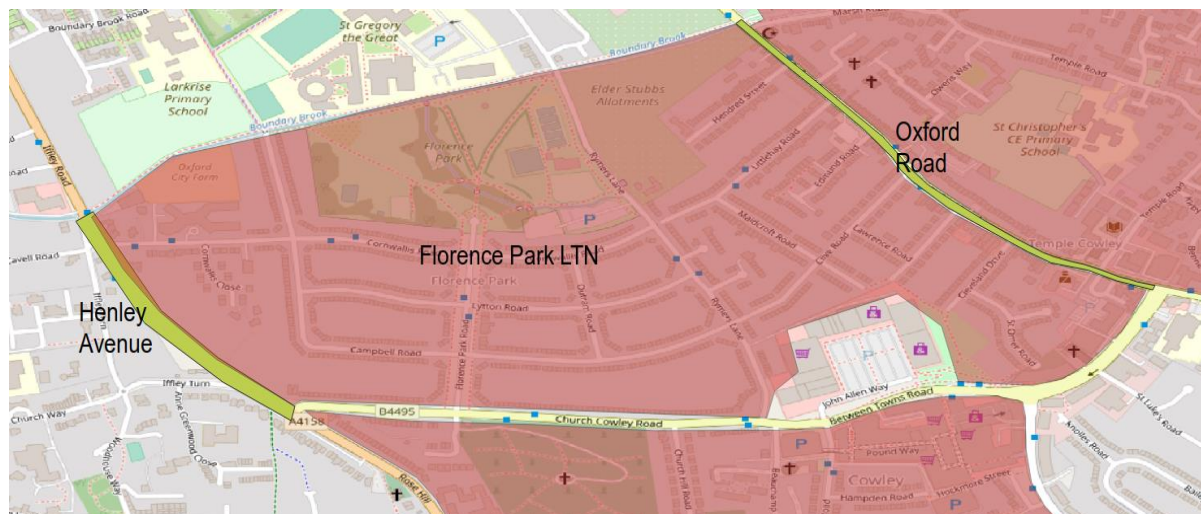
Figure 14 Map of Florence Park LTN and boundary roads being analysed

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Henley Avenue (N)	2019	1.21	1.36	1.34	1.18
Henley Avenue (N)	2021	1.41	1.79	1.68	1.35
Henley Avenue (S)	2019	1.16	1.2	1.26	1.15
Henley Avenue (S)	2021	1.3	1.38	1.44	1.28
Oxford Road (W)	2019	1.63	1.9	1.82	1.58

Oxford Road (W)	2021	1.53	1.51	1.64	1.52
Oxford Road (E)	2019	1.64	1.77	1.77	1.61
Oxford Road (E)	2021	1.61	1.62	1.96	1.58

Figure 15 Journey Times (minutes) with direction of travel for April (2019, 2021)

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Henley Avenue (N)	2019	1.23	1.56	1.36	1.18
Henley Avenue (N)	2021	1.5	2.22	1.99	1.37
Henley Avenue (S)	2019	1.16	1.21	1.27	1.14
Henley Avenue (S)	2021	1.33	1.39	1.54	1.3
Oxford Road (W)	2019	1.5	1.8	1.64	1.46
Oxford Road (W)	2021	1.54	1.55	1.7	1.52
Oxford Road (E)	2019	1.61	1.74	1.84	1.57
Oxford Road (E)	2021	1.6	1.68	1.89	1.56

Figure 16 Journey Times (minutes) with direction of travel for June (2019, 2021)
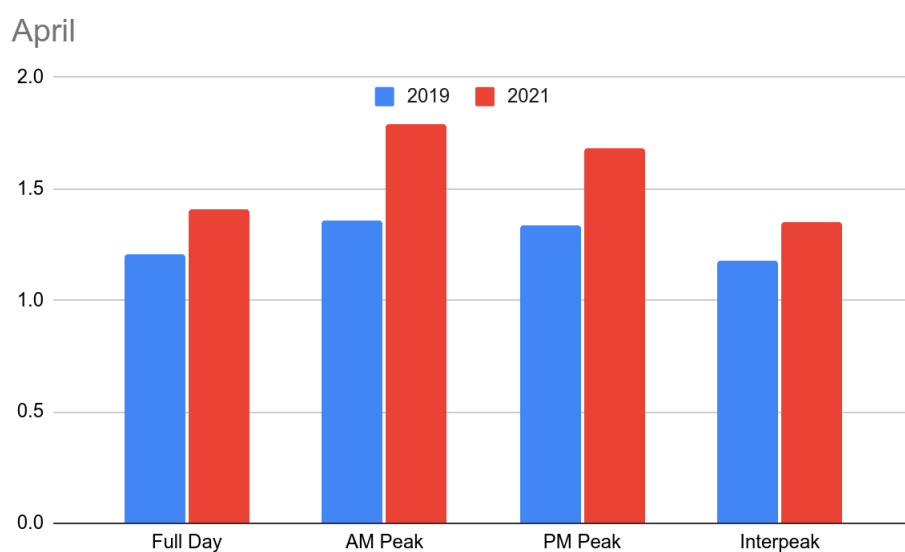
Figure 17 Comparison of Journey Times (in minutes) for Henley Avenue (N), April 2019 to 2021
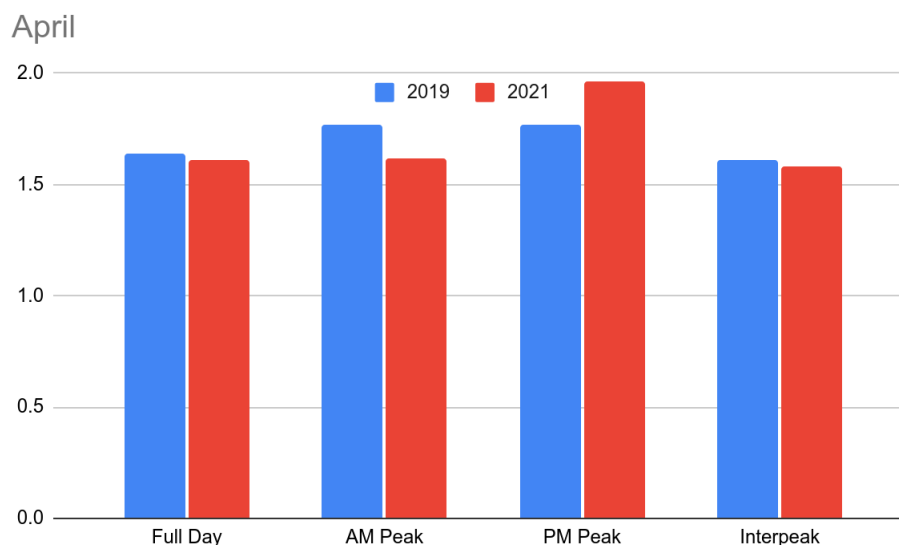
Figure 18 Comparison of Journey Times (in minutes) for Oxford Road (E), April 2019 to 2021

Henley Avenue shows an increase in journey times in both directions, whereas Oxford Road generally shows a decrease in or similar journey times for most times of the day, excepting the PM peak in both directions, and interpeak west-bound during June. Thus, we cannot clearly deduce what the effect has been on car journey time due to the LTNs, as it has not had a symmetric impact between the two roads.

Comparison sites are not appropriate for journey time and speed analysis, as even without interventions, we would not usually expect increased speed in one location to indicate a change in another. This is because multiple factors affect speeding, including psychological factors such as social norms and perceived level of personal safety in an area, presence or absence and type of traffic calming measures and absence or presence of visibly vulnerable road users (e.g. routes walked/cycled by children).

Vehicle Speed
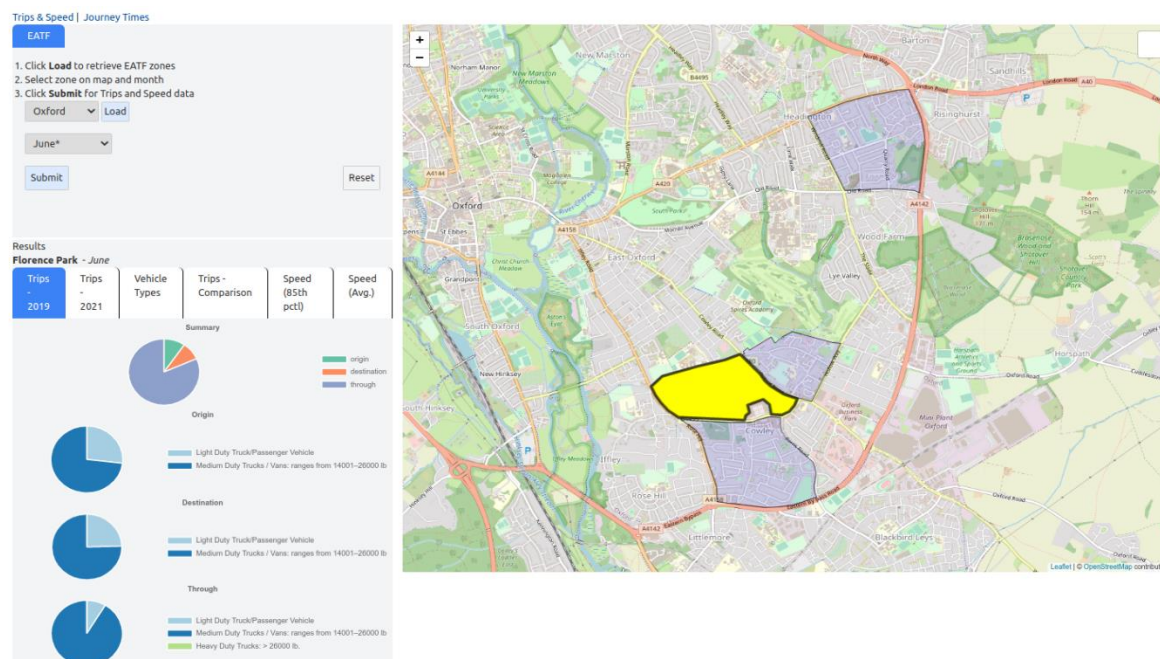
Figure 19 Bespoke dashboard created for the LTN evaluation

The INRIX dataset provided is a useful resource to calculate the 85th percentile speed within LTN zones. The "85th percentile" speed is a speed at which 85% of traffic will be travelling at, or below, along a street or road (under free flow conditions). Historically, it has been used as a standard to set the speed limit at a safe speed, minimising traffic collisions and promoting uniform traffic flow along a corridor.

The 85th percentile speed for the months of April and June was calculated from the INRIX telematics data through a bespoke dashboard, and split based on time windows.

Area	Year	Full Day	AM Peak	PM Peak	Interpeak
Florence Park	2019	25	19	24	26
Florence Park	2021	37	36	21	38
Church Cowley	2019	31	28	29	32
Church Cowley	2021	46	40	45	46
Temple Cowley	2019	29	28	25	29
Temple Cowley	2021	34	33	28	35
Headington Quarry	*2019*	*34*	*33*	*33*	*35*
Headington Quarry	*2021*	*42*	*43*	*47*	*42*

Figure 20 85th Percentile Vehicle Speed (mph) for April (2019, 2021)

Area	Year	Full Day	AM Peak	PM Peak	Interpeak
Florence Park	2019	23	19	26	23
Florence Park	2021	22	22	18	22
Church Cowley	2019	31	29	28	31
Church Cowley	2021	29	26	25	31
Temple Cowley	2019	26	23	24	27
Temple Cowley	2021	25	24	27	25
Headington Quarry	*2019*	*34*	*33*	*33*	*34*
Headington Quarry	*2021*	*34*	*34*	*30*	*34*

Figure 21 85th Percentile Vehicle Speed (mph) for June (2019, 2021)

The above tables in figures 20 and 21 show the 85th percentile speeds in the LTN zones and Control zone for the months of April and June in 2019 and 2021.
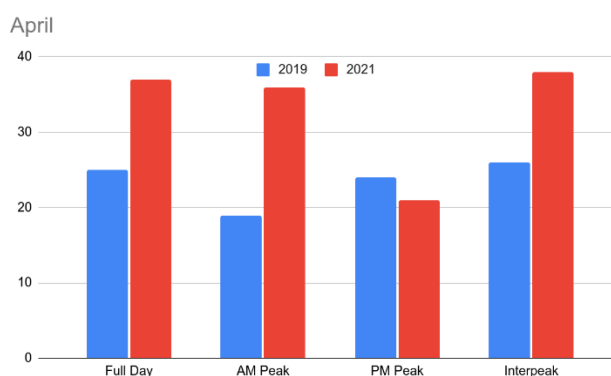
Figure 22 Comparison of 85th percentile speed for Florence Park LTN, April (2019 to 2021)
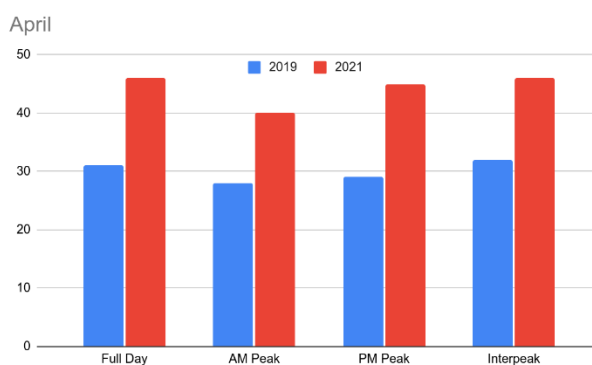
Figure 23 Comparison of 85th percentile speed for Church Cowley LTN, April (2019 to 2021)
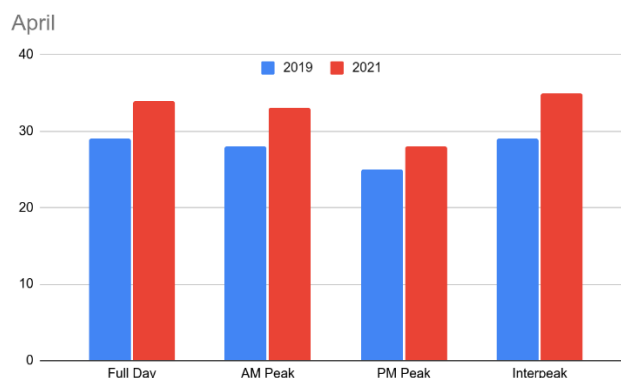
Figure 24 Comparison of 85th percentile speed for Temple Cowley LTN, April (2019 to 2021)

There is a general increase in average speed across zones from 2019 to 2021 in April, possibly due to the lower levels of traffic seen within the LTNs following implementation. This pattern of increased speed, however, is not consistently the case in the June data, once the LTNs were more established, which shows a move towards levelling of speed. If the reduction in traffic levels alone is driving the higher speeds, we might expect the pattern to continue into June; that it doesn't suggests that other factors than just traffic volume may also be influencing traffic speeds within the LTNs.

Bus time impact

There are a few sources for bus journey time data. These are the primary, directly from the bus operators (Stagecoach, Oxford Bus Company) and the open bus data service that provides journey time information through an API as part of Bus Open Data Services (BODS) (https://www.gov.uk/government/collections/bus-open-data-service), which also offer a dashboard, but this data is available only as early as February 2021.

Though BODS data might be useful to future evaluation, for the purpose of this evaluation, given the need to compare bus journey time data from 2019 to 2021, the data provided by Stagecoach bus operator was used. Data provided directly by an operator, and sense-checked by the council, offer the most detailed and reliable source, and we are grateful for their support.

The comparison was not restricted to the temporal element alone. Data for buses that travel on certain impacted segments of the LTN zones were compared with bus routes that travelled on control segments. The impacted bus routes are 1 (Cowley Road) and 3 (Iffley Road). The control bus route is 8 (Headington Road).
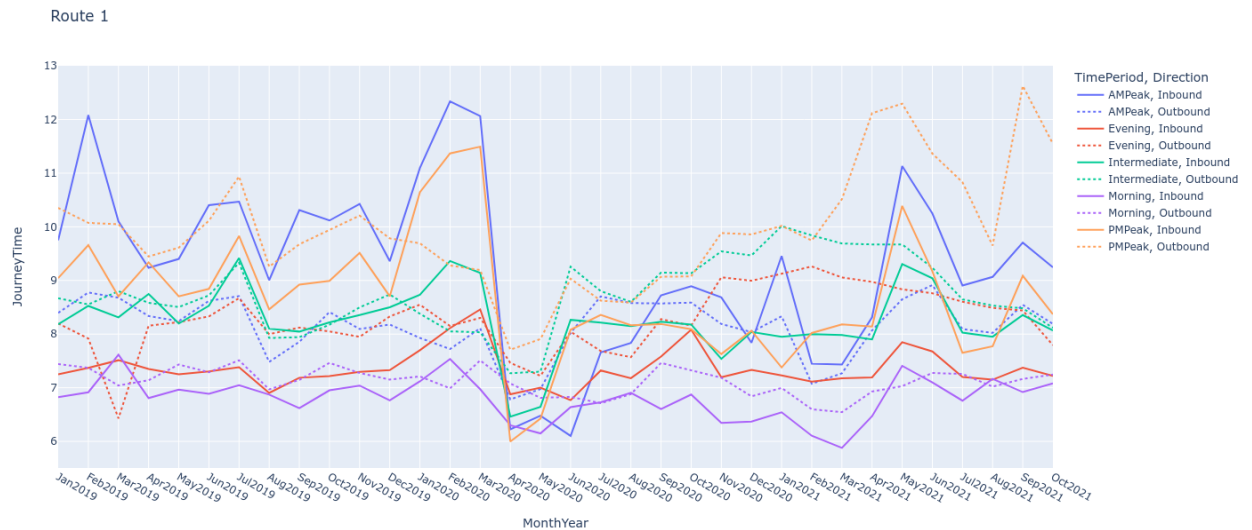
Route 1

Figure 25 Bus Route 1 – Journey Times, 2019 – 21
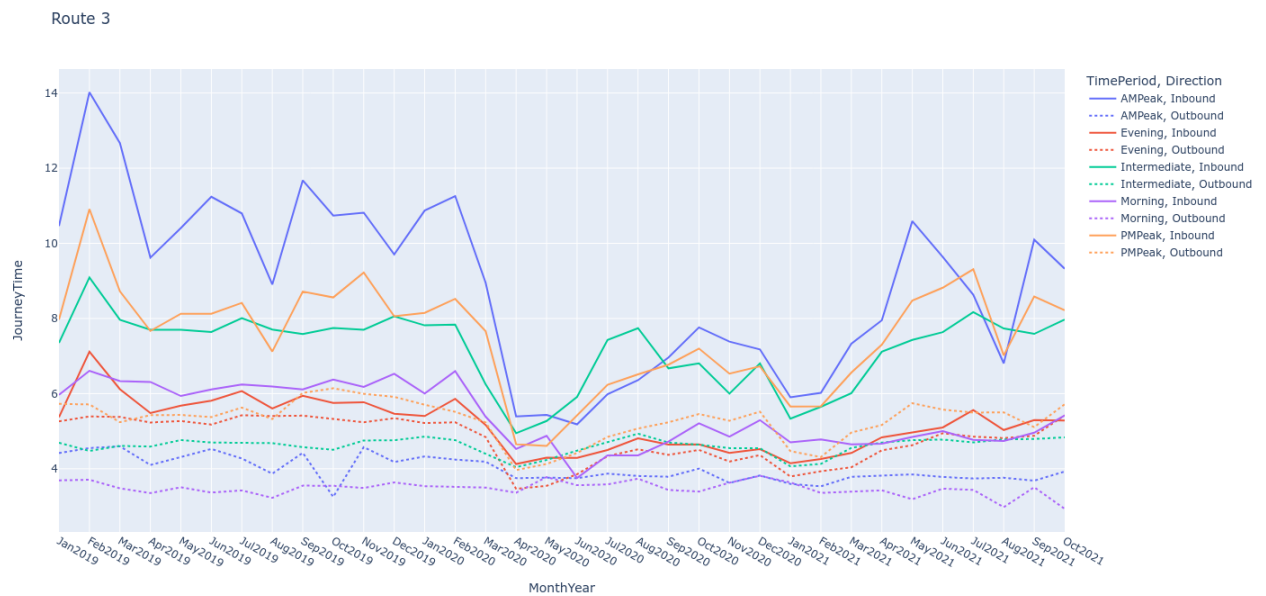
Route 3

Figure 26 Bus Route 3 – Journey Times, 2019 – 21
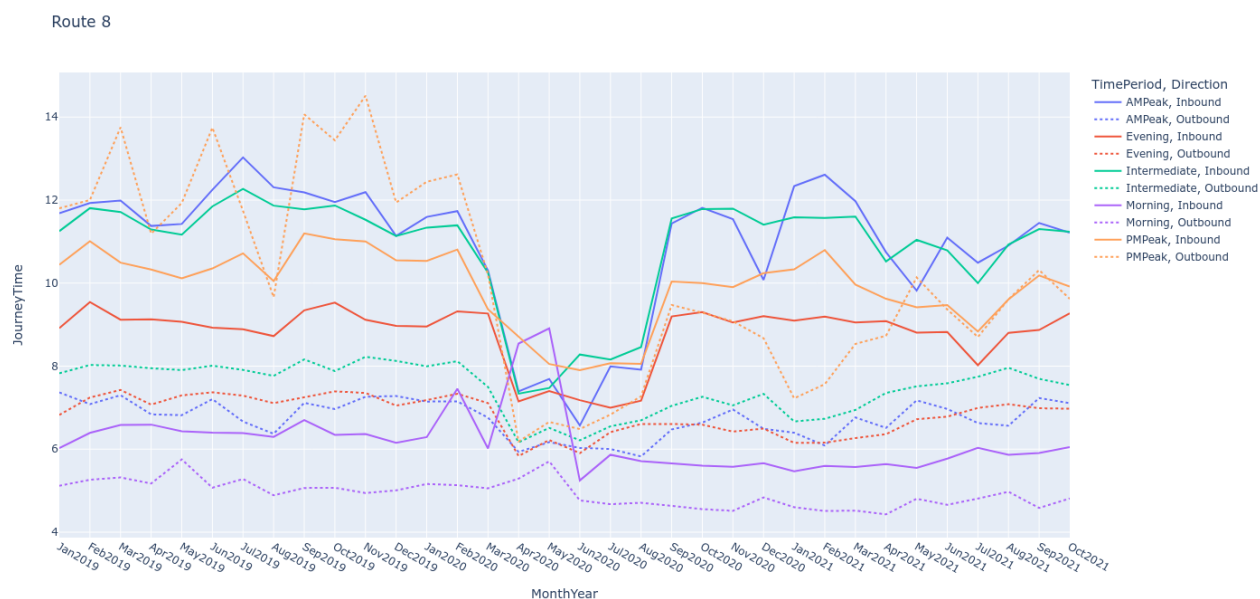
Route 8

Figure 27 Bus Route 8 – Journey Times, 2019 – 21

The trends in journey times for both intervention and control routes show a similar trajectory. In order to do a more detailed comparison, the ratio of journey times for impacted and control routes was analysed, as shown below.

Route 1, 8 - Journey Time (min)
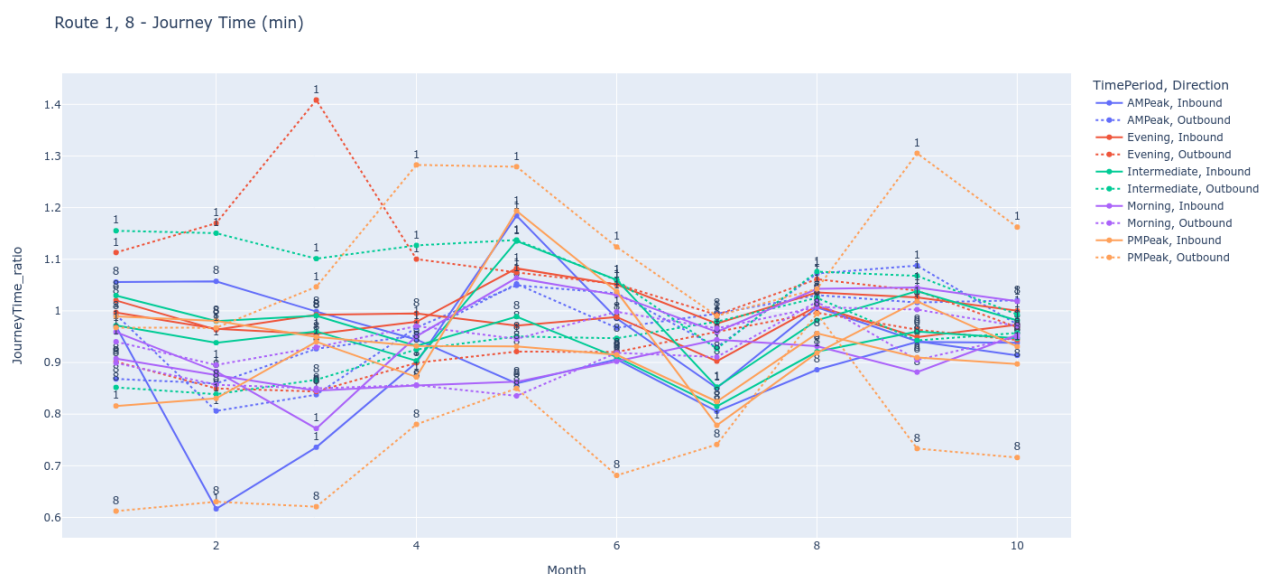
Figure 28 Bus Route 1, 8 – Journey Time ratio, 2019 vs 2021

As illustrated in Figure 28, most of the journey times follow a similar pattern. The only significant outliers are the PM-Peak Outbound and Evening Outbound journeys. In particular, PM-Peak Outbound journeys in the impacted routes were proportionally higher than the control routes. There was a small period in August when there was some convergence, but overall, there's a significant difference. On the other hand, Evening Outbound journeys followed a similar trajectory in all months of the year barring March, when the impacted route was much higher, which coincided with the start of the LTNs' implementation (though this does not necessarily imply causality).

To further understand the comparison between routes, a difference-in-difference of journey times analysis was done on the impacted and control routes.

Journey Times (difference-in-difference)
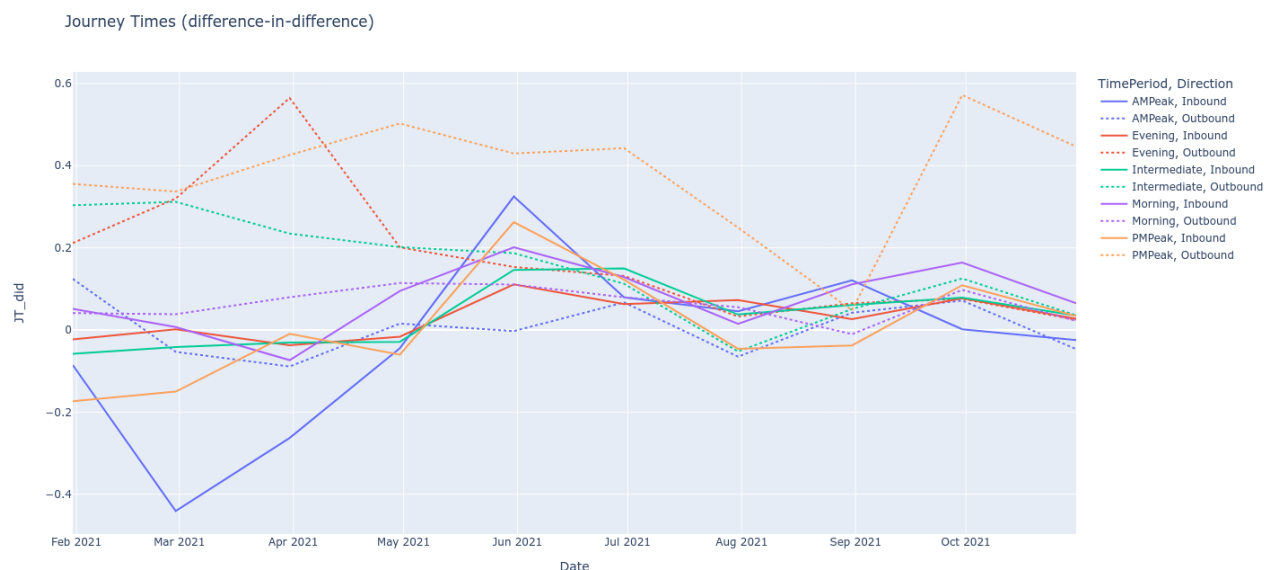
Figure 29 Bus Route 1, 8 – Journey Time (difference-in-difference), 2019 vs 2021

The difference-in-difference analysis demonstrates the findings of the earlier exercise, whereby the primary affected periods of the day were PM-Peak and in the Outbound direction for the Cowley Road. It also shows a similar convergence in the month of August and divergence in the month of March. The peak increase in journey time for the outbound PM peak was 57% in October.

However, it can be seen that there was already a significant difference in difference in February (35.5%), pre-dating the LTN installations, suggesting that not all of this impact on journey times for buses is due to the LTNs. The convergence in August also implies that other factors are influencing journey times on these different routes (which may be factors influencing the control route as well as or instead of the affected routes). Once we adjust for the pre-existing difference in difference, the peak increase in PM-peak journey time since LTN implementation is 22% - still a significant increase.

Air Quality

Air quality evaluation of the Cowley LTNs was undertaken utilising the existing air quality network, comprised primarily of diffusion tubes managed by Oxford City Council, the air quality authority for Oxford. We are grateful for the City Council's collaboration in this work.

Diffusive samplers (as described in paragraphs 7.185 – 7.210 of the Technical Guidance LAQM.TG(16)) are widely used for indicative monitoring of ambient nitrogen dioxide (NO2) in the context of regular Review and Assessment of local air quality levels by Local Authorities. This monitoring technique is particularly useful to give an indication of longer-term average NO2 concentrations and for highlighting areas of high NO2 (particularly when dealing with sources such as traffic emissions, which do not change much from day to day). Diffusion tubes take samples over an approximate 1-month period, hence producing a monthly mean value of NO2.

The diffusion tubes used for the purpose of assessing the impacts of LTNs were supplied and analysed in 2021 by an accredited laboratory (South Yorkshire Air Quality Samplers), using the 50% TEA in Acetone method. The laboratory is subject to quality assurance testing as part of their accreditation. This involves an independent comparison to other laboratories, under the independent AIR-PT scheme. The results of these inter-comparisons are publicly available.

All the diffusion tubes used in the 2021 monitoring campaign are being replaced according to DEFRA's 2021 diffusion tube monitoring calendar and within the ± 2 days due date tolerance.

Baseline for air quality monitoring has been set as 2017-2019. According to the city's latest Air Quality Annual Status Reports during the period 2017-2019 AQ levels seem to have plateaued in the city (annual mean NO2 levels across the city are very similar during this period). This gives us a certain degree of confidence for establishing an accurate air quality baseline – a calculated average obtained from all the available data for each site for the period 2017-2019 and considering only the period of interest (March to October). The year 2020 has been excluded as due to COVID-19 it does not represent a period of "Business as Usual".
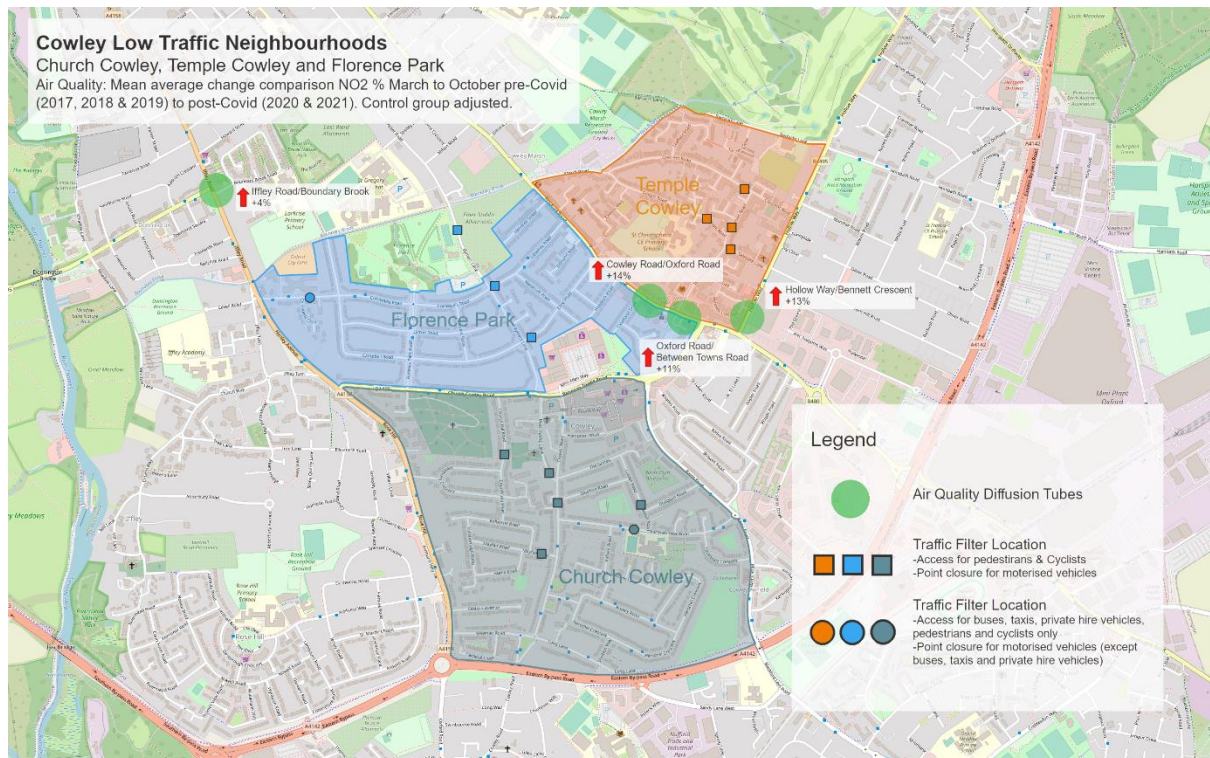
Figure 30 Air quality diffusion tube locations, with mean average change in NO2 concentrations

Four diffusion tube sites were both relevant to the Cowley LTNs and collecting data for at least 1 year prior to COVID measures being put in place. All of these sites are on LTN boundary roads. For the months of March to October 2021, unratified monthly NO2 at these sites reduced by an average of 8% from the same monthly averages in 2017-2019.

Air quality in Oxford overall has improved following COVID-19 measures. To account for this, 5 comparison sites were identified across Oxford in areas not impacted by the Cowley LTNs. For the months of March to October 2021, unratified monthly NO2 at each these sites reduced between 16-19% from monthly averages for the same months in 2017-2019, resulting in an average 17% NO2 reduction. Since values from each of these comparison sites are quite close together, this provides a strong level of confidence in the average reduction in NO2 levels as 17%.

Using NO2 levels as a proxy for overall air pollution, air pollution in comparison sites has reduced by 17% from pre-COVID levels, while air pollution has reduced by 8% in monitoring areas on LTN boundary roads during the same time period. By applying air pollution improvements in comparison sites as a benchmark factor, Cowley LTN boundary roads have experienced an average relative increase in air pollution levels of 9%. This increase is not the same across all areas, however, with the Cowley/Oxford road experiencing the most significant relative worsening in air quality (see figure 30).

Emergency Services Response Times

To understand the impact of the Cowley LTNs on emergency services, South Central Ambulance Service (SCAS) replicated LTN traffic filters as road closures in the Optima Predict event simulation platform.

The simulation reports the impact on mean response times using historical incident and response data from 01/03/2019 to 29/02/2020. Traffic filters on all 3 Cowley LTNs were simulated as a group. Analysis was conducted at local level, which is defined as within 1 mile of the LTNs. The simulation reports on the impact on NHS England ambulance response categories (see Figure 31).

NHS England ambulance response categories		
Category	Response	Response time to 90% of all incidents
CAT1	An immediate response to a life-threatening condition, such as cardiac or respiratory arrest	15 minutes
CAT2	A serious condition, such as stroke or chest pain, which may require rapid assessment and/or urgent transport	40 minutes
CAT3	An urgent problem, such as an uncomplicated diabetic issue, which requires treatment and transport to an acute setting	2 hours
CAT4	A non-urgent problem, such as stable clinical cases, which requires transportation to a hospital ward or clinic	3 hours

Figure 31 Optima simulation reports on the impact on NHS England ambulance response categories

The simulation found that impact on SCAS performance at the local level is minimal. The table below shows the difference in seconds between the baseline and the combined LTN scenarios. Results show there is a negligible impact on urgent responses (CAT1, CAT2 and CAT3) and a moderate impact on non-urgent (CAT4) responses. CAT4 is highly sensitive given the very low number of calls (~1000 p/m) and the long durations. The average SCAS CAT4 response historically has been around 2 hours. The 144 second impact on this category should be taken in this context.

Scenario	CAT1	CAT2	CAT3	CAT4
Baseline	-	-	-	-
Combined LTNs	3 secs	6 secs	0 secs	144 secs

Figure 32 Results of simulation on impact of LTNs on response times, per category

Figure 33 Simulated traffic filters on the Optima Predict event simulation platform

Survey and community feedback

Public perception surveys are being used to understand how perceptions, views, and behaviours change over time in the Cowley area. A baseline and a follow-up survey 6 months after full barrier implementation have been open to all, on Oxfordshire County Council's consultation platform.

In March 2021, (4/3/21 to 31/3/21) the Cowley LTN Perception Survey was hosted on eConsult, Oxfordshire County Council's consultation platform at the time. In total, 605 complete responses were received, including 399 from within the LTN areas.

In October and November (28/10/21 to 25/11/21) the Follow-Up Cowley LTN Perception Survey was hosted on Let's Talk Oxfordshire, Oxfordshire County Council's new consultation platform. Respondents from the baseline survey who consented to being re-contacted were emailed directly were contacted in order to understand how these responses may have changed after 6 months. In total, 536 complete responses were received, including 361 from within the LTN areas.

How representative are the perception surveys of the LTN catchment area population?
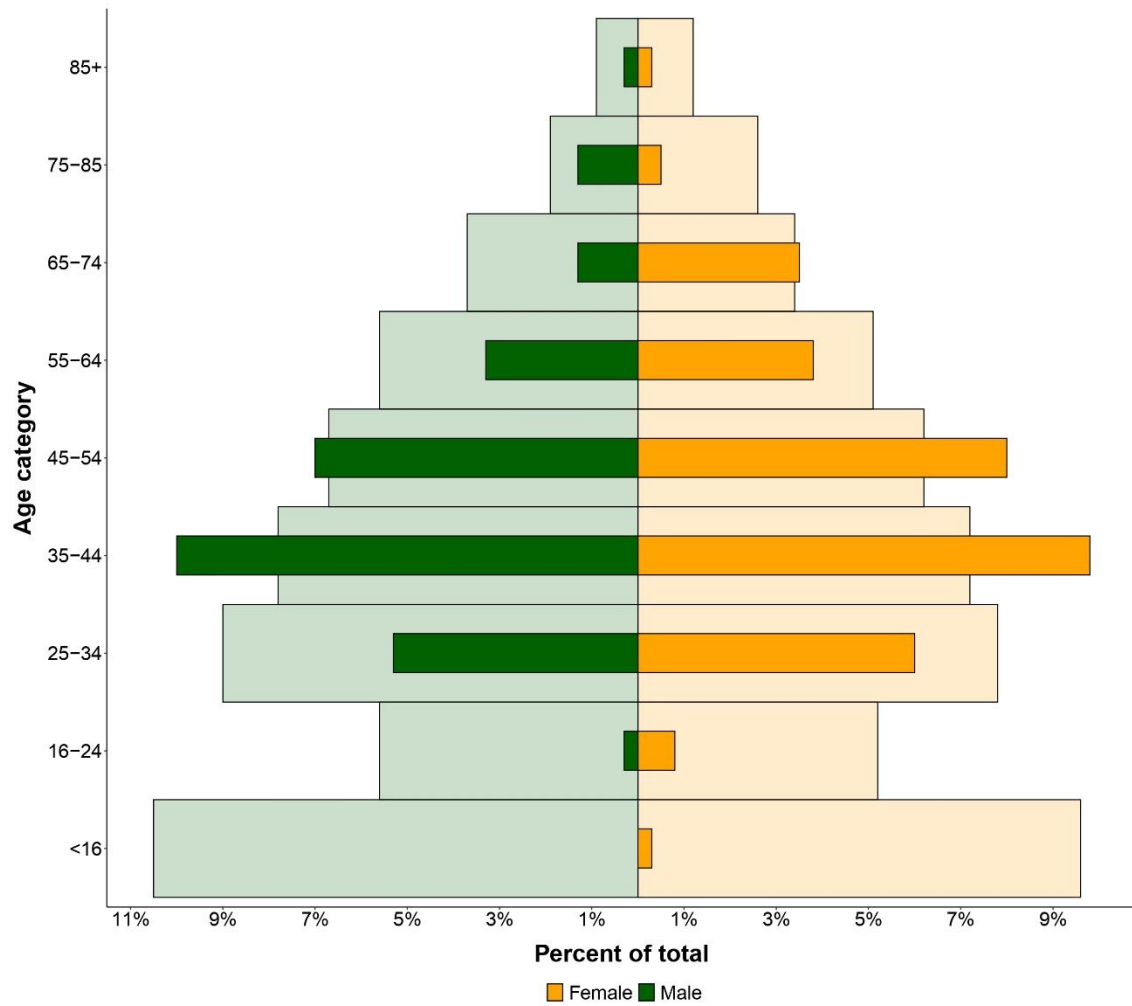
Figure 34 Age/Gender split of baseline survey respondents compared with the LTN area population (ONS, 2020)
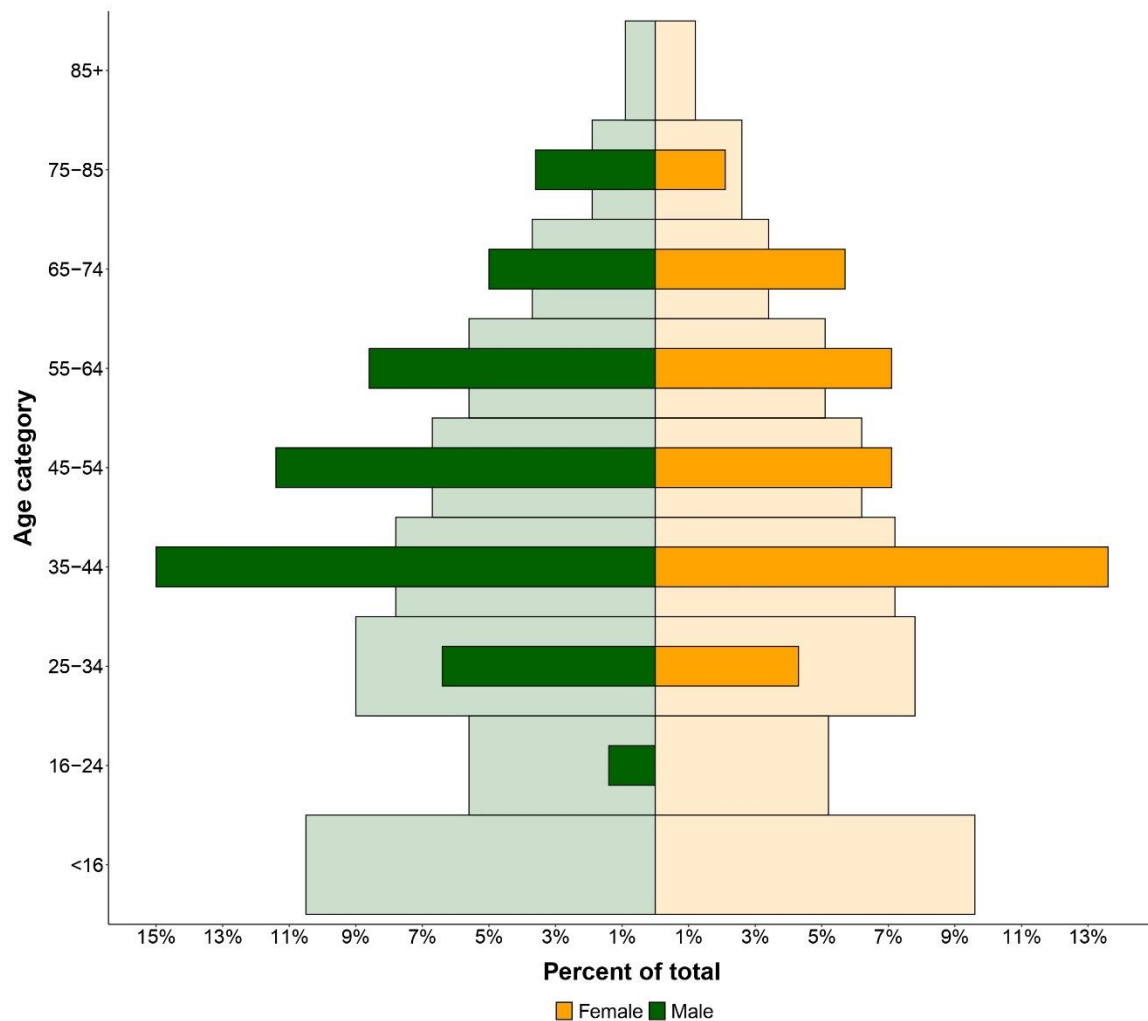
Figure 35 Age/Gender split of post LTN deployment survey respondents, compared with the LTN area population (ONS 2020)

From the 399 responses analysed in the baseline survey, 60% of respondents provided their age and gender. In the post deployment survey, only 35% of respondents provided their age and gender. Figure 34 and Figure 35 show the % of age/gender split of the baseline and post-deployment survey respondents compared with the LTNs ONS population estimates (2020). Most responses were from the 35-44 and 45-54 age groups. Above the age of 54, gender was less representative of the ONS population distribution; with a bias towards female respondents aged 65-74, and then male responses aged 75-80. In the baseline survey, only the 16-24 age group was underrepresented when compared with ONS population, whilst the under 16 and over 80 LTN population were not represented in the survey responses. From the demographic information provided, the post-deployment survey like the baseline, was generally representative of the ONS LTN population. Only the under 16 and over 80 LTN population was absent in the survey responses. The most responses were also from the 35-44 age group, with an even gender split, and over representative when compared with the ONS LTN population.
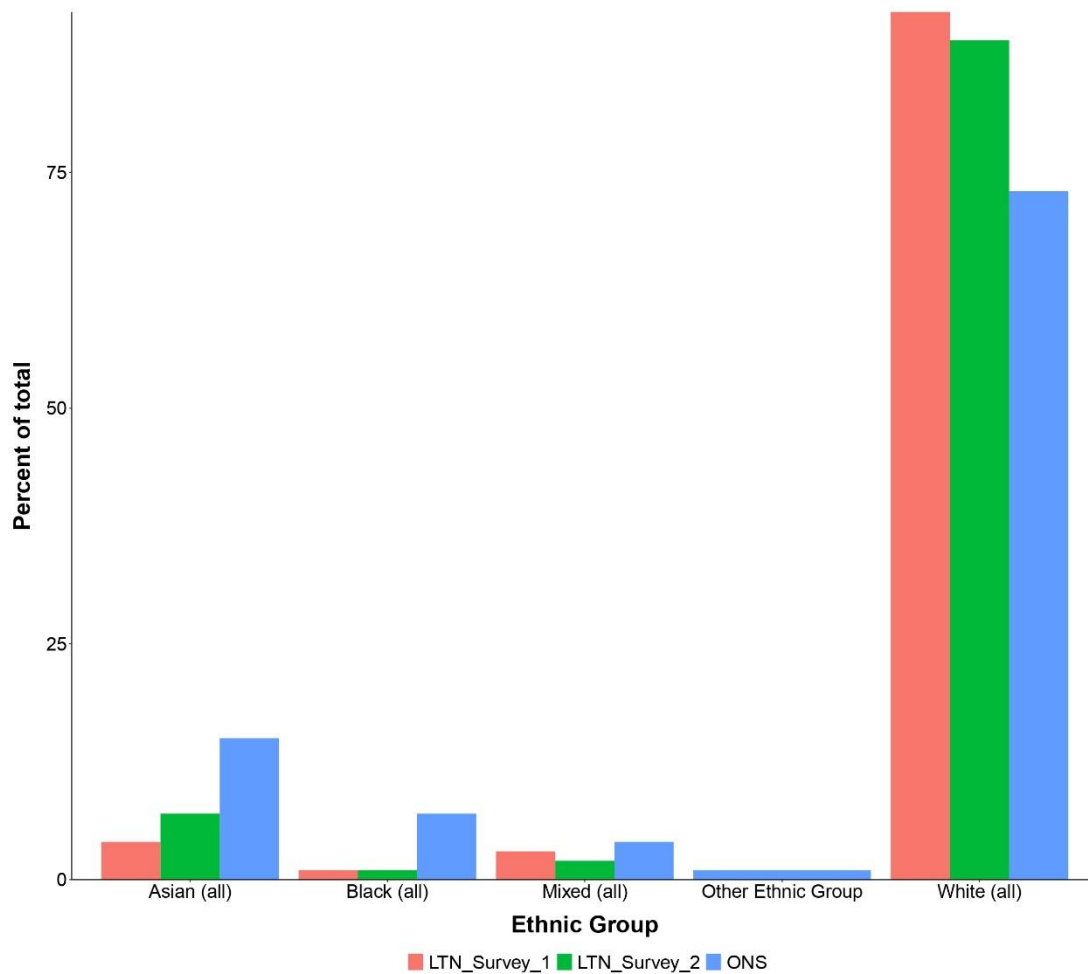
Figure 36 Ethnicity of baseline and post-LTN deployment survey respondents, compared with the LTN areas census (2011)

As seen in Figure 36 above, the ethnicity of the survey respondents from both the baseline and post-deployments surveys are representative of the LTN catchment area according to 2011 census data. The LTN area is predominantly 'White', which is reflected in the survey responses. Responses from minority groups are also represented, where the largest non-white ethnic group was 'Asian', although these tend to be below the ONS proportions especially for 'Black'.

Level of support for the LTNs

As seen in the figure below, support for the LTNs from the residents inside the LTNs has shifted from a neutral opinion to increase at the extremes of either fully support or strongly object.

	Cowley Church	Temple Cowley	Florence Park
Strongly object	14.17	11.11	10.83
Object	-2.78	-2.78	-4.72
Neutral	-12.78	-6.94	-6.94
Tend to support	-10.00	-10.83	-10.56
Fully support	11.39	9.44	11.39

Figure 37 Cowley respondents, relative difference percentage by of support of LTNs, before and after deployment.
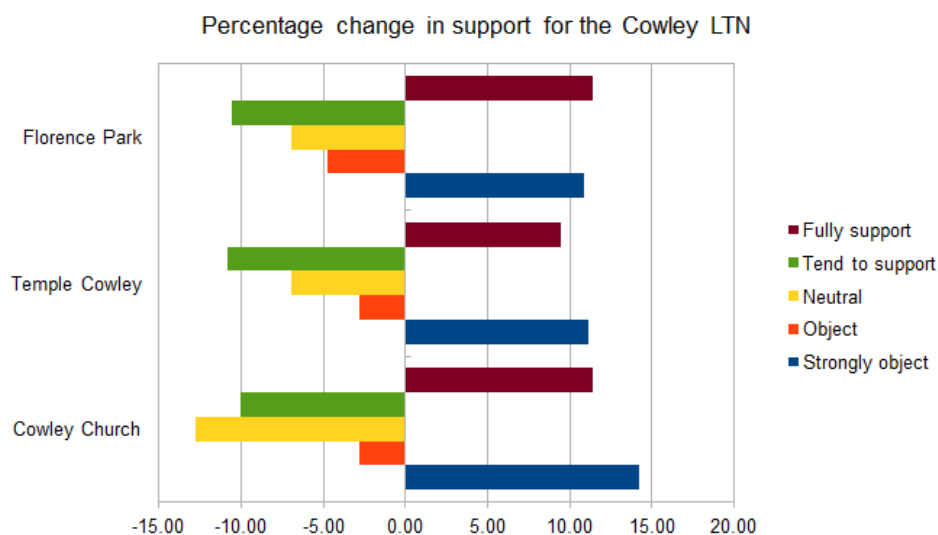
Figure 38 Cowley respondents, relative difference by percentage change, before and after deployment

Such views are further supported by open text responses from both surveys, which indicated that less than 40% of LTN residents' opinions have remained unchanged between the two surveys. There was an overall shift towards objecting against the intervention. However, it should be noted that such negative perceptions also included refinements and suggestions in relation to the LTNs' implementation.

In support of the LTNs, in the open-text responses there was a 9% relative swing in favour of supporting the LTNs. The most referenced benefits of the LTNs were in relation to the positive impact on the attractiveness of the area, such as: reduction in traffic noise, improved air quality, and perceptions of safety owing to less traffic, and how this has led to improvements to residents' quality of life. The most frequent of which, was cited as being able to walk and cycle as a family along with increased social interaction – conversation on quieter streets.

There was also an acknowledgement there are certain trade-offs, whereby respondents were aware that although they may directly benefit from the absence of traffic, other residents may experience potential downsides of increased traffic volumes.

How have travel patterns changed from before and after the deployment of the LTNs?

Percentage change in travel mode use
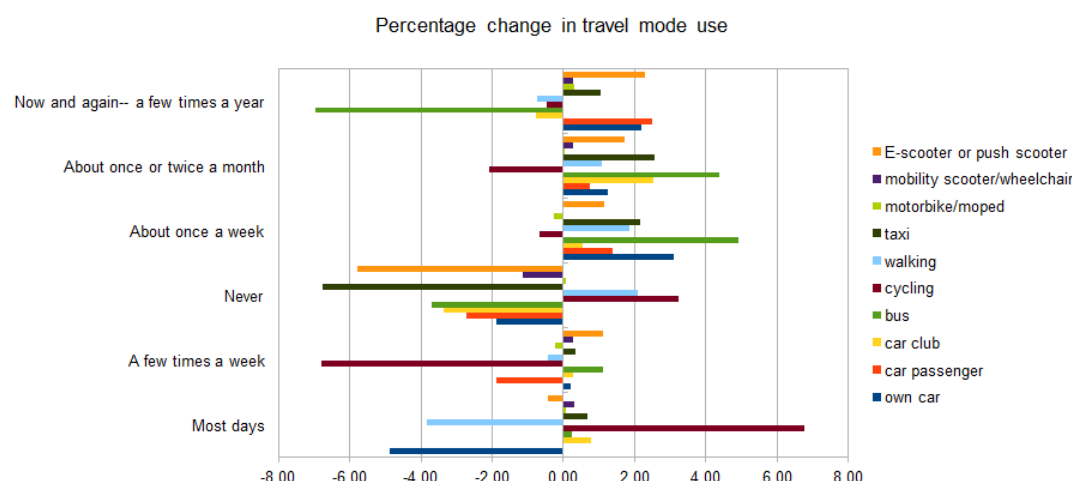
Figure 39 Cowley respondents, relative difference by percentage of travel mode behaviour change

The perception survey shows that after the deployment of the LTNs, cycling has had the largest relative increase, whilst travelling by car on most days has experienced the largest relative decrease. Initial results suggest that the LTNs have contributed to a positive shift towards active transport.

The survey also indicates a general increase in weekly travel by bus and reduction in car use on most days. These shifts are backed up by the empirical data described previously, which showed a significant reduction in car trips within the LTNs, and proportional increases in cycling since the implementation of the LTNs.

How have travel habits changed due to COVID-19 in March vs November 2021

In relation to the travel patterns and impact of the LTNs it is also important to consider how travel habits changed due to COVID-19 in March vs November '21.

	I cycle	I walk	I use public transport	I use the car
a lot more	0.86	-6.84	0.86	-1.13
more	-1.59	-7.96	3.14	0.37
the same	10.22	19.21	16.35	13.28
less	-7.53	-3.01	3.43	-8.42
a lot less	-1.96	-1.4	-23.77	-4.1

Figure 40 Cowley respondents, relative difference by percentage of how travel habits have changed due to COVID-19 in March vs Nov '21

Percentage change in travel patterns due to COVID-19
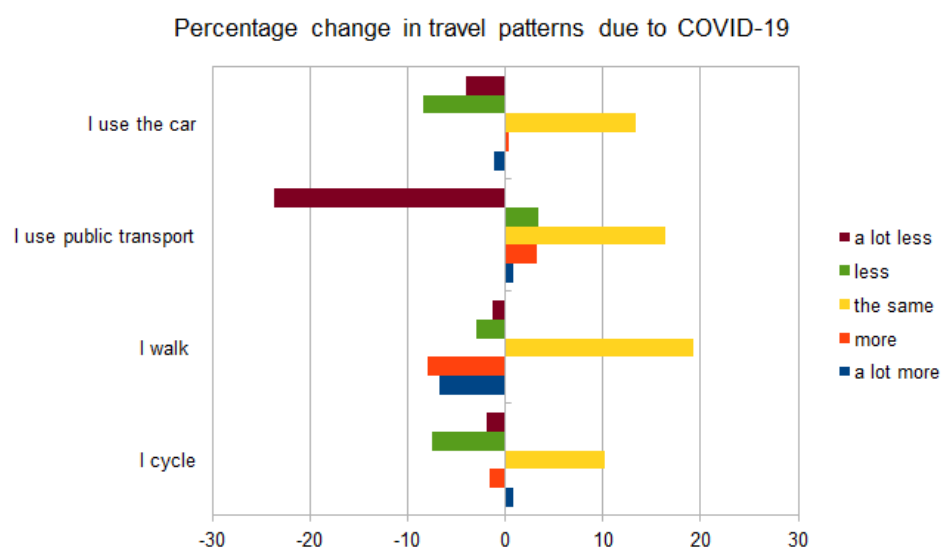
Figure 41 Cowley respondents, relative difference by percentage of how travel habits have changed due to COVID-19 in March vs November 2021

As seen in Figures 40 and 41, in general the modes by which respondents' travel are returning to the same levels before COVID-19. For instance, in terms of absolute responses for travel by public transport, the number of respondents travelling less has one of highest levels of reduction in addition to an increase in travelling the same or more.

In relation to active travel, survey responses indicate that cycling levels have experienced a relative increase, as indicated by a reduction in responses cycling less and a slight increase in respondents' cycling more when compared to walking. The changing context of COVID-19 in relation to understanding travel habits is essential in interpreting the impact of the LTNs on a modal shift towards active transport. For instance, trip-purpose influenced by working from home policies, change in daily routines as well as occupation types of residents could bias and skew the findings.

Changes in attitudes regarding cycling

	Cycling is unsafe because of traffic	My local area is safe for an 8-year old to cycle	There are special lanes, routes or paths for cycling	My local area is pleasant for cycling
Strongly agree	-8.4	2.7	-0.4	7.3
Agree	-10.5	14.4	5.5	12.0
Neutral	2.4	4.9	7.8	-1.9
Disagree	14.2	-1.7	-3.2	-15.8
Strongly disagree	2.2	-20.3	-9.7	-1.6

Figure 42 Cowley respondents, relative difference by percentage of attitudes towards cycling

Overall, there has been a positive shift in attitudes towards cycling, most notably in relation to perceptions of safety due to traffic. There has also been a significant increase in respondents who indicated that that the LTNs may have positively contributed to the attractiveness of the area and therefore conditions to encourage more cycling.

The open-text response in the survey provides further support in relation to LTNs' impact on perceptions of safety owing to a reduction in traffic as well as the area being more attractive for families to cycle together for leisure or school travel. Respondents particularly referenced, the 'transformation' of Littlemore Road as previously 'unsafe' and 'scary' when cycling with children before the LTN filter, and 'safer through the chicanes along Cricket Road/Rymers Lane'.

The survey also showed a relative increase in the percentage of respondents who thought the area was safe for an 8-year-old to cycle. The open-text comments also indicated that responses to this question may depend on how it is interpreted however: as children cycling with friends or alone and not accompanied by a parent. In this sense, individual parenting style and family behaviours, as well as social and contextual attitudes towards children and place, may need to be considered.

Changes in attitudes regarding walking

	Walking is unsafe because of traffic	My local area is safe for an 8-year old to walk alone	My local area is pleasant for walking	There are good quality pavements for walking	There are enough safe places to cross roads	My local area has enough places to stop and rest outdoors	There are places to walk to, such as shops, restaurants, leisure facilities
Strongly agree	-5.0	-2.8	3.9	-1.6	-1.3	-1.4	0.5
Agree	-14.1	13.9	9.9	3.0	11.7	0.8	-1.7
Neutral	-0.8	7.9	-6.1	0.9	2.4	5.1	-2.0
Disagree	9.3	-9.6	-9.5	-7.2	-14.3	-4.6	0.8
Strongly disagree	10.6	-9.3	1.8	4.8	1.6	-0.0	2.5

Figure 43 Cowley respondents, relative difference by percentage of attitudes towards walking

The survey responses indicate an overall positive shift towards walking in the area, most notably in relation to the attractiveness and safety of the area owing to less noise and traffic volumes/speeds. Respondents in the open-ended text also commented on a new sense of enjoyment experienced from walking in the area, and the improvement the LTNs have made on their quality of life as result of no longer living on a 'through road'.

Changes in attitudes regarding crime and antisocial behaviour

	The area is unsafe because of the level of crime or antisocial behaviour	Air pollution caused by motor traffic is a problem in my area	I regularly stop and talk with people in my local area	Getting to where I want to go by car is quick and easy
Strongly agree	1.2	-2.8	0.4	-13.8
Agree	-7.8	-8.7	-4.3	-18.7
Neutral	2.8	5.6	-1.2	-2.7
Disagree	-2.2	5.3	-1.0	5.3
Strongly disagree	6.1	0.6	6.0	30.0

Figure 44 Cowley respondents, relative difference by percentage of attitudes towards crime and anti-social behaviour, air pollution, social-interaction, and travel by car

As seen in Figure 44, there is a higher relative increase in disagreement that the area is unsafe owing to crime or antisocial behaviour, indicating that the respondents' perceived levels of safety or fear of antisocial behaviour has reduced since the deployment of the LTNs.

There was a small relative increase in the level of strong agreement that the area is perceived as unsafe. The open-text comments may offer some insight into this view. Female respondents expressed feeling unsafe when walking home on their own due to the absence of vehicles and activity. Similarly, some respondents also noted that the filters tended to become meeting points for youth groups to 'hang around' and whilst their behaviour was not always anti-social, their presence was intimidating to those walking by. Other respondents also commented on the anti-social behaviour of e-scooters and mopeds in the area as contributing factors to feeling unsafe, as well as safety concerns from the increase in delivery mopeds going through the filters at high speed.

Changes in attitudes regarding air quality

Survey responses indicate there has been an overall improvement in the perception of air pollution since the deployment of the LTNs. There is also an equal relative increase in the percentage difference of neutral responses. In the open-text comments, a number of respondents recognised that while they have directly benefitted from what they perceived as 'displacement of traffic' to the outer areas, other residents – on the periphery or main roads – may experience an increase in air-pollution as a consequence of any potential displaced traffic. Whilst the comments state air-pollution and air-quality as factor, when interpreting these responses, there are unknowns about the influence of sound and perceptual cues, which people may automatically interpret as an increase in air-pollution. For instance, traffic noise or presence of more vehicles.

Changes in attitudes regarding social interaction

As seen in figure 44, social interaction – as indicated by 'people regularly stopping to interact with people in their local area' – has generally decreased since the deployment of the LTNs. This relative decline may also be explained by external factors such as seasonality (between surveys) or change in routine behaviours and temporal aspects owing to COVID-19. In the open-text responses, where social interaction has been discussed, the LTNs have been largely credited by respondents for their impact – decrease of traffic noise – on enabling conversations with other residents. The lack of street space owing to parked cars was attributed as the main barrier to social interaction.

Changes in attitudes regarding car travel

The largest objection to the LTNs, as seen in figure 44, relates to convenience and ease of travel by car. There was a significant relative decrease in the number of respondents who found getting to their destinations was quick and easy by car compared to before the LTNs were deployed.

Similarly, increased travel time owing to extending travel routing and inconvenience were cited as the most objectionable and negative trade-offs in the open text

responses. Inconvenience was also the main reason a respondent from the linked survey changed their view from support to a negative perception of the LTNs between surveys.

Updated data analysis

Traffic Volume – LTN Boundary Roads

To monitor the impacts of LTN barriers on vehicle volume, the number of cars passing each sensor in both directions have been combined to calculate a daily average for each month from February 2021 through to April 2022 for Cowley LTN boundary roads and comparison sites.
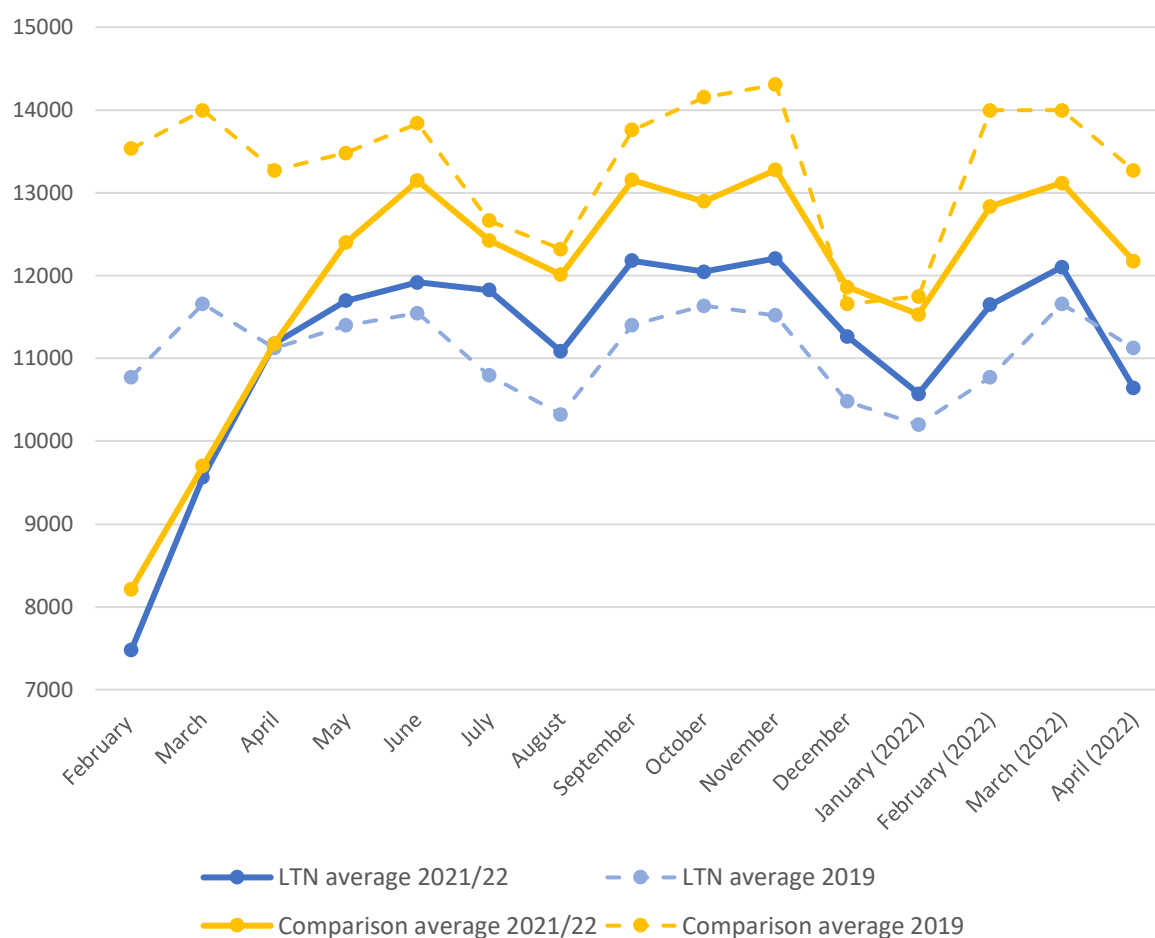
Figure 45 Average daily car counts, Cowley LTN Boundary Roads and Comparison sites, 2019 and 2021/22

To evaluate the impact of the LTNs on traffic volume, the percent change in traffic volume has been calculated for LTN boundary roads from 2019 to 2021/22. As seen in the figure above, from December 2021 to March 2022, overall, traffic volumes across all LTN boundary road sites were moderately above 2019 levels (average of 105%) whilst continuing to follow the same monthly trends in volume increases and decreases from 2019. In April, the LTN boundary road average in daily traffic volumes decreased below 2019 volumes for the first time since the LTNs were introduced (95.7%): 10646 down from 11126 in April 2019.

From the comparison sites -- from December 2021 to January 2022 -- the average daily volumes were similar to those from 2019, after which traffic volumes were found to be lower month-on-month until April 2022 when tracked against volumes from 2019: 95% in February, 94% in March and 92% in April.

The following formula has been used to calculate the difference in difference (here after DiD), for each mode (cars, pedestrians or cyclists) separately:

(Change in Volume at intervention area 2021/22 compared to 2019) - (Change in Volume at control area 2021/22 compared to 2019)
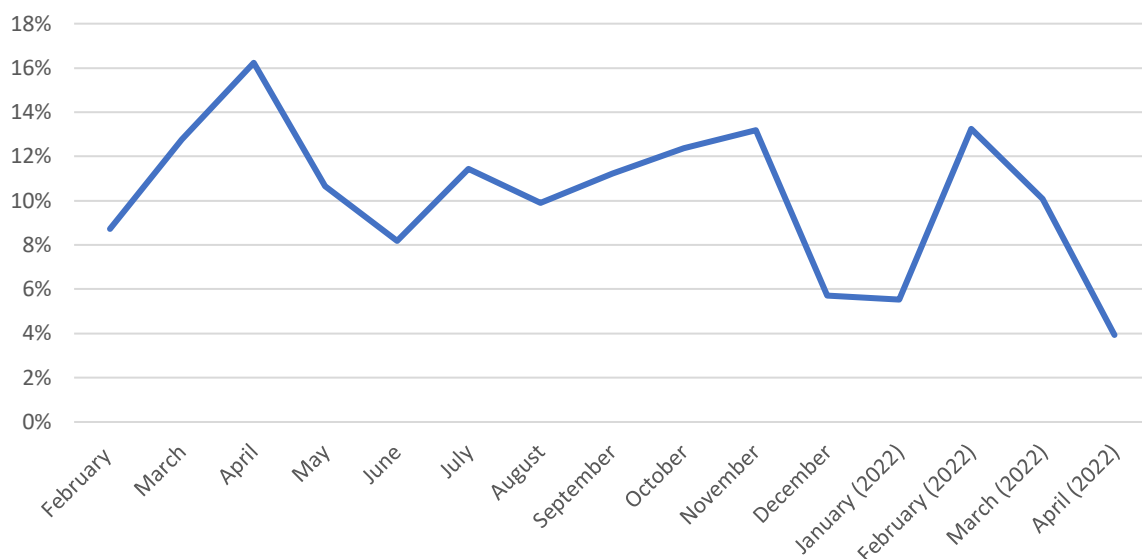
Figure 46 Difference in monthly average change LTN boundary roads to comparison sites (average daily cars)

Overall, from December 2021 through April 2022, the DiD (impact of the LTN), in traffic volume has increased to 110.2% of 2019 levels, in proportion to traffic volume changes in comparison sites. If we deduct the 8.7% DiD(0) value (difference between intervention boundary sites and control sites in February) to consider pre-intervention traffic volumes (already apparent), from this 110.2%, we might cautiously deduce that 1.5% of additional traffic on these roads is generated via the LTNs. Looking at the whole evaluation period – March 2021 to April 2022 – the DiD in traffic volume has increased 111% from 2019. However, when accounting for pre-evaluation volumes this increase in traffic owing to the LTNs is reduced to 102.3%.

As shown in Figure 46, whilst the data indicated an initial spike up to 13.3% in February 2022 after the Christmas period, the percentage DiD in traffic volume started to fall from March down to 4% in April.

This analysis is for overall traffic flows on LTN boundary roads; however, traffic flow changes are not consistent across all LTN boundary roads or during all times (peak times are likely to be more severely impacted). As with the previous reporting period (March to November 2021) traffic levels have largely remained below or the same as 2019 levels, except for traffic levels on Hollow Way (108.5%), Rose Hill Rd (111.2%) which have continued above levels in 2019. In addition, it should also be noted that where traffic is lower than 2019 levels, it is still comparatively higher than it was in control areas (As shown in figure 47 below). However, we can not necessarily

conclude this was down to the LTN alone, as other confounding factors may have also contributed to this increase. Overall, as can be seen in, figure 48 (below), where the whole evaluation period of March 2021 to April 2022 is considered, without accounting for pre-intervention volumes, from the LTN boundary sites, Rose Hill (109%) and Hollow Way North (107%) appeared to be the roads most effected by the LTNs.
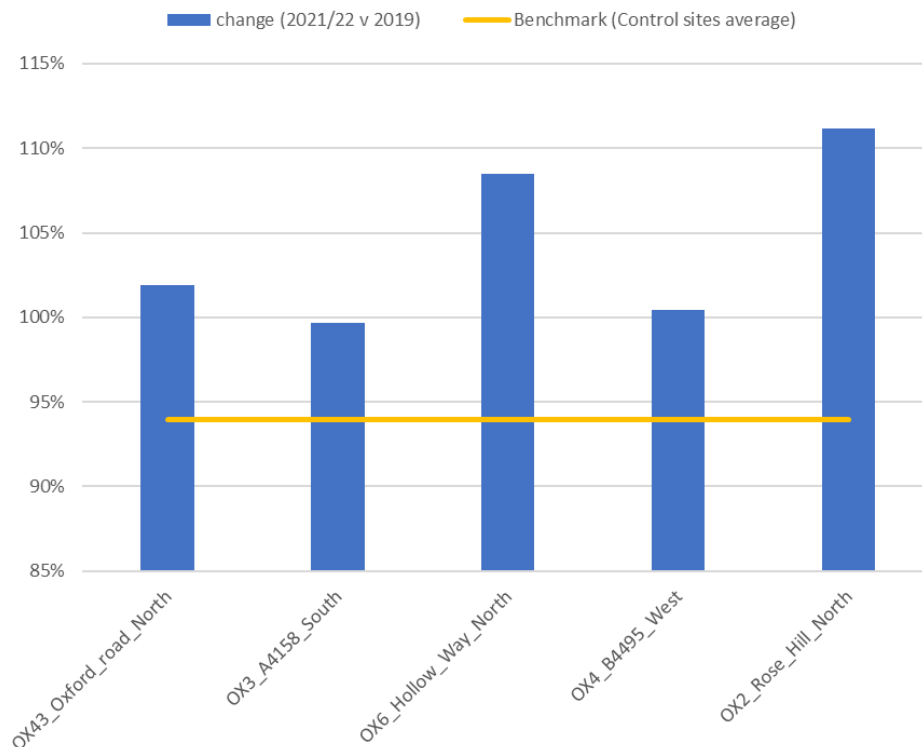
Figure 47 Change in daily car counts during December through April 2019 and 2021/22
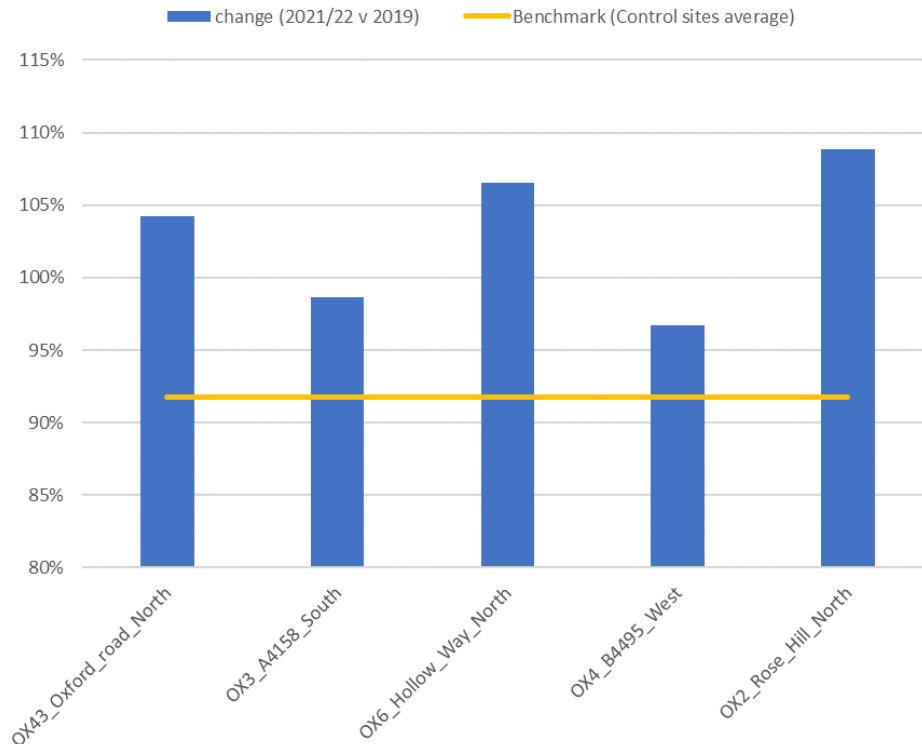
Figure 48 Change in daily car counts during March 2021 through April 2022

However, as seen in figure 49 (below), once we factor out the existing DiD between the intervention and control sites, the picture changes. In particular, since Hollow Way had a particularly high DiD(0) prior to LTN implementation, once this is factored out, we see that the there was an improvement in the traffic levels post LTN implementation (-8.6%). This suggests that the initial increase in traffic shown in DiD calculation wasn't due to the LTN alone, and that other factors are contributing to the high traffic volumes on this route, or that February 2021 may have had higher than average volumes.
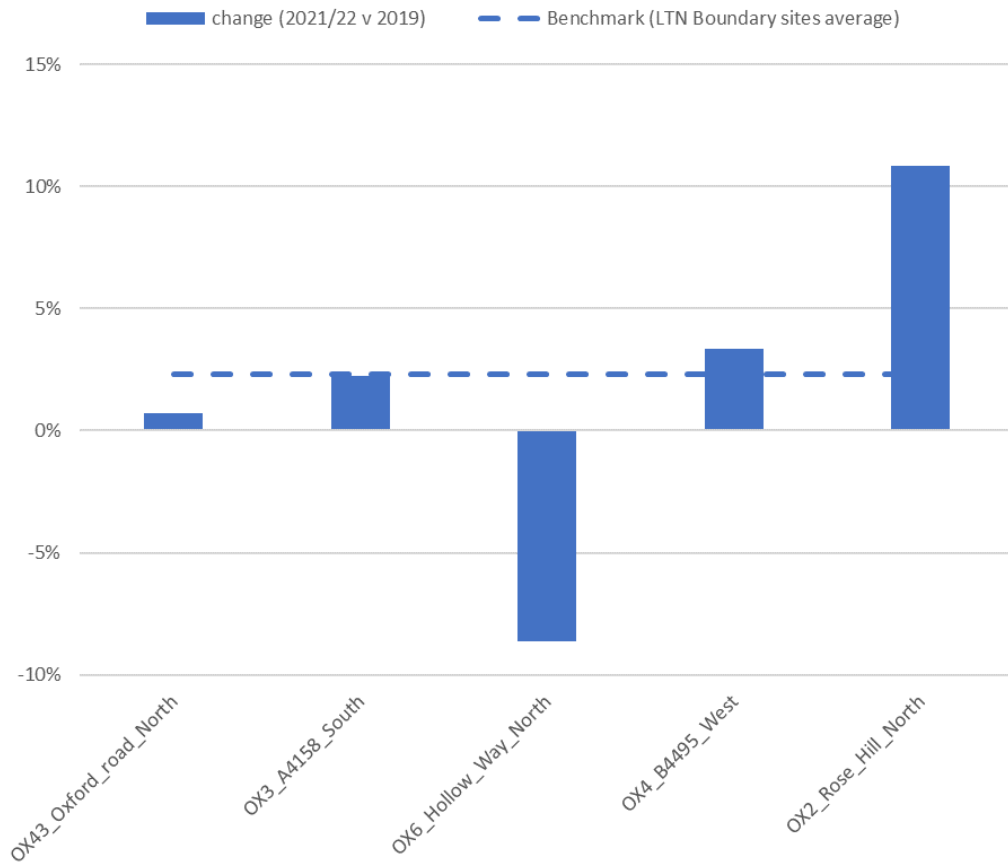
Figure 49 Change in daily car counts during March 2021 through April 2022 adjusted to account for pre-intervention baseline traffic volumes.

Traffic Volume –LTN Area

Car
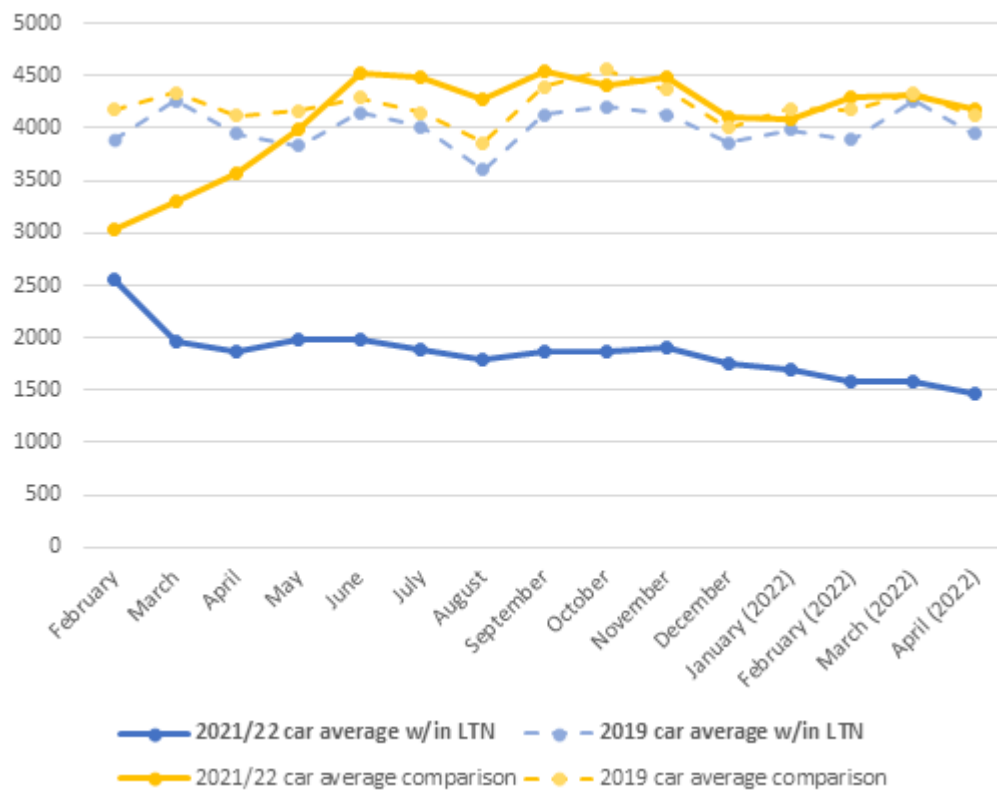
Figure 50 Average daily car counts, within Cowley LTN and Comparison sites, 2019 and 2021/22
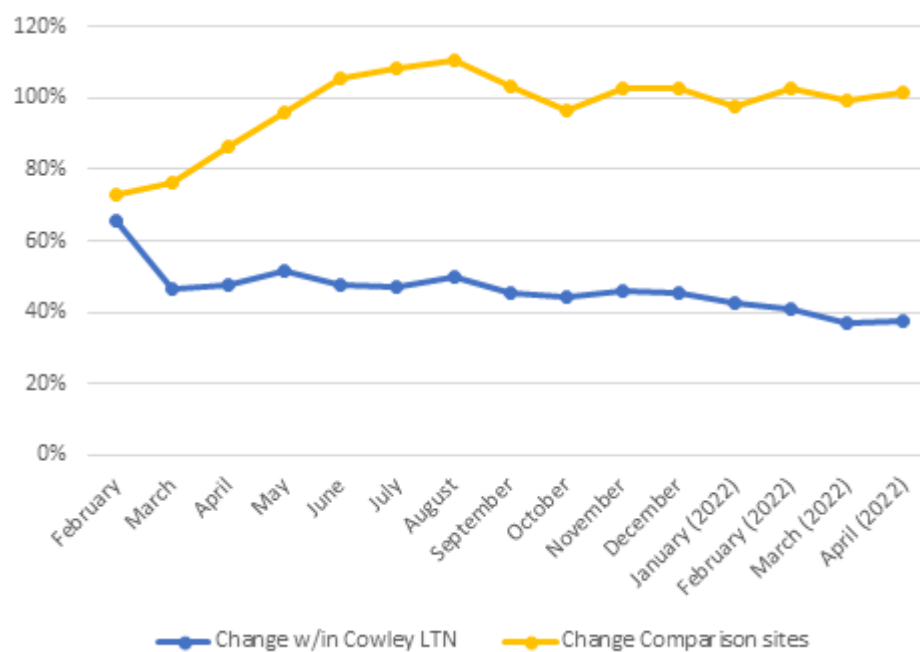
Figure 51 Change in monthly average car count 2019 to 2021/22 within Cowley LTN and comparison sites
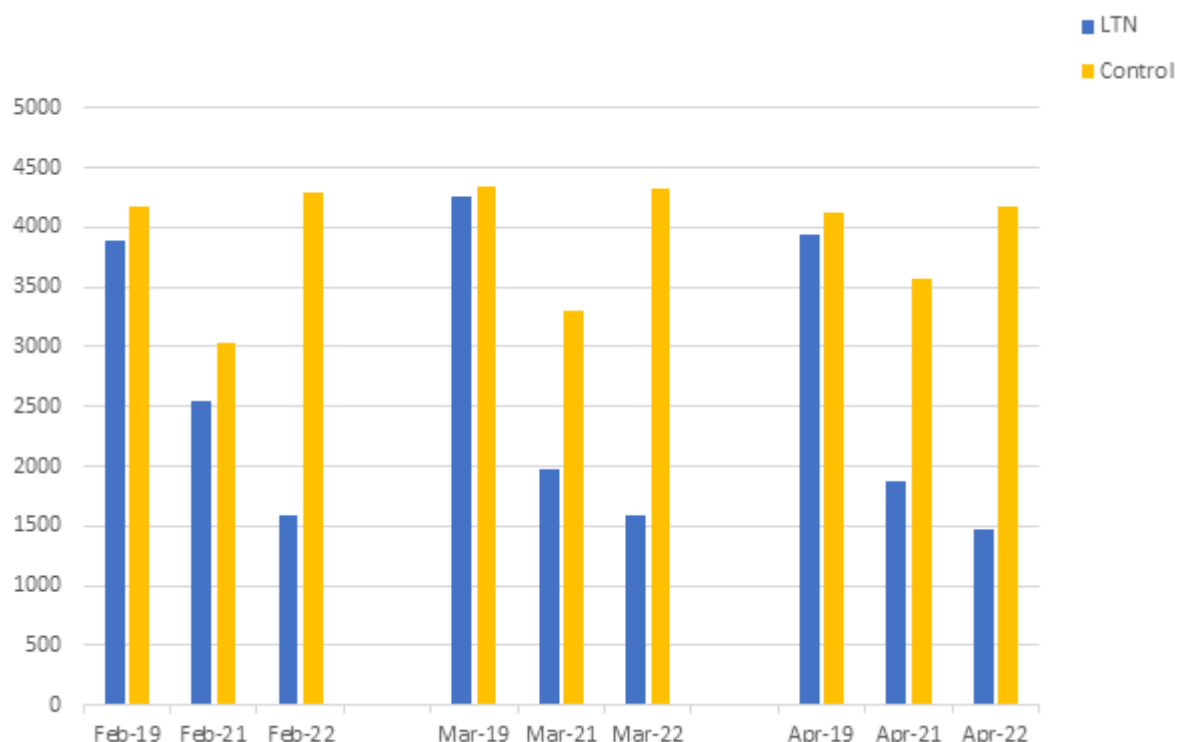
Figure 52 A three-year comparison of average daily car counts over a three-month period for Cowley LTN and comparison control sites (2019,2021 and 2022)

From December 2021 the average daily car count in the control area sites began to return to 2019 baseline levels/trends (101%). In contrast, sites within the Cowley LTN continued to experience a significant drop in car traffic; there was an average of 41% of respective 2019 levels between December 2021 and April 2022. When considering the whole evaluation period -- March 2021 to April 2022-- the average daily car traffic was 44% of 2019 levels, compared to the 99.1% in the control site area.

From December 2021 through April 2022, using the comparison control sites to calculate DiD (impact of the LTN) car volumes within the LTN decreased by -60% from 2019 (-2399 average cars per day). If we factor in the 7.1% DiD(0) value (difference between the LTN and control sites in February) to account for pre-intervention traffic volumes (already apparent), the adjusted car volumes in the LTN decreased by -53% compared to 2019 (-2198 average cars per day). If we consider the whole evaluation period, the DiD percentage in car volumes was -54.2% compared to 2019 (-2175 in average cars per day). When adjusted for pre-intervention traffic volumes, there was -47% decrease in car volumes attributed to the LTN intervention (-1973.9 in average cars per day).

From February 2022 to April 2022, of the monitoring sites within the Cowley LTNs (as reported between March and November 2021), the most impactful decrease in car counts was experienced on Cowley Road north, with the highest reduction in March 2022; 2365 average cars per day (Confidence Interval at 0.05 of, 32 ±) down from 7686 average cars per day (Confidence Interval at 0.05 of, 139±) in April 2019. While

Long Lane East continued to have a slight increase in 2022, when compared to 2019, there was a steady decrease in percentage change month-on-month compared to the 2019 base-year: 113% in February, 108% in March and 102% in April, indicating a return to baseline levels for this site.

From the control area, the Moreton Road West site was the only site to experience a decrease in average cars per day, with the largest decrease (73%) in February; 1910 (Confidence Interval at 0.05 of, 76 ±) down from 2608 (Confidence Interval at 0.05 of, 92±) in February 2019. The largest increases were found at Ashhurst Way West and Minns Business Park with an average increase of 118% and 106% respectively for the period of February to April 2022.

Cycling
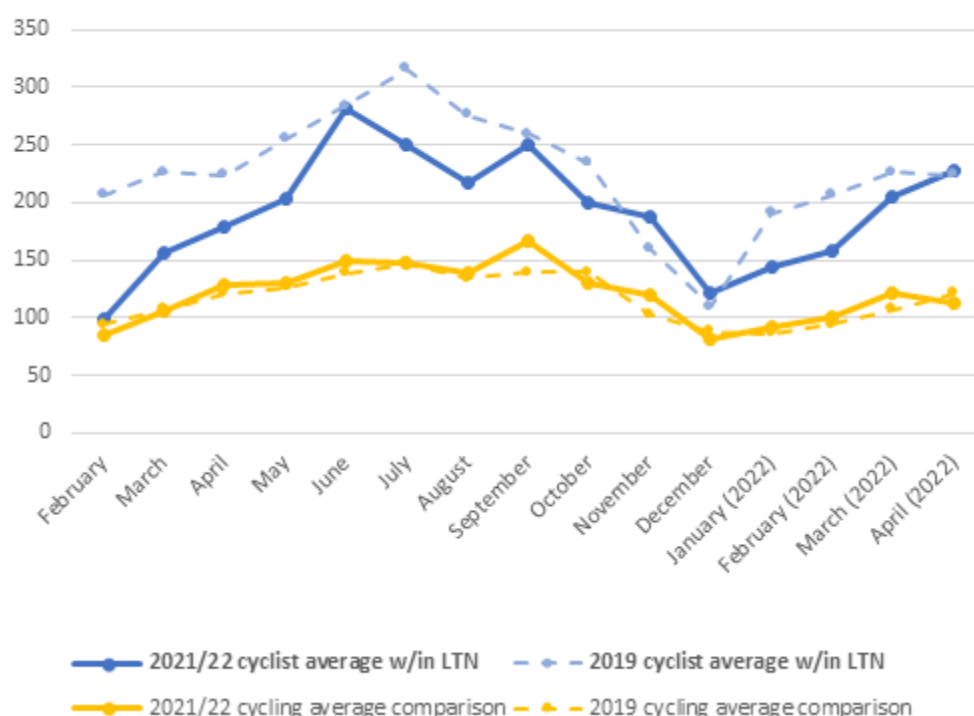
Figure 53 Average daily cyclist counts, within Cowley LTN and Comparison sites, 2019 and 2021/22
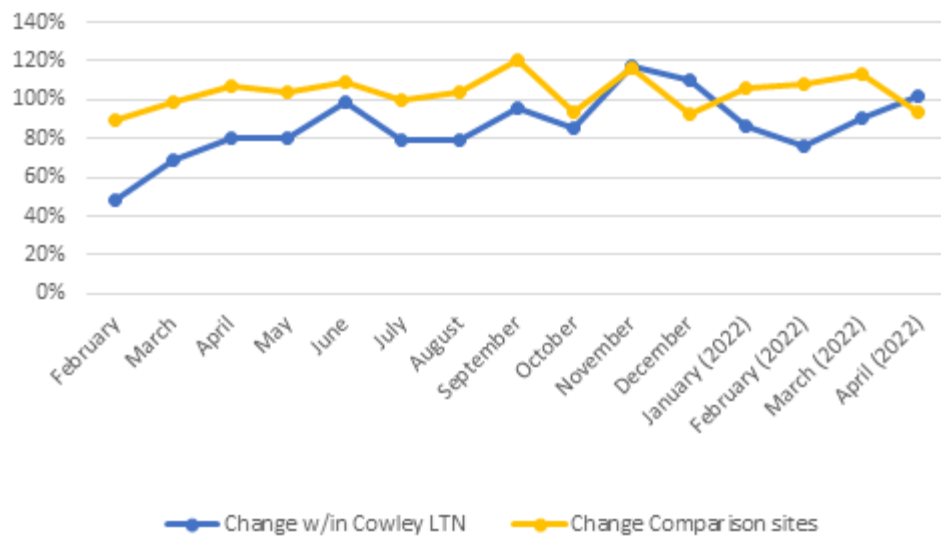
Figure 54 Change in monthly average cyclist counts 2019 to 2021/22 within Cowley LTN and comparison sites
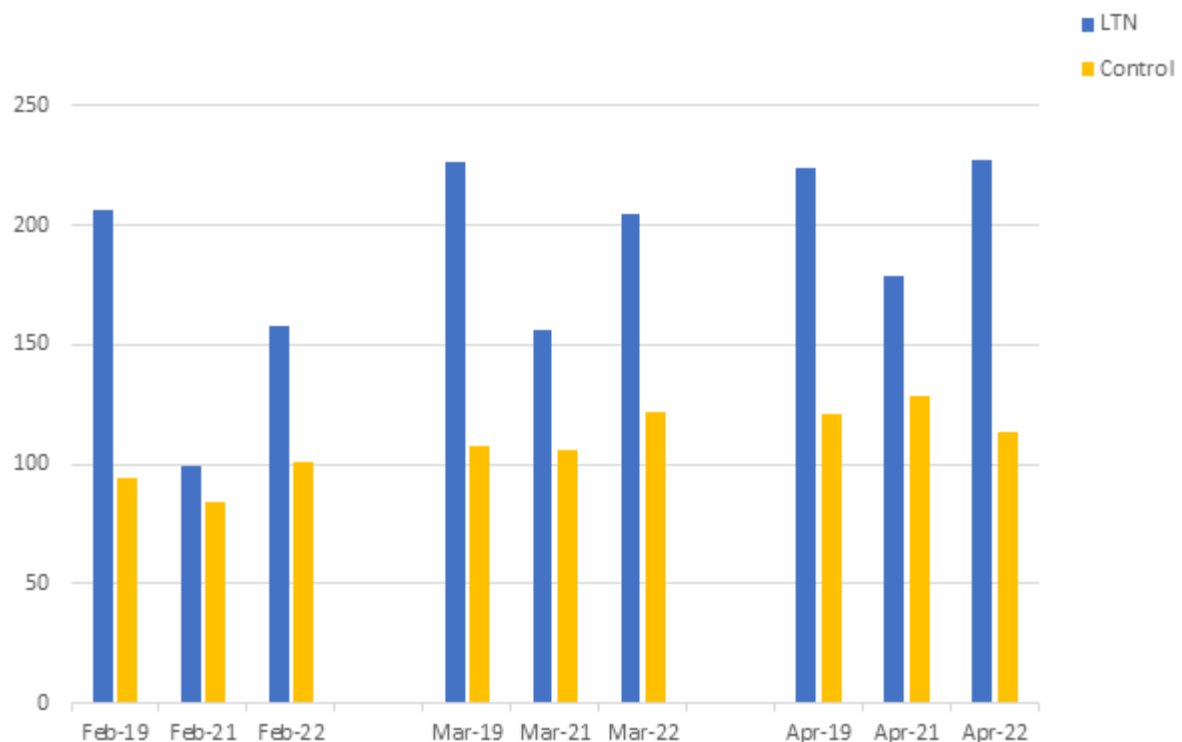
Figure 55 A three-year comparison of average daily cyclist counts over a three-month period for Cowley LTN and comparison control sites (2019,2021 and 2022)

In December 2021, both LTN and control sites had returned to baseline volumes, with the LTN showing a slight increase of 121 average cyclists per day up from 109 in 2019. While the control sites continued to align with the baseline trends with marginally

higher daily volumes from January to March 2022, the LTNs experienced a decrease in volumes compared to 2019: 86% in January, 76% in February and 90% in March. However, as can be seen in figure 54, this percentage deficit when compared to 2019 continued to decrease until April 2022 when the average daily volumes began to marginally exceed the 2019 base-rate: 226 average cyclists per day up from compared to 223 in 2019.

From February to April 2022, from the monitoring sites within the Cowley LTNs, the most impactful increase in cycling volumes was experienced on Rymers Lane, with the highest increase in March 2022; 238 average cyclists per day (Confidence Interval at 0.05 of, 12±) up from 219 average cyclists per day (Confidence Interval at 0.05 of, 11±) in March 2019. In contrast, Cowley Road North experienced the highest relative percentage decrease (43.3%) in February 2022 and 49% in March 2022 when compared to 2019 volumes. However, whilst Long Lane East also initially experienced moderate decrease in cyclist volumes, when compared to 2019, by April 2022 there was a slight increase, up to 105% when compared to 2019.

From the control area, the largest increase in cycling was experienced in Ashurst Way (214%) and Minns Business Park (206%) compared to 2019 volumes. However, by March these relative increases began to drop to 141% and 142%. This trend continued into April where for Minns Business Park the average daily counts had fallen moderately to 82.5% below 2019 levels: 20 (Confidence Interval at 0.05 of, 1.5±) down from 24 (Confidence Interval at 0.05 of, 2.14±) in April 2019. By contrast, Moreton Road West experienced a steady monthly increase in cyclists when compared to the month-on-month baseline daily averages: 56% in February, 72% in March and 112.5% in April 2022.

From December 2021 through April 2022, cycling volumes within the Cowley LTNs were 89.2% of cycling volumes in the same period during 2019, while cycling volumes at comparison sites were 102.7%. When considering the whole evaluation period -- March 2021 to April 2022-- the average daily cycling volumes was 87% compared to the 104% in the control site area.

When using the comparison control sites to calculate DiD (impact of the LTN), cycling volumes from December 2021 through April 2022 within the LTN decreased by –13.5% from 2019 (-23 average cyclists per day). When considering the whole evaluation period -- March 2021 to April 2022—cycling volumes within the LTN decreased by –17.7% (-35 average cyclists per day).

However, if we factor in the –41.7% DiD0 value (difference between the LTN and control sites in February) to account for pre-intervention cycling volumes (already apparent), the adjusted cycling volumes for December 2021 through April 2022 in the LTN increased to 128.2% compared to 2019 (+74 average cyclists per day). Overall, for the whole evaluation period, when adjusted for pre-evaluation levels, there was an increase to 124% compared to 2019 (+63 average cyclists per day). [1]

---

[1] Notes/caveats about the data:

For aggregated data, where missing or data issues (undercounting occurs) a combination of means values and adjustments using denominator was applied.

For disaggregated data analysis, where specific road sites were analysed and compared, the following control sites experienced data issues with the VL sensors.

Pedestrian

While pedestrian volumes at the comparison sites were significantly lower in 2021/22 compared to 2019, the trend in 2021/22 pedestrian volumes continued to mirror the 2019 monthly volumes. In contrast, volumes within the Cowley LTN sites experienced a much smaller drop, and at times exceeded 2019 levels. The drop in pedestrian volumes towards the end of December 2021 was in-line with both 2019 volumes in the LTN as well as trends in the comparison sites 2019 and 2021. From January 2022, the volumes in LTN sites did not match historical trends but continued to experience month-on-month increases, before exceeding 2019 pedestrian volumes in April 2022.
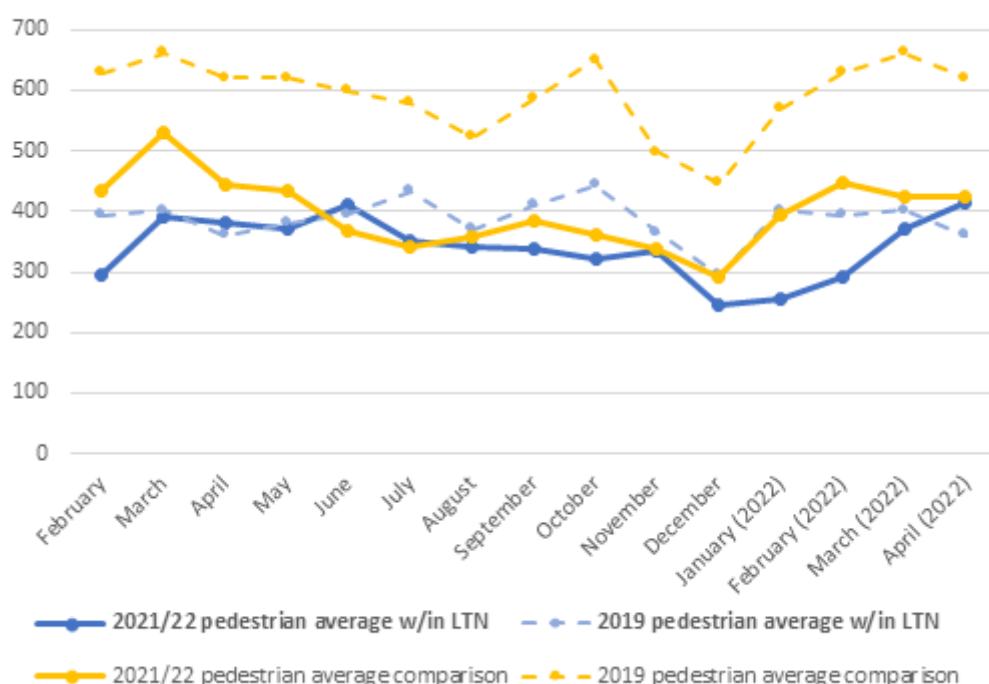
Figure 56 Average daily pedestrian counts, within Cowley LTN and Comparison sites, 2019 and 2021/22

Control sites data issues:
Ashurst way: April 2022 '0 counts no data
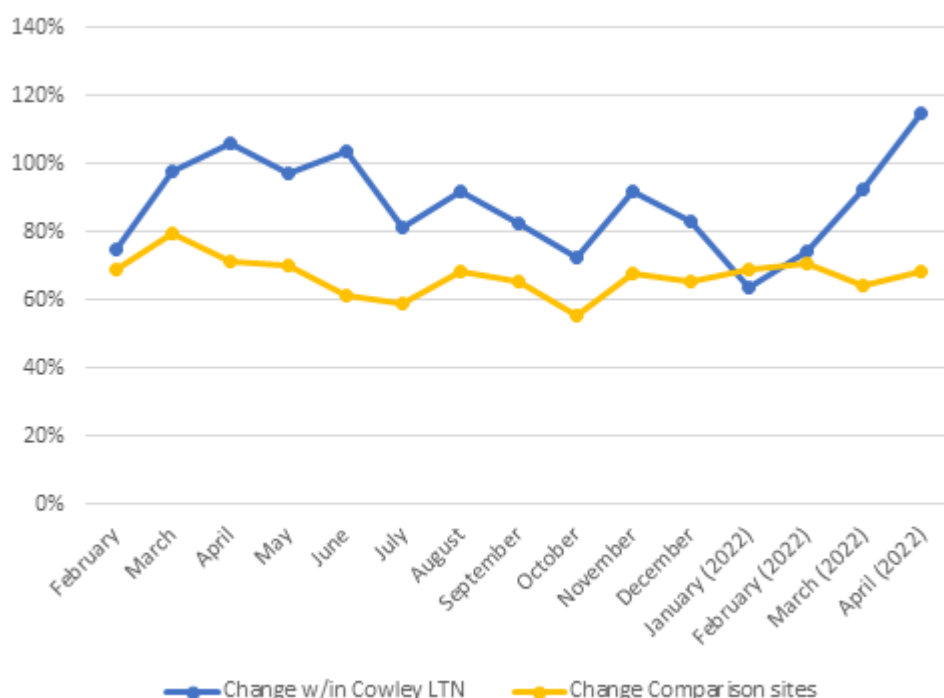
Figure 57 Change in monthly average pedestrian count 2019 to 2021/22 within Cowley LTN and comparison sites

From February to April 2022, from the monitoring sites within the Cowley LTNs, the most impactful increase in pedestrian volumes was experienced on Rymers Lane, with the highest increase in April 2022; 102 average pedestrians per day (Confidence Interval at 0.05 of, 3.35±) up from 57 average pedestrians per day (Confidence Interval at 0.05 of, 2.3±) in April 2019. In contrast, Cowley Road North experienced a higher relative percentage decrease (57%) in February 2022 when compared to 2019 volumes. However, there was a significant upward shift towards an increase in pedestrian volumes from March 2022 compared to 2019: 82% in March 2022 and 114% in April 2022.

In the control area from February to April 2022, Minns Business Park site continued to experience a percentage increase in average pedestrians per day, with the largest increase of 178% in February 2022; 636 (Confidence Interval at 0.05 of, 33±) up from 358 (Confidence Interval at 0.05 of, 19±) in February 2019. In contrast OX13_B4495_South, experienced a higher relative percentage decrease: 43% in February 2022, 47% in March 2022 and 46% in April 2022 compared to 2019 pedestrian volumes.
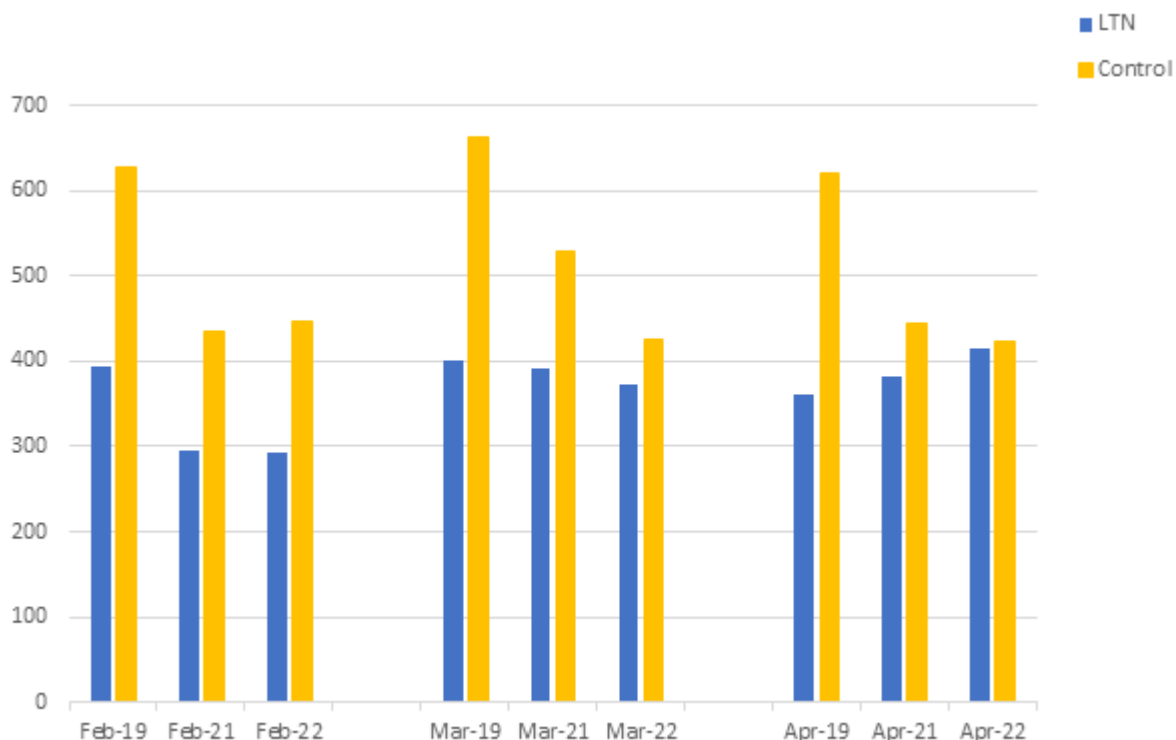
Figure 58 A three-year comparison of average daily pedestrian counts over a three-month period for Cowley LTN and comparison control sites (2019,2021 and 2022)

From December through to the end of April 2022 pedestrian volumes within the Cowley LTNs were at 85.3% of the pedestrian volumes compared with the same period during 2019. In the control sites, the average pedestrian volumes were at 68%. When considering the whole evaluation period -- March 2021 to April 2022-- the average daily pedestrian volumes was 89% compared to the 67% in the control site area.

However, when using the comparison control sites to calculate DiD (impact of the LTN), pedestrian volumes from December 2021 through April 2022 within the LTN increased by 117.6% from 2019 (134 average pedestrians per day). When considering the whole evaluation period -- March 2021 to April 2022— pedestrian volumes within the LTN increased to 122.1 % (152 average pedestrians per day).

If we factor in the initial 5.4% DiD0 value (difference between intervention area and control sites in February) to account for pre-intervention pedestrian volumes (already apparent), the adjusted pedestrian volumes for December 2021 through April 2022 in the LTN increased to 112.2% compared to 2019 (+41 average pedestrians per day). Overall, for the whole evaluation period, when adjusted for pre-evaluation levels, there was an increase to 116.6% compared to 2019 (+59 average pedestrians per day). [2]

---

[2] Notes/caveats about the data:

For aggregated data, where missing or data issues (undercounting occurs) a combination of means values and adjustments using denominator was applied.

For disaggregated data analysis, where specific road sites were analysed and compared, the following control sites experienced data issues with the VL sensors.

Journey Time

In the Preliminary Report, we used Telematics data provided by INRIX for the analysis of vehicle journey times. INRIX provided an API service to gather real-time anonymised speed data for the road segments that were studied earlier. They are Henley Avenue and Oxford Road, as shown in the map below.

Figure 59 Map of Florence Park LTN and boundary roads being analysed

The journey time information was averaged across different time-windows, such as AM Peak (7:45 AM to 9:45 AM), PM Peak (3:45 PM – 5:45 PM) and Inter-peak (rest of day apart from AM and PM peak). The tables below show the journey times on the boundary roads of the Florence Park LTN, selected as indicative. In particular, the data is for Henley Avenue and Oxford Road. These tables are for the months of November 2021, February 2022 and April 2022.

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Henley Avenue (N)	2019	1.20	1.43	1.37	1.16
Henley Avenue (N)	2021	1.29	2.05	1.50	1.24
Henley Avenue (N)	Difference	*+9s*	*+32s*	*+13s*	*+8s*
Henley Avenue (S)	2019	*1.10*	*1.13*	*1.16*	*1.08*
Henley Avenue (S)	2021	*1.14*	*1.17*	*1.23*	*1.13*
Henley Avenue (S)	Difference	+4s	+4s	+7s	+5s
Oxford Road (W)	2019	1.35	2.02	1.49	1.31
Oxford Road (W)	2021	1.32	1.36	1.41	1.31
Oxford Road (W)	Difference	-3s	-26s	-8s	0s

Control sites data issues:
Moreton Road Jan/Feb/March April 2022 under counting?
Ashurst way: April 2022 0 no data

For this reason, an extensive road by road analysis was not possible

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Oxford Road (E)	2019	1.44	1.52	1.59	1.41
Oxford Road (E)	2021	1.36	1.36	2.00	1.33
Oxford Road (E)	Difference	-8s	-16s	+1s	-8s

Figure 60 Journey Times (minutes & seconds) with direction of travel for November (2019, 2021)

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Henley Avenue (N)	2019	1.20	1.58	1.32	1.15
Henley Avenue (N)	2021	1.21	1.46	1.31	1.18
Henley Avenue (N)	Difference	+1s	-12s	-1s	+3s
Henley Avenue (S)	2019	1.10	1.13	1.16	1.09
Henley Avenue (S)	2021	1.17	1.22	1.23	1.16
Henley Avenue (S)	Difference	+7s	+9s	+7s	+7s
Oxford Road (W)	2019	1.50	2.17	2.16	1.44
Oxford Road (W)	2021	1.34	1.36	1.40	1.33
Oxford Road (W)	Difference	-16s	-41s	-36s	-11s
Oxford Road (E)	2019	1.45	1.48	2.14	1.42
Oxford Road (E)	2021	1.36	1.37	1.44	1.35
Oxford Road (E)	Difference	-9s	-11s	-30s	-7s

Figure 61 Journey Times (minutes & seconds) with direction of travel for February (2019, 2022)

Road	Year	Full Day	AM Peak	PM Peak	Interpeak
Henley Avenue (N)	2019	1.13	1.22	1.20	1.11
Henley Avenue (N)	2021	1.23	1.29	1.26	1.17
Henley Avenue (N)	Difference	+10s	+7s	+6s	+6s
Henley Avenue (S)	2019	1.10	1.12	1.16	1.09
Henley Avenue (S)	2021	1.17	1.19	1.20	1.17
Henley Avenue (S)	Difference	+7s	+7s	+4s	+8s
Oxford Road (W)	2019	1.38	1.54	1.49	1.35
Oxford Road (W)	2021	1.30	1.29	1.32	1.29
Oxford Road (W)	Difference	-8s	-25s	-17s	-6s
Oxford Road (E)	2019	1.38	1.46	1.46	1.37
Oxford Road (E)	2021	1.34	1.28	1.36	1.33
Oxford Road (E)	Difference	-4s	-18s	-10s	-4s

Figure 62 Journey Times (minutes & seconds) with direction of travel for April (2019, 2022)

The charts below provide a good opportunity to better understand the possible changes in journey times across months (compared to 2019). Charts were similar in both directions, so just one direction is shown here.

November
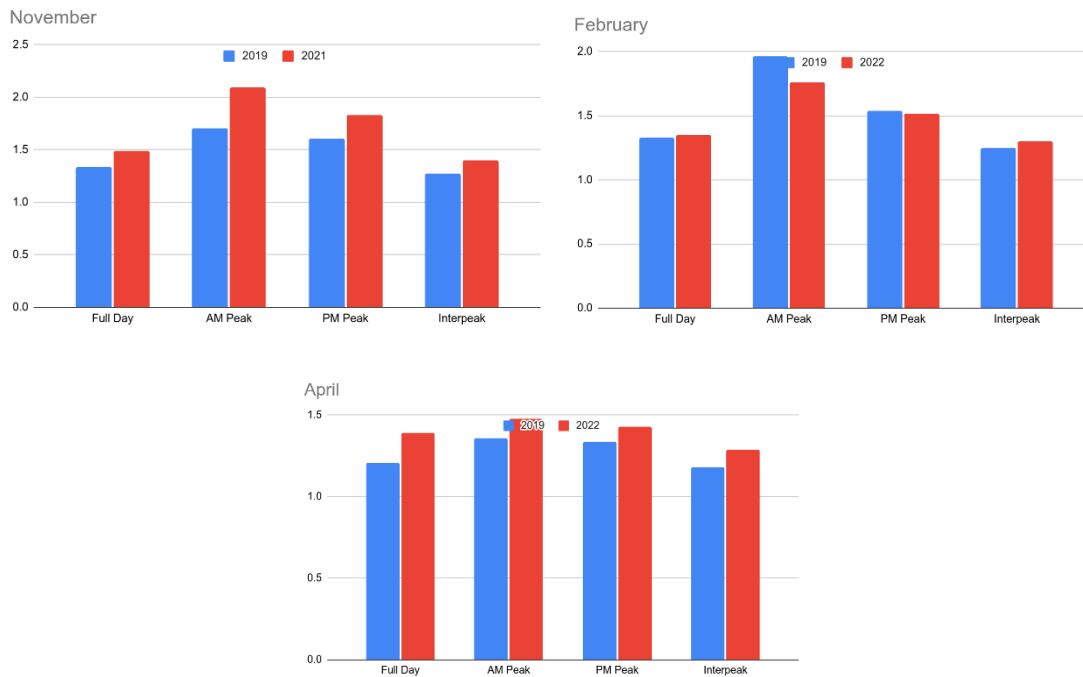
February

April

Figure 63 Comparison of Journey Times (in minutes) for Henley Avenue (N)

November 2019 to 2021; February 2019 to 2022; April 2019 to 2022

November
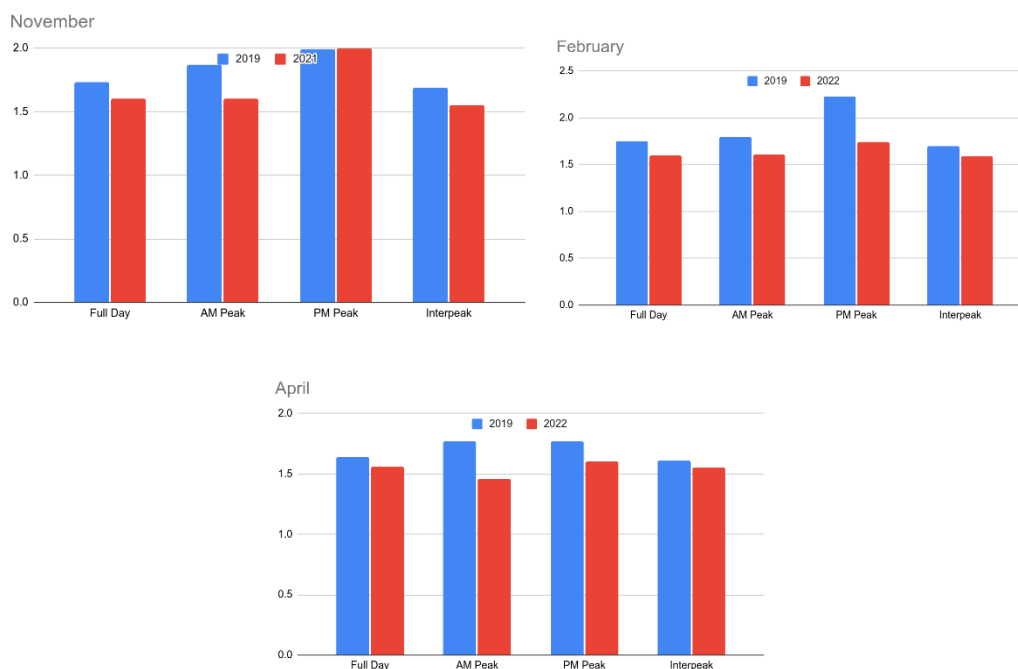
February

April

Figure 64 Comparison of Journey Times (in minutes) for Oxford Road (E)

November 2019 to 2021; February 2019 to 2022; April 2019 to 2022

Similar to the previous analysis, Henley Avenue shows an increase in journey times in both directions of between 6 and 9%, whereas Oxford Road generally shows a decrease in or similar journey times for most times of the day. Interestingly, AM Peak

for the month of February on the Henley Avenue (N) showed a slight decrease in journey time compared to 2019. But this trend reverted to the norm in the subsequent months and all other time-windows, suggesting there may have been an additional factor influencing journey times for that month.

It should be noted that for this data, no adjustments have been made for confounding factors; as such, it is not possible to fully attribute changes in journey times to the LTNs.

Bus times impact

In the Preliminary Report, we received data from Stagecoach Bus Company (SBC) until Oct 2021. As mentioned in that report, the SBC was used for the analysis of bus journey times. In the interim period, the data from Bus Open Data Services (BODS) (https://www.gov.uk/government/collections/bus-open-data-service) was validated with the SBC dataset for the intersection time window. The data was found to correlate quite well and was also more detailed.

BODS contains bus data from various bus operators and hence provides a truer representation of the journey times through the different corridors. In the earlier assessment, there was the limitation of data being available only from Feb 2021. But since this evaluation is an addendum to the Preliminary Report, and data is available for all bus routes and corridors till present, it was decided to use BODS as the main source for analysis.

The methodology used for the bus journey time analysis was similar to the Preliminary Report. Along with comparing journey times post LTN implementation to baseline journey times in 2019, the routes for buses that travel on certain impacted segments of the LTN zones were compared with bus routes that travelled on control segments. The impacted bus routes used for this analysis are 1 (Cowley Road) and 3 (Iffley Road). The control bus route is 8 (Headington Road). These were the same routes (and stops) used in the Preliminary Report. The data that was considered for analysis consisted of two impacted routes (Route 1 and 3) and one control route (Route 8). But during the preliminary analysis, the findings for both the impacted routes were similar, hence the focus was on a more detailed analysis of a particular impacted route to better understand the journey time implications.
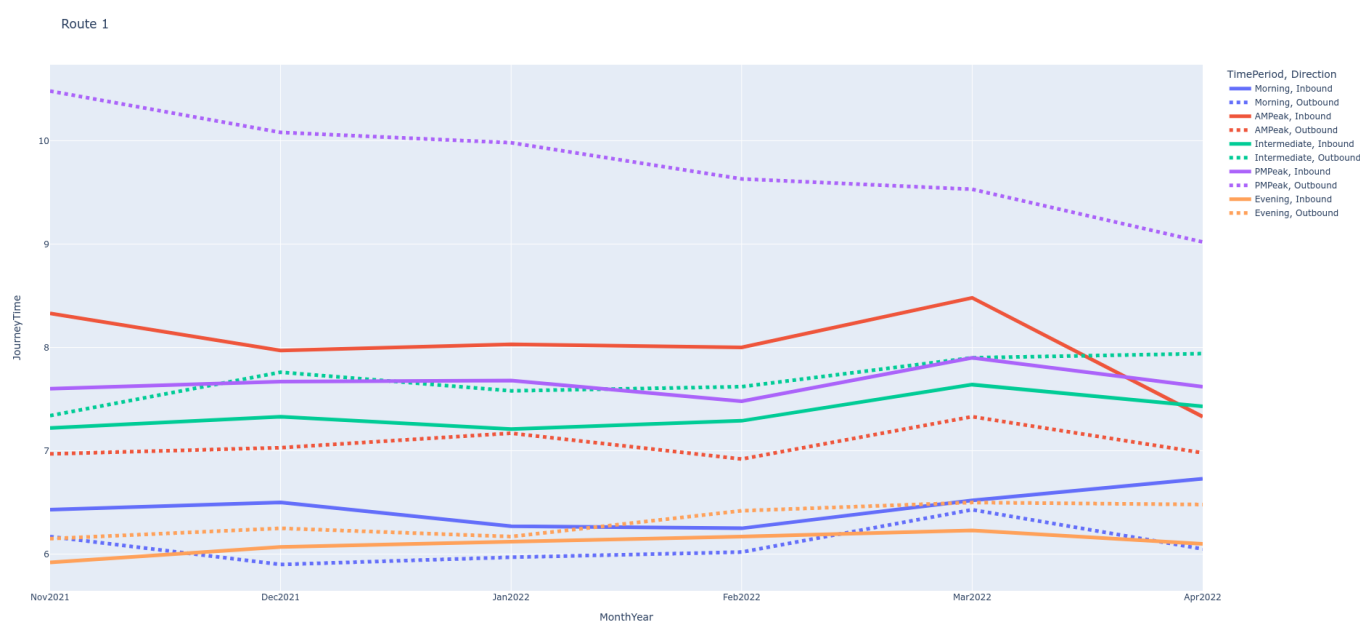
Figure 65 Bus Route 1 – Journey Times, Nov 2021 - Apr 2022
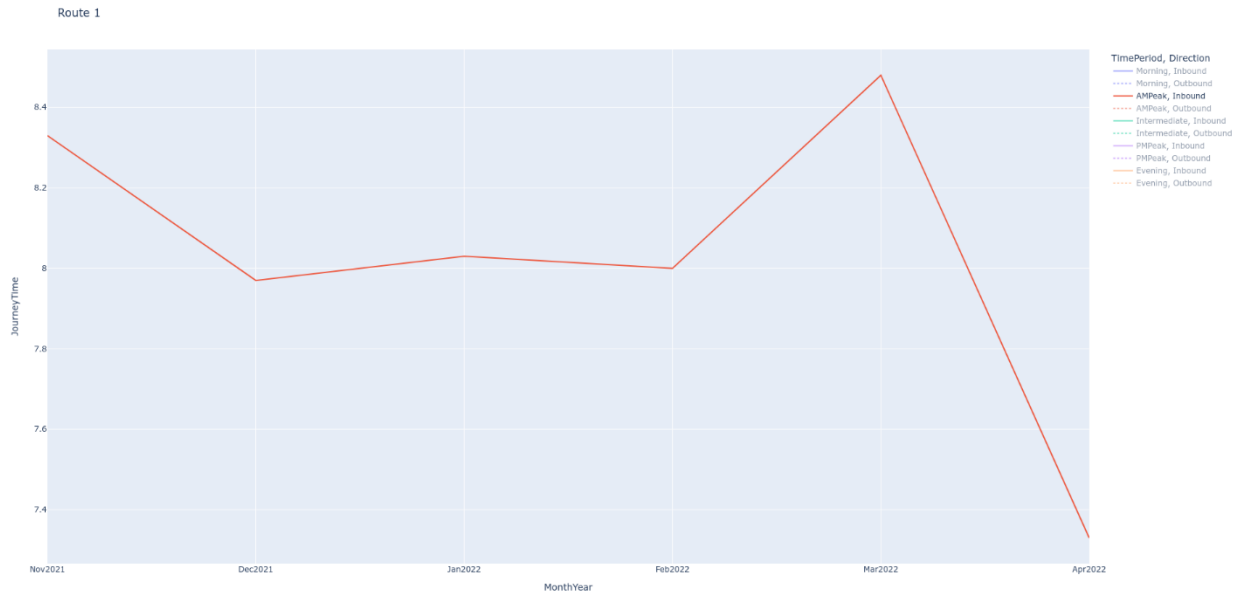
Figure 66 Bus Route 1: AM Peak Inbound – Journey Times, Nov 2021 - Apr 2022
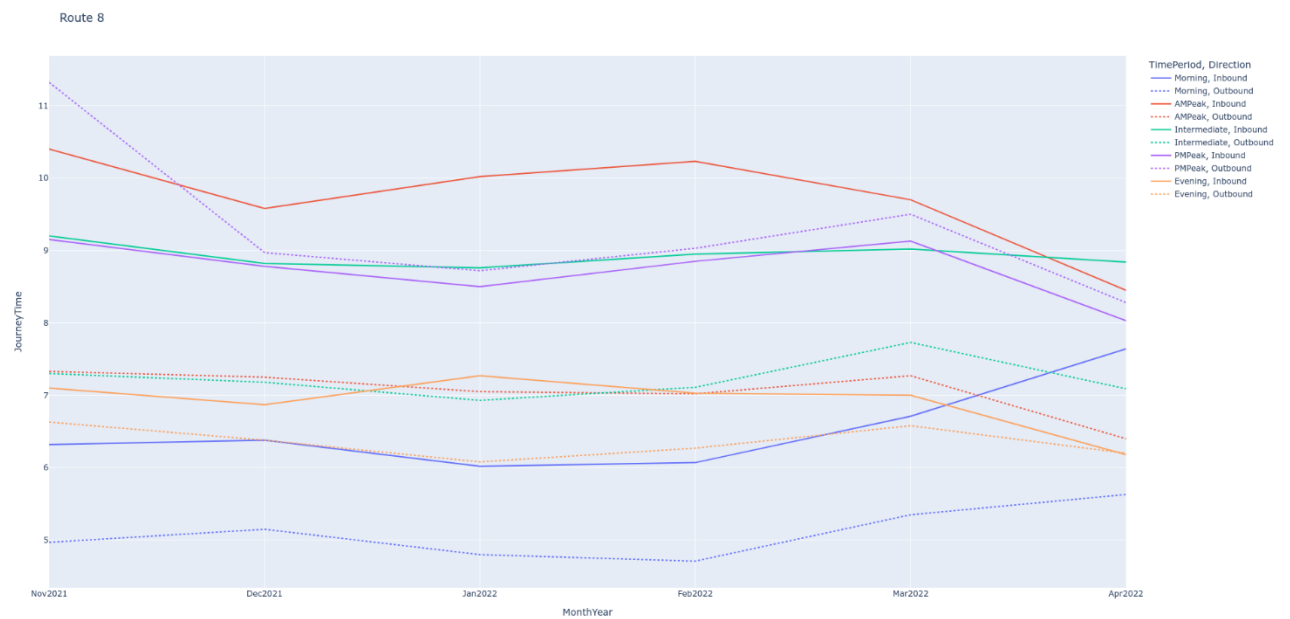
Figure 67 Bus Route 8 – Journey Times, Nov 2021 - Apr 2022
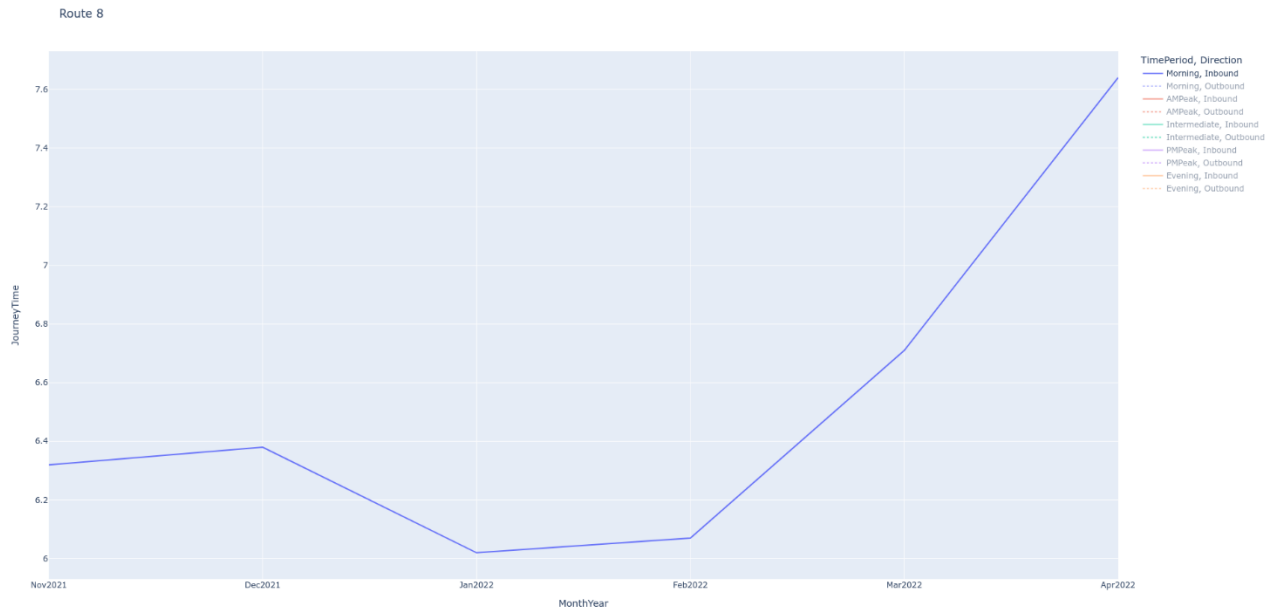
Figure 68 Bus Route 8: Morning Inbound – Journey Times, Nov 2021 - Apr 2022

Journey times for both the impacted (Route 1) and control (Route 8) routes have mostly been steady and similar from Nov 2021. The volatility seen in the earlier data is not as pronounced now. This could be due to a general flattening of variation in journey times or the more detailed data that has been used for this analysis.

Additionally, at the temporal level, both the impacted and control routes show a trend of decrease (of 12%) in Inbound AM-Peak journeys (which is consistent with the decreased journey times shown in the previous section for the AM-Peak period in this direction) (Figure 66) and increase (20%) in Inbound Morning journeys (Figure 68). This could possibly be explained by the difference in definition of what SGC considered as AM Peak and Morning as opposed to the BODS dataset, rather than necessarily being a change in trend.

To do a more detailed comparison, like the Preliminary Report, the ratio of journey times for impacted and control routes was analysed, as shown below.
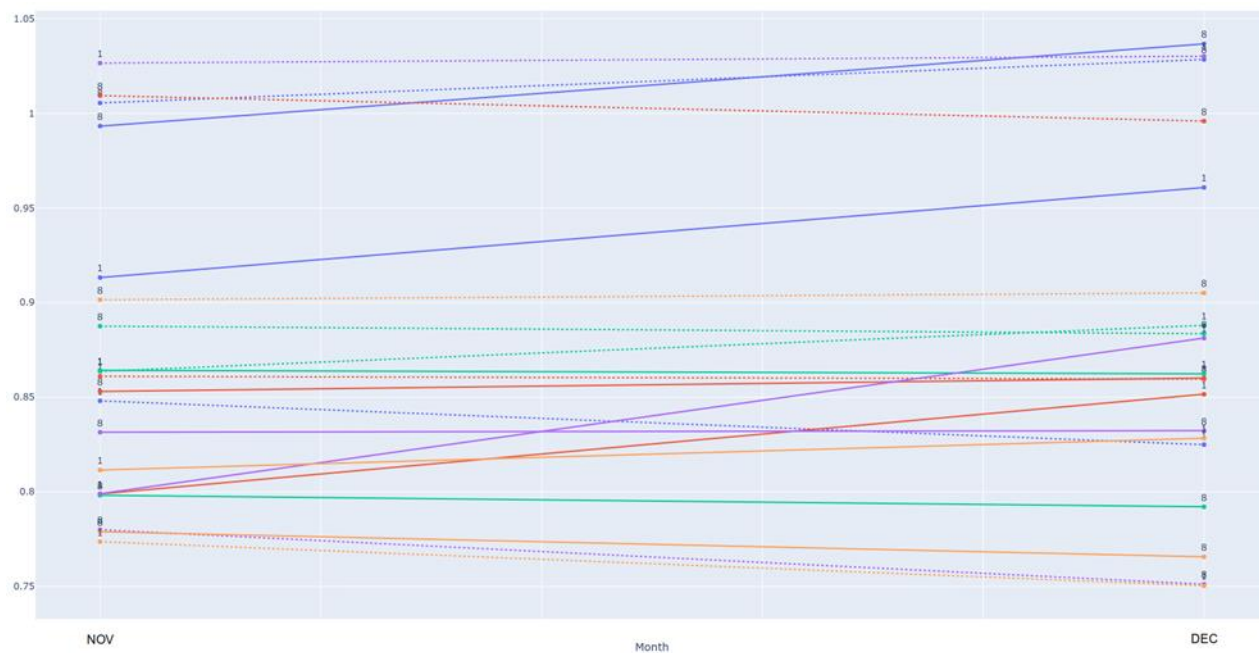
Figure 69 Bus Route 1, 8 – Journey Time ratio, NOV-DEC 2021 vs 2019
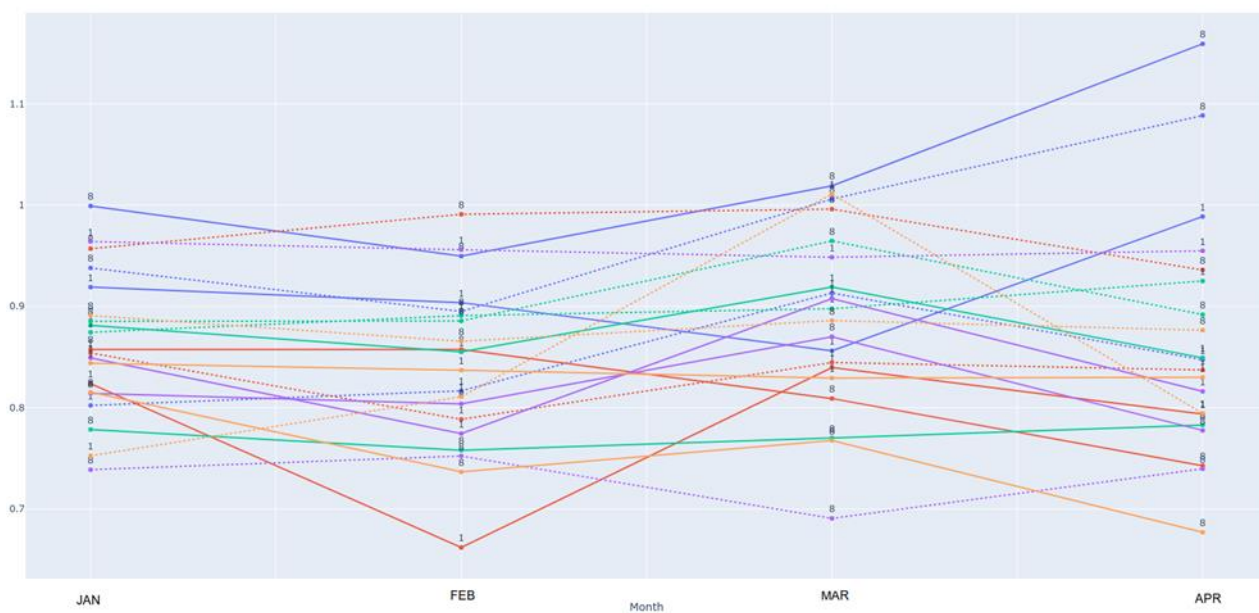
Figure 70 Bus Route 1, 8 – Journey Time ratio, JAN-APR 2022 vs 2019
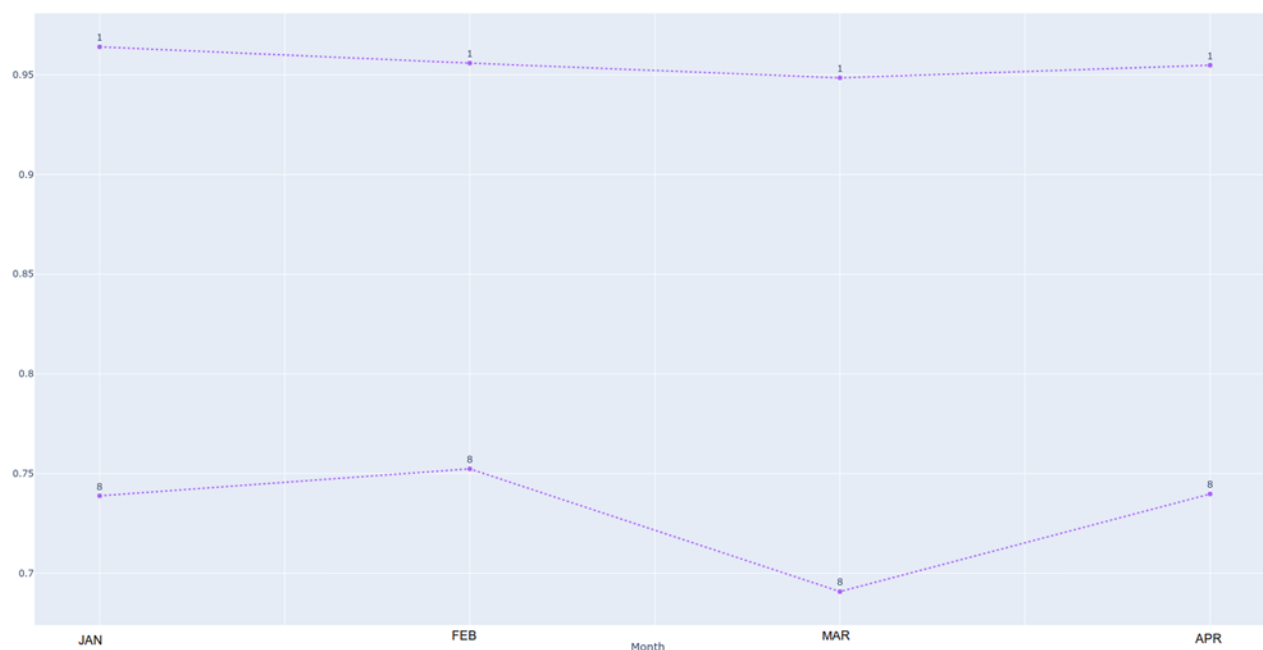
Figure 71 Bus Route 1, 8 (PM-Peak Outbound) – Journey Time ratio, JAN-APR 2022 vs 2019

The journey-time ratio graphs for 2021 and 2022 (in comparison with 2019) show trends that are similar to what was observed earlier. The significant outliers continue to be the PM-Peak Outbound journeys (Figure 71). In addition to that, as seen in the earlier section, when comparing JAN-APR of 2019 to 2022, the AM-Peak Inbound journey times seem to be increasing at a similar rate for both the impacted and control routes.

To even further understand the comparison between routes, a difference-in-difference of journey times analysis was done on the impacted and control routes.

Difference-in-differences takes the before-after difference in intervention outcomes. For any given time period (e.g. month), there were changes in journey times for both the impacted (Route 1) and control (Route 8) bus routes. Journey Time Ratio shows the rate of change (increase/decrease) for a particular route. But this will be influenced by the actual journey time values for the given route. To perform a more appropriate comparison between two routes, the difference-in-difference, i.e., the difference in journey-time-ratios for Route 1 and Route 8 for each time window is done. This means that a value of journey time ratio (DiD) around 0 would indicate that both routes have similar journey time changes. A value greater than 0 would indicate that the impacted route's journey times have increased at a higher rate than the control route. Similarly, a value lower than 0 would indicate that the control route's journey times have increased at a higher rate than the impacted route.
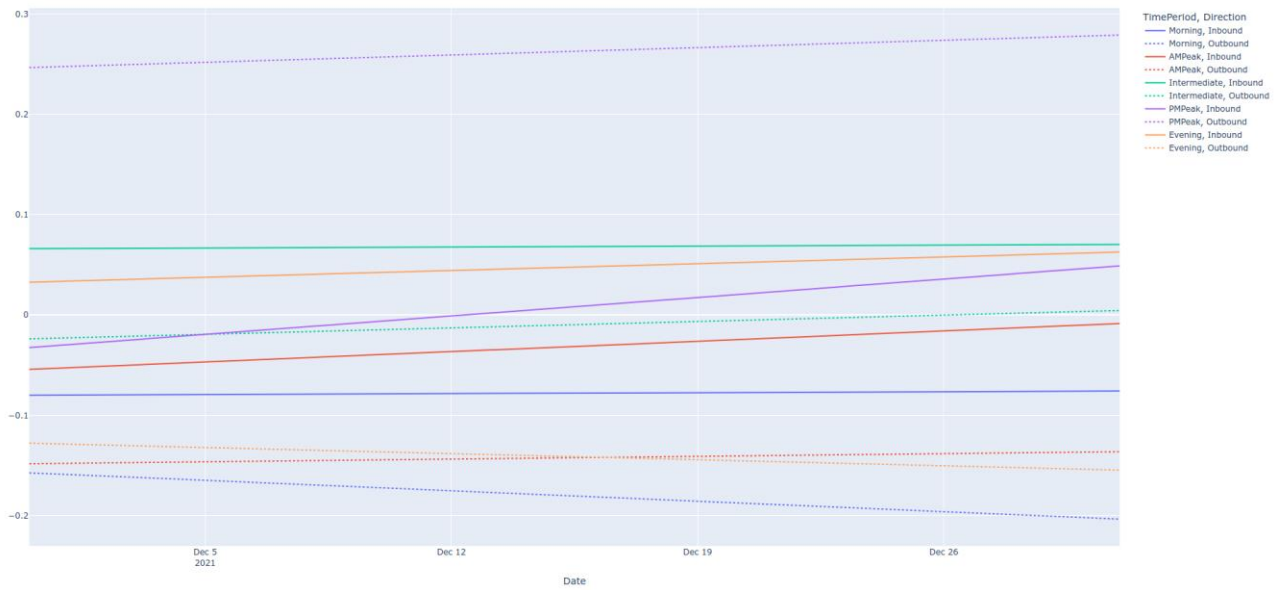
Figure 72 Bus Route 1, 8 – Journey Time (difference-in-difference), NOV-DEC 2021 vs 2019
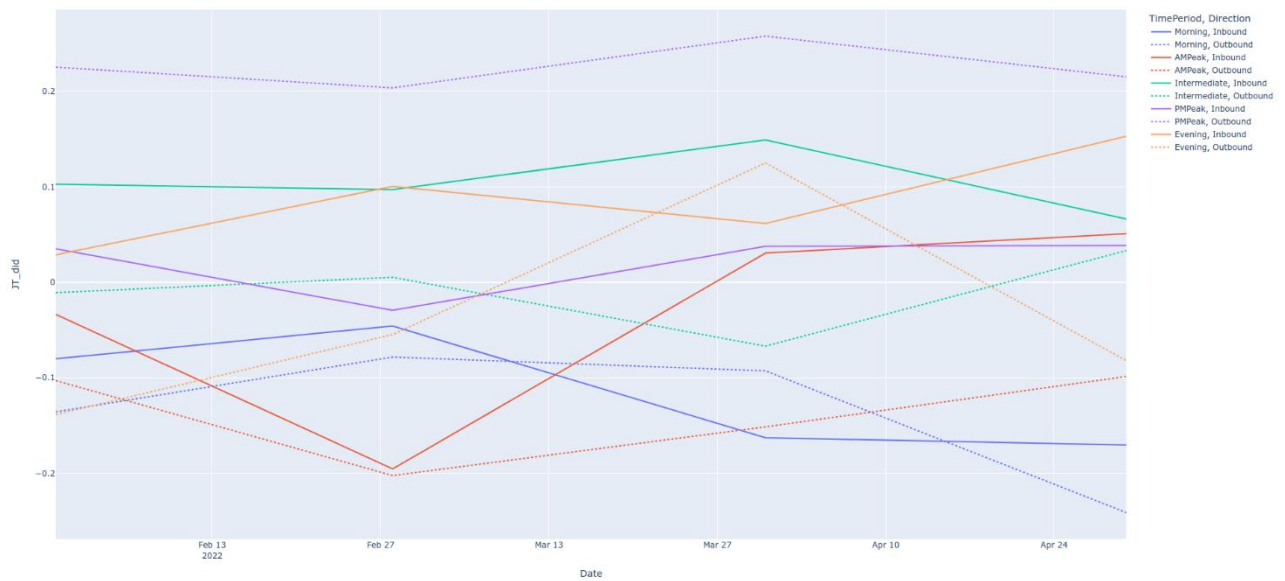
Figure 73 Bus Route 1, 8 – Journey Time (difference-in-difference), JAN-APR 2022 vs 2019
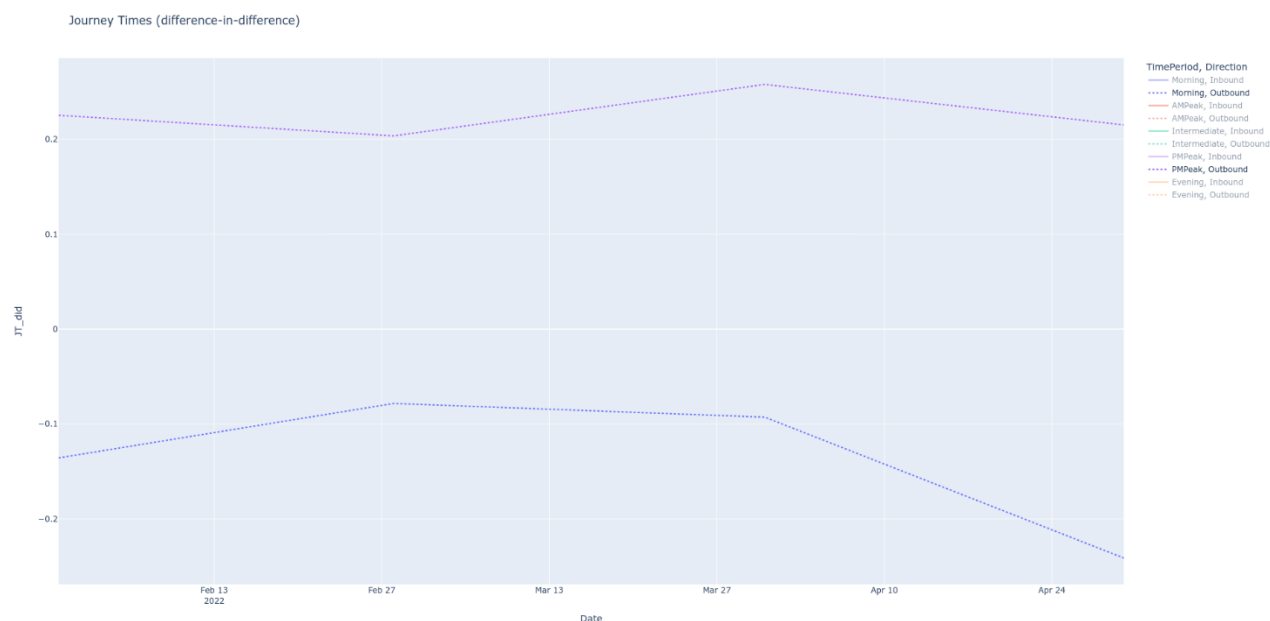
Figure 74 Bus Route 1, 8 – Journey Time (difference-in-difference) Outliers (PM-o, M-o), JAN-APR 2022 vs 2019

The difference-in-difference journey time analysis for JAN-APR of 2022 to 2021 shows the same trend as earlier with the PM-Peak Outbound and Morning Outbound journeys being the significant outliers (Figure 74). The increase in journey-time ratio rate of change for PM-Peak Outbound was 20%, while the decrease in journey-time ratio rate of change for Morning Outbound was 24%. This trend continues with the 2019 to 2022 comparison as well. As can be seen in Figures 72 and 73, the rates of change in the end of 2021 have become less volatile and seem to maintain a similar trend. The comparison for JAN-APR of 2022 with 2019 shows some variance; along with the PM-Peak Outbound journeys being an outlier, there are also significant reduction in difference-in-difference for some time-windows, most notably, the Morning Outbound journeys.

Air Quality

Data from 66 air quality monitoring locations was used to determine the difference between the air quality levels in the city obtained in 2021 and the ones obtained in 2019 (the last pre pandemic monitoring year) for the purpose of calculating an adjustment factor that could account for the indirect impacts caused by the pandemic (reduced traffic levels in 2021, increase of remote working in 2021, when compared with 2019, etc).

The analysis of these datasets show that air pollution levels (using nitrogen dioxide, NO2, as a measure of air pollution levels) were 17% lower (on average) in 2021 in comparison with 2019. The figure of 17% reduction was taken into account on the LTN analysis, in order to try to isolate what were potential impacts in air pollution levels that result from the implementation of LTN Cowley alone, from what is a generic reduction of air quality levels observed across the city. Note, however, that it may be that the areas that are of particular interest for the analysis of LTN impacts could have suffered from higher/lower COVID impacts, which could be translated into higher/lower % reduction. We are assuming that those 17% reduction are due exclusively to the effect of the pandemic, where there may be other external factors also influencing the concentrations measured, such as for example the weather, which strongly affects dispersion, which in turn affects the concentrations measured (i.e. the weather along the year of 2021 or in some months could have been significantly different in comparison with what could be considered a typical year/month, and that might have influenced concentrations measured in 2021, which were then used for comparison against the baseline years)

As for the preliminary analysis, 4 sites were used that were considered relevant to assess the air quality impacts of LTN Cowley on boundary roads. An air quality baseline was calculated for those sites, by averaging the annual mean NO2 values obtained for the period 2017-2019 – as air quality levels have remained relatively stable in the city during this 3-year period

Average baseline levels of these sites were then compared against an annual mean value calculated for the period March-December 2021 (January and February were excluded from the average as the LTNs in Cowley were only activated in March 2021).

The results from the comparison of annual mean NO2 levels obtained in 2021 against the 2017-2019 baseline at those sites show decreases in air quality levels, which were then corrected taking into account the 17% factor which was obtained as general reduction for the entire city.

Unlike for the preliminary report, this air quality analysis was performed using air quality datasets that were fully ratified (i.e. bias adjusted and annualised), as per LAQM TG16 requirements. This is a process which is applied annually to air quality diffusion tube data for a full calendar year; as such ratified data for the LTN boundary roads are only available for 2021, and not for 2022.

Monthly data obtained for the period January-April 2022 was therefore not considered in this final air quality analysis of the air quality impacts of the Cowley LTNs. We have decided to conduct an air quality analysis that could be as robust as possible – this is only possible by using fully ratified air quality datasets, since the figures for 2022 would not be comparable to the 2021 ratified data. The period Jan-March belongs to monitoring year 2022 and those datasets can only be fully ratified once we have the full air quality datasets for the automatic monitors in 2022, together with 12 monthly diffusion tube averages. In addition, Oxford City Council has changed the laboratory that conducts the monthly analysis of the diffusion tubes. South Yorkshire Air Quality Samplers have analysed the diffusion tubes from March –December 2021. SOCOTEC has provided the results for Jan-April 2022. Some intercomparison work between labs, as part of the Laboratory Performance in AIR NO2 Proficiency Testing Scheme, seem to indicate that SOCOTEC samplers give higher (20%) results on roadside sites than SYAQS.

Site Code	Site name	Average baseline level 2017-2019	Final annual mean (corrected) 2021	% Reduction/Increase	Effective change (Increase=Red, Decrease=Green)
			(Mar-Dec only)	(comparison 2019 with 2021)	(when discounted COVID-19 effect)
DT4	Iffley Rd/Boudary Brook	28	26	7%	10%
DT7	Oxford Rd/In between Towns Rd	30	29	3%	14%
DT8	Cowley Rd/Oxford Rd LP13	29	29	0%	17%
DT80	Hollow Way/Bennett Crescent	37	35	5%	12%
Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16					
All means for diffusion tubes have been corrected for bias					
Average overal decrease 2021 (Covid-19, remote working, etc) 17%					

Figure 75 Summary table of air quality analysis

From figure 75 we can calculate that for the months of March to December 2021, ratified monthly NO2 at the four relevant diffusion tube sites reduced by an average of 4% from the same monthly averages in 2017-2019.
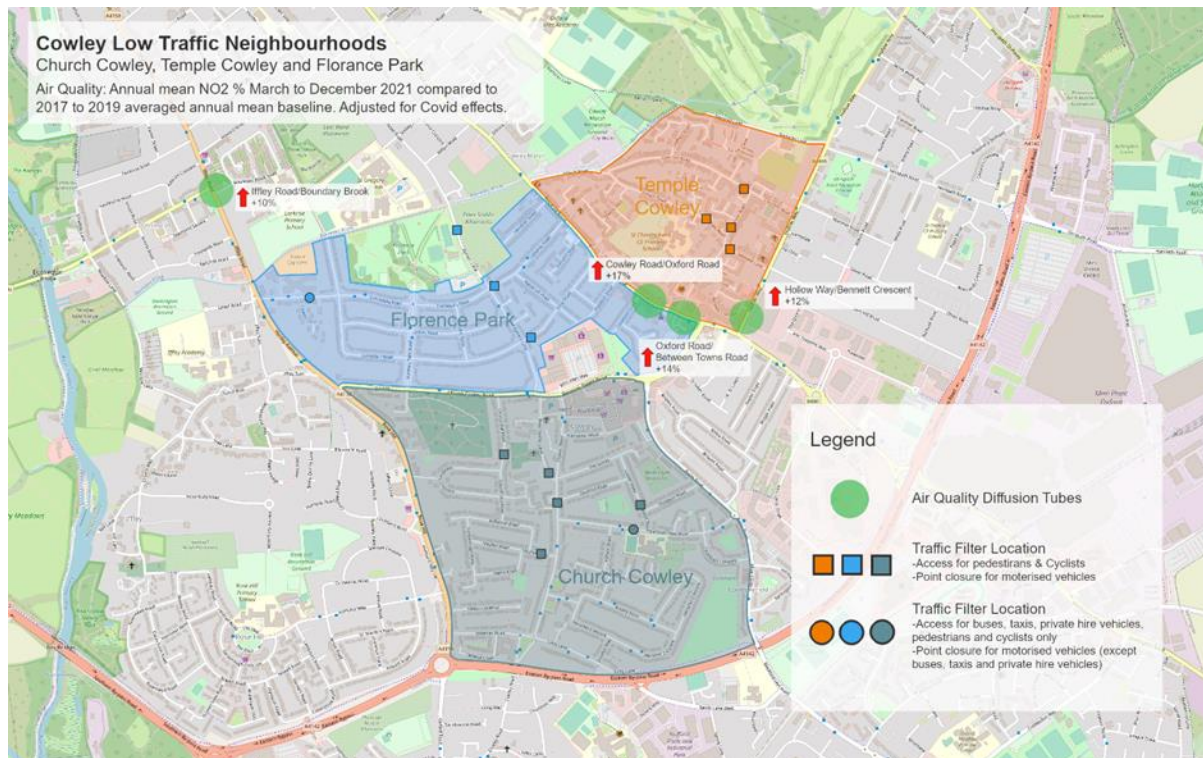
Figure 76 Air quality diffusion tube locations, showing annual mean NO2 % March - December 2021 compared to 2017 - 2019 averaged annual mean baseline. Adjusted for Covid effects.

By applying the air pollution improvements in comparison sites of 17% as a factor to account for the effects of Covid, the analysis shows that annual average nitrogen dioxide (NO2) levels from the four LTN monitoring sites on the boundary roads in 2021 have increased by an average of 13% compared to 2017-2019. This increase is not the same across all areas, however, with the Cowley/Oxford road experiencing the most significant relative worsening in air quality (see figures 75 and 76). It should be noted from figure 75 that at none of the LTN test sites was there a breach of the current UK NO2 annual mean limit value of 40ug/m3.

Inside the LTN area, fully ratified/corrected annual Mean NO2 was of 13 ug/m3 at LT6: St Christopher's school in 2021. This value is way below the UK's annual mean limit value of 40ug/m3, and of Oxford's local annual mean target of 30ug/m3, which attests for the good air quality levels experienced at that location. The value of 13/ug/m3 is also very similar to the NO2 annual mean level obtained at Oxford's Urban background station[3] of AURN St Ebbes, which registered 11ug/m3 annual mean in 2021. This is an indication that the air quality levels measured at that location have practically not been influenced by any significant single pollution source (such as traffic).

The air quality sensors are mostly not aligned with traffic count sensors, perhaps with the exception of Iffley Road/Henley Avenue where there is a 2% increase in car count and a 10% increase in NO2 measured at Iffley Road/Boundary Brook (both following adjustment), albeit over slightly different time periods. From this we might tentatively suggests a slight correlation between air quality and traffic volume trends.

---

[3] Urban background stations are located such that pollution levels are not influenced significantly by any single source or street, but rather by the integrated contribution from all sources upwind of the station e.g. by all traffic, combustion sources etc. upwind of the station in a city. These sampling points shall, as a general rule, be representative for several square kilometres

Noise

Noise pollution is often a less-studied aspect of interventions designed to affect traffic flows. Noise pollution can be associated with health issues such as cardiovascular disease[vii], birth weight[viii] and obesity[ix] however it traditionally gets much less attention than other areas of environmental health to which it is intrinsically linked. For example, it is thought that people's perceptions of air pollution are often influenced by the impact of noise pollution[x][xi].

As part of the Oxaria project 10 acoustic sensors (audiomoths[xii]) were deployed around the Temple Cowley LTN in an experimental study to capture noise impact in relation to changes in traffic movement. Deployment locations included boundary roads where displacement was anticipated, near traffic filters within the LTN and a pre-existing no-through road (Barracks Lane) acting as a control.

Figure 77 Locations of acoustic sensors deployed in the Temple Cowley LTN

To capture the impact of LTN implementation on noise exposure, the acoustic sensors were deployed in two four-week blocks. The first from mid-March to mid-April 2021 prior to the majority of traffic filters being installed. And the second from the first week of May to the first week of June 2021 after all filters had been put in place. Unlike for other elements of this evaluation, it hasn't been possible to compare with control sites or historic trends from before COVID-19 for noise pollution, due to the innovative nature of this work. It should therefore be caveated that we cannot be sure that the impacts found in the analysis below are due to the LTNs, as it has not been possible to factor out other confounding elements. In addition, there were some anomalies identified within the acoustic energy data and a more robust (and resource intensive) approach to anomaly exclusion would be required to have full confidence in the data under this approach.

Acoustic sensors were used to capture two of the main components of noise; energy or intensity (loudness) and its frequency (how high or low it is).

The sampling rate for sound data collected was set to 24 kHz (just above the human perception limit of 20 kHz) to capture all human-heard noises in range of the sensors.

To prolong the sensors' battery life and maintain data integrity for the duration of the deployment period, a balance was struck for the device to log data samples for five minutes three times per hour at 00, 20 and 40 past the hour. This data was then aggregated over 24-hour periods to provide a daily mean average for both acoustic energy and frequency.

Further processing occurred to frequency data through application of the Normalised difference soundscape index (NDSI). Based on the observation that biotic (natural) and anthropomorphic (human-generated) noise predominantly occupy different frequency bands, the NDSI seeks to quantify environmental exposure to biophony and anthropophony by presenting it as a ratio of the spectral acoustic power for these two frequency bands (1-2 kHz for anthropogenic sources and 2-8kHz for biotic sources).[xiii]

It was found upon collection of devices following the first acoustic sensor deployment devices on Salegate Lane and Hollow Way had been lost. Given no data is available for these two locations and the remainder of the report will focus only upon the eight acoustic sensors present throughout deployments one and two.

Acoustic Energy (loudness)

In figure 78, the table presents the percentage change in acoustic energy after the implementation of the LTN restrictions for all of the sensors in the study. One of the displacement sites displays a minor decrease in noise (Ahlul Bayt) and one shows a minor increase (Oxford Road). Almost all other sensors show a decrease in noise across the LTN and at traffic filters. One sensor within the LTN (Kirby Place) shows a very large percentage increase in acoustic energy, however this is off a very low baseline (the pre pandemic baseline is only 3% of the loudest day recorded).

LTN site	Category	Pre	Post	%age change
Ahlul Bayt	Displacement	0.36	0.34	-5%
Oxford Rd	Displacement	0.23	0.25	8%
Barracks lane	Control	0.34	0.33	-4%
Crescent Road	LTN	0.25	0.20	-21%
Temple Road	LTN	0.21	0.20	-3%
Kirby Place	LTN	0.03	0.06	142%[4]
Junction Road filter	Filter	0.41	0.34	-17%
Temple Road filter	Filter	0.24	0.23	-2%

---

[4] *The overall levels at Kirby Place are very low compared to all other locations. The increase displayed represents a relatively small absolute change (0.03 – 0.06) which has therefore led to a very large percentage increase, as such it should be treated with caution*

Sensors located at filters

Looking at a timeseries of the daily means of acoustic energy at traffic filter locations, **Error! Reference source not found.** 79 shows that the noisiest days typically have 2-3 times more energy compared to the average. It can also be seen that after the implementation of the LTN, there is greater variation in energy. Occasional days are seen to be noisier, however these days are less frequent and the timeseries shows less noise overall.
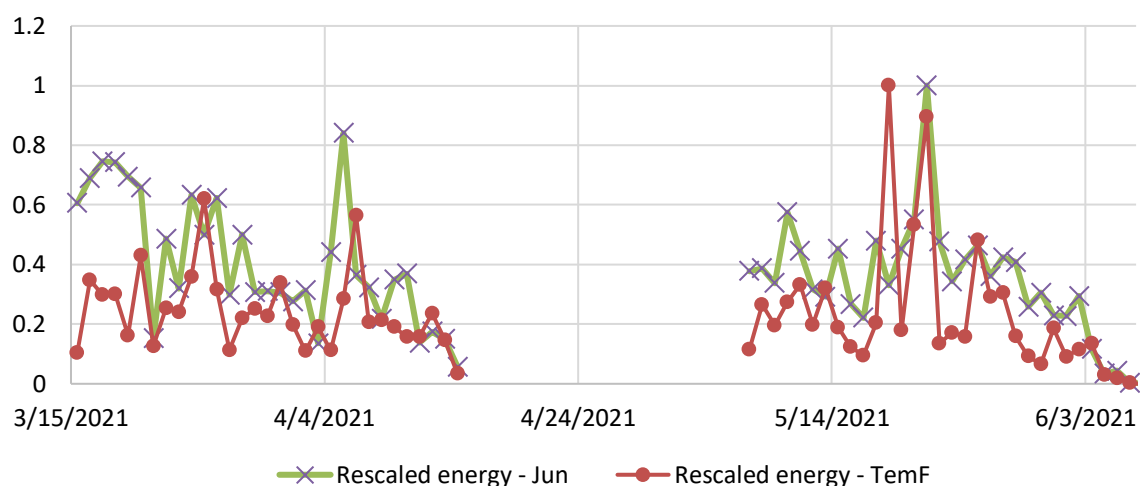
Figure 79 Acoustic Energy Daily Mean Timeseries at Temple Road (TemF) and Junction Road (Jun) Traffic Filters

Sensors located inside the LTN

For the acoustic sensors recording data inside the LTN, the timeseries of the daily means of acoustic energy in figure 80 show that there is not much visible change before and after the implementation of the LTN.
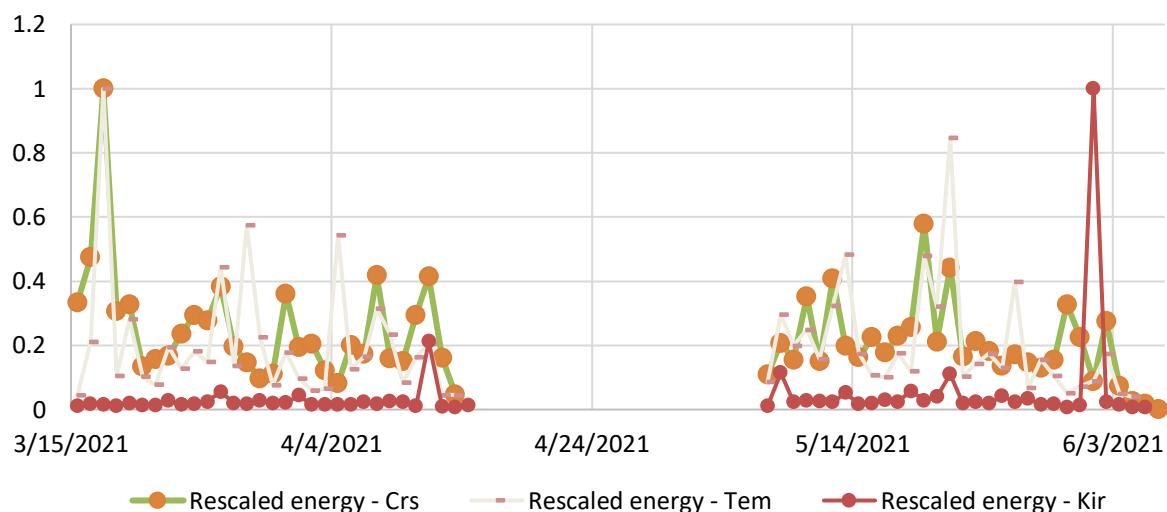
Figure 80 Acoustic Energy Daily Mean Timeseries at Crescent Road (Crs) Temple Road (Tem) and Kirby Place (Kir) inside the LTN

Sensors located at possible displacement sites and control site

Error! Reference source not found.81 shows the timeseries of the daily means of acoustic energy for the sensors located at the possible displacement sites (Oxford Road and Ahlul Bayt) and the control site (Barracks Lane). Here it can be seen that the displacement sites show more volatility than those inside the LTN or at traffic filters. This however is present in both the first and second deployments as such there is no clear trend visible in the timeseries before and after the LTN implementation.
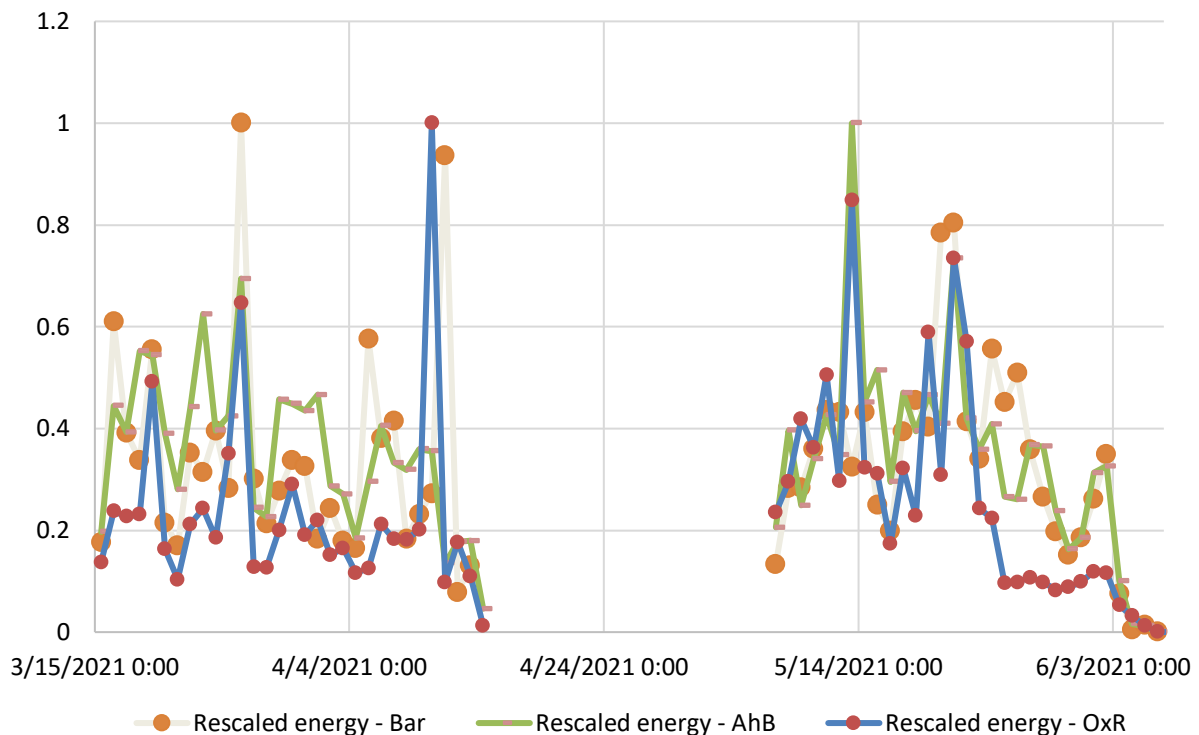
Figure 81 Acoustic Energy Daily Mean Timeseries at Control Site Barracks Lane (Bar) and Displacement Sites Ahlul Bayt (AhB) and Oxford Road (OxR)

Normalised difference soundscape index (NDSI)

In figure 82, the table shows the percentage change in NDSI after the implementation of the LTN restrictions for all of the sensors in the study. It can be seen from the data that all acoustic sensors, with the exception the Barracks Lane control site (-18%) show an increase in biotic (natural) noise signature after the implementation of the LTN.

LTN site	Category	Pre	Post	%age change
Ahlul Bayt	Displacement	0.90	0.97	5%
Oxford Rd	Displacement	0.60	0.70	20%
Barracks lane	Control	0.90	0.75	-18%
Crescent Road	LTN	0.80	0.89	15%
Temple Road	LTN	0.80	0.82	7%
Kirby Place	LTN	0.71	0.90	27%

| Junction Road filter | Filter | 0.80 | 0.86 | 8% |
| Temple Road filter | Filter | 0.80 | 0.86 | 4% |

Figure 82 Percentage change in NDSI* after the implementation of the LTN restrictions for all sensor locations

*A lower NDSI means that the environmental noise is considered more anthropogenic (human generated).

Sensors located at filters

Error! Reference source not found.83 shows a timeseries of the daily means of NDSI for the sensors located at the traffic filters. It can be seen that the NDSI is consistently more biotic (natural) after the implementation of the LTN with the exception of one day (21st May 2021).
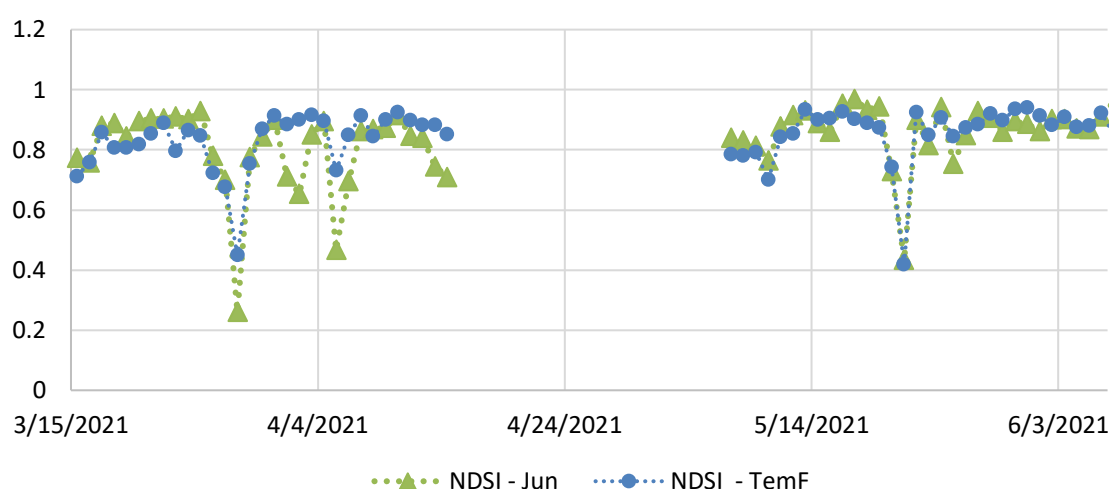
Figure 83 Timeseries of the daily means of NDSI for the sensors located at the traffic filters. Junction Road (Jun) and Temple Road Filter (TemF)

Sensors located inside the LTN

For sensors located inside the LTN, the timeseries of daily means in **Error! Reference source not found.**84 shows that, aside from the occasional day where more anthropogenic noise is recorded, NDSI readings show a clear pattern of more biotic noise following implementation of the LTN.
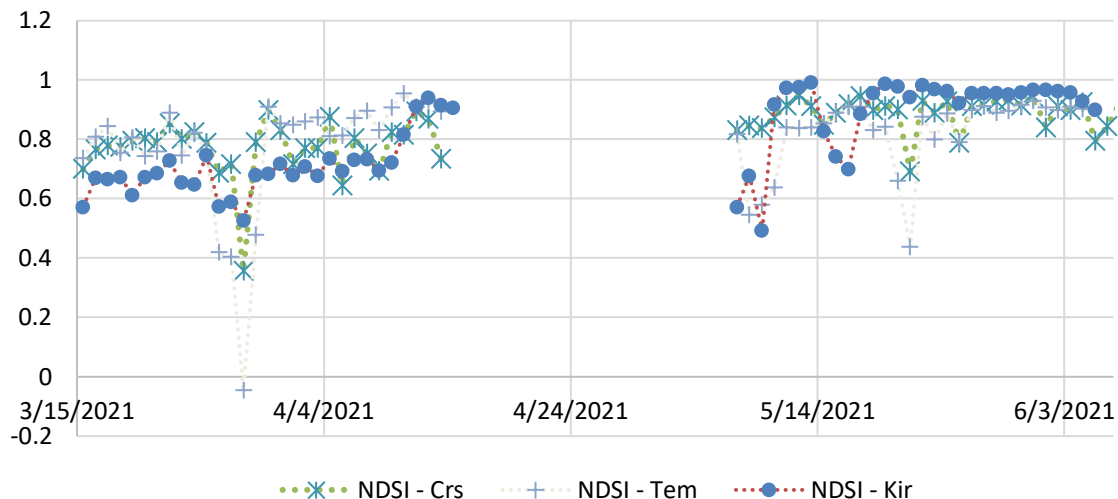
Figure 84 Timeseries of the daily means of NDSI for the sensors located in the LTN. Crescent Road (Crs) Temple Road (Tem) and Kirby Place (Kir)

Sensors located at possible displacement sites and control

Error! Reference source not found.85 shows the NDSI timeseries of the daily means for the sensors located at the possible displacement sites (Oxford Road and Ahlul Bayt) whilst figure 86 shows data for the control site (Barracks Lane).

Both the Ahlul Bhayt and Oxford Road sensors show similar increases in NDSI level whilst maintaining volatility profiles. The control location at Barracks lane however shows a clear decrease in NDSI (more anthropogenic noise) after the implementation of the LTN and an increase in daily mean volatility.[5]

---

[5] The Barracks Lane sensor was located near a school. School Easter Holidays took place from the 1st to the 19th April 2021. Alongside the potential for greater movement of people as a result of easing Covid lockdown restrictions, decreases in the NDSI seen during the second sensor deployment may have seen the return to school as a contributing factor.
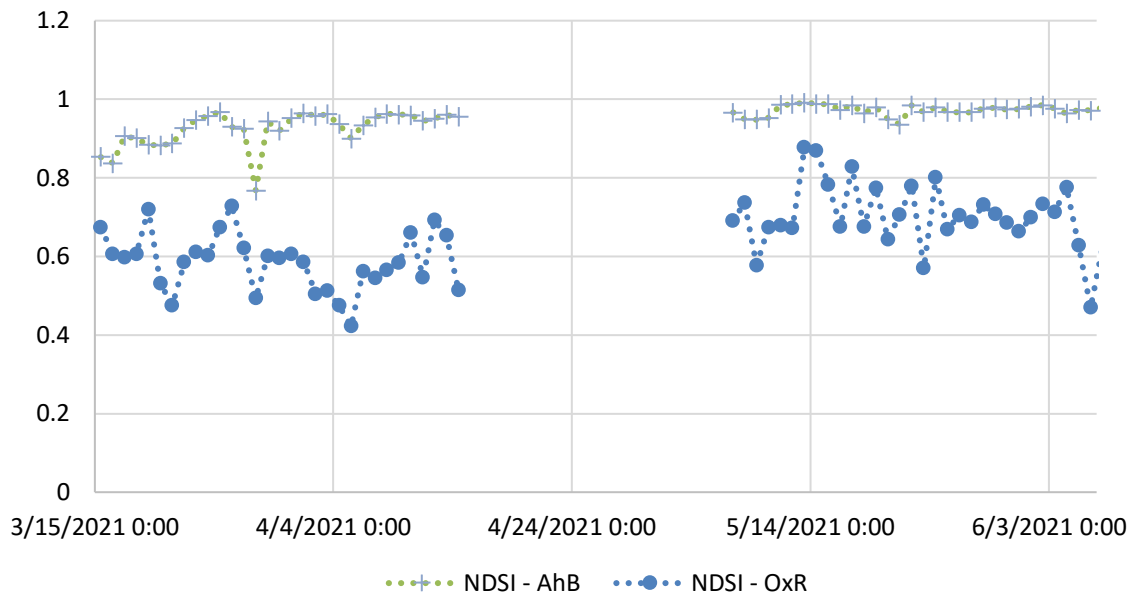
Figure 85 Timeseries of the daily means of NDSI for the sensors located at the possible displacement sites Ahlul Bayt (AhB) and Oxford Road (OxR)
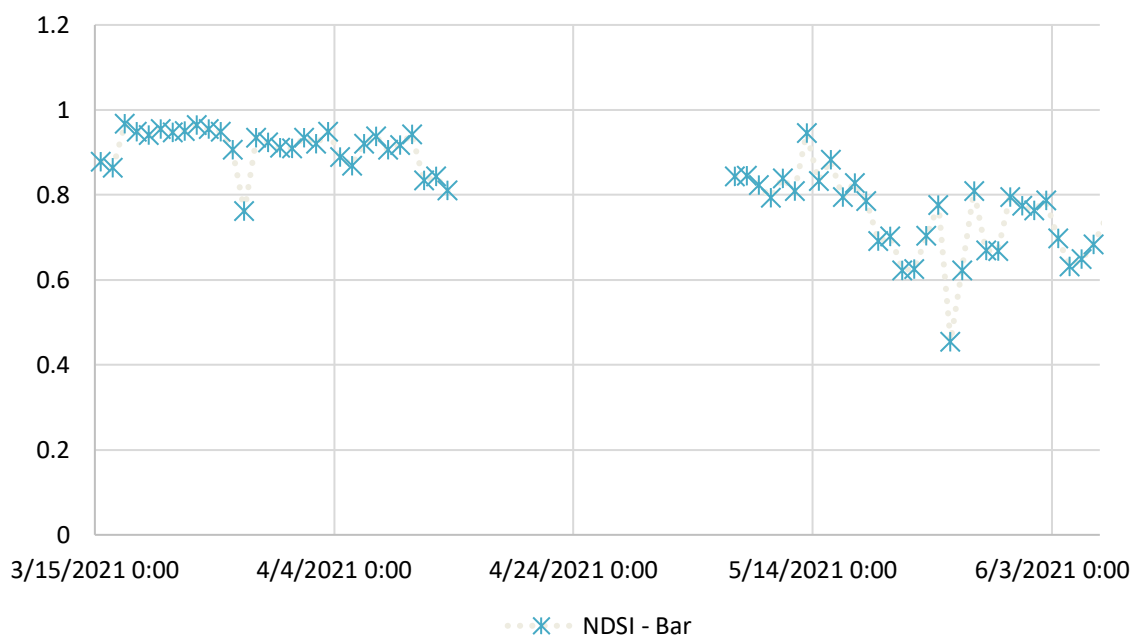
Figure 86 Timeseries of the daily means of NDSI for the sensors located at the Barracks Lane (Bar) control site

Comparison of NDSI with other locations in Oxford

The noise assessment of the Temple Cowley LTN was (in part) running in parallel with another study investigating the impact of COVID restrictions on noise in Oxford. It is possible to compare the NDSI values between the Temple Cowley locations and other locations around Oxford for the roughly 20 days of overlap. This is shown in figure 87.

It can be seen that, overall, the NDSI values in Temple Cowley (a mostly residential area) are far more biotic than the areas with higher traffic carrying volumes in

Oxford. The lowest values recorded were for the sensor located on the A34, which would be expected, and demonstrates the value of the NDSI methodology for the study of urban noise.
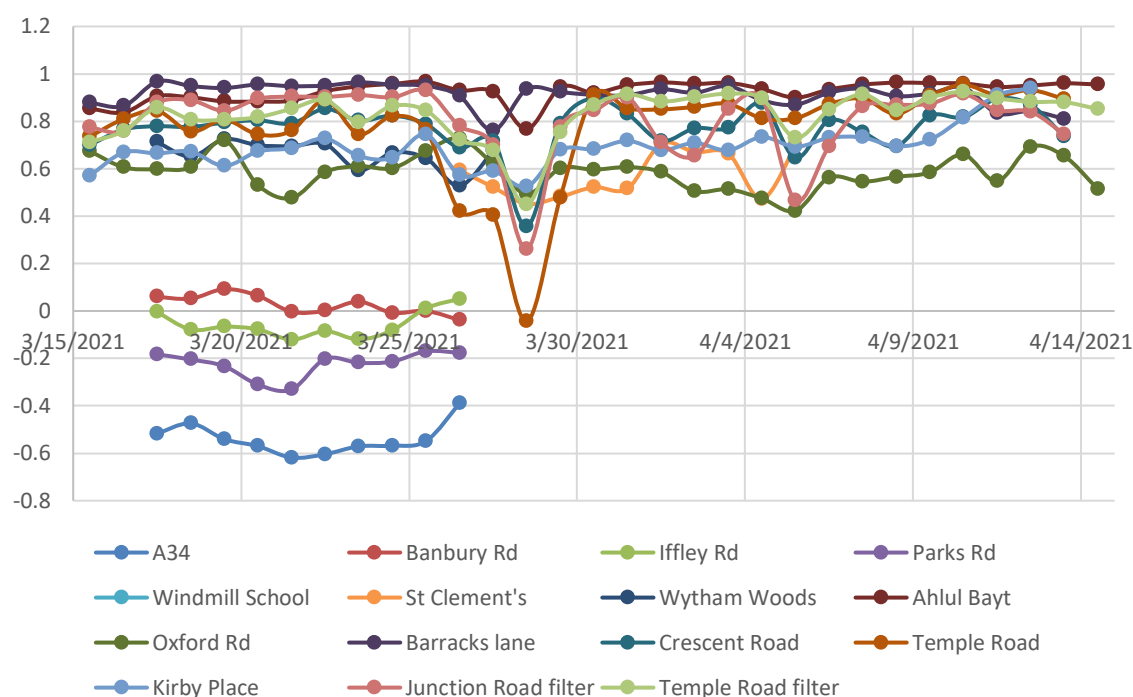
Figure 87 NDSI values for acoustic sensors in Temple Cowley and wider Oxford locations

Next steps

Provided funding is available, the following steps are suggested for evaluation of LTN schemes in Oxford:

Cowley LTNs
Monitoring of the Cowley LTNs' boundary roads will continue until at least May 2023 for the following metrics

- Traffic volume/modes (Car, cycling, pedestrian)
- Air Quality

Resource constraints do not allow for further monitoring beyond these metrics.

East Oxford LTNs
The three zones now under trial in East Oxford LTN are being monitored to feed in to an evaluation roughly in early 2023 depending on Cabinet dates.

- Traffic volume/modes (Car, cycling, pedestrian)
- Journey time
- Bus time impact
- Emergency Response time
- Air Quality
- Perceived safety questionnaire
- Modal shift (self-reported) questionnaire
- Attitudes to place/transport questionnaire

A three-month snapshot of monitoring data will be provided for Traffic volumes and Perception surveys only.

In collaboration with the University of Westminster, the monitoring of vehicle, cycling, and pedestrian volumes within the LTNs will feed into a national evaluation of Low Traffic Neighbourhoods.

Air quality monitors within the LTN have now been operational for just over a year so providing a baseline. In the evaluation it will therefore be possible to comment on trends in air quality inside the LTN, in addition to the boundary roads which take their data from well-established sensors with many years of historic data.

Conclusion

In this update to the preliminary report, we have been able to analyse additional data from December 2021 to April 2022 which has provided greater confidence in the overall trends arising from the effects of the implementation of the LTNs in Cowley. These conclusions apply to the entire monitoring period.

We have further examined the changes in traffic volume, journey time, bus times, air quality and noise within the LTN regions and their boundary roads and continued to factor for the impacts of Covid, which has made the evaluation process more complicated.

The additional analysis period has not fundamentally changed the findings of the preliminary report; LTNs work well as a local intervention reducing car traffic and seem to have some positive effect on increasing the volume of active travel, though more clearly in the case of walking than cycling. There are also associated benefits inside the LTN area of a reduction of noise in general and man-made noise in particular. Whilst it is still too early to say whether air quality has improved within the LTN, we can say air pollution is low and well under national and local thresholds. There is greater perceived safety, better perceived air quality and a tendency to adopt walking and cycling according to the self-reported data.

This extended period of data collection has also reinforced our understanding of adverse effects on boundary roads. We still see increased traffic volumes (albeit moderated by a third from the preliminary report, which may point towards modal shift and/or re-routing of journeys away from these areas over time), increased journey and bus times especially at the evening peak. We have also seen a relative worsening in air quality on the boundary roads, although not breaching national thresholds.

It is possible that supporting public transport solutions would help resolve many of the challenges identified on boundary roads. Thus, a holistic approach is suggested where active travel schemes are progressed, complemented with public transport considerations and long term inclusive public engagement.

Annex A Intervention maps
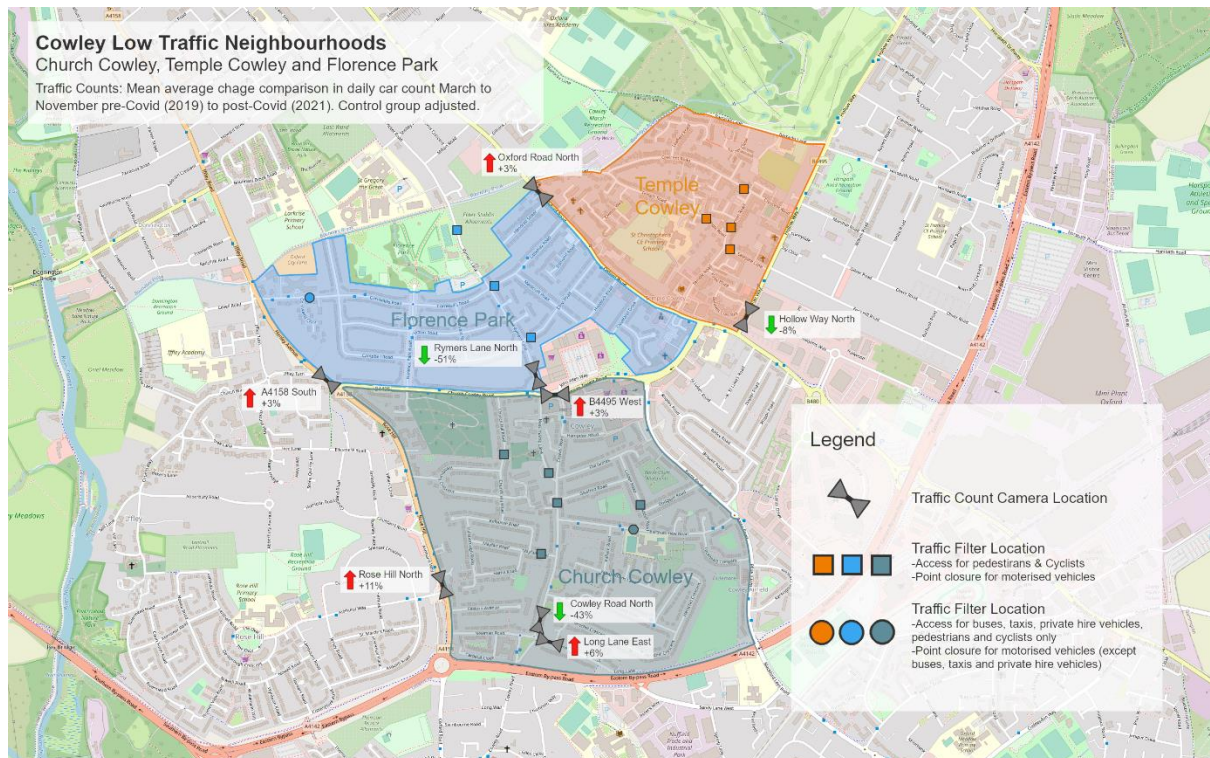
Figure 88 Mean average traffic count change in daily cars, March to November 2021 compared to 2019
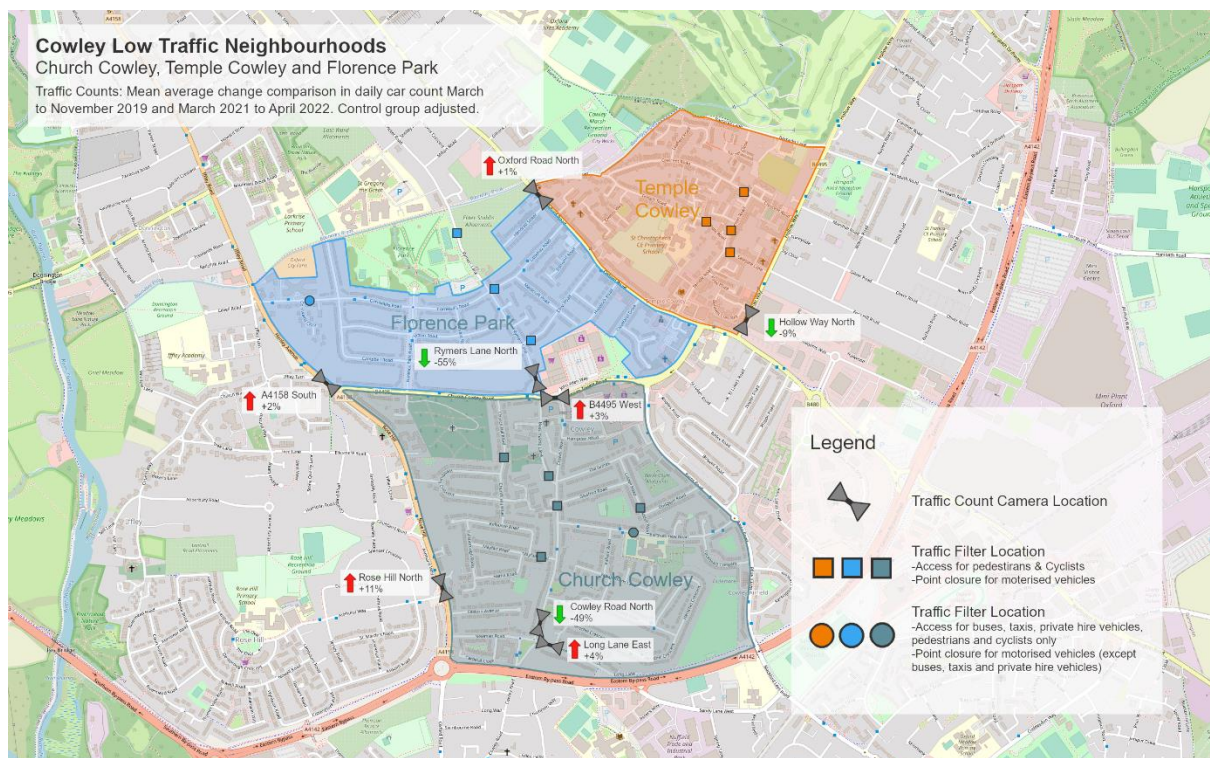
Figure 89 Mean average traffic count change in daily cars, March 2021 to April 2022 compared to 2019
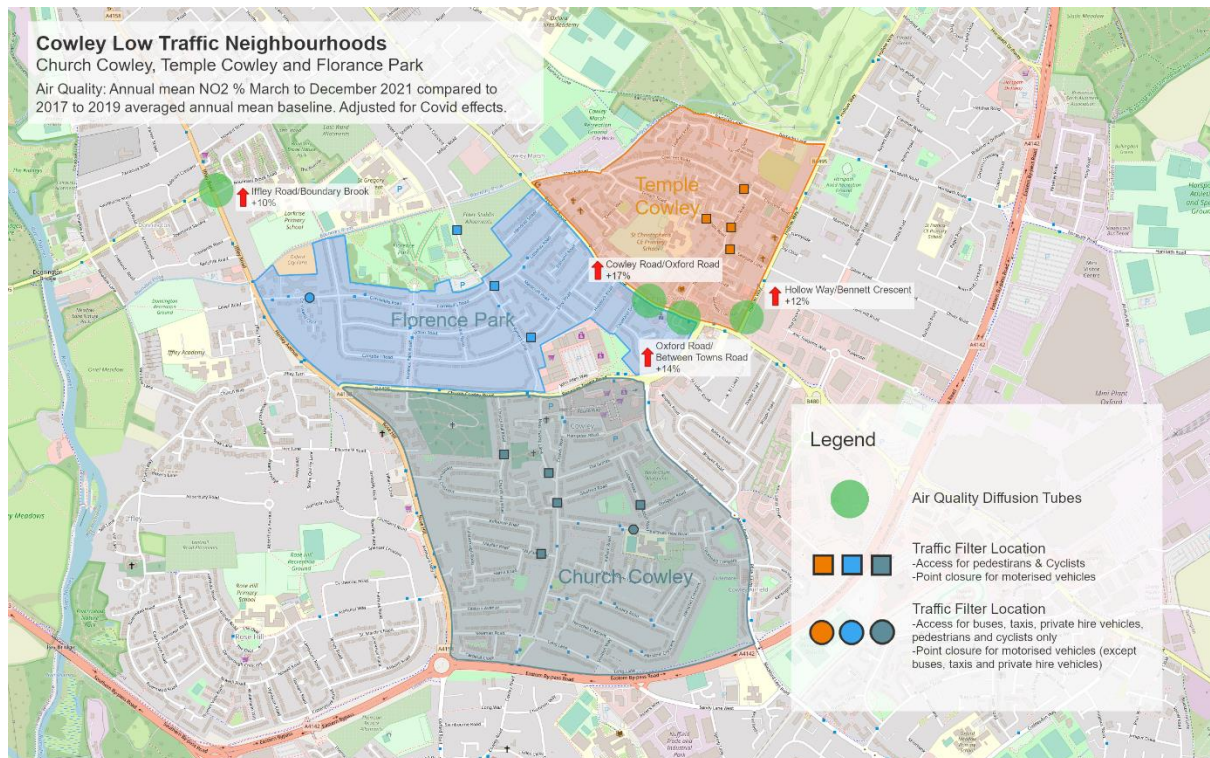
Figure 90 Air quality diffusion tube locations, showing annual mean NO2 % March - December 2021 compared to 2017 - 2019 averaged annual mean baseline. Adjusted for Covid effects

Annex B Timeline of measures

Implementation of the Cowley LTNs began on 1 March 2021 and traffic filter installations were staggered through the end of March.

Due to supply issues, some bollards were installed in April 2021. The last bollard was installed on 17th May 2021 on Clive Road, completing the LTN implementation with the exception of the installation of ANPR enforcement cameras at bus gates on Bartholomew Road (Church Cowley LTN) and Cornwallis Road (Florence Park LTN).

Annex C Surveys

Baseline survey

1

Please say whether you are responding as a:

You must provide an answer to this question.

- Church Cowley resident
- Florence Park resident
- Temple Cowley resident
- Resident of another part of Oxford
- Resident outside Oxford
- Local business, group or organisation in the Cowley area
- On behalf of an interest group
- Other

If other—please state
[ ]

- Only display this item when option *6 (Local business, group or organisation in the Cowley area)* of question *1 (Please say whether you are responding as a:)* was selected

Question for businesses and organisations

What do you think the impact of the Low Traffic Neighbourhood will be on your business or organisation?

Select the most applicable option in each row.

Grid showing question statements against rating options

	Positive	**Neutral**	**Negative**
My customers or members	( )	( )	( )
My staff or volunteers	( )	( )	( )
My deliveries	( )	( )	( )
My overall business	( )	( )	( )

Please enter any additional comments
[ ]
2

Please enter your full post code.

We want to understand the impact on and views of residents of individual streets.

The Council will not share any personal data outside the organisation except in an anonymised format for analysis

[ ]
3

For each of the following ways of travel, please say how often you use them for local journeys within Oxford

Select the most applicable option in each row.

Grid showing question statements against rating options

	Most days	A few times a week	About once a week	About once or twice a month	Now and again- - A few times a year	Never
Car driver (own car)	( )	( )	( )	( )	( )	( )
Car passenger	( )	( )	( )	( )	( )	( )
Car club driver or passenger	( )	( )	( )	( )	( )	( )
Bus	( )	( )	( )	( )	( )	( )
Cycling	( )	( )	( )	( )	( )	( )
Walking	( )	( )	( )	( )	( )	( )
Taxi	( )	( )	( )	( )	( )	( )
Motorbike or moped	( )	( )	( )	( )	( )	( )
Mobility scooter/wheelchair	( )	( )	( )	( )	( )	( )
e-scooter or push scooter	( )	( )	( )	( )	( )	( )

4

Have your current travel habits changed due to the COVID-19 pandemic?

Select the most applicable option in each row.

Grid showing question statements against rating options

	A lot more	More	The same	Less	A lot less	N/A
I cycle	( )	( )	( )	( )	( )	( )
I walk	( )	( )	( )	( )	( )	( )
I use public transport	( )	( )	( )	( )	( )	( )
I use a car	( )	( )	( )	( )	( )	( )

5

We would like to understand how you feel about cycling in your local area.

Before the start of the Low Traffic Neighbourhood experiment, to what extent do you agree or disagree with the following statements?

Select the most applicable option in each row.

Grid showing question statements against rating options

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Cycling is unsafe because of the traffic	( )	( )	( )	( )	( )	( )
My local area is safe for an 8-year-old child to cycle	( )	( )	( )	( )	( )	( )
There are special lanes, routes or paths for cycling	( )	( )	( )	( )	( )	( )
My local area is pleasant for cycling	( )	( )	( )	( )	( )	( )

6

We would like to understand how you feel about walking in your local area.

Before the start of the Low Traffic Neighbourhood experiment, to what extent do you agree or disagree with the following statements?

Select the most applicable option in each row.

Grid showing question statements against rating options

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Walking is unsafe because of the traffic	( )	( )	( )	( )	( )
My local area is safe for an 8-year-old child to walk alone	( )	( )	( )	( )	( )
My local area is pleasant for walking	( )	( )	( )	( )	( )
There are good quality pavements for walking	( )	( )	( )	( )	( )
There are enough safe places to cross roads	( )	( )	( )	( )	( )
My local area has enough places to stop and rest outdoors	( )	( )	( )	( )	( )
There are places to walk to, such as shops, restaurants, leisure facilities	( )	( )	( )	( )	( )

7

We are interested to know your thoughts on moving around your local area.

Before the start of the Low Traffic Neighbourhood experiment, to what extent do you agree or disagree with the following statements?

Select the most applicable option in each row.

Grid showing question statements against rating options

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The area is unsafe because of the level of crime or antisocial behaviour	( )	( )	( )	( )	( )
Air pollution caused by motor traffic is a problem in my area	( )	( )	( )	( )	( )
I regularly stop and talk with people in my local area	( )	( )	( )	( )	( )
Getting to where I want to go by car is quick and easy	( )	( )	( )	( )	( )

- Always jump to 8 (*In a sentence, please summarise what you think about the Low Traffic Neighbourhoods.*)

x

We are interested to know about the barriers to walking or walking more in your local area. Which of the following reasons, if any, apply to you?

Select all that apply.

- It is too far to walk
- It takes too long (i.e. I don't have time to walk)
- Lack of footpaths (or poor condition of footpaths) or lack street lighting
- Road safety concerns e.g. Too much traffic, not enough crossing points
- Too much air pollution
- Personal security concerns (or parental concern for children)
- Health reasons (poor health or disability prevents walking, lack of resting places or benches, too many steps or hills)
- No one to walk with (or parents cannot accompany them)
- Prefer current mode of transportation

If other please specify
[ ]
x

We are interested to know about the barriers to cycling or cycling more. Which of the following reasons, if any, apply to you?

Select all that apply.

- I cannot ride a bike (or I am not confident doing so)
- It is too far to cycle
- It takes too long (I don't have time to cycle)
- Lack of cycle paths and adequate street lighting (or poor-quality paths)
- Too much air pollution

- Road safety concerns e.g. too much traffic
- Personal security concerns
- Lack of facilities at destination (e.g. to shower or store bike)
- Ill-health reasons or disability that prevents cycling
- I don't own a bike (or bike broken)
- No interest in cycling

If other please specify
[ ]
8

In a sentence, please summarise what you think about the Low Traffic Neighbourhoods.

[ ]
9

Additional comments

Is there anything else you would like to say that has not already been covered in the survey?

[ ]
Information about you

We would like to know more about you so that we can understand our customers and residents. By answering the following questions we can check if we are hearing the views of a wide range of people and communities.

If you do not want to provide any parts of this information, please select prefer not to say.

All information given is anonymous and is governed by the General Data Protection Regulations 2018. It will be treated as strictly confidential.

10

What is your age?

- Under 16
- 16-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 – 74
- 74 – 85
- Over 85
- Prefer not to say

11

Are you…?

- Female
- Male
- Other
- Prefer not to say

12

As a woman, are you pregnant, on maternity leave or returning from maternity leave?

- Yes
- No
- Prefer not to say
- N/A

13

What is your ethnic group?

- Arab
- Asian or Asian British (Indian, Pakistani, Bangladeshi, Chinese or any other Asian background)
- Black or Black British (Caribbean, African, or any other Black background)
- Mixed (White and Black Caribbean, White and Black African, White and Asian and any other mixed background)
- White (British, Irish, Scottish, Welsh or any other white background)
- Prefer not to say
- Other ethnic group

if other please specify
[ ]
14

What is your current religion, if any?

- Buddhist
- Christian (including Church of England, Catholic, Protestant and all other Christian denominations)
- Hindu
- Jewish
- Muslim
- Sikh
- No religion
- Prefer not to say
- Any other religion (write in below)

If any other religion, please write in:
[ ]
15

Do you have a long standing illness, disability or infirmity

You can tick more than one box

Select at least 1 option

- No
- Yes - mobility issues
- Yes - sight issues
- Yes - hearing issues
- Yes - general health issues
- Prefer not to say

16

Which of the following best describes your sexual orientation?

- Straight/ Heterosexual
- Gay or lesbian
- Bisexual
- Other sexual orientation – please write in
- Prefer not to say

If other, please write in
[ ]
17

Do you look after, or give any help or support to anyone because they have long-term physical or mental health conditions or illnesses, or problems related to old age?

- No
- Yes, 9 hours a week or less
- Yes, 10 or more hours a week
- Prefer not to say

18

Are you married or in a civil partnership?

- Yes
- No
- Prefer not to say

19

Is your gender identity the same as your sex registered a birth?

- Yes
- No – write in gender identity
- Prefer not to say

If no, please write in gender identity
[ ]
20

In order to understand the impact of the Low Traffic Neighbourhoods and your views over time, we will be conducting this survey in the first month, after 5 months and after 1 year if the experiment is continued.

If you would like to be kept informed of future surveys for these LTNs please thick the relevant box and enter your email below so that we can contact you if this is necessary.

I consent for Oxfordshire County Council to hold my personal details and to re-contact me for engagement and consultation purposes. I confirm that I have read the statement below describing how my data will be used and I understand how to withdraw my consent.

- I would like to be kept informed about consultation, surveys and information relating to Low Traffic Neighbourhoods
- I would like to be contacted again to help shape Oxfordshire County Council's services, policies and priorities (not just LTNs)

Please enter your email address if you would like to be contacted for the reasons selected above
[ ]
Thank You

Thank you for taking the time to answer these questions.

Your data

Under the Data Protection Act 2018, we (Oxfordshire County Council) have a legal duty to protect any personal information we collect from you. Oxfordshire County Council is committed to open government and this may include quoting extracts from your consultation response in our report.

Your personal information will only be used in relation to this consultation

View Oxfordshire County Council's privacy notice online at www.oxfordshire.gov.uk - search privacy notice.

How did you find out about this consultation?

(Please tick all that apply)

- Facebook
- Twitter
- Instagram
- LinkedIn
- Oxfordshire.gov.uk website
- Email from Oxfordshire county council

- Letter from council
- Local news item (newspaper, online, radio, tv)
- Oxfordshire county councillor
- Parish or town council
- Local community group/organisation
- Friend/relative
- Other

If other, please provide details:

[ ]

Follow up survey

1. In order to understand the impact of the Low Traffic Neighbourhoods and your views over time, we will be conducting this follow-up survey now and after 1 year if the experiment is continued. So that we can compare your answers to previous and future surveys, please enter your email address below.

By giving your email, you are giving your consent for Oxfordshire County Council to hold your contact details.

We promise:

- to hold your information securely and not pass it onto anyone else without your permission
- only to use your email to link together the survey responses you have provided, without linking the responses to yourname and contact details
- to only use your contact details for the purposes above

You have the right to withdraw your consent at any time by writing to:

activetraveloxfordcity@oxfordshire.gov.ukor by writing to:

Cowley LTNs evaluation,

FREEPOST OXFORDSHIRE COUNTY COUNCIL

(No further address details required)

Please enter your email address below.

2. If you would like to be kept informed of future surveys for the Cowley LTNs please tick the box below so that we can contact you if this is necessary.

I consent for Oxfordshire County Council to hold my personal details and to re-contact me for engagement and consultation purposes. Iconfirm that I have read the statement above describing how my data will be used and I understand how to withdraw my consent.

(Choose all that apply)

☐ I would like to be kept informed about consultation, surveys and information relating to Low Traffic Neighbourhoods

3. Please say whether you are responding as a:

(Choose any one option) (Required)

- [ ] Church
- [ ] Cowley

  resident
- [ ] Florence

  Park

  resident

  Temple

  Cowley

  resident
- [ ] Resident of another
- [ ] part of OxfordResident

  outside Oxford
- [ ] Representing a business/ school / employer
- [ ] Representative of a resident association, group, campaign group, community
- [ ] facilityRepresentative of a place of worship
- [ ] Councillor (parish, city
- [ ] and/or county)Other

  (please specify)

Answer this question only if you have chosen Representing a business/ school / employer for Please say whether you are responding as a:

4.   What has the impact of the low traffic neighbourhoods been on your business or organisation?

Questions	Positive	Neutral	Negative
My customers or members			
My staff or volunteers			
My incoming deliveries			
My outgoing deliveries			
My overall business			

5.   Please enter your full post code

We want to understand the impact on and views of residents of individual roads.

We will not share any personal data outside the organisation except in an anonymised format for analysis.

6. **So far, what is your view regarding the Cowley LTNs in:**

Select the most applicable option in each row.

Questions	Fully support	Tend to support	Neutral	Object	Strongly Object
Church Cowley					
Temple Cowley					
Florence Park					

7. **Looking back to BEFORE the Cowley LTNs were implemented, what was your view then regarding the Cowley LTN in:**

Select the most applicable option in each row.

Questions	Fully support	Tend to support	Neutral	Object	Strongly Object
Church Cowley					
Temple Cowley					
Florence Park					

8. **For each of the following ways of travel, please say how often you use them for local journeys within Oxford.**

Select the most applicable option in each row.

Questions	Most days	A few times a week	About once a week	About once or twice a month	Now and again-- a few times a year	Never
Car driver (own car)						
Car passenger						
Car club driver or passenger						
Bus						
Cycling						
Walking						
Taxi						
Motorbike or moped						
Mobility scooter/wheelchair						
E-scooter or push scooter						

9. **Have your current travel habits changed due to the COVID-19 pandemic?**

Select the most applicable option in each row.

Questions	a lot more	more	the same	less	a lot less	N/A
I cycle						
I walk						
I use public transport						

I use a car						

10. We would like to understand how you feel about cycling in your local area.

To what extent do you agree or disagree with the following statements now that the LTNs are in place?

Select the most applicable option in each row.

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Cycling is unsafe because of the traffic					
My local area is safe for an 8-year-old child to cycle					
There are special lanes, routes or paths for cycling					
My local area is pleasant for cycling					

11. We would like to understand how you feel about walking in your local area.

To what extent do you agree or disagree with the following statements now that the LTNs are in place?

Select the most applicable option in each row.

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Walking is unsafe because of the traffic					
My local area is safe for an 8-year-old child to walk alone					
My local area is pleasant for walking					
There are good quality pavements for walking					
There are enough safe places to cross roads					
My local area has enough places to stop and rest outdoors					
There are places to walk to such as shops, restaurants and leisure facilities					

12. We are interested to know your thoughts on moving around your local area.

To what extent do you agree or disagree with the following statements now that the LTNs are in place?

Select the most applicable option in each row.

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The area is unsafe because of the level of crime or antisocial behaviour					
Air pollution caused by motor traffic is a problem in my area					
I regularly stop and talk with people in my local area					
Getting to where I want to go by car is quick and easy					

13. Please let us know what you think about the Cowley low traffic neighbourhoods.

14. Is there anything else you would like to tell us about the Cowley low traffic neighbourhoods?

Your Data

Under the Data Protection Act 2018, we (Oxfordshire County Council) have a legal duty to protect any personal information we collect from you. Oxfordshire County Council is committed to open government and this may include quoting extracts from your consultation response in our report.

Your personal information will only be used in relation to this consultation.

View Oxfordshire County Council's **privacy notice** online at **www.oxfordshire.gov.uk** - search privacy notice.

About you

The council is committed to **keeping your information secure** and we will not share any personal data outside the organisation except in an anonymised format.

We would like to know a little about you so that we can understand more about our customers and residents. It helps us to know if we are hearing the views of a wide range of people and communities.

If you do not want to provide any of this information, please select 'prefer not to say'.

All information given is anonymous and is governed by the General Data Protection Regulations 2018. It will be treated as strictly confidential.

15. What is your age?

(Choose any one option)

☐ under 16
☐ 16-24
☐ 25-
☐ 35-44
☐ 45-54
☐ 55-64
☐ 65-74
☐ 75-85
☐ over 85
☐ prefer not to say

16. What is your gender?

(Choose any one option)

☐ Female
☐ Male
☐ Prefer not to say
☐ Other (please describe)

17. Are you pregnant, on maternity leave or returning from maternity leave?

(Choose any one option)

- [ ] Yes
- [ ] No
- [ ] Prefer not to say
- [ ] N/A

18. What is your ethnic group?

(Choose any one option)

- [ ] Arab
- [ ] Asian or Asian British (Indian, Pakistani, Bangladeshi, Chinese or any other Asian background)
- [ ] Black or Black British (Caribbean, African, or any other Black background)
- [ ] Mixed (White and Black Caribbean, White and Black African, White and Asian and any other mixed background)
- [ ] White (British, Irish, Scottish, Welsh or any other white background)
- [ ] Prefer not to say
- [ ] Other ethnic group (please specify)

19. What is your current religion, if any?

(Choose any one option)

- [ ] Buddhist
- [ ] Christian (including Church of England, Catholic, Protestant and all other Christian denominations)
- [ ] Hindu
- [ ] Jewish
- [ ] Muslim
- [ ] Sikh
- [ ] No religion
- [ ] Prefer not to say
- [ ] Any other religion (write in below)

20. Do you have a long standing illness, disability or infirmity

You can tick more than one box

(Choose all that apply)

- [ ] No
- [ ] Yes-- mobility issues
- [ ] Yes-- sight issues
- [ ] Yes-- hearing issues
- [ ] Yes-- general health issues
- [ ] Prefer not to say

21. Which of the following best describes your sexual orientation?

(Choose any one option)

- [ ] Straight/ Heterosexual
- [ ] Gay or lesbian
- [ ] Bisexual
- [ ] Prefer not to say
- [ ] Other sexual orientation-- please write in

22. Do you look after, or give any help or support to anyone because they have long-term physical or mental health conditions orillnesses, or problems related to old age?

(Choose any one option)

- [ ] No

☐ **Yes, 9 hours a week or less**
☐ **Yes, 10 or more hours a week**
☐ **Prefer not to say**

23. Are you married or in a civil partnership?

(Choose any one option)

☐ **Yes**
☐ **No**
☐ **Prefer not to say**

24. Is your gender identity the same as your sex registered a birth?

(Choose any one option)

☐ **Yes**
☐ **No – write in gender identity**
☐ **Prefer not to say**

Annex D Preliminary Report Noise Pollution

In order to better understand how LTNs impact noise levels, sensors were deployed around the Temple Cowley Low Traffic Neighbourhood. This is the first evaluation that used sensors to assess the impact of LTN modal filters on ambient noise levels. Moreover, noise modelling is a relatively new field, and thus this part of the analysis should be treated as indicative.

In collaboration with the OxAria research project with the University of Birmingham and University of Oxford, ten AudioMoth sensors were deployed to monitor the Temple Cowley Low Traffic Neighbourhood.

Figure 91 AudioMoth deployment locations, Cowley Low Traffic Neighbourhoods (no.8-17)

Audiomoth sensors were deployed before and after modal filters were installed to provide granular data localised to the specific area. The Audiomoth noise sensors measure both frequency and amplitude of noise, but do not record individual sounds, or personal data. Using an experimental method (Normalised Difference Soundscape Index, NDSI) building on innovation work from Southampton University[xiv] and UCL[xv], this enables us to identify the extent of noise exposure over time and understand the type of noise, whether this is anthropogenic (human-originated) or biotic (natural).

A previous study was carried out by iHUB and the University of Oxford in 2020[xvi] to assess the AudioMoth device and NDSI algorithm. A full report including data outputs are published on the Pitch-in projects website and serve as an example for the soundscape information to be returned regarding the Cowley Low Traffic Neighbourhoods as part of the OxAria project. This will be included in the final evaluation report. Audiomoth sensors collected data for two 6-week periods in April and June 2021. Data is currently with the University of Birmingham pending processing and analysis, due for report end Q2 2022.

Annex E Preliminary Report Executive Summary

This report covers analysis across a series of key areas, both within the Low Traffic Neighbourhoods (LTNs) themselves, and on their boundary roads (defined as the roads immediately surrounding the LTNs, which are not impacted by the traffic restrictions imposed).

The pandemic made this evaluation particularly challenging, as we could not rely on historic trends. Over the preceding year, there were periods of lockdown, schools and university closures, furloughed positions and a high number of employees working from home. This was followed by a much less constrained picture, whereby 15 million people in the UK had received the first dose of their COVID vaccinations by mid-February, and 32 million doses were received by mid-April. This change alone allowed significantly more freedom of movement and associated increases in traffic levels were seen generally. The challenge has been to isolate the effect of LTNs from other factors.

Where possible, a baseline for monitoring sources has been set before COVID-19. This was combined with comparison sites, used to better understand how Low Traffic Neighbourhoods have impacted the area, by comparing the changes in travel patterns with other locations that would reflect other confounding factors, such as COVID restrictions. The key conclusions from this analysis are given below:

Primary effects: LTN area
- Car counts within the LTNs have decreased by 42% in March through November from 2019 and in proportion to traffic flow changes in comparison sites. From July through November, this proportional reduction in car counts is even greater, at 51%.
- There was an initial settling period for the schemes, up to two months after implementation.
- Pedestrian volumes within the LTNs have increased by 19% in March through November from 2019, in proportion to pedestrian volume changes in comparison sites.
- Cycling volumes within the LTNs increased by 22.5% in March through November from 2019, in proportion to cycling volume changes in comparison sites, once pre-LTN trends were factored out. It is worth noting, however, that cycling levels in the LTNs started off comparably significantly lower than in control areas in relation to 2019 levels.
- Vehicle speed data (INRIX telematics data) suggest that traffic speeds increased within the LTNs in April between 2019 and 2021 after initial deployment, though levelled off in June. This should be considered in future schemes.
- Overall, within LTNs we have found the intervention to have a pronounced positive effect, with significant decrease in car traffic and a relative increase in active travel.

Secondary effects: LTN boundary roads
- We have found car traffic volumes on boundary roads to have increased by 3% compared with 2019 levels, in proportion to control sites. However, this is an average number and the effect at specific times might be more pronounced and

can be seen to be different in locations. Rose Hill North has experienced the greatest increase in traffic of the roads monitored (10.8%).

- Data from bus services suggest that the PM peak outbound bus services have been negatively impacted, in comparison to control routes, for routes on the Cowley Road, where journey times are now longer than they were in 2019. Some times of day have shown improvements in journey times along this route, however – notably AM and PM peak inbound services. The Iffley Road saw a general trend towards increased journey times from March 2021 for most times of the day in both directions, albeit that overall journey times for this route are still generally shorter than in 2019.
- Air quality data indicates that while air pollution (levels of NO2) in March through October has reduced on LTN boundary roads by 8% since pre-COVID levels, it has done so less than in comparison sites, which have experienced a 17% reduction on average, suggesting a relative 9% increase in air pollution.
- South Central Ambulance Service (SCAS) Optima Predict emergency response simulation found that impact on SCAS performance at the local level is minimal.
- Overall, on the boundary roads, we find that on average there has been a small comparative increase of overall car traffic (3%) which is likely to be more pronounced during peak times and has impacted relative air quality levels and bus services, but not emergency services.

Additionally, perception surveys were deployed to assess changing perceptions and responses to the LTNs' implementation over time. It should perhaps be noted that public perceptions of increased traffic and/or reduced air quality may be partly due to the public comparing a period of extremely low traffic in 2020 and early 2021.

Key findings from this survey are:

- LTNs have been a polarising topic, and over time people have moved to either strongly support or oppose them.
- The positive aspects often quoted include the attractiveness of the LTN area, reduction in traffic noise, improved air quality, higher perception of safety for cyclists due to reduced car traffic, and increased social interaction.
- Street space taken by parked cars was highlighted as a barrier to social interaction.
- There was a general acknowledgement of trade-offs, with some residents recognising that while LTN residents experience the benefits, others experience potential downsides.
- The most common objection relates to the reduced convenience and ease of travel by car. This was linked to complains about longer and more complicated car journeys.
- There is a recognition of increased cycling and reduced car travel in LTNs, as well as an increase in bus travel. Walking has also increased, supported by the creation of a more attractive area and with less noise.
- Concerns were raised that reduced passing traffic might create an unsettling environment, particularly after dark. Special care needs to be taken in ensuring the LTNs create lively areas that are and feel safe.

Overall, the LTNs seem to be an effective measure to improve active travel and the quality of life of their residents with far-reaching implications. However, there are important learnings to consider, regarding the increased traffic volumes in boundary roads and inconvenience to some car users.

Two unintended consequences to incorporate in future proposals are the impact on public transport, which might be supported to mitigate the extra traffic demand on boundary roads causing delays to services, and creating vibrant communities within LTNs.

Annex F Preliminary Report Conclusion

In this report we have taken a holistic approach to evaluating the effects of implementing LTNs in East Oxford, as part of the Tranche 1 Emergency Active Travel Fund. While the evaluation framework was developed with Tranche 2 in mind, and thus some baselining data were not available, it is critical to thoroughly examine the available data to inform council decisions.

It should be stressed that the pandemic has significantly complicated the evaluation process, and even more for Oxford than other cities, due to the large student population.

We have examined the changes in traffic volume, traffic speed, air quality, perceived safety, journey time, effect on emergency services, bus time reliability and perceived utility both at the LTN regions and their boundary roads. To do this, we have used sensor data, telematics, surveys and collaborated with other key organisations, such as the Oxford City Council, University of Birmingham, Stagecoach, and South and Central Ambulance Service.

Overall, we have found that LTNs work well as a local intervention, effectively reducing the volume of car journeys, increasing volume of active travel, and have numerous benefits to the those who reside within them. These include greater perceived safety, air quality, and tendency to adopt walking and cycling.

However, we have also found some adverse effects in the boundary roads, such as a small increase in car traffic volume and reduced air quality, indicating that at least some traffic is diverted to these roads. There also has been an adverse effect to bus operations, especially during the evening peak.

It is possible that supporting public transport solutions would help resolve multiple of the challenges identified. Thus, a holistic approach is suggested moving forwards where active travel schemes are progressed, complemented with public transport considerations, and long-term inclusive public engagement.

Annex G Differences Calculations

- V= volume of traffic
- C= control site
- I= intervention site
- 22= 2022/2021 (intervention period)
- 21= 2019 (historic comparison)
- S= start of intervention period (in months), here February
- E=end of intervention period (months)
- D= Difference

What we want it to have the Difference of Intervention Sites minus the Difference of Control Sites, minus their historic difference. That is

$$[D_{i,22} - D_{c,22}] - [D_{i,21} - D_{c,22}] = [(V_{i,22,e} - V_{i,22,s}) - (V_{c,22,e} - V_{c,22,s})] - [[(V_{i,21,e} - V_{i,21,s}) - (V_{c,21,e} - V_{c,21,s})] =$$
$$V_{i,22,e} - V_{i,22,s} - V_{c,22,e} + V_{c,22,s} - V_{i,21,e} + V_{i,21,s} + V_{c,21,e} - V_{c,21,s}$$

This can be rearranged as presented in the report to:

$$(V_{i,22,e} - V_{i,21,e}) - (V_{c,22,e} - V_{c,21,e}) - [(V_{i,22,s} - V_{i,21,s}) - (V_{c,22,s} - V_{c,21,s})]$$

- $(V_{i,22,e} - V_{i,21,e})$ is the difference in the intervention site between 2022/2021 and 2019
- $(V_{c,22,e} - V_{c,21,e})$ is the difference in the control site between 2022/2021 and 2019
- $(V_{i,22,s} - V_{i,21,s})$ is the difference in the intervention site between February 2022/2021 and 2019
- $(V_{c,22,s} - V_{c,21,s})$ is the difference in the control site between February 2022/2021 and 2019

Annex H References

[i] [What is a low traffic neighbourhood? - Sustrans.org.uk](#)

[ii] [Agenda for Delegated Decisions by Cabinet Member for Environment (including Transport) on Thursday, 21 January 2021, 10.00 am (oxfordshire.gov.uk)](#)

[iii] [Microsoft Word - OXFORD LCWIP v200101 (oxfordshire.gov.uk)](#)

[iv] [Traffic Management Act 2004: network management to support recovery from COVID-19 - GOV.UK (www.gov.uk)](#)

[v] [Traffic Management Act 2004 (legislation.gov.uk)](#)

[vi] [Gear change: a bold vision for cycling and walking (publishing.service.gov.uk)](#)

[vii] Halonen, J.I., et al., *Road traffic noise is associated with increased cardiovascular morbidity and mortality and all-cause mortality in London.* European Heart Journal, 2015. **36**(39): p. 2653-2661.

[viii] Smith, R.B., et al., *Impact of London's road traffic air and noise pollution on birth weight: retrospective population based cohort study.* BMJ, 2017. **359**: p. j5299.

[ix] Cai, Y., et al., *Impact of road traffic noise on obesity measures: Observational study of three European cohorts.* Environmental Research, 2020. **191**: p. 110013.

[x] Khan, J., et al., *Road traffic air and noise pollution exposure assessment – A review of tools and techniques.* Science of The Total Environment, 2018. **634**: p. 661-676

[xi] Gulliver, J., et al., *Development of an open-source road traffic noise model for exposure assessment.* Environmental Modelling & Software, 2015. **74**: p. 183-193.

[xii] https://www.openacousticdevices.info/audiomoth

[xiii] Kasten, E.P., et al., *The remote environmental assessment laboratory's acoustic library: An archive for studying soundscape ecology.* Ecological Informatics, 2012. **12**: p. 50-67.

[xiv] Alvares-Sanches, T, et al. 2019. Spatial Variation in Sound Frequency Components Across an Urban Area Derived from Mobile Surveys. Future Cities and Environment, 5(1): 7, 1–17

[xv] Fairbrass AJ, Firman M, Williams C, Brostow GJ, Titheridge H, Jones KE. CityNet—Deep learning tools for urban ecoacoustic assessment. Methods Ecol Evol. 2019;10:186–197

[xvi] An IoT approach to characterising biodiversity of green spaces for planetary health. 2020. Pitch-in (website): https://pitch-in.ac.uk/projects/an-iot-approach-to-characterising-biodiversity-of-green-spaces-for-planetary-health/

Oxfordshire County Council

Equalities Impact Assessment

Cowley Low Traffic Neighbourhoods Scheme

June 2022

Contents

Page 112

Section 1: Summary details

Directorate and Service Area	Environment and Place
What is being assessed (e.g. name of policy, procedure, project, service or proposed service change).	Cowley Low Traffic Neighbourhoods (LTNs)
Is this a new or existing function or policy?	Amendment to a new scheme.
Summary of assessment Briefly summarise the policy or proposed service change. Summarise possible impacts. Does the proposal bias, discriminate or unfairly disadvantage individuals or groups within the community? (following completion of the assessment).	A Low Traffic Neighbourhood (LTN) is an area where motorised traffic is prevented from taking through routes into residential areas by installing traffic filters using planters and/lockable bollard) which can be accessed by Emergency Services and Waste Services. By removing through traffic, it creates quieter and safer streets with reduced pollution, where residents can feel safer and more comfortable when making local journeys by bus, by cycle or on foot. Low Traffic Neighbourhoods (LTN's) were proposed for Oxford in the Oxford Local Cycling and Walking Infrastructure Plan (LCWIP) as an effective way of promoting walking and cycling, in line with Council objectives to improve public health, air quality congestion and tackle climate change. Temple Cowley, Church Cowley and Florence Park (Cowley) were chosen as priority areas in response to residents' complaints about traffic and to improve the cycle routes running through the neighbourhoods.
Completed By	Emma Walters, Senior Transport Planner and Naomi Barnes Project Manager
Authorised By	
Date of Assessment	

Section 2: Detail of proposal

Context / Background Briefly summarise the background to the policy or proposed service change, including reasons for any changes from previous versions.	LTNs are a part of the UK government Active Travel initiative – which comprises a number of plans to improve air quality, reduce carbon emissions and boost healthier travel choices for cities and towns across the UK. The schemes are inspired by models in the Netherlands including LTNs in Groningen, Utrecht and Amsterdam. LTNs are being trialled in several cities and urban areas across the UK but are not a new concept. For example, an LTN was installed in De Beauvoir Square in Hackney in the 1970s to make the streets safer for children in the area. In 2020, the Council was successful in winning a £3 million bid to promote active travel. As a part of this, Oxford Local Cycling and Walking Infrastructure Plan (LCWIP) sets out a policy to introduce LTNs in areas in Oxford where there is local support from residents and members. LTNs support ambitious targets to increase cycling in Oxford by 50% by 2031.
Proposals Explain the detail of the proposals, including why this has been decided as the best course of action.	An LTN is an area where motorised traffic is prevented from taking through routes into residential areas by installing traffic filters. This creates quieter and safer streets where residents may feel safer and more comfortable when making local journeys by bus, by cycle or on foot. Residents in the filter streets are still able to drive to their homes, as are people visiting them or delivering to them. What 'can't be done' is that cars, vans, lorries etc. cannot drive through the road to get to another road. The traffic filters are physically created by placing barriers in the road to discourage motor vehicles from driving through. The 'barriers' are planters and/or lockable bollards which are positioned to still allow access through for wheelchairs/other non-car mobility aids, pedestrians, cycles, scooters, and push-chairs/prams. Two filters in the Cowley LTNs fall on bus routes and therefore must remain open. These are currently enforced using Automatic Number Plate recognition cameras. They are also being introduced to improve the comfort, safety and convenience of Oxford Cycle Route 16, in support of wider policies to promote active travel and improve personal safety.

| **Evidence / Intelligence**

List and explain any data, consultation outcomes, research findings, feedback from service users and stakeholders etc, that supports your proposals and can help to inform the judgements you make about potential impact on different individuals, communities or groups and our ability to deliver our climate commitments. | In November 2020, OCC sent out letters to over 4,000 residents in the Cowley area inviting them to fill in an online survey asking their opinion of the proposals for low traffic neighbourhoods (LTNs) in three areas including Temple Cowley, Church Cowley, and Florence Park collectively known as the Cowley LTNs. During Covid times it was not possible to meet in person and people were also invited to respond via post.

The consultation closed on 18 December 2020 with over 1,000 residents responding to the survey. Residents in all three areas expressed majority support for their local LTN proposal. On 21 January 2021 implementation of the proposals were approved by the Cabinet member for the environment.

The LTNs were implemented in March 2021 under an Experimental Traffic Regulation Order (ETRO). The consultation closed in November 2021, and a decision is to be made on whether the LTNs are to be removed or made permanent is due in July 2022.

Engagement with other key stakeholder groups has been undertaken throughout the consultation period, primarily on line due to pandemic conditions, but some face to face meetings were possible with key groups. The stakeholder list has included Emergency Services, Healthcare providers including carers and district nurses, local schools, disability groups, local cycle groups, resident groups, bus companies, local religious organisations and local members.

Monitoring has been undertaken within the LTNs and on surrounding roads to assess impact on traffic volumes, journey times, modal shift to more active modes such as walking and cycling, speed, bus journey times, Air quality recordings against pre-LTN (lockdown and non-lockdown) figures, and impact on emergency services response.

The majority of respondents to the consultation i.e 2/3rds were opposed to the scheme, however, this largely came from people outside the LTNs. Those living within the LTNs showed slightly more support for the scheme. Whilst monitoring has shown a negative impact on surrounding roads, such as increased congestion, and decrease in air quality it is now starting to show signs of improving for traffic levels. Air quality levels can only be published after the end of the calendar year when variables such as seasonal anomalies can be considered and the data formally ratified. Within the LTNs themselves there has been a notable decrease in motor vehicles, a clear increase in |

	walking and signs of an increase in cycling. There is currently insufficient historic data to deduce a trend in air quality within the LTN.
Alternatives considered / rejected Summarise any other approaches that have been considered in developing the policy or proposed service change, and the reasons why these were not adopted. This could include reasons why doing nothing is not an option.	Alternatives such as traffic-calming measures like speed bumps and road narrowing have been considered. Whilst they can reduce speeds, they won't cut traffic volume or discourage drivers from using a street as a short cut. They also are less likely to encourage people to consider alternative forms of transport.

Section 3: Impact Assessment - Protected Characteristics

Protected Characteristic	No Impact	Positive	Negative	Description of Impact	Any actions or mitigation to reduce negative impacts	Action owner* (*Job Title, Organisation)	Timescale and monitoring arrangements

| Age Children | ☐ | ☒ | ☐ | Children:
Active travel presents an opportunity to promote health and wellbeing among children by creating a comfortable safe environment to walk and cycle. This is particularly important for children who are more likely to develop childhood obesity due to other characteristics, including deprivation and Black Asian and Minority Ethnic background.

The effects of air pollution are particularly significant for the health of children. Reduction in traffic within the LTNs will reduce the levels of air pollution for those walking and cycling through the LTNs.

Road Safety
LTNs target through motor traffic on minor roads, this design approach particularly benefits children and younger people as they walk often and leaving more vulnerable to danger posed by motor vehicles on minor roads. In addition, | | OCC Project Manager and ihub team | Public consultation and perception surveys, alongside traffic and air quality monitoring March 2021 for duration of trial. |

				perceptions of road danger have a significant impact on parental decision-making around how children travel but also their freedom to roam in general. Whilst perceived levels of road danger are based on the observations of individuals and their own experiences such as near misses whilst crossing the road and volumes of motor traffic on streets without crossings and with poor sightlines. LTNs will reduce the actual danger as a result of less traffic.			

9

| Age

Young People | ☐ | ☒ | ☐ | Identified as a group at risk of transport poverty

From the age of 16 onwards, walking, cycling and other transport modes become an important tool in enabling young people to access employment and training.

Vehicle ownership tends to be low among younger age groups partly due to the costs of learning to drive, as well as maintaining a vehicle and the associated insurance costs, making this group increasingly reliant on public transport and active travel options.

Walking and cycling are often primary options for young people as such increasing the number of minor roads with less traffic in an area can help to protect a group who are already travelling actively regularly

Young people use minor roads to connect to and between major roads where many destinations lie. It is recognised that some routes | | OCC Project Manager and ihub team | Ongoing monitoring and engagement should the scheme be made permanent. |

| | | | | may remain busy as changes cannot be made to all roads at the same time and that other measures that encourage walking and cycling are needed for main routes. These may include controlled crossings, footway widening and kerb protected cycleways, all of which would benefit those protected by the age characteristic.

When an LTN is introduced evidence shows that overall traffic volumes fall in the longer term within the LTN. However, in the short term, there may be some increase in driver queues at some main road junctions at certain times of the day. This may initially lead to intermittent delays to bus services, which could impact on young people travelling. Current monitoring indicates that bus journeys have indeed been negatively affected, however it is hoped that in the longer term with the introduction of wider strategic schemes this will reduce to normal or improved levels. | | | |

| Age
Older People | ☐ | ☒ | ☒ | Older people are more likely to have a disability or long-term health problem that can affect their ability to walk and cycle potentially making them more reliant on a car – No point within the LTN is unreachable by car, but it is acknowledged in the short term journey times will be negatively impacted until the scheme beds in.

Older people may be more likely to require home carers and medical assistance who may be negatively impacted by increased journey times.

Ageing is linked with a reduction in car usage and driving, often caused by the worsening of physical conditions, increased stress associated with driving, car maintenance costs and less need to drive for full time work, as well as forced cessation of driving due to old age. | Over time it is anticipated that a reduction in car use through LTNs and other transport strategies in OCC will improve journey times.

Investigating enforcement and exemption opportunities. | OCC Project Manager and ihub team | Public consultation and perception surveys, alongside traffic and air quality monitoring March 2021 for duration of trial. |

| Disability | ☐ | ☒ | ☒ | The term 'Disability' is very broad and includes people with physical, sensory and cognitive impairments. Overall, it is anticipated that LTNs will benefit many disabled people as they tend to be regular footway users and the project will create many more low road danger streets, quieter and easier to cross. However, we recognise that will not be the case for all.

Those with mobility impairments including wheelchair users may benefit from being able to utilise road space as well as footways if traffic flows are sufficiently reduced. This will provide increase width and in some cases flatter surfaces. Sufficient width has been provided at filter locations to allow wheelchairs and mobility scooters to pass through. This may encourage more opportunities for people to benefit from additional exercise and opportunities for social interaction. | We are currently trialling internally (OCC) the use of keys by some SEN vehicles to assess the viability of this as a solution.

Investigating enforcement using Automatic Number Plate Recognition cameras and exemption opportunities at the existing bus gates in Bartholomew Road and Cornwallis Road, as well as further ANPR cameras in other locations at the end of the year if scheme is made permanent. | OCC Project manager and ihub Monitoring Team | After Cabinet decision in July if scheme stays engage with the Council's Sensory Impairment Team to see if there are any further mitigations we can make for blind or partially sighted users |

				Some with disabilities are reliant on the car and have expressed concerns regarding increased journey times, having negative impacts on stress levels and potentially pain from sitting in a vehicle too long. Those with mental health issues, autism and other similar disabilities can struggle to sit in vehicles for long periods of time, leading to anxiety attacks. This has been highlighted through the Councils own Special Needs transport services. Disabled people may be more likely to require home carers and medical assistance who may be negatively impacted by increased journey times.			
Gender Reassignment	☒	☐	☐				

14

Marriage & Civil Partnership	☒	☐	☐				
Pregnancy & Maternity	☒	☐	☐	There could potentially be an impact if midwives and healthcare providers need to access areas within the LTN.	Investigate ANPR cameras pending Cabinet decision in July.	OCC Project Team	Engagement beyond July 2022 if scheme made permanent
Race	☐	☒	☐	There was considerably less full support for LTNs among Black Asian and Minority Ethnic respondents (48%) than white respondents (67%), but including support with reservations, there was still a majority support from both groups (White 76% and BAME 52%) when the original survey was carried out in 2020.	Consultation summary is attached as Annex 7(i).	OCC Project management	Engagement beyond July 2022 if scheme made permanent
Sex	☐	☒	☒	There is evidence from Sustrans that some people, particularly women, do not feel safe and are hesitant to start or restart cycling. The aim of reducing vehicle movements in the area would allow safer, more attractive routes and to enable a greater take up of cycling	Initial discussions with the police have not seen an increase in criminal activities, however it is noted that LTNs have reduced the number of vehicle patrols undertaken. Ongoing engagement with the police and investigating	OCC Project Team	Meetings between OCC and Emergency Services are every 2-3 weeks

15

				and walking irrespective of sex. Less than ten women have reported feeling less safe as a result of reduced traffic as they feel more vulnerable and open to potential personal attacks.	enforcement and exemption opportunities using ANPR.		
Sexual Orientation	☒	☐	☐				
Religion or Belief	☐	☐	☒	Some people attending mosques are finding congestion difficulties when travelling to the crematorium in Botley before dusk. Continue consultation and monitor impacts, if any, such as the ability to access facilities.	Mosque representatives are investigating a minibus to reduce the number of cars on the network, which may be a potential solution. OCC will continue to work with mosque leaders and local councillors. Investigate exemption of funeral vehicles through ANPR cameras Liaise with Crematorium regarding later hours and portable lighting in the winter could allow ceremonies to be completed	Localities Team / City Localities Team / School	Engagement beyond July 2022

				St Frideswide School and St Gregory the Great School are both Catholic and have a wider catchment area than many schools. They are experiencing staff resource and retention issues as well as school drop off and pick up congestion as many have no alternative but to use a vehicle	Develop and implement a school travel plan. Increased use of car sharing Investigate use of school buses for those further afield and options surround filter locations	Travel Planning	

Section 3: Impact Assessment - Additional Community Impacts

Additional community impacts	No Impact	Positive	Negative	Description of impact	Any actions or mitigation to reduce negative impacts	Action owner (*Job Title, Organisation)	Timescale and monitoring arrangements
Rural communities	☒	☐	☐				
Armed Forces	☒	☐	☐				
Carers	☐	☐	☒	Across all the different home health care providers including District nursing, phlebotomy, community therapy services, end of life care, heart failure teams etc it is clear the LTNs have had a negative impact in terms of increased journeys times delaying attendance to individuals, this is particularly problematic in end of life care and where there are 2 hour windows to provide treatment. It is having the knock on effect of having to reduce the number of visits, increased stress for patients and staff. Whilst not specifically related to LTNs,	Monitor changes in travel behaviour and traffic flows to assess whether situation improves as people revisit how they travel. Regular meetings with Oxford Health and OCC Quality and Improvement to monitor situation and potential solutions (see Annex 5) Investigating enforcement and exemption opportunities.	Localities/Delivery/ monitoring	Ongoing monitoring beyond July 2022

Additional community impacts	No Impact	Positive	Negative	Description of impact	Any actions or mitigation to reduce negative impacts	Action owner (*Job Title, Organisation)	Timescale and monitoring arrangements
				they are negatively impacting the ability to hire and retain staff which was already problematic and is therefore worsening the situation. Cycling has been trialled, but proven difficult due to the amount of equipment required. With some medications there are also concerns about personal safety.			
Areas of deprivation	☐	☒	☐	People in areas of deprivation are more reliant on bus and less on car. The LTNs improve the cycle route to Littlemore, Blackbird Leys and Greater Leys. The main purpose of the LTNs is to improve the cycle routes and accessibility to these areas.			

19

Section 3: Impact Assessment - Additional Wider Impacts

Additional Wider Impacts	No Impact	Positive	Negative	Description of Impact	Any actions or mitigation to reduce negative impacts	Action owner* (*Job Title, Organisation)	Timescale and monitoring arrangements
Staff	☒	☐	☐	It is uncertain at this moment whether social workers have been impacted by the scheme	Engage with group and if required investigate ANPR cameras	OCC Project Team	After July 2022 Cabinet decision
Other Council Services	☒	☐	☐	One incident at Clive Road where Fire Officers cut bollard, which did not impact on time to incident	Regular engagement with Emergency Services	OCC Project Team	Meet every 2-3 weeks
Providers	☐	☐	☒	If journey times extend significantly this will have a negative impact on SEN school transport (see Disability section)	SENs transport providers to be provided with keys to lockable bollards on priority routes	Delivery OCC	Ongoing
Social Value [1]	☐	☒	☐	Interaction within community, feeling safer to use area through sustainable travel. The potential for more physical activity, including play, in areas where amenities		OCC Project team	Perception surveys at intervals for duration of trial and beyond. Engagement with communities for

---

[1] If the Public Services (Social Value) Act 2012 applies to this proposal, please summarise here how you have considered how the contract might improve the economic, social, and environmental well-being of the relevant area

Additional Wider Impacts	No Impact	Positive	Negative	Description of Impact	Any actions or mitigation to reduce negative impacts	Action owner* (*Job Title, Organisation)	Timescale and monitoring arrangements
				may be limited, offering the potential to address issues of obesity and well-being			planting/public realm opportunities

Section 4: Review

Where bias, negative impact or disadvantage is identified, the proposal and/or implementation can be adapted or changed; meaning there is a need for regular review. This review may also be needed to reflect additional data and evidence for a fuller assessment (proportionate to the decision in question). Please state the agreed review timescale for the identified impacts of the policy implementation or service change.

Review Date	30/6/22
Person Responsible for Review	Naomi Barnes
Authorised By	

Consultation Report:

Low traffic Neighbourhoods
(LTNs) in Cowley.

djs research

Contents

Page 134

Executive summary

Here we summarise the findings from a consultation to gather feedback from residents and stakeholders on three proposed Low traffic Neighbourhoods (LTNs) in Cowley.

Background to the survey

Oxfordshire County Council have recently run a public consultation to gather views on three proposed Low traffic Neighbourhoods (LTNs) in Cowley. The proposals include traffic filters which prohibit all motor vehicles, plus two which allow access for buses.

A low traffic neighbourhood is an area where through traffic is prevented so that residents can enjoy a quieter neighbourhood and feel safer when they walk, cycle or go by wheelchair. For that reason, it is also known as a liveable neighbourhood.

If approved, the LTNs would be implemented using experimental traffic regulation orders. More information is available here.

The council encouraged feedback on the proposals through an online survey which was accessible on the Oxfordshire County Council website from 23 November to 18 December 2020. In addition, the Council received feedback in the form of letters, emails and comments on social media which have been analysed separately to the survey.

DJS Research, an independent market research company, was commissioned by the Council to provide an independent analysis of the consultation findings and produce this report.

Priorities for local area or street

Overall, the highest priorities for respondents are to 'reduce traffic speeds on residential roads', to 'reduce air pollution' and 'to make it easier and safer to cycle', with around two-thirds (60%, 59% and 59% respectively) selecting these as 'very important' benefits. In addition, to 'making it safer for children to travel and play' (55%) and 'remove or reduce through traffic' (55%) are also seen to be very important priorities for more than half of all respondents.

The priorities given the lowest ratings relative to the others presented to respondents are to 'make bus services quicker and more reliable', with only 23% of respondents selecting this as a very important benefit, and 'keep local roads open so car trips are easy and convenient (25% selecting this as a very important benefit).

Residents living in Florence Park often place higher importance on several of the priority areas presented to them compared to residents in Church Cowley and Temple Cowley.

Respondents completing the survey on behalf of a business, group or organisation generally seemed less concerned about almost all of the priorities for local areas or streets than residents.

Support for LTN trial proposals

Overall, approaching two-fifths of all residents fully supported the LTN trial proposals in each of the three areas. However, for each proposed LTN trial, around a quarter of all residents did not support each one.

The highest level of support is seen for the Florence Park trial LTN, with 60% fully supporting the LTN trial in this area and a further 7% supporting it but with reservations.

More than two-thirds (67%) of all residents support the Florence Park LTN trial to some extent (either 'fully support' or 'support with reservations') – however, just over a quarter (26%) say they 'do not support' the Florence Park LTN trial. Residents in Florence Park itself are much more likely than residents in other areas to support the Florence Park LTN trial to some extent; 79% of Florence Park residents indicate their support, compared with 65% of Temple Cowley residents and 59% of Church Cowley residents.

Almost two-thirds (65%) of all residents support the Temple Cowley LTN trial to some extent (either 'fully support' or 'support with reservations') – however, a quarter (25%) say they 'do not support' the Temple Cowley LTN trial. Residents in Temple Cowley itself, as well as Florence Park residents, are more likely than residents in other areas to support the Temple Cowley LTN trial to some extent (71% and 71% respectively), with only 55% of Church Cowley residents expressing their support for the Temple Cowley LTN trial.

A similar proportion (64%) of all residents support the Church Cowley LTN trial to some extent (either 'fully support' or 'support with reservations') - however, more than a quarter (27%) say they 'do not support' the Church Cowley LTN trial. Residents in Church Cowley itself are more likely than residents in other areas to express less positive views about the Church Cowley LTN trial, with 38% indicating that they do not support it.

For each of the three LTN trial areas, respondents completing the survey on behalf of a business, group or organisation express lower levels of support (only 27% fully support the Church Cowley LTN trial, 26% fully support the Temple Cowley LTN trial and 24% fully support the Florence Park LTN trial).

For each of the three LTN trial areas, support is generally slightly stronger amongst younger and middle-age groups compared to older respondents, and is also more strongly supported by white residents compared to BAME residents and also by those without a long-standing disability, illness or infirmity compared to those who have such issues.

Current travel behaviour

Overall, the most-used form of travelling amongst respondents is walking, with just under half (48%) using walking as their normal way to travel and nearly all respondents answering using walking to travel at least sometimes.

Just under four-fifths (78%) of respondents either sometimes or normally use car driving as their mode of travel, while more than seven-tenths (72%) cycle at least sometimes.

Nearly seven-tenths (68%) of respondents use the bus to some extent, although only 8% use buses as their main mode of travel.

The least-used methods of transport are mobility scooters, motorbikes or mopeds (72% never use) and car clubs (62% never use).

Potential effect of LTN trial on walking and cycling behaviour

Encouragingly, more than half of respondents say they would definitely consider walking more than they currently do during the LTN trial, with a further 16% saying that they would maybe consider doing so.

Equally encouragingly, almost half (49%) of respondents indicate that they would definitely consider cycling more, with a further 13% saying that they would maybe consider cycling more.

However, around a sixth (16%) of respondents say they would definitely not consider walking more during the LTN trial, with approaching a quarter (23%) feeling they would definitely not consider cycling more during the LTN trial.

For both walking and cycling:

- Younger age groups are more likely to express an intention to walk and cycle more during the LTN trial than older residents.
- White residents are more likely to express an intention to walk and cycle more during the LTN trial than BAME residents.
- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to indicate that they would definitely consider walking and cycling more during the LTN trial.

Page 138

Introduction
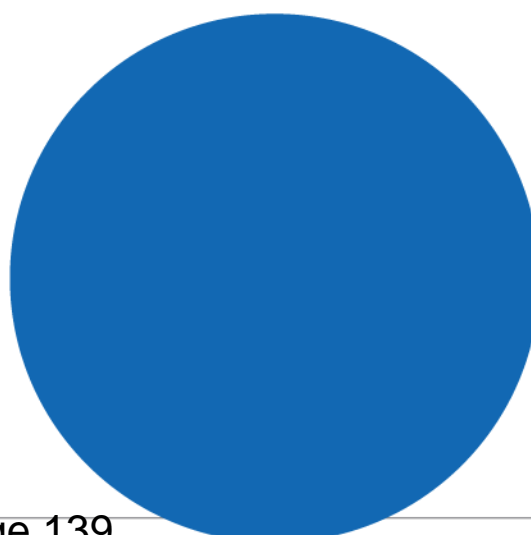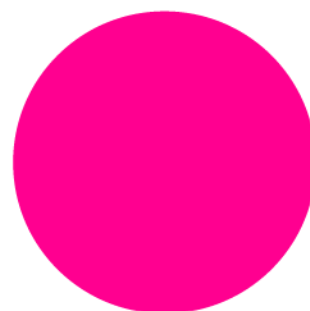
In this section we provide details of the background, objectives and methodology used in the consultation.

Background to the consultation

Oxfordshire County Council is proposing to trial Low Traffic Neighbourhoods (LTNs) across Oxford city. Initial proposals are to pilot 3 LTNs within the Cowley area. This means the introduction of traffic filters at specific points across Church Cowley, Temple Cowley and Florence Park.

A low traffic neighbourhood is an area where through traffic is prevented so that residents can enjoy a quieter neighbourhood and feel safer when they walk, cycle or go by wheelchair. For that reason, it is also known as a liveable neighbourhood.

The LTN will prevent people from outside the area driving through the neighbourhood by the use of "traffic filters" which can be either planters or bollards. Where there is a bus route, camera enforcement filters will permit buses through, but prevent all other motorised vehicles. All streets will continue to be accessible to residents, visitors and deliveries by car or van, but drivers may need to choose a different route.

Temple Cowley, Church Cowley and Florence Park have been chosen as a priority for two main reasons. Firstly, the neighbourhoods suffer because many drivers from outside the area take shortcuts along the residential streets. Many residents have complained to the Council about the problems of short-cutting traffic including noise, danger and nuisance. Secondly, there are cycle routes running through the neighbourhoods which serve both the local areas and areas further out. Traffic makes cycling along these routes unattractive. The Council aims to make these cycle routes more pleasant in support of wider policies to support active travel, reduce air pollution and tackle climate change.

The Council are introducing the LTN via a legal process called an Experimental Traffic Regulation Order (ETRO). ETROs are used when it is very difficult to assess the impacts of the scheme in terms of traffic or public support, but the cost of implementation and removal is relatively low cost.

In an ETRO, the Council introduces the scheme first and there is then a six-month period after the scheme is introduced when the public can submit objections or letters of support. At the end of the six-month period, the Council assesses the objections and decides whether to confirm, cancel or extend the ETRO for up to 12 months longer to allow further consultation and monitoring. More information is available [here](#).

About the consultation approach

The councils encouraged feedback on the proposals through an online survey which was accessible on the Oxfordshire County Council website from 23 November to 18 December 2020.

There has been a high level of interest in this exercise and good response to the survey, with a total of 1,454 responses. A full profile (by respondent type and demographics) of who responded to the survey is provided overleaf.

In addition, the Council received feedback in the form of letters, emails and comments on social media which have been analysed separately to the survey.

About this report

DJS Research, an independent market research company, was commissioned by the councils to provide an independent analysis of the survey findings.

The survey introduced the proposals then asked respondents a series of questions including closed ('tick-box') questions, and open questions where respondents could type in comments.

In addition to analysing the closed questions, DJS Research carried out thematic analysis of the open comments from the online survey on a question-by-question basis, coding them into themes so that these could be quantified.

This document summarises the findings from the independent analysis.

Respondent profile

In total, 1,454 responses to the survey were received. A profile of the respondents to the survey is provided below (tables 1 to 6).

Table 1: Please say whether you are responding as…?
OVERALL RESULTS (all responses: n=1,454).

Respondent type	No. responses	% responses
Florence Park resident	340	23%
Church Cowley resident	322	22%
Temple Cowley resident	307	21%
Resident of another part of Oxford	381	26%
Resident outside Oxford	40	3%
Local business, group or organisation in the Cowley area	39	3%
On behalf of an interest group	25	2%

The vast majority of respondents are Oxford residents – living in fairly equal proportions in each of the three proposed LTN areas (21%-23%) and in other parts of Oxford 26%) – with a small proportion of individuals living outside of Oxford (3%). The remainder of responses are made up of people responding completing the survey as a local business, group or organisation in the Cowley area (3%) or on behalf of an interest group (2%).

*Those classifying themselves as not living in the Cowley area (i.e. living outside of Church Cowley, Florence Park and Temple Cowley) were asked to indicate the reason why they were responding to the survey – Table 2 overleaf summarises the responses given by non-Cowley residents.

Page 142

Table 2: Please say whether you are responding as...?
OVERALL RESULTS (all not residing in the Cowley area: n=461, 496).

Respondent type	No. responses	% responses
'I travel through the Cowley area on my way to somewhere else'		
Yes, most days	269	58%
Yes, sometimes	192	42%
'I travel to the Cowley area for work, education, social or recreation purposes'		
Yes, most days	300	60%
Yes, sometimes	196	40%

Table 3: What is your age group? OVERALL RESULTS (all responses: n=1,454).

Respondent type	No. responses	% responses
Under 18	16	1%
19-24	22	2%
25-34	227	16%
35-44	425	29%
45-54	303	21%
55-64	229	16%
65-74	172	12%
75-84	54	4%
85+	6	0%

Most age groups were well represented, although only 3% were aged under 25.

Page 143

Table 4: **What is your gender? OVERALL RESULTS** (all responses: n=1,454).

Respondent type	No. responses	% responses
Female/woman	693	48%
Male/man	685	47%
Other	4	0%
Prefer not to say	72	5%

Table 5: **What is your ethnic group? OVERALL RESULTS** (all responses: n=1,454).

Respondent type	No. responses	% responses
White (i.e. British, Irish, any other white background)	1,172	81%
Asian or Asian British (i.e. Indian, Pakistani, Bangladeshi, any other Asian background)	69	5%
Black or Black British (i.e. Caribbean, African, or any other Black background)	9	1%
Mixed (i.e White & Black Caribbean, White & Black African, White & Asian and any other Mixed background)	37	3%
Other	15	1%
Prefer not to say	152	10%

Page 144

Table 6: **Do you have a long-standing illness, disability or infirmity? OVERALL RESULTS** (all responses: n=1,454).

Respondent type	No. responses	% responses
No	1163	80%
Yes – mobility issues	79	5%
Yes – sight issues	21	1%
Yes – hearing issues	18	1%
Yes – general health issues	131	9%
Prefer not to say	89	6%

In the remainder of this report, where appropriate we have analysed how views differ by the different respondent types and demographic groups outlined above.

Page 145

Views on priorities for local area or street

14
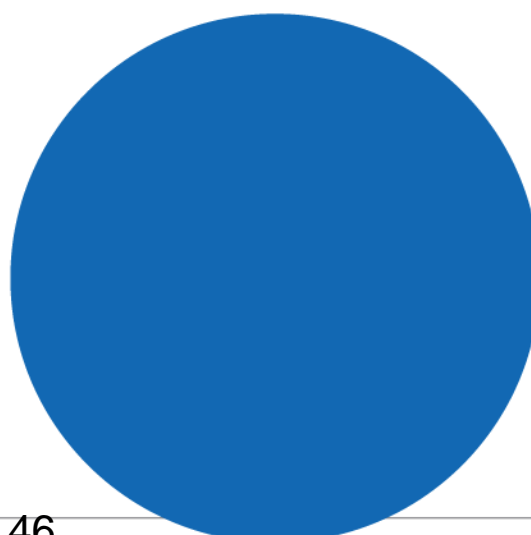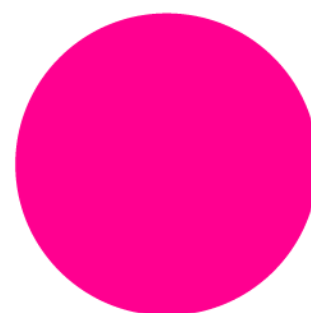
Those responding to the survey were presented with a list of eleven benefits and were asked to indicate their priorities for their local area or street by providing a score for at least three of them (although respondents could provide a score for up to eleven if they so wished).

Headline findings

Results for all respondents for this question are summarised in figure 1, below.

Figure 1: Thinking of your local area or street, we would like to understand your priorities. For each row, please put in a figure from 0 to 3 (0 = 'no benefit', 1 = 'minor benefit', 2 = 'important benefit', 3 = 'very important benefit'). You must select an option in at least three rows, or you can answer every row. You can also add another option in the 'other priority' box. RESULTS FOR ALL RESPONDENTS (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
Reduce traffic speeds on residential roads	8 %	8 %	15 %	60 %	9 %
Reduce air pollution	9 %	9 %	15 %	59 %	8 %
Make it easier and safer to cycle	11 %	8 %	11 %	59 %	10 %
Make it safer for children to travel and play	9 %	9 %	15 %	55 %	12 %
Remove or reduce through traffic	14 %	8 %	13 %	55 %	10 %
Make it easier to cross roads on foot	10 %	15 %	18 %	43 %	14 %
Enhance the area with more trees or planting	13 %	16 %	23 %	34 %	14 %
Reduce traffic congestion on nearby main roads	17 %	18 %	20 %	30 %	14 %
Create pleasant areas where you can meet up	16 %	17 %	20 %	30 %	17 %
Keep local roads open so car trips are easy and convenient	36 %	18 %	8 %	25 %	14 %
Make bus services quicker and more reliable	17 %	21 %	23 %	23 %	16 %

Page 147

Overall, the highest priorities for respondents are to 'reduce traffic speeds on residential roads', to 'reduce air pollution' and 'to make it easier and safer to cycle', with around two-thirds (60%, 59% and 59% respectively) selecting these as 'very important' benefits. In addition, to 'making it safer for children to travel and play' (55%) and 'remove or reduce through traffic' (55%) are also seen to be very important priorities for more than half of all respondents.

The priorities given the lowest ratings relative to the others presented to respondents are to 'make bus services quicker and more reliable', with only 23% of respondents selecting this as a very important benefit, and 'keep local roads open so car trips are easy and convenient (25% selecting this as a very important benefit).

Results by Resident type

Figures 2-12 (below and overleaf) show how responses to this question varied for different types of respondent for each of the priority issues presented to respondents and are shown in order of the level of importance that respondents attach to them at an overall level.

It should be noted that the base sizes for those answering on behalf of a local business, group or organisation, and also for those answering on behalf of an interest group, are both relatively low – although comment has been made on the findings from these respondents where appropriate, the findings for these groups should be treated as indicative rather than statistically significant.

Further analysis of feedback from residents also highlights some differences in opinion by demographic factors (such as age and gender). Where applicable, these differences are detailed under figures 2-12 (below and overleaf):

Figure 2: Thinking of your local area or street, we would like to understand your priorities: 'Reduce traffic speeds on residential roads'. RESULTS BY RESPONDENT TYPE (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	8 %	8 %	15 %	60 %	9 %
Church Cowley Residents (322)	12 %	11 %	13 %	55 %	8 %
Florence Park Residents (340)	5 %	6 %	12 %	68 %	8 %
Temple Cowley Residents (307)	9 %	6 %	15 %	60 %	10 %
Residents Elsewhere in Oxford (381)	7 %	8 %	17 %	58 %	10 %
Residents Outside Oxford (40)	0	5 %	13 %	65 %	15 %
Local Business/Group/ Organisation (39)	26 %	21 %	21 %	28 %	5 %
Interest Group (25)	8 %	12 %	20 %	56 %	4 %
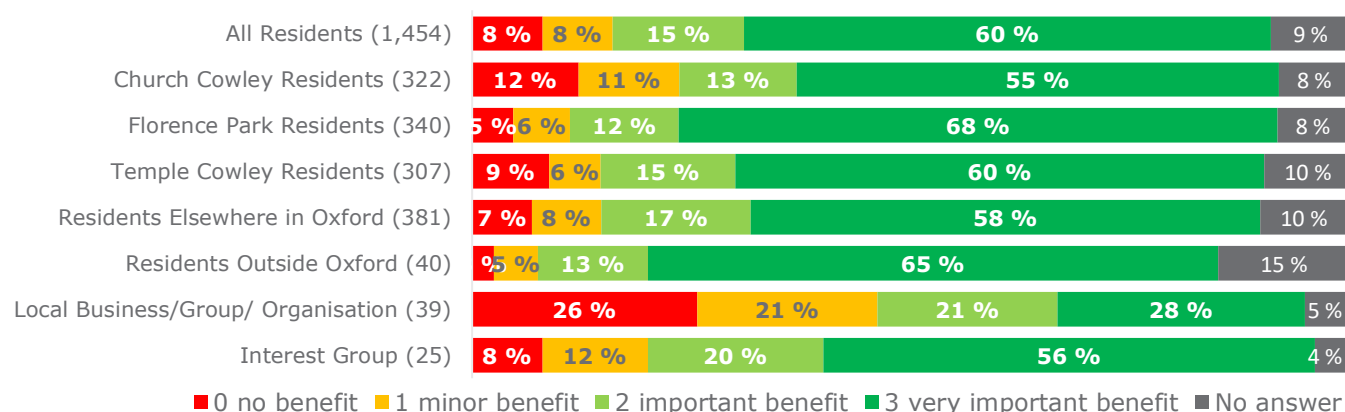
Residents living in Florence Park are more likely than residents in other areas to select 'reduce traffic speeds on residential roads' as a very important benefit; more than two-thirds (68%) of Florence Park residents selected this as a very important

Page 148

benefit, compared to 55% of Church Cowley residents and 60% of Temple Cowley residents.

Respondents answering on behalf of local businesses, groups and organisations are much less likely than residents to select 'reduce traffic speeds on residential roads' as a very important benefit, with less than three-tenths (28%) doing so – this compares to 56% of respondents answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Female residents are slightly more likely than males to select 'reduce traffic speeds on residential roads' as a very important benefit; 62% of females stated this, compared with 58% of males.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'reduce traffic speeds on residential roads' as a very important benefit; 64% of white residents selected this as a very important benefit, compared with 46% of BAME residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'reduce traffic speeds on residential roads' as a very important benefit (49%, compared to 63% of those without an illness/disability/infirmity).

Figure 3: **Thinking of your local area or street, we would like to understand your priorities: 'Reduce air pollution'. RESULTS BY RESPONDENT TYPE** (n=1,454).
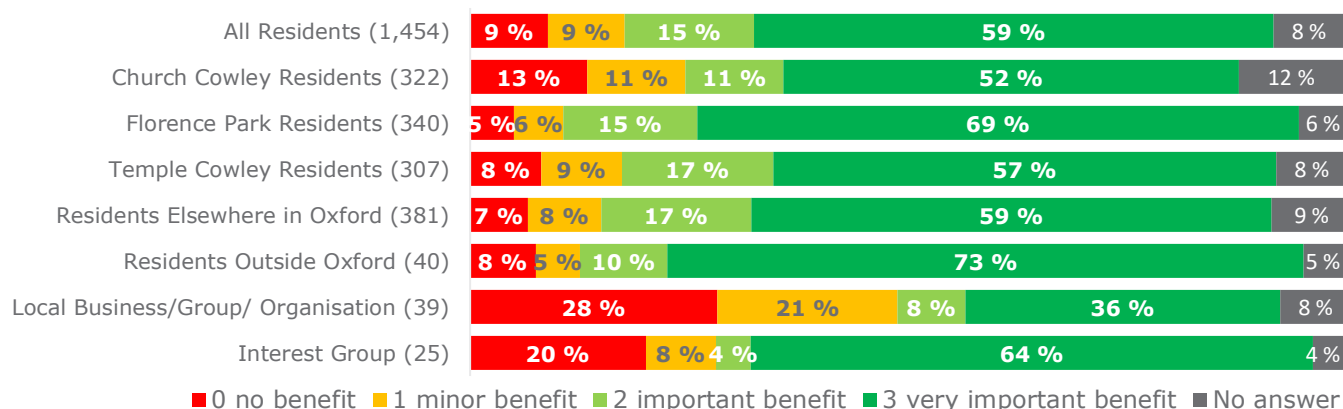
Residents living in Florence Park are more likely than residents in Church Cowley to select 'reduce air pollution' as either an important or a very important benefit; nearly seven-tenths (69%) of Florence Park residents selected this as a very important benefit, compared to 52% of Church Cowley residents and 57% of Temple Cowley residents.

Those answering on behalf of local businesses, groups and organisations are again less likely than residents and interest groups to select 'reduce air pollution' as a very important benefit - only 36% see this as a very important benefit, compared to 64% of those answering on behalf of an interest group.

Page 149

17

Further analysis of feedback from residents highlights one difference in opinion by demographic factors:

- Female residents are slightly more likely than males to select 'reduce air pollution' as a very important benefit; 64% of females stated this, compared with 55% of males.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'reduce air pollution' as a very important benefit; 63% of white residents selected this as a very important benefit, compared with 50% of BAME residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'reduce air pollution' as either an important or a very important benefit (62%, compared to 63% of those without an illness/disability/infirmity).

Figure 4: Thinking of your local area or street, we would like to understand your priorities: 'Make it easier and safer to cycle'. RESULTS BY RESPONDENT TYPE (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	11 %	8 %	11 %	59 %	10 %
Church Cowley Residents (322)	15 %	14 %	11 %	48 %	12 %
Florence Park Residents (340)	6 %	6 %	12 %	69 %	8 %
Temple Cowley Residents (307)	12 %	8 %	11 %	58 %	11 %
Residents Elsewhere in Oxford (381)	9 %	7 %	10 %	64 %	9 %
Residents Outside Oxford (40)	13 %	3 %	10 %	63 %	13 %
Local Business/Group/ Organisation (39)	23 %	15 %	18 %	36 %	8 %
Interest Group (25)	20 %	0 %	12 %	60 %	8 %
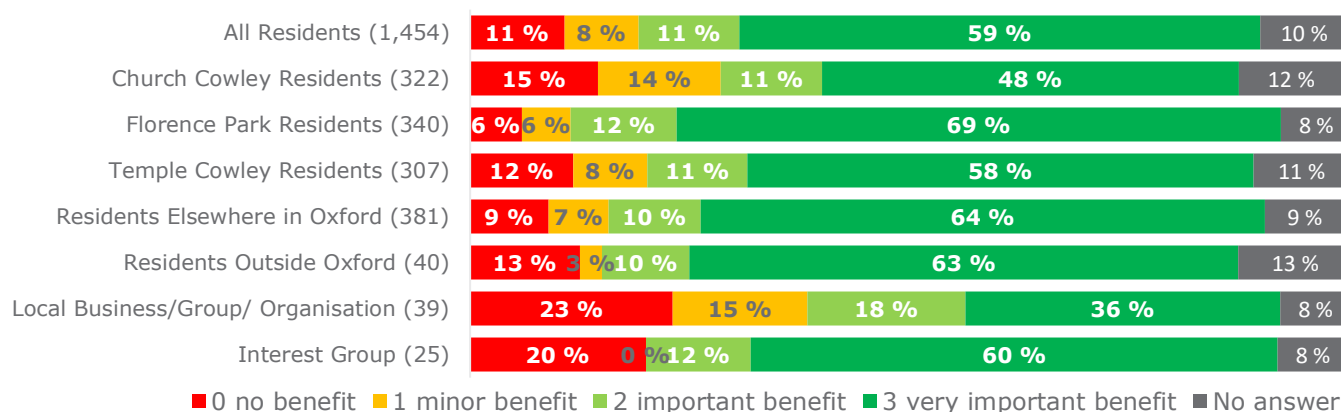
Residents living in Florence Park are much more likely than residents in other areas to select 'make it easier and safer to cycle' as a very important benefit; 69% of Florence Park residents selected this as a very important benefit, compared to 48% of Church Cowley residents and 58% of Temple Cowley residents.

Respondents answering on behalf of local businesses, groups and organisations, appear to express less positive sentiments about the benefit of 'make it easier and safer to cycle' compared to residents, with only 36% viewing this as a very important benefit.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Black, Asian and Minority Ethnic (BAME) groups are less likely than White residents to select 'make it easier and safer to cycle' as a very important benefit; 48% of BAME residents selected this as a very important benefit, compared with 65% of White residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'make it easier and safer to cycle' as either an

Page 150

18

important or a very important benefit (42%, compared to 64% of those without an illness/disability/infirmity).

Figure 5: Thinking of your local area or street, we would like to understand your priorities: 'Make it safer for children to travel and play'. RESULTS BY RESPONDENT TYPE (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	9 %	9 %	15 %	55 %	12 %
Church Cowley Residents (322)	12 %	13 %	17 %	43 %	14 %
Florence Park Residents (340)	5 %	5 %	16 %	64 %	10 %
Temple Cowley Residents (307)	9 %	10 %	12 %	54 %	14 %
Residents Elsewhere in Oxford (381)	9 %	10 %	14 %	55 %	12 %
Residents Outside Oxford (40)	8 %	5 %	8 %	68 %	13 %
Local Business/Group/ Organisation (39)	23 %	21 %	13 %	38 %	5 %
Interest Group (25)	12 %	8 %		72 %	8 %

Residents living in Florence Park are more likely than residents in Church Cowley, Temple Cowley and those living elsewhere in Oxford to select 'make it safer for children to travel and play' as a very important benefit; approaching two-thirds (64%) of Florence Park residents selected this as a very important benefit, compared to 43% of Church Cowley residents, 54% of Temple Cowley residents and 55% of residents elsewhere in Oxford.

Those answering on behalf of local businesses, groups and organisations are much less likely than residents to select 'make it safer for children to travel and play' as a very important benefit, with only 38% thinking this is a very important benefit, compared to 72% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

• White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'make it safer for children to travel and play' as a very important benefit; 60% of white residents selected this as a very important benefit, compared with 44% of BAME residents.

• Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'make it safer for children to travel and play' as a very important benefit (37%, compared to 60% of those without an illness/disability/infirmity).

Page 151

Figure 6: **Thinking of your local area or street, we would like to understand your priorities: 'Remove or reduce through traffic'. RESULTS BY RESPONDENT TYPE** (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	14 %	8 %	13 %	55 %	10 %
Church Cowley Residents (322)	17 %	13 %	10 %	47 %	12 %
Florence Park Residents (340)	7 %	7 %	14 %	64 %	9 %
Temple Cowley Residents (307)	11 %	6 %	14 %	60 %	10 %
Residents Elsewhere in Oxford (381)	14 %	8 %	14 %	52 %	12 %
Residents Outside Oxford (40)	13 %	8 %	5 %	65 %	10 %
Local Business/Group/ Organisation (39)	46 %	15 %	10 %	21 %	8 %
Interest Group (25)	24 %	0 %	16 %	56 %	4 %

Residents living elsewhere in Church Cowley are less likely than residents living in the other two LTN trial areas to select 'remove or reduce through traffic' as a very important benefit; less than half (47%) of residents living in Church Cowley selected this as a very important benefit, compared to 64% of Florence Park residents and 60% of Temple Cowley residents.

Those answering on behalf of local businesses, groups and organisations are again less likely than residents and interest groups to select 'remove or reduce through traffic' as being an important benefit – only around a fifth (21%) see this as a very important benefit, compared to 56% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

• White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'remove or reduce through traffic' as a very important benefit; 60% of white residents selected this as a very important benefit, compared with 41% of BAME residents.

• Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'remove or reduce through traffic' as a very important benefit (42%, compared to 59% of those without an illness/disability/infirmity).

Page 152

Figure 7: **Thinking of your local area or street, we would like to understand your priorities: 'Make it easier to cross roads on foot'. RESULTS BY RESPONDENT TYPE** (n=1,454).
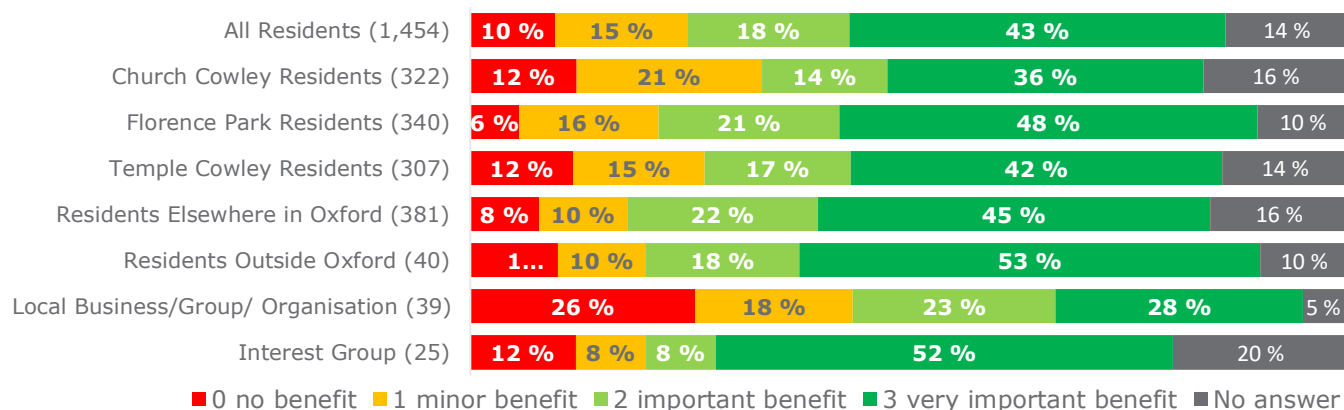
	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	10 %	15 %	18 %	43 %	14 %
Church Cowley Residents (322)	12 %	21 %	14 %	36 %	16 %
Florence Park Residents (340)	6 %	16 %	21 %	48 %	10 %
Temple Cowley Residents (307)	12 %	15 %	17 %	42 %	14 %
Residents Elsewhere in Oxford (381)	8 %	10 %	22 %	45 %	16 %
Residents Outside Oxford (40)	1...	10 %	18 %	53 %	10 %
Local Business/Group/ Organisation (39)	26 %	18 %	23 %	28 %	5 %
Interest Group (25)	12 %	8 %	8 %	52 %	20 %

Residents living in Florence Park are slightly more likely than residents in other areas to select 'make it easier to cross roads on foot' as a very important benefit; three quarters (48%) of Florence Park residents selected this as a very important benefit, compared to 36% of Church Cowley residents, 42% of Temple Cowley residents and 45% of residents elsewhere in Oxford.

Those answering on behalf of local businesses, groups and organisations are much less likely than residents to select 'make it easier to cross roads on foot' as a very important benefit, with less than three-tenths (28%) doing so – this compares to 52% of respondents answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Female residents are slightly more likely than males to select 'make it easier to cross roads on foot' as a very important benefit; 48% of females stated this, compared with 39% of males.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'make it easier to cross roads on foot' as a very important benefit; 46% of white residents selected this as a very important benefit, compared with 37% of BAME residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'make it easier to cross roads on foot' as a very important benefit (35%, compared to 46% of those without an illness/disability/infirmity).

Page 153

Figure 8: Thinking of your local area or street, we would like to understand your priorities: 'Enhance the area with more trees and planting'. RESULTS BY RESPONDENT TYPE (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	13 %	16 %	23 %	34 %	14 %
Church Cowley Residents (322)	20 %	16 %	19 %	32 %	14 %
Florence Park Residents (340)	9 %	15 %	27 %	40 %	9 %
Temple Cowley Residents (307)	11 %	20 %	20 %	35 %	14 %
Residents Elsewhere in Oxford (381)	10 %	17 %	25 %	30 %	18 %
Residents Outside Oxford (40)	13 %	8 %	25 %	35 %	20 %
Local Business/Group/ Organisation (39)	38 %	10 %	21 %	23 %	8 %
Interest Group (25)	16 %	8 %	8 %	56 %	12 %

There are no significant differences between residents of the three LTN areas in relation to opinions on the priority to 'enhance the area with more trees and planting' as being a very important benefit, with between a third and two-fifths of residents in all areas feeling that this is a very important benefit.

Respondents answering on behalf of local businesses, groups and organisations once again place relatively low importance on this aspect compared to residents and interest groups – less than a quarter (23%) see 'enhance the area with more trees and planting' as a very important benefit, compared to 56% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights only one difference in opinion by demographic factors:

• Female residents are slightly more likely than males to select 'enhance the area with more trees and planting' as a very important benefit; 37% of females stated this, compared with 32% of males.

Figure 9: Thinking of your local area or street, we would like to understand your priorities: 'Reduce traffic congestion on nearby main roads'. RESULTS BY RESPONDENT TYPE (n=1,454).
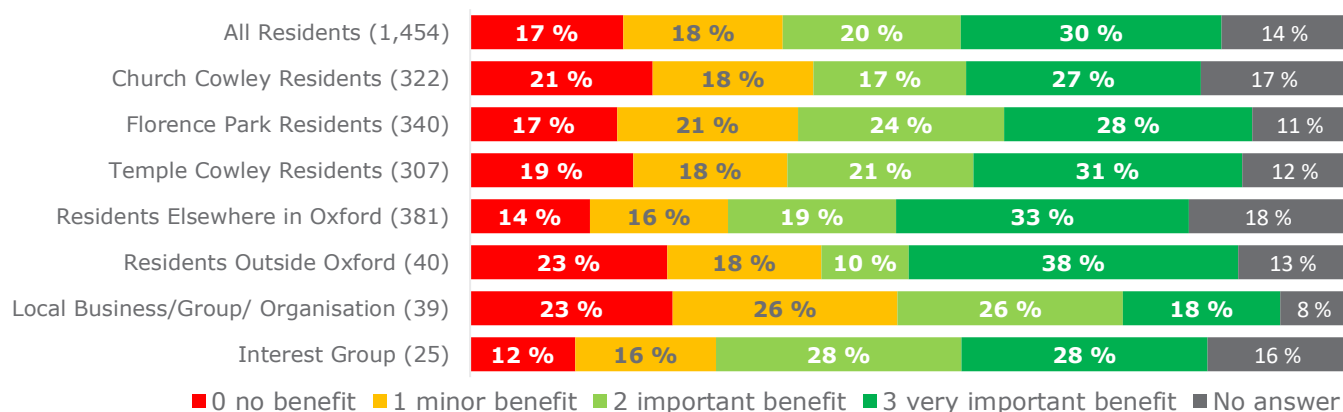
	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	17 %	18 %	20 %	30 %	14 %
Church Cowley Residents (322)	21 %	18 %	17 %	27 %	17 %
Florence Park Residents (340)	17 %	21 %	24 %	28 %	11 %
Temple Cowley Residents (307)	19 %	18 %	21 %	31 %	12 %
Residents Elsewhere in Oxford (381)	14 %	16 %	19 %	33 %	18 %
Residents Outside Oxford (40)	23 %	18 %	10 %	38 %	13 %
Local Business/Group/ Organisation (39)	23 %	26 %	26 %	18 %	8 %
Interest Group (25)	12 %	16 %	28 %	28 %	16 %

There are no significant differences between residents of the three LTN areas in relation to opinions on the priority to 'reduce traffic congestion on nearby roads' as

being a very important benefit, with between a quarter and three-tenths of residents in all areas feeling that this is a very important benefit.

Respondents answering on behalf of local businesses, groups and organisations are less likely than residents to select 'reduce traffic congestion on nearby main roads' as either an important or a very important benefit – less than a fifth (18%) see this as either an important or a very important benefit, compared to 28% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights only one difference in opinion by demographic factors:

- Female residents are more likely than males to select 'reduce traffic congestion on nearby main roads' as a very important benefit; 34% of females stated this, compared with 25% of males.

Figure 10: **Thinking of your local area or street, we would like to understand your priorities: 'Create pleasant areas where you can meet up'. RESULTS BY RESPONDENT TYPE** (n=1,454).
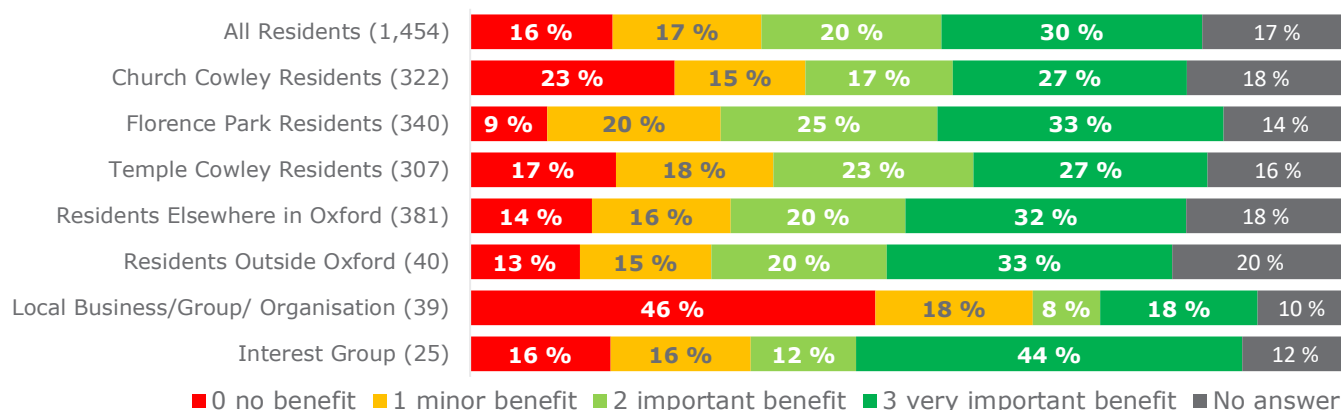
Residents living in Florence Park are slightly more likely than residents in the other two LTN trial areas to select 'create pleasant areas where you can meet up' as a very important benefit; a third (33%) of Florence Park residents selected this as a very important benefit, compared to 27% of Church Cowley residents, 27% of Temple Cowley residents and 32% of residents elsewhere in Oxford.

Respondents answering on behalf of local businesses, groups and organisations are much less likely than residents to select 'create pleasant areas where you can meet up' as a very important benefit – less than a fifth (18%) see this as a very important benefit, compared to 44% of those answering on behalf of an interest group.
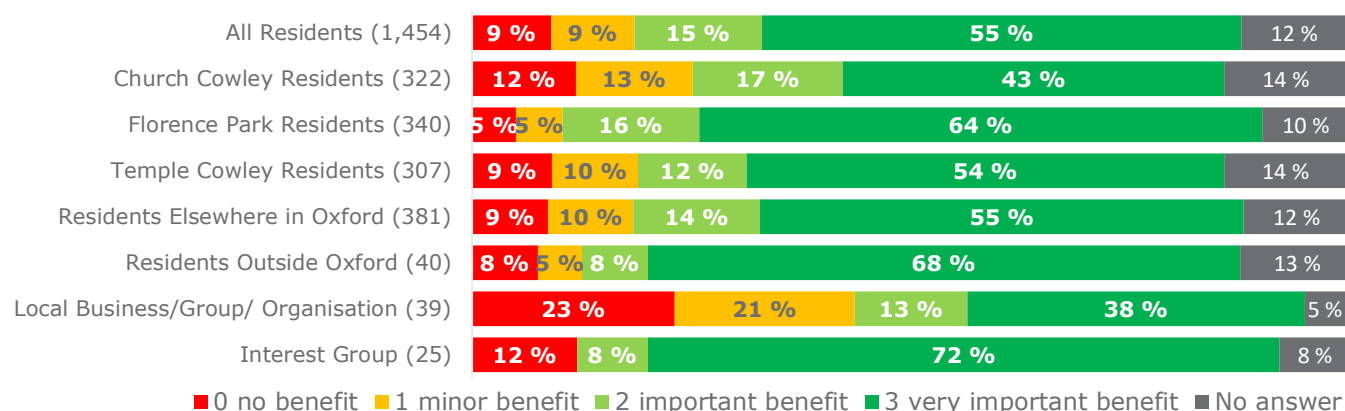
Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to select 'create pleasant areas where you can meet up' as a very important benefit (21%, compared to 32% of those without an illness/disability/infirmity).

Page 155

Figure 11: **Thinking of your local area or street, we would like to understand your priorities: 'Keep local roads open so car trips are easy and convenient'. RESULTS BY RESPONDENT TYPE** (n=1,454).

Respondent type	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	36 %	18 %	8 %	25 %	14 %
Church Cowley Residents (322)	29 %	16 %	9 %	33 %	13 %
Florence Park Residents (340)	41 %	21 %	8 %	16 %	14 %
Temple Cowley Residents (307)	36 %	18 %	8 %	26 %	12 %
Residents Elsewhere in Oxford (381)	38 %	16 %	7 %	23 %	16 %
Residents Outside Oxford (40)	45 %	13 %	5 %	15 %	23 %
Local Business/Group/ Organisation (39)	23 %	26 %	5 %	41 %	5 %
Interest Group (25)	40 %	8 %		32 %	8 %

■0 no benefit ■1 minor benefit ■2 important benefit ■3 very important benefit ■No answer

Residents living in Florence Park are less likely than residents in other areas to select 'keep local roads open so car trips are easy and convenient' as a very important benefit; only a sixth (16%) of Florence Park residents selected this as a very important benefit, compared to 33% of Church Cowley residents, 26% of Temple Cowley residents and 23% of residents elsewhere in Oxford.
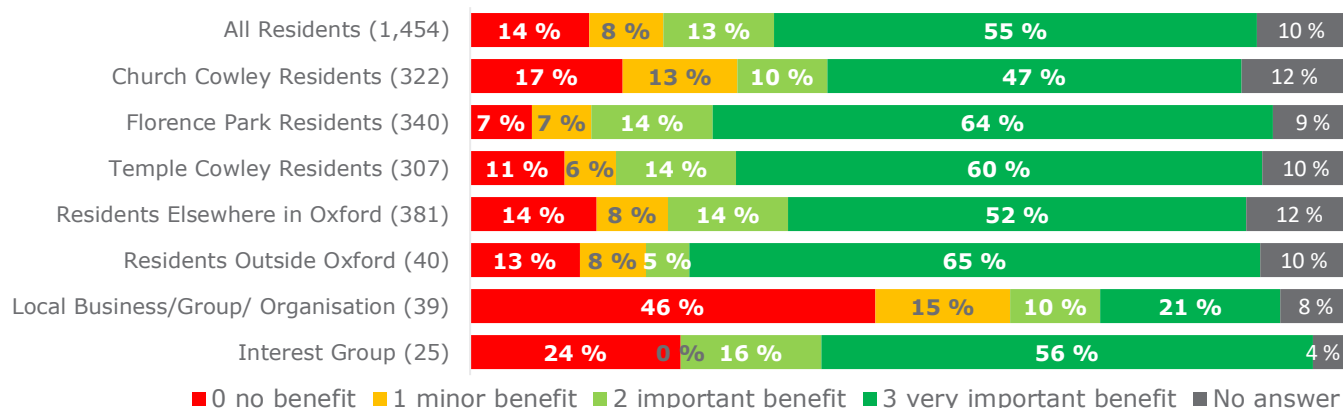
Respondents answering on behalf of local businesses, groups and organisations may be slightly more likely than residents to select 'keep local roads open so car trips are easy and convenient' as a very important benefit - two-fifths (41%) see this as a very important benefit, compared to 32% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

• White residents are less likely than those from Black, Asian and Minority Ethnic (BAME) groups to select 'keep local roads open so car trips are easy and convenient' as a very important benefit; 20% of white residents selected this as a very important benefit, compared with 38% of BAME residents.

• Those with a long-standing illness, disability or infirmity are more likely than those without a disability to select 'keep local roads open so car trips are easy and convenient' as a very important benefit (37%, compared to 21% of those without an illness/disability/infirmity).

Page 156

Figure 12: **Thinking of your local area or street, we would like to understand your priorities: 'Make bus services quicker and more reliable'. RESULTS BY RESPONDENT TYPE** (n=1,454).

	0 no benefit	1 minor benefit	2 important benefit	3 very important benefit	No answer
All Residents (1,454)	17 %	21 %	23 %	23 %	16 %
Church Cowley Residents (322)	25 %	19 %	20 %	18 %	19 %
Florence Park Residents (340)	11 %	27 %	29 %	19 %	14 %
Temple Cowley Residents (307)	25 %	21 %	19 %	19 %	17 %
Residents Elsewhere in Oxford (381)	10 %	18 %	25 %	33 %	15 %
Residents Outside Oxford (40)	13 %	13 %	20 %	45 %	10 %
Local Business/Group/ Organisation (39)	28 %	28 %	10 %	15 %	18 %
Interest Group (25)	16 %	4 %	24 %	40 %	16 %

Residents living elsewhere in Oxford (i.e. outside the three proposed LTN trial areas) are more likely than residents in other areas to select 'make bus services quicker and more reliable' as a very important benefit; a third (33%) of residents living elsewhere in Oxford selected this as a very important benefit, compared to 18% of Church Cowley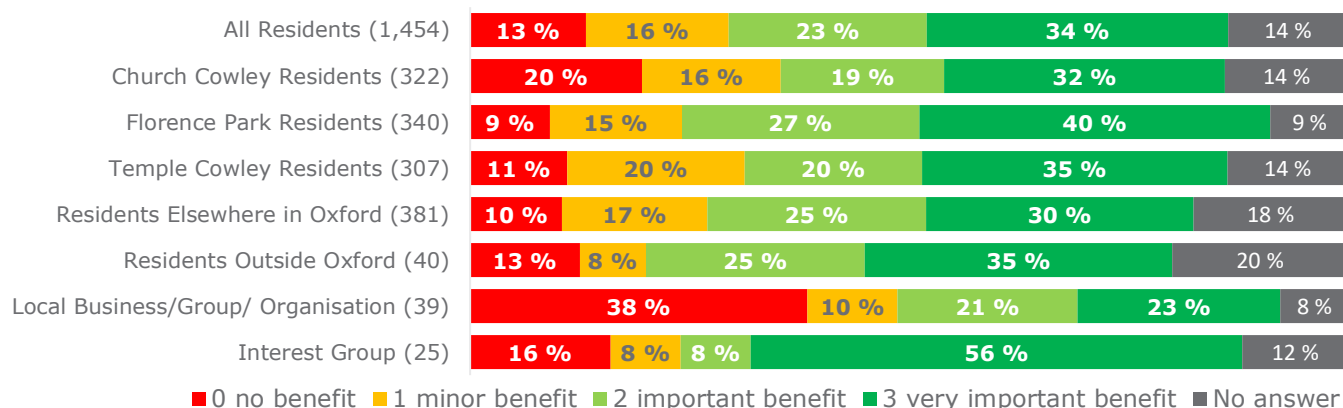 residents, 19% of Temple Cowley residents and 19% of Florence Park residents. Interestingly, only 11% of Florence Park residents and 10% of residents elsewhere in Oxford see no benefit of making bus services quicker and more reliable, compared to 25% of Temple Cowley residents and 25% of Church Cowley residents.

Respondents answering on behalf of local businesses, groups and organisations are again much less likely than residents and interest groups to select 'make bus services quicker and more reliable' as a very important benefit – just under a sixth (15%) think this is a very important benefit, compared to 40% of those answering on behalf of an interest group.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Female residents are more likely than males to select 'make bus services quicker and more reliable' as a very important benefit; 26% of females stated this, compared with 21% of males.

- Those aged 75+ are slightly more likely to select 'make bus services quicker and more reliable' as a very important benefit, with 33% of those aged 75+ stating this, compared with only 19% of 45-54s.

Page 157

Support for LTN trial proposals

26
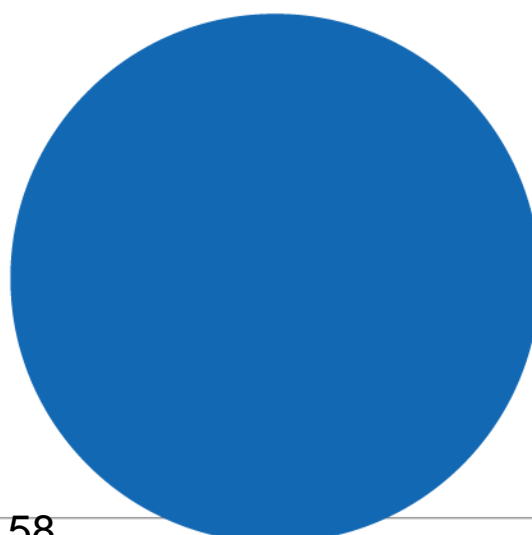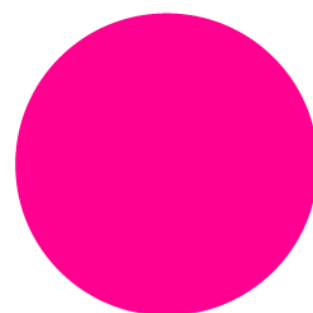
Those responding to the survey were asked to indicate their levels of support for the proposed LTN trials in the Church Cowley, Temple Cowley and Florence Park areas.

Headline findings

Results for all respondents for this question are summarised in figure 13, below.

Figure 13: **Please look at the detailed proposals before answering this question. Do you support the LTN proposals as a trial for the following areas? Select the most applicable option in each row. RESULTS FOR ALL RESPONDENTS** (all responses: n=1,362-1,367).
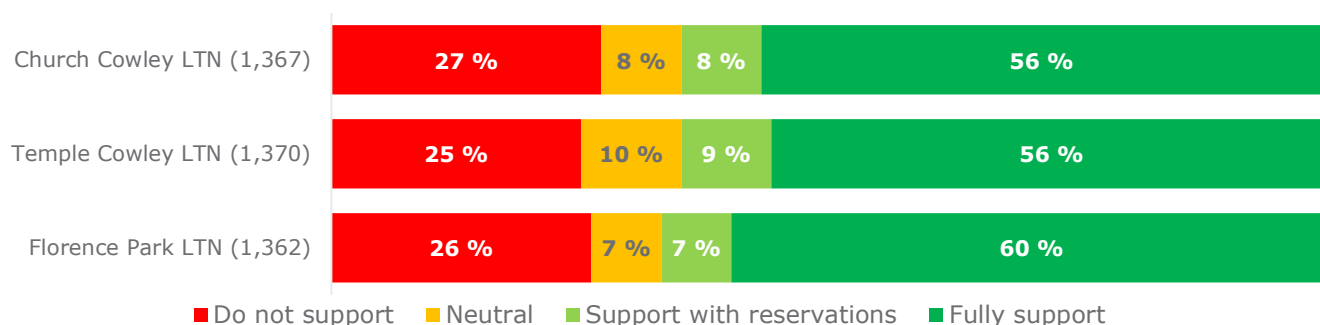
Church Cowley LTN (1,367): Do not support 27 %, Neutral 8 %, Support with reservations 8 %, Fully support 56 %

Temple Cowley LTN (1,370): Do not support 25 %, Neutral 10 %, Support with reservations 9 %, Fully support 56 %

Florence Park LTN (1,362): Do not support 26 %, Neutral 7 %, Support with reservations 7 %, Fully support 60 %

■ Do not support ■ Neutral ■ Support with reservations ■ Fully support

Overall, approaching two-fifths of all residents fully supported the LTN trial proposals in each of the three areas. The highest level of support is seen for the Florence Park trial LTN, with 60% fully supporting the LTN trial in this area and a further 7% supporting it but with reservations.

However, for each proposed LTN trial, around a quarter of all residents did not support each one.

Results by Resident type

Figures 14-16 (overleaf) show how responses to this question varied for different types of respondent for each of the three proposed trial LTN areas.

It should be noted that the base sizes for those answering on behalf of a local business, group or organisation, and also for those answering on behalf of an interest group, are both relatively low – although comment has been made on the findings from these respondents where appropriate, the findings for these groups should be treated as indicative rather than statistically significant.

Further analysis of feedback from residents also highlights some differences in opinion by demographic factors (such as age and gender). Where applicable, these differences are detailed under figures 14-16:

Page 159

Do you support the LTN proposals as a trial for the following area? 'Church Cowley LTN'. RESULTS BY RESPONDENT TYPE (all responses: n=1,367).

Respondent Type	Do not support	Neutral	Support with reservations	Fully support
All Residents (1,367)	27%	8%	8%	56%
Church Cowley Residents (320)	38 %	2 %	13 %	46 %
Florence Park Residents (301)	16 %	13 %	9 %	62 %
Temple Cowley Residents (270)	21 %	14 %	6 %	59 %
Residents Elsewhere in Oxford (379)	28 %	7 %	6 %	59 %
Residents Outside Oxford (36)	28 %	3 %	6 %	64 %
Local Business/Group/ Organisation (37)	54 %	11 %	8 %	27 %
Interest Group (24)	33 %	13 %	13 %	42 %

■ Do not support ■ Neutral ■ Support with reservations ■ Fully support

Nearly two-thirds (64%) of all residents support the Church Cowley LTN trial to some extent (either 'fully support' or 'support with reservations') - however, more than a quarter (27%) say they 'do not support' the Church Cowley LTN trial. Residents in Church Cowley itself are more likely than residents in other areas to express less positive views about the Church Cowley LTN trial, with 38% indicating that they do not support it.

Respondents answering on behalf of local businesses, groups and organisations also express less positive views about the Church Cowley LTN trial – only 35% support it to some extent (either 'fully support' or 'support with reservations'), with more than half (54%) indicating that they do not support it. Respondents answering on behalf of an interest group tend to be more positive than businesses about the Church Cowley LTN trial, with 55% supporting it to some extent, although 33% say that they do not support it.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Full support of the Church Cowley LTN trial is generally stronger amongst younger and middle-age groups; 61% of 35-44s, 58% of 25-34s and 54% of 45-54s fully support it, compared with 49% of 55-64s, 53% of 65-74s and 44% of those aged 75+.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to fully support the Church Cowley LTN trial; 62% of white residents fully support it, compared with only 44% of BAME residents, while 43% of BAME residents 'do not support' it.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to 'fully support' the Church Cowley LTN trial (37% and 61% respectively), while 47% of those with a long-standing illness, disability or infirmity say they 'do not support' it, compared with 23% of those without a long-standing illness, disability or infirmity.

Almost two-thirds (65%) of all residents support the Temple Cowley LTN trial to some extent (either 'fully support' or 'support with reservations') – however, a quarter (25%) say they 'do not support' the Temple Cowley LTN trial. Residents in Temple Cowley itself, as well as Florence Park residents, are more likely than residents in other areas to support the Temple Cowley LTN trial to some extent (71% and 71% respectively), with only 55% of Church Cowley residents expressing their support for the Temple Cowley LTN trial.

Respondents answering on behalf of local businesses, groups and organisations also express less positive views about the Temple Cowley LTN trial – only 32% support it to some extent (either 'fully support' or 'support with reservations'), with more than half (54%) indicating that they do not support it. Respondents answering on behalf of an interest group appear to be more positive than businesses about the Temple Cowley LTN trial, with 56% supporting it to some extent, although 40% of interest groups say that they do not support it.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Full support of the Temple Cowley LTN trial is generally strongest amongst under 25s (71%) and 35-44s (61%) and slightly lower amongst older age groups (52% of 65-74s and 55% of 75+ residents expressing full support).

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to fully support the Temple Cowley LTN trial; 62% of white residents fully support it, compared with only 45% of BAME residents, while 43% of BAME residents 'do not support' it.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to 'fully support' the Temple Cowley LTN trial (40% and 61% respectively), while 39% of those with a long-standing illness, disability or infirmity say they 'do not support' it, compared with 21% of those without a long-standing illness, disability or infirmity.

Page 161

Respondent Type	Do not support	Neutral	Support with reservations	Fully support
All Residents (1,362)	26%	7%	7%	60%
Church Cowley Residents (283)	28 %	13 %	10 %	49 %
Florence Park Residents (337)	19 %	1 %	9 %	70 %
Temple Cowley Residents (269)	23 %	11 %	5 %	60 %
Residents Elsewhere in Oxford (378)	27 %	5 %	6 %	62 %
Residents Outside Oxford (38)	26 %	3 %	3 %	68 %
Local Business/Group/ Organisation (34)	56 %	15 %	6 %	24 %
Interest Group (23)	43 %		13 %	43 %

More than two-thirds (67%) of all residents support the Florence Park LTN trial to some extent (either 'fully support' or 'support with reservations') – however, just over a quarter (26%) say they 'do not support' the Florence Park LTN trial. Residents in Florence Park itself are much more likely than residents in other areas to support the Florence Park LTN trial to some extent; 79% of Florence Park residents indicate their support, compared with 65% of Temple Cowley residents and 59% of Church Cowley residents.

Again, respondents answering on behalf of local businesses, groups and organisations express less positive views about the Florence Park LTN trial – only 30% support it to some extent (either 'fully support' or 'support with reservations'), with more than half (56%) indicating that they do not support it. Respondents answering on behalf of an interest group appear to be more positive than businesses about the Florence Park LTN trial, with 56% supporting it to some extent, although 43% of interest groups say that they do not support it.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Full support of the Florence Park LTN trial generally decreases with age; it is strongest amongst under 25s (71%), 25-34s (62%) and 35-44s (64%) and decreases to 51% for 55-64s and 54% for residents aged over 75.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to fully support the Florence Park LTN trial; 66% of white residents fully support it, compared with only 46% of BAME residents, while 39% of BAME residents 'do not support' it (compared to 20% of white residents).

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to 'fully support' the Florence Park LTN trial (39% and 65% respectively), while 43% of those with a long-standing illness, disability or infirmity say they 'do not support' it, compared with 21% of those without a long-standing illness, disability or infirmity.

Page 162

Those responding to the survey were asked to indicate whether there was ONE filter that they strongly SUPPORTED – if there were none, respondents were asked to leave this question blank.

Headline findings

Results for all respondents for this question are summarised in table 7, overleaf.

Page 163

Table 7: Looking at the plans, is there ONE filter that you strongly SUPPORT? (otherwise please leave blank). RESULTS FOR ALL RESPONDENTS (all responses: n=1,454).

Filter	No. responses	% responses
Church Cowley LTN trial:		
CC1 Church Hill Road	50	4%
CC2 Beauchamp Lane	19	1%
CC3 Littlemore Road	24	2%
CC4 Mayfair Road	15	1%
CC5 Liddell Road	2	0%
CC6 Bartholomew Road	27	2%
Church Cowley (all filters equally)	1	0%
Florence Park LTN trial:		
FP1 Cornwallis Road	58	4%
FP2 Rymers Lane	84	6%
FP3 Littlehay Road	57	4%
FP4 Clive Road	9	1%
Florence Park (all filters equally)	15	1%
Temple Cowley LTN trial:		
TC1 Crescent Road	75	5%
TC2 Junction Road	10	1%
TC3 Salegate Lane	8	1%
TC4 Temple Road	20	1%
Temple Cowley (all filters equally)	1	0%
'I support all filters in all areas'	6	0%
No strong support indicated for any one filter	**950**	**65%**

In total, there were 489 mentions of specific filters or broad filter areas that respondents expressed strong support for (they were allowed to indicate more than one if necessary).

Page 164

(NB: It should be noted that 15 respondents typed something into the box provided for this question but what they typed could not be deciphered into either a specific filter or attributable comment).

Overall, the strongest support for specific filters in any one area is for filters in the Florence Park LTN trial area, where 223 respondents singled out a specific Florence Park LTN trial filter for strong support. This is particularly the case for the FP2 (Rymers Lane) filter, with 84 respondents indicating that they strongly supported this filter.

However, 146 respondents specified their strong support for specific filters in the Church Cowley LTN trial area, with the CC1 Church Hill Road filter receiving the strongest level of support for any one filter in this LTN trial area.

Meanwhile, 114 respondents specified their strong support for specific filters in the Temple Cowley LTN trial area, with the TC1 Crescent Road filter receiving the strongest level of support for any one filter in this LTN trial area.

Those responding to the survey were asked to indicate whether there was ONE filter that they strongly OPPOSED – if there were none, respondents were asked to leave this question blank.

Headline findings

Results for all respondents for this question are summarised in table 8, overleaf.

Table 8: Looking at the plans, is there ONE filter that you strongly OPPOSE? (otherwise please leave blank). RESULTS FOR ALL RESPONDENTS (all responses: n=1,454).

Filter	No. responses	% responses
Church Cowley Proposed LTN Filters		
CC1 Church Hill Road	18	1%
CC2 Beauchamp Lane	5	0%
CC3 Littlemore Road	57	4%
CC4 Mayfair Road	41	3%
CC5 Liddell Road	3	0%
CC6 Bartholomew Road	32	2%
Church Cowley (oppose all filters equally)	9	1%
Florence Park Proposed LTN Filters		
FP1 Cornwallis Road	25	2%
FP2 Rymers Lane	19	1%
FP3 Littlehay Road	20	1%
FP4 Clive Road	2	0%
Florence Park (oppose all filters equally)	14	1%
Temple Cowley Proposed LTN Filters		
TC1 Crescent Road	26	2%
TC2 Junction Road	13	1%
TC3 Salegate Lane	4	0%
TC4 Temple Road	33	2%
Temple Cowley (oppose all filters equally)	11	1%
'I oppose all filters in all areas'	41	3%
No strong opposition indicated for any one filter	**1,087**	**75%**

In total, there were 373 mentions of specific filters or broad filter areas that respondents expressed strong opposition to (they were allowed to indicate more than one if necessary).

Overall, the strongest opposition for specific filters in any one area is for filters in the Church Cowley LTN trial area, where 165 respondents singled out a specific

Church Cowley LTN trial filter that they were strongly opposed to. This is particularly the case for the CC3 (Littlemore Road) filter, with 57 respondents saying that they strongly opposed this filter.

However, 87 respondents specified their strong opposition to specific filters in the Temple Cowley LTN trial area, with the TC4 (Temple Road) filter receiving the strongest level of opposition for any one filter in this LTN trial area.

Meanwhile, 80 respondents specified their strong opposition to specific filters in the Florence Park LTN trial area, with the FP1 (Cornwallis Road) filter receiving the strongest level of opposition for any one filter in this LTN trial area.

Those responding to the survey were asked to say briefly in an open-ended question (in fewer than 50 words) what they thought about the proposed LTNs.

Headline findings

This was an open-ended question where respondents could expand on their reasons for giving their viewpoints detailed in the previous section; DJS Research has analysed the comments and coded them into themes to provide a quantified sense of the themes and sentiment.

Overall results for this question are summarised in figure 17, below.

Figure 17: **Please say briefly what you think about the proposed LTNs. RESULTS FOR RESPONDENTS WHO MADE COMMENTS** (all responses: n=1,320).

Theme	Percentage	Comments
Fantastic/Brilliant/Good idea	31%	(405 comments)
Traffic will just be diverted/ Traffic elsewhere	17%	(220 comments)
Improves safety (e.g. no dangerous driving/rat-running…	16%	(213 comments)
Current traffic is dangerous (e.g. speeding, collisions etc.)	13%	(173 comments)
Strongly support/ This is needed	11%	(143 comments)
Improve quality of life (cleaner air, better health, wellbeing)	10%	(133 comments)
Good for the environment/ Reduces congestion	10%	(126 comments)
Encourages walking/cycling/ Less car usage	8%	(103 comments)
Safer for children	7%	(95 comments)
Increases pollution	7%	(92 comments)
Inconvenient for residents	7%	(90 comments)
Increased journey time	5%	(67 comments)
Safer to walk/cycle	5%	(64 comments)
Roads are already congested	4%	(55 comments)
Overdue/implement soon	4%	(52 comments)
New locations suggested	3%	(44 comments)
Bad for local businesses/reduces access to shops	3%	(44 comments)
Reduces noise	3%	(38 comments)
Like the fact it is a trial	3%	(37 comments)
Waste of tax/money	2%	(27 comments)
Reduces access for the disabled	2%	(22 comments)
Prevent access to work	1%	(19 comments)

Page 169

In total, 1,320 respondents made a comment. **Example comments** illustrating some of the resident sentiments about the proposed LTNs are provided below and overleaf.

Example comments (where residents express positive sentiments about the proposed LTNs)

"It's wonderful. Please bring them on asap. We cannot live with the current level of traffic in the area and this would solve all our problems. So please do this as soon as possible. I hope that there are no more delays in doing this."

"Absolutely thrilled. These are politically difficult - possibly the most difficult thing a local authority can do. But they also have the biggest 'bang' for the buck in terms of health and social payoffs."

"Strongly support. Rymers Lane and Cornwallis have become rat runs with constant speeding and no enforcement. Dangerous for pedestrians and cyclists, especially schoolchildren. The current situation is unsustainable."

"Overdue and brilliant. The council has taken advantage of all the cyclists already reducing traffic and this would be a tangible step to be supportive of change. My kids would cycle to school if I wasn't concerned they would be hit by a car."

"I support the concept of LTNs for residents and other road users, making it easier and safer to travel through or from the area on foot or by bike. LTNs should reduce vehicle turning movements at side road junctions making travelling by any mode along arterial routes easier and safer."

"Fantastic proposal to reduce traffic in what are at essence residential areas, making it easier and safer to cycle and wall, therefore encouraging more short and convenient trips out of vehicles. The trial period hopefully allaying fears of traffic dispersement and proving instead traffic evaporation."

"Very much in favour of the Florence Park one which is so busy and dangerous at rush hour/school drop off/pick up that I moved from cycling to taking the bus, or cycle via Iffley Road instead which is slower and longer. Ridiculous that the actual cycle routes are scarier than main roads!"

"I want this so badly for our neighbourhood! The speed of through-traffic makes our road dangerous, loud, & polluted - the speed of cars is genuinely unbelievable at times through this residential area. I'm afraid to cycle with my daughter even though that would be my preferred mode of transport."

"I am strongly supportive of this. My concern is that there is a loud minority that gets catered to while most residents are actually in favour even if they don't voice their opinions as loudly. LTN are a step towards addressing the climate emergency and make our neighbourhoods more liveable."

"My overwhelming reason for supporting the LTN is to create a safer cycling environment for our family."

"This is terrific and we applaud the local authority for pushing ahead. We also urge the local authority to persevere in the face of a possibly vocal minority against the plans."

"I'm really looking forward to my two daughters being able to bike/walk to the park/school safely, without fear and without being exposed to the levels of pollution they are at the moment."

Page 170

Example comments (where residents express positive sentiments about the proposed LTNs)

"I think they are a fantastic idea and I fully support their roll out across Oxfordshire. We need to trial more innovative ways to reduce carbon and air pollution, improve biodiversity and community cohesion."

"I strongly support the Bartholomew Road filter as it is used as a cut-through with disregard to the speed limit."

"Strongly welcome these proposals - we need safer, cleaner streets! At present I don't feel it's safe for my children to walk to school - this could change that, please make it happen!"

"I really want this to be trialled. In my section of Cornwallis Road we get large numbers of vehicles travelling at really high speeds - not just boy racers but in the past council vehicles and police cars (without lights flashing so not sure if even on a car)."

"A great idea, good for safety, congestion and the environment. We live on Cornwallis Road and do not like it being used as a through-road stop. Speeding is very common and it feels dangerous at times. It's also noisy and brings unnecessary pollution."

"I strongly support LTNs throughout residential and particularly family areas of Oxford. Especially to reduce car journeys with a knock on effect on lowering pollution levels and fossil fuel use and to make cycling easier, safer and a better option for travel in and around Oxford."

"A positive step towards a greener and healthier future promoting active travel and liveability. Think of the benefits to all including those that have to drive if those that don't feel safer walking and cycling. Hopefully a route to a reduction in traffic fatalities and possibly even Vision Zero?"

"Excellent & vital. I've almost been hit by a car speeding down Rhymer's lane & see cars speeding through Florence Park all the time. It gives me a safe route from St Mary's to my work at Unipart."

"I think it will be good for children to play out more. Most of my barriers to cycling are because of difficulty with the Cowley Rd/Iffley Rd to get into the city centre so I am not sure it will encourage me to cycle more."

"As a local health provider, we are strongly supportive of LTNs - we need safer, cleaner neighbourhoods to keep people healthy, and also for more patients and staff to feel safe walking and cycling to local health facilities when needed."

"In principle I support the plans, traffic and congestion are getting out of control and something needs to be tried. The Florence Park filters FP3 and FP4 might actually help traffic flow on Oxford Road as it will stop traffic backing up waiting to turn right into Littlehay Road if you can't cut through."

"Many of these streets are made very dangerous by the through traffic. Speeding and oversized vehicles kill pets and smash parked cars. Reckless drivers ignore cyclists and mount curbs to get through narrow parts. Turning on to these streets from main roads also backs up traffic on the main roads."

"I strongly support the LTN's to create a safer and healthier community. I live on Rymers Lane and the traffic is fast and constant (despite a 20mph speed limit). My child has had two hospital admissions for wheeziness and I am concerned that the air pollution on this road is impacting on his health."

Page 171

Example comments (where residents express negative sentiments or concerns about the proposed LTNs)

"Has a major effect for surrounding traffic and additional pollution travelling a greater distance to my property. At school times the traffic will be a very difficult situation as the road will be blocked vehicles going up and down the road to drop off children, also may cause more accidents turning."

"In principle good idea but our side of Westbury Crescent will have ALL traffic from the entire estate coming past. This will significantly increase traffic past our house which is just unacceptable. The site of the Mayfair Road filter needs more thought please."

"I think it will block all surrounding roads and prevent people working. I can't get to work any other way, why allow so many business parks in Cowley when you're stopping people driving."

"Local residents' life will be made more difficult than before because you want to stop outsiders driving through the areas. Install traffic enforcement cameras instead."

"It will make people lives very inconvenient. Why should people that live outside the city making decisions on local roads that they have never lived on or driven down."

"Good in theory but poorly thought through. Not enough consultation. Impact on neighbouring areas not properly considered. The suck-it-and-see approach is regrettable. The record of Walton Street and the City Centre bus gates suggests the County Council will not actually deliver the LTNs."

"Ridiculous - it is simply moving traffic from one area to another. Makes it inaccessible to residents with only one way in and out of the residential area that will no doubly build up with traffic especially at rush hour."

"I think the Mayfair Road CC4 will increase traffic through Westbury Cr. Can it be put at Churchill / Kelburne Road junction by Queens Court instead to separate the 2 estates?"

"Whatever is planned, it is vital that Oxford's Hackney carriage (black cab) trade is given unrestricted access. We provide a door to door service, not leave passengers stranded on streets, especially if they're vulnerable. Also, passengers want to be picked up without delays because of closures."

"The problem with closing "ratruns" is it forces traffic on the "main" roads, the main roads are constantly congested already and are not adequate to take the extra traffic currently using the "ratruns". This will not make people leave their cars at home it will just make them late for everything."

"Where is the impact assessment of these proposals on B Leys R Hill etc.? How do these proposals fit into a wider strategic plan to reduce cars in Oxford? Buses take a long time to get to town from B Leys for 9am - will this improve? Will B Leys residents become prisoners in B Leys?"

"Too limiting in Church Cowley, pushing all locals into dangerous and slow ring road traffic. No way for Sandford or Littlemore residents to easily get to food shops or libraries. Massive blow to already isolated communities and the elderly. Would be up for slower speeds, but blocking cars is unkind."

"Do not agree with the proposal as impact on local residents with LTN will be significant with cons outweighing the pros. Increased traffic congestion will result on Oxford Road, Cowley Road and Eastern By Pass with delays and increased pollution."

Page 172

Example comments (where residents express negative sentiments or concerns about the proposed LTNs)

"Church Cowley rat-run is best managed by locating the filter between Kelbourne and Church Hill Road. That way, residents of both Mayfair/Fairlie/Hillsborough and Westbury/Wykeham/Church Hill all have equal distances to exits, rather than making it disproportionately long for residents of the former."

"I oppose the Littlemore Road filter as it blocks the main road through the area, and would drastically increase traffic at the dangerous Newman Road/Rose Hill junction, which should be made 'no right turn onto Rose Hill'."

"A knee-jerk reaction that will lead to VERY serious congestion in Temple Road at school drop off/pickup times, my only vehicular route under these proposals."

"I am fully in favour so long as delivery drivers and other commercial vehicles aren't unduly inconvenienced. We all benefit from them and should therefore assist them."

"The CC3 will cut off my access to visit my sister, dad and my route to work. I always walk when I can but it's too far to walk to work. The cycle track is not safe and too dark to use as an alternative option. I don't want to be forced to use an already busy ring road and I can't afford buses every time."

"TC2 forces the residents of DonBosco sometimes having to make a right turn into Hollow Way. This is a dangerous turn into a busy road. Put TC2 at the top of Station road near TC1. We could then exit via Temple Road - a much safer option."

"I support the idea of the LTN but with CC1 and CC4 the south side of Westbury Crescent will experience a much greater volume of traffic than it currently does the if CC4 was moved to Kelbourne Road, this would allow some cars from this area to exit via Mayfair Road. We do not want increased traffic!"

"I think the council is naive saying that traffic will not become worse on major roads. I have to drive for work and I don't see why I should be punished and have longer journeys because of LTNs and some inconsiderate drivers who give everyone a bad name. Surely pollution increases when more cars are in queues?"

"Coming from Wheatley it is two hours by two buses to this area. It is 15 minutes by car. I will stop using businesses in this area as a result. Also this proposal will push more traffic onto the ring road which is already at capacity."

"There are too many, too close together. While I appreciate the benefits of cycling, it's physically impossible for some of us so we'll be forced to walk (if we can) as we won't be able to use cars nor, currently, public transport. In reality, we won't spend time or money locally."

"It will push traffic onto main roads creating congestion and pollution."

"This is not the way to reduce traffic, it merely reroutes and lengthens journeys, adversely affecting pollution and convenience. Better public transport is needed, especially for Littlemore."

Page 173

Those responding to the survey were also asked to highlight (in an open-ended question) any specific issues that they thought needed investigation.

Headline findings

This was an open-ended question where respondents could expand on their reasons for giving their viewpoints detailed in the previous section; DJS Research have analysed the comments and coded them into themes to provide a quantified sense of the themes and sentiment. Overall results for this question are summarised in table 9, below and overleaf.

Table 9: **Please use this space only to highlight any specific issues that need investigation. RESULTS FOR RESPONDENTS WHO MADE COMMENTS** (all responses: n=644).

Theme of comment	No. responses	% responses
Concerns for/will increase congestion	209	32%
Parking issues need to be addressed/concerns about parking	77	12%
Concerns for/need to stop rat runs/speeding	74	11%
Concerns for school run/accessing school	54	8%
Concerns for resident access/safety	51	8%
Concerns for/will increase pollution	49	8%
Need/lack of surveying/data/monitoring/information	42	7%
Concerned about specific road/location: Church Cowley	36	6%
Concerned it will make travelling harder/longer	33	5%
Need/lack of safe/separate cycle lanes	32	5%
Fast moving traffic/difficult to cross roads/dangerous	32	5%
Concerns for cars turning/reversing	31	5%
Concerned about specific road/location: Westbury Crescent	29	5%
Concerned about specific road/location: Hollow way	27	4%
Concerned about specific road/location: Newman Road	26	4%
Concerns for emergency services/healthcare worker access	24	4%
Concerned about specific road/location: Littlemore	23	4%
Concerns for the elderly/disabled	23	4%

Page 174

Table 9 (continued): Please use this space only to highlight any specific issues that need investigation. RESULTS FOR RESPONDENTS WHO MADE COMMENTS (all responses: n=644).

Theme of comment	No. responses	% responses
Concerned about specific road/location: Crescent Road	23	4%
Concerned about specific road/location: Cowley Road	22	3%
Improve roads/pavements/infrastructure	22	3%
Introduce speed reducing measures (e.g. speed bumps, cameras etc.)	21	3%
Concerned about specific road/location: Florence Park	21	3%
Concerned about specific road/location: Rymers Lane	21	3%
Concerned about specific road/location: Oxford Road	20	3%
Concerned about specific road/location: Temple Road	19	3%
Concerned about specific road/location: Marsh Road	19	3%
Need to reduce traffic/pollution	18	3%
Alternative/better/cheaper transport needed	18	3%
Concerned about specific road/location: Rose Hill	18	3%
Concerned about specific road/location: Cornwallis	17	3%
Concerns for deliveries	16	2%
Concerned about specific road/location: Temple Cowley	13	2%
Signage/markings needed	13	2%
Concerned about specific road/location: Iffley Road	12	2%
One way system would be better	11	2%
Concerned about specific road/location: Little Hay	10	2%
Concerned about specific road/location: Bartholomew Road	9	1%
Suggest specific location to include: Kelburn Road	8	1%
Suggest specific location to include: Church Hill Road	6	1%
More/move traffic lights to help with traffic	8	1%
Concerns for/want to use planters	7	1%
TC1/TC2 unnecessary/problematic/needs moving	6	1%

Page 175

In total, 644 respondents made a comment. **Example comments** illustrating some of the specific issues that respondents thought needed investigation are provided below and overleaf.

Example comments (for some specific issues requiring investigation)

"Filters and LTNs represent a 'stick' to encourage travel behaviour changes; some 'carrots' are needed e.g. better bus services."

"Many drivers use Satnav so you need to liaise with the data providers to make sure drivers do not continue to attempt to use these old rat-runs."

"The number of tradesmen, aged, carers, HMOs in Mayfair precinct requiring vehicles."

"Noise pollution; Car speeds; Amount of traffic; Air pollution; Safety of residents; Car damage; Parking by people not local to the area; Noise disruption at night."

"Look at Hollow Way (Swan to Horspath Road). It can't cope with any more traffic, and footpath is dangerous to walk on these days (bikes and electric scooters use it as it is safer than the road)."

"Just today the news is on - more residential parking. Does the person realise this is in direct contradiction with electric cars? In areas with residential parking, one cannot put a home charger even though the parking spot is right outside your house. These are things you should be addressing."

"I am concerned that elderly/disabled library users will find coming to the library more difficult if they are unable to drive. There are already issues with parking around the library."

"CC3. Blocking Littlemore Road means that I, nor my neighbours, can travel this way to and from work (in my EV), forcing us to use the Newman Road/Rose Hill junction. This is already a pinch-point for traffic with inconsiderate drivers & often breaks out in cases of road rage unfortunately."

"Monitoring traffic increases on bypass will be vital. There are schools and residential houses very close to the bypass that could suffer from increased air pollution. Plus assessment of impact on Cowley resident time to get to hospital. Signage will be hugely important to prevent blocked roads."

"What will the impact be on to neighbourhoods next to these areas? We live off the other side of Hollow Way. These roads (Between Cranmer Road and Fern Hill Road) are also used as rat-runs to bypass Hollow Way. I fear this would get worse as traffic on Hollow Way will get worse."

"Temple Road leading to Owens Way - the parking is a nightmare as it is and causes issues with being able to enter Owens Way and due to the council depot workers parking anywhere and everywhere. If this road becomes blocked you will end up with stand-offs and cars not being able to turn round."

"If introduced, what will be done to improve traffic surrounding the shopping centre area, in particular illegal parking hampering traffic especially? As I will now need to go via this road for every child pick-up and drop-off, plus work routes."

Page 176

"Vulnerable elderly people during the pandemic will be affected. Residents on major roads unfairly affected since their homes fall in between the proposed areas."

"Parking restrictions are being brought in as well and it's not clear whether these two teams are talking to each other. Will parking restrictions be necessary in Church Cowley considering people will be using cars less with the LTN?"

"Coming from Hollow Way, those of us living in St Christopher's Place would be prevented from accessing our street by car. The main traffic issues are related to the dangerous parking by parents near the school at 8.30am and 3.00pm. Why not target these people specifically? The rest of the time it's fine."

"The cut-through that causes most congestion/pollution and delays for Iffley Road buses most days is Howard Street, for traffic from Cowley Road to Donnington Bridge. This is not addressed in the trials."

"If you implement all gates in Temple Cowley as proposed, virtually the whole residential area fill be funnelled to a single junction: Marsh Road - Cowley Road. I would only support your measures if a traffic light is placed there, otherwise waiting times to leave our residential area would be immense."

"Access for residents - can we drive through filters to get home?"

"Please consult economists and city planners before enacting such a one-sided measure to effectively gate-off neighbourhoods. This will lead to even higher rents and more congested main roads. The solution Oxford needs is more new infrastructure, not restricting access to already existing ones."

"The benefits need to be better highlighted, perhaps from people in other parts of the country who have already got them, particularly those who were cynical to start with (!)."

"Any new traffic scheme in Temple Cowley should wait until the new development is complete so that the new traffic situation can stabilise before nearby roads are closed."

"I'm worried that the LTN will increase the number of people parking on my street without a controlled parking zone to stop commuters parking here. The school drop-off congestion on Temple Road will be shifted but to where? I am not seeing commitment to improve footpaths like Boundary Brook to encourage walking."

"Line painting on Between Towns Road outside shared driveway of Trinity Court apartments and Cowley Workers Club. It is very busy and hard to exit the driveway safely to get into the far lane as there are always lines of traffic waiting at the traffic lights onto Oxford Road."

"Is CC4 in the right place? It'll increase traffic on Westbury (south) prompting complaints. If it was at the Church Hill Road/Kelbourne Road junction it'd have the same effect but share the load."

"The bend in Clive Road near where the proposed barrier will be sited may make turning or reversing difficult for vehicles."

Page 177

Those responding to the survey as a business, group or organisation were asked to indicate what they thought the impact of the LTNs would be on their business or organisation.

Headline findings

Results for business respondents for this question are summarised in table 10, below.

Table 10: What do you think will be the impact (of the LTNs) on your business or organisation? RESULTS FOR ALL BUSINESSES AND ORGANISATIONS (all responses: n=39).

Filter	No. responses	% responses
Impact on...my customers or members	**38**	
Positive	9	24%
Neutral	2	5%
Negative	27	71%
Impact on...my staff or volunteers	**36**	
Positive	8	22%
Neutral	1	3%
Negative	27	75%
Impact on...my deliveries	**35**	
Positive	4	11%
Neutral	4	11%
Negative	27	77%
Impact on...my overall business	**37**	
Positive	10	27%
Neutral	0	0%
Negative	27	73%

Page 178

Respondents answering on behalf of local businesses, groups and organisations, largely appear to express fairly negative opinions about the impacts of the LTNs on all aspects of their business. The area where businesses think that they will feel the greatest detrimental impact is on their deliveries, with only 4 out of the 35 businesses/groups/organisations answering thinking that the LTNs will have a positive effect.

Current travel behaviour and potential effect of LTN trial on walking and cycling behaviour

48
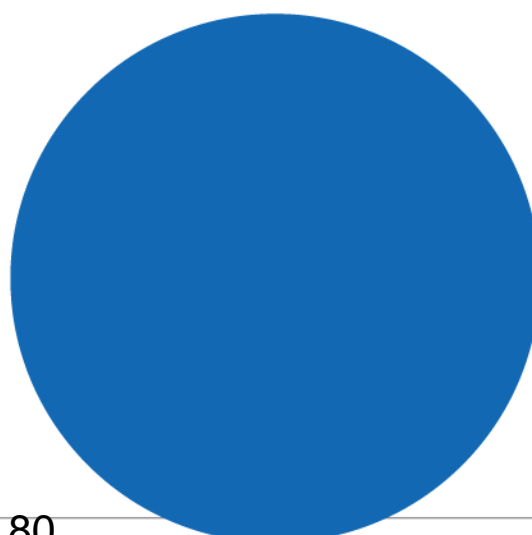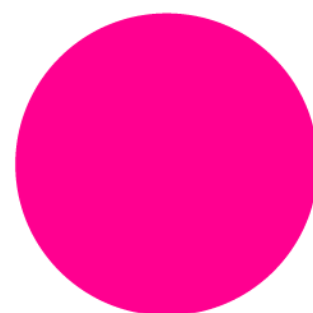
Those responding to the survey were asked to indicate how they typically travelled and the frequency with which they used that mode of transport.

Headline findings

Results for all respondents for this question are summarised in figure 18, below.

Figure 18: **Please tell us about how you typically travel. RESULTS FOR ALL RESPONDENTS** (n=1,454).
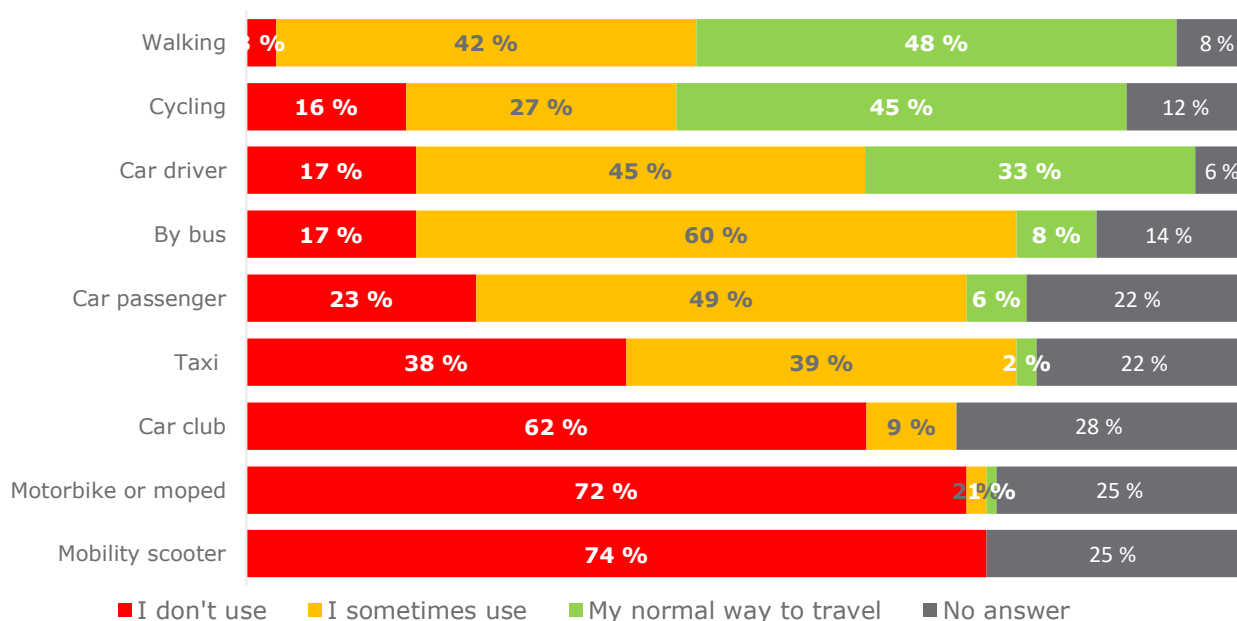
Overall, the most-used form of travelling amongst respondents is walking, with just under half (48%) using walking as their normal way to travel and nearly all respondents answering using walking to travel at least sometimes. Just under four-fifth (78%) of respondents either sometimes or normally use car driving as their mode of travel, while more than seven-tenths (72%) cycle at least sometimes. Nearly seven-tenths (68%) of respondents use the bus to some extent, although only 8% use buses as their main mode of travel.

The least-used methods of transport are mobility scooters, motorbikes or mopeds (72% never use) and car clubs (62% never use).

Results by Resident type

Figures 19-25 (below and overleaf) show how responses to this question varied for different types of respondent.

Please note: Of the very small proportions of respondents saying that they use **motorbikes or mopeds**, or **mobility scooters**, as a means of transport, there are no demographic differences in either case so illustrations for these two modes of transport are not shown.

Figure 19: Please tell us about how you typically travel. 'Walking' RESULTS BY RESPONDENT TYPE (n=1,454).
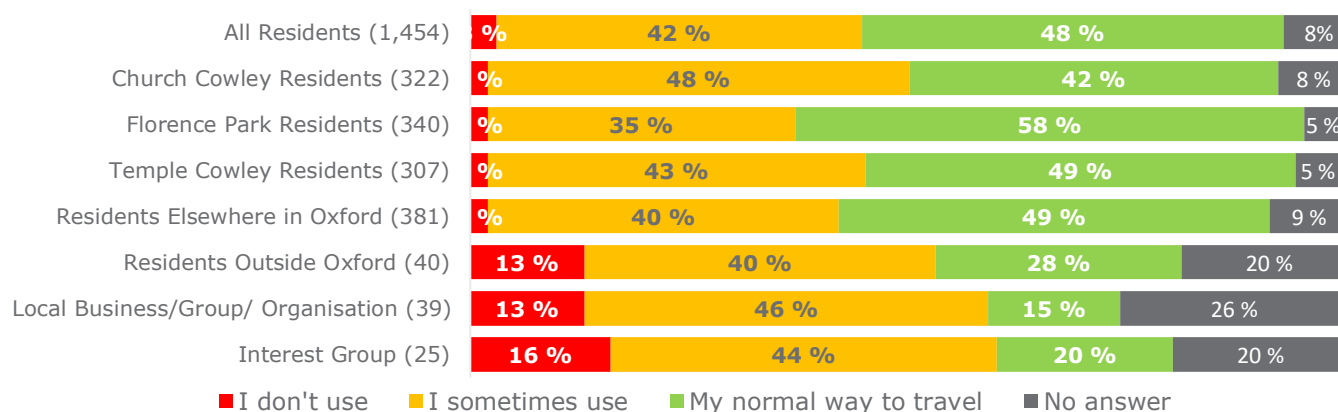
Respondent type	I don't use	I sometimes use	My normal way to travel	No answer
All Residents (1,454)	%	42 %	48 %	8%
Church Cowley Residents (322)	%	48 %	42 %	8 %
Florence Park Residents (340)	%	35 %	58 %	5 %
Temple Cowley Residents (307)	%	43 %	49 %	5 %
Residents Elsewhere in Oxford (381)	%	40 %	49 %	9 %
Residents Outside Oxford (40)	13 %	40 %	28 %	20 %
Local Business/Group/ Organisation (39)	13 %	46 %	15 %	26 %
Interest Group (25)	16 %	44 %	20 %	20 %

■ I don't use   ■ I sometimes use   ■ My normal way to travel   ■ No answer

Residents living in Florence Park are more likely than residents in other areas to typically travel by walking; nearly three-fifths (58%) of Florence Park residents use walking as their typical way of travelling, compared to 42% of Church Cowley residents, 49% of Temple Cowley residents and 49% of residents elsewhere in Oxford.

Those answering on behalf of a business/group/organisation, as well as those doing so on behalf of interest groups, are less likely than average to use walking as a means of travel.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Females are slightly more likely than males to use walking as their typical way of travelling; 51% of females say this is their typical means of travel, compared to 45% of males.

- Younger age groups are more likely than older residents to use walking as their typical way of travelling; 61% of under 25s, 50% of 25-34s and 49% of 35-44s say this is their typical means of travel, compared with 40% of 55-64s.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to use walking as their typical way of travelling; 51% of white residents typically use this means of travel, compared with 38% of BAME residents.

Page 182

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to use walking as their typical means of travel (29%, compared to 51% of those without an illness/disability/infirmity).

Figure 20: Please tell us about how you typically travel. 'Cycling' RESULTS BY RESPONDENT TYPE (n=1,454).

Respondent Type	I don't use	I sometimes use	My normal way to travel	No answer
All Residents (1,454)	16%	27%	45%	12%
Church Cowley Residents (322)	17 %	34 %	34 %	15 %
Florence Park Residents (340)	11 %	25 %	56 %	7 %
Temple Cowley Residents (307)	20 %	27 %	41 %	12 %
Residents Elsewhere in Oxford (381)	15 %	23 %	52 %	10 %
Residents Outside Oxford (40)	18 %	28 %	40 %	15 %
Local Business/Group/ Organisation (39)	28 %	26 %	18 %	28 %
Interest Group (25)	20 %	36 %	20 %	24 %

■ I don't use ■ I sometimes use ■ My normal way to travel ■ No answer

Residents living in Florence Park are more likely than residents in other areas to typically travel by cycling; more than half (56%) of Florence Park residents cycle for travel regularly, compared to only 34% of Church Cowley residents and 41% of Temple Cowley residents.

Those answering on behalf of a business/group/organisation may be slightly less likely than average to use cycling as a means of travel.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Males are more likely than females to use cycling as their typical way of travelling; 48% of males say this is their typical means of travel, compared with 42% of females.

- Younger age groups are more likely than older residents to use cycling as their typical way of travelling; 58% of under 25s, 53% of 25-34s and 48% of 35-44s say this is their typical means of travel, compared with 30% of 65-74s.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to use cycling as their typical way of travelling; 49% of white residents typically use this means of travel, compared with 35% of BAME residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to use cycling as their typical means of travel (24%, compared to 50% of those without an illness/disability/infirmity).

Page 183

Figure 21: **Please tell us about how you typically travel. 'Car driver'**
RESULTS BY RESPONDENT TYPE (all responses: n=1,454).

	I don't use	I sometimes use	My normal way to travel	No answer
All Residents (1,454)	17%	45%	33%	6%
Church Cowley Residents (322)	11 %	44 %	42 %	4 %
Florence Park Residents (340)	14 %	52 %	26 %	5 %
Temple Cowley Residents (307)	17 %	40 %	36 %	7 %
Residents Elsewhere in Oxford (381)	23 %	46 %	25 %	6 %
Residents Outside Oxford (40)	10 %	48 %	43 %	
Local Business/Group/ Organisation (39)	5 %	36 %	56 %	3 %
Interest Group (25)	24 %	12 %	48 %	16 %
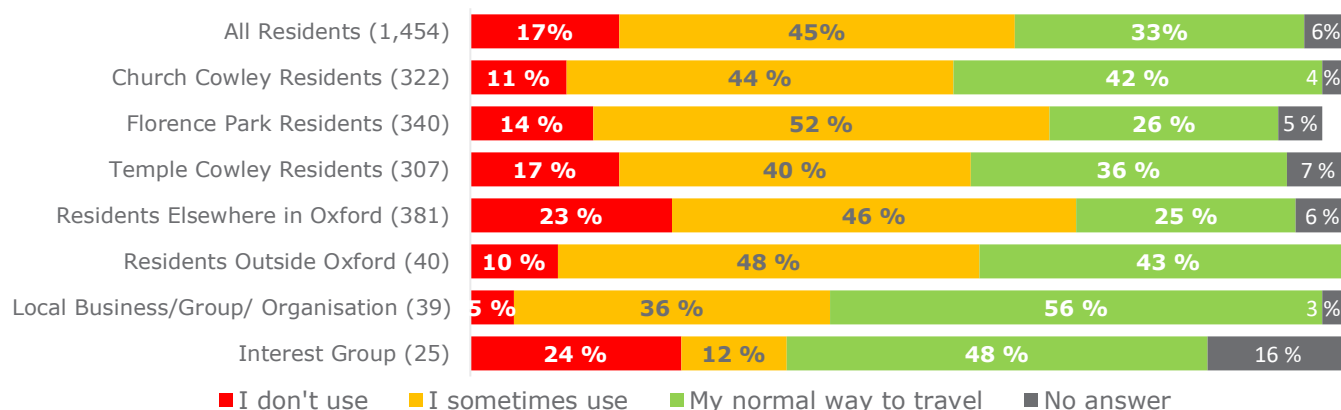
Residents living in Church Cowley are more likely than residents in other areas to typically travel by driving a car; more than two-fifths (42%) of Church Cowley residents drive a car as their typical way of travelling, compared to 26% of Florence Park residents, 36% of Temple Cowley residents and only 25% of residents elsewhere in Oxford.

Those answering on behalf of a business/group/organisation may be slightly more likely than average to drive a car as a means of travel (92% doing so at least sometimes, with 56% using it as their typical means of travel).
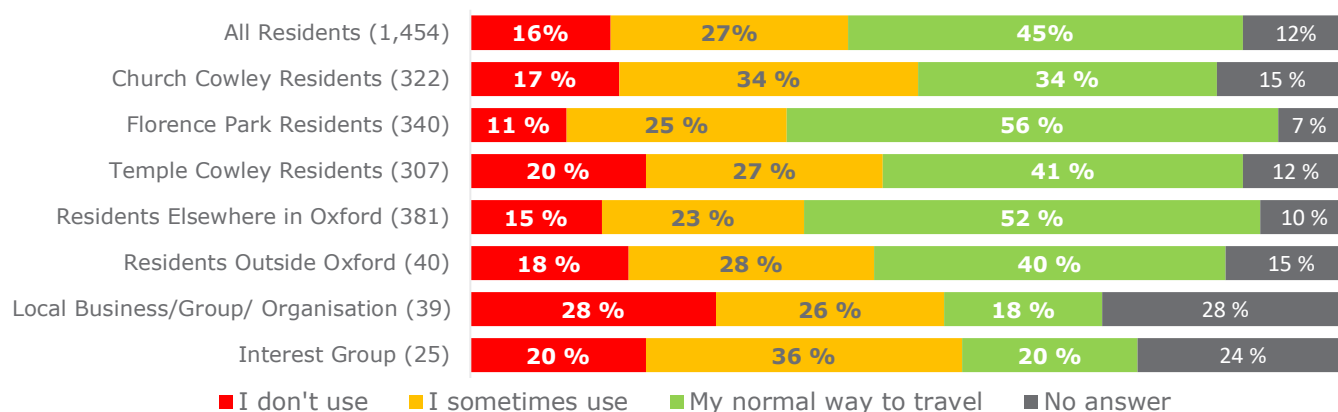
Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

• Males are slightly more likely than females to drive a car as their typical way of travelling (37% and 29% respectively).

• White residents are less likely than those from Black, Asian and Minority Ethnic (BAME) groups to drive a car as their typical way of travelling; 30% of white residents typically use this means of travel, compared with 40% of BAME residents.

• Those with a long-standing illness, disability or infirmity are more likely than those without a disability to drive a car as their typical means of travel (40%, compared to 31% of those without an illness/disability/infirmity).

Page 184
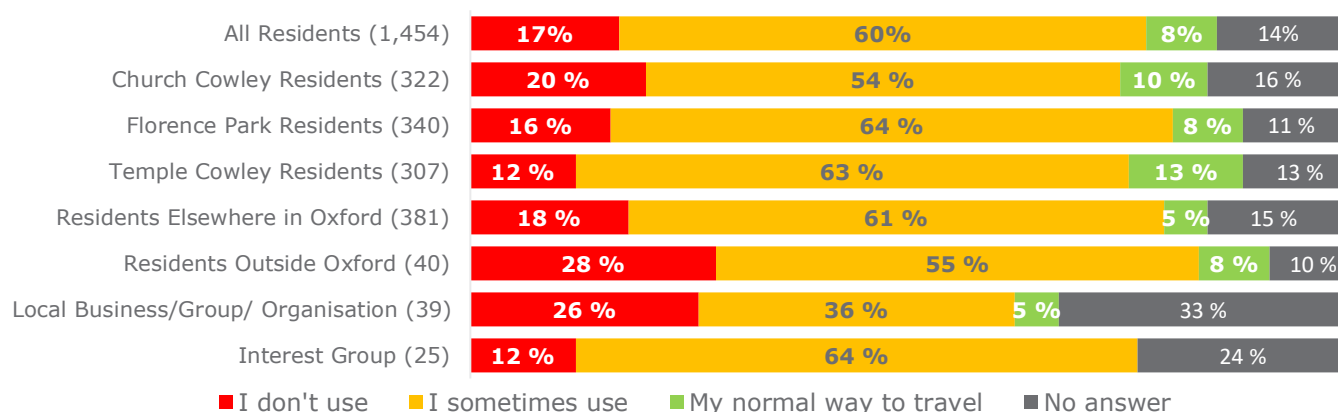
Residents living in Temple Cowley are slightly more likely than residents in other areas to travel by bus at least sometimes; just over three-quarters (76%) of Temple Cowley residents travel by bus at least sometimes, compared with 72% of Florence Park residents, 64% of Church Cowley residents and 76% of residents elsewhere in Oxford.

Those answering on behalf of a business/group/organisation are less likely than average to use the bus as a means of travel (41% doing so at least sometimes).

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Bus usage tends to increase with age amongst residents; only 5% of under 45s use the bus as their typical means of travel, compared with 24% of those aged 65-74 and 18% of those aged 75+.

- Those with a long-standing illness, disability or infirmity are more likely than those without a disability to use the bus at least sometimes (73%, compared to 68% of those without an illness/disability/infirmity).

Page 185

**Figure 23: Please tell us about how you typically travel. 'Car passenger'
RESULTS BY RESPONDENT TYPE** (all responses: n=1,454).

	I don't use	I sometimes use	My normal way to travel	No answer
All Residents (1,454)	23%	49%	6%	22%
Church Cowley Residents (322)	18 %	48 %	7 %	26 %
Florence Park Residents (340)	22 %	54 %	5 %	19 %
Temple Cowley Residents (307)	29 %	42 %	7 %	22 %
Residents Elsewhere in Oxford (381)	25 %	51 %	4 %	20 %
Residents Outside Oxford (40)	15 %	55 %	10 %	20 %
Local Business/Group/ Organisation (39)	18 %	46 %	8 %	28 %
Interest Group (25)	24 %	28 %	16 %	32 %

■ I don't use   ■ I sometimes use   ■ My normal way to travel   ■ No answer

Residents living in Temple Cowley are less likely than residents in the other LTN trial areas to typically travel by being a car passenger at least sometimes; just under half (49%) of Temple Cowley residents travel as a car passenger at least sometimes, compared with 59% of Florence Park residents and 55% of Church Cowley residents. Also, 55% of residents elsewhere in Oxford say that they typically travel as a car passenger at least sometimes.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Those with a long-standing illness, disability or infirmity may be slightly more likely than those without a disability to travel as a car passenger at least sometimes (59%, compared to 54% of those without an illness/disability/infirmity).

**Figure 24: Please tell us about how you typically travel. 'Taxi' RESULTS BY
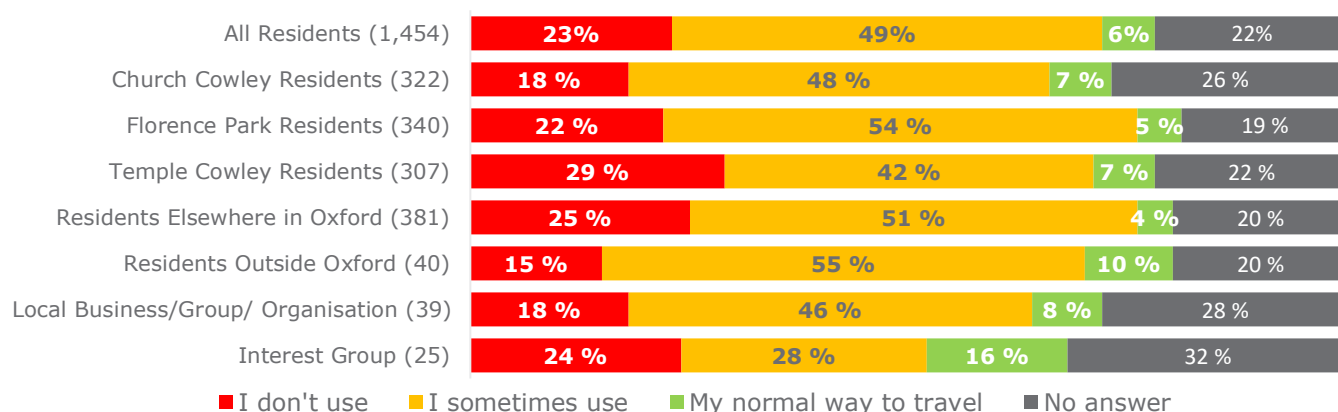RESPONDENT TYPE** (all responses: n=1,454).
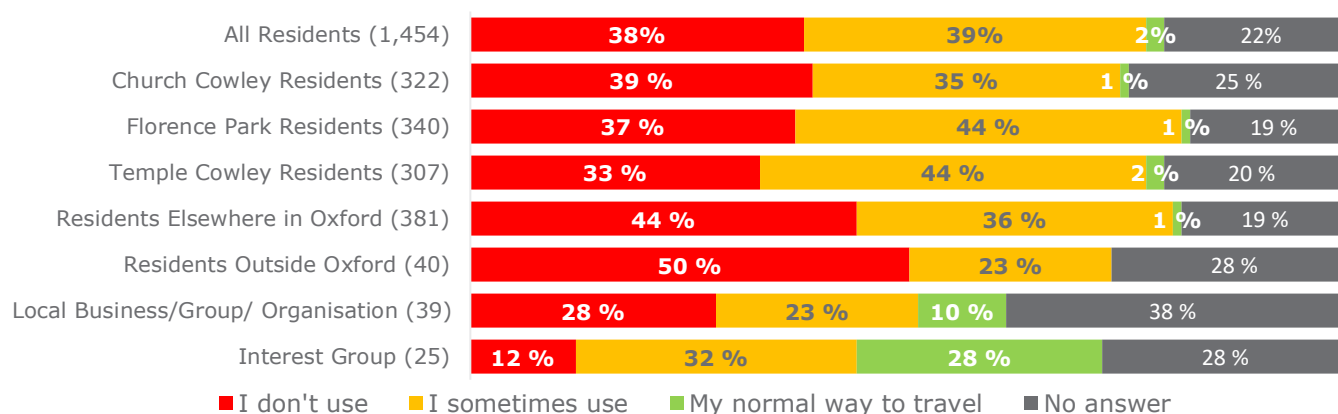
	I don't use	I sometimes use	My normal way to travel	No answer
All Residents (1,454)	38%	39%	2%	22%
Church Cowley Residents (322)	39 %	35 %	1 %	25 %
Florence Park Residents (340)	37 %	44 %	1 %	19 %
Temple Cowley Residents (307)	33 %	44 %	2 %	20 %
Residents Elsewhere in Oxford (381)	44 %	36 %	1 %	19 %
Residents Outside Oxford (40)	50 %	23 %		28 %
Local Business/Group/ Organisation (39)	28 %	23 %	10 %	38 %
Interest Group (25)	12 %	32 %	28 %	28 %

■ I don't use   ■ I sometimes use   ■ My normal way to travel   ■ No answer

Residents living in Temple Cowley and Florence Park are slightly more likely than residents in Church Cowley to travel by taxi at least sometimes; more than two-fifths (46%) of Temple Cowley residents and 45% of Florence Park residents travel

Page 186

by taxi at least sometimes, compared to 36% of Church Cowley residents and 37% of residents elsewhere in Oxford.

Those answering on behalf of an interest group may be slightly more likely than average to use taxis as a means of travel (60% doing so at least sometimes, with 28% using it as their typical means of travel).

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Those in middle age groups are slightly more likely than older residents to use taxis at least sometimes (47% of 35-44s and 46% of 45-54s, compared to 27% of 65-74s).

- White residents are slightly more likely than those from Black, Asian and Minority Ethnic (BAME) groups to use taxis at least sometimes as a form of travel; 41% of white residents typically use this means of travel, compared with 33% of BAME residents.

Figure 25: **Please tell us about how you typically travel. 'Car club' RESULTS BY RESPONDENT TYPE** (all responses: n=1,454).
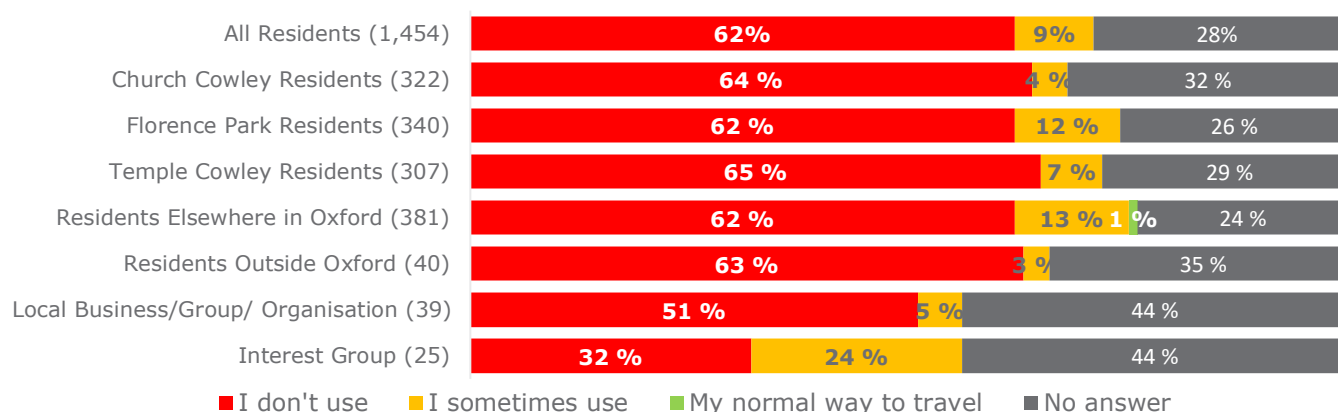
Although very few residents use car clubs as their normal way to travel, Florence Park residents and residents elsewhere in Oxford may be slightly more likely than those in Church Cowley and Temple Cowley to use car clubs sometimes.

Those answering on behalf of an interest groups may be slightly more likely than average to use a car club as a means of travel (24% doing so at least sometimes, although none use a car club as their typical means of travel).

Further analysis of feedback from residents shows that there are no differences by demographic factors.

Page 187

Those responding to the survey were asked to indicate whether they would consider cycling or walking more during the LTN trial – and if they don't currently cycle, would they consider trying to cycle.

Headline findings

Results for all respondents for this question are summarised in figure 26, below.

Figure 26: **During the LTN trial, would you consider cycling or walking more? If you don't currently cycle, would you consider trying to cycle? RESULTS FOR ALL RESPONDENTS** (all responses: n=1,384-1,387).
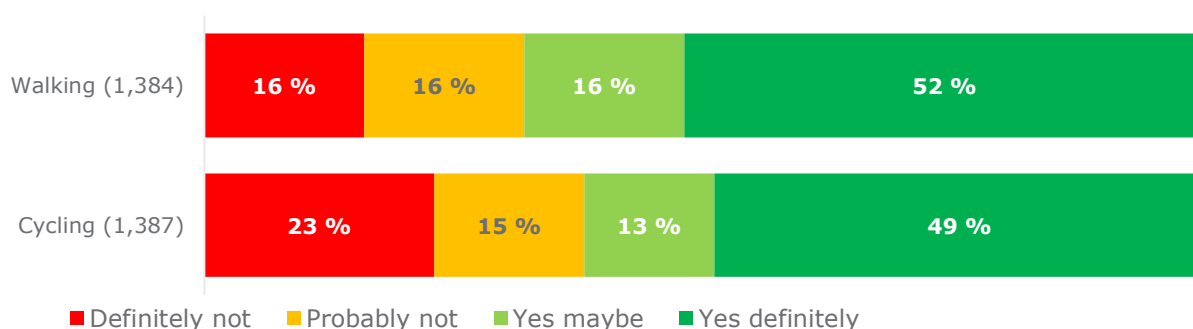
Encouragingly, more than half of respondents say they would definitely consider walking more during the LTN trial, with a further 16% saying that they would maybe consider doing so. Equally encouragingly, almost half (49%) of respondents indicate that they would definitely consider cycling more, with a further 13% saying that they would maybe consider cycling more.

However, around a sixth (16%) of respondents say they would definitely not consider walking more during the LTN trial, with approaching a quarter (23%) feeling they would definitely not consider cycling more during the LTN trial.

Results by Resident type

Figures 27 and 28 (overleaf) show how responses to this question varied for different types of respondent.

Figure 27: During the LTN trial, would you consider walking more?
RESULTS BY RESPONDENT TYPE (all responses: n=1,384).
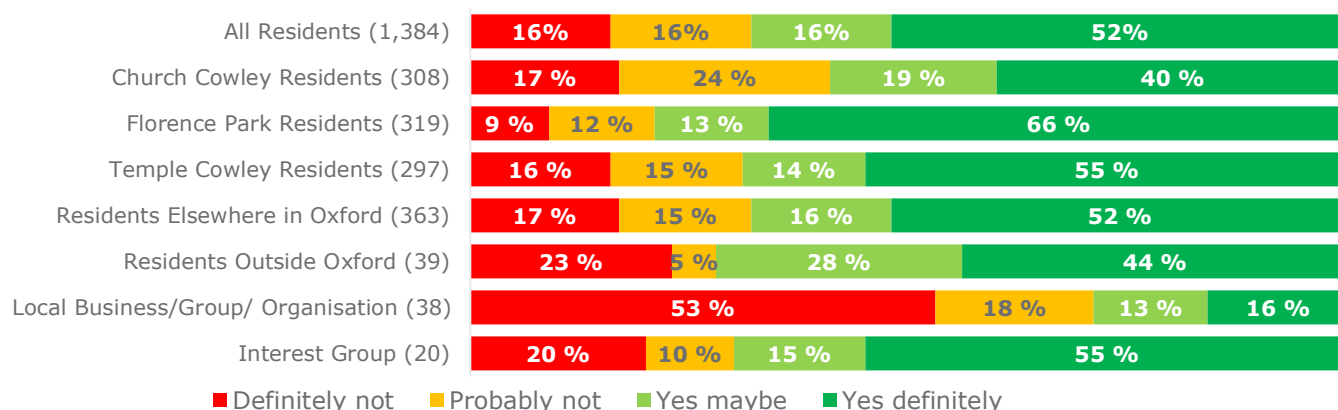
	Definitely not	Probably not	Yes maybe	Yes definitely
All Residents (1,384)	16%	16%	16%	52%
Church Cowley Residents (308)	17 %	24 %	19 %	40 %
Florence Park Residents (319)	9 %	12 %	13 %	66 %
Temple Cowley Residents (297)	16 %	15 %	14 %	55 %
Residents Elsewhere in Oxford (363)	17 %	15 %	16 %	52 %
Residents Outside Oxford (39)	23 %	5 %	28 %	44 %
Local Business/Group/ Organisation (38)	53 %	18 %	13 %	16 %
Interest Group (20)	20 %	10 %	15 %	55 %

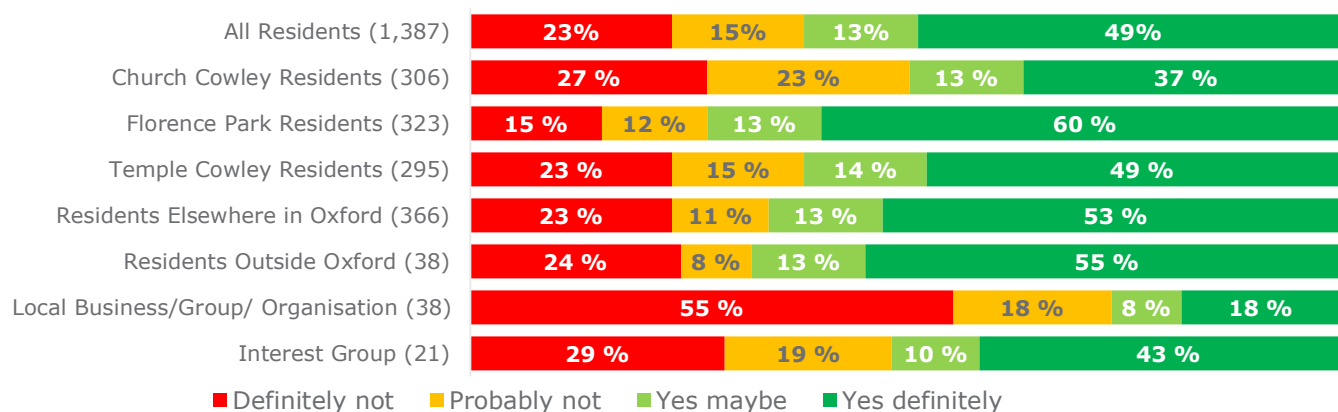■ Definitely not ■ Probably not ■ Yes maybe ■ Yes definitely

Residents living in Florence Park are more likely than residents in other areas to definitely consider walking more during the LTN trial; two-thirds (66%) of Florence Park residents would definitely consider walking more, compared to only 40% of Church Cowley residents, 55% of Temple Cowley residents and 52% of residents elsewhere in Oxford.

Those answering on behalf of a business/group/organisation appear less likely than average to say that they would definitely walk more during the LTN trial, with only 16% saying they definitely would and 13% feeling that they maybe would.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

• Females are slightly more likely than males to express an intention to walk more during the LTN trial; 56% of females say they would definitely consider walking more during the LTN trial, compared with 50% of males.

• Younger age groups are more likely than older residents to express an intention to walk more during the LTN trial; 62% of under 25s, 54% of 25-34s and 55% of 35-44s and 54% of 45-54s say they would definitely consider walking more during the LTN trial, compared with 44% of 55-64s, 53% of 65-74s and 36% of those aged over 75.

• White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to indicate that they would definitely consider walking more during the LTN trial; 56% of white residents express this view, compared with 45% of BAME residents.

• Those with a long-standing illness, disability or infirmity are less likely than those without a disability to indicate that they would definitely consider walking more during the LTN trial (33%, compared to 57% of those without an illness/disability/infirmity).

Page 189

Figure 28: **During the LTN trial, would you consider cycling more? RESULTS BY RESPONDENT TYPE** (all responses: n=1,387).

Respondent Type	Definitely not	Probably not	Yes maybe	Yes definitely
All Residents (1,387)	23%	15%	13%	49%
Church Cowley Residents (306)	27 %	23 %	13 %	37 %
Florence Park Residents (323)	15 %	12 %	13 %	60 %
Temple Cowley Residents (295)	23 %	15 %	14 %	49 %
Residents Elsewhere in Oxford (366)	23 %	11 %	13 %	53 %
Residents Outside Oxford (38)	24 %	8 %	13 %	55 %
Local Business/Group/ Organisation (38)	55 %	18 %	8 %	18 %
Interest Group (21)	29 %	19 %	10 %	43 %

■ Definitely not ■ Probably not ■ Yes maybe ■ Yes definitely

Residents living in Florence Park are more likely than residents in other areas to definitely consider cycling more (or try to start cycling) during the LTN trial; three-fifths (60%) of Florence Park residents would definitely consider cycling more, compared to only 37% of Church Cowley residents, 49% of Temple Cowley residents and 53% of residents elsewhere in Oxford.

Those answering on behalf of a business/group/organisation appear less likely than average to say that they would definitely cycle more (or try to start cycling) during the LTN trial, with only 18% saying they definitely would and 8% feeling that they maybe would.

Further analysis of feedback from residents highlights some differences in opinion by demographic factors:

- Younger age groups are more likely than older residents to express an intention to cycle more during the LTN trial; 62% of under 25s, 55% of 25-34s and 52% of 35-44s and 53% of 45-54s say they would definitely consider cycling more during the LTN trial, compared with 39% of 55-64s, 41% of 65-74s and 35% of those aged over 75.

- White residents are more likely than those from Black, Asian and Minority Ethnic (BAME) groups to indicate that they would definitely consider cycling more during the LTN trial; 54% of white residents express this view, compared with 42% of BAME residents.

- Those with a long-standing illness, disability or infirmity are less likely than those without a disability to indicate that they would definitely consider cycling more during the LTN trial (27%, compared to 55% of those without an illness/disability/infirmity).

Social media and correspondence

59
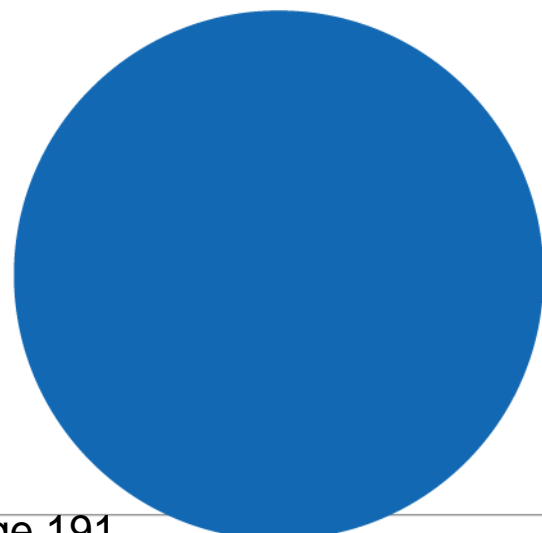
In addition to analysing the survey results, we have reviewed the themes/sentiment of social media comments and written correspondence regarding the proposed LTNs.

There were less than twenty relevant comments made overall across all of the various Facebook and Twitter posts that Oxfordshire County Council released about the Cowley LTN trial.

The majority of the comments made on social media are more likely to relate to issues or concerns rather than focusing on more positive potential effects or benefits.

The main concern raised by the small number of residents making comments is that the proposed LTN trial will only divert or displace traffic onto other roads and make them more congested.

Another concern mentioned by one resident of Florence Park is that the LTN may lead to residents in that area feeling more isolated generally without the flow-through of vehicle traffic as it is currently.

However, there is some support for the proposed LTN trial in relation to it bringing back the notion of 'active travel' to the local area and reducing the amount of traffic and pollution in conjunction with this.

There is also some liking for 'anything that gives pedestrians and cyclists safe priority being a step forward'.

Finally, the potential benefit of less pollution and fewer vehicles on the streets in the LTN trial areas is mentioned as a positive by one resident.

The Council also received 22 pieces of correspondence (20 emails and a couple of letters) regarding the consultation.

Half of these were from residents, with the remainder coming from councillors (5) and representatives of organisations which included community, schooling, transport and policing groups.

Sentiment was mixed, with a couple of letters/emails expressing support for the proposals (1 resident and 1 councillor), 8 mainly opposing them (7 residents and one councillor) and 12 that were broadly supportive but expressed specific concerns/caveats (4 residents, 3 councillors, 5 organisations).

The main concerns raised were as follows:

- Access for emergency vehicles (4 residents, 2 organisations).
- Access to healthcare services, e.g. GPs, hospitals (3 residents).
- Access to schools (one resident, 2 organisations).
- Access to shops and other services, e.g. banks (3 residents).
- Rushed proposals without proper consultation (3 residents).
- Will create congestion in other areas (3 residents).

- Access for deliveries (2 residents).
- Specific concerns about Temple Road (2 councillors).
- Longer journey times leading to more emissions (2 residents).

For more information

Alasdair Gleed, Research Director
agleed@djsresearch.com

Head office: 3 Pavilion Lane, Strines,
Stockport, Cheshire, SK6 7GH

Leeds office: 2 St. David's Court,
David Street, Leeds, LS11 5QA

+44 (0)1663 767 857
djsresearch.co.uk

djs research

Follow us on LinkedIn...

For free market research findings and our latest news and developments:
linkedin.com/company/djs-research-ltd

For regularly updated market research findings from your sector, please
have a look at our complimentary insights: djsresearch.co.uk/blog/articles

Climate Impact Assessment

Summary

Directorate and Service Area	Environment and Place
What is being assessed	Cowley Low Traffic Neighbourhoods (LTNs)
Is this a new or existing function or policy?	Existing policy
Summary of assessment	A Low Traffic Neighbourhood (LTN) is an area where motorised traffic is prevented from taking through routes into residential areas by installing traffic filters using planters and/or lockable bollards which are accessible by Emergency Services and Waste Services. By removing through traffic, it creates quieter and safer streets with reduced pollution, where residents can feel safer and more comfortable when making local journeys by bus, by cycle or on foot.
Completed by	Emma Walters
Climate action sign off by	Tammy Marrett
Director sign off by	John McLauchlan
Assessment date	06/07/2022

Preview

Generated 07/07/22 v1.36

Just transition (+2)

Energy (↓↑ 0)

People & Organizations (+1)

Transport & Connectivity (+1)

Procurement & Investment (↓↑ 0)

+6

Buildings (↓↑ 0)

Resilience & Adaptation (↓↑ 0)

Waste & Consumption (↓↑ 0)

Nature (+2)

Oxfordshire Council has committed to being a carbon neutral organisation by 2030 (8 years and 0 months away).

Detail of proposal

Context / Background	Originally as part of the Department for Transport's Active Travel Fund tranche 1, but now without allocated funding, in support of Oxford LCWIP policies to promote walking and cycling, the Council is consulting on an Experimental Traffic Regulation Order (ETRO) in Cowley to make existing traffic filters permanent or extended via an ETRO.
Proposal	Low Traffic Neighbourhoods involve the use of filters to remove through traffic to increase safety and attractiveness of the area. They are also being introduced to improve the comfort, safety and convenience of Oxford Cycle Route 16, in support of wider policies to promote active travel and improve personal safety.
Evidence / Intelligence	In line with Government guidance, alongside its statutory obligation to consult with emergency services and other statutory consultees, Oxfordshire County Council also conducted an informal consultation with the public, businesses and other stakeholders on its consultation webpage from 28/02/2021 for 6 months until 19/11/2021. Further engagement has taken place since February with Oxford Health, as well as consultees that were not identified at the start of the proposals. Monitoring has continued to be recorded identifying traffic flows and air pollution and these findings have been updated within the main body of the report.
Alternatives considered / rejected	It is very difficult to prevent cut through traffic without traffic filters. For instance, traffic calming has been introduced on several roads in Oxford to prevent cut through traffic, with some success in reducing traffic speed but not much success in preventing through traffic.

Category	Impact criteria	Score (-3 to +3)	Description of impact	Actions or mitigations to reduce negative impacts	Action owner	Timeline and monitoring arrangements
Energy	Increases energy efficiency	N/A				
Energy	Promotes a switch to low-carbon or renewable energy	N/A				
Energy	Promotes resilient, local, smart energy systems	N/A				
Transport & Connectivity	Reduces need to travel and/or the need for private car ownership	-1	Currently increases traffic and air pollution on boundary roads (the roads immediately surrounding and outside of the LTNs)	Monitor as part of the project	OCC ihub	Ongoing
Transport & Connectivity	Supports active travel	2	The proposal makes walking or cycling more accessible and normalised. active travel for both health and the environment (+1) Supports cycle training/safety and bike maintenance for staff, Oxfordshire residents, pupils and businesses (+2) Creates infrastructure to support cycling e.g., installation of bike racks (+2) Creates new or improves existing walk/cycle ways e.g., better accessibility, lighting, safety, routine maintenance (+2)	Promotion of bikeability training, repair and ride, PTP		
Transport & Connectivity	Increases use of public transport	1	Replaces road space allocated for Promotes the benefits of using public transport (+1) • Incentivises the use of public. transport for staff or Oxfordshire residents (+1) • Invests in public transport zero emissions schemes such as ZEBRA (+2)	Improve engagement with bus companies and promotion of bus services within Oxford		
Transport & Connectivity	Accelerates electrification of transport	N/A				
Buildings	Promotes net zero new builds and developments	N/A				
Buildings	Accelerates retrofitting of existing buildings	N/A				
Nature	Protects, restores or enhances biodiversity, landscape and ecosystems	N/A	No impact on current landscape. Within the LTN overall noise levels and specifically human generated noise has been reduced.	Opportunity to provide pocket parks and increase planting of trees and flowers around area	Project Team	2023 if scheme continues
Nature	Develops blue and green infrastructure	N/A				
Nature	Improves access to nature and green spaces	2	Use cycle routes for leisure. Reduction of car use within LTN is expected to improve air quality within	Continue monitoring of traffic flows and air quality within LTN and on boundary roads	Project Team	March 2021 onwards
Waste & Consumption	Reduces overall consumption	N/A				

Waste & Consumption	Supports waste prevention and drive reuse and recycling	N/A			
Resilience & Adaptation	Increases resilience to flooding	N/A			
Resilience & Adaptation	Increases resilience to other extreme weather events (e.g., storms, cold snaps, heatwaves, droughts)	N/A			
Resilience & Adaptation	Increases resilience of council services, communities, energy systems, transport infrastructure and/or supply chains	N/A			
Procurement & Investment	Procurement practices prioritise low-carbon options, circular economy and sustainability	N/A			
Procurement & Investment	Investment being considered supports climate action/ is consistent with path to net zero	N/A			
People & Organizations	Drives behavioural change to address the climate and ecological emergency		1	makes cycling and walkingmore accessible and normalised supporting a change in travel behaviours	OCC Project Team	Ongoing
People & Organizations	Drives organizational and systemic change to address the climate and ecological emergency	N/A			
Just transition	Promotes green innovation and job creation	N/A			
Just transition	Promotes health and wellbeing		2	Promotion of cycling and walking	OCC Project Team	Ongoing
Just transition	Reduces poverty and inequality	N/A			