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 Number Plate Recognition (ANPR) cameras – Automatic Number Plate Recognition (ANPR) cameras – ANPR cameras are used to read vehicle registration plates and the information used to inform a traffic management and for enforcement. In the context of this report, ANPR cameras are used to enforce some traffic filters within the LTNs in Haringey so that only those with exemptions or the emergency services can pass through them. It is important to note that some filters have a 'no entry' sign on one side which means they are not accessible from that direction for any vehicles, regardless of status.

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 accurate. (See Appendix 1 for more details).

Boundary roads – For the purpose of this report, the "boundary roads" of the St. Ann's trial area are, in a clockwise direction, West Green Road (A504) to the north, High Road (A10) to the east, Seven Sisters Road (A503) to the southeast, St. Ann's Road (B152) to the south, and Green Lanes (A105) to the west. Boundary roads for the scheme also include the one-way link from St. Ann's Road to Green Lanes via Harringay Road and Colina Road.

Cell or 'sub cell' – A neighbourhood within a Low Traffic Neighbourhood (LTN) is often referred to as a cell or sub cell. Cells are a group of residential streets bordered by a boundary road as defined above.

Experimental Traffic Management Order (ETO) – An "Experimental Traffic Management Order" (ETO) is similar to a permanent Traffic Management Order in that it is a legal document that imposes traffic and parking restrictions. However, unlike a Traffic Management Orders, an Experimental Traffic Order can only stay in force for a maximum of 18 months while the effects are monitored and assessed, the first six months being a statutory consultation period during which time formal objections can be raised. An ETO also allows for changes to be made to the relevant scheme during the first twelve months of the trial period, this may trigger another six-month statutory consultation period. An Experimental Traffic Order is made under Sections 9 and 10 of the Road Traffic Regulation Act 1984.

Internal Roads – These are roads which fall in between two or more boundary roads in low traffic neighbourhoods. For the purposes of this report, "internal roads" are local roads in the St. Ann's LTN trial area on which the project aims to reduce the amount of traffic through the introduction of traffic filters, although some will still lie on through routes in the scheme area. These roads are generally narrower than boundary roads. Traffic counts have been collected on some, but not all, of the internal roads in the St. Ann's area.

Low Traffic Neighbourhood – A "low traffic neighbourhood" (LTN) is an area where a number of traffic filters are strategically placed to make it impossible or very difficult to cut through the area by motor vehicle. This stops drivers using local streets as shortcuts and makes it safer and easier to walk and cycle. In this report, the St. Ann's Phase 1 LTN (Phase 1 LTN) trial refers to a low traffic neighbourhood implemented in Haringey under an Experimental Traffic Management Order (ETO). The position of the traffic filters means that drivers (including residents, delivery workers and businesses) are still able to reach any part of the neighbourhood whilst using a vehicle but the route they need to take to reach their destination may change.

Normalised – In this report, "normalising" means to adjust traffic count figures to consider the impact of COVID-19 and other macro-scale factors on traffic patterns. This methodology is explained below in more detail, but in simple terms it means that the traffic count figures have been increased to project what traffic counts may have looked like if traffic levels were at pre-Covid levels.

Observed – In this report, "observed" means the data that was collected, which has not been adjusted to consider 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 – 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 or "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.

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

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

Video Surveys – Video surveys utilise cameras mounted onto telescopic masts to enable capture of traffic movements, including vehicle classes. Analysts count the traffic from the video surveys to a very high level of >98-100% accuracy.

Introduction – St. Ann's LTN Post-implementation Report

Haringey Council's 'Streets for People' initiative aims to reclaim local streets for the people living on them, making them safe, welcoming and liveable places. The introduction of measures under the ambitious 'Streets for People' project aims to cut road traffic and pollution, as well as improve the walkability and cyclability of local areas, all whilst developing active travel corridors between local amenities.

Following an extensive listening and engagement exercise, Haringey Council has introduced three people-friendly Low-Traffic Neighbourhoods (LTNs) across the borough. These schemes use filters, such as bollards or ANPR cameras, to stop motor traffic taking shortcuts along local roads, creating a safer, cleaner and quieter neighbourhood for the people living there.

The borough's Phase 1 Low Traffic Neighbourhoods comprise the following, which can be seen on Map 1 on the following page:

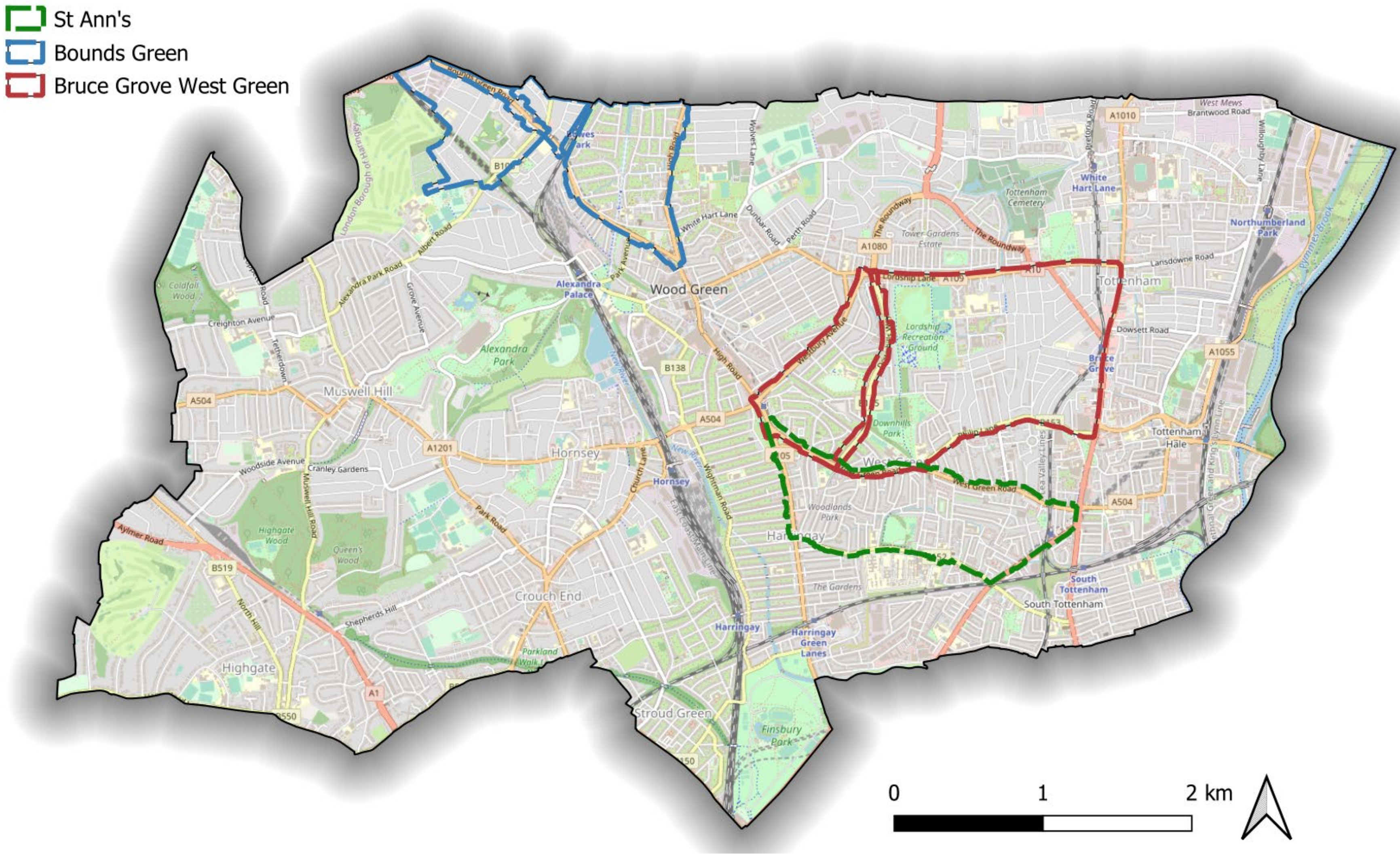
- Bounds Green LTN (introduced 15 August 2022)
- St. Ann's LTN (introduced 22 August 2022)
- Bruce Grove West Green LTN (introduced 1 November 2022)

Scheme Context

For the St. Ann's LTN, the council has installed seven new traffic filters in the St. Ann's trial area to prevent motor vehicles from cutting through the local area. Camera enforcement is being used so that emergency vehicles, refuse vehicles and, where relevant, buses can still pass through some of the traffic filters.

Camera filters also enable those that are eligible for exemptions to pass through the traffic filters without incurring a Penalty Charge Notice (PCN). More details on the range of exemptions available for LTN's in Haringey can be found via this link.

Map 1 : Location of Haringey Stage 1 LTNs Within the Borough



Introduction – Monitoring Report

This monitoring report provides data and insights relating to the St. Ann's LTN trial. The trial went live in August 2022 following a two week 'discretionary' period during which warning letters were issued instead of Penalty Charge Notices (PCNs), so the analysis compares data from before and after that date. The pre-implementation ("before") traffic counts were collected in November 2021, before the LTN was put in place. The post-implementation monitoring traffic counts were collected in January 2023, five months after it was installed.

Traffic Counts Approach

The count data presented in this report is not traffic modelling, but actual observed traffic, comparing traffic flows in November 2021 to those collected in January 2023.

Dates of Traffic Counts

Pre-implementation counts: 1st November 2021 – 7th November 2021

St. Ann's scheme went live: 22nd August 2022

Post-implementation counts: 10th January 2023 – 2nd February 2023 (start dates varied across sites during this period to account for roadworks and other disruptions)

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 St. Ann's area. ATCs measure motorised and cycle traffic volumes and motorised traffic speeds and classify the traffic by type. They are able to collect data for all vehicles regardless of their speed of travel (including those traveling at <10kph). For this scheme, one video camera site was used on Seven Sisters Road. Information about the different types of counts and which type was used at each site is detailed in Appendix 1. A map of the count sites is presented on the following page. It is noted that some locations presented in the map have been slightly shifted from their on-street locations to assist with legibility.

Map 2: St. Ann's LTN monitoring sites

SYSTRA Statement

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

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 Haringey can be held accountable for errors in the data provided by third parties, where these errors have not been identified through normal checking processes.

Analysis and Normalisation Methodology Overview

All the counts in this analysis were undertaken in full awareness of COVID implications and post-COVID working patterns, as well as ongoing national trends such as the cost-of-living crisis. Data were therefore processed with results interpreted in a way that accounts for these (and other) background changes to how people travel in London.

Daily volumes of motorised traffic have been drawn from a range of 11 permanent traffic counters managed by Transport for London across Haringey and used to establish monthly averages in 2019 and 2020. 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. Using normalisation methodologies using TfL count locations across types of typologies (only within 2km of scheme, only on trunk routes etc.) has been considered in studies for other Boroughs and has not been shown to make a notable difference in results, particularly following the lifting of COVID-related regulations.

For context, the difference based on this dataset was greatest in April 2020, where motorised traffic was approximately 58% of what it had been in April 2019.

Using the months of the St. Ann's counts, in November 2021 motorised traffic was approximately 1% lower than in November 2019 and in January 2023 motorised traffic was approximately 5% lower than in January 2019.

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

Month	Impact
Mar-20	83.52%
Apr-20	58.28%
May-20	76.78%
Jun-20	90.56%
Jul-20	95.61%
Aug-20	98.61%
Sep-20	96.28%
Oct-20	99.45%
Nov-20	91.98%
Dec-20	89.47%
Jan-21	82.03%
Feb-21	84.69%
Mar-21	89.79%
Apr-21	92.65%
May-21	93.80%
Jun-21	96.76%
Jul-21	97.83%
Aug-21	96.95%
Sep-21	97.43%
Oct-21	101.60%
Nov-21	98.94%
Dec-21	94.96%
Jan-22	94.94%
Feb-22	95.95%
Mar-22	94.32%
Apr-22	93.70%
May-22	95.53%
Jun-22	94.88%
Jul-22	94.56%
Aug-22	93.44%
Sep-22	94.18%
Oct-22	99.69%
Nov-22	98.25%
Dec-22	92.49%
Jan-23	95.16%

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 for each site are provided in Appendix 5.

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

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

Please note that traffic flows fluctuate daily (generally up to 10%), and background impacts on traffic flows cannot be consistently accounted for in the normalisation on a day-to-day and location-by-location basis. As such, changes within -10% to +10% are considered insignificant (i.e. no or negligible change).

In addition, it must be noted that as vehicles travelling through the LTN or on boundary roads may go through multiple counter sites, it is certain that the summed number of vehicles counted across all monitored roads is higher than the actual number of trips taken. As such, a drop/increase in total volumes of vehicles counted across multiple individual roads does not represent the same drop/increase in total unique vehicle journeys, although this figure can be useful in understanding the magnitude and direction of the scheme’s impact. It is important to note, however, that this methodology of recording traffic volumes is consistent across both pre and post implementation periods. It is also important to note that this methodology is consistent with the analysis of LTN schemes in other London boroughs.

External Factors

It is important to consider all these results in the context of other external factors that could be impacting 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 five main external factors which could be influencing results, as follows:

Nearby Low Traffic Neighbourhoods – As can be seen in Map 1, St. Ann's borders the Bruce Grove LTN trial area, which is located north of West Green Road on a shared boundary. Bounds Green LTN is approximately 1.7km to the northeast of the scheme. There are a range of schemes with similar objectives as LTNs in neighbouring boroughs, including in Waltham Forest to the east, Islington and Hackney to the south, and Enfield to the north. However, all of these schemes are relatively far away and were in place well before the Haringey schemes were introduced. They are therefore unlikely to have impacted on flows in the study area.

Weather – Weather can have a significant impact on travel choices, especially cycling, as well as on air pollution. During the month in which pre-implementation counts were conducted (November 2021), the average temperature in Greater London was 9°C, with average highs of 11°C and average lows of 7°C. Post-implementation counts, taken in January 2023, show an average temperature of 6°C, with average highs of 9°C and average lows of 4°C – although it is noted that counts were taken in the first half of the month, which was considerably warmer than the second half. This indicates that generally, temperatures in the post-implementation data collection period were similar or slightly cooler to those collected in the pre-implementation period.

COVID-19 Impacts – In the pre-implementation period (November 2021), most legally enforced COVID-19 restrictions had already been dropped across the UK. However, infection rates and hospitalisation rates were high throughout the autumn of 2021, peaking with the arrival of the Omicron variant in December of that year. Alongside the fact that masks were still required on Transport for London services until February 2022, it is likely that many individuals were still working entirely or mostly from home during the time this data was collected.

In contrast, post-implementation counts conducted in January 2023 were conducted long after all COVID-19 restrictions had been dropped and most London residents had settled into a consistent working pattern, whether at home, at workplaces or in hybrid setups.

However, given that these trends did not change on a day-to-day basis, is it considered that most of this background behaviour should have been captured by the normalisation methodology.

Cost of Living Crisis – In January 2023, during the post-implementation counts, rising inflation had significantly increased the price of petrol and other critical items such as heating, 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 despite the cold weather. Related to this is the high number of strikes (both on public transport and otherwise) that have disrupted patterns of behaviour. Whilst care was taken not to collect data during strikes, it is possible that the uncertainty they generated has impacted more general travel behaviour as well. Again, it is considered that most of this background behaviour should have been captured by the normalisation methodology.

ULEZ Extension – In October 2021, directly before the pre-implementation 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 Haringey whereas previously none of the Borough was included. Given the pre-implementation counts occurred soon after this, it is possible that there was still some lag in driver behaviour as motorists became more familiar with this restriction.

In July 2022 Transport for London published the *Expanded Ultra Low Emission Zone – Six Month Report Including Low Emission Zone – One Year Report*. The report estimates that the new ULEZ reduced traffic by 21,000 vehicles in the zone on an average day, a reduction of 2 per cent of traffic flow compared to the weeks before the expanded ULEZ was implemented. Whilst it is expected that this broad change in cost of driving in the borough has been reflected in normalised data via TfL ATCs, it is possible that more localised effects exist. It is important to note that the ULEZ is expanding to cover all London Boroughs to the M25 boundary from August 2023.

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, 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 "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. If roads are less heavily used on weekends, it is possible that seven-day averages are slightly lower than five-day (weekday) averages – however, as usage patterns are expected to be similar between data collection rounds, this factor is not likely to materially impact the net and percentage changes in flows between pre- and post-implementation.

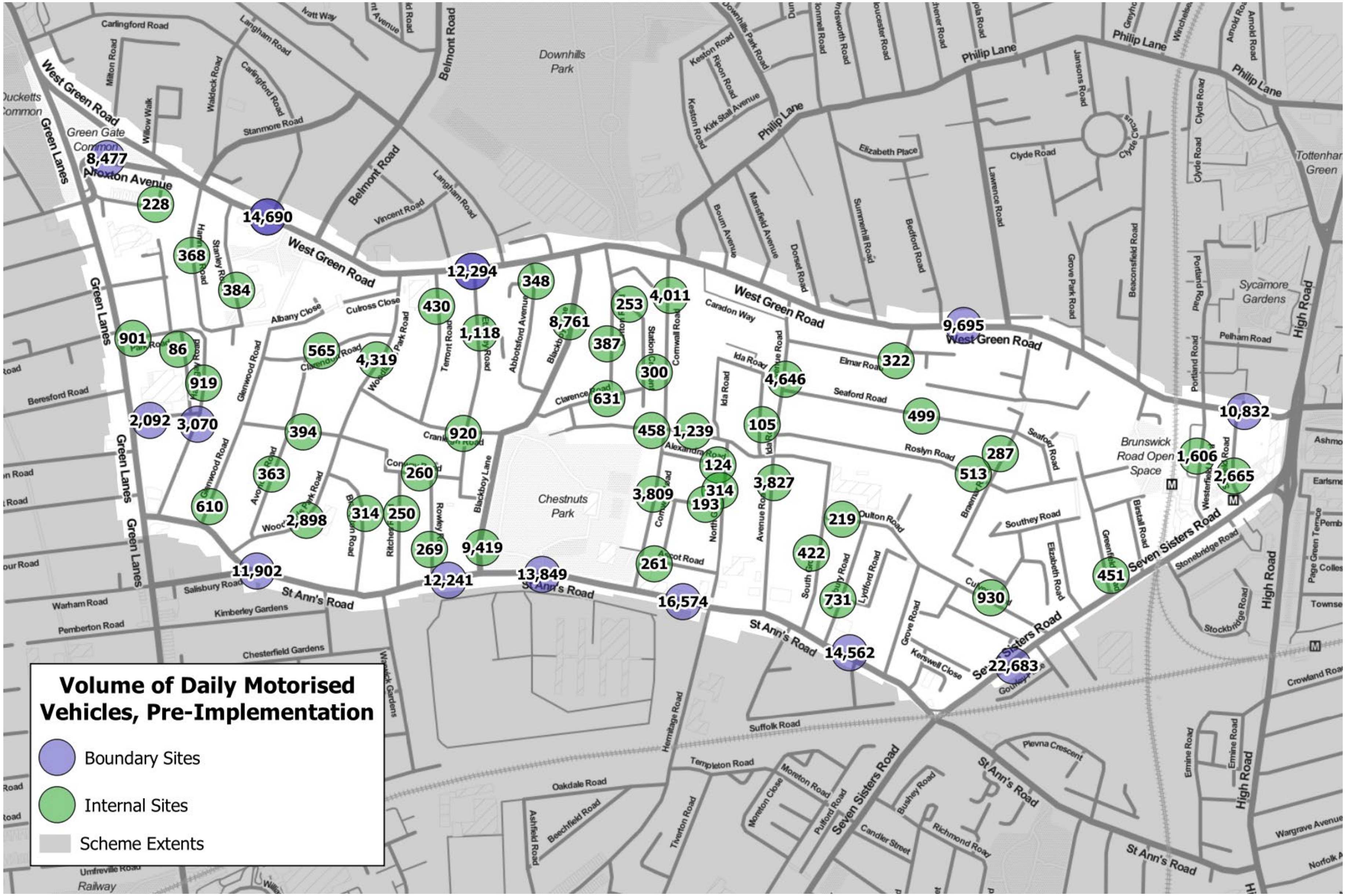
The numbers presented have been rounded to the nearest whole number and raw/percentage changes calculated accordingly. It is noted that the number of cycles counted is not included in this analysis.

Map 3 below shows the total volume of vehicles recorded during the pre-implementation period (November 2021) on both boundary and internal roads, whilst Map 4 on the following page shows the same data for the post-implementation period (January 2023).

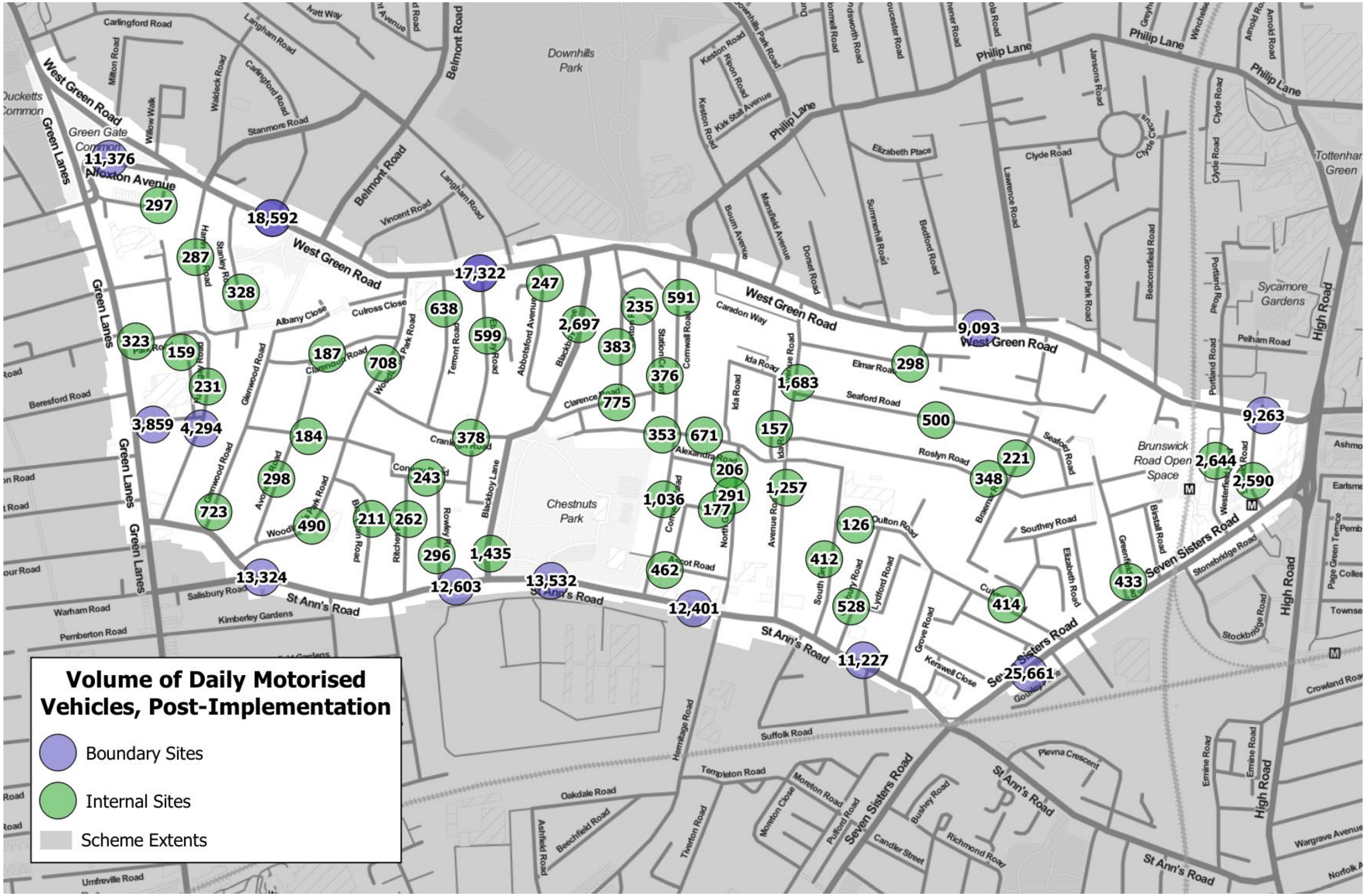
Map 5 then presents the percentage change in motorised vehicle volumes between the pre-implementation data (November 2021) and post-implementation data (January 2023). It is important that percentage change figures are considered in the context of raw changes, as presented in the tables, as a large percentage 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 significantly different between the two monitored periods. In such cases, it is useful to compare data in Maps 3 & 4, or to refer to the tables for full context.

Further context for each site can be found in Appendix 5, which outlines the observed and normalised figures for all periods, as well as average flow profiles across the day.

Map 3: **Pre-Implementation Motorised Vehicles Volumes**



Map 4: Post-Implementation Motorised Vehicles Volumes



Map 5: Percentage Change in Motorised Vehicle Volumes

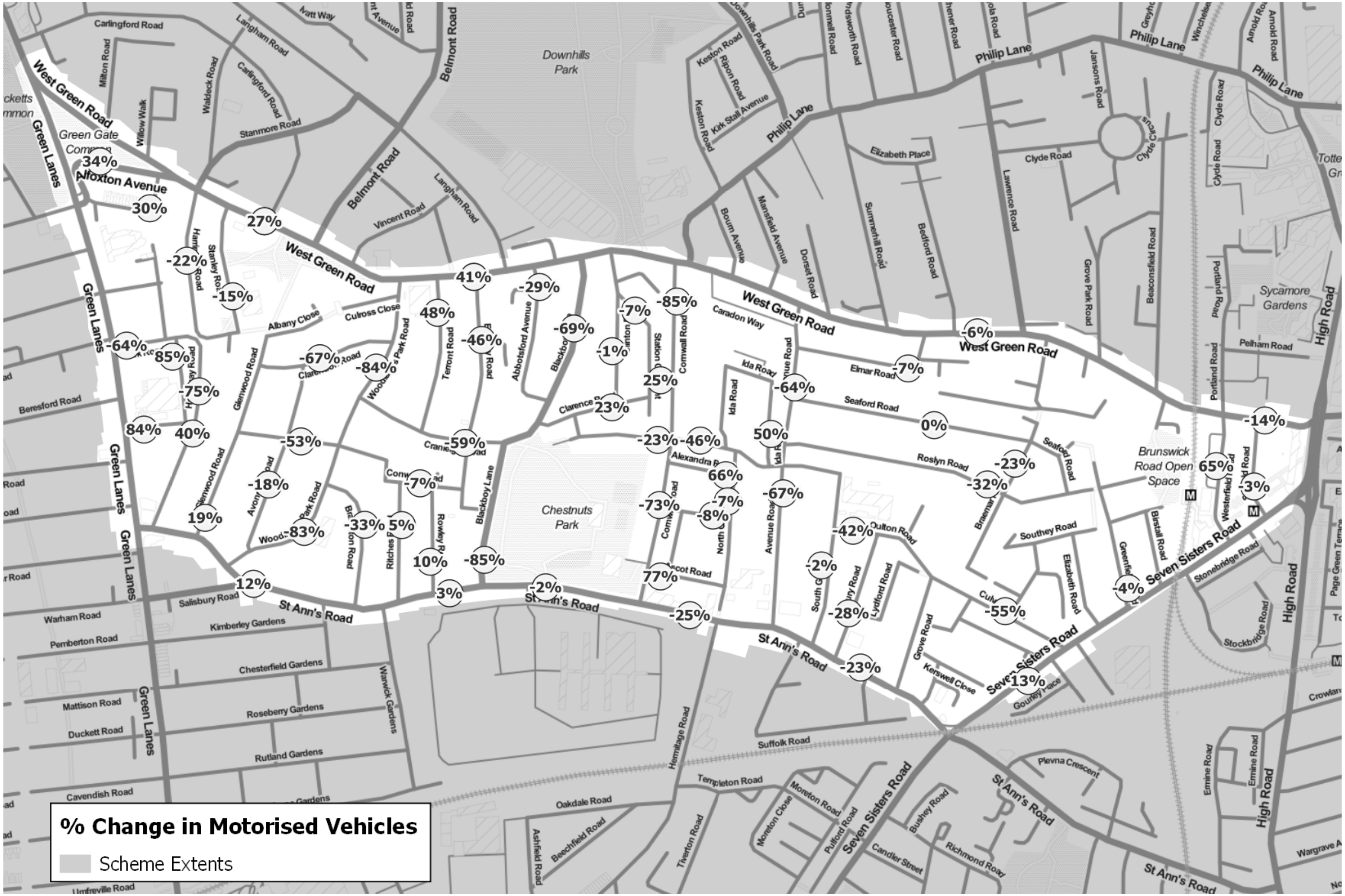


Table 2: Motorised Traffic Volumes on Internal Roads

	Pre-Observed: Nov-21	Pre-Normalised: Nov-21	Post-Observed: Jan-23	Post-Normalised: Jan-23	Difference Post- vs. Pre- (Observed)	Difference Post- vs. Pre- (Normalised)	% Difference Post- vs. Pre- (Observed)	% Difference Post- vs. Pre- (Normalised)
Abbotsford Avenue	344	348	235	247	-109	-101	-32%	-29%
Alexandra Road (@North Grove)	122	124	196	206	74	82	61%	66%
Ascot Road	258	261	440	462	182	201	71%	77%
Avenue Road (#41/Newsam Avenue)	3,786	3,827	1,196	1,257	-2,590	-2,570	-68%	-67%
Avenue Road (#95/Ida Road)	4,598	4,646	1,601	1,683	-2,997	-2,963	-65%	-64%
Avondale Road	360	363	284	298	-76	-65	-21%	-18%
Brampton Road	310	314	201	211	-109	-103	-35%	-33%
Breamar Road	283	287	211	221	-72	-66	-25%	-23%
Cissbury Road	725	731	502	528	-223	-203	-31%	-28%
Clarence Road	625	631	738	775	113	144	18%	23%
Clarendon Road	559	565	178	187	-381	-378	-68%	-67%
Clinton Road	383	387	365	383	-18	-4	-5%	-1%
Colina Mews	85	86	151	159	66	73	78%	85%
Conway Road (@Avondale Road/Woodlands Park Road)	389	394	173	184	-216	-210	-56%	-53%
Conway Road (@Rowley Road/Ritches Road)	257	260	233	243	-24	-17	-9%	-7%
Cornwall Road (#47/West Green Road)	3,969	4,011	562	591	-3,407	-3,420	-86%	-85%
Cornwall Road (@Penrith Road)	3,768	3,809	986	1,036	-2,782	-2,773	-74%	-73%
Cranleigh Road	912	920	358	378	-554	-542	-61%	-59%
Culvert Road	919	930	394	414	-525	-516	-57%	-55%
Dagmar Road	297	300	358	376	61	76	21%	25%
Elmar Road	319	322	284	298	-35	-24	-11%	-7%
Etherley Road	1,106	1,118	571	599	-535	-519	-48%	-46%
Falmer Road	451	458	335	353	-116	-105	-26%	-23%

Glenwood Road	604	610	688	723	84	113	14%	19%
Gorleston Road	1,225	1,239	638	671	-587	-568	-48%	-46%
Greenfield Road	447	451	411	433	-36	-18	-8%	-4%
Harringay Road (#67)	910	919	220	231	-690	-688	-76%	-75%
Harringay Road (#68)	362	368	272	287	-90	-81	-25%	-22%
Ida Road	104	105	150	157	46	52	44%	50%
La Rose Lane (#31)	8,670	8,761	2,566	2,697	-6,104	-6,064	-70%	-69%
La Rose Lane (@Chestnuts Park)	9,320	9,419	1,366	1,435	-7,954	-7,984	-85%	-85%
North Grove	311	314	277	291	-34	-23	-11%	-7%
Oulton Road	218	219	120	126	-98	-93	-45%	-42%
Park Road	892	901	309	323	-583	-578	-65%	-64%
Penrith Road	191	193	169	177	-22	-16	-12%	-8%
Ritches Road	248	250	249	262	1	12	0%	5%
Roslyn Road	508	513	331	348	-177	-165	-35%	-32%
Rowley Road	267	269	281	296	14	27	5%	10%
Seaford Road	494	499	477	500	-17	1	-3%	0%
South Grove	417	422	392	412	-25	-10	-6%	-2%
St Margaret's Avenue	226	228	282	297	56	69	25%	30%
Stanley Road	379	384	313	328	-66	-56	-17%	-15%
Station Crescent	251	253	224	235	-27	-18	-11%	-7%
Suffield Road	2,636	2,665	2,465	2,590	-171	-75	-6%	-3%
Terront Road	426	430	607	638	181	208	42%	48%
Westerfield Road	1,590	1,606	2,515	2,644	925	1,038	58%	65%
Woodlands Park Road (#16/Clarendon Road)	4,273	4,319	675	708	-3,598	-3,611	-84%	-84%
Woodlands Park Road (#87/Avondale Road)	2,867	2,898	465	490	-2,402	-2,408	-84%	-83%
Total Internal Road*	**62,661**	**63,327**	**27,014**	**28,388**	**-35,647**	**-34,939**	**-57%**	**-55%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 3: Motorised Traffic Volumes on Boundary Roads

	Pre-Observed: Nov-21	Pre-Normalised: Nov-21	Post-Observed: Jan-23	Post-Normalised: Jan-23	Difference Post- vs. Pre- (Observed)	Difference Post- vs. Pre- (Normalised)	% Difference Post- vs. Pre- (Observed)	% Difference Post- vs. Pre- (Normalised)
A503 Seven Sisters Rd (@Gourley Street)	22,443	22,683	24,417	25,661	1,974	2,978	9%	13%
A504 West Green Road (@Bedford Road/Lawrence Road)	9,594	9,695	8,653	9,093	-941	-602	-10%	-6%
A504 West Green Road (@Carlingford Road)	14,535	14,690	17,691	18,592	3,156	3,902	22%	27%
A504 West Green Road (@Etherley Road)	12,164	12,294	16,482	17,322	4,318	5,028	35%	41%
A504 West Green Road (@Suffield Road)	10,717	10,832	8,814	9,263	-1,903	-1,569	-18%	-14%
Alfoxton Avenue	8,388	8,477	10,825	11,376	2,437	2,899	29%	34%
B152 Harringay Road	3,037	3,070	4,086	4,294	1,049	1,224	35%	40%
B152 Colina Road	2,071	2,092	3,671	3,859	1,600	1,767	77%	84%
B152 St. Ann's Road (@Chestnuts Park)	13,703	13,849	12,875	13,532	-828	-317	-6%	-2%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	16,399	16,574	11,800	12,401	-4,599	-4,173	-28%	-25%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	12,113	12,241	11,993	12,603	-120	362	-1%	3%
B152 St. Ann's Road (@Salisbury Road)	11,776	11,902	12,679	13,324	903	1,422	8%	12%
B152 St. Ann's Road (@Suffolk Road)	14,409	14,562	10,683	11,227	-3,726	-3,335	-26%	-23%
Total Boundary Road*	**151,349**	**152,961**	**154,669**	**162,547**	**3,320**	**9,586**	**2%**	**6%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 4: Motorised Traffic Volumes on Key Internal Roads, By Direction*

	Direction A	Nov-21 Daily Flow	Jan-23 Daily Flow	Absolute Difference	% Difference	Direction B	Nov-21 Daily Flow	Jan-23 Daily Flow	Absolute Difference	% Difference
Avenue Road (#41/Newsam Avenue)	Northbound	3,817	1,214	-2,603	-68%	Southbound	10	43	33	324%
Avenue Road (#95/Ida Road)	Northbound	4,627	913	-3,714	-80%	Southbound	19	770	751	3,989%
Cornwall Road (#47/West Green Road)	Northbound	3	17	14	477%	Southbound	4,008	574	-3434	-86%
Cornwall Road (@Penrith Road)	Northbound	7	154	147	2,265%	Southbound	3,802	882	-2920	-77%
La Rose Lane (#31)	Northbound	4,594	1,632	-2,962	-64%	Southbound	4,167	1,065	-3,102	-74%
La Rose Lane (@Chestnuts Park)	Northbound	4,495	771	-3,724	-83%	Southbound	4,924	664	-4,260	-87%

*It is noted that both Avenue Road and Cornwall Road have changed from one-way to two-way before and after the modal filters, which helps explain the significant percentage changes in flows.

Table 5: Motorised Traffic Volumes on Boundary Roads, By Direction

	Direction A	Nov-21 Daily Flow	Jan-23 Daily Flow	Absolute Difference	% Difference	Direction B	Nov-21 Daily Flow	Jan-23 Daily Flow	Absolute Difference	% Difference
A503 Seven Sisters Rd (@Gourley Street)	Eastbound	10,533	11,900	1,367	13%	Westbound	12,150	13,761	1,610	13%
A504 West Green Road (@Bedford Road/Lawrence Road)	Eastbound	5,620	5,419	-201	-4%	Westbound	4,075	3,674	-401	-10%
A504 West Green Road (@Carlingford Road)	Eastbound	7,653	9,219	1,566	20%	Westbound	7,037	9,373	2,336	33%
A504 West Green Road (@Etherley Road)	Eastbound	6,628	9,345	2,717	41%	Westbound	5,666	7,977	2,310	41%
A504 West Green Road (@Suffield Road)	Eastbound	6,641	3,211	-3,430	-52%	Westbound	4,191	6,052	1,861	44%
Alfoxton Avenue	Eastbound	9	9	0	0%	Westbound	8,468	11,367	2,899	34%
B152 Colina Road	Eastbound	0	0	0	0%	Westbound	2,092	3,859	1,767	84%
B152 Harringay Road	Northbound	3,064	4,275	1,211	40%	Southbound	6	19	13	233%
B152 St. Ann's Road (@Chestnuts Park)	Eastbound	6,961	6,909	-52	-1%	Westbound	6,888	6,623	-265	-4%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	Eastbound	10,499	6,669	-3,830	-36%	Westbound	6,075	5,732	-342	-6%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	Eastbound	6,319	6,274	-45	-1%	Westbound	5,922	6,329	407	7%
B152 St. Ann's Road (@Salisbury Road)	Eastbound	5,989	6,378	389	6%	Westbound	5,913	6,946	1,033	17%
B152 St. Ann's Road (@Suffolk Road)	Eastbound	6,247	5,921	-326	-5%	Westbound	8,315	5,306	-3,009	-36%

Insights: All Motorised Vehicle Volumes

When comparing normalised flows between the November 2021 pre-implementation and January 2023 post-implementation surveys, total motorised vehicle volumes have declined for most internal roads within the Bruce Grove LTN area, with limited percentage increase on scheme boundary roads.

Overall, around 35,000 fewer vehicles were counted across internal roads, equating to an overall drop of 55% in such volumes, whilst the number of vehicles counted on boundary roads increased by just under 9,600, resulting in an 6% increase from the 2021 pre-implementation counts. However, it must be noted that as vehicles travelling through the LTN and boundary roads are likely to go through multiple counter sites, it is certain that the number of vehicles counted across all internal/boundary roads is higher than the actual number of trips taken. As such, a drop/increase in total volumes of vehicles counted across multiple individual roads does not represent the same drop/increase in total unique vehicle journeys, although can be useful in understanding the magnitude and direction of a change.

It is important to note however that this methodology of recording traffic volumes is consistent across both pre- and post-implementation periods. It is also important to note that this methodology is consistent with the analysis of LTN schemes in other London boroughs.

On internal roads, the largest decreases in flows were naturally seen on north-south links between West Green Road and St. Ann's Road with new modal filters introduced on them – namely, La Rose Lane, Cornwall Road, Woodlands Park Road and Avenue Road. The La Rose Lane site at Chestnuts Park experienced the largest reductions in normalised traffic flows, decreasing by approximately 8,000 daily vehicles, a difference of -85% when compared to pre-implementation normalised flows at the same site. Another site on La Rose Lane (at #34) saw a similar decrease of over 6,000 daily vehicles (-69%). Elsewhere, Cornwall Road (at #47, closer to West Green Road) also saw a substantial decrease in motorised vehicles, of around 3,400 per day, which is also equivalent to -85%, whilst Woodlands Park Road saw drops of 3,600 and 2,400 vehicles at sites next to #16 and #87, respectively. Further substantial drops of between 2,500 and 3,000 were seen on Avenue Road.

Overall, of the 50 internal sites, 36 saw decreases in traffic volumes, nine of which were decreases of over 1,000 daily vehicles.

In contrast to this, traffic increased on several internal roads between November 2021 and January 2023, although only one site saw an increase of over 1,000 daily vehicles. Westerfield Road, at the eastern end of the scheme area, remains open for traffic and provides one of the only remaining north-south passageways through the cell – which is likely why increases of around 1,000 daily vehicles (+65%) have been seen. The council will continue to monitor the traffic volumes at this location.

Other sites have also seen large percentage increases in motorised vehicle flows, such as Colina Mews, where flows increased by 85%. However, in this and most other cases, the increase is from a low starting point and represents only a minor or moderate increase in traffic.

For boundary roads, there has been an overall increase in normalised traffic flows post-implementation, of around 8,400 additional daily motorised vehicles, equating to an 6% change in flows between pre- and post-implementation. The most significant increase by volume was at the West Green Road site near Etherley Road, where vehicles increased by around 5,000 per day, a 41% increase. Smaller, but still notable increases were seen further along West Green Road at the junction with Carlingford Road (roughly 3,900 additional daily vehicles, or +27%), as well as on Seven Sisters Road (around 3,000 additional daily vehicles, or +13%). The largest percentage increase was on Colina Road (linking St. Ann's Road to Green Lanes), which saw an 84% increase, equating to around 1,800 daily vehicles.

Conversely, the most significant decrease by volume was seen on St. Ann's Road at Cornwall Road/Hermitage Road, where daily traffic was 25% lower in January 2023 than in November 2021, amounting to around 4,100 fewer vehicles. Other sites also saw notable decreases in traffic levels, for example on St. Ann's Road at Suffolk Road with a decrease of 3,300 daily vehicles (-23%) and West Green Road at Suffield Road, with a decrease of 1,600 daily vehicles (-14%).

Trends on boundary roads generally indicate that there is an increase in traffic at the eastern end of West Green Road, with the Bruce Grove scheme directly to the north and St. Ann's scheme directly to the south. Linking roads to Green Lanes (i.e. Alfoxton Avenue and Harringay Road/Colina Road) saw increases in traffic to the west of the LTN boundary, with Seven Sisters Road seeing increases in traffic to the east of the LTN boundary. However, volumes on St. Ann's Road show a more mixed picture, with more moderate increases and decreases in traffic volumes at certain sections.

Ultimately, whilst these findings indicate that the total volume of traffic on internal roads has decreased considerably since the St Ann's LTN trial, a number of boundary roads have seen increases over the same time period and merit further monitoring by the council.

Goods Vehicles Volumes (5-Day Daily 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 (which may differ from other traffic monitoring 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 actual impacts by not masking this. Similarly, the % numbers given are percentages of total motorised traffic, rather than all vehicles counted, so the comparison to cycles is not considered. Changes in the proportion of LGV/HGV compared to total motorised traffic (or ”prevalence” of such vehicles) is presented as a percentage point difference, although the actual percentage change for vehicles is also presented.

Table 6: Normalised Goods Vehicle Volumes on Internal Roads

	LGV Volume: Nov-21	LGV Prop: Nov-21	LGV Volume: Jan-23	LGV Prop: Jan-23	LGV Change in Prop.	LGV Change in Volume	HGV Volume: Nov-21	HGV Prop: Nov-21	HGV Volume: Jan-23	HGV Prop: Jan-23	HGV Change in Prop.	HGV Change in Volume
Abbotsford Avenue	12	3%	3	1%	-2%	-75%	18	5%	19	7%	2%	6%
Alexandra Road (@North Grove)	3	2%	8	4%	2%	167%	-	0%	11	5%	5%	N/A
Ascot Road	7	2%	24	5%	3%	243%	1	0%	5	1%	1%	400%
Avenue Road (#41/Newsam Avenue)	239	6%	148	11%	5%	-38%	25	1%	72	6%	5%	188%
Avenue Road (#95/Ida Road)	149	3%	124	7%	4%	-17%	193	4%	49	3%	-1%	-75%
Avondale Road	49	13%	42	14%	1%	-14%	4	1%	3	1%	0%	-25%
Brampton Road	14	4%	11	5%	1%	-21%	7	2%	3	1%	-1%	-57%
Breamar Road	21	7%	32	15%	8%	52%	9	3%	4	2%	-1%	-56%
Cissbury Road	64	8%	55	10%	2%	-14%	12	2%	14	3%	1%	17%
Clarence Road	36	6%	101	13%	7%	181%	12	2%	6	1%	-1%	-50%
Clarendon Road	91	16%	15	9%	-7%	-84%	3	1%	1	1%	0%	-67%
Clinton Road	35	9%	14	4%	-5%	-60%	4	1%	9	2%	1%	125%
Colina Mews	12	12%	5	3%	-9%	-58%	1	1%	6	4%	3%	500%
Conway Road (@Avondale Road/Woodlands Park Road)	55	13%	24	13%	0%	-56%	4	1%	5	3%	2%	25%
Conway Road (@Rowley Road/Ritches Road)	16	6%	13	5%	-1%	-19%	2	1%	-	0%	-1%	-100%
Cornwall Road (#47/West Green Road)	177	4%	104	17%	13%	-41%	97	2%	7	1%	-1%	-93%
Cornwall Road (@Penrith Road)	199	5%	114	10%	5%	-43%	88	2%	23	2%	0%	-74%
Cranleigh Road	40	4%	13	3%	-1%	-68%	59	6%	24	6%	0%	-59%
Culvert Road	84	9%	41	10%	1%	-51%	17	2%	4	1%	-1%	-76%
Dagmar Road	11	4%	15	4%	0%	36%	6	2%	7	2%	0%	17%
Elmar Road	17	5%	7	2%	-3%	-59%	2	1%	6	2%	1%	200%
Etherley Road	48	4%	24	4%	0%	-50%	32	3%	26	4%	1%	-19%
Falmer Road	22	5%	26	7%	2%	18%	3	1%	2	1%	0%	-33%
Glenwood Road	54	9%	73	10%	1%	35%	24	4%	3	0%	-4%	-88%
Gorleston Road	89	7%	88	12%	5%	-1%	8	1%	5	1%	0%	-38%
Greenfield Road	8	2%	28	7%	5%	250%	31	7%	7	2%	-5%	-77%

Harringay Road (#67)	103	11%	32	14%	3%	-69%	3	0%	2	1%	1%	-33%
Harringay Road (#68)	10	2%	29	10%	8%	190%	26	6%	1	0%	-6%	-96%
Ida Road	10	9%	20	12%	3%	100%	1	1%	2	1%	0%	100%
La Rose Lane (#31)	662	7%	92	3%	-4%	-86%	62	1%	321	12%	11%	418%
La Rose Lane (@Chestnuts Park)	498	5%	359	24%	19%	-28%	189	2%	28	2%	0%	-85%
North Grove	13	4%	15	5%	1%	15%	3	1%	3	1%	0%	0%
Oulton Road	3	1%	2	2%	1%	-33%	13	6%	7	6%	0%	-46%
Park Road	16	2%	11	3%	1%	-31%	31	4%	15	4%	0%	-52%
Penrith Road	15	8%	14	8%	0%	-7%	3	2%	3	2%	0%	0%
Ritches Road	13	5%	26	10%	5%	100%	13	5%	2	1%	-4%	-85%
Roslyn Road	60	12%	19	5%	-7%	-68%	5	1%	17	5%	4%	240%
Rowley Road	21	7%	29	10%	3%	38%	2	1%	3	1%	0%	50%
Seaford Road	59	12%	24	5%	-7%	-59%	2	0%	23	5%	5%	1050%
South Grove	45	10%	26	6%	-4%	-42%	2	0%	2	0%	0%	0%
St Margaret's Avenue	25	11%	12	4%	-7%	-52%	1	0%	12	4%	4%	1100%
Stanley Road	49	12%	29	9%	-3%	-41%	4	1%	13	4%	3%	225%
Station Crescent	17	7%	30	13%	6%	76%	3	1%	2	1%	0%	-33%
Suffield Road	75	3%	302	12%	9%	303%	159	6%	17	1%	-5%	-89%
Terront Road	29	6%	75	11%	5%	159%	6	1%	11	2%	1%	83%
Westerfield Road	190	12%	245	9%	-3%	29%	4	0%	19	1%	1%	375%
Woodlands Park Road (#16/Clarendon Road)	119	3%	44	6%	3%	-63%	154	3%	28	4%	1%	-82%
Woodlands Park Road (#87/Avondale Road)	112	4%	40	8%	4%	-64%	16	1%	5	1%	0%	-69%
Total/Average Internal Road*	**3,696**	**6%**	**2,627**	**9%**	**3%**	**-29%**	**1,364**	**2%**	**857**	**3%**	**1%**	**-37%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 7: Normalised Goods Vehicle Volumes on Boundary Roads

	LGV Volume: Nov-21	LGV Prop: Nov-21	LGV Volume: Jan-23	LGV Prop: Jan-23	LGV Change in Prop.	LGV Change in Volume	HGV Volume: Nov-21	HGV Prop: Nov-21	HGV Volume: Jan-23	HGV Prop: Jan-23	HGV Change in Prop.	HGV Change in Volume
A503 Seven Sisters Rd (@Gourley Street)	2,024	9%	2,104	8%	-1%	4%	502	2%	475	2%	0%	-5%
A504 West Green Road (@Bedford Road/Lawrence Road)	575	6%	1,114	12%	6%	94%	425	4%	123	1%	-3%	-71%
A504 West Green Road (@Carlingford Road)	1,065	7%	951	5%	-2%	-11%	511	3%	773	4%	1%	51%
A504 West Green Road (@Etherley Road)	425	3%	728	4%	1%	71%	810	7%	635	4%	-3%	-22%
A504 West Green Road (@Suffield Road)	164	1%	761	8%	7%	364%	439	4%	165	2%	-2%	-62%
Alfoxton Avenue	1,372	16%	1,024	9%	-7%	-25%	132	2%	171	1%	-1%	30%
B152 Harringay Road	200	6%	730	17%	11%	265%	14	0%	177	4%	4%	1164%
B152 Colina Road	78	4%	342	9%	5%	338%	61	3%	37	1%	-2%	-39%
B152 St. Ann's Road (@Chestnuts Park)	818	6%	546	4%	-2%	-33%	211	1%	473	3%	2%	124%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	1,003	6%	1,354	10%	4%	35%	319	2%	100	1%	-1%	-69%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	940	7%	956	7%	0%	2%	129	1%	271	2%	1%	110%
B152 St. Ann's Road (@Salisbury Road)	552	4%	648	5%	1%	17%	290	2%	605	4%	2%	109%
B152 St. Ann's Road (@Suffolk Road)	921	6%	953	8%	2%	3%	480	3%	1,293	11%	8%	169%
Total/Average Boundary Road*	**10,137**	**7%**	**12,211**	**7%**	**0%**	**20%**	**4,323**	**3%**	**5,298**	**3%**	**0%**	**23%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Insights: Goods Vehicles Volumes

The volume of goods vehicles during weekdays would generally be expected to decrease significantly on internal roads and increase slightly on boundary roads, in line with broader trends for motorised vehicles (although noting motorised vehicle trends in the previous section are for full, seven-day weeks).

On internal roads, the prevalence of goods vehicles has increased slightly for both LGVs and HGVs – by 3 percentage points for LGVs and 1 percentage point for HGVs. This matches with the 29% decrease in overall LGVs and 37% decrease in overall HGVs, which represent a decrease, but a smaller one than for general traffic. This indicates that routing choices for these vehicles are less flexible than for general traffic, likely because a higher percentage of LGVs and HGVs need to drop off or pick up at specific households within the LTN area than is seen for general traffic.

For individual internal roads, changes in vehicle flows often translate to large percentage changes (based on low initial volumes), so it is generally more useful to look at changes in actual vehicle numbers instead of percentage changes. Overall, around 65% of sites saw a net decrease in LGVs, 10 of which saw decreases of over 50 such vehicles per day. Of these, La Rose Lane saw the largest decreases, with a drop of over 500 daily LGVs at #31 – although this site saw an increase in HGVs of a smaller degree. Conversely, Suffield Road saw the largest increases, of around 230 LGVs per day, but saw a decrease in HGVs.

For HGVs, then there were a number of roads with decreases of over 100 daily vehicles, including the aforementioned Suffield Road, Woodlands Park Road (at Clarendon Road), La Rose Lane (at Chestnuts Park) and Avenue Road (at Ida Road). Other than the potential shifting of LGVs to HGVs on La Rose Lane at #31, no internal site gained a notable number of HGVs.

As expected, boundary roads saw an increase in the volume of LGVs and HGVs, in which volumes of LGVs increased by 20% and volumes of HGVs increased by 23%, both ahead of the motorised vehicle changes for boundary roads. However, it must be noted that as vehicles travelling through the LTN and boundary roads are likely to go through multiple counter sites, it is certain that the number of vehicles counted across all internal/boundary roads is higher than the actual number of trips taken. As such, a drop/increase in total volumes of vehicles counted across multiple individual roads does not represent the same drop/increase in total unique vehicle journeys, although can be useful in understanding the magnitude and direction of a change.

The section of Harringay Road between St. Ann's Road and Green Lanes saw a significant increase in both LGVs and HGVs, with an 11-percentage point increase in the prevalence of LGVs and 12-fold increase in the volume of HGVs, likely as this is the only remaining link between two key boundary roads (in the northbound direction, at least). In addition, the St. Ann's Road site at Suffolk Road saw a substantial increase in the volume of HGVs (nearly 850 additional per day), the cause of which is unclear. Several sites along West Green Road also saw increases in LGV volumes of over 500 per day, although for most of these sites, the increase in LGVs was countered by a decrease in HGVs. Only Alfoxton Avenue saw an overall decrease in total goods vehicles, mostly driven by reductions in LGV volumes.

Overall, as expected, the data on goods vehicles indicates that on internal roads the volumes of such vehicles have dropped considerably, whilst on boundary roads, volumes have increased by similar margins. The council will continue to monitor roads where such trends of increases have been observed.

Motorcycle Volumes (7-Day Daily Average)

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

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

Table 8: Normalised Motorcycle Volumes on Internal Roads

	Motorcycle Volume: Nov-21	Motorcycle Prop: Nov-21	Motorcycle Volume: Jan-23	Motorcycle Prop: Jan-23	Motorcycle Change in Proportion	Motorcycle Change in Volume
Abbotsford Avenue	38	11%	43	18%	7%	13%
Alexandra Road (@North Grove)	8	6%	25	12%	6%	236%
Ascot Road	6	2%	40	9%	7%	572%
Avenue Road (#41/Newsam Avenue)	206	5%	234	19%	14%	13%
Avenue Road (#95/Ida Road)	58	1%	185	11%	10%	217%
Avondale Road	12	3%	29	10%	7%	148%
Brampton Road	42	13%	32	15%	2%	-24%
Breamar Road	27	9%	36	17%	8%	37%
Cissbury Road	49	7%	48	9%	2%	-3%
Clarence Road	64	10%	72	9%	-1%	13%
Clarendon Road	51	9%	23	13%	4%	-54%
Clinton Road	39	10%	52	14%	4%	34%
Colina Mews	4	5%	22	14%	9%	435%
Conway Road (@Avondale Road/Woodlands Park Road)	10	2%	25	13%	11%	151%
Conway Road (@Rowley Road/Ritches Road)	13	5%	13	5%	0%	4%
Cornwall Road (#47/West Green Road)	149	4%	47	8%	4%	-68%
Cornwall Road (@Penrith Road)	207	5%	114	11%	6%	-45%
Cranleigh Road	82	9%	28	7%	-2%	-66%
Culvert Road	52	6%	41	10%	4%	-22%
Dagmar Road	19	6%	30	8%	2%	62%
Elmar Road	29	9%	20	7%	-2%	-33%
Etherley Road	60	5%	57	10%	5%	-4%
Falmer Road	33	7%	37	10%	3%	12%
Glenwood Road	69	11%	99	14%	3%	44%

Gorleston Road	102	8%	85	13%	5%	-17%
Greenfield Road	71	16%	51	12%	-4%	-28%
Harringay Road (#67)	108	12%	43	19%	7%	-60%
Harringay Road (#68)	42	11%	56	19%	8%	33%
Ida Road	7	7%	38	24%	17%	441%
La Rose Lane (#31)	345	4%	193	7%	3%	-44%
La Rose Lane (@Chestnuts Park)	293	3%	126	9%	6%	-57%
North Grove	40	13%	65	22%	9%	63%
Oulton Road	26	12%	12	10%	-2%	-53%
Park Road	70	8%	73	23%	15%	5%
Penrith Road	9	5%	17	10%	5%	98%
Ritches Road	23	9%	20	8%	-1%	-12%
Roslyn Road	34	7%	32	9%	2%	-7%
Rowley Road	20	7%	20	7%	0%	-1%
Seaford Road	33	7%	39	8%	1%	20%
South Grove	41	10%	40	10%	0%	-3%
St Margaret's Avenue	10	4%	20	7%	3%	99%
Stanley Road	19	5%	49	15%	10%	164%
Station Crescent	12	5%	15	7%	2%	25%
Suffield Road	229	9%	281	11%	2%	23%
Terront Road	18	4%	57	9%	5%	216%
Westerfield Road	116	7%	178	7%	0%	54%
Woodlands Park Road (#16/Clarendon Road)	248	6%	154	22%	16%	-38%
Woodlands Park Road (#87/Avondale Road)	240	8%	102	21%	13%	-57%
Total/Average Internal*	**3,483**	**5%**	**3,121**	**11%**	**6%**	**10%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 9: Normalised Motorcycle Volumes on Boundary Roads

	Motorcycle Volume: Nov-21	Motorcycle Prop: Nov-21	Motorcycle Volume: Jan-23	Motorcycle Prop: Jan-23	Motorcycle Change in Proportion	Motorcycle Change in Volume
A503 Seven Sisters Rd (@Gourley Street)	1,286	6%	1,617	6%	0%	26%
A504 West Green Road (@Bedford Road/Lawrence Road)	614	6%	605	7%	1%	-1%
A504 West Green Road (@Carlingford Road)	841	6%	953	5%	-1%	13%
A504 West Green Road (@Etherley Road)	717	6%	901	5%	-1%	26%
A504 West Green Road (@Suffield Road)	490	5%	532	6%	1%	9%
Alfoxton Avenue	501	6%	666	6%	0%	33%
B152 Harringay Road	140	5%	255	6%	1%	83%
B152 Colina Road	113	5%	239	6%	1%	110%
B152 St. Ann's Road (@Chestnuts Park)	253	2%	707	5%	3%	180%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	694	4%	716	6%	2%	3%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	590	5%	612	5%	0%	4%
B152 St. Ann's Road (@Salisbury Road)	305	3%	568	4%	1%	86%
B152 St. Ann's Road (@Suffolk Road)	629	4%	587	5%	1%	-7%
A503 Seven Sisters Rd (@Gourley Street)	1,286	6%	1,617	6%	0%	26%
Total/Average Boundary Road*	**7,172**	**5%**	**8,956**	**6%**	**1%**	**25%**

*As detailed on page 17 it is important to note that vehicles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Insights: Motorcycle Volumes

As with goods vehicles, it would be expected that motorcycle flows broadly reflect the trends in overall motor vehicle traffic, for example large decreases on internal roads and slight increases on boundary roads.

As with goods vehicles, motorcycle volumes decreased across most internal roads, but not to the same extent as general traffic – so with a 10% drop in motorcycles (around 360 fewer per day) came an increase in proportional representation from 5% to 11%, perhaps indicating less flexibility for motorcycles (and motorcycle-based deliveries) than for general traffic in terms of routing options. A range of roads saw substantial reductions in motorcycle volumes – for example, Cornwall Road (at #47/West Green Road), La Rose Lane (at Chestnuts Park), La Rose Lane (at #31) and Woodlands Park Road (at #87/Avondale Road) all saw reductions of over 100 daily motorcycles.

For boundary roads, it appears that motorcycles have increased at a higher rate than total motorised traffic, with an increase of 25% or around 1,780 daily vehicles alongside a 1 percentage point increase in prevalence. Motorcycle volumes increased across nearly all roads, and there were eight roads which saw an increase in over 100 daily motorcycles, with St. Ann's Road (at Chestnuts Park) seeing the largest increase in both volume (+454 daily vehicles) and percentage (+180%). West Green Road (at Bedford Road/Lawrence Road) and St. Ann's Road (at Suffolk Road) were the only sites that saw a decrease in volume, with drops of 9 (-1%) and 42 (-7%) daily vehicles, respectively.

Overall, it appears that motorcycle volumes tend to follow the general trend of motorised vehicles (decrease for internal roads and increase for boundary roads) but with a higher degree of prevalence, particularly on internal roads. However, it must be noted that as vehicles travelling through the LTN and boundary roads are likely to go through multiple counter sites, it is certain that the number of vehicles counted across all internal/boundary roads is higher than the actual number of trips taken. As such, a drop/increase in total volumes of vehicles counted across multiple individual roads does not represent the same drop/increase in total unique vehicle journeys, although can be useful in understanding the magnitude and direction of a change.

It is important to note however that this methodology of recording traffic volumes is consistent across both pre and post implementation periods. It is also important to note that this methodology is consistent with the analysis of LTN schemes in other London boroughs.

Cycle Volumes (7-Day Daily Average)

We have not normalised cycling figures for COVID-19 due to the lack of an available source that provides continuous month-to-month cycling levels encompassing all types of cycling trips (commute and leisure) and is at a sufficiently local 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 January, and therefore there are significantly more cycle trips completed in July than January. 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).

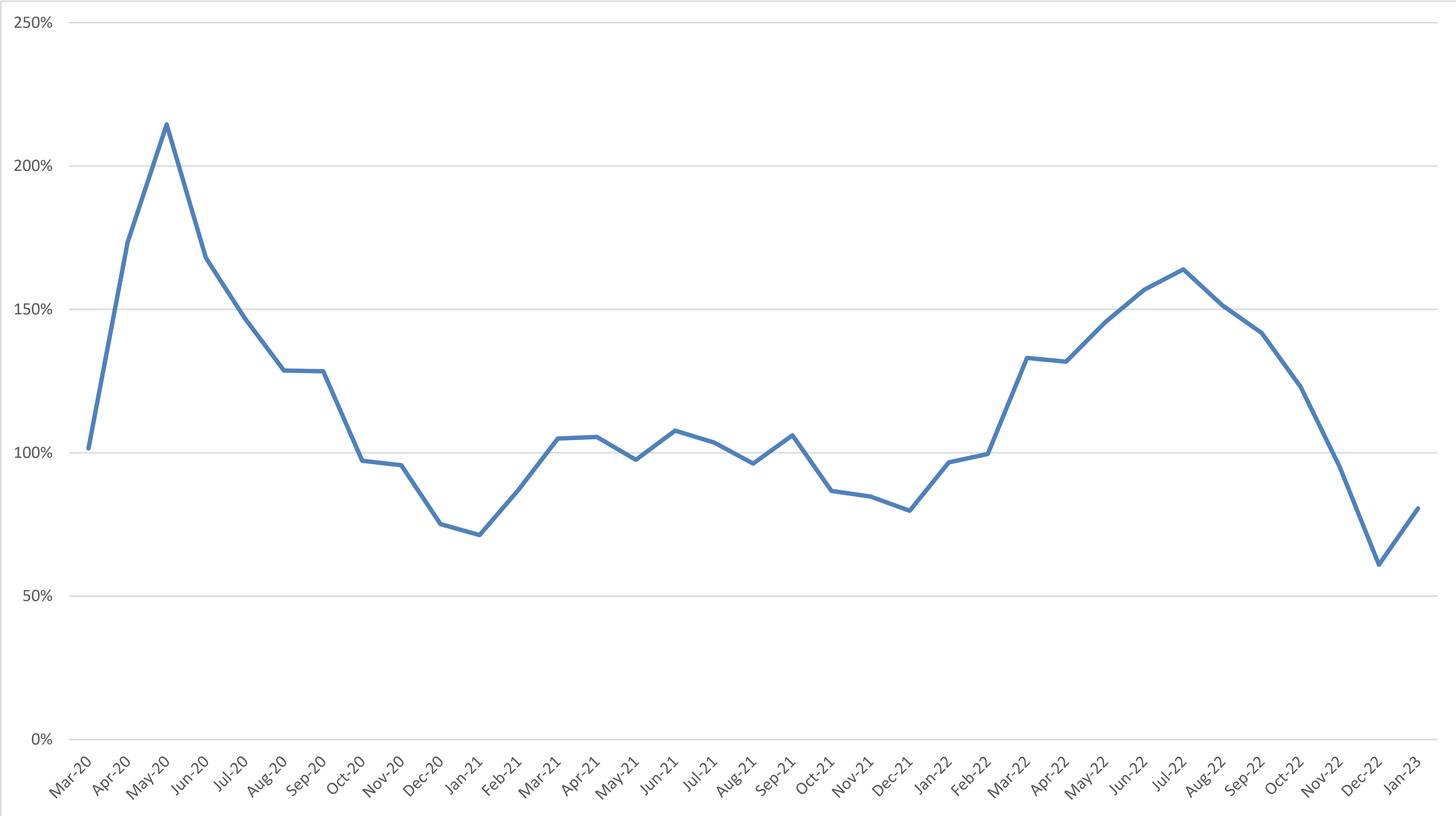
Between pre-implementation and post-implementation data collection periods (taken in November 2021 and January 2023 respectively), average climate data indicates that post-implementation weather was slightly colder, with an average temperature of 6°C vs. 9°C in November 2021 – although as was noted previously, post-implementation data was collected during the slightly warmer first half of January 2023.

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 2022/2023, have significantly impacted wider cycling trends since March 2020 (data from DfT's Official Statistics). Graph 1 on the next page 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, higher flows during the summer of 2022 and low flows over the winter spanning 2022/2023.

Route choices made by people cycling will also be impacted by the availability of nearby protected cycle infrastructure and Low Traffic Neighbourhoods, particularly in relation to any new infrastructure within or nearby the scheme that was installed between waves of data collection.

Graph 1 below outlines nationwide cycling trends, with the following maps and tables outlining the pre-implementation cycling levels and how these have changed between data collection phases.

Graph 1: National Cycling Levels - % of Comparison Month in Pre-Covid 2019/2020*



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

Map 6: Pre-Implementation Volume of Cycles

Map 7: Post-Implementation Volume of Cycles

Map 8: Percentage Change in Cycle Volumes

Table 10: Cycling Volumes on Internal Roads

	Pre-Implementation Observed: Nov-21	Post-Implementation Observed: Jan-23	Difference Post-Implementation vs. Pre-Implementation	% Difference Post-Implementation vs. Pre-Implementation
Abbotsford Avenue	27	39	12	45%
Alexandra Road (@North Grove)	28	29	1	7%
Ascot Road	46	34	-12	-26%
Avenue Road (#41/Newsam Avenue)	154	59	-95	-61%
Avenue Road (#95/Ida Road)	357	148	-209	-59%
Avondale Road	30	25	-5	-18%
Brampton Road	36	28	-8	-21%
Breamar Road	113	92	-21	-19%
Cissbury Road	44	30	-14	-31%
Clarence Road	69	105	36	51%
Clarendon Road	31	24	-7	-22%
Clinton Road	79	79	0	0%
Colina Mews	6	15	9	149%
Conway Road (@Avondale Road/Woodlands Park Road)	19	30	11	62%
Conway Road (@Rowley Road/Ritches Road)	81	51	-30	-37%
Cornwall Road (#47/West Green Road)	42	145	103	246%
Cornwall Road (@Penrith Road)	106	117	11	10%
Cranleigh Road	65	75	10	16%
Culvert Road	70	44	-26	-37%
Dagmar Road	40	66	26	65%
Elmar Road	27	32	5	19%
Etherley Road	58	49	-9	-14%
Falmer Road	62	42	-20	-32%
Glenwood Road	120	121	1	1%
Gorleston Road	133	88	-45	-34%
Greenfield Road	56	57	1	0%
Harringay Road (#67)	106	78	-28	-27%

Harringay Road (#68)	69	69	0	0%
Ida Road	17	12	-5	-28%
La Rose Lane (#31)	204	232	28	14%
La Rose Lane (@Chestnuts Park)	337	251	-86	-25%
North Grove	148	68	-80	-54%
Oulton Road	49	42	-7	-13%
Park Road	64	79	15	22%
Penrith Road	24	21	-3	-14%
Ritches Road	60	48	-12	-20%
Roslyn Road	58	98	40	68%
Rowley Road	49	38	-11	-21%
Seaford Road	39	37	-2	-6%
South Grove	13	23	10	70%
St Margaret's Avenue	32	21	-11	-32%
Stanley Road	24	23	-1	-3%
Station Crescent	38	45	7	20%
Suffield Road	67	50	-17	-25%
Terront Road	9	18	9	105%
Westerfield Road	72	50	-22	-31%
Woodlands Park Road (#16/Clarendon Road)	175	95	-80	-46%
Woodlands Park Road (#87/Avondale Road)	87	79	-8	-9%
Total Internal*	3,639	3,105	-535	-15%

*As detailed on page 17 it is important to note that cycles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of cycle journeys counted is certain to be higher than the actual number of trips taken.

Table 11: Cycling Volumes on Boundary Roads

	Pre-Implementation Observed: Nov-21	Post-Implementation Observed: Jan-23	Difference Post-Implementation vs. Pre-Implementation	% Difference Post-Implementation vs. Pre-Implementation
A503 Seven Sisters Rd (@Gourley Street)	886	859	-27	-3%
A504 West Green Road (@Bedford Road/Lawrence Road)	281	377	96	34%
A504 West Green Road (@Carlingford Road)	353	361	8	2%
A504 West Green Road (@Etherley Road)	481	364	-117	-24%
A504 West Green Road (@Suffield Road)	495	438	-57	-11%
Alfoxton Avenue	132	98	-34	-26%
B152 Harringay Road	172	70	-102	-59%
B152 Colina Road	55	54	-1	-1%
B152 St. Ann's Road (@Chestnuts Park)	768	317	-451	-59%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	400	216	-184	-46%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	428	203	-225	-53%
B152 St. Ann's Road (@Salisbury Road)	547	225	-322	-59%
B152 St. Ann's Road (@Suffolk Road)	232	499	267	115%
Total Boundary*	**5,228**	**4,079**	**-1,149**	**-22%**

*As detailed on page 17 it is important to note that cycles travelling through the LTN may go through multiple counter sites (roads where traffic volumes have been counted), so the total number of cycle journeys counted is certain to be higher than the actual number of trips taken.

Insights: Cycling Volumes

Based on Graph 1, cycling levels on a national basis were around 85% during the pre-implementation monitoring period and closer to 80% during the post-implementation period, indicating that there was likely not a significant difference in baseline conditions for cycling between the two periods – although both were relatively cold months not supportive of high levels of cycling.

Given this, it appears that cycling levels have decreased across both internal roads and boundary roads between the two monitoring periods, with both sets of roads seeing summed decreases; of -15% for internal roads and -22% for boundary roads. Internal roads saw a combined decrease of around 650 daily cycles counted, and boundary roads saw a decrease of around 1,050 such cycles counted, with the majority of roads contributing to the overall decrease.

On internal roads, there were only two locations that saw change of more than 100 daily cycles counted. Avenue Road (at #95/Ida Road) saw a 59% decrease in cycles counted (around 210 fewer per day). Conversely, Cornwall Road (at #47/West Green Road) saw the largest increase of cycles counted (+103), representing a 246% increase. However, it must be noted that as cycles travelling through the LTN and boundary roads are likely to go through multiple counter sites, it is certain that the number of cycles counted across all internal/boundary roads is higher than the actual number of trips taken. As such, a drop/increase in total volumes of bicycles counted across multiple individual roads does not represent the same drop/increase in total unique cycle journeys, although can be useful in understanding the magnitude and direction of a change.

It is important to note however that this methodology of recording traffic volumes is consistent across both pre and post implementation periods. It is also important to note that this methodology is consistent with the analysis of LTN schemes in other London boroughs.

Cycle count changes on boundary roads were dominated by figures on St. Ann’s Road, which decreased from 768 to 317 (-451 daily cycles) at the Chestnuts Park junction, by -322 daily cycles at the Salisbury Road junction, by -225 daily cycles at the Rowley Road/La Rose Lane junction and by -184 daily cycles at Hermitage Road/Cornwall Road junction. This was partially offset by an increase of 267 daily cycles at the Suffolk Road junction at the eastern end of St. Ann’s Road. West Green Road (at Bedford Road/Lawrence Road junction) was the only other site that saw an increase, changing by +96 daily cycles.

Cycling patterns have been difficult to interpret based on the data available, likely because levels were relatively low during both data collection periods due to the time of year. It is expected that further data capture in summer months will provide more insight as to how cycle travel in and around the scheme area might be changing.

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 9: Pre-implementation average Vehicle Speed in mph (seven-day daily averages)

Map 10: Post-implementation average Vehicle Speed in mph (seven-day daily averages)

Map 11: Percentage Change in Motorised Vehicle Average Speed (seven-day daily averages)

Table 12: Speeds of Motorised Vehicles on Internal Roads

	Pre-Con Average Speed (mph)	Average Speed Diff. vs. Pre- (mph)	Average Speed Diff. vs. Pre- (%)	85th Pct. Speed Pre-Con (mph)	85th Pct. Diff. vs. Pre- (mph)	85th Pct. Diff. vs. Pre- (%)	% Speeding Pre-Con	% Speeding Diff vs. Pre- (% pt.)
Abbotsford Avenue	8.7	-3.7	-30%	9.8	-6.7	-41%	0%	-4%
Alexandra Road (@North Grove)	11.1	1.3	13%	13.7	0.8	6%	0%	0%
Ascot Road	13.8	1.9	16%	17.2	1.8	12%	6%	4%
Avenue Road (#41/Newsam Avenue)	20.2	3.2	19%	24.1	4.1	21%	49%	33%
Avenue Road (#95/Ida Road)	15.0	0.3	2%	18.7	0.6	3%	9%	4%
Avondale Road	17.7	2.3	15%	20.7	1.5	8%	32%	17%
Brampton Road	15.3	-0.1	-1%	18.7	-0.6	-3%	12%	-3%
Breamar Road	13.8	0.4	3%	17.5	0.2	1%	7%	2%
Cissbury Road	14.6	-0.6	-4%	19.4	-0.5	-3%	13%	-1%
Clarence Road	15.2	1.9	14%	19.3	0.8	4%	12%	3%
Clarendon Road	14.6	-2.2	-13%	19.3	-1.6	-8%	13%	-7%
Clinton Road	10.1	-3.6	-26%	12.8	-4.1	-24%	0%	-4%
Colina Mews	16.2	2.4	17%	21.6	3.1	17%	21%	12%
Conway Road (@Avondale Road/Woodlands Park Road)	14.2	-0.9	-6%	17.6	-1.1	-6%	5%	-2%
Conway Road (@Rowley Road/Ritches Road)	12.1	-0.8	-6%	13.6	-2.9	-18%	2%	-2%
Cornwall Road (#47/West Green Road)	17.6	-0.8	-4%	22.7	0.6	3%	29%	0%
Cornwall Road (@Penrith Road)	17.9	-0.5	-3%	22.7	0.0	0%	31%	0%
Cranleigh Road	14.7	-1.3	-8%	17.3	-3.0	-15%	7%	-12%
Culvert Road	14.8	-0.6	-4%	19.4	-0.8	-4%	11%	-3%
Dagmar Road	11.6	-0.1	-1%	14.0	-0.5	-3%	0%	0%
Elmar Road	11.4	0.0	0%	13.7	-0.5	-4%	1%	1%
Etherley Road	15.2	-1.2	-7%	18.6	-2.1	-10%	11%	-7%
Falmer Road	13.0	1.0	8%	14.8	0.1	1%	2%	1%

Glenwood Road	15.1	-0.8	-5%	19.1	-0.8	-4%	11%	-5%
Gorleston Road	16.9	0.3	2%	21.8	0.9	4%	24%	4%
Greenfield Road	11.8	0.9	8%	14.8	1.1	8%	3%	3%
Harringay Road (#67)	16.5	-5.1	-24%	20.3	-7.0	-26%	22%	-40%
Harringay Road (#68)	16.4	0.3	2%	21.8	1.4	7%	22%	3%
Ida Road	14.8	0.4	3%	19.6	0.6	3%	14%	3%
La Rose Lane (#31)	18.6	1.6	9%	22.5	1.8	9%	33%	14%
La Rose Lane (@Chestnuts Park)	18.0	3.3	22%	23.0	4.7	26%	34%	29%
North Grove	16.9	2.5	17%	20.4	1.4	7%	25%	11%
Oulton Road	11.0	-0.9	-8%	14.0	0.0	0%	0%	-1%
Park Road	13.2	3.1	31%	17.0	4.3	34%	5%	5%
Penrith Road	13.7	0.6	5%	17.3	-1.7	-9%	7%	3%
Ritches Road	10.6	0.4	4%	13.4	0.9	7%	0%	0%
Roslyn Road	13.2	-1.6	-11%	16.1	-2.3	-13%	3%	-3%
Rowley Road	14.2	0.4	3%	18.4	1.4	8%	7%	0%
Seaford Road	17.8	0.6	3%	21.5	-0.2	-1%	27%	2%
South Grove	14.4	-2.4	-14%	18.0	-3.0	-14%	7%	-13%
St Margaret's Avenue	13.4	0.9	7%	15.9	1.4	10%	4%	-1%
Stanley Road	14.9	0.2	1%	17.2	0.8	5%	10%	-1%
Station Crescent	12.8	-0.3	-2%	16.0	-0.4	-2%	2%	-1%
Suffield Road	14.8	0.5	3%	18.9	0.9	5%	13%	2%
Terront Road	16.1	0.1	1%	20.3	0.2	1%	17%	0%
Westerfield Road	16.1	-1.2	-7%	19.6	-1.6	-8%	13%	-9%
Woodlands Park Road (#16/Clarendon Road)	17.8	0.2	1%	22.3	1.2	6%	30%	9%
Woodlands Park Road (#87/Avondale Road)	15.9	-1.0	-6%	19.3	-0.9	-4%	14%	-2%
Weighted Average	**15.7**	**-0.3**	**-2%**	**19.5**	**-0.2**	**-1%**	**18%**	**2%**

Table 13: Speeds of Motorised Vehicles on Boundary Roads

	Pre-Con Average Speed (mph)	Average Speed Diff. vs. Pre- (mph)	Average Speed Diff. vs. Pre- (%)	85th Pct. Speed Pre-Con (mph)	85th Pct. Diff. vs. Pre- (mph)	85th Pct. Diff. vs. Pre- (%)	% Speeding Pre-Con	% Speeding Diff vs. Pre- (% pt.)
A503 Seven Sisters Rd (@Gourley Street)	No speed data available for video site							
A504 West Green Road (@Bedford Road/Lawrence Road)	20.7	-1.5	-7%	25.1	-2.2	-8%	53%	-14%
A504 West Green Road (@Carlingford Road)	17.6	-2.0	-10%	22.4	-2.1	-9%	34%	-13%
A504 West Green Road (@Etherley Road)	17.4	-0.8	-4%	21.3	-1.5	-7%	26%	-8%
A504 West Green Road (@Suffield Road)	12.7	0.5	4%	16.8	0.8	5%	8%	1%
Alfoxton Avenue	18.9	-1.4	-7%	22.3	-1.8	-7%	40%	-14%
B152 Harringay Road	14.7	0.6	4%	17.8	0.3	2%	3%	-3%
B152 Colina Road	13.0	0.6	5%	16.6	1.0	6%	4%	4%
B152 St. Ann's Road (@Chestnuts Park)	23.2	3.7	19%	27.4	3.7	16%	77%	32%
B152 St. Ann's Road (@Hermitage Road/Cornwall Road)	21.3	4.0	23%	25.3	3.7	17%	61%	33%
B152 St. Ann's Road (@Rowley Road/La Rose Lane)	20.9	2.9	16%	24.6	2.5	11%	57%	28%
B152 St. Ann's Road (@Salisbury Road)	21.4	3.8	22%	25.2	3.8	18%	64%	40%
B152 St. Ann's Road (@Suffolk Road)	20.8	-1.1	-5%	25.3	-1.1	-4%	54%	-11%
Weighted Average	**16.1**	**0.4**	**3%**	**19.6**	**0.2**	**1%**	**38%**	**5%**

Insights: Vehicle Speeds

In general, vehicle speeds across internal roads have decreased or remained the same across key metrics between the November 2021 pre-implementation and January 2023 post-implementation survey periods, whilst vehicle speeds across boundary roads have slightly increased across key metrics in the same survey period.

On internal roads, there are a wide range of changes for vehicle speeds, although it is noted that the low volumes of traffic on many roads in the post-implementation stage means that values during this stage of data collection are quite easily skewed. However, it appears that, in general, average vehicle speeds across all such roads remained similar, decreasing by about 0.3 mph or 3% of pre-implementation values. The largest changes were seen on Harringay Road (at #67) (-5.1mph), Abbotsford Avenue (-3.7mph) and Clinton Road (-3.6mph). In contrast, the internal road location with the largest increase in average speeds was La Rose Lane (at Chestnuts Park junction), where speeds were up by 3.3mph on average. Avenue Road (at #41/Newsam Avenue) also saw an increase of 3.2mph.

On boundary roads, average speeds increased by 0.4mph or 3%, whilst the proportion of vehicles speeding increased by 5 percentage points. This was almost entirely driven by increased vehicle speeds on St. Ann's Road, which have increased by at least 2.9mph at every site except at the Suffolk Road junction. As average speeds on this road were previously already around the speed limit, increased speeds have pushed the percentage of vehicles speeding up by at least 25% at all such sites (again excluding the Suffolk Road location). It is expected that this relates to lower traffic on St. Ann's Road, but the council will continue to closely monitor speeding in these locations. Other sites, particularly on West Green Road, saw decreases in traffic speeds, but it is noted that this may relate to congestion caused by increased traffic in these locations.

Overall, vehicle speed data indicates that speeding has decreased on internal roads, but that boundary roads may see some increased speeding on St. Ann's Road and potentially congestion on West Green Road, both of which will continue to be monitored by the council.

Bus Journey Times on Boundary Roads

TfL monitors bus journey times across its network, which can add an additional layer of understanding about the impacts of transport schemes, particularly levels of congestion along roads and at junctions.

Bus journey time monitoring focused on the three main boundary road corridors below, which are used by the bracketed main bus routes. A map of these corridors is presented on the following page.

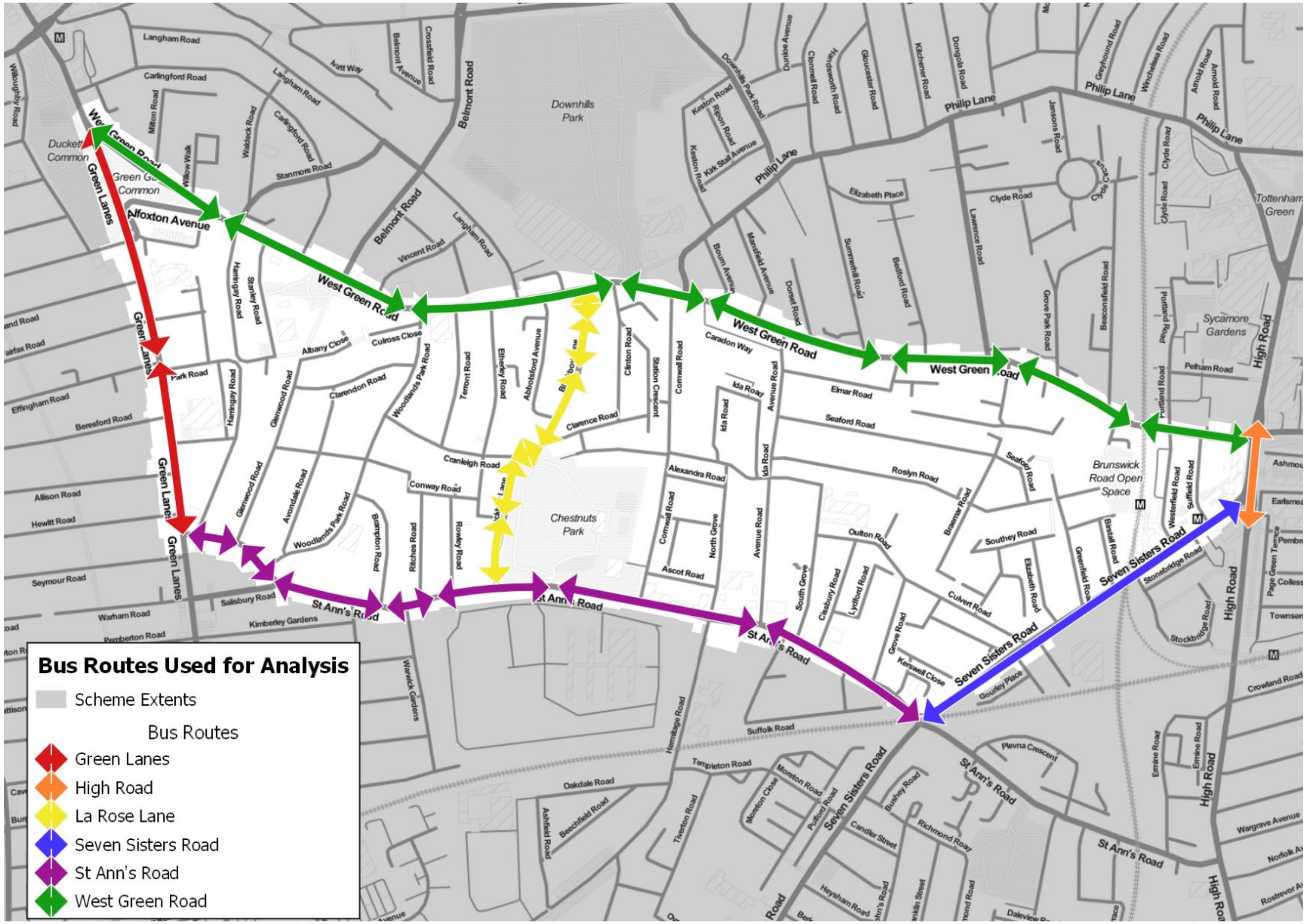
- **Green Lanes** (Routes 29, 41, 67, 141, 230, N29, N41, W4)
- **High Road** (Routes 76, 123, 149, 243, 259, 279, 318, 341, 349, 476, N73, N279, W4)
- **La Rose Lane** (Routes 67, 341)
- **St. Ann's Road** (Routes 67, 341)
- **Seven Sisters Road** (Routes 259, 279, L1, L2, N279)
- **West Green Road** (Routes 41, 67, 230, 341, N41, W4)

Weekly iBus data provided by TfL has been used for analysis on these routes. This gives weekday (Monday to Friday, excluding bank holidays) average journey times by route, stop-to-stop link and peak periods. These journey times exclude dwell times at stops.

TfL's methodology has been used to analyse the iBus data. Journey time results have first been summarised by route, by taking the total journey time across stop-to-stop links along the corridor and dividing by the length of these links, to give a minutes per kilometre figure. Corridor level figures have been found by taking a weighted average across the route level figures, weighted by the route frequency.

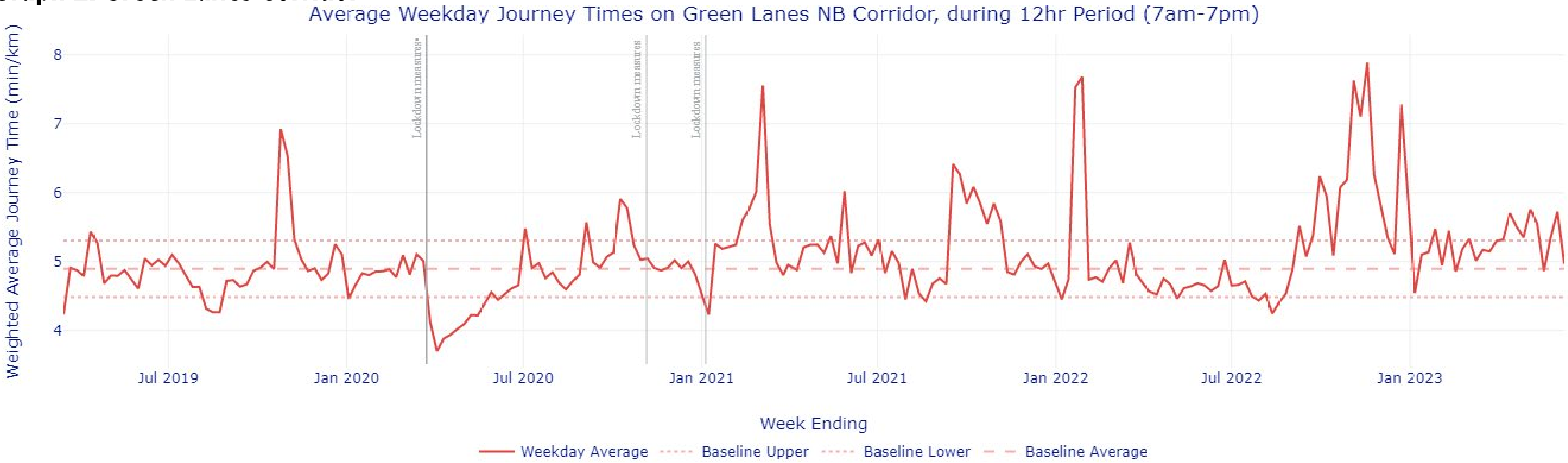
The data shows the corridor averages each week but also shows thresholds ('Baseline Upper' & 'Baseline Lower'). These thresholds have been found by taking the mean journey time plus or minus one standard deviation during the pre-COVID-19 baseline period (11 March 2019 – 13 March 2020). This allows for a reasonable amount of week-to-week variation but gives a threshold above which minutes per km figures would be deemed above "normal".

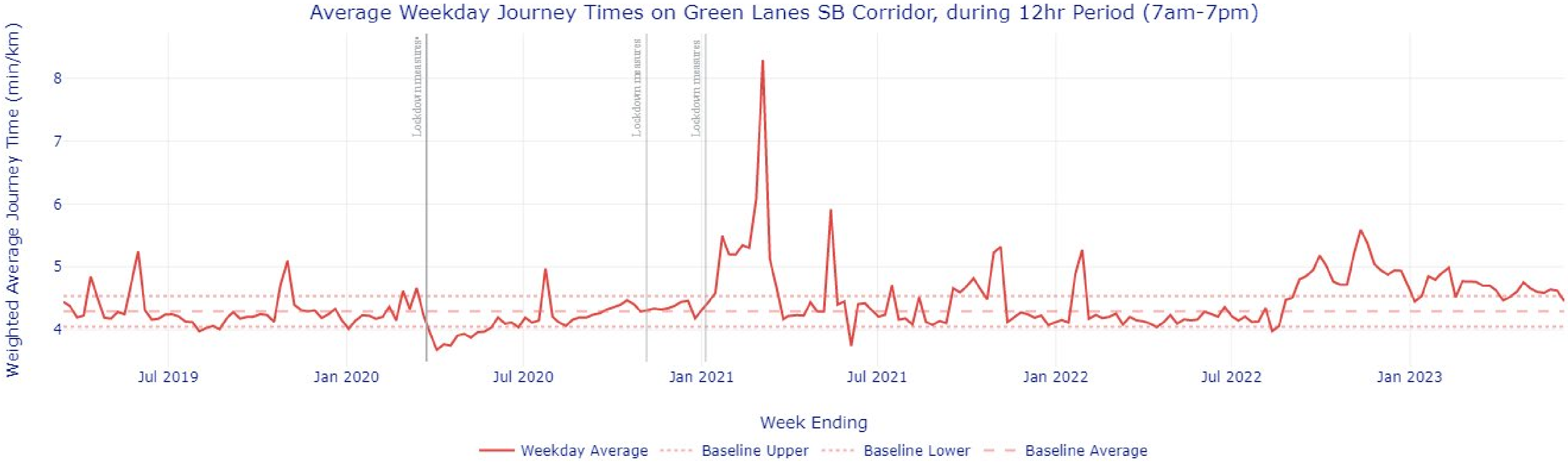
Map 12: Corridors Analysed Using iBus Data



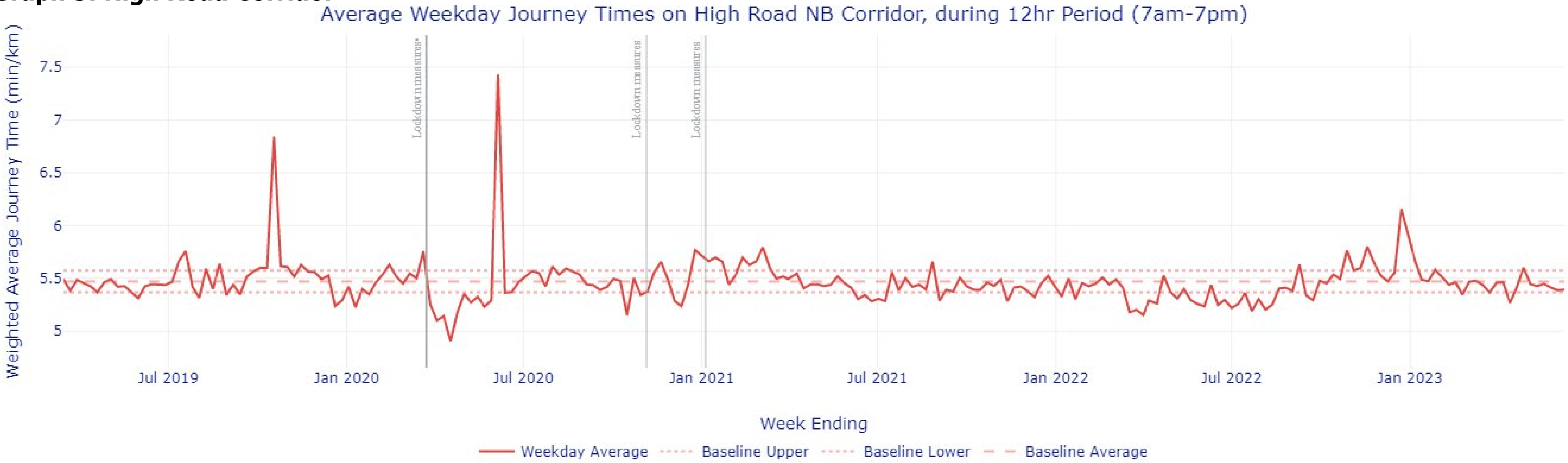
The results are shown in Graphs 2 to 5 on the following pages. The dashed red lines indicate the baseline threshold, and the red line indicates the average journey times, on a three-week basis.

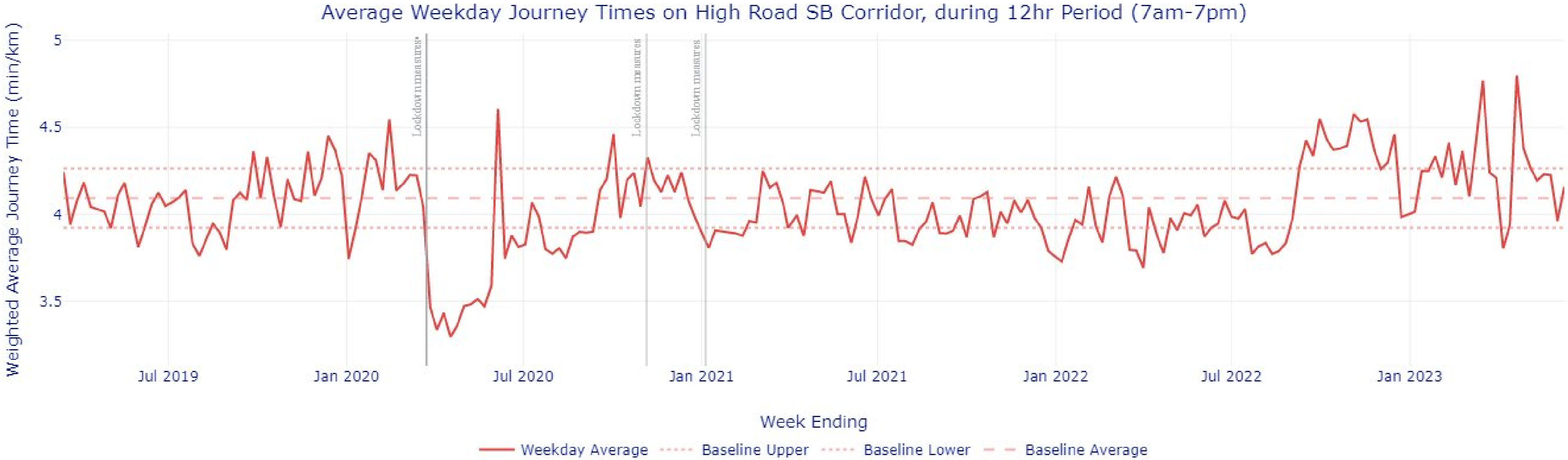
Graph 2: Green Lanes Corridor



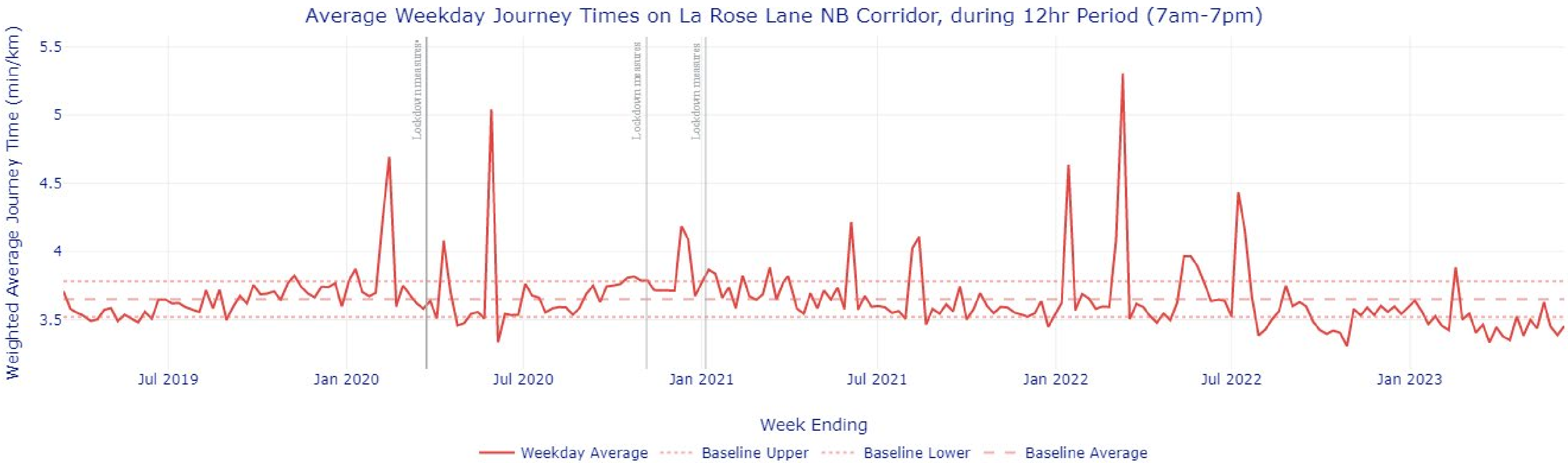


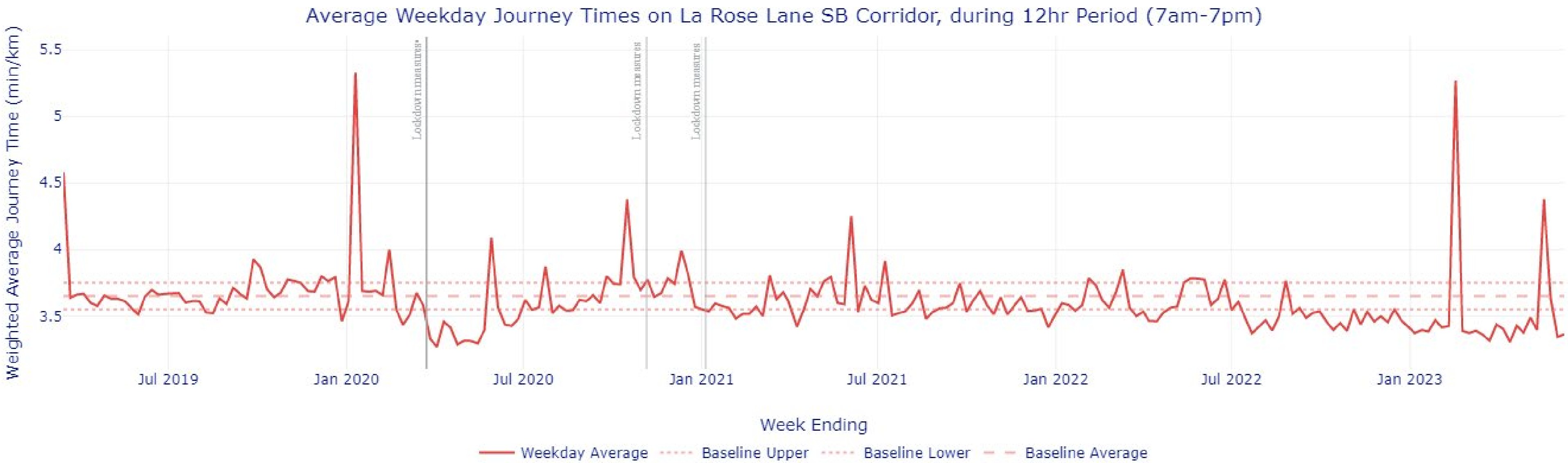
Graph 3: High Road Corridor



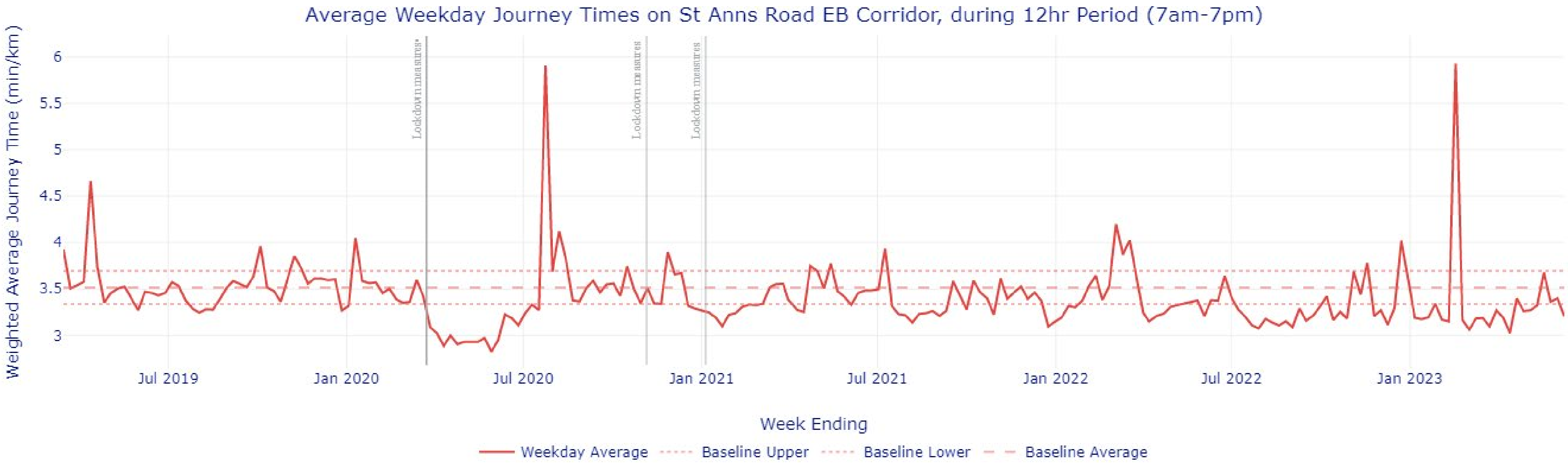


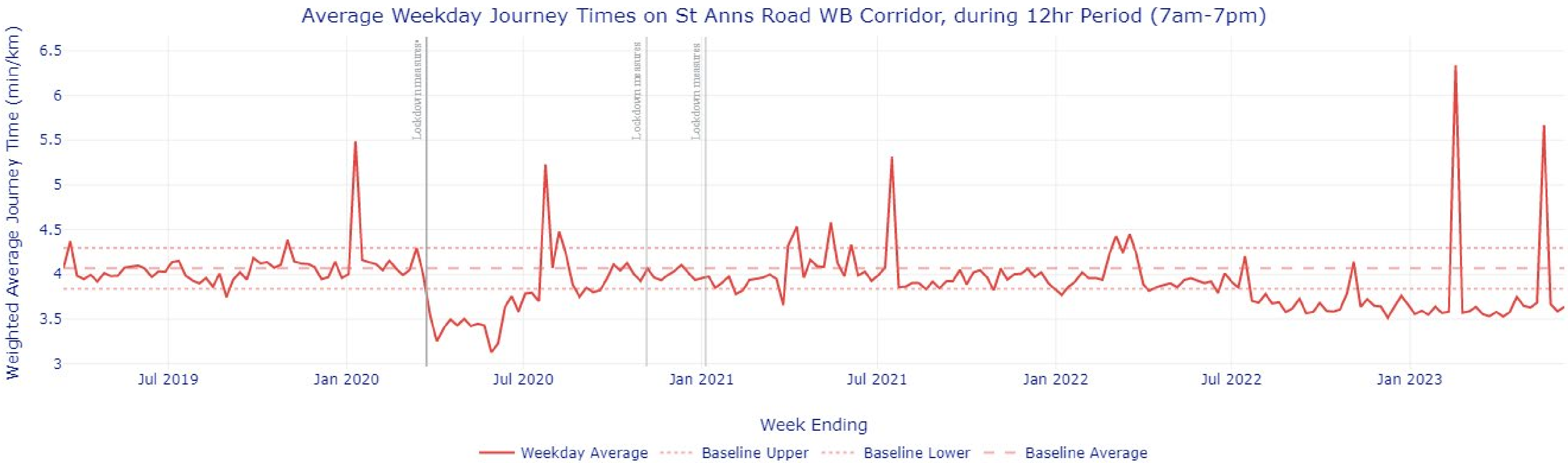
Graph 4: La Rose Lane Corridor



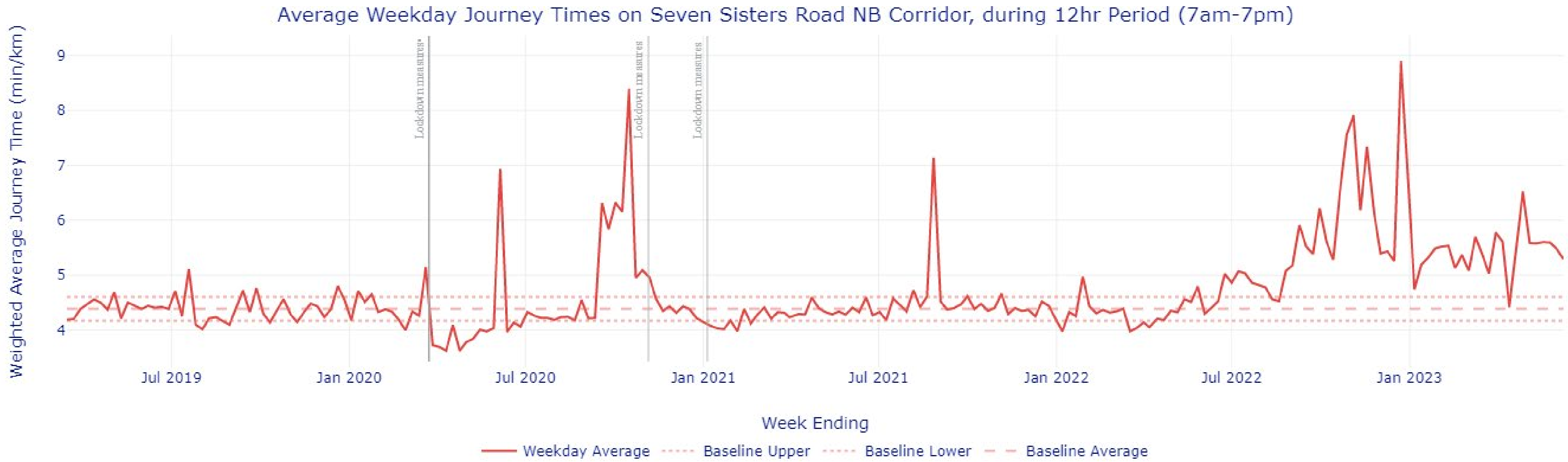


Graph 5: St. Ann's Road Corridor

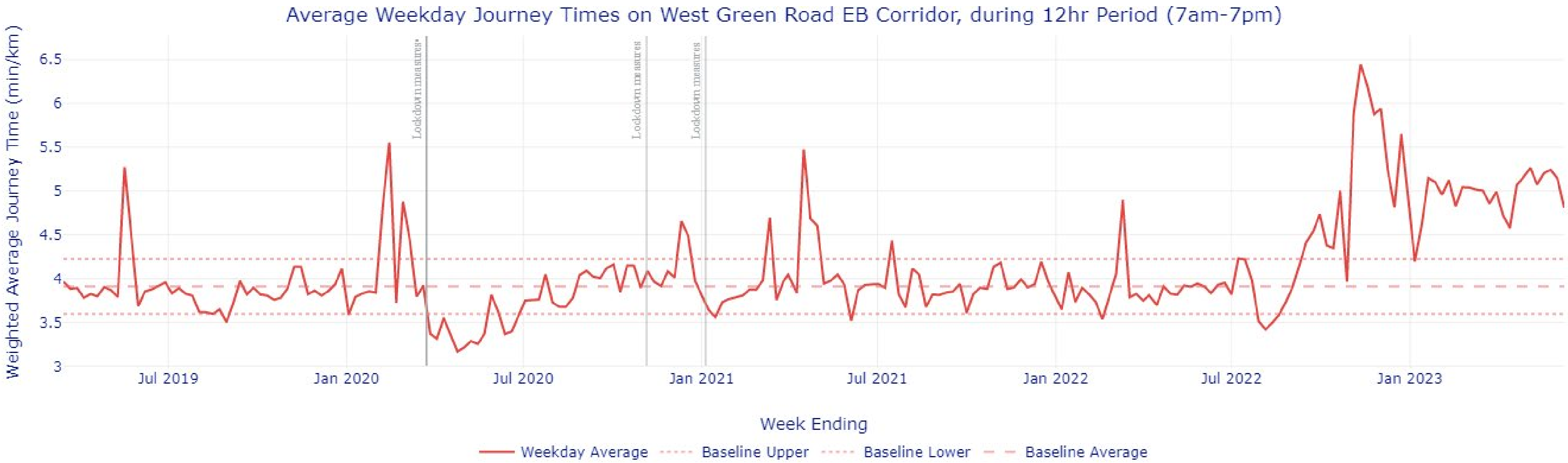


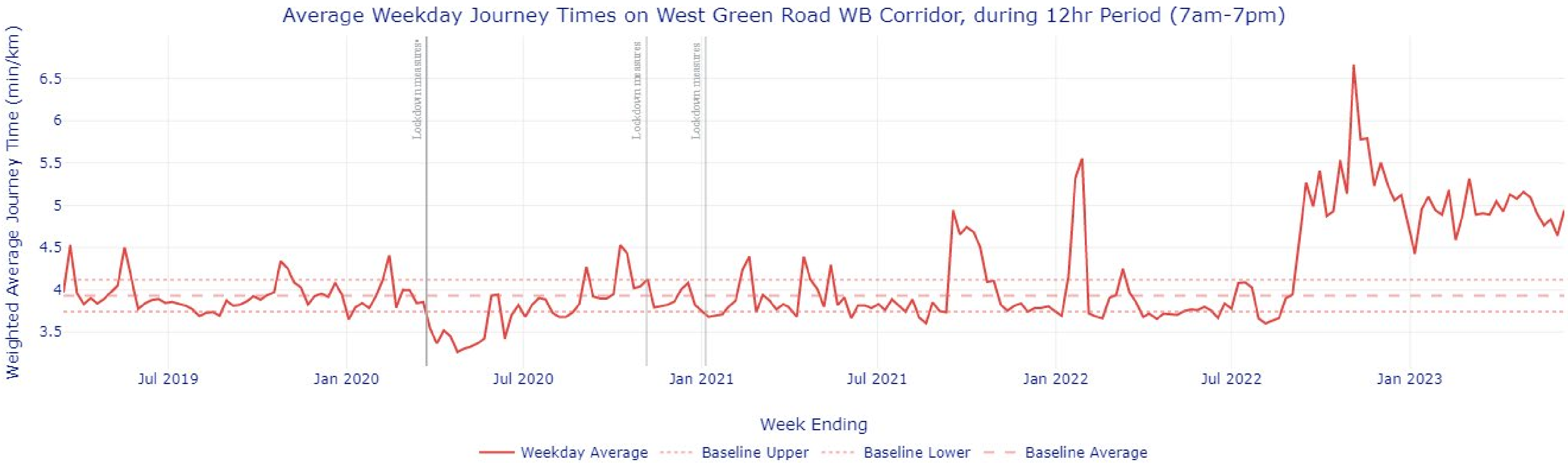


Graph 6: Seven Sisters Road Corridor



Graph 7: West Green Road Corridor





Insights: Bus Journey Times on Boundary Roads

Green Lanes – Bus Journey Times

Bus journey times on Green Lanes have fluctuated above and below the baseline standard deviations for both directions of travel. Prior to the introduction of the St Ann's scheme, bus speeds in the northbound direction peak were around 7.5min/km, but increased to almost 8min/km after the scheme went live (although these figures have dropped again since). Southbound speeds have had less fluctuation, with most peaks around 5min/km both prior to the scheme and after the scheme. Journey times seem to have increased following the implementation of the scheme for a short period but since the start of 2023 have returned to lower levels and look to remain steady.

High Road – Bus Journey Times

On High Road, data for both northbound and southbound directions is very similar. Excepting several isolated spikes in journey times, journey speeds are very stable around the average of 5.5min/km for northbound vehicles and between 4 and 4.5min/km for southbound vehicles. There is typically more fluctuation with southbound vehicles, in which the peaks in journey times since the scheme was introduced have been higher than any period previously recorded, however, periods of slow travel are typically resolved within a few weeks and appear to remain consistent particularly in the northbound corridor in 2023

La Rose Lane – Bus Journey Times

Again, excepting several isolated spikes in journey times, journey speeds on La Rose Lane for northbound and southbound vehicles has remained consistent around the 3.5 to 4min/km mark. Nonetheless, it is evident that since the St Ann's scheme was introduced that journey time have decreased to be consistently around 3.5min/km and are regularly lower than this, especially for southbound vehicles. This can be attributed to the traffic filters on La Rose Lane.

St. Ann's Road – Bus Journey Times

Bus speeds and times along the St Ann's Road corridor in both directions have fluctuated significantly throughout the assessed period. For eastbound traffic, there have been spikes in journey times both above (March 2019, August 2020 and March 2023) and below (May/June 2020) the standard deviations for speed, with values ranging from 3 min/km to nearly 6min/km. Westbound traffic has seen similar fluctuations, although since the St Ann's scheme was implemented, there has been a clearer decrease in bus journey times. Similarly to eastbound traffic, there was an isolated spike of almost 6.5min/km around March 2023 for westbound traffic.

Seven Sisters Road – Bus Journey Times

On Seven Sisters Road, the data shows a considerable difference in the evolution of bus speeds when comparing the data for northbound and eastbound vehicles. For northbound vehicles, whilst there have been several spikes in journey times, they have remained consistent for the most part within the standard deviations for speed. Contrary to this, for southbound vehicles, there have been fluctuations above and below the standard deviations for speed. Nonetheless, for both northbound and southbound traffic, there has been a clear increase in bus journey times since the scheme was introduced, with journey times regularly above the baseline upper deviation for speed. Furthermore, northbound traffic has seen more consistent spikes in journey times above 7min/km, although times look to have decreased and begun plateauing in 2023.

West Green Road – Bus Journey Times

Bus speeds and times along the West Green Road corridor in both directions have fluctuated throughout the assessed period, with eastbound traffic experiencing stronger fluctuations. Prior to the introduction of the St Ann's scheme, data shows several spikes in journey times for eastbound traffic of 5.5min/km, compared to one spike in journey times for westbound traffic of 5.5min/km. Nonetheless, for both eastbound and westbound traffic, there has been an increase in bus journey times since the scheme was introduced, with journey times regularly above the baseline upper deviation for speed and a peak of 6.5min/km around November 2022 in both directions.

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 main pollutant of concern that is monitored is nitrogen dioxide (NO_2) – one of a group of gases called nitrogen oxides. NO_2 is toxic gas that can be very harmful to the human respiratory system.

The analysis conducted focuses on outputs from diffusion tubes, which provide monthly readings of NO_2. Whilst not as accurate as other types of monitors (such as automatic monitors), diffusion tubes can be more widely deployed to provide trends over a larger area and time period, and such tubes are a nationally approved monitoring technique. These tubes measure the air's concentration of nitrogen dioxide (NO_2). The tubes are replaced and analysed on a monthly basis. Research suggests that at urban roadside locations in the UK up to 80% of the nitrogen dioxide measured comes from road transport.

Haringey'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. 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, and in the report these are the internal sites.

The analysis has been conducted across two sets of monitors for purposes of comparison – those within LTN cells or on their boundary roads, or those that are elsewhere in the borough. The sites not in LTNs have been treated as a control group, as well as to show the longer trend of air quality in the borough. Continuous data from some wider-borough sites exists from 2018 onwards, whilst the LTN-focused monitors first started collecting data in June 2021. The wider-borough sites used for Haringey are those that are not within or on the direct boundary of LTN cells and consist of 12 roadside diffusion tubes and 16 background urban diffusion tubes.

The air quality monitoring sites for the St. Ann's LTN are listed in Appendix 3, with details about type and location. The wider-borough sites that are being used for comparison work in this report consist of eight boundary road diffusion tubes, six internal road diffusion tubes and four urban background tubes. For the St Ann's scheme, there are three boundary road diffusion tubes and nine urban background tubes.

Methodology

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, ideally for a year, to identify real changes in air quality that could be attributed to the scheme. The ultimate goal of our air quality strategy is to reduce air pollution as much as possible, and certainly to within legal limits.

In the case of this report, there has not been a full year's worth of data since scheme implementation (data is only available to January 2023 due to a lag in the review time for this). Only two months' data are available, meaning data for individual sites is easily skewed, particularly if further months are missing in the datasets – this is quite common, as when tubes are replaced each month they may be missing or presenting other clear issues (guidance set by the Mayor of London indicates how such situations are to be treated in the data). Ultimately, the above means that making comparisons between short periods of time before and after scheme implementation is unlikely to yield meaningful results, and that presenting air quality data on a site-by-site basis would be misleading.

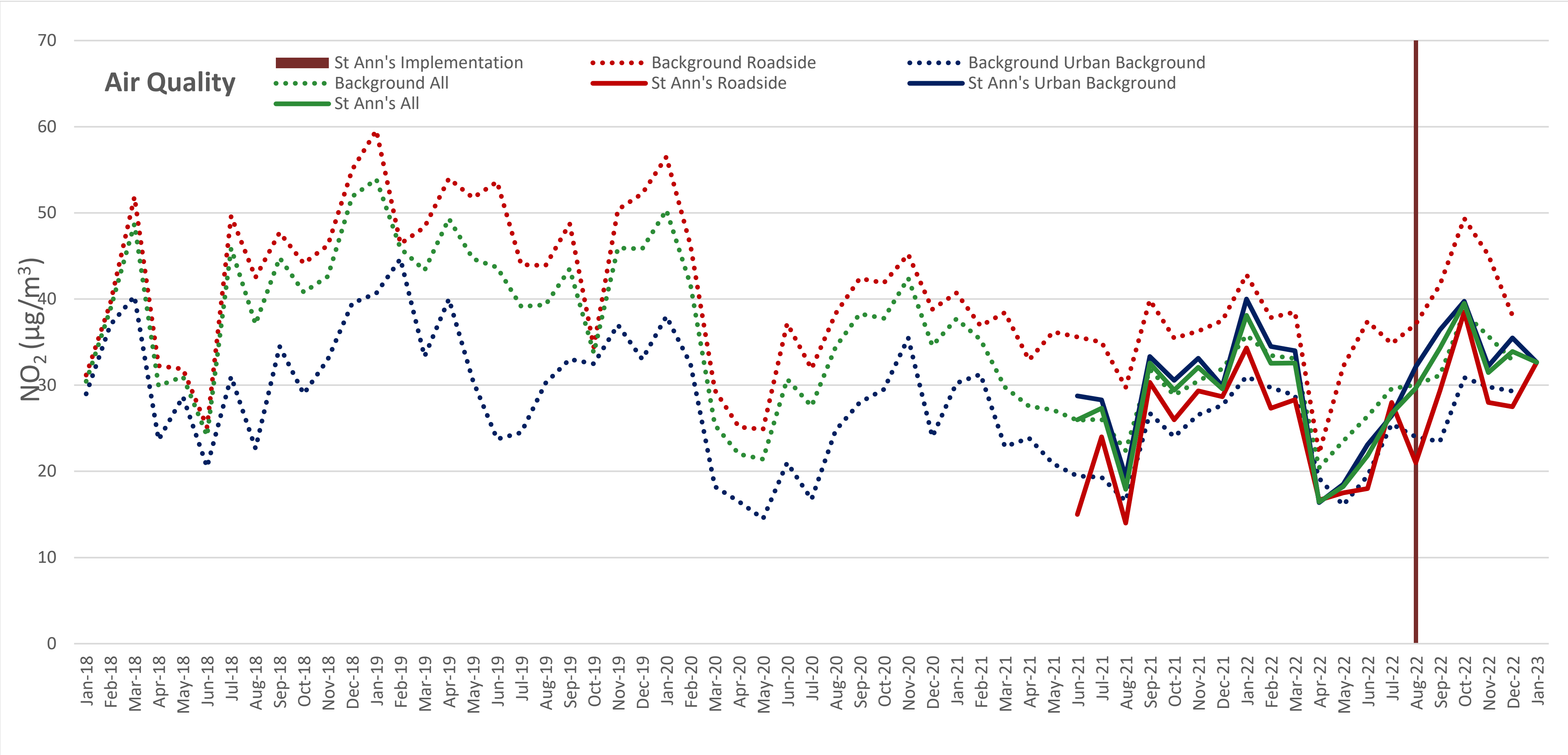
Instead, based on the above, the overall trend of NO_2 levels (as an average across all site types) has been considered to show how air quality has changed over time.

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

Results: Air Quality Diffusion Tubes

The results shown below show a longer-term picture of air quality, mostly for sites across the borough, but also for LTN sites since they were installed in June 2021. Data for each set of sites has been split by roadside sites (boundary/major roads), urban background sites (internal/residential roads), as well as an average of all sites reported on.

Graph 8: Average NO_2 Levels in St Ann's LTN Compared to Long-Term Borough-Wide Sites from Diffusion Tubes



Insights: Air Quality

As can be seen in the chart, there are considerable seasonal impacts on NO_2 levels, with typically lower levels recorded in warmer months and higher levels in colder months. Still, the impact of COVID-19 on air quality was very clear during the most restrictive lockdowns in 2020 and 2021, with lower-than-average NO_2 levels recorded during this period. From around the time LTN-specific monitors were installed in June 2021, COVID-era improvements in air quality began to flatten and, as many returned to work and more active daily routines commenced in 2022, this began to increase slightly. Broadly the same trend can be seen for borough wide, non-LTN monitors as for monitors inside the LTN – both before and after the schemes were implemented.

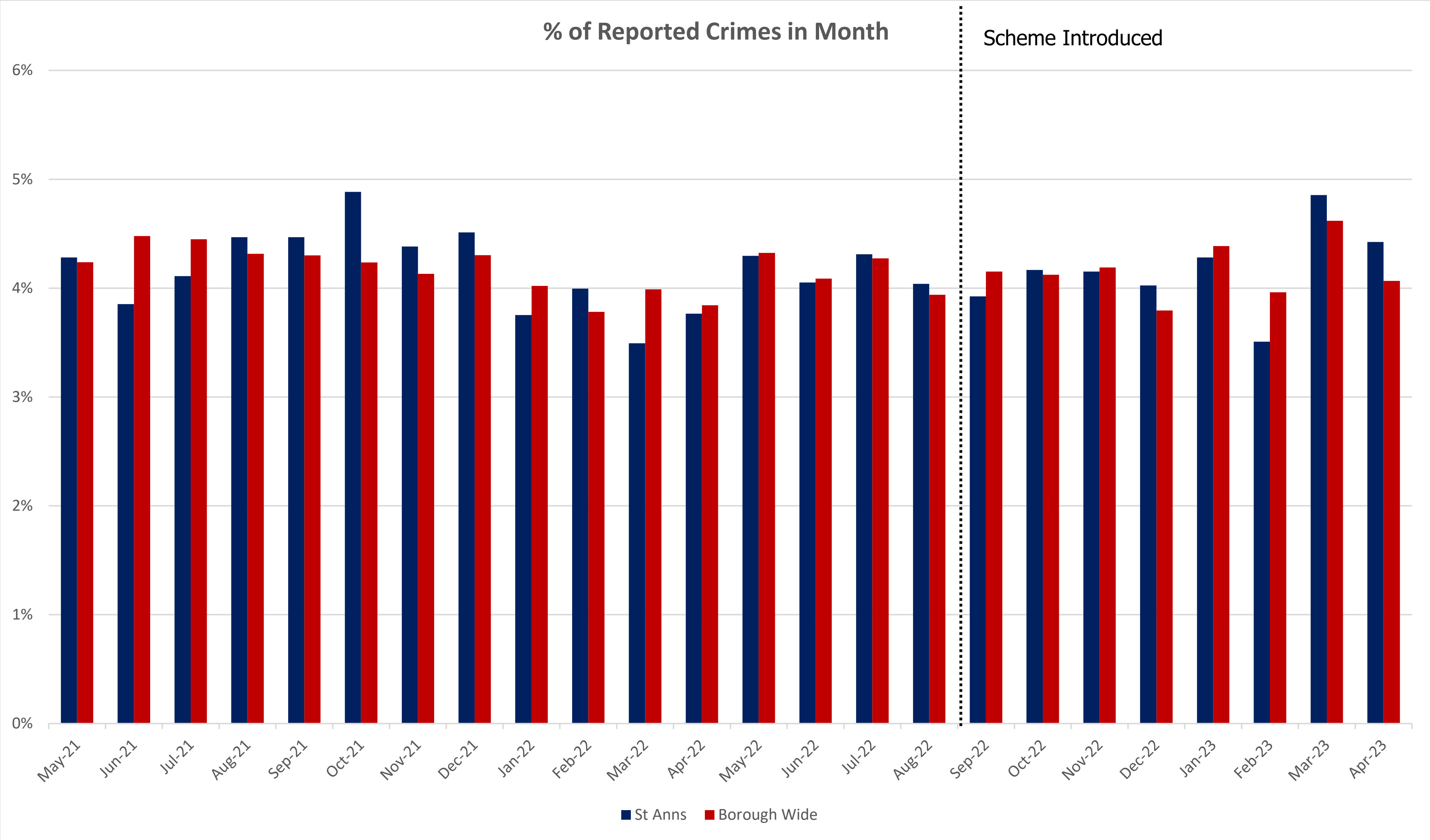
Based on the full calendar year data available at background sites, average NO_2 levels fell from an average 44 $\mu g/m^3$ in the 2019 peak to 30 $\mu g/m^3$ in 2021, before increasing slightly to 31 $\mu g/m^3$ for 2022, a total 30% reduction from peak levels. LTN sites, appreciating that 2021 data only began in June of that year, saw the same trend for 2021/2022 (i.e., a slight increase), so it is likely that air quality in these areas broadly followed the same borough-wide trends.

Crime Patterns within the LTN

Crime data has been drawn from the London datastore for the 14 Lower Super Output Areas included within the St Ann's area, as well as for the entirety of Haringey, for a period covering May 2021 to April 2023. The dataset includes an indication of all criminal activity as reported to the police, including a wide range of offenses including public order offenses, theft, drug offenses and burglary, among others.

Data has been drawn from the St Ann's LTN area and the whole of Haringey, with the number of crime reports summed by month and presented as a proportion out of the total number of such reports across the two years of data presented.

Table 14: Proportional Breakdown of Calls and Crimes in St Ann's LTN and Haringey



Insights: Anti-Social Behaviour and Crime Patterns

Based on the nine months of crime data available following the introduction of the scheme, there is so far no indication based on the data that crime patterns within the St Ann’s LTN area have changed following the scheme’s introduction. The number of criminal activity reports in the scheme area and in the borough-at-large are broadly similar, both before and after the scheme’s introduction.

The council will continue to follow this metric to see if any changes are reflected over time as the scheme further beds-in.

Concluding Remarks

This interim monitoring report demonstrates that, in general, the St. Ann's LTN is delivering the intended impacts in terms of a reduction in motorised traffic volumes on internal roads without significant impact to most boundary roads.

In numerical terms, internal roads have seen a 55% drop in vehicle movements (around 35,000 fewer vehicles counted) compared to a 6% rise on boundary roads (around 9,600 additional vehicles counted). As described in the introduction, these figures do include instances where vehicles journeys have been counted multiple times, but it considered that these totals are accurate in their magnitude and direction of change – indicating that the scheme is performing well against its strategic objectives, and will help reclaim local streets for the people that live on them by making them safer and more welcoming for those choosing to walk wheel, scoot or cycle for their local journeys.

As may be expected from the filter locations, most north-south routes within the scheme area are showing considerable decreases in motorised traffic levels, with La Rose Lane seeing the largest set of differences (up to 8,000 fewer daily vehicles, -85%), followed by Woodlands Park Road (at most 3,600 fewer daily vehicles), Cornwall Road (at most 3,400 fewer daily vehicles) and Avenue Road (up to 3,000 fewer daily vehicles). Overall, internal roads saw decreases of over 1,000 daily vehicles at nine separate sites and nearly three quarters of all internal sites saw at least some level of decreasing flows. In contrast, only Westerfield Road saw increases of over 1,000 daily vehicles – which is an expected and comparatively moderate change given its location, although still merits further monitoring by the council.

Boundary roads present a more mixed picture between the monitoring periods with notable increases on several roads. The western side of West Green Road (where the Bruce Grove West Green scheme is directly to the north) has seen increases of around 5,000 daily vehicles (at Etherley Road) and just under 4,000 vehicles (at Carlingford Road). However, West Green Road sees reductions on its eastern extents, by 600 daily vehicles at Bedford Road/Lawrence Road and by nearly 1,600 daily vehicles at Suffield Road. Volume changes on St. Ann's Road were collected in five locations, with considerable differences in trend along the road's length. As with West Green Road, increases were concentrated towards the western end of St. Ann's Road but were smaller in magnitude than on West Green Road (the maximum increase was under 1,400 or +12% at the Salisbury Road site). Volumes towards the eastern end of St. Ann's Road were then notably lower than before the LTN was introduced, with around 4,200 fewer vehicles counted at the Hermitage Road junction and 3,300 fewer vehicles counted at the Suffolk Road junction.

In general, this, alongside moderate increases on Harringay Road/Colina Road and Alfoxton Avenue, indicate that much of the traffic previously transiting the LTN area is focused on the western end of the scheme area towards Green Lanes, as this is where volumes have increased most. These sites will need to be continually monitored by the council as the LTN schemes 'bed in'.

Cycling volumes across the scheme area showed a mixed picture across both boundary and internal roads, although this is somewhat expected given that counts were collected during a January and compared to those from a November – both months where cycling is typically less prevalent.

Overall, cycling volumes decreased by around 650 per day on internal roads and by around 1,050 on boundary roads. Most net changes in cycle flow volume were fairly minimal and set against low starting values, although it appears that cyclists are forming some new preferences for routing through the scheme area – for example seeing Cornwall Road as newly attractive and Avenue Road less attractive than before. St. Ann's Road has also seen notable change in cycle flows, mostly seeing decreases (particularly at the Chestnuts Park junction) but with an increase at the Suffolk Road site.

Goods vehicles and motorcycle trends generally mirror the overall picture for general traffic, with most internal roads seeing significant drops in numbers with a more mixed picture on boundary roads. There are, however, some specific outliers in relation to HGV traffic that will need to be monitored and require further investigation.

At this early stage, it is difficult to analyse the impact of the St. Ann's LTN on air quality due to a limited amount of data availability since the scheme was introduced. The identification of trends in air quality is recommended over longer periods of time due to the number of external factors that can influence air quality, such as seasonality. The council will continue to monitor the air quality across the borough and within all LTN scheme areas.

It is similarly difficult to draw conclusions on bus journey times and crime patterns given the short length of time the scheme has been in place, although data so far does not suggest that the scheme's implementation has had a material long-term impact on key indicators.

The St. Ann's LTN has been in place for approximately ten months at the time of writing this monitoring report but can be broadly seen to be achieving its main objectives of reducing traffic volumes on internal roads which in turn makes them safer, more pleasant and more attractive for people to walk and cycle. There has been an overall reduction in traffic volumes across the entire scheme area, but it is noted that there has been some increase on boundary roads, namely West Green Road. The council is continuing to monitor any potential issues at these locations and engaging with residents and businesses throughout the ETO period.

Appendices

Appendix 1: St. Ann’s Traffic Count Locations and Type

Haringey-commissioned traffic count sites and type

Site	Latitude	Longitude	Site Type
A503 Seven Sisters Rd (@Gourley Street)	51.580202	-0.078885	Video
A504 West Green Road (@Bedford Road/Lawrence Road)	51.585258	-0.080068	ATC
A504 West Green Road (@Carlingford Road)	51.58687	-0.096709	ATC
A504 West Green Road (@Etherley Road)	51.586062	-0.091819	ATC
A504 West Green Road (@Suffield Road)	51.58398	-0.073358	ATC
Abbotsford Avenue	51.585916	-0.090289	ATC
Alexandra Road (@North Grove)	51.583186	-0.085942	ATC
Alfoxton Avenue	51.587737	-0.100544	ATC
Ascot Road	51.581717	-0.087464	ATC
Avenue Road (#41/Newsam Avenue)	51.582923	-0.084601	ATC
Avenue Road (#95/Ida Road)	51.584459	-0.084331	ATC
Avondale Road	51.583051	-0.096613	ATC
B152 Colina Road	51.583848	-0.099521	ATC
B152 Harringay Road	51.583791	-0.098383	ATC
B152 St. Ann’s Road (@Chestnuts Park)	51.58156	-0.090144	ATC
B152 St. Ann’s Road (@Hermitage Road/Cornwall Road)	51.581155	-0.08678	ATC
B152 St. Ann’s Road (@Rowley Road/La Rose Lane)	51.581473	-0.092387	ATC
B152 St. Ann’s Road (@Salisbury Road)	51.58161	-0.096965	ATC
B152 St. Ann’s Road (@Suffolk Road)	51.580396	-0.082794	ATC
Brampton Road	51.582466	-0.094368	ATC
Breamar Road	51.583353	-0.079191	ATC
Cissbury Road	51.581183	-0.083074	ATC
Clarence Road	51.584171	-0.088596	ATC
Clarendon Road	51.584883	-0.095415	ATC
Clinton Road	51.584385	-0.088593	ATC

Colina Mews	51.584705	-0.098784	ATC
Conway Road (@Avondale Road/Woodlands Park Road)	51.583676	-0.095857	ATC
Conway Road (@Rowley Road/Ritches Road)	51.583068	-0.093076	ATC
Cornwall Road (#47/West Green Road)	51.585705	-0.087082	ATC
Cornwall Road (@Penrith Road)	51.582752	-0.087491	ATC
Cranleigh Road	51.583654	-0.092029	ATC
Culvert Road	51.581213	-0.079417	ATC
Dagmar Road	51.584563	-0.087464	ATC
Elmar Road	51.584735	-0.081683	ATC
Etherley Road	51.585147	-0.091638	ATC
Falmer Road	51.583698	-0.087526	ATC
Glenwood Road	51.582568	-0.098093	ATC
Gorleston Road	51.583688	-0.086536	ATC
Greenfield Road	51.581545	-0.076544	ATC
Harringay Road (#67)	51.584402	-0.098235	ATC
Harringay Road (#68)	51.586297	-0.098519	ATC
Ida Road	51.584184	-0.084884	ATC
La Rose Lane (#31)	51.585314	-0.089483	ATC
La Rose Lane (@Chestnuts Park)	51.581958	-0.091572	ATC
North Grove	51.58222	-0.085895	ATC
Oulton Road	51.58238	-0.082972	ATC
Park Road	51.585066	-0.099925	ATC
Penrith Road	51.582601	-0.086241	ATC
Ritches Road	51.582962	-0.093502	ATC
Roslyn Road	51.583052	-0.079836	ATC
Rowley Road	51.581931	-0.092836	ATC
Salisbury Road	51.581567	-0.097814	ATC
Seaford Road	51.583912	-0.081076	ATC
South Grove	51.581277	-0.083709	ATC
St Margaret's Avenue	51.587058	-0.099384	ATC
Stanley Road	51.585781	-0.097446	ATC

Station Crescent	51.585574	-0.088058	ATC
Suffield Road	51.583622	-0.073607	ATC
Terront Road	51.585542	-0.092667	ATC
Westerfield Road	51.583317	-0.074491	ATC
Woodlands Park Road (#16/Clarendon Road)	51.584747	-0.0941	ATC
Woodlands Park Road (#87/Avondale Road)	51.582364	-0.09578	ATC

TfL permanent traffic sites and coordinates (all ATCs)

Site	Latitude	Longitude	Site Type
A1055 Great Cambridge Road NB	51.609531	-0.085715	Permanent ATC
A1055 Great Cambridge Road SB	51.609111	-0.0854853	Permanent ATC
Bruce Grove	51.597282	-0.0735916	Permanent ATC
Great Cambridge Road NB	51.617411	-0.0864079	Permanent ATC
Great Cambridge Road SB	51.618248	-0.0855269	Permanent ATC
Green Lanes	51.572252	-0.0968812	Permanent ATC
High Road Tottenham	51.579888	-0.0728362	Permanent ATC
NCR Bowes Road	51.612497	-0.1189113	Permanent ATC
NCR Stirling Way EB	51.614228	-0.0778041	Permanent ATC
NCR Stirling Way WB	51.614483	-0.0778925	Permanent ATC
Seven Sisters Road	51.575750	-0.0849741	Permanent ATC
A1055 Great Cambridge Road NB	51.609531	-0.0857153	Permanent ATC

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 accurate. 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. ATCs have been used as a standard in monitoring transport schemes.

Appendix 2: Traffic Count Normalisation Methodologies

To calculate the normalised percentage differences, the November 2021 traffic count volumes have been divided by 0.9894 and the January 2023 traffic counts by 0.9516 to give normalised volumes. In other words, in order to account for the fact that there was (generally) less traffic on Haringey streets from March 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. November 2021 and January 2023) across all the permanent TfL counter sites around Haringey, and taking an average difference for the whole month.

Appendix 3: Air Quality Monitoring

The London Borough of Haringey's air quality strategy has been outlined in the borough's 2019-2024 Air Quality Action Plan. The document introduces a range of actions to improve air quality, such as reducing emissions from developments and buildings, incentivising cleaner transport and greening servicing and freight operations.

Part of the air quality strategy remains to improve the breadth of air quality monitoring in the borough. Haringey has been using diffusion tubes for air quality monitoring since before 2018, and now have 37 long-term monitoring sites, with more being added over time. A further set of diffusion tubes within or on the boundary of LTNs were added specifically to understand the impact of air quality of LTNs, 12 of which were within the bounds of the St. Ann's scheme.

The air quality monitoring sites in the St. Ann's LTN area are listed below, with details about type and if they have been added as part of the Phase 1 LTN programme or were pre-existing.

St. Ann's LTN air quality monitoring sites type and period of installation (all diffusion tubes)

Location	**Postcode**	**Defra Classification**
St. John Vianney Roman Catholic Primary School	N15 3HB	Urban Background
26 Clarendon Road, Harringay Ladder	N15 3JX	Urban Background
West Green Primary School, Woodlands Park Road	N15 3RH	Urban Background
Woodlands Park Nursery School, 74-76 Woodlands Park Road	N15 3SD	Urban Background
Chestnuts Primary School, Black Boy Lane	N15 3AR	Urban Background
St. Ann's Hospital, St. Ann's Road	N15 5BN	Roadside
114 Cornwall Road	N15 5AU	Urban Background
St. Ann's CE Primary School, Avenue Road	N15 5JG	Urban Background
The Green Dental Surgery, 200 West Green Road	N15 5AG	Roadside
Seven Sisters Primary School, Edgecot Grove	N15 5HD	Urban Background
730 Seven Sisters Road	N15 5NH	Roadside
20 Suffield Road	N15 5JX	Urban Background

Data quality control

To ensure data is as accurate as possible, national guidance for monitoring air quality (in terms of both deployment and results analysis), is followed – for example, such guidance requires the use of accredited monitors, personnel and laboratories or correction of diffusion tube data based on annual comparisons to automatic monitors.

Air quality in Haringey is monitored using diffusion tubes. The existing monitoring stations currently measure the concentration of Nitrogen Oxides (NOx) in the atmosphere.

Overall monitoring for Particulate Matter (PM) across London shows that the current objective values are largely met, therefore, monitoring for PM10 (up to 10μm across) and PM2.5 (up to 2.5μm across) ceased in Haringey in 2014 and 2016 respectively. Monitoring for both started again in May 2021 at our Wood Green monitoring site, locally funded by the borough.

Under Part IV on the Environment Act 1995, local authorities are required to periodically review and assess air quality in their area and identify areas where the air quality objectives are not likely to be met. The air quality objectives are set out for the seven pollutants in the Air Quality (England) Regulations 2000. The objectives are based on the health effects of air pollution. For areas where the air quality objectives are not likely to be achieved, local authorities have to declare Air Quality Management Areas (AQMA) and produce Air Quality Action Plans (AQAP) detailing measures to work towards the achieving the air quality objectives. Following extensive review and assessment of all seven pollutants, Haringey Council declared the whole borough an AQMA for the pollutants of PM10 and NO2 in July 2001.

Haringey, like all authorities with AQMAs, has to produce annual reports to both Defra and the Greater London Authority (GLA) to show trends in air pollution and progress towards achievement of the air quality objectives for the pollutants concern. The most recent status report can be found on the Haringey website by following the link below.

https://www.haringey.gov.uk/sites/haringeygovuk/files/air_quality_annual_status_report_for_2021.pdf

Pollution levels are impacted by a range of local and wider sources, which can have national or even international origins. 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) 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 Haringey.

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 Haringey 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.

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