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 the report context:

85th Percentile Speed – The 85th percentile is used in transport monitoring to gauge changes in speeds and speeding behaviour. It is the speed at which 85% of traffic will be travelling at, or below, along a street (15% of traffic will be travelling faster than this speed). For example, if the 85th percentile speed is 20mph, then 85% of vehicles will be travelling at 20mph or less.

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 at which it passed. ATCs are considered to be extremely reliable. (See Appendix 1 for more details).

Boundary roads – For the purpose of this report, the "boundary roads" of the Highbury LTN trial area are Blackstock Road (A1201) to the East/Northeast, Hornsey Road (A103) to the Northwest, Holloway Road (A1) to the Southwest, Seven Sisters Road (A503) to the North and St. Paul's Road to the South. The boundary road site on St. Paul's Road to the south of the scheme is the same location (St. Paul's Road West) used for the Canonbury West monitoring report – that report also included a St. Paul's Road East site, which is not on the border of the Highbury Scheme.

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. In this report,

"internal roads" are local roads in the Highbury 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 Highbury 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 Highbury people-friendly streets (PFS) 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, delivery workers 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 and other macro-scale factors on traffic patterns such as cost of living. This methodology is explained in more detail later in the report, but in simple terms, it means that the traffic count figures have been adjusted to project what 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.

Patched Sites/Data – When counting equipment is damaged, leading to a loss of data for certain time periods, this data is patched. This means that periods of missing data are backfilled using data from the same day either a week before or after when the counts were taking to ensure that the data is representative of that day. If this data is not available, another day of the same type, either weekday or weekend-day, is used.

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

People-Friendly Streets – The people-friendly streets (PFS) programme refers to the implementation of low traffic neighbourhood (under an Experimental Traffic Order) and School Streets in Islington. Through the PFS programme, the council wants to make Islington's streets safer, healthier and greener. By installing inexpensive measures like bollards and smart cameras, the council aims to create more space for everyone to enjoy their neighbourhoods as they walk, wheel and cycle around. More information on the PFS programme, can be found in the linked executive paper.

Radar Traffic Counters – Radar counts monitor speeds and vehicle volumes to a less specific categorisation using a radar sensor. These radar counts classify pedal cycles and motorcycles in the same class (<5.6m). As such, for radar assessed sites, the motorised traffic volumes do not include motorcycles, and pedal cycle volumes are unavailable. Radars measure traffic volumes and speed using high frequency radar signals to measure one or two lanes of traffic. Manufacturers consider the method to be 98% accurate (with 95% Confidence) at measuring traffic volumes with speed considered to be around +/- 2mph or 3% whichever is greater with 95% confidence. Radars detect vehicle lengths (+/- 40cm or 5%, whichever is greater, with 95% confidence) so assumptions need to be made with regards to vehicle classes. Inaccuracies in the data can occur due to vehicles following closely resulting in larger lengths being detected. Radars are widely used for monitoring traffic schemes due to their discrete nature. Being less detectable by drivers, radar surveys are less likely to change speeding behaviours. Radars are used to monitor traffic on TfL managed roads, on the strategic road network.

Roads beyond the boundary – These are local roads which fall outside of the trial scheme "boundary roads", which have been monitored to gauge any residual impact on nearby areas. For the purpose of this report, "roads beyond the boundary" are local roads outside of the Highbury trial area and data gathered from these sites is presented separately to those roads that do fall within the Highbury LTN trial area.

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 filters (and use non-motorised scooters).

Introduction – Highbury LTN Final Report

As part of Islington Council's PFS programme and the need for an urgent transport response to COVID-19, Highbury West and Highbury Fields became the sixth and seventh PFS trial areas in the borough – for the purposes of this report, they are together termed the "Highbury LTN". The LTN has been created with the aim of allowing 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 cleaner, greener and healthier for residents.

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 Experimental Traffic Order (ETO) for the scheme came into force on 11th December 2020 and the scheme officially went live on 11th January 2021. In December 2021, an exemption policy for Blue Badge holders was introduced. An Interim Report comparing pre-implementation "baseline" data from November 2020 to data collected largely in May 2021 was published in October 2021, followed by a Pre-Consultation Report published in February 2022, which compared the same baseline data to data from roughly a year after the scheme went live. Following this, a public consultation was held between February-March 2022. Finally, an Individual Exemption policy that assessed applications on a case-by-case basis was introduced as a trial in January 2023.

Final Report

Unlike previous reports, which were aimed at determining the impact of the LTN scheme compared to a pre-implementation baseline, the purpose of this Final Report for the Highbury 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 look to understand how the scheme is bedding in following the implementation of the exemption policy for local Blue Badge holders, 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 December 2021 and final report data collected in January 2023**, with conclusions based on this comparison. The November 2020 pre-implementation baseline (for roads that were also monitored in January 2023) is included for reference only, for the key tables showing total motorised vehicles and cycles, as well as for vehicle speeds. Full details from this phase of data collection can be found in the appendices.

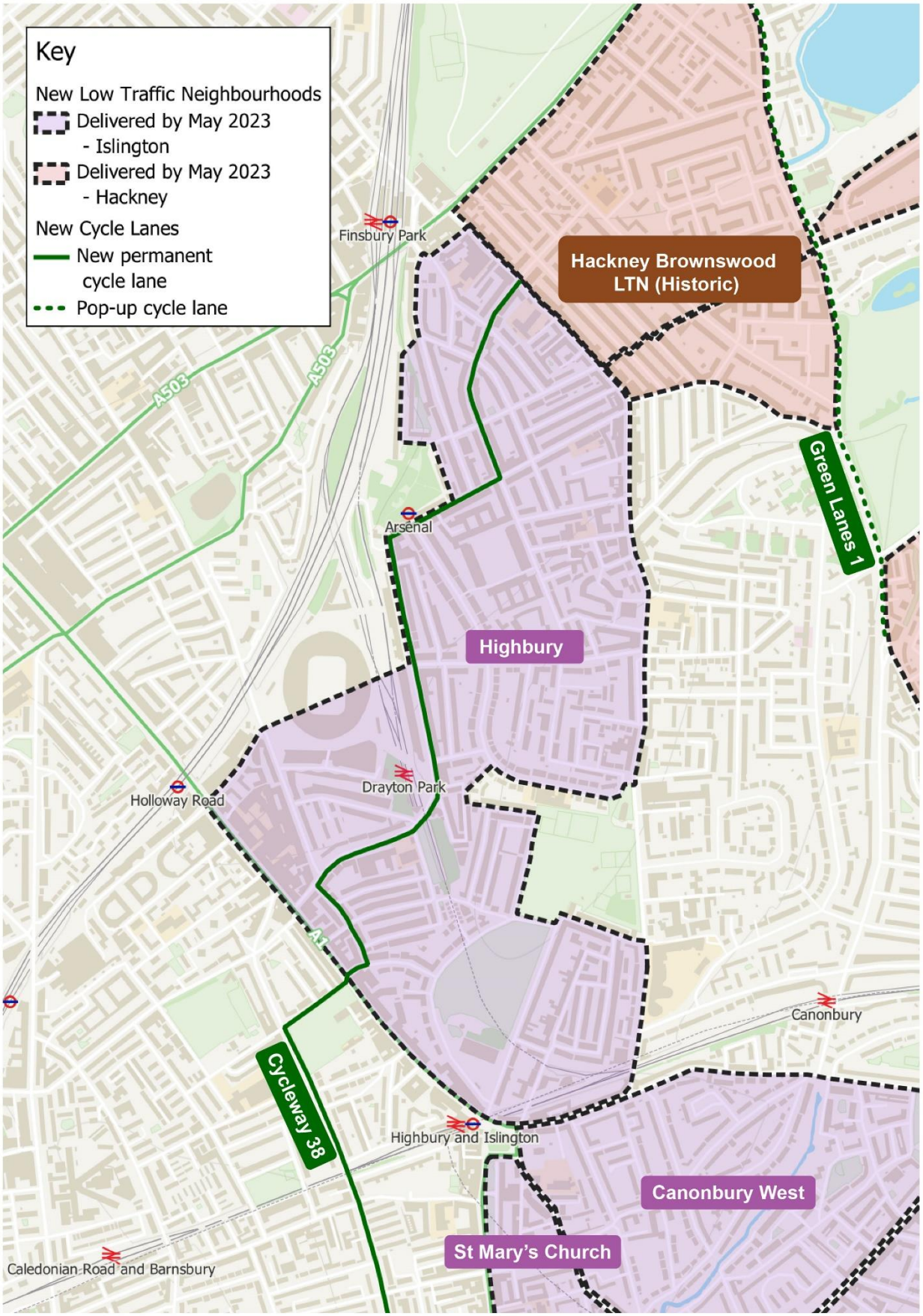
This report will monitor motorised traffic on internal roads, boundary roads and roads beyond the boundary; cycling volumes on internal roads, boundary roads, and roads beyond the boundary; bus journey time data; and air quality across the scheme area.

Scheme Context

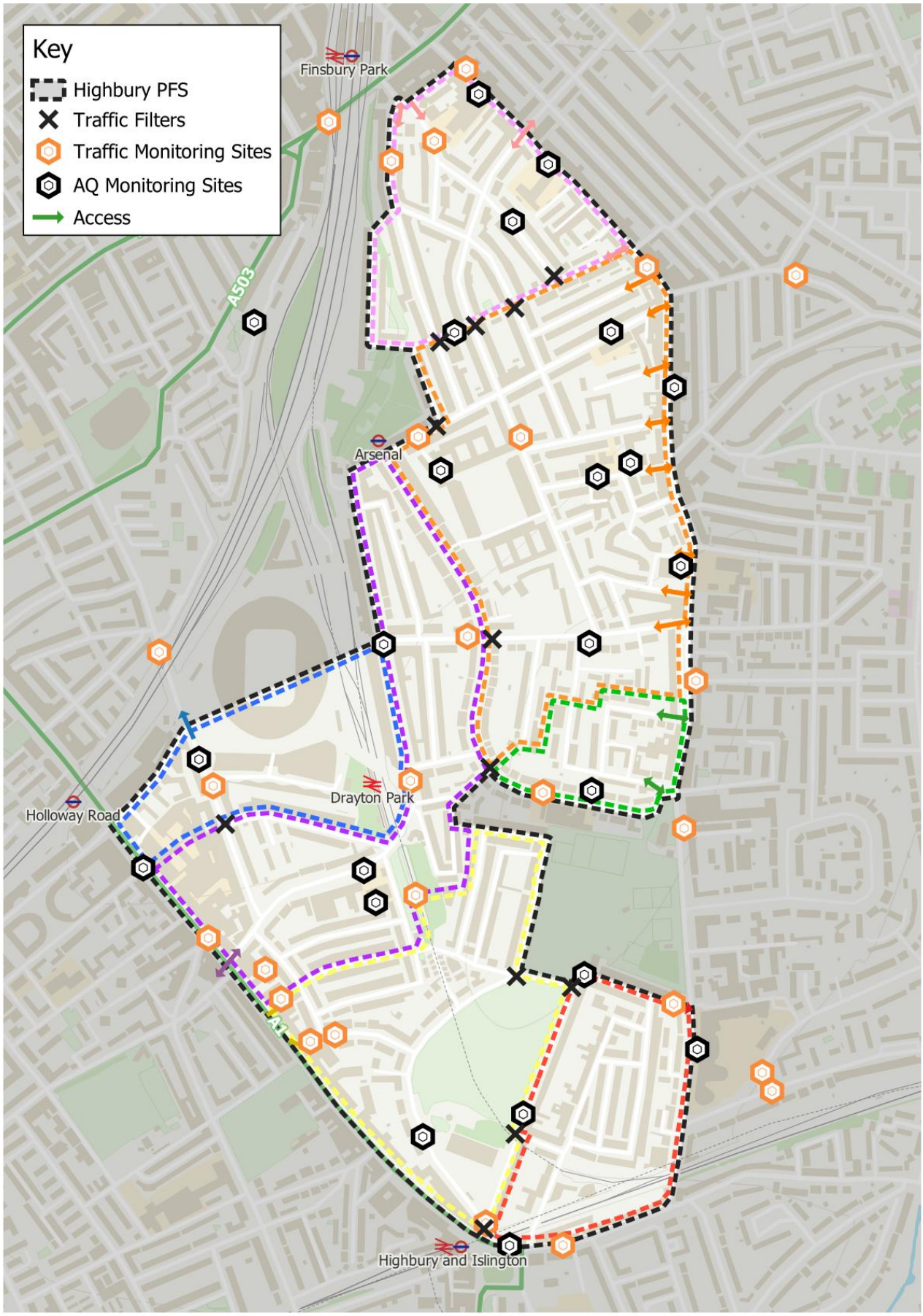
LTN scheme – The traffic filters in the Highbury LTN areas have been installed in ten locations. Eight new camera-enforced traffic filters have been installed on each of Aubert Park, Benwell Road, Gillespie Road, Highbury Hill, Monsell Road and St. Thomas's Road, with two on Highbury Place – one at the junction with Calabria Road and the other at the junction with Holloway Road. Two further filters, physically enforced by bollards, were installed at Avenell Road and Plimsoll Road.

The Experimental Traffic Order (ETO) for the scheme came into force on 11th December 2020 and the scheme officially went live on 11th January 2021. Two of the filters make use of existing traffic control infrastructure – the existing width restriction on Benwell Road was converted into a traffic filter and the no entry point on Gillespie Road, preventing traffic travelling west, was converted to prevent traffic flow from both directions of travel. Both of the bollard-enforced traffic filters feature a removable central bollard allowing access for fire service vehicles, if required.

Map 1 : Highbury LTN in Wider Context of Nearby LTN Areas and Cycle Lanes



Map 2: Highbury LTN Measures and Monitoring Sites



Pre-Consultation Monitoring Outcomes

As noted above, all final report data is compared against pre-consultation report data from December 2021. However, it is important to note that the LTN scheme had already resulted in changes at the pre-consultation data collection point. These are summarised below:

- The pre-consultation monitoring report showed a reduction in motorised traffic and speeding across internal roads (during comparable periods), thereby making local roads safer, cleaner, and healthier for residents.

- On internal roads, total traffic levels fell by 72% with a small drop in the proportion of vehicles speeding, with all but one road recording a decrease in traffic levels – the only location where traffic levels increased was Horsell Road, where there was a small raw increase in vehicles counted equating to fewer than 100 vehicles per day. Cycling on non-segregated cycling infrastructure did not change considerably across internal roads, although it is expected that this is due to seasonal trends rather than the scheme itself.

- On the boundary roads, there was very limited difference in overall motorised vehicle volumes, although at a street-by-street level, some locations saw large increases in such volumes with other locations seeing large decreases. Seven Sisters Road, Hornsey Road South and Highbury Grove North all saw significant decreases in traffic volumes (-5,894, -3,982 and -2,199, respectively). In contrast, Blackstock Road North saw a 58% increase in motorised traffic volumes, equating to an additional 6,962 daily vehicles passing this site. It is noted that the proportion of vehicles speeding increased on Highbury Grove North and Hornsey Road South; in contrast, longer journey times were observed on a number of other boundary roads, in particular on Seven Sisters Road, St. Paul's Road and Holloway Road (particularly on approaches to Highbury Corner for the latter two).

- There was a negligible change in crime and anti-social behaviour patterns and London Fire Brigade response times.

- The trial did not have an adverse impact on air quality to date, as nitrogen dioxide levels rose roughly in line with borough trends as appears to be a city and nation-wide trend following the lifting of COVID-19 measures and ensuing increase in activity.

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 December 2021 (which underpinned the Pre-Consultation report) with those in January 2023 (Seven Sisters Road data was collected in March 2023).

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.

Pre-consultation counts were taken one year after implementation, in December 2021. These can be found in the LB Islington report *Highbury People-Friendly Streets Trial – Pre-Consultation Monitoring Report*, as can data for the pre-implementation baseline counts.

Completed Dates of Traffic Counts

Baseline ("before") counts: 9 – 15 November 2020

Highbury trial goes live: 11 January 2021

Pre-Consultation ("after") counts: 6 – 12 December 2021 (all count sites were extended one week due to some data loss at a count site on St Thomas' Road and to have a backup dataset in case football matches and Thames Water work seriously impacted data quality).

Final counts: 9-15 January 2023 (All ATC sites), 27 March – 2 April 2023 (Seven Sisters Road Radar),

Due to continued problems collecting quality data for Holloway Road in the final round, a continuous TfL ATC was used to replace this dataset, with the data used being selected to roughly coincide with the main data collection periods above.

The council uses various traffic counting methods to understand traffic volumes and speeds within and around the LTN 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 most sites for the Highbury LTN. ATCs measure motorised and cycle traffic volumes and motorised traffic speeds and classify the traffic by type. Transport for London (TfL) requires radar counts on the Transport for London Road Network (TLRN), which measure motorised traffic volumes and speeds, and these were used at one site. 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 other wide-scale traffic impacts since 2020 (cost-of-living crisis, rail strikes etc.), and the need for a process to interpret the results in a way that accounts for these disruptions.

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 pre-COVID 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 2020, where motorised traffic was approximately 50% of what it had been in April 2019.

Using the months of the Highbury counts, in December 2021 motorised traffic was approximately 6.8% lower than in December 2019 and in January 2023 motorised traffic was approximately 5.4% lower than in pre-COVID January 2020.

In March 2023, the month in which the final round of Seven Sisters Road data was collected (due to earlier issues with data quality at this site), the calculated normalisation factor was 18.95% - this figure has been queried and corroborated by TfL, who have confirmed that traffic across other areas of London was also sharply down in this month, largely as a result of cold/snowy weather as well as rail strikes.

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	-25.69%
Feb-21	-24.84%
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	-6.83%
Jan-22	-4.98%
Feb-22	-2.20%
Mar-22	-15.85%
Apr-22	-14.35%
May-22	-11.92%
Jun-22	-8.10%
Jul-22	-6.86%
Aug-22	-6.72%
Sep-22	-5.91%
Oct-22	-5.61%
Nov-22	-7.84%
Dec-22	-5.90%
Jan-23	-5.42%
Feb-23	-4.77%
Mar-23	-18.95%

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, unless otherwise stated.

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 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 seven main external factors which could be influencing results, as follows:

Local Football Matches – The Emirates Stadium is located within the Highbury LTN scheme area, and two matches were played there during the pre-consultation survey period, during which some road filters were temporarily suspended to allow stadium access on the relevant days. The impact of this has been clearly reflected in the data, and such periods have therefore been patched over, using the hours

immediately before and/or after match-related traffic spikes to reflect normal levels of traffic flows.

Nearby Low Traffic Neighbourhoods – As can be seen in Map 1, the Highbury area is in close proximity to a number of other low traffic neighbourhoods. The Highbury LTN is located to the north of the several LTNs (the closest of which is Canonbury West) and the recently redesigned Highbury Corner, and to the west of the long-established Brownswood and other LTNs in Hackney. Since the implementation of the Highbury LTNs, Hackney has also implemented the Stoke Newington Church Street bus gate and nearby LTNs. It is therefore not possible to definitively separate out the impacts these may be having on traffic, particularly on the boundary roads.

Nearby Major Traffic Projects and Utility Works – The redevelopment of Highbury Corner was completed by Transport for London (TfL) in 2019 as part of a London-wide Safer Junctions programme to reduce road danger at a number of intersections including roundabouts, which the council supports. This project represents a major change to the local transport network and may take time for traffic patterns to settle and adjust to the new layout.

Major Thames Water works to reline a water main started in early February 2021 and extended until early May 2021, affecting Seven Sisters Road and Holloway Road. These works ran parallel to the LTN scheme and involved the road width being reduced to a single lane, controlled by multi-way traffic signals, in phased increments. During this period, Blackstock Road was reported to experience significant tailbacks, as traffic flow was limited in joining Seven Sisters Road. Holloway Road also experienced significant congestion while works were underway.

During the pre-consultation period, there was also some additional Thames Water work to address a leak on Drayton Park, which may have impacted flows on nearby streets. Such periods have been reviewed in the data and patched using the averages for similar days of the week for any flows that seem abnormal. A similar process was undertaken to address impacts to vehicle flows following a gas leak and remedial works in the area.

In the final data collection, Seven Sisters Road may have been impacted by the construction of Cycleway 50 between Finsbury Park and Warlters Road, which began in January 2023.

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

During the month the pre-consultation traffic counts were taken in (i.e. December 2021), the average minimum temperature was 5°C and the average maximum temperature was 10°C. In contrast, the month during which the final traffic counts were conducted (i.e. January 2023), the minimum average temperature was 4°C and the average maximum temperature was 9°C – although it is noted that the weather

during the first half of the month was considerably better than during the second half. Ultimately, the weather between the two periods was fairly similar in terms of its likely impacts on traffic volumes and cycling counts.

COVID-19 Impacts – Throughout the survey periods for the Highbury LTN, there have been a range of different impacts from COVID-19 and accompanying national and local restrictions.

Pre-consultation counts were taken in the first full week of December 2021, when there were no restrictions, but coincided with a period of increasing COVID cases due to the Omicron variant (although it is noted that new case numbers did not start creating new daily highs until roughly December 16th). However, "Plan B" measures introduced to slow the spread of Omicron were introduced on 10th December, several days into the survey period.

In comparison, final counts were taken in mid-January 2023, when all COVID-related measures had been removed for nearly a full year, and most people living and working in the Highbury area had established new working patterns (including hybrid work requiring no commute for many individuals).

For context, the baseline counts in November 2020 took place during a full national lockdown, which commenced on 5th November, with non-essential shops, leisure, entertainment and hospitality venues closed, people were urged to stay at home where possible, although schools remained open. This is factored in when using the normalisation adjustment for this month, which is 12% greater than for the previous month (October) and 6% greater than the following (December).

Cost of Living Crisis – By January 2023, 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. In relation to the cost of living crisis, a significant number of rail strikes were held throughout 2022 and 2023 – whilst care was taken to avoid strike dates in data collection, it is possible that a general reluctance to rely on rail services may have impacted travel behaviour and mode choice. It is expected that the normalisation of data will somewhat account for these impacts.

Vandalism - Numerous instances of vandalism were experienced early on, during and after the scheme was put in place. This included damage to the traffic filter enforcement camera equipment and the removal of bollards from traffic filters.

ULEZ Extension – On October 2021, directly after the pre-consultation counts were taken, 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 the cost of driving in the borough has been reflected in normalised data via TfL ATCs, it is possible that more localised effects exist.

Data Patching

For this report, data was processed using SYSTRA's proprietary automated data processing tools, which draw together raw data from all reporting periods and apply formulae-based calculations to produce the following charts and tables and appendices. However, as it is not uncommon for there to be problems with data surveys (broken equipment, cars parked on ATC bands etc.) as well as anomalous readings from surveys resulting from one-off events (waterworks, gas leaks, accidents etc.), all data has been thoroughly checked by hand and cleaned/"patched" (i.e. blank data or significantly anomalous data has been substituted by more representative data from the site/wave in question), which is a necessary task in order to maintain comparable data.

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 presents the percentage change in motorised vehicle volumes between the pre-consultation data collection period in 2021 and the final data collection period in 2023. 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, which outlines the observed and normalised figures for both the Pre-Consultation and Final counts, as well as for the Baseline, as in some cases a large percentage increase in this report represents a small nominal "bounce back" of traffic compared to the baseline.

Table 2: Motorised Traffic Volumes on Internal Roads

	Pre-Consultation Observed: Dec-21	Pre-Consultation Normalised: Dec-21	Final Observed: Jan-23	Final Normalised: Jan-23	Difference Final Observed vs. Pre-Consultation	Difference Final Normalised vs. Pre-consultation	Difference Final Observed vs. Pre-Consultation (%)	Difference Final Normalised vs. Pre-Consultation (%)	Difference Final Normalised vs. Baseline	Difference Final Normalised vs. Baseline (%)
Benwell Road	556	586	700	739	144	153	**26%**	**26%**	-11,036	**-94%**
Drayton Park	3,196	3,371	2,377	2,513	-819	-858	**-26%**	**-25%**	-11,838	**-82%**
Highbury Hill	531	560	465	490	-66	-70	**-12%**	**-13%**	-6,301	**-93%**
Aubert Park	631	665	448	475	-183	-190	**-29%**	**-29%**	-3,964	**-89%**
Avenell Road	596	629	542	573	-54	-56	-9%	-9%	-1,012	**-64%**
Gillespie Road	739	780	566	597	-173	-183	**-23%**	**-23%**	-2,007	**-77%**
St. Thomas's Road	924	975	974	1,030	50	55	5%	6%	-1,372	**-57%**
Prah Road	702	741	695	735	-7	-6	-1%	-1%	-576	**-44%**
Ronalds Road	979	1,031	811	858	-168	-173	**-17%**	**-17%**	-463	**-35%**
Fieldway Crescent West	1,068	1,127	928	981	-140	-146	**-13%**	**-13%**	-286	**-23%**
Fieldway Crescent	1,115	1,175	975	1,030	-140	-145	**-13%**	**-12%**	-900	**-47%**
Highbury Place	398	420	187	198	-211	-222	**-53%**	**-53%**	-614	**-76%**
Baalbec Road	1,863	1,965	1,612	1,706	-251	-259	**-13%**	**-13%**	-689	**-29%**
Arvon Road	274	289	223	236	-51	-53	**-19%**	**-18%**	-198	**-46%**
Horsell Road	959	1,011	857	907	-102	-104	**-11%**	**-10%**	-21	-2%
Total Internal	**14,531**	**15,325**	**12,360**	**13,068**	**-2,171**	**-2,257**	**-15%**	**-15%**	**-41,277**	**-76%**
Ambler Road*	1,313	1,384	1,368	1,447	55	63	4%	5%	41	3%

*The baseline counts for Ambler Road were conducted in March 2021 rather than November 2020 as part of an additional monitoring set and have therefore been separated in this report, particularly as the impact of adding this data to the calculation of totals above would have had marginal impact.

Table 3: Motorised Traffic Volumes on Boundary Roads

	Pre-Consultation Observed: Dec-21	Pre-Consultation Normalised: Dec-21	Final Observed: Jan-23	Final Normalised: Jan-23	Difference Final Observed vs. Pre-Consultation	Difference Final Normalised vs. Pre-consultation	Difference Final Observed vs. Pre-Consultation (%)	Difference Final Normalised vs. Pre-Consultation (%)	Difference Final Normalised vs. Baseline	Difference Final Normalised vs. Baseline (%)
Highbury Grove North	9,453	9,972	8,239	8,711	-1,214	-1,261	**-13%**	**-13%**	-3,460	**-28%**
Blackstock Road South	12,918	13,627	11,901	12,584	-1,017	-1,043	-8%	-8%	-598	-5%
Blackstock Road North	17,912	18,893	14,914	15,770	-2,998	-3,123	**-17%**	**-17%**	3,837	**32%**
Hornsey Road South	9,658	10,186	10,372	10,967	714	781	7%	8%	-3,203	**-23%**
St. Paul's Road**	23,213	24,484	19,850	20,988	-3,363	-3,496	**-14%**	**-14%**	-252	-1%
Holloway Road***	21,843	23,039	22,040	23,304	197	265	1%	1%	-276	-1%
Total Boundary	**94,997**	**100,201**	**87,316**	**92,324**	**-7,681**	**-7,877**	**-8%**	**-8%**	**-3,952**	**-4%**
Seven Sisters Road*	25,572	26,972	29,219	36,050	3,647	9,078	**14%**	**34%**	3,182	10%

* Final round data from March 2023 was used for Seven Sisters Road, as data from January 2023 was of poor quality – the normalisation factor from this month was 18.95%.
**Baseline data from July 2020 was used for St. Paul's Road, as data from November 2020 was of poor quality.
***Due to problems obtaining reliable final round data for Holloway Road, this site has been re-analysed using data from a continuous TfL ATC counter – for consistency, data from this counter has been used to replace all rounds of data collection.

Table 4: Motorised Traffic Volumes on Roads Beyond the Boundary

	Pre-Consultation Observed: Dec-21	Pre-Consultation Normalised: Dec-21	Final Observed: Jan-23	Final Normalised: Jan-23	Difference Final Observed vs. Pre-Consultation	Difference Final Normalised vs. Pre-consultation	Difference Final Observed vs. Pre-Consultation (%)	Difference Final Normalised vs. Pre-Consultation (%)	Difference Final Normalised vs. Baseline	Difference Final Normalised vs. Baseline (%)
Highbury Grange	1,746	1,842	1,223	1,293	-523	-549	**-30%**	**-30%**	-1,834	**-59%**
Grosvenor Avenue East	5,068	5,346	5,117	5,411	49	65	1%	1%	-3,287	**-38%**
Highbury New Park	3,212	3,387	2,255	2,385	-957	-1,002	**-30%**	**-30%**	-1,478	**-38%**
Wallace Road	3,452	3,641	2,478	2,619	-974	-1,022	**-28%**	**-28%**	-841	**-24%**
Mountgrove Road	3,611	3,808	3,319	3,509	-292	-299	-8%	-8%	-377	-10%

Insights: All Motorised Vehicle Volumes

Across both internal and boundary roads, moderate reductions were seen in total normalised flows between the pre-consultation and final monitoring periods, with most roads also maintaining significant reductions in such flows since the baseline.

For internal roads, there was a further 15% decrease in normalised vehicle counts since the pre-consultation period, equating to a further drop of 2,257 vehicles on the streets counted. It is expected that in most cases, this is reflective of a continuing trend of lower vehicle counts on internal roads, as the total decrease was supported by drops of more than 10% on 11 out of the 15 internal roads monitored. Only one road saw an increase in vehicles counted since pre-consultation stage; this was Benwell Road, which saw a 26% increase in normalised flows – however, this likely reflects a slight "bounce back" of traffic, given that Benwell Road saw the largest percentage drop in traffic and second largest drop in vehicle counts since the baseline (-94%, or -11,036 daily vehicles), and the road remains comparatively very quiet with fewer than 100 vehicles in the average weekday peak hour (with cycles accounting for 66% of flows on the road at 8am).

Since the 2020 baseline, internal roads have seen a reduction of 76% in overall motorised vehicle flows, with every measured street in this category seeing a reduction of more than 20%, apart from Horsell Road which saw a decrease of 21 vehicles. Flows on Horsell Road remain broadly the same as they were pre-implementation, and similar to levels seen on other comparable internal roads.

On boundary roads monitored during the same periods, there has been a negligible decrease in traffic volumes (-8% or roughly 8,000 fewer vehicles counted per day on these roads), although it is noted that counterbalanced by increases recorded on Seven Sisters Road, which used data from March 2023 in the final counts. Since the baseline, comparable roads saw an even smaller change, of -4%.

The most substantial changes on boundary roads were for St. Paul's Road (near Highbury Corner), Blackstock Road North and Seven Sisters Road. For St. Paul's Road, there was a 14% reduction in traffic levels since pre-consultation, but only a 1% difference since the baseline – this indicates that the pre-consultation reading for this site may have represented a short-term trend or rebalancing of flows that has since been resolved or changed further.

Blackstock Road and Seven Sisters Road will be covered in more detail on the following page:

Blackstock Road

Throughout monitoring for the Highbury LTN, the northern section of Blackstock Road has been treated with particular attention given the level of motorised vehicle increases recorded, with data at pre-implementation stage showing an increase of 58% in traffic flows as compared the baseline.

In comparing final counts with pre-consultation counts from December 2021, a 17% reduction in traffic flows was calculated, moderating the total change since the pre-implementation baseline to an overall increase of 32% (or 3,837 daily vehicles). The table below outlines how the observed and normalised data for Blackstock Road North has changed over time, across a total of eight surveyed periods – including some focused counts commissioned to help better understand trends at this site. As noted in the pre-consultation report, this can help understand the impact of other schemes in the area (such as LTNs introduced in Hackney) on Blackstock Road, as well as serve to form a longer-term trend for traffic at this site. **It is noted that as some data was missing for these datasets, the comparison has been drawn only using average daily flows for neutral weekdays (i.e., Mon-Thu).**

Table 5: Blackstock Road North site - Motor Vehicle Flows (Mon-Thu Average Only)

	Nov '20 (Baseline)	Mar '21 (Ad Hoc)	May '21 (Interim)	Sep '21 (Pre-Hackney schemes)	Dec '21 (Pre-Consultation)	Mar '22 (Ad Hoc)	Apr '22 (Ad Hoc)	Jan '23 (Final)
Observed	9,685	15,510	16,695	15,015	18,408	15,250	16,408	15,484
Normalised	12,437	22,570	20,440	15,668	19,397	17,690	19,251	16,372

As can be seen in the table, different patterns emerge when considering observed vs. normalised data. However, in general it appears that following the Highbury scheme's inception in January 2021, flows on Blackstock road tend to peak following the introduction of nearby schemes, and then moderate as traffic patterns settle. This "peak and settling" can be seen following the introduction of the Highbury Scheme (March 2021 – September 2021), and again following the introduction of the Stoke Newington scheme which was introduced after the September 2021 counts above (December 2021 – January 2023).

Further down Blackstock Road at the Blackstock Road South site (near Chatterton Road), flows are 16% above observed baseline levels, but 5% below normalised baseline levels, indicating that the scheme has not had a significant impact further south along Blackstock Road. This trend continues, with lower levels at other sites where new data was collected (although with no point of comparison as data was not collected in previous waves) south of Gillespie Road (9,261 daily vehicles). This indicates that whilst Blackstock Road North flows are still higher than baseline, they have moderated somewhat since 2020.

Seven Sisters Road

In contrast to Blackstock Road, Seven Sisters Road saw a large decrease in normalised flows between baseline and pre-consultation phases (of -18%), but in the final phase of data collection saw an increase up past the initial baseline (for a total of just under +10%, or around 3,200 additional daily vehicles).

The table below outlines how the flows have changed over time, noting that the final round of data collection was completed in March 2023 rather than January 2023 because the January 2023 data was considered unreliable (showing an impossible 60% drop in traffic levels).

Table 6: Seven Sisters Road - Motor Vehicle Flows

	Nov '20 (Baseline)	Dec '21 (Pre-Consultation)	Mar '23 (Final)
Observed	25,594	25,572	29,219
Normalised	32,868	26,972	36,050

One reason leading to the large change between previous rounds and the final round is the significant normalisation factor calculated and applied for March 2023 (an 18.95% adjustment). As outlined in the section of the report covering normalisation, this factor has been queried with TfL and corroborated with their data indicating above-average drops in traffic levels in both central and inner London during the month – likely due to cold weather/snow impacts early in the month as well as rail strikes. However, given that it is a more significant adjustment than for other recent months, this figure is considered a "worst case scenario" and is likely less severe than reported, particularly since the final monitoring period was towards the end of March when weather had considerably improved.

Even so, it is still noted that in observed data, there has been an increase between the baseline and final data collection rounds, as well as between the pre-consultation and final data collection rounds. As Seven Sisters Road is a major road into and across London, changes on other parts of the network will contribute to altering motor traffic volumes on the road. In addition, analysis of the data shows that prior to (November 2020) and following the introduction (December 2021) of the Highbury LTN, east and west traffic on Seven Sisters Road remained balanced in both directions. From pre-consultation (December 2021) to final check (March 2023) traffic moving westbound has increased while eastbound traffic remains stable, suggesting that vehicles could be adopting Seven Sisters Road westbound as a preferred route when heading west through London.

Overall, findings across the surveyed roads generally indicate that since the pre-consultation period, most roads monitored have seen a reduction in vehicle flows counted – and that in general, the Blue Badge exemption policy, which provided 294 exemptions to residents of the Highbury LTN that hold a blue badge between the pre-consultation and final counts, has not materially impacted the scheme's success.

Goods Vehicles 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 "comparative prevalence" of such vehicles) is presented as a percentage point difference.

As traffic data for Seven Sisters Road and Holloway Road was collected via radar, which is less accurate at categorising vehicle types and does so differently than ATCs, granular analysis of goods vehicle and motorcycle flows was not possible for these locations.

Table 7: Goods Vehicles Volumes on Internal Roads (Normalised)

	LGV #: Dec-21	LGV Prop: Dec-21	LGV #: Jan-23	LGV Prop: Jan-23	LGV Change in Proportion	HGV #: Dec-21	HGV Prop: Dec-21	HGV #: Jan-23	HGV Prop: Jan-23	HGV Change in Proportion
Benwell Road	24	4%	80	11%	7%	51	9%	47	6%	-3%
Drayton Park	434	13%	238	9%	-4%	219	6%	87	3%	-3%
Highbury Hill	95	16%	75	14%	-2%	71	12%	32	6%	-6%
Aubert Park	68	10%	82	16%	6%	56	9%	7	1%	-8%
Avenell Road	88	14%	66	11%	-3%	50	8%	12	2%	-6%
Gillespie Road	44	5%	8	1%	-4%	53	7%	81	13%	6%
St. Thomas's Road	110	12%	81	8%	-4%	39	4%	25	2%	-2%
Prah Road	74	10%	58	8%	-2%	26	4%	18	2%	-2%
Ronalds Road	234	22%	32	4%	**-18%**	100	10%	25	3%	-7%
Fieldway Crescent West	59	5%	18	2%	-3%	66	6%	188	18%	**12%**
Fieldway Crescent	130	11%	110	10%	-1%	72	6%	41	4%	-2%
Highbury Place	4	1%	2	1%	0%	25	6%	62	29%	**23%**
Baalbec Road	198	10%	80	5%	-5%	63	3%	100	6%	3%
Arvon Road	53	18%	36	16%	-2%	20	7%	3	1%	-6%
Horsell Road	157	15%	116	12%	-3%	78	7%	68	7%	0%
Total/Average Internal	**1,772**	**13%**	**1,082**	**10%**	**-3%**	**989**	**7%**	**796**	**11%**	**4%**
Ambler Road*	116	9%	34	2%	-7%	42	3%	96	6%	3%

*The baseline counts for Ambler Road were conducted in March 2021 rather than November 2020 as part of an additional monitoring set and have therefore been separated in this report, particularly as the impact of adding this data to the calculation of totals above would have had marginal impact.

Table 8: Goods Vehicles Volumes on Boundary Roads (Normalised)

	LGV #: Dec-21	LGV Prop: Dec-21	LGV #: Jan-23	LGV Prop: Jan-23	LGV Change in Proportion	HGV #: Dec-21	HGV Prop: Dec-21	HGV #: Jan-23	HGV Prop: Jan-23	HGV Change in Proportion
Highbury Grove North	836	8%	1,145	13%	5%	854	8%	331	4%	-4%
Blackstock Road South	1,470	11%	693	5%	-6%	897	6%	587	5%	-1%
Blackstock Road North	805	4%	773	5%	1%	664	3%	1,036	7%	4%
Hornsey Road South	1,429	14%	600	5%	-9%	581	6%	153	1%	-5%
St. Paul's Road**	1,381	6%	1,467	7%	1%	909	4%	605	3%	-1%
Holloway Road***	4,523	20%	4,585	20%	0%	434	2%	419	2%	0%
Total/Average Boundary	**10,444**	**14%**	**9,263**	**14%**	**0%**	**4,339**	**5%**	**3,131**	**4%**	**-1%**

* Data from Seven Sisters Road has not been included as vehicle classification has not always been consistent between rounds of data collection
** Baseline data from July 2020 was used for St. Paul's Road, as data from November 2020 was of poor quality
*** Due to consistent problems with data on Holloway Road, this site has been re-analysed using data from a continuous TfL ATC counter – for consistency, data from this counter has been used to replace all rounds of data collection

Table 9: Goods Vehicle Volumes on Roads Beyond the Boundary (Normalised)

	LGV #: Dec-21	LGV Prop: Dec-21	LGV #: Jan-23	LGV Prop: Jan-23	LGV Change in Proportion	HGV #: Dec-21	HGV Prop: Dec-21	HGV #: Jan-23	HGV Prop: Jan-23	HGV Change in Proportion
Highbury Grange	292	15%	162	12%	-3%	82	4%	11	1%	-3%
Grosvenor Avenue East	928	17%	644	12%	-5%	476	9%	101	2%	-7%
Highbury New Park	385	11%	414	16%	5%	328	9%	57	2%	-7%
Wallace Road	778	21%	347	12%	-9%	207	6%	27	1%	-5%
Mountgrove Road	794	21%	306	9%	**-12%**	179	5%	42	1%	-4%

Insights: Goods Vehicles Volumes

For goods vehicles, the number of LGVs and HGVs has largely shifted in line with the total number of motorised vehicles counted, although some deviations from this trend were noted on individual streets.

On internal roads, there has been a 39% drop in the total number of LGVs counted and a 20% drop in the total number of HGVs counted – although the change in comparative prevalence for both has been fewer than 5 percentage points overall (-3 percentage points for LGVs and +4 percentage points for HGVs). On specific roads, Ronalds Road saw a large proportional drop in LGVs (-18 percentage points, -202 daily vehicles), whilst Fieldway Crescent West and Highbury Place both saw proportional increases (+12 percentage points or +122 daily vehicles on the former and +23 percentage points or +37 daily vehicles on the latter). It is considered based on the number of vehicles associated with these changes that these are likely localised impacts or some rerouting of trips.

For boundary roads, there were limited proportional shifts for goods vehicles, although it is noted that Hornsey Road South saw a 9-percentage point drop in LGV prevalence (-58% or -829 daily vehicles as a total change) and a 5% percentage point drop in HGV prevalence (-74% or -428 daily vehicles as a total change). Blackstock Road, though, did see a notable raw increase in the number of HGVs, with an increase of nearly 400 daily HGVs (+56%).

For roads beyond the boundary, only Mountgrove Road saw a notable proportional change, with a 12-percentage point drop in the prevalence of LGVs (-61% or -488 daily vehicles as a total change). The number of HGVs counted across all of these additional roads fell, as did the proportional representation of such vehicles on these roads.

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.

Radar counters are less accurate at categorising vehicle types and do so differently than ATCs, therefore, motorcycle flows were not possible to collect for locations on TfL roads (Holloway Road and Seven Sisters Road).

Table 10: Motorcycle Flows on Internal Roads (Normalised)

	Motorcycle #: Dec-21	Motorcycle Prop: Dec-21	Motorcycle #: Jan-23	Motorcycle Prop: Jan-23	Motorcycle Change in Proportion
Benwell Road	246	42%	136	18%	**-24%**
Drayton Park	500	15%	280	11%	-4%
Highbury Hill	119	21%	75	15%	-6%
Aubert Park	148	22%	94	20%	-2%
Avenell Road	136	22%	63	11%	**-11%**
Gillespie Road	376	48%	157	26%	**-22%**
St. Thomas's Road	151	15%	146	14%	-1%
Prah Road	74	10%	66	9%	-1%
Ronalds Road	184	18%	91	11%	-7%
Fieldway Crescent West	299	27%	172	18%	-9%
Fieldway Crescent	309	26%	156	15%	**-11%**
Highbury Place	333	79%	32	16%	**-63%**
Baalbec Road	215	11%	117	7%	-4%
Arvon Road	67	23%	19	8%	**-15%**
Horsell Road	235	23%	96	11%	**-12%**
Total/Average Internal	**3,392**	**30%**	**1,700**	**15%**	**-15%**
Ambler Road*	157	11%	100	7%	-4%

*The baseline counts for Ambler Road were conducted in March 2021 rather than November 2020 as part of an additional monitoring set and have therefore been separated in this report, particularly as the impact of adding this data to the calculation of totals above would have had marginal impact.

Table 11: Motorcycle Flows on Boundary Roads (Normalised)

	Motorcycle #: Dec-21	Motorcycle Prop: Dec-21	Motorcycle #: Jan-23	Motorcycle Prop: Jan-23	Motorcycle Change in Proportion
Highbury Grove North	788	8%	671	8%	0%
Blackstock Road South	891	7%	809	6%	-1%
Blackstock Road North	885	5%	933	6%	1%
Hornsey Road South	965	9%	868	8%	-1%
St. Paul's Road**	1,145	5%	985	5%	0%
Total/Average Boundary	**4,674**	**7%**	**4,266**	**6%**	**-1%**

* Data from Seven Sisters Road has not been included as vehicle classification has not always been consistent between rounds of data collection
** Baseline data from July 2020 was used for St. Paul's Road, as data from November 2020 was of poor quality
*** Data from Holloway Road has not been included as vehicle classification combines cars and motorcycles across all rounds of data collection for this site (when using the TfL ATCs)

Table 12: Motorcycle Flows on Roads Beyond the Boundary (Normalised)

	Motorcycle #: Dec-21	Motorcycle Prop: Dec-21	Motorcycle #: Jan-23	Motorcycle Prop: Jan-23	Motorcycle Change in Proportion
Highbury Grange	243	13%	131	10%	-3%
Grosvenor Avenue East	446	8%	403	7%	-1%
Highbury New Park	437	13%	255	11%	-2%
Wallace Road	332	9%	157	6%	-3%
Mountgrove Road	548	14%	384	11%	-3%

Insights: Motorcycle Volumes

Across a large number of internal roads, the proportion of motorcycles has dropped by more than 10% since December 2021, whilst such proportions remained broadly similar on boundary and other surveyed roads.

Overall, on internal roads, the proportion of motorcycles counted halved from 30% to 15% between the pre-consultation and final counts, and the total number of motorcycles counted dropped by 50% or around 1,700 daily vehicles. The biggest changes were seen on Highbury Place, where over 90% fewer motorcycles were counted, although many other sites also saw motorcycle totals drop by half or more. This is a notably stronger trend than that of general motor vehicles, although it may be that this trend is driven by lower levels of motorcycle-based delivery, which were likely quite high in December 2021 when the Omicron COVID-19 variant was circulating.

On boundary roads, however, there was minimal change in comparative prevalence of motorcycles, and the total number of motorcycles counted changed by less than 10% as well, in line with the trends for total motorised vehicles across these roads.

On roads beyond the boundary, motorcycles generally became slightly less prevalent, although to a much smaller degree than was seen on internal roads.

Cycle Volumes (7-Day Average)

We have not normalised cycling figures for COVID-19/other impacts 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 up to a 50% increase in cycling levels, before having a negative impact if too high (Study by Miranda-Moreno and Nosal, 2011).

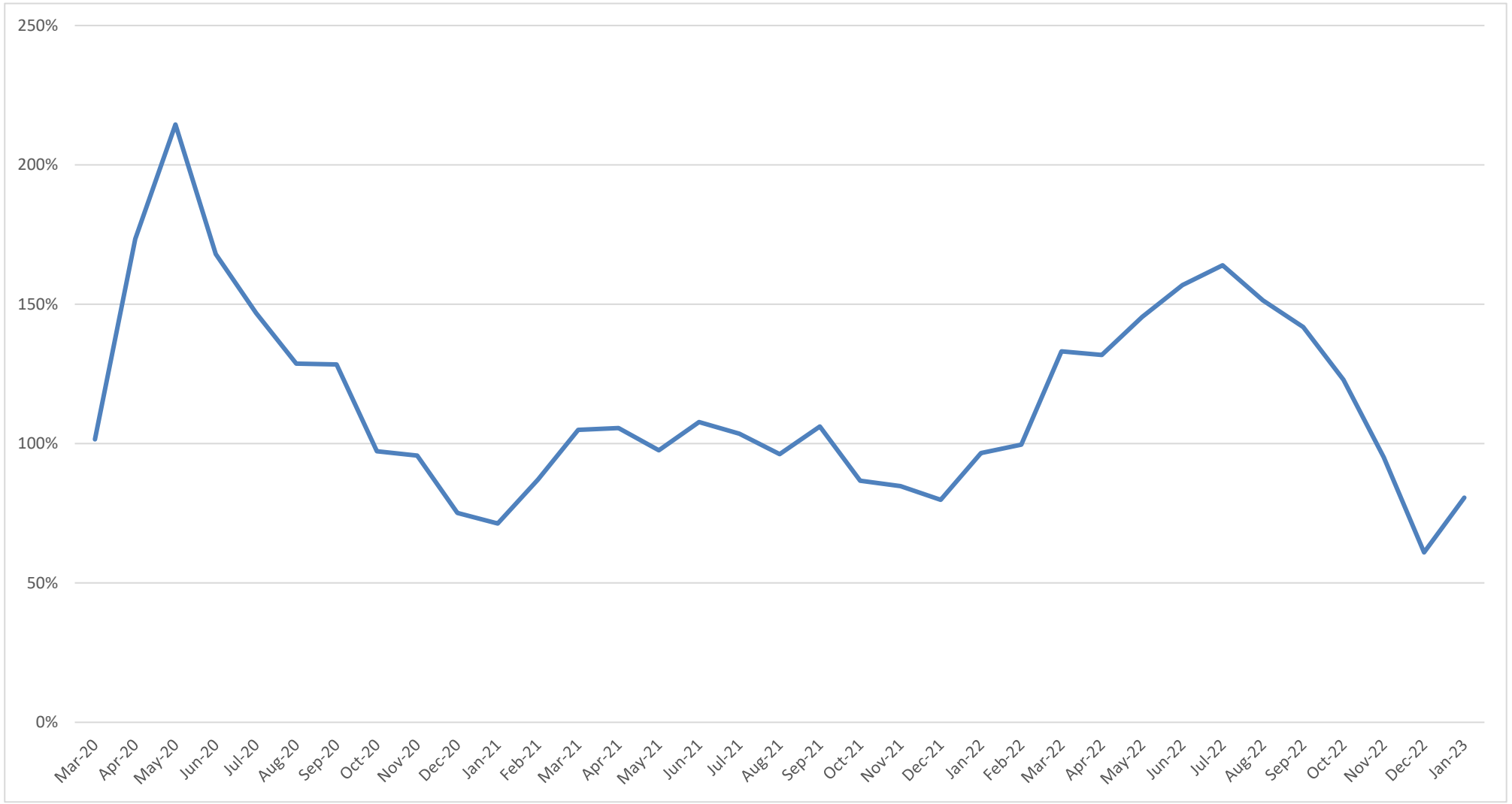
Between pre-consultation and final data collection periods (taken in December 2021 and January 2023 respectively), average climate data shows a similar picture of cold temperatures less conducive to cycling.

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 1 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.

Following Graph 1 outlining nationwide cycling trends, the table outlines changes in cycling volumes across the scheme area between pre-consultation and final counts.

Graph 1: National Cycling Levels - % of Comparison Month in 2019*



*For example, January 2023 cycling levels are 81% of the January 2020 average.

Table 13: Cycle Volumes on Internal Roads

	Pre-Consultation Observed : Dec-21	Final Observed : Jan-23	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
Benwell Road	736	1,100	364	**49%**	516	**88%**
Drayton Park	663	696	33	5%	123	**21%**
Highbury Hill	130	175	45	**35%**	-36	**-17%**
Aubert Park	224	187	-37	**-17%**	-10	-5%
Avenell Road	111	175	64	**58%**	57	**48%**
Gillespie Road	1,044	1,286	242	**23%**	489	**61%**
St. Thomas's Road*	35	627	592	**1691%**	174	**38%**
Prah Road	33	123	90	**273%**	106	**624%**
Ronalds Road	53	47	-6	**-11%**	-19	**-29%**
Fieldway Crescent West	531	806	275	**52%**	257	**47%**
Fieldway Crescent	246	551	305	**124%**	138	**33%**
Highbury Place	723	1,350	627	**87%**	700	**108%**
Baalbec Road	134	251	117	**87%**	40	**19%**
Arvon Road	113	179	66	**58%**	46	**35%**
Horsell Road	819	841	22	3%	293	**53%**
Total Internal	**5,595**	**8,394**	**2,799**	**50%**	**2,874**	**52%**
Ambler Road**	190	332	142	**75%**	135	**69%**

*It is considered in retrospect (in comparison to final data) that pre-consultation data for cycling on St. Thomas's Road may not have been accurately collected during surveys, given the considerable drop-off in flows during this period that is in no way reflected in the final counts.
**The baseline counts for Ambler Road were conducted in March 2021 rather than November 2020 as part of an additional monitoring set and have therefore been separated in this report, particularly as the impact of adding this data to the calculation of totals above would have had marginal impact.

Table 14: Cycle Volumes on Boundary Roads

	Pre-Consultation Observed : Dec-21	Final Observed : Jan-23	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
Highbury Grove North	190	364	174	**92%**	114	**46%**
Blackstock Road South	229	544	315	**138%**	-192	**-26%**
Blackstock Road North	695	766	71	**10%**	256	**50%**
Hornsey Road South	721	807	86	**12%**	111	**16%**
St. Paul's Road*	652	807	155	**24%**	-98	**-11%**
Total Boundary	**2,487**	**3,288**	**801**	**32%**	**191**	6%

*Baseline data from July 2020 was used for St. Paul's Road, as data from November 2020 was of poor quality
**Data sources for Seven Sisters Road and Holloway Road do not collect cycle count data as counts were conducted by Radar.

Table 15: Cycle Volumes on Roads Beyond the Boundary

	Pre-Consultation Observed : Dec-21	Final Observed : Jan-23	Difference vs. Pre-Consultation	Difference vs. Pre-Consultation (%)	Difference vs. Baseline	Difference vs. Baseline (%)
Highbury Grange	159	302	143	**90%**	98	**48%**
Grosvenor Avenue East	142	268	126	**89%**	2	1%
Highbury New Park	186	354	168	**90%**	131	**59%**
Wallace Road	597	350	-247	**-41%**	310	**775%**
Mountgrove Road	558	1,034	476	**85%**	339	**49%**

Insights: Cycling Volumes

Overall, cycling volumes on internal streets saw a considerable overall increase between pre-consultation and final data collection stages, whilst a smaller (but still notable) increase was noted on boundary roads and most other roads beyond the boundary.

On internal roads, there was a 50% increase in cycles counted, reflecting an increase of 2,799 daily cycles between pre-consultation and final stages. The most significant nominal increases were on Highbury Place (+627 daily cycles, +87%) and Benwell Road (+364 daily cycles, +49%). It is noted that the changes on St. Thomas's Road should be treated with some caution, as it is likely that pre-consultation counts largely undercounted cycles at this site (based on the trend across the three stages). Only two sites, Aubert Park and Ronalds Road, saw decreases in the number of cycles counted, with both decreases being of less than 50 daily cycles.

Since the baseline, almost all sites saw percentage increases in cycling of >10%, with Highbury Hill and Ronalds Road being the only, minor exceptions.

On boundary roads, all monitored sites saw increases in cycling of >10%, equating to a total 801 additional cyclists counted (+32% overall) - this is in contrast to the pre-consultation counts, which saw decreases in cycling on most boundary roads vs the baseline. The largest increases in cycles counted since pre-consultation was on Blackstock Road South, which saw an increase of 315 cycles (+138%) since pre-consultation (but still shows a total decrease of 192 cycles, or -26%, since the baseline).

On roads beyond the boundary, most locations saw a near-doubling of cycles counted, whilst the only road to show a decrease was Wallace Road – although it is noted that Wallace Road has still seen the largest percentage increase in cycles, across all streets, since the baseline (of +775%).

Analysis of Vehicle Speeds

Speeding is a major contributing factor to road danger, so reducing speeding is vital to making 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 5. The speed limit is 20mph on all monitored roads.

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 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.

Map 3: Average Vehicle Speed in mph (seven-day daily averages)

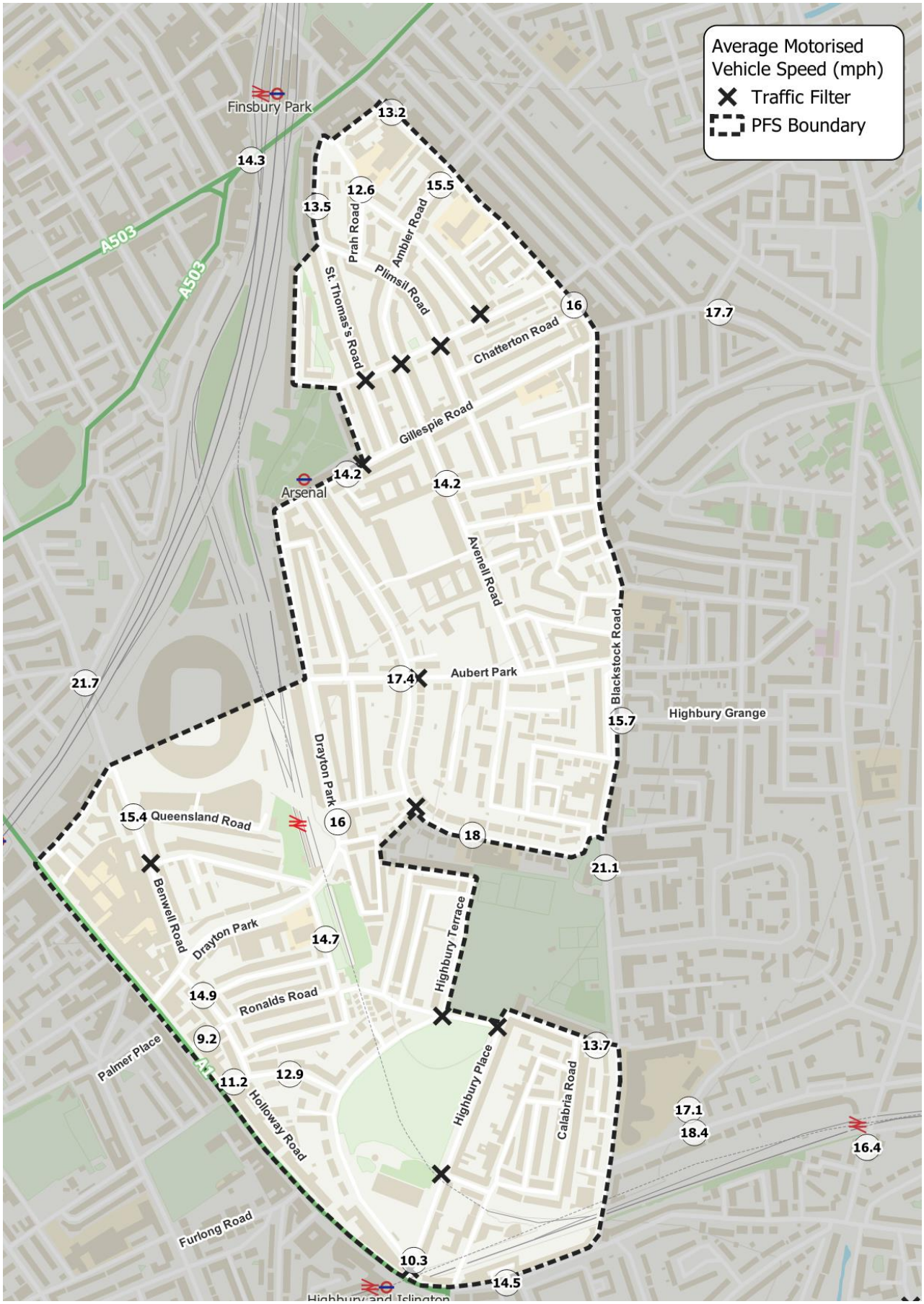


Table 16: Difference in Vehicle Speeds on Internal Roads

	Average Speed - Final (mph)	Average Speed - Diff. vs. Pre-Con (mph)	Average Speed - Diff. vs. Pre-Con (%)	Average Speed - Diff. vs. Baseline (mph)	Average Speed - Diff. vs. Baseline (%)	85th Percentile Speed - Final (mph)	85th Percentile Speed - Diff. vs. Pre-Con (mph)	85th Percentile Speed - Diff. vs. Pre-Con (%)	85th Percentile Speed - Diff. vs. Baseline (mph)	85th Percentile Speed - Diff. vs. Baseline (%)	% Speeding (above Posted Speed Limit) - Final (%)	% Speeding (above Posted Speed Limit) - Diff vs. Pre-Con (% pt.)	% Speeding (above Posted Speed Limit) - Diff vs. Baseline (% pt.)
Benwell Road	15.4	1.6	**12%**	2.8	**22%**	20.7	3.3	**19%**	5.6	**37%**	18%	10%	**14%**
Drayton Park	16.0	0.1	1%	-2.4	**-13%**	20.6	0.5	2%	-1.1	-5%	18%	2%	**-12%**
Highbury Hill	18.0	0.2	1%	-1.1	-6%	22.7	-0.1	0%	0.3	1%	30%	0%	-6%
Aubert Park	17.4	1.9	**12%**	-1.2	-6%	21.8	2.3	**12%**	-0.7	-3%	25%	10%	-8%
Avenell Road	14.2	-2.0	**-12%**	-1.2	-8%	18.5	-2.1	**-10%**	-0.4	-2%	8%	-10%	-2%
Gillespie Road	14.2	1.0	8%	-2.4	**-14%**	17.9	0.9	5%	-2.2	**-11%**	9%	2%	-7%
St. Thomas's Road	13.5	-3.8	**-22%**	-4.0	**-23%**	17.4	-4.5	**-21%**	-4.3	**-20%**	6%	**-19%**	**-19%**
Prah Road	12.6	0.2	2%	-0.4	-3%	15.4	-0.2	-1%	-0.6	-4%	2%	0%	0%
Ronalds Road	9.2	-5.4	**-37%**	-5.5	**-37%**	11.4	-7.1	**-38%**	-7.0	**-38%**	0%	-8%	-8%
Fieldway Crescent West	11.2	-0.2	-2%	-0.4	-3%	13.3	-0.5	-4%	-0.9	-6%	0%	0%	-1%
Fieldway Crescent	12.9	-2.7	**-17%**	-1.6	**-11%**	15.7	-3.4	**-18%**	-1.9	**-11%**	2%	-8%	-4%
Highbury Place	10.3	-1.0	-9%	0.0	0%	12.8	-1.0	-7%	-0.1	-1%	0%	-1%	-1%
Baalbec Road	13.7	-1.8	**-12%**	-0.5	-4%	16.1	-2.5	**-13%**	-0.8	-5%	2%	-6%	0%
Arvon Road	14.7	-3.1	**-17%**	-2.8	**-16%**	19.1	-4.5	**-19%**	-3.0	**-14%**	12%	**-17%**	**-15%**
Horsell Road	14.9	0.5	3%	-0.1	-1%	18.8	0.7	4%	-0.7	-4%	9%	2%	-4%
Weighted Average	**14.0**	**-1.0**	**-7%**	**-2.1**	**-13%**	**17.6**	**-1.2**	**-6%**	**-1.8**	**-9%**	**9%**	**-3%**	**-10%**
Ambler Road	15.5	-0.9	-5%	3.6	**31%**	18.9	-1.0	-5%	4.1	**28%**	8%	-6%	**7%**

Table 17: Difference in Vehicle Speeds on Boundary Roads

	Average Speed - Final (mph)	Average Speed - Diff. vs. Pre-Con (mph)	Average Speed - Diff. vs. Pre-Con (%)	Average Speed - Diff. vs. Baseline (mph)	Average Speed - Diff. vs. Baseline (%)	85th Percentile Speed - Final (mph)	85th Percentile Speed - Diff. vs. Pre-Con (mph)	85th Percentile Speed - Diff. vs. Pre-Con (%)	85th Percentile Speed - Diff. vs. Baseline (mph)	85th Percentile Speed - Diff. vs. Baseline (%)	% Speeding (above Posted Speed Limit) - Final (%)	% Speeding (above Posted Speed Limit) - Diff vs. Pre-Con (% pt.)	% Speeding (above Posted Speed Limit) - Diff vs. Baseline (% pt.)
Highbury Grove North	21.1	0.7	3%	1.9	10%	25.3	0.7	3%	1.5	6%	56%	6%	**16%**
Blackstock Road South	16.0	0.3	2%	-0.6	-4%	21.2	0.6	3%	-0.3	-1%	20%	2%	-2%
Blackstock Road North	13.2	0.1	1%	0.0	0%	17.1	-0.5	-3%	-1.1	-6%	6%	-2%	-3%
Hornsey Road South	21.7	-0.5	-2%	0.6	3%	25.7	-1.0	-4%	0.5	2%	65%	-3%	8%
St. Paul's Road	14.5	0.7	5%	-1.5	-9%	19.6	0.6	3%	-1.6	-8%	15%	3%	-5%
Holloway Road*	17.4	-0.6	-3%	-0.6	-4%	22.3	-0.8	-3%	-0.9	-4%	29%	-5%	-5%
Weighted Average	**16.7**	**0.3**	**2%**	**-0.7**	**-4%**	**21.3**	**0.1**	**0%**	**-0.9**	**-4%**	**27%**	**1%**	**-3%**
Seven Sisters Road	14.3	-4.8	**-25%**	-3.3	**-19%**	20.0	-7.0	**-26%**	-4.0	**-17%**	1%	-6%	-1%

*Raw speed data for Holloway Road was provided in speed categories of 5mph (e.g. 0-5mph, 5-10mph), and average speeds were therefore necessary to compute based on speed bin mid-points rather than individual vehicle speeds. However, a pre-calculated 85th percentile reading was provided in the data, and % speeding could be calculated based on speed bin data.

Table 18: Difference in Vehicle Speeds on Roads Beyond the Boundary

	Average Speed - Final (mph)	Average Speed - Diff. vs. Pre-Con (mph)	Average Speed - Diff. vs. Pre-Con (%)	Average Speed - Diff. vs. Baseline (mph)	Average Speed - Diff. vs. Baseline (%)	85th Percentile Speed - Final (mph)	85th Percentile Speed - Diff. vs. Pre-Con (mph)	85th Percentile Speed - Diff. vs. Pre-Con (%)	85th Percentile Speed - Diff. vs. Baseline (mph)	85th Percentile Speed - Diff. vs. Baseline (%)	% Speeding (above Posted Speed Limit) - Final (%)	% Speeding (above Posted Speed Limit) - Diff vs. Pre-Con (% pt.)	% Speeding (above Posted Speed Limit) - Diff vs. Baseline (% pt.)
Highbury Grange	15.7	-0.3	-2%	-0.1	-1%	19.3	-0.5	-3%	-0.3	-2%	12%	-2%	-1%
Grosvenor Avenue East	18.4	-1.5	-8%	-1.4	-7%	21.6	-1.9	-8%	-2.0	-8%	27%	**-19%**	**-15%**
Highbury New Park	17.1	-3.5	**-17%**	0.7	4%	20.5	-4.3	**-17%**	0.8	4%	18%	**-34%**	5%
Wallace Road	16.4	-0.4	-2%	0.4	2%	20.0	-1.0	-5%	-0.1	0%	15%	-4%	0%
Mountgrove Road	17.7	-0.7	-4%	3.4	**24%**	21.1	-1.0	-5%	3.3	**19%**	23%	-6%	**15%**

Insights: Vehicle Speeds

In general, changes in vehicles speeds have been very mixed, particularly on internal roads or other roads with low flows – this is likely because of the small sample sizes in both the pre-consultation and final counts, which can be easily skewed by a small number of extreme data points.

It is important to consider changes in vehicle speeds on internal roads in the above context, even though the general trend is still one of reduced speeds on most roads. The weighted average difference since pre-consultation was an increase of 0.3mph in average speeds (+2%), of 0.1mph in 85th percentile speeds, and of 1 percentage point in the number of vehicles speeding. Since the baseline, metrics across all roads are showing minor reductions in speeds. The roads that have seen the largest net changes in average speeds are Ronalds Road (-5.4mph since pre-consultation, -5.5mph since baseline) and St. Thomas's Road (-3.8mph since pre-consultation, -4.0mph since baseline). Benwell Road saw an increase across both time periods (+1.6mph since pre-consultation, +2.8mph since baseline), and Ambler Road saw an increase in average speed just since the baseline (+3.6mph). These changes are largely mirrored for 85th percentile speeds and percentage of vehicles speeding.

Boundary roads saw considerably more stable speed data, with no significant changes since pre-consultation. Indeed, the only change of greater than 10% was a 16-percentage point increase in the % of vehicles speeding on Highbury Grove North, which likely relates to a narrow range of speeds increasing on average from below the speed limit of 20mph to above the speed limit. Overall, there was a slight increase in speed metrics since pre-consultation, but a slight decrease since the baseline. Seven Sisters Road, as a radar site, saw a decrease in speeds of 25% (-4.8mph) since pre-consultation and 19% (-3.3mph) since the baseline – this may be a result of congestion on the road, given that observed motorised vehicle volumes are up 14% % since the baseline, but could also be due to construction of Cycleway 50 along the monitored segment during the final counts.

Across the wider area, there were also a range in vehicle speed changes, again likely due to limited data points feeding these statistics. Most of these were decreases in speed, for example on Highbury New Park and Grosvenor Avenue East (-3.5mph and -1.5mph, respectively), although Mountgrove Road did see a notable increase in speeds since the baseline (of +3.4mph or 24%).

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 PM10 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 LTN monitoring reports using LTN 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 LTN 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 LTN 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 as used for this report consist of nine roadside diffusion tubes, 17 urban background diffusion tubes and one urban background non-street diffusion tube. One of the main road diffusion tubes was moved in 2019 and is therefore not being included in LTN monitoring for this time period. More details of these sites can be viewed in the council's annual report.

The air quality monitoring sites in Highbury are listed in Appendix 3, with details about location and monitoring equipment 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 final Highbury report consist of six boundary road diffusion tubes, six 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 July 2022 due to a lag in the review time for this), data from the nine month period between November 2021 and July 2022 has been compared against data from the same nine month period from the previous year (i.e. November 2020 and July 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 NO_2 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. It was therefore not possible to provide results for PM10 for Highbury.

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 NO_2 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% and more than 25%, the results should be annualised. More information on this process can be found in the council's annual air quality report. As bias correction factors are not yet available for 2023, the only month of data that is presented but has not been corrected for bias is January 2023.

It is important to note that the site on Drayton Park (at Arvon Road) recorded an anomalous reading in August 2022 that would have brought the average value of NO_2 particles at this site to 32. This reading was not used to calculate the final average as it was abnormally high compared to any of the readings within the surveyed period (97 in August vs. 19 the previous month and 27 in the next available month, a number particularly odd to find during the summer months when pollution levels are typically lowest).

A further site at Highbury Crescent contained other readings that, whilst high, appeared to follow a numerical pattern across months and has thus been included in analysis. This has been replicated below for context, as numbers later in the year are increasing the average NO_2 reported at the site to above the annual objective level of 40µg/m3. It is noted that data for August 2022 was not available – it is quite common that a location might have a month or so of data missing over the period of the year due to either an issue being identified or the tube being missing on collection. Islington follows guidance set by the Mayor of London on which months to exclude from the dataset.

Table 19: Highbury Crescent Diffusion Tube Results

Month	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
AQ Reading	25	22	20	14	19	32	19	No Data	46	57	67	42	67

The council will continue to closely monitor the site and any further anomalous readings.

Map 4: Average levels of NO_2 (µg/m3) February 2022 – January 2023

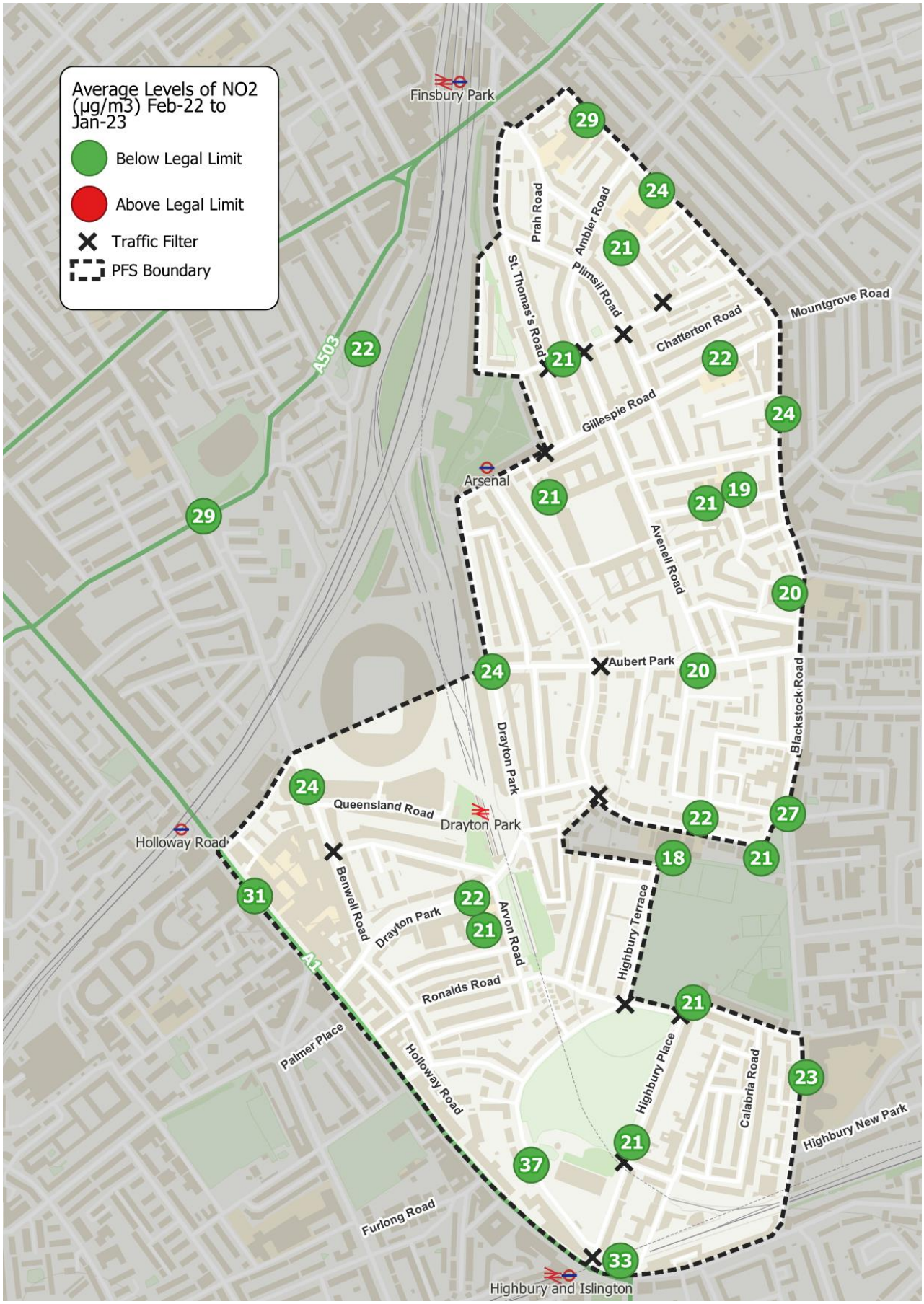


Table 20: (Boundary roads) NO_2 levels in Highbury and borough long-term diffusion tube sites

	Feb '21 – Jan '22 NO_2 (µg/m3)	Feb '22 – Jan '23 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
Highbury	29	27	-2	-7%
Whole borough long term sites	29	28	-1	-2%

Table 20 provides average NO_2 levels for the nine boundary road sites for Highbury as well as six boundary roads spread across the remainder of the borough. For the overall borough, the change in NO_2 levels dropped slightly (by 2%) between the compared periods, whilst in the scheme area there was a larger 7% decrease for this metric. Note that changes in NO_2 levels are based on rounded numbers and % changes are not.

It is worth noting that boundary road sites including Highbury Corner, Holloway Road and Blackstock Road are likely affected either directly or indirectly by multiple Low Traffic Neighbourhoods (both within Islington and neighbouring boroughs) or other changes in the road environment, and thus impacts cannot be solely ascribed to this scheme.

Table 21: (Internal roads) NO_2 levels in Highbury and borough long term diffusion tube sites

	Feb '21 – Jan '22 NO_2 (µg/m3)	Feb '22 – Jan '23 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
Highbury	20	22	+2	+9%
Whole borough long term sites	20	21	+1	+3%

For internal roads, 17 from Highbury and six from the wider borough have been included in the averages in Table 21. In this case, increases in NO_2 levels were seen, with Highbury Roads seeing an average increase of 9% and wider borough sites seeing a slightly smaller increase of 3%. Note that changes in NO_2 levels are based on rounded numbers and % changes are not.

Table 22: (Non-street-based sites) NO2 levels in Highbury and borough long term diffusion tube sites

	Feb '21 – Jan '22 NO_2 (µg/m3)	Feb '22 – Jan '23 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
Highbury	19	18	-1	-7%
Whole borough long term sites	19	20	+1	+5%

For non-street locations, there is only one such site for Highbury compared to three sites across the borough. Table 22 therefore only shows a single site's data for Highbury compared to an average for the rest of the borough – this can also be seen in Graph 5 on the overleaf, where there are some data gaps. At this single site, there was a 7% decrease in NO_2 levels, whilst for an average across the wider borough locations was an increase of +5%. Note that changes in NO_2 levels are based on rounded numbers and % changes are not.

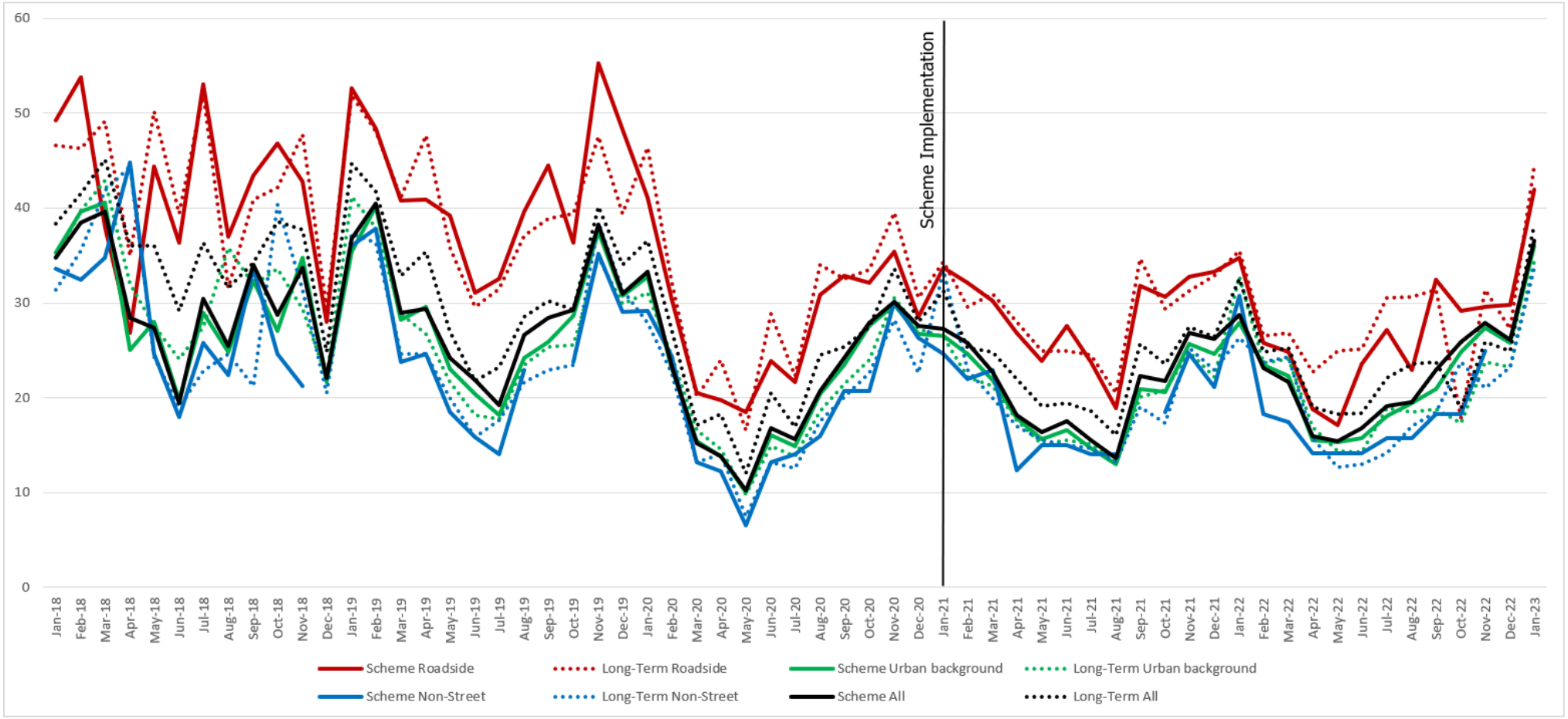
Table 23: (Overall) NO2 levels in Highbury and borough long term diffusion tube sites

	Feb '21 – Jan '22 NO_2 (µg/m3)	Feb '22 – Jan '23 NO_2 (µg/m3)	Change in NO_2 (µg/m3)	Change in NO_2 (% change)
Highbury	21	23	+2	+6%
Whole borough long term sites	23	24	+1	+1%

Taking the average of all sites for Highbury and the wider borough, there have been moderate increases for both, with Highbury sites seeing an average +6% increase (from 21 to 23 µg/m^3), whilst whole-borough sites saw an increase of +1% (from 23 to 24 µg/m^3). Graph 2 compares the trends in NO_2 levels in Highbury LTN across Boundary roads, Internal roads and Non-Street sites from January 2018 through to March 2022. Note that changes in NO_2 levels are based on rounded numbers and % changes are not. As shown in

Table 19 the count site on Highbury Crescent experienced anomalous readings from September 2022 to January 2023, which affected the overall NO2 levels in Highbury. If the September 2022 to January 2023 readings for Highbury Crecent were excluded from the overall figure for Highbury (23 µg/m3) it would reduce to 22 µg/m3.

Graph 2: Average NO_2 levels in Highbury LTN compared to long-term borough-wide sites from diffusion tubes*



*It is noted that the rapid increase in NO_2 concentrations in the chart above is a result of January 2023 not being bias adjusted (as compared to all prior months of data).

Insights: Air Quality

The results in Tables 20-23 and Graph 2 show that there has generally been a moderate increase in the concentration of NO_2 between the two periods assessed, both within Highbury and across the borough at large – this follows after several years when both metrics were showing improvements in air quality.

In summary these results show:

- Overall changes in levels of NO_2 in Highbury are on par with those across the wider borough, with most increases for Highbury being on internal roads that had relatively moderate baseline levels of pollution – notably, boundary roads saw smaller increases in NO_2 than did the borough at large.
- NO_2 levels in Highbury have remained within the annual objective level of 40μg/m3 for the post-implementation period based on data available for the study.
- These results generally suggest that the scheme itself has not had a significant 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 publication of the pre-consultation monitoring report in February 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 appears that the Highbury Low Traffic Neighbourhood continues to perform according to its design in terms of keeping motorised traffic levels on local streets low. Overall, normalised volumes of traffic on internal roads surveyed during the same set of months have dropped a further 15% since pre-consultation and a full 76% since baseline counts were conducted, indicating that the scheme has continued to reduce traffic in such locations. Locations such as Drayton Park and Benwell Road have benefited the most overall, with both seeing reductions of over 10,000 daily vehicles or over 80% of their baseline traffic – although it is noted the Benwell Road flows have slightly increased since pre-consultation, but only by a marginal 150 daily vehicles. Limited specific trends were observed for goods vehicles other than a steady reduction (in line with general motor vehicle trends), whilst motorcycles became notably less common in the neighbourhood, potentially as a result of fewer deliveries following COVID-19 rules relaxing. Speed changes were quite varied across internal roads but generally averaged to showing a decrease, with individual changes likely the result of small sample sized and outsized impacts of extreme values.

Cycling volumes on internal roads, though remaining broadly flat between the baseline and pre-consultation periods, increased significantly n internal roads by the final data collection period. Since pre-consultation, cycle flows were up 50% overall, with the largest changes seen on Highbury Place (+627 daily cycles, +87%), Benwell Road (+364 daily cycles, +49%) and Fieldway Crescent (+305 daily cycles, +124%). The largest (but still minor) decrease was on Aubert Park, a change of only -37 daily cycles or -17%. This result is particularly promising, as nationwide cycle volumes have been consistently low across all surveyed periods, but in the scheme area they had increased significantly.

On boundary roads, the total impact for comparable roads led to a negligible decrease of -8%, although this does not include Seven Sisters Road (for which final data was collected in a different month from other sites). There was also a large range of results on a site-by-site basis. Since pre-consultation, flows on Highbury Grove North, St. Paul's Road and Blackstock Road North all saw traffic reductions of more than 10%, although Seven Sisters Road saw a significant increase in flows of +34%, largely offsetting decreases on the other roads. As discussed in the section on motorised traffic, it is considered that the decrease in traffic on Blackstock Road North and increase in traffic on Seven Sisters Road could be related as Seven Sisters Road offers a rerouting option from Blackstock Road. Since the baseline, the total impact has

been similarly small at -1%, with the largest reductions coming from Highbury Grove North (-28%) and Hornsey Road South (-23%), as compared to increases driven by Blackstock Road North (+32%) and Seven Sisters Road (+10%). The council will continue to monitor these two roads and consider further options for traffic mitigation or improvement of the urban environment.

Goods vehicle and motorcycle trends remain broadly unremarkable for boundary roads, again following the general trend for motorised vehicles for each road, whilst cycle numbers are moderately up between baseline and pre-consultation stages (+32% overall) – however, this cycling figure is only +6% when compared against the baseline.

In air quality terms, there has been a negligible difference between the pre-consultation period and final report period across all metrics analysed, with NO_2 concentrations increasing slightly across both according to the comparisons made. It is likely that this, to an extent, reflects the increase in activity following the end of COVID-19 restrictions in London.

Overall, this final check can confirm that the scheme continues to operate effectively against its goals, with no noticeable impact from the exemptions granted to Blue Badge holders who are now able to pass through some of the camera enforced traffic filters.

Appendices

Appendix 1: Highbury Traffic Count Locations and Type

Islington-commissioned traffic count sites and type

Internal	**Type**	**Baseline Count Start Date (7 day survey)**	**Pre-Consultation Count Start Date (7 day survey)**	**Final Count Start Date (7 day survey)**
Arvon Road	ATC	07/11/2020	06/12/2021	09/01/2023
Aubert Park	ATC	07/11/2020	06/12/2021	09/01/2023
Avenell Road	ATC	07/11/2020	06/12/2021	09/01/2023
Baalbec Road	ATC	07/11/2020	06/12/2021	09/01/2023
Benwell Road	ATC	07/11/2020	06/12/2021	09/01/2023
Drayton Park	ATC	07/11/2020	06/12/2021	09/01/2023
Fieldway Crescent	ATC	07/11/2020	06/12/2021	09/01/2023
Fieldway Crescent West	ATC	07/11/2020	06/12/2021	09/01/2023
Gillespie Road	ATC	07/11/2020	06/12/2021	09/01/2023
Highbury Hill	ATC	07/11/2020	06/12/2021	09/01/2023
Highbury Place	ATC	07/11/2020	06/12/2021	09/01/2023
Horsell Road	ATC	07/11/2020	06/12/2021	09/01/2023
Prah Road	ATC	07/11/2020	06/12/2021	09/01/2023
Ronalds Road	ATC	07/11/2020	06/12/2021	09/01/2023
St. Thomas's Road	ATC	07/11/2020	06/12/2021	09/01/2023
Ambler Road	ATC	01/03/2021	06/12/2021	09/01/2023
Roads Beyond the	**Type**	**Baseline Count Start Date (7**	**Pre-Consultation Count Start**	**Final Count Start Date (7 day**

Boundary		day survey)	Date (7 day survey)	survey)
Grosvenor Avenue East	ATC	07/11/2020	06/12/2021	09/01/2023
Highbury Grange	ATC	07/11/2020	06/12/2021	09/01/2023
Highbury New Park	ATC	07/11/2020	06/12/2021	09/01/2023
Mountgrove Road	ATC	07/11/2020	06/12/2021	09/01/2023
Wallace Road	ATC	07/11/2020	06/12/2021	09/01/2023

Boundary Roads	Type	Baseline Count Start Date (7 day survey)	Pre-Consultation Count Start Date (7 day survey)	Final Count Start Date (7 day survey)
Blackstock Road North	ATC	07/11/2020	06/12/2021	09/01/2023
Blackstock Road South	ATC	07/11/2020	06/12/2021	09/01/2023
Highbury Grove North	ATC	07/11/2020	06/12/2021	09/01/2023
Holloway Road	TfL ATC	09/11/2020	13/12/2021	09/01/2023
Hornsey Road South	ATC	07/11/2020	06/12/2021	09/01/2023
Seven Sisters Road	Radar	07/11/2020	06/12/2021	27/03/2023
St. Paul's Road West	ATC	27/07/2020	06/12/2021	09/01/2023

ATC sites and coordinates

Street Name	Easting	Northing
Ambler Road	531595	186568
Arvon Road	531473	185300
Aubert Park	531571	185778
Avenell Road	531653	186121
Baalbec Road	531918	185160
Benwell Road	531142	185512
Blackstock Road	531544	186748
Blackstock Road	531862	186418
Drayton Park	531480	185529
Fieldway Crescent	531332	185088
Fieldway Crescent	531383	185097
Gillespie Road	531500	186127
Grosvenor Avenue	532114	185024
Highbury Grove	531950	185460
Highbury Grove	531964	185713
Highbury Hill	531707	185515
Highbury New Park	532093	185019
Highbury Place	531628	184776
Holloway Road (TfL Site)	531239	185120
Hornsey Road	531044	185738
Horsell Road	531263	185229
Mountgrove Road	532117	186410
Prah Road	531492	186623
Ronalds Road	531268	185150
Seven Sisters Road	531311	186652
St Paul's Road	531769	184745
St. Thomas's Road	531420	186587
Wallace Road	532401	185016

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 John 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 extremely 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.

Appendix 2: Traffic Count Normalisation Methodologies

To calculate the normalised percentage differences, the December 2021 traffic count volumes have been divided by 0.9481 and the January 2023 traffic counts by 0.9458 to give normalised volumes (March 2023 counts for Seven Sisters have been divided by 0.8105 to account for the larger normalisation factor in this month). 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. December 2021, January 2023 and March 2023) across all the permanent TfL counter sites around Islington, and taking an average difference for the whole month.

It is noted that based on the data presented in this report, there is very little difference between the December 2021 and January 2023 normalisation factors, and thus rounded differences in observed data and normalised data will often be equal.

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 Highbury 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 Highbury area are listed below, with details about type and if they have been added as part of the PFS programme, or were pre-existing.

Locations	**LTN road type**	**Monitoring type**	**Installation**	**Site Type by DEFRA classification**
Highbury Corner (BIS08)	Boundary Road	Diffusion tube	2000	Roadside
Holloway Road (BIS11)	Boundary Road	Diffusion tube	2000	Roadside
Blackstock Road (N24)	Boundary Road	Diffusion tube	December 2019	Roadside
Blackstock Road (N26)	Boundary Road	Diffusion tube	December 2019	Roadside
Highbury Park (N30)	Boundary Road	Diffusion tube	December 2019	Roadside
Blackstock Road (S6)	Boundary Road	Diffusion tube	January 2018	Roadside
Highbury Grove (S64)	Boundary Road	Diffusion tube	July 2018	Roadside
Tollington Road/Park (PF21)	Boundary Road	Diffusion tube	September 2020	Roadside
Arvon Road (S9)	Internal Road	Diffusion tube	January 2018	Background urban
Gillespie Road (S10)	Internal Road	Diffusion tube	January 2018	Background urban
Conewood Street (S38)	Internal Road	Diffusion tube	February 2018	Background urban
Romily Road (S49)	Internal Road	Diffusion tube	February 2018	Background urban
Drayton Park (S51)	Internal Road	Diffusion tube	February 2018	Background urban
Highbury Hill (S63)	Internal Road	Diffusion tube	July 2018	Background urban
Parkside Crescent (N13)	Internal Road	Diffusion tube	December 2019	Background urban
Monsell Road (N25)	Internal Road	Diffusion tube	December 2019	Background urban
Gillespie Road (N27)	Internal Road	Diffusion tube	December 2019	Background urban

Conewood Street (N28)	Internal Road	Diffusion tube	December 2019	Background urban
Aubert Park (N31)	Internal Road	Diffusion tube	December 2019	Background urban
Highbury Place (N32)	Internal Road	Diffusion tube	December 2019	Background urban
Drayton Park (PF9)	Internal Road	Diffusion tube	August 2020	Background urban
Bernwell Road (PF10)	Internal Road	Diffusion tube	August 2020	Background urban
Highbury Crescent (PF11)	Internal Road	Diffusion tube	August 2020	Background urban
Highbury Place (PF12)	Internal Road	Diffusion tube	August 2020	Background urban
Baalbec Road (PF13)	Internal Road	Diffusion tube	August 2020	Background urban
Highbury Fields (BIS10)	Non-street	Diffusion tube	2000	Background urban
Highbury Park (PF50)	Internal Road	Diffusion tube	November 2021	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 January 2023 data, which should 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 January 2023 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. It is noted that since the data being compared in this report is not for full calendar years, instead of a strict 12-month annualisation process being used, the underlying principles have been used to infill individual months where air quality data was not available – with period averages based on the months being compared (in

this case February 2021 to January 2022 and the same months in 2022/2023).

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 and speeds by monitoring period and by vehicle class.

As noted in the main report, data was processed using SYSTRA's proprietary automated data processing tools, which draw together raw data from all reporting periods and apply formulae-based calculations to produce the charts and tables shown in the following pages and appendices. However, as it is not uncommon for there to be problems with data surveys (broken equipment, cars parked on ATC bands etc.) as well as anomalous readings from surveys resulting from one-off events (waterworks, gas leaks, accidents etc.), all data has been thoroughly checked by hand and "patched" (i.e. blank data or significantly anomalous data has been substituted by more representative data from the site/wave in question), which is a necessary task in order to maintain comparable data – therefore, it is likely there are some deviations from that data which was presented in previous reports.

It is also noted that data for goods vehicles is presented as seven-day averages in the appendix (vs. weekday averages in the report).