Contents

Glossary

Below are the meanings of some words used throughout this report that you may be unfamiliar with, or which may have a specific meaning in this context:

AM Peak – In this report "AM peak" refers to the hours between 07h00 and 10h00.

Automatic Traffic Counters – "Automatic Traffic Counters" (ATCs) measure traffic volumes and speeds using two thin tubes that run across the street and are connected to a sensor. When wheels pass over the tubes, the pressure impact is interpreted by the sensor to identify the type of vehicle passing over, and the speed with which it passed. They are considered to be approximately 98% reliable. (See Appendix 2 for more details).

Boundary Roads – For the purpose of this report, the "boundary roads" of the St. Peter's trial area are City Road to the south, New North Road to the north-east, and Essex Road to the north-west. Note that near Angel London Underground station, the 400m stretch of road connecting Essex Road to City Road is called Islington Green, Upper Street and Islington High Street. For simplicity, throughout the report this entire stretch of road from Essex Road station to Angel station is referred to as 'Essex Road'. These roads are the boundary roads of multiple LTN trial areas, and lead to Old Street roundabout, where there have been major transformation works, all of which may have impacted some of the results. These are explored in more detail in the results and insights sections throughout the report.

Experimental Traffic Order – An "Experimental Traffic Order" (ETO) is like a permanent Traffic Regulation Order in that it is a legal document that imposes traffic and parking restrictions. However, unlike a Traffic Regulation Order an Experimental Traffic Order can only stay in force for a maximum of 18 months while the effects are monitored and assessed. An Experimental Traffic Order is made under Sections 9 and 10 of the Road Traffic Regulation Act 1984.

Internal Roads – These are roads which fall in between two or more boundary roads in low traffic neighbourhoods. For the purpose of this report, "internal roads" are local roads in the St. Peter's trial area where the project aims to reduce the amount of traffic through the introduction of traffic filters. These roads are generally narrower than boundary roads. We have collected traffic counts on some, but not all, of the internal roads in the St. Peter's area.

Low Traffic Neighbourhood – A "low traffic neighbourhood" (LTN) is an area where a number of traffic filters are strategically placed to make it impossible or very difficult to cut through the area by motor vehicle. This stops drivers using local streets as shortcuts and makes it safer and easier to walk and cycle. In this report the St. Peter's people-friendly streets (LTN) trial refers to a low traffic neighbourhood implemented in Islington under an Experimental Traffic Order. The position of the traffic filters means that drivers (including residents, deliveries and emergency services) are still able to reach any part of the neighbourhood.

Normalised – In this report "normalising" means to adjust traffic count figures to take into account the impact of Covid-19 on traffic patterns. This methodology is explained below in more detail, but in simple terms it means that the traffic count figures have been increased to project what the 2020 traffic counts may have looked like if traffic levels were at 2019 levels.

Observed – In this report "observed" means the data that was collected, which has not been adjusted to take into account the impact of Covid-19 on traffic patterns. This is the actual data that was supplied by the data collection company used.

PM Peak – In this report "PM peak" refers to the hours between 16h00 and 19h00.

Traffic Filters - "Traffic filters" are restrictions in the street to prevent motor vehicles passing through, either by presenting a physical barrier, such as bollards or planters, or by camera enforcement. Camera enforcement is used to enable buses and emergency vehicles to access the area. People are legally able to walk, cycle and wheel though the filter (and use non-motorised scooters).

Introduction – St. Peter's LTN Final Report

As part of Islington Council's People Friendly Streets (PFS) programme and the need for an urgent transport response to Covid-19, St. Peter's became the first Low Traffic Neighbourhood (LTN) trial in the borough. It was created to allow more space for people to walk and cross the road safely, cycle as part of everyday life and to use buggies or wheelchairs, thereby making the area's roads safer, cleaner and healthier for residents. Traffic filters have been installed to prevent motor vehicles from cutting through the local area. Camera enforcement is used at certain locations so that buses and emergency vehicles, as well as vehicles with exemptions, can still pass through the traffic filters.

Since the scheme's inception, several monitoring reports have been produced to examine the impact of the road filters on a range of factors, including traffic volumes and speeds, air quality, bus journey times, emergency services and crime statistics.

The Interim Report was published in June 2021 and compared pre-implementation "baseline" data with data collected roughly six months after the scheme went live, and Pre-Consultation Report was published in November 2021, comparing pre-implementation "baseline" data with data roughly one year after the scheme went live. Following this, a public consultation was held in November 2021. In January 2022, changes were made to some of the traffic filters and an exemption policy for Blue Badge holders was introduced.

Final Report

Unlike previous reports, which were aimed at determining the impact of the PFS scheme compared to a pre-implementation baseline, the purpose of this Final Report for the St. Peter's LTN is to serve as a **"final check"** on the scheme roughly one-year on from the pre-consultation stage of data collection. The report will focus on understanding how the scheme is bedding in now with the implementation of the exemption policy for local Blue Badge holders and the changes made at filters, and how it is likely to affect long-term transportation trends in the area.

Given the above, the **body of this report will focus on changes between pre-consultation data generally collected in June 2021 and final report data collected in July 2022**, with conclusions based on this comparison. The August 2020 pre-implementation baseline (for roads that were also monitored in July 2022) is included for reference only, for the key tables showing total motorised vehicles and cycles. Full details from this phase of data collection can be found in the appendices.

This report will monitor motorised traffic on internal roads and boundary roads, cycling volumes on internal and boundary roads, and air quality across the scheme area.

Scheme Context

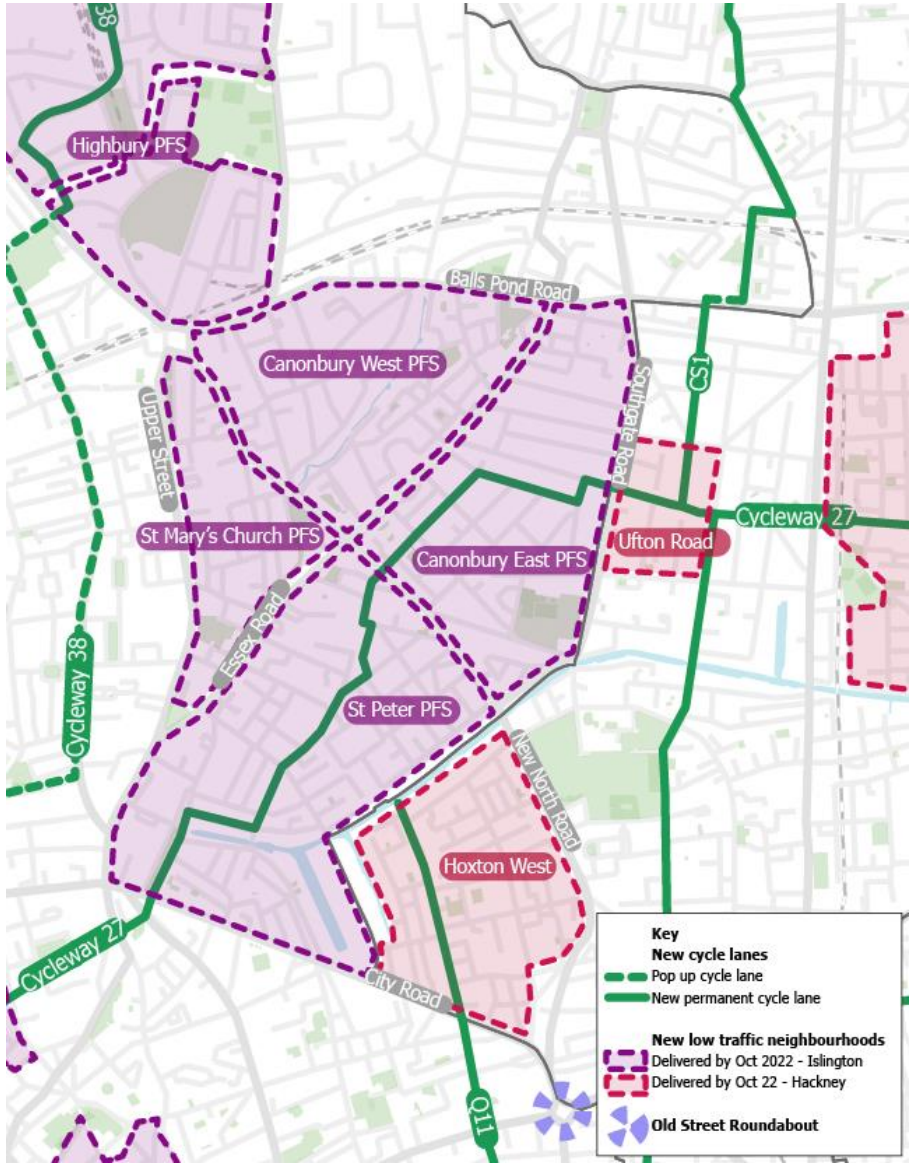
Initial PFS scheme – Traffic filters were installed at four key locations in the St. Peter's LTN area: Prebend Street, Colebrooke Row, Danbury Street and Wharf Road. At Prebend Street there was a bus gate to allow access for the 812 bus service.

Changes to the PFS scheme – Following pre-consultation counts and initial feedback on the scheme, in June 2021 some changes were made to the St. Peter's LTN. The scheme was implemented under an Emergency Traffic Order, which allows changes such as these to be made more easily. It was observed in the Interim Monitoring report that traffic increased on the Packington Estate due to people seeking to avoid the traffic filter on Prebend Street. In order to resolve this issue, the bus gate on Prebend Street was relocated to just west of the junction with Coleman Fields and a new traffic filter was installed at Coleman Fields, near to the junction with Prebend Street. The width restriction on Prebend Street was removed.

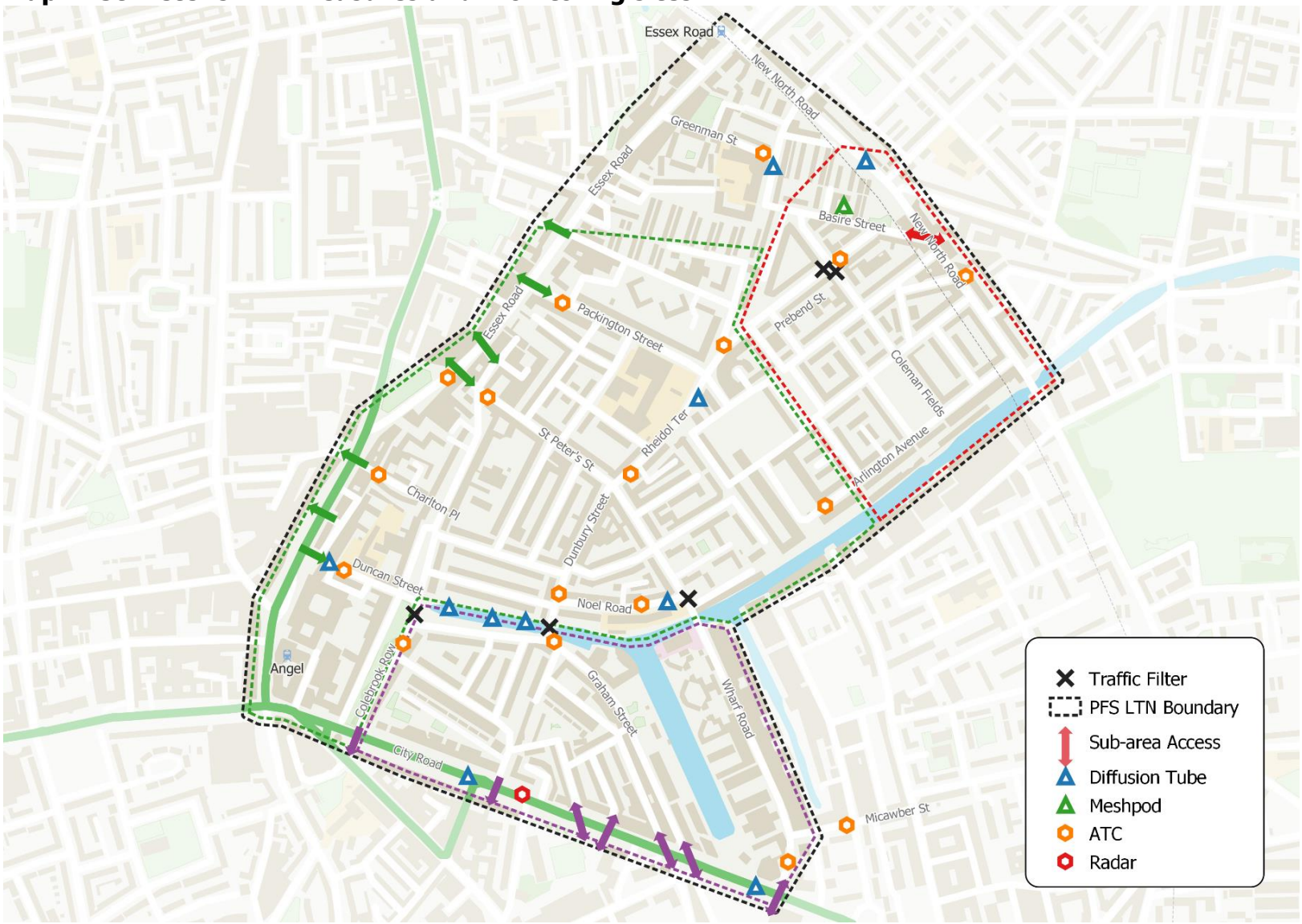
In January 2022, some of the traffic filter locations and layouts were changed to enable Blue Badge holders with a CBE Permit to pass through certain filters.

A map of the St. Peter's LTN scheme area is provided on the overleaf followed by a map showing details of the scheme as well as the monitoring sites referenced in this report.

Map 1 : St. Peter's LTN Area in Wider Context of Nearby LTN Areas and Cycle Lanes



Map 2: St. Peter's LTN measures and monitoring sites



Pre-Consultation Monitoring Outcomes

As noted above, all final report data is compared against pre-consultation report data from July 2021. However, it is important to note that the LTN scheme had already resulted in significant changes aligned with council policy at that point. The key findings from the pre-consultation monitoring report are therefore as follows:

- The pre-consultation monitoring report showed that the St. Peter's low-traffic neighbourhood (LTN) trials were having the intended impacts in the area. They reduced motorised traffic across internal roads, with an overall change of -56% in motorised vehicle numbers on such roads, making the area greener, cleaner and healthier for residents.

- No clear adverse impacts on anti-social behaviour levels or emergency service response times were noted. The trial showed no scheme-specific impacts on air quality, and nitrogen dioxide generally fell in line with borough trends.

- In all the areas studied, vehicle flows had fallen on all but two monitored roads (Charlton Place and Greenman Street), with over 75% reductions in some locations. Motorcycle levels were also higher than in the baseline across the LTN scheme area, although it was noted that this is more likely due to wider trends of home deliveries than a location-specific issue. There were not many notable changes in the proportion of goods vehicles as compared to other motorised traffic.

- Speeding issues generally decreased in number on internal roads, with volumes and proportions of vehicles speeding generally dropping across the area.

- The picture for boundary roads was generally one of mixed impact. Normalised flows increased by 24% on New North Road, stayed roughly even on Essex Road and dropped by 14% on City Road.

- Regarding cycling flows, these were up around 72% for internal roads (and increased on all roads but Micawber Street) and slightly down for the boundary roads where cycling levels were monitored (-16% on Essex Road and -2% on New North Road). Cycling increased by 193% on Wharf Road.

Independent Production of the Report by SYSTRA Ltd.

SYSTRA has been commissioned to prepare this report in partnership with the London Borough of Islington.

SYSTRA is a global leader in mass transportation and mobility, employing over 7,000 global employees across 80 countries. SYSTRA has the unique advantage of being not only a Transport Consultancy, but also Social and Market Research Consultancy. Their team members have an in-depth understanding of both the transport sector and of social and market research techniques, providing expert support in monitoring and evaluation both direct to clients and also in a peer review capacity. They provide a wealth of experience in conducting both qualitative and quantitative transport research with stakeholders to help understand their priorities and to inform options for future investment and policy development.

Neither SYSTRA nor LB Islington can be held accountable for errors in the data provided by third parties, where these errors have not been identified through normal checking processes.

Traffic Counts Approach

The count data presented in this report is not traffic modelling, but actual observed traffic, comparing traffic flows in June 2021 (which underpinned the Pre-Consultation report) with those in July 2022 (one year since the Pre-Consultation report, after the scheme became permanent and exemptions were introduced). Data from the pre-implementation period (generally June 2020) has been included for context and to calculate total differences from before the scheme was implemented, but is not the focus of the report.

There are several exceptions to when roads were monitored, generally due to vandalism or problems with survey equipment. The roads affected and relevant dates are presented in the section below.

Key Dates and Traffic Counts

Baseline (pre-implementation) counts: 8 – 14 June 2020 & 29 – 25 June 2020 (some sites were resurveyed due to damaged equipment)

St. Peter's trial begins: 3 July 2020

Pre-consultation counts: 7 – 13 June 2021

Final counts: 11 – 17 July 2022, 26 September – 2 October 2022 (City Road, Graham Street, Rheidol Terrace, Micawber Street)

The Council uses various traffic counting methods to understand traffic volumes and speeds within and around the LTN area to assess if the scheme is having the desired impact and to respond (if required) with mitigating actions.

Automatic Traffic Counts (ATCs) are used at the majority of sites in the St. Peter's LTN area. ATCs measure motorised and cycle traffic volumes and motorised traffic speeds and classify the traffic by type. Transport for London (TfL) use radar counts on the Transport for London Road Network (TLRN), which measure motorised traffic volumes and speeds. More information about the different types of counts and which type was used at each site is detailed in Appendix 1.

Analysis and Normalisation Methodology Overview

All of these counts were undertaken in full awareness of the disruption caused by the Covid-19 travel restrictions, and the need for a process to interpret the results in a way that accounts for this disruption.

Daily volumes of motorised traffic have been drawn from a range of 12 permanent traffic counters managed by Transport for London across Islington and used to establish monthly averages in 2019 and 2020. The locations of these counters are detailed in Appendix 1. The percentage difference between the same month across the two different years has been used to adjust the counts to normalise for Covid-19 disruption between the months in which counts have been taken. The methodology is set out in greater detail in Appendix 2. Drafting the baseline from TfL count locations outside of Islington and from additional years was considered and tested, but resulted in only small differences and was therefore not taken forward as the chosen methodology.

For context, the difference was greatest in April, where 2020 motorised traffic was approximately 50% of what it had been in April 2019.

Using the months of the St. Peter's counts, in June 2021 motorised traffic was approximately 8.9% lower than in June 2019 and in July 2022 motorised traffic was approximately 7.8% lower than in July 2019. In September 2022, motorised traffic was 6.19% lower than in September 2019.

Table 1: Normalisation factors since March 2020 for traffic in Islington

Month	Impact
Mar-20	-27.97%
Apr-20	-49.87%
May-20	-38.34%
Jun-20	-22.10%
Jul-20	-13.46%
Aug-20	-6.55%
Sep-20	-6.90%
Oct-20	-10.48%
Nov-20	-22.13%
Dec-20	-16.11%
Jan-21	-25.70%
Feb-21	-24.80%
Mar-21	-31.28%
Apr-21	-22.52%
May-21	-18.68%
Jun-21	-8.90%
Jul-21	-6.16%
Aug-21	-2.59%
Sep-21	-4.17%
Oct-21	-4.90%
Nov-21	-5.85%
Dec-21	-5.19%
Jan-22	-4.79%
Feb-22	-2.18%
Mar-22	-16.12%
Apr-22	-14.53%
May-22	-12.27%
Jun-22	-8.44%
Jul-22	-7.08%
Aug-22	-6.93%
Sep-22	-6.19%

Interpreting Count Results

Unless specified otherwise, the seven-day daily average has been used and discussed in traffic volumes analysis in this report. Full data and flow profiles are provided in the Appendices.

Raw data has been analysed and compared to give the observed results. The observed results have then undergone the normalisation process described in the previous section to give the normalised results. Both the normalised results and the observed results can be found in the results tables in this report and in the appendices. The figures given for changes in volumes of traffic in this report are normalised, and percentages have been drawn from the differences between normalised results.

A negative number or percentage indicates a decrease between the two counts, while a positive number or percentage indicates an increase.

Please note that traffic flows fluctuate daily (generally up to 10%). As such, changes within -10% to +10% are considered insignificant (i.e. no or negligible change) and are not colour-coded. In contrast, changes of greater than 10% in a direction aligning with scheme goals (reduced traffic/pollution levels/speeds, and increased cycling) are highlighted in green, whilst changes of greater than 10% in the opposite direction are highlighted in red.

In addition, it must be noted that, as vehicles travelling through the LTN area are likely to go through multiple counter sites, it is almost certain that the number of vehicles counted in the area is higher than the actual number of trips.

External Factors

It is important to consider all these results in the context of other external factors which could be impacting on the data. Whilst broader trends occurring over longer timescales and larger geographies are likely addressed through normalisation, more local or short-term impacts may also be present. It is not possible to adjust for these in calculations. There are six main external factors which could be influencing results, as follows:

Nearby Low Traffic Neighbourhoods – As can be seen in Map 1, the St. Peter's area is in close proximity to a number of other low

traffic neighbourhoods. Canonbury East (Islington), Canonbury West (Islington) and Hoxton West (Hackney) all share boundary roads with St. Peter's and were delivered shortly after the St. Peter's area. It is therefore not possible to separate out the impacts these may be having on traffic on the boundary roads.

Weather – Weather can have a significant impact on travel choices, especially cycling, and air pollution.

During the week the pre-consultation traffic counts were taken in June 2021, the minimum temperature was 10°C and the maximum was 24°C. UK-wide data shows that the June 2021 mean temperature was 14.2°C, 1.2°C above the June average, and had London seeing double its average rainfall. The first twelve days of July (when additional counts were carried out) were mostly unsettled, with spells of heavy rain and showers, especially over England. Rainfall was double the average in London.

The final traffic counts were taken between 11th July and 17th July 2022. Temperatures were hot and generally very dry, with highs of 25°C to 34°C. It should be noted that the red heat warning posted by the Met Office ahead of record-breaking 40°C highs was for the 19th July, so occurred after the monitoring period. In the week of the 26th September 2022, when additional counts were performed, the high was 18°C, and the week was marked by a few rainy days.

Nearby major traffic projects – In close proximity to the St. Peter's LTN trial area are two major Transport for London projects which were in place during the trial period. These are the Highbury Corner gyratory upgrade and the ongoing works at Old Street roundabout. During the data collection period for the baseline counts, the works at Old Street roundabout were having a significant impact on traffic flows on both City Road and New North Road which both lead to the gyratory. It is not possible to separate out or control for the impact of the Old Street roundabout works on the boundary roads from the impact of the low traffic neighbourhood.

Covid-19 Impacts – During the pre-consultation data collection period, formal restrictions around Covid-19 were in the process of being lifted. Most rules affecting outdoor social contact had been removed, two households or six people were allowed to meet indoors, indoor hospitality services were provided and hotels had been opened on 17th May. However, during the monitoring period, not all restrictions had been officially lifted, and face masks were still mandatory in certain settings.

In comparison, by July 2022 all Covid-19 restrictions had been removed for several months under the government's "living with Covid" plan released at the end of February, and tests were no longer free for citizens. The virus was still in active circulation in the UK, but symptoms tended to be fairly mild and advice was generally to avoid coming to work or leaving the house until symptoms abated.

Through both monitored periods, working from home was a significant driver of how much people travelled, with a larger proportion of people returning to offices at least part-time during the final counts vs. the pre-consultation ones.

Cost of Living Crisis – In July 2022, during the final counts, rising inflation had significantly increased the price of petrol and other critical items, with the cost of driving and taking public transportation increasing compared to previous years and the affordability of travel decreasing. This may have reduced the number of discretionary journeys taken by paid modes (both public and private), with some level of increase in walking and cycling likely.

ULEZ Extension – On October 2021, the ULEZ (Ultra Low Emission Zone) was extended to the North and South Circular Roads, encompassing the entirety of the Borough of Islington (previously, only areas south of City Road were subject to ULEZ levies).

In July 2022 Transport for London published the *Expanded Ultra Low Emission Zone – Six Month Report Including Low Emission Zone – One Year Report*. The report estimates that the new ULEZ reduced traffic by 21,000 vehicles in the zone on an average day, a reduction of 2 per cent of traffic flow compared to the weeks before the expanded ULEZ was implemented. Whilst it is expected that this broad change in cost of driving in the Borough has been reflected in normalised data via TfL ATCs, it is possible that more localised effects exist.

Analysis of Vehicle Volumes

All Motorised Vehicle Volumes (7-Day Daily Average)

This section outlines the changes in observed and normalised traffic volumes for all motorised vehicles, including cars (both private cars and taxis/company-owned cars) and goods vehicles ranging from delivery vans to large articulated lorries. The total number of such motorised vehicles counted in the monitored week has been summed and divided by seven to create a daily average. The numbers presented have been rounded to the nearest whole number and raw/percentage changes calculated accordingly. It is noted that the number of cycles counted is not included in this analysis.

Table 2 on the overleaf focuses on changes in motorised vehicle volumes between the pre-consultation data collection period in 2021 and the final data collection period in 2022. For this overall summary, a comparison against the initial baseline is also provided for context. It is important that percentage change figures are considered in the context of raw changes, as a large percentage change could indicate a relatively minor change in actual vehicles counted on a particularly quiet road. Conversely, a busy road could see a small percentage change even if there the number of vehicles counted is quite different between the two monitored periods.

Further context for each site can be found in Appendix 5.

Table 2: Motorised Traffic Volumes on Internal Roads

	Pre-Consultation Observed: Jun-21	Pre-Consultation Normalised: Jun-21	Final Observed: Jul-22	Final Normalised: Jul-22	Difference Observed vs. Pre-Consultation	Difference Normalised vs. Pre-consultation	Difference Observed vs. Pre-Consultation (%)	Difference Normalised vs. Pre-Consultation (%)	Difference Normalised vs. Baseline	Difference Normalised vs. Baseline (%)
Arlington Avenue	765	839	242	261	-523	-578	**-68%**	**-69%**	-105	**-29%**
Wharf Road	1,845	2,025	1,670	1,797	-175	-228	-9%	**-11%**	-928	**-34%**
St. Peter's Street	1,911	2,098	2,171	2,336	260	238	**14%**	**11%**	-1,474	**-39%**
Packington Street	3,233	3,550	2,952	3,177	-281	-373	-9%	**-11%**	-452	**-12%**
Prebend Street South	878	963	1,946	2,094	1,068	1,131	**122%**	**117%**	-3,848	**-65%**
Prebend Street North	2,276	2,498	331	357	-1,945	-2,141	**-85%**	**-86%**	-5,370	**-94%**
Noel Road	193	212	159	172	-34	-40	**-18%**	**-19%**	-285	**-62%**
Colebrooke Row	550	604	607	653	57	49	**10%**	8%	-692	**-51%**
Danbury Street	424	465	394	424	-30	-41	-7%	-9%	-2,342	**-85%**
Charlton Place	407	447	383	411	-24	-36	-6%	-8%	261	**174%**
Greenman Street	2,966	3,256	1,589	1,711	-1,377	-1,545	**-46%**	**-47%**	294	**21%**
Britannia Row	401	441	498	537	97	96	**24%**	**22%**	New Site	New Site
Rector Street	178	196	749	806	571	610	**321%**	**311%**	New Site	New Site
Canon Street	234	257	603	650	369	393	**158%**	**153%**	New Site	New Site
Coleman Fields	263	288	143	155	-120	-133	**-46%**	**-46%**	New Site	New Site
Basire Street	2,836	3,113	882	948	-1,954	-2,165	**-69%**	**-70%**	New Site	New Site
Duncan Street	632	694	587	633	-45	-61	-7%	-9%	-181	**-22%**
Total Internal	**19,992**	**21,946**	**15,906**	**17,122**	**-4,086**	**-4,824**	**-20%**	**-22%**	**-15,112**	**-52%***

This total differs to the **-59% reduction in traffic since the 2020 baseline presented in the decision report, as the -59% is based on the same set of 13 roads that was analysed at Pre-Consultation stage, which included Graham Street, Rheidol Terrace and Micawber Street below (which are presented separately below due to the requirement for a different count date in September 2022) and did not include Arlington Avenue or Greenman Street. Neither the -52% figure above nor the -59% figure in the decision report are calculated using the five new sites above as these were not compared at Pre-Consultation stage.*

	Pre-Consultation Observed: Jun-21	Pre-Consultation Normalised: Jun-21	Final Observed: Sep-22	Final Normalised: Sep-22	Difference Observed vs. Pre-Consultation	Difference Normalised vs. Pre-consultation	Difference Observed vs. Pre-Consultation (%)	Difference Normalised vs. Pre-Consultation (%)	Difference Normalised vs. Baseline	Difference Normalised vs. Baseline (%)
Graham Street*	529	580	460	491	-69	-89	**-13%**	**-15%**	-1,868	**-79%**
Rheidol Terrace*	977	1,072	980	1,043	3	-29	0%	-3%	-2,664	**-72%**
Micawber Street*	769	844	1,166	1,242	397	398	**52%**	**47%**	-1,622	**-57%**

**Graham Street, Rheidol Terrace and Micawber Street are presented separately as poor-quality Jul-22 counts required a Sep-22 recount.*

Table 3: Motorised Traffic Volumes on Boundary Roads

	Pre-Consultation Observed: Jun-21	Pre-Consultation Normalised: Jun-21	Final Observed: Jul-22	Final Normalised: Jul-22	Difference Observed vs. Pre-Consultation	Difference Normalised vs. Pre-consultation	Difference Observed vs. Pre-Consultation (%)	Difference Normalised vs. Pre-Consultation (%)	Difference Normalised vs. Baseline	Difference Normalised vs. Baseline (%)
New North Road	16,425	18,030	14,668	15,785	-1757	-2,245	**-11%**	**-12%**	1,191	8%
Essex Road	14,452	15,863	14,923	16,059	471	196	3%	1%	533	3%
Total Boundary	**30,877**	**33,893**	**29,591**	**31,844**	**-1286**	**-2,049**	**-4%**	**-6%**	**1,724**	**6%**

	Pre-Consultation Observed: Jun-21	Pre-Consultation Normalised: Jun-21	Final Observed: Sep-22	Final Normalised: Sep-22	Difference Observed vs. Pre-Consultation	Difference Normalised vs. Pre-consultation	Difference Observed vs. Pre-Consultation (%)	Difference Normalised vs. Pre-Consultation (%)	Difference Normalised vs. Baseline	Difference Normalised vs. Baseline (%)
City Road**	24,092	26,444	19,142	20,405	-4,950	-6,039	**-21%**	**-23%**	Incomplete Site	Incomplete Site

***City Road is presented separately as poor-quality Jul-22 counts required a Sep-22 recount; baseline counts for City Road were only available for five days.*

Insights: All Motorised Vehicle Volumes

In many locations within the LTN area, both observed and normalised traffic volumes continued to drop between the pre-consultation and final reporting periods. In total, normalised traffic volumes decreased on internal roads by 22%, or 4,824 daily vehicles.

Basire Street, as well as the connecting Prebend Street North site both saw reductions of roughly 2,000 daily vehicles, equating to an 70% drop in normalised flows on Basire Street and 86% drop in normalised flows at Prebend Street North. This indicates that the number of vehicles accessing the area via New North Road significantly decreased during the period between June 2021 and July 2022. However, in the sub-cell to the west past the Prebend Street filter, there were some comparable increases in traffic, namely on Prebend Street South (+1,131 or +117% normalised) and roads leading to the southeast corner of the LTN area such as Rector Street (+611 or +312% normalised) and Canon Street (+393 or 153% normalised).

Whilst the cause of the above trend is not immediately clear, the fact that vehicle numbers accessing the LTN area via Packington Street (the busiest internal road) has changed by only a small margin of -373 daily vehicles (-11%) indicates that even though the total vehicle numbers on internal roads have dropped quite significantly overall, more volume now seems to be coming from the Packington Street entry on Essex Road and routing through the LTN via Prebend Street and other smaller roads. This might be due to a change in routing choice for those living locally, but could be indicative of a larger number of exempted vehicles entering via Packington Street and passing filters direct to their destinations.

For sites surveyed in September (due to poor quality data in July), Micawber Street saw an increase of 398 daily vehicles, or a 47% increase (which may be related to the decrease in 288 daily vehicles on Wharf Road). Graham Street saw a decrease of 15% or 90 vehicles. Rheidol Terrace saw negligible change.

It is noted that over the longer term (i.e. since the initial 2020 baseline), traffic has generally dropped significantly (-15,112 or 41% fewer vehicles counted in 2022 vs. 2020. However, Charlton Place and Greenman Street have seen overall increases of between 250-300 daily vehicles.

On boundary roads, data from New North Road seems to support the above hypothesis, with a reduction in 2,245 daily vehicles (-12%), of a similar magnitude to the drops on Basire Street and Prebend Street North. Essex Road, in comparison, saw minimal change in raw numbers of vehicles, in line with changes seen on Packington Street and other accesses to Essex Road. Across both roads, there was a nominal change of -6% in motorised vehicle volumes.

City Road, which was resurveyed in September, saw the largest decrease, with 6,040 fewer vehicles (-23%), although this may relate to this no longer being a Ultra-Low Emissions Zone boundary (and therefore not representing a way to avoid ULEZ charges).

Goods Vehicle Volumes (5-Day Average)

This section outlines the changes in normalised traffic volumes for Light Goods Vehicles and Heavy Goods Vehicles.

LGV stands for Light Goods Vehicle. This is defined for the purposes of this report (and differs from previous reports) as a rigid two-axle van, such as the type of van commonly used for deliveries. HGV stands for Heavy Goods Vehicle, which is a goods vehicle larger than the type of van described above.

The results shown are for 5-day average weekday volumes, excluding weekends. This is because goods vehicle traffic is generally lower at weekends, therefore the weekday data gives a better impression of the effects on goods vehicle traffic. Similarly, the % numbers given are percentages of total motorised traffic, rather than all vehicles counted. Changes in the proportion of LGV/HGV compared to total motorised traffic (or "dominance" of such vehicles) is presented as a percentage point difference.

Table 4: Goods Vehicle Volumes on Internal Roads

	LGV #: Jun-21	LGV Prop: Jun-21	LGV #: Jul-22	LGV Prop: Jul-22	LGV Change in Proportion	HGV #: Jun-21	HGV Prop: Jun-21	HGV Jul-22	HGV Prop: Jul-22	HGV Change in Proportion
Arlington Avenue	105	12%	45	16%	4%	16	2%	11	4%	2%
Wharf Road	157	8%	157	9%	1%	47	2%	49	3%	1%
St. Peter's Street	51	2%	36	1%	-1%	144	7%	253	10%	3%
Packington Street	284	8%	346	10%	2%	53	1%	43	1%	0%
Prebend Street South	83	8%	236	11%	3%	147	14%	175	8%	-6%
Prebend Street North	252	10%	65	17%	7%	49	2%	27	7%	5%
Noel Road	37	17%	25	14%	-3%	9	4%	15	8%	4%
Colebrooke Row	26	4%	15	2%	-2%	196	29%	352	44%	**15%**
Danbury Street	33	6%	30	6%	0%	85	16%	110	23%	7%
Charlton Place	36	8%	53	12%	4%	36	8%	11	3%	-5%
Greenman Street	393	11%	234	13%	2%	28	1%	8	0%	-1%
Britannia Row	60	13%	85	16%	3%	4	1%	1	0%	-1%
Rector Street	15	8%	80	10%	2%	6	3%	3	0%	-3%
Canon Street	33	13%	104	15%	2%	2	1%	6	1%	0%
Coleman Fields	50	17%	31	18%	1%	3	1%	5	3%	2%
Basire Street	317	10%	140	14%	4%	74	2%	36	4%	2%
Duncan Street	73	10%	54	8%	-2%	26	4%	41	6%	2%
Total/Average Internal	**2,005**	**10%**	**1,736**	**12%**	**2%**	**925**	**12%**	**1,146**	**20%**	**8%**

	LGV #: Jun-21	LGV Prop: Jun-21	LGV #: Sep-22	LGV Prop: Sep-22	LGV Change in Proportion	HGV #: Jun-21	HGV Prop: Jun-21	HGV Sep-22	HGV Prop: Sep-22	HGV Change in Proportion
Graham Street*	**83**	14%	79	15%	1%	34	6%	24	5%	-1%
Rheidol Terrace*	**134**	12%	111	10%	-2%	142	12%	151	13%	1%
Micawber Street*	**113**	14%	165	13%	-1%	21	3%	30	2%	-1%

**Graham Street, Rheidol Terrace and Micawber Street are presented separately as missed Jul-22 counts required recounts in Sep-22.*

Table 5: Goods Vehicle Volumes on Boundary Roads

	LGV #: Jun-21	LGV Prop: Jun-21	LGV #: Jul-22	LGV Prop: Jul-22	LGV Change in Proportion	HGV #: Jun-21	HGV Prop: Jun-21	HGV Jul-22	HGV Prop: Jul-22	HGV Change in Proportion
New North Road	2,093	11%	1,948	12%	1%	268	1%	237	1%	0%
Essex Road	1,821	12%	1,793	11%	-1%	322	2%	370	2%	0%
Total/Average Boundary	**3,914**	**12%**	**3,741**	**12%**	**0%**	**590**	**2%**	**607**	**2%**	**0%**

**City Road not included in this breakdown as LGV vehicle classification in the final collection period appears incorrect.*

Insights: Good Vehicles Volumes

LGV proportion on internal roads increased by 2% percentage points, hiding a 269 decrease in their numbers. HGV numbers on the contrary increased by 221 HGVs and their proportion increased from 12% to 20% on internal roads. Some disparities appear on internal roads, for example on Prebend Street South LGV traffic went from 284 to 346 vehicles per day – in line with the increase in overall traffic seen on the street. This is most likely due that vehicles are having to go through Cannon and Rector Street to avoid the traffic filter at Prebend North. Notably, Colebrook Row now attracts more HGVs that before, with the HGV dominance on this street up by 15% to 44% of all motorised traffic (this is mostly four axle vehicles), meaning this road has similar numbers of HGVs to Essex Road.

In terms of boundary roads, both the number and proportion of LGVs and HGVs appear to be broadly similar between pre-consultation and final counts. As above, it is noted that LGV and HGV breakdown data is not provided for City Road due to misclassed data for LGV in the final data collection period.

Motorcycle Volumes (7-Day Average)

Motorcycle volumes are considered separately from other vehicles as they are occasionally able to travel through neighbourhood blocks using filters and streets in manners that cars and lorries cannot (for example by illegally using cycle filters). Similarly, on average they create more noise than general traffic and are therefore of particular concern during the overnight period, especially as a result of the significant increase in their prevalence following Covid-19 and the spike in deliveries made by motorcycle in London.

Motorcycles are distinguished from pedal cycles in ATC counters by the weight and spacing of the vehicle tyres.

Table 6: Motorcycle Flows on Internal Roads

	Motorcycle #: Jul-21	Motorcycle Prop.: Jul-21	Motorcycle #: Jul-22	Motorcycle Prop.: Jul-22	Motorcycle Change in Proportion
Arlington Avenue	51	6%	27	10%	4%
Wharf Road	283	14%	241	13%	-1%
St. Peter's Street	203	10%	216	9%	-1%
Packington Street	331	9%	285	9%	0%
Prebend Street South	88	9%	171	8%	-1%
Prebend Street North	130	5%	19	5%	0%
Noel Road	16	8%	13	8%	0%
Colebrooke Row	36	6%	31	5%	-1%
Danbury Street	46	10%	65	15%	5%
Charlton Place	42	9%	26	6%	-3%
Greenman Street	312	10%	179	10%	0%
Britannia Row	42	10%	36	7%	-3%
Rector Street	19	10%	83	10%	0%
Canon Street	16	6%	48	7%	1%
Coleman Fields	27	10%	9	6%	-4%
Basire Street	183	6%	86	9%	3%
Duncan Street	70	10%	50	8%	-2%
Total/Average Internal	**1,895**	**9%**	**1,585**	**10%**	**1%**

	Motorcycle #: Jun-21	Motorcycle Prop.: Jun-21	Motorcycle #: Sep-22	Motorcycle Prop.: Sep-22	Motorcycle Change in Proportion
Graham Street*	70	12%	48	10%	-2%
Rheidol Terrace*	78	7%	95	9%	2%
Micawber Street*	138	16%	189	15%	-1%

**Graham Street, Rheidol Terrace and Micawber Street are presented separately as missed Jul-22 counts required recounts in Sep-22.*

Table 7: Motorcycle Flows on Boundary Roads

	Motorcycle #: Jun-21	Motorcycle Prop.: Jun-21	Motorcycle #: Jul-22	Motorcycle Prop.: Jul-22	Motorcycle Change in Proportion
New North Road	872	5%	787	5%	0%
Essex Road	833	5%	860	5%	0%
Total/Average Boundary	**1,705**	**5%**	**1,647**	**5%**	**0%**

**City Road not included in this breakdown as this is a radar site that does not collect data on motorcycles.*

Insights: Motorcycle Volumes

On internal roads the number of motorcycles decreased by 310 in line with the general decrease in traffic, so that their proportion of overall traffic on internal roads changed slightly from 16% to 15%. The same shift as for all vehicles from New North Road to the Essex Street entrance can be observed for motorcycles. Basire Street, which had 183 motorcycles counted in the pre-consultation period dropped to 86 in final counts, with motorcycles increasing in number on Prebend Street South, Canon Street and Rector Street. However, there was no street where a particular trend in motorcycle dominance was observed. This is further confirmed by the fact that on boundary roads, motorcycles did not change in proportion at all between the two reporting periods.

Cycle Volumes (7-Day Average)

We have not normalised cycling figures for Covid-19 due to the lack of an available source that provides continuous month-to-month cycling levels encompassing all types of cycling trips (commute and leisure), and is at a local enough geographic scale to form a meaningful and robust benchmark.

Unlike motorised traffic trends, cycling levels are significantly impacted by seasonal weather change including temperature and rainfall; for example, there is normally much more cycling participation in July than in February, and there are similarly significantly more cycle trips completed in July than February. There are several interlinked factors when it comes to the impact seasonal weather variation has on cycling levels, while weather can still vary within a season, a month or even a day. As an indication of the impact weather can have, one 2011 study found a doubling in temperature could lead to up to a 50% increase in cycling levels, before having a negative impact if too high (Study by Miranda-Moreno and Nosal, 2011).

During June 2021, when pre-consultation counts were taken, the average daily high temperature for London (Heathrow) was 23°C, with an average low of 13°C, with significant rainfall. In comparison, in the month of the final counts, the average high was 30°C, with a low of 17°C, with very little rainfall.

Considering these caveats, it is also important to note that government regulations and guidance surrounding Covid-19, as well as the impact of the cost-of-living crisis in 2022, have significantly impacted wider cycling trends since March 2020 (data from DfT's Official Statistics, 2021). Graph 5 on the overleaf shows, on a national basis, the number of cycle trips completed as compared to the same month pre-pandemic (i.e., June 2021 compared to June 2019), indicating that whilst the first few months of the pandemic (i.e. early summer 2020) saw very high levels of cycling, levels since then have been driven by a range of factors (for example lower flows in the largely rainy summer of 2021 and higher flows in the hot and dry summer of 2022 during the cost of living crisis).

Route choices made by people cycling will also be impacted by the availability of nearby protected cycle infrastructure and Low Traffic Neighbourhoods, including the recently constructed Cycleway 38 to the north of the scheme.

Following Graph 5, which outlines nationwide cycling trends, the table outlines changes in cycling volumes across the scheme area between pre-consultation and final counts, with comparison against baseline provided for context.

Graph 5: National Cycling Levels vs. Same Month in 2019

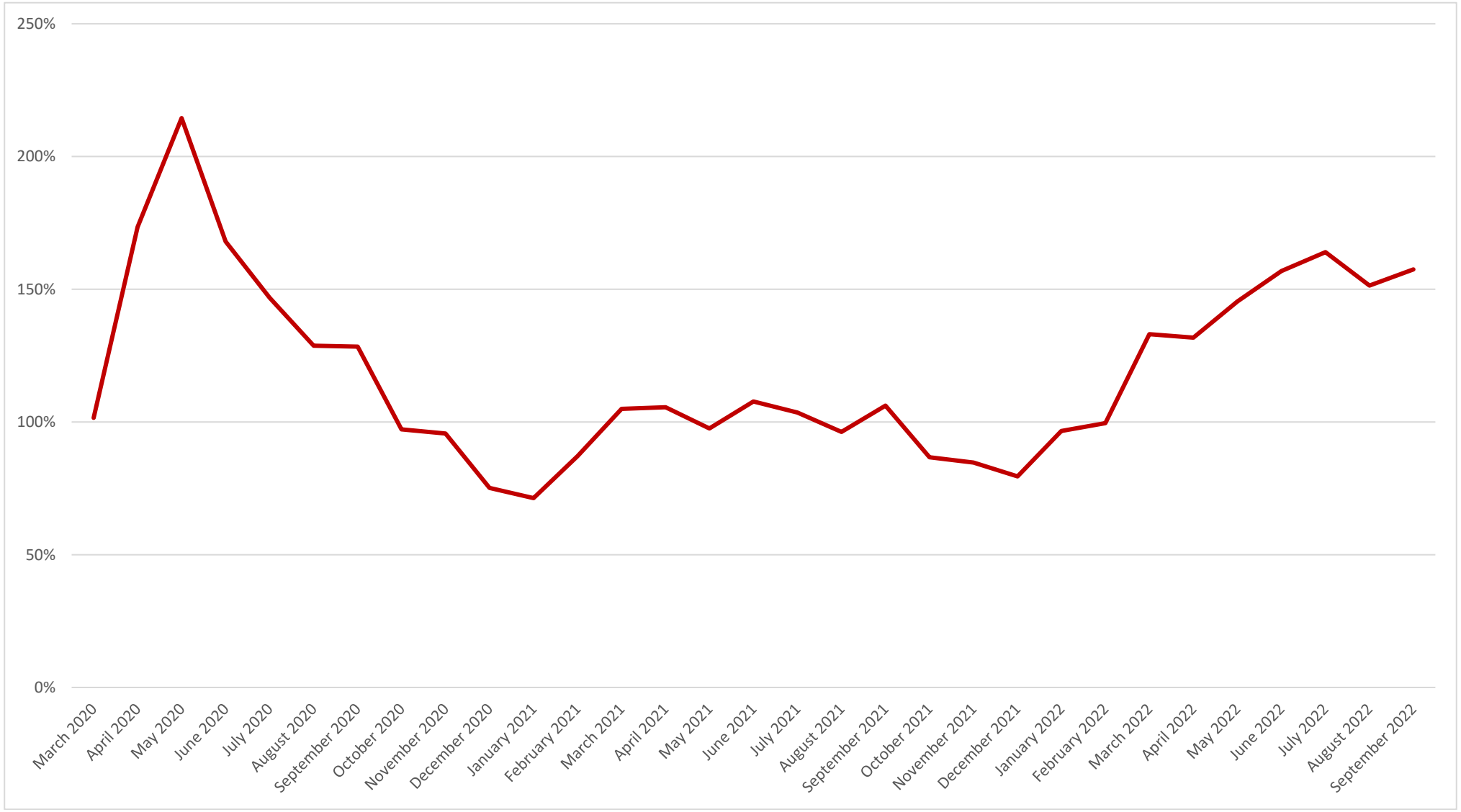


Table 8: Cycle Volumes on Internal Roads

	Pre-Consultation Observed (Jun-21)	Final Observed (Jul-22)	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
Arlington Avenue	374	365	-9	-2%	105	**40%**
Wharf Road	553	492	-61	-11%	306	**165%**
St. Peter's Street	1,011	1,275	264	**26%**	686	**116%**
Packington Street	535	529	-6	-1%	184	**53%**
Prebend Street South	1,960	2,000	40	2%	1,053	**111%**
Prebend Street North	594	730	136	**23%**	451	**162%**
Noel Road	374	361	-13	-3%	110	**44%**
Colebrooke Row	2,037	2,579	542	**27%**	1,246	**93%**
Danbury Street	1,313	1,466	153	**12%**	767	**110%**
Charlton Place	236	367	131	**56%**	239	**187%**
Greenman Street	198	210	12	6%	74	**54%**
Britannia Row	162	137	-25	**-15%**	New Site	New Site
Rector Street	212	175	-37	**-17%**	New Site	New Site
Canon Street	74	108	34	**46%**	New Site	New Site
Coleman Fields	69	58	-11	**-16%**	New Site	New Site
Basire Street	519	531	12	2%	New Site	New Site
Duncan Street	713	643	-70	**-10%**	126	**24%**
Total Internal	**10,934**	**12,026**	**1,092**	**10%**	**5,347**	**94%***

This total differs to the **112% reduction in traffic since the 2020 baseline presented in the decision report, as the 112% is based on the same set of 13 roads that was analysed at Pre-Consultation stage, which included Graham Street, Rheidol Terrace and Micawber Street below (which are presented separately below due to the requirement for a different count date in September 2022) and did not include Arlington Avenue or Greenman Street. Neither the 94% figure above nor the 112% figure in the decision report are calculated using the five new sites above as these were not compared at Pre-Consultation stage.*

	Pre-Consultation Observed (Jun-21)	Final Observed (Jul-22)	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
Graham Street*	733	689	-44	-6%	270	**64%**
Rheidol Terrace*	1,763	1,781	18	1%	912	**105%**
Micawber Street*	381	981	600	**157%**	484	**97%**

**Graham Street, Rheidol Terrace and Micawber Street are presented separately as missed Jul-22 counts required recounts in Sep-22.*

Table 9: Cycle Volumes on Boundary Roads

	Pre-Consultation Observed (Jun-21)	Final Observed (Jul-22)	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
New North Road	950	991	41	4%	21	2%
Essex Road	828	1,174	346	**42%**	184	**19%**
Total Boundary	**1,778**	**2,165**	**387**	**22%**	**205**	**10%**

**City Road not included in this breakdown as this is a radar site that does not collect data on cycles.*

Insights: Cycling Volumes

On internal roads, cycling volumes between the pre-consultation and final reporting periods increased by 10% overall, with 1,092 more cyclists counted on internal roads. However, there was some variety seen across individual roads.

Micawber Street saw the largest increase in cycling trips, from 381 in the pre-consultation period to 981 in the final period (+600 daily cyclists or +157%) – which may relate to the final period data for this street being collected in September when a higher rate of return to offices was observed. Charlton Place saw a large percentage increase (+56%) in cycle trips, which is set against a net increase in vehicle flows since the baseline in this location. Colebrooke Row also saw an increase of 542 daily cycle trips (+27%). It is noted that in no location was there a drop in cyclists vs. the initial 2020 baseline.

There were some locations with decreases in cycling flows, although all of these were shifts of less than 100 daily cyclists. The largest daily decrease was seen on Wharf Road, of -61 cycle trips counted (-11%).

On boundary roads, there was a significant increase in cycles counted on Essex Road, with 346 additionally daily cycles counted, an increase of 42%. Across all monitoring periods, there has been limited change in cycles counted on New North Road.

Analysis of Vehicle Speeds

Speeding is a major contributing factor to road danger, so reducing speeding is vital to making our roads safer for all.

Traffic counters measure motorised traffic speeds as well as volumes. Details about the dates and locations of the traffic volume and speed monitoring are in Appendix 1. The speed limit is 20mph on all of the internal roads, except for Arlington Avenue, where the monitoring location is between a 5mph and 20mph at the entrance to the Packington Estate

Speed monitoring results have not been normalised as they are not considered to have been impacted by Covid-19 in the same way and to the same extent as traffic volumes, though speeds may settle into new patterns post-Covid-19. The results presented here are seven-day averages. The 85th percentile is used in transport monitoring to gauge changes in speeds and speeding behaviour. It is the speed at or below which 85% of traffic will be travelling at along a street (and therefore 15% of traffic will be travelling faster than this speed). Cycles and their speeds have been removed from calculations relating to vehicle speeds as including such counts would skew averages down.

It has not been possible to compare 2020 baseline vehicle speeds for individual sites as the raw data provided has been processed differently to that of other periods and is thus not directly comparable.

Map 5: Average Vehicle Speed in mph (seven-day daily averages)

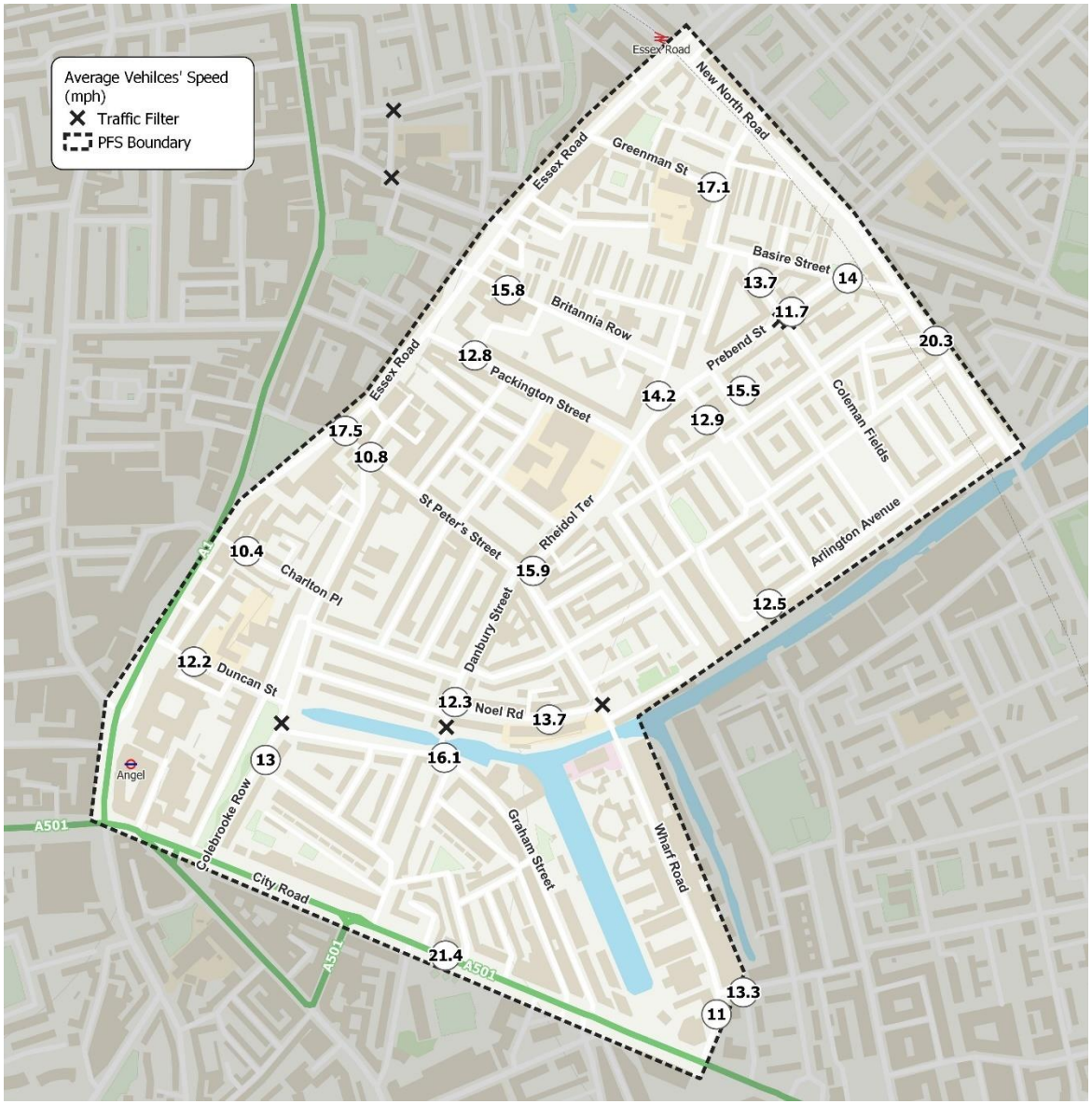


Table 10: Difference in Vehicle Speeds on Internal Roads

	Final average speed (mph)	Difference in average speed (mph)	Difference in average speed (%)	Avg Speed Diff. vs. Baseline (mph)	Avg Speed Diff. vs. Baseline (%)	Final 85th percentile (mph)	Difference in 85th percentile (mph)	Difference in 85th percentile (%)	Final proportion of vehicles speeding	Difference in proportion of vehicle speeding (%)
Arlington Avenue	12.5	-0.9	-7%	0.2	2%	16.1	-0.7	-4%	3%	-1%
Wharf Road	11.0	0.0	0%	-0.3	-3%	13.4	0.0	0%	0%	0%
St. Peter's Street	10.8	0.8	8%	-0.8	-7%	13.1	1.1	9%	1%	1%
Packington Street	12.8	-0.4	-3%	-1.8	**-12%**	15.4	-0.7	-4%	2%	0%
Prebend Street South	14.2	1.6	**13%**	-1.5	**-10%**	17.5	2.1	**14%**	5%	3%
Prebend Street North	11.7	-1.0	-8%	-3.1	**-21%**	14.8	-0.3	-2%	2%	1%
Noel Road	13.7	-0.5	-4%	-2.3	**-14%**	17.7	-0.7	-4%	6%	-2%
Colebrooke Row	13.0	0.5	4%	0.5	4%	15.5	0.7	5%	1%	0%
Danbury Street	12.3	0.6	5%	-2.5	**-17%**	14.7	0.8	6%	7%	4%
Charlton Place	10.4	1.5	**17%**	0.9	9%	12.8	2.1	**20%**	1%	1%
Greenman Street	17.1	0.0	0%	-0.3	-2%	20.4	0.2	1%	17%	1%
Britannia Row	15.8	-0.1	-1%	New Site	New Site	19.8	-0.1	-1%	14%	0%
Rector Street	12.9	1.0	8%	New Site	New Site	15.6	0.7	5%	1%	-1%
Canon Street	15.5	1.2	8%	New Site	New Site	18.7	0.5	3%	9%	4%
Coleman Fields	13.7	-1.4	-9%	New Site	New Site	17.8	-1.2	-6%	7%	-4%
Basire Street	14.0	-0.1	-1%	New Site	New Site	17.1	0.0	0%	5%	1%
Duncan Street	12.2	-0.5	-4%	-1.6	**-12%**	15.0	-0.9	-6%	2%	-1%
Average Internal	**13.1**	**-0.1**	**-1%**	**-1.3**	**-9.4%***	**16.0**	**-0.1**	**-1%**	**4%**	**0%**

This total differs to the -9.9%** reduction in traffic since the 2020 baseline presented in the decision report, as the -9.9% is based on the same set of 13 roads that was analysed at Pre-Consultation stage, which included Graham Street, Rheidol Terrace and Micawber Street below (which are presented separately below due to the requirement for a different count date in September 2022) and did not include Arlington Avenue or Greenman Street. Neither the -9.4% figure above nor the -9.9% figure in the decision report are calculated using the five new sites above as these were not compared at Pre-Consultation stage.*

	Final average speed (mph)	Difference in average speed (mph)	Difference in average speed (%)	Diff. vs. Baseline (mph)	Diff. vs. Baseline (%)	Final 85th percentile (mph)	Difference in 85th percentile (mph)	Difference in 85th percentile (%)	Final proportion of vehicles speeding	Difference in proportion of vehicle speeding (%)
Graham Street	16.1	0.0	0%	0.4	3%	20.3	-0.1	0%	16%	-1%
Rheidol Terrace	15.9	-0.3	-2%	-1.8	**-10%**	20.0	-0.3	-1%	6%	**-11%**
Micawber Street	13.3	-1.0	-7%	-1.6	**-11%**	16.2	-1.8	-10%	3%	-5%

**Graham Street, Rheidol Terrace and Micawber Street are presented separately as poor-quality Jul-22 counts required a recount in Sep-22.*

Table 11: Difference in Vehicle Speeds on Boundary Roads

	Final average speed (mph)	Difference in average speed (mph)	Difference in average speed (%)	Diff. vs. Baseline (mph)	Diff. vs. Baseline (%)	Final 85th percentile (mph)	Difference in 85th percentile (mph)	Difference in 85th percentile (%)	Final proportion of vehicles speeding	Difference in proportion of vehicle speeding (%)
New North Road	20.3	-0.6	-3%	-0.8	-4%	24.0	-0.8	-3%	46%	-8%
Essex Road	17.5	0.7	4%	-1.7	-9%	22.1	-0.1	0%	26%	0%
Average Boundary	**18.9**	**-0.1**	**-1%**	**-1.2**	**-6%**	**23.0**	**-0.6**	**-3%**	**36%**	**-5%**

	Final average speed (mph)	Difference in average speed (mph)	Difference in average speed (%)	Diff. vs. Baseline (mph)	Diff. vs. Baseline (%)	Final 85th percentile (mph)	Difference in 85th percentile (mph)	Difference in 85th percentile (%)	Final proportion of vehicles speeding	Difference in proportion of vehicle speeding (%)
City Road	20.3	-0.6	-3%	Incomplete Site	Incomplete Site	24.0	-0.8	-3%	46%	-8%

**City Road is presented separately as poor-quality Jul-22 counts required a recount in Sep-22; baseline counts for City Road were only available for five days.*

Insights: Vehicle Speeds

Between the pre-consultation and final reporting periods, there were a few roads on which average speeds increased a notable amount – vehicles on Prebend Street South on average travelled faster by 1.6mph or a 13% increase in speed, whilst vehicles on Charlton Place increased their speeds by 17% (1.5mph). Since the initial baseline, however, average speeds fell more than 10% on a range of streets, including on Prebend Street South as referenced above.

On boundary roads, New North Road saw a drop of 8 percentage points in the proportion of vehicles speeding, as did City Road. Across all boundary roads, where was minimal change in average speeds (although a slightly larger drop in 85th percentile speeds).

Air Quality

Air quality refers to the air around us, how clean it is and how many pollutants (harmful chemicals or substances) it contains. The more pollutants the air contains the more air pollution there is and the worse the air quality is. Poor air quality is a concern as air pollution can impact health. The two main pollutants of concern that we monitor are:

- **Particulate matter of 10µm or less in size (PM10)** – tiny bits of solid material made of a range of substances suspended in the air.

- **Nitrogen dioxide (NO_2)** – one of a group of gases called nitrogen oxides.

There are three types of monitors in use, which will give slightly different data:

- **Automatic monitors:** monitor NO_2 and PM_{10} 24 hours a day at two locations in the borough. These are our most accurate monitors.

- **Diffusion tubes:** provide monthly readings of NO_2. While not as accurate as the automatic monitors, they can be more widely deployed to provide trends over a larger area and time period and are a nationally approved monitoring technique. These tubes measure the air's concentration of nitrogen dioxide (NO_2), a toxic gas that can be very harmful to health. The tubes are replaced and analysed on a monthly basis. Research suggests that at urban roadside locations in the UK up to 80 per cent of the nitrogen dioxide measured comes from road transport.

- **Sensors:** these sensors can monitor a range of pollutants in a continuous manner like the automatic monitors, however they can have more uncertainty with regard to accuracy and these monitors have not gone through the same quality control process as our other monitors. There are also limited numbers of these monitors in the borough.

Islington's air quality sites are classified based on their location using Defra guidance, but are referred to in these PFS monitoring reports using PFS terminology. This has required the addition of a further category, as will now be explained. According to Defra, "Roadside sites" are those within one to five metres of a busy road. In the PFS monitoring reports, roadside monitoring equates to boundary road sites. According to Defra, "Urban background sites" are those in an urban location but more distanced from traffic sources. For the PFS monitoring we have further split the urban background results into sites on internal roadsides and sites away from

roads. These categorisations apply to the LTN and borough wide.

The long-term sites in Islington consist of nine roadside diffusion tubes, ten background urban diffusion tubes, one automatic main road site and one automatic background urban site. One of the main road diffusion tubes was moved in 2019 and is therefore not being included in PFS monitoring using this time period. More details of these sites can be viewed in our annual report.

The air quality monitoring sites in St. Peter's are listed in Appendix 3, with details about type and if they have been added as part of the PFS programme or were pre-existing. The long-term sites that are being used for comparison work in this pre-consultation St. Peter's report consist of three boundary road diffusion tubes, four internal road diffusion tubes and three non-street diffusion tubes.

Methodology

Time period of study

Air quality varies naturally over time due to a variety of factors, including seasonal variations, weather and other non-transport factors. It is therefore important to look at trends over a longer period of time, for at least a year, to identify real changes in air quality due to this scheme. However, as there has not been a full year's worth of data between the pre-consultation report and final report (data is only available to March 2022 due to a lag in the review time for this), data from the eight month period between August 2021 and March 2022 has been compared against data from the same eight month period from the previous year (i.e. August 2020 and March 2021), after the scheme was implemented but before the pre-consultation counts were taken. The pollution levels in these periods, particularly Pre-Consultation, are likely to have been impacted by Covid-19. Studies into the impacts of lockdown on air pollution, by Defra, for example, show lower than average levels of the pollutant NO2 during the first lockdown.

The ultimate goal of our air quality strategy is to reduce air pollution as much as possible, and certainly to within legal limits. As such, the newer sites will be used to monitor if air quality is at legal levels in and of itself.

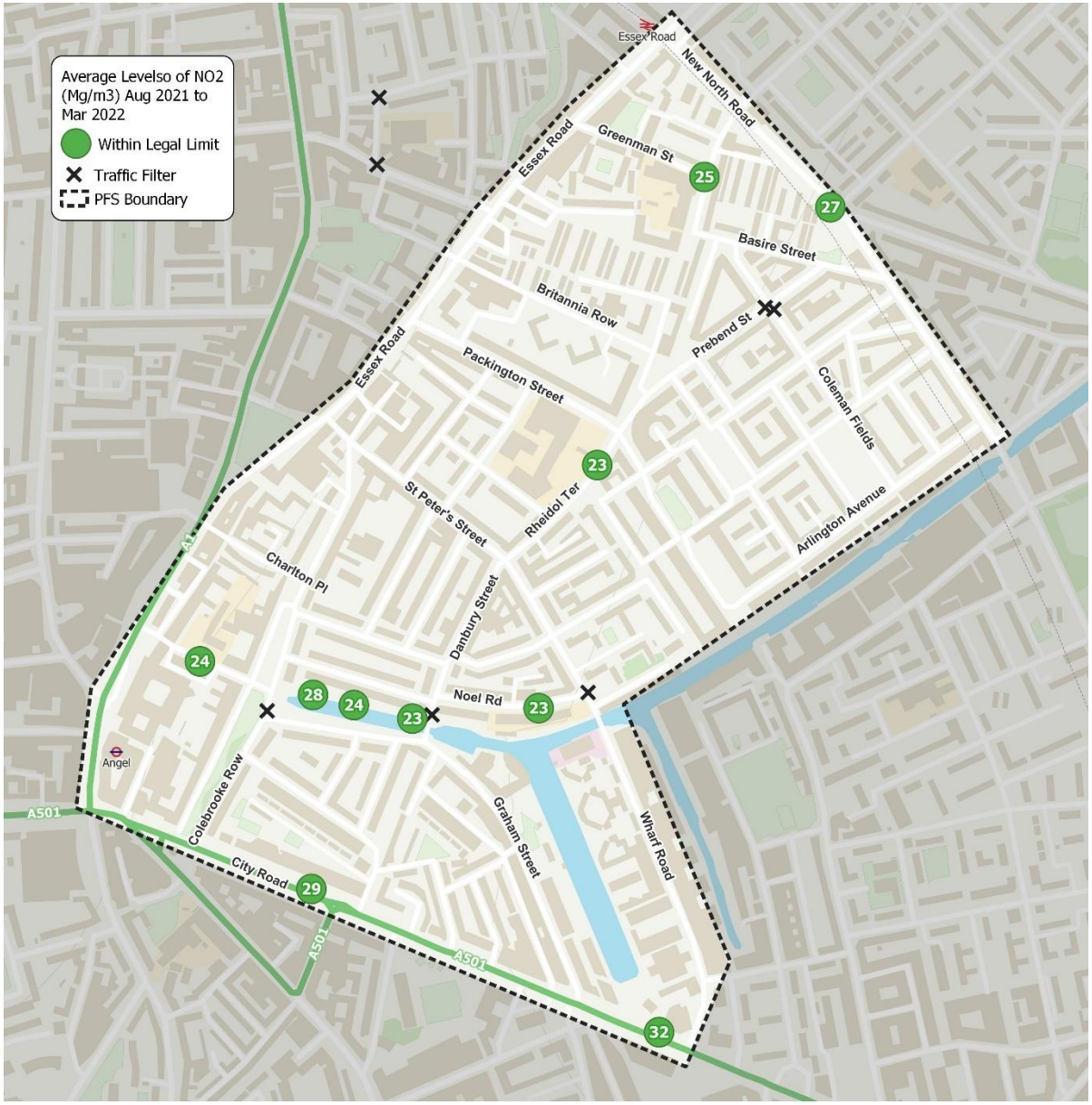
Results: Air Quality Diffusion Tubes

The results shown in this section use NO_2 data from diffusion tubes only, as sensor readings were not available. It was therefore not possible to provide results for PM10 for St. Peters.

Please note, the values in this section show the average results for all monitors in each category where the data is available, with figures rounded to the nearest whole number, so the differences may look different to what is expected from the NO2 values given.

To improve accuracy levels of diffusion tubes it is necessary to bias correct the results based upon local or national collocation studies with the more accurate reference monitors. It is also necessary to calculate the data capture, and if this is less than 75%, the results should be annualised. More information on this process can be found in the council annual air quality report. The results from 2022 have yet to be published as they require a full years' data, so the 2022 data presented here is in "raw" format and may change once the bias adjustment values are made available.

Map 3: Average levels of NO_2 (µg/m3) August 2021-March 2022



Map 4: Percentage change in NO_2 (µg/m3) between August 2020-March 2021 and August 2021-March 2022

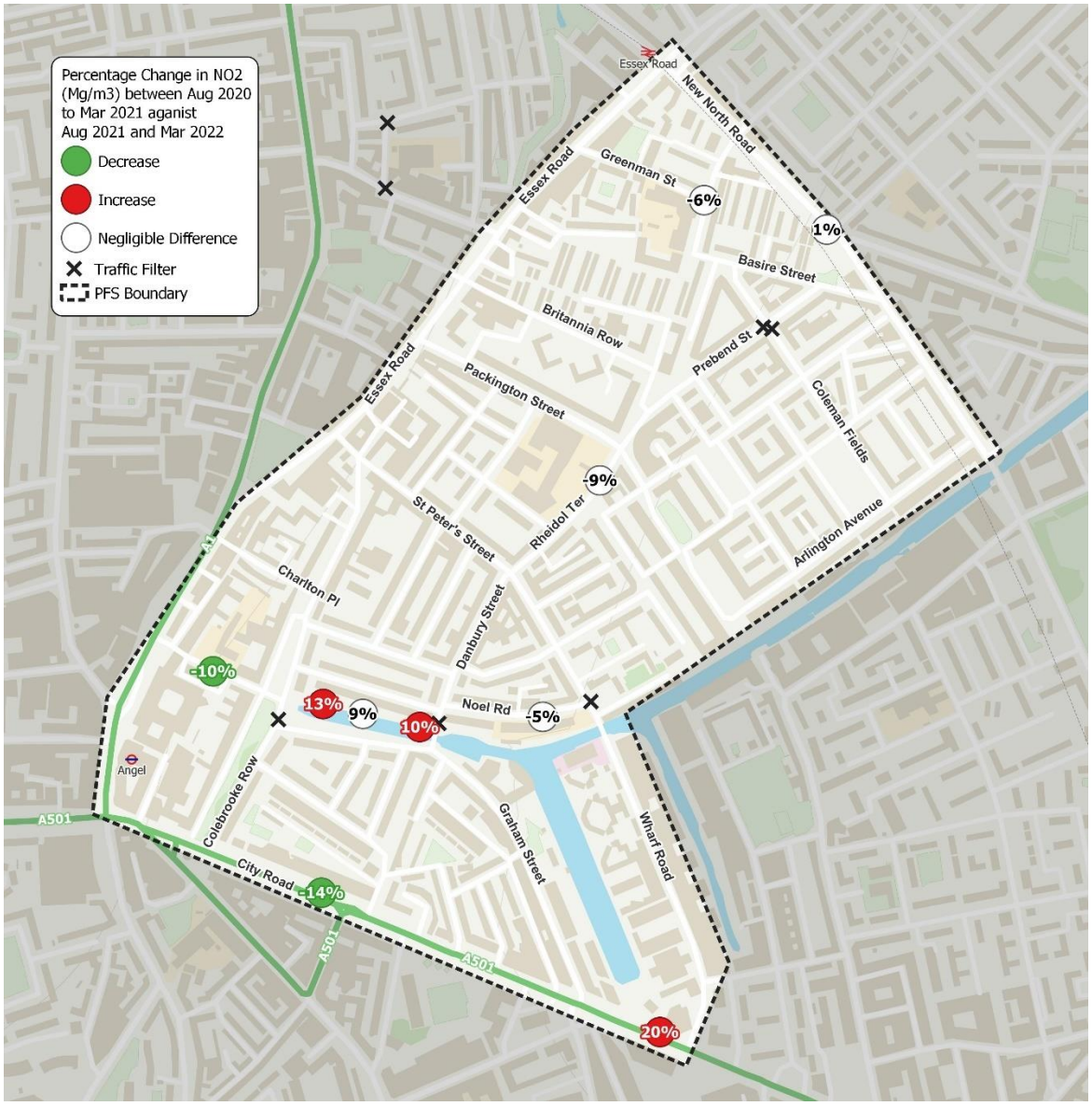


Table 12: (Boundary roads) NO_2 levels in St Peter's and borough long term diffusion tube sites

	Aug '20 – Mar '21 NO_2 (µg/m3)	Aug '21 – Mar '22 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
St. Peter's	29	30	1	1%
Whole borough long term sites	33	33	0	-2%

Table 12 above provides average NO_2 levels for the three boundary road monitoring sites in St. Peter's, as well as eight boundary road monitoring sites spread across the remainder of the borough. In both cases, there was a negligible change in overall NO_2 levels (within 2% of pre-consultation levels).

It is worth noting that City Road forms the border between the old and new Ultra-Low Emissions Zones, which may have changed travel patterns. Similarly, all boundary road sites are near a range of other wider-area projects (other LTNs both in Islington and Hackney, the Old Street Roundabout, and others), all of which may have impacted air quality. Emissions from local construction activity or other sources could also have played a role.

Table 13: (Internal roads) NO2 levels in St Peter's and borough long term diffusion tube sites

	Aug '20 – Mar '21 NO_2 (µg/m3)	Aug '21 – Mar '22 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
St. Peter's	25	24	-1	-6%
Whole borough long term sites	24	25	1	3%

This includes four monitoring sites in St Peter's for Pre and Post Scheme. There are six monitoring locations for the whole borough long term sites for each time period.

In general, the internal sites in St. Peter's saw a slight, but negligible improvement in NO_2 levels (-6%), whilst the full borough figure was a similarly low at +3%.

Table 14: (Non-street-based sites) NO2 levels in St Peter's and borough long term diffusion tube sites

	Aug '20 – Mar '21 NO_2 (µg/m3)	Aug '21 – Mar '22 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
St. Peter's	22	24	2	9%
Whole borough long term sites	23	23	0	-1%

There are three non-street monitoring sites in St. Peter's for each time period. There are four monitoring locations for the whole borough long term sites for each time period. The St. Peter's sites saw a 9% increase in NO_2 levels, whilst the comparable whole borough sites saw a 1% reduction in such levels.

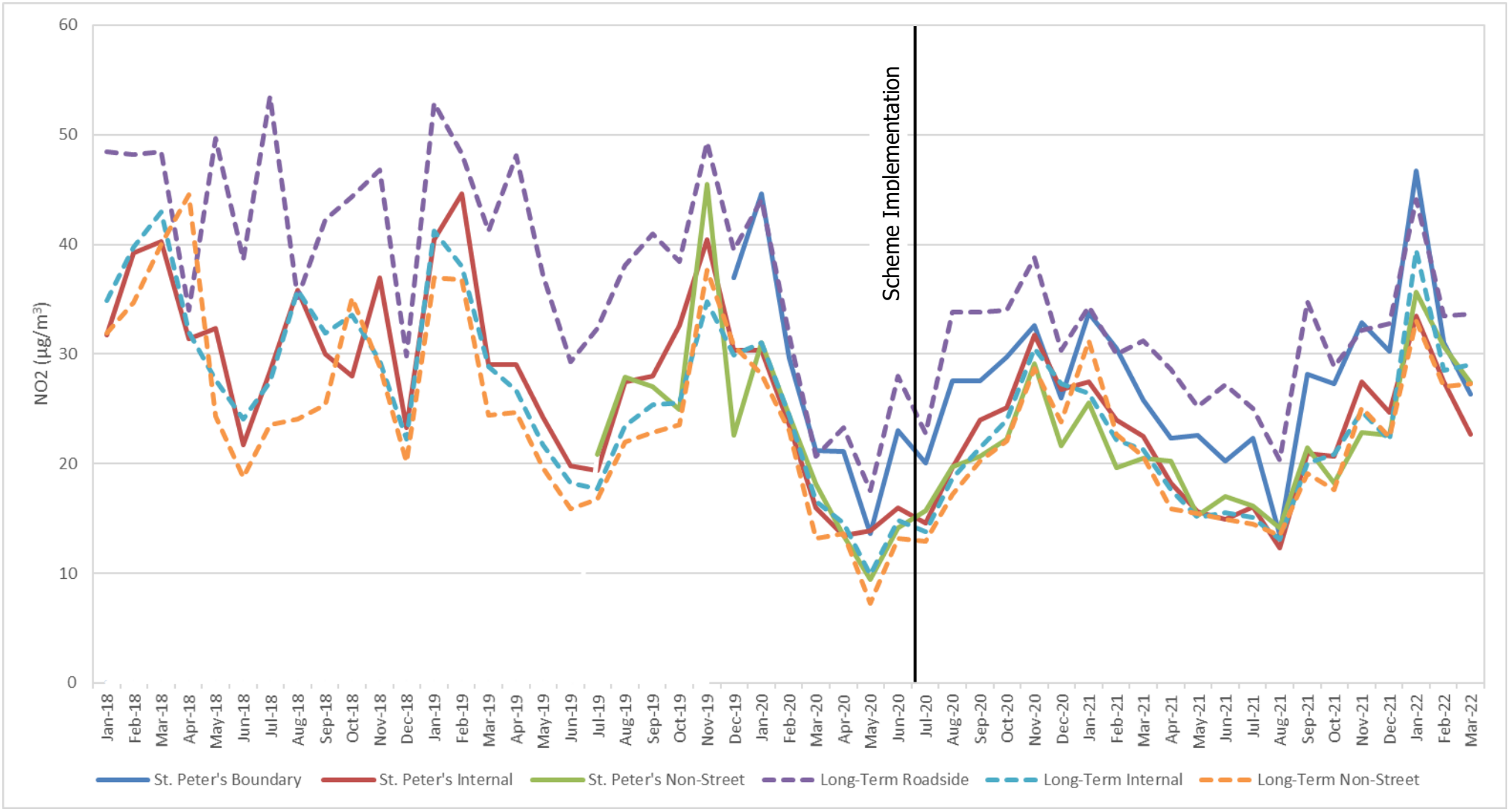
Table 15: (Overall) NO2 levels in St Peter's and borough long term diffusion tube sites

	Aug '20 – Mar '21 NO_2 (µg/m3)	Aug '21 – Mar '22 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
St. Peter's	26	26	0	0%
Whole borough long term sites	28	28	0	-1%

In St Peter's there are ten monitoring locations for both the pre-consultation and final reporting periods for comparison, and 18 monitoring locations for the whole borough long term sites. For both datasets, there was very minimal overall change.

Graph 5 compares the trends in NO_2 levels in St Peter's and across Boundary road, Internal road and Non-Street sites from January 2018 through to March 2022.

Graph 1: Average NO_2 levels in St Peter's compared to long term borough-wide sites from diffusion tubes



Insights: air quality

The results in tables 12 to 15 show that there has been limited change in the concentration of NO_2 between the two periods assessed, both within St. Peter's and across the Borough at large. In no broad category of site was there a change of more than 10%.

As Graph 5 shows, despite the significant seasonality of pollution levels (higher in winter and lower in summer), the general annual trend of NO_2 shows a decrease between 2018 and 2022. It is noted that whilst in 2020 and 2021, reduced traffic levels during Covid-19 would have played a notable role in delivering this decrease, motorised traffic levels were almost the same as pre-Covid levels in early 2022 – yet pollution levels had not risen to Pre-Covid-19 levels.

In summary these results show:

- Overall changes in levels of NO_2 in St Peter's reflect those in the borough more widely, and have not materially changed between the eight-month period before the pre-consultation counts and the eight-month period before the final counts.
- NO_2 levels in St Peter's have been within the annual objective level of 40μg/m3 at all sites since people-friendly streets started, including on boundary roads.
- Some individual sites, including two along Regent's Canal intended to monitor local canal pollution, have seen increases in NO_2 levels. However, this increase may be due to barge or riverboat traffic, and the fuels utilised by them, or another local factor (as other nearby sites do not register such an increase). There is a notable 20% increase towards the southern end of the scheme extents on City Road, which will continue to be monitored.
- These are generally positive results in line with the objectives of the scheme suggesting the trial has not had an adverse impact on air quality to date.

Concluding Remarks

As previously noted, the goal of this report has been to assess how the scheme has been bedding in since the changes made in January 2022 – serving as a "final check" to compare pre-consultation and final data, and particularly to understand whether exemptions for Blue Badge holders have impacted the scheme's success.

Based on the range of data presented, it is clear that the scheme is continuing to remove traffic from inside the St. Peter's neighbourhood without adverse impacts to traffic flows on boundary roads. Overall, volumes of traffic on internal roads have dropped by another 22% between pre-consultation and final reporting periods – a change that is in addition to the initial significant drop in vehicle flows as has been described in previous monitoring reports. On boundary roads, the volume of traffic has decreased on New North Road (-12%) and City Road (-23%), and remained broadly static on Essex Road (+1%), indicating that there has not been traffic displacement from internal roads to boundary roads since summer 2021, although since the 2020 baseline nominal increases of <10% have been noted.

One notable trend for St. Peter's scheme is that the spread of motorised vehicles on internal roads has changed since the pre-consultation period, with substantial drops in vehicle numbers on both Basire Street and Prebend Street North (-85% and 70%, respectively), indicating that access to the LTN area via New North Road has decreased significantly since July 2021. However, further to the west past the Prebend Street filter, there were comparable increases in traffic volumes, namely on Prebend Street South (+1,130 or +117% normalised) and roads accessing the Packington Estate such as Rector Street (+611 or +312% normalised) and Canon Street (+393 or 153% normalised). It is considered that this increase may also related to the additional 150 St. Peter's Blue Badge holders who are now exempted from filters within the scheme area accessing these roads from Essex Road. It is also noted that since the initial baseline, total traffic levels have increased on Charlton Place and on Greenman Street.

Looking at goods vehicles, most changes align with those trends seen above for overall motorised vehicles, with a shift from New North Road access to Essex Road access. The most notable finding is that Colebrook Row now attracts significantly more HGVs than before, meaning that HGV dominance on this street is now at 44% of all motorised traffic, which may indicate a need for further enforcement of the existing lorry ban. Motorcycles saw a similar trend with no stand-out changes in vehicle proportions.

For cyclists, there was a roughly 10% increase in volumes between July 2021 and July 2022 on internal roads, with a larger increase on boundary roads of 22%. Micawber Street saw the largest increase by far, of 600 daily cyclists (+157%), whilst the largest decrease was

on Duncan Street (-70 daily cyclists, -10%). Since the initial baseline, cycling levels on internal roads measured during the same periods increased by 112%.

In terms of vehicle speeds, there was generally a very slight decrease in average speeds (-0.2mph overall), but no change in 85th percentile or the proportion of vehicles speeding. Two locations, Prebend Street South and Charlton Place, saw increases in average speeds of around 1.5mph (+13% and +17% respectively). However, Rheidol Terrace saw a decrease of 11% in the proportion of vehicles speeding. There were no standout changes for boundary roads in terms of vehicle speeds.

In air quality terms, there was no overall change in the amount of NO_2 detected between Aug-20 to Mar-21 and Aug-21 to Mar-22. However, looking at individual sites, there was some variation. NO_2 levels dropped more than 10% on City Road at the Hopes & Dreams Montessori School, but increased 20% further east near to City Road Basin. NO_2 levels also dropped by around 10% on Duncan Street but increased along Regents Canal locations.

Overall, this final check can confirm that the scheme continues to operate effectively against its goals, with the main impact (from the exemptions granted to Blue Badge holders or due to the scheme bedding in in general) being that vehicles now access the LTN area more from Essex Road than New North Road.

Appendices

Appendix 1: St Peter's Traffic Count Locations and Type

Islington-commissioned ATC (Automated Traffic Count) sites and dates

Boundary	**Type**
City Road (TLRN)	Radar
Essex Road	ATC
New North Road	ATC
Internal	
Arlington Avenue	ATC
Basire Street	ATC
Brittania Row	ATC
Canon Street	ATC
Charlton Place	ATC
Colebrooke Row	ATC
Coleman Fields	ATC
Danbury Street	ATC
Duncan Street	ATC
Graham Street	ATC
Greenman Street	ATC
Noel Road	ATC
Packington Street	ATC
Prebend Street (north)	ATC
Prebend Street (south)	ATC
Rector Street	ATC
Rheidol Terrace	ATC
St Peter's Street	ATC
Wharf Road	ATC
Neighbouring borough	
Micawber St (HACKNEY)	ATC

TfL permanent traffic sites and coordinates (all ATCs)

Street name	Northing	Easting
A1 Archway	529219	187254
Pentonville Road	531004	183093
Camden Road	529924	185126
Caledonian Road	530708.1	183517.3
Clerkenwell Road	531863	182129
City Road	532762	182386
Old Street	532668	182448
St Johns Street	531460	183048
A1 Upper Street	531650	184311
Holloway Road	531239	185120
Canonbury Road	531885.4	184353.7
Southgate Road	532956	184553

TfL also has a counter on Essex Road, which has not been included in the normalisation methodology because of incomplete data that has not been processed.

ATCs measure traffic volumes and speeds using two thin tubes that run across the street and are connected to a sensor. When wheels pass over the tubes, the pressure impact is interpreted by the sensor to identify the type of vehicle passing over, and the speed with which it passed. They are considered to be approximately 98% reliable. Inaccuracies can arise when, for example, two vehicles pass at the same time they may be counted as one, or if a car and bicycle pass at the same time, it may be read as one car. However, the same method was used before and after and the method is considered a good industry standard. They are used as a standard in monitoring transport schemes.

Radar counts monitor speeds and vehicle volumes to a less specific categorisation using a radar sensor and do not include cycles. The suppliers state their accuracy rate is 98%.

Appendix 2: Traffic Count Normalisation Methodologies

To calculate the normalised percentage differences, the June 2021 traffic count volumes have been **divided** by 0.9110 and the July 2022 traffic counts by 0.9292 to give normalised volumes. In other words, in order to account for the fact that there was (generally) less traffic on Islington streets from January 2020 onwards, we have provided adjusted figures that provide an estimate for what the traffic would have been if there had not been disruptions from broad events such as Covid-19 or the cost-of-living crisis. This allows us to analyse the impacts of the LTN scheme rather than the impacts of current events / central government policy.

To calculate the percentage change, the difference between the two has been taken and divided by the normalised baseline volume to arrive at a normalised percentage change.

The normalisation figure for each month is reached by calculating the daily average percentage difference between the 'baseline' month (pre-Covid-19 impact) and the corresponding 'impacted' month (i.e. June 2021 and July 2022) across all the permanent TfL counter sites around Islington, and taking an average difference for the whole month.

Appendix 3: Air Quality Monitoring

We have been monitoring air quality since 2000 and have 21 long term monitoring sites across the borough. We also have additional monitoring in place for specific projects and have been monitoring air quality outside every school in the borough since 2018. As such, there is significant long-term air quality data collection across the borough, which will be used in the normalisation process. It also means there is existing air quality monitoring within the St Peter's LTN trial area, though some monitoring equipment has been added to expand the air quality monitoring in and around an area.

The air quality monitoring sites in the St Peter's LTN are listed below, with details about type and if they have been added as part of the LTN programme or were pre-existing.

St Peter's air quality monitoring sites type and period of installation

Locations	**LTN road type**	**Monitoring type**	**Installation**	**Site Type by DEFRA classification***
City Road x2 (N49, OC10)	Boundary	Diffusion tube	Pre-existing (since at least 2018)	Roadside
New North Road (PF1)	Boundary	Diffusion tube	New (since July 2020)	Roadside
Duncan Street (S47)	Internal	Diffusion tube	Pre-existing (since at least 2018)	Background urban
Greenman Street (S7)	Internal	Diffusion tube	Pre-existing (since at least 2018)	Background urban
Noel Road (S48)	Internal	Diffusion tube	Pre-existing (since at least 2018)	Background urban
Prebend Street (S71)	Internal	Diffusion tube	Pre-existing (since at least 2018)	Background urban
Regent's Canal x3 (IRC5, IRC6, IRC9)	Non-street-based site	Diffusion tube	Pre-existing (since at least 2018)	Background urban
Basire Street (outside playground)	Internal	Sensor	New (since July 2020)	Background urban
Prebend Street x2	Internal	Sensor	New (since July 2020)	Background urban
Colebrooke Row x2	Internal	Sensor	New (since July 2020)	Background urban

Islington's air quality team classify sites using Defra guidance based on their location. Roadside sites are those within one to five metres of a busy road, while urban background sites are those in an urban location but more distanced from sources and therefore more representative of wider background conditions.

Data quality control

As a council we are legally obliged to monitor air quality and report on this every year. To ensure data is as accurate as possible we follow national guidance for monitoring air quality, in terms of deployment and results analysis. For example: use of accredited monitors, personnel and laboratories or correction of diffusion tube data based on annual comparisons to automatic monitors. More information on this process can be found in our annual reports.

The data used in this analysis will follow these rules as much as possible, especially with regards to monitor deployment. However, it will not have fully gone through this process, especially with regards to normal end of year analysis processes for 2022, and should therefore be treated as provisional.

The 2018-2021 data in this report has been adjusted using a correction factor. Adjusting data in this way is standard practice in making air quality data as accurate as possible, more information on this process can be found in our annual air quality reports The data for 2022 is still raw as a bias correction factor has not yet been calculated. For time periods where less than 75% of data was captured the data has been "annualised", meaning it has been adjusted by comparing it to monitors that had data for the whole period. More information can be found on this process in the annual air quality report.

Insights background

Pollution levels are impacted by a range of local and wider sources. For example, the source apportionment study conducted for Islington in 2015 found only 3% of London's NO_2 emissions came from inside Islington. Therefore, it can be very hard to pick up on local changes caused by schemes such as the LTNs.

Pollution also varies significantly over time due to a range of external factors (such as weather) for which this study has not corrected. Therefore, ideally, a longer period of study would be required to analyse these results more fully. This would also allow further quality control of data that has not been possible with these results. There is also further uncertainty in recent results and whether these will

represent longer term trends due to Covid-19. Studies of the first lockdown in March, for example by the Greater London Authority, show a decrease in overall motorised traffic and NO_2 levels but no consistent change in PM due to weather impacts.

Appendix 4: SYSTRA Statement

SYSTRA has been commissioned to prepare this report in partnership with the London Borough of Islington.

SYSTRA is a global leader in mass transportation and mobility, employing over 7,000 global employees across 80 countries. SYSTRA has the unique advantage of being not only a Transport Consultancy, but also Social and Market Research Consultancy. Their team members have an in-depth understanding of both the transport sector and of social and market research techniques, providing expert support in monitoring and evaluation both direct to clients and also in a peer review capacity. They provide a wealth of experience in conducting both qualitative and quantitative transport research with stakeholders to help understand their priorities and to inform options for future investment and policy development.

Neither SYSTRA nor LB Islington can be held accountable for errors in the data provided by third parties, where these errors have not been identified through normal checking processes.

Appendix 5: Individual Site Volumes & Speeds

The following section provides detail for each monitored site, including a breakdown of flows by monitoring period and by vehicle class, as well as a comparison of speeds.

It should be noted that the data presented in this appendix is drawn directly from raw data provided to LB Islington and SYSTRA, rather than summary reports produced by the relevant survey companies. Using the raw data has allowed a further set of checks to be conducted on the data to ensure there are no gaps or anomalies in the datasets (which often happens if vehicles park on the traffic counter, or in the case of a local traffic collision). As such, in several cases, missing data has been infilled with data from a similar period to ensure that blank periods do not cause misrepresentations in the data – therefore, it is likely there are some deviations from that data which was presented in previous reports.

Speed data provided for the baseline period was reviewed and considered not fully comparable to that of other periods, and has therefore been left out of the appendix.