Bounds Green LTN – Final Monitoring Report

Overview

Haringey Council's 'Streets for People' initiative has been developed to promote a vision for thriving local streets, streets that are greener, safer and cleaner.

As part of this initiative, Haringey Council has introduced three people-friendly Low-Traffic Neighbourhoods (LTNs) across the borough: Bounds Green LTN (August 2022), St Ann's LTN (August 2022), and Bruce Grove West Green LTN (November 2022). In the Bounds Green LTN trial area, the council installed 10 traffic filters to prevent motor vehicles from cutting through the local area.

This final monitoring report provides data and insights relating to the Bounds Green LTN trial. Building on the Interim report published in June 2023 and incorporating data from traffic counts undertaken in November 2023, this report seeks to understand how this LTN trial scheme (introduced under a new trial following changes that came into operation on 4 September 2023) is operating after over a year in operation.

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 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.

Boundary roads – For the purpose of this report, the "boundary roads" of the Bounds Green LTN trial area are **A105 High Road (@Cranbrook Park/Watsons Road), A105 High Road (@Sidney Road/Woodside Road), A109 Bounds Green Road (@Gordon Road/Passmore Gardens), A109 Bounds Green Road (@Truro Road/Nightingale Road)** and **B106 Durnsford 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 Order, 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 Bounds Green 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 within the scheme area. These roads are generally narrower than boundary roads. Traffic data has been collected on some, but not all, of the internal roads in the Bounds Green scheme area. The following road have been monitored as internal roads: **Blake Road, Cline Road, Commerce Road, Gordon Road, Marlborough Road, Myddleton Road, Nightingale Road, Palmerston Road, Passmore Gardens, Queen's Road, Ring Way, Truro Road,** and **Whittington Road.**

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 Bounds Green LTN trial refers to a low traffic neighbourhood implemented in Haringey under an Experimental Traffic Management Order (ETO). The positioning 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.

Normalising – 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" (or "modal 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 – Bounds Green LTN Final Report

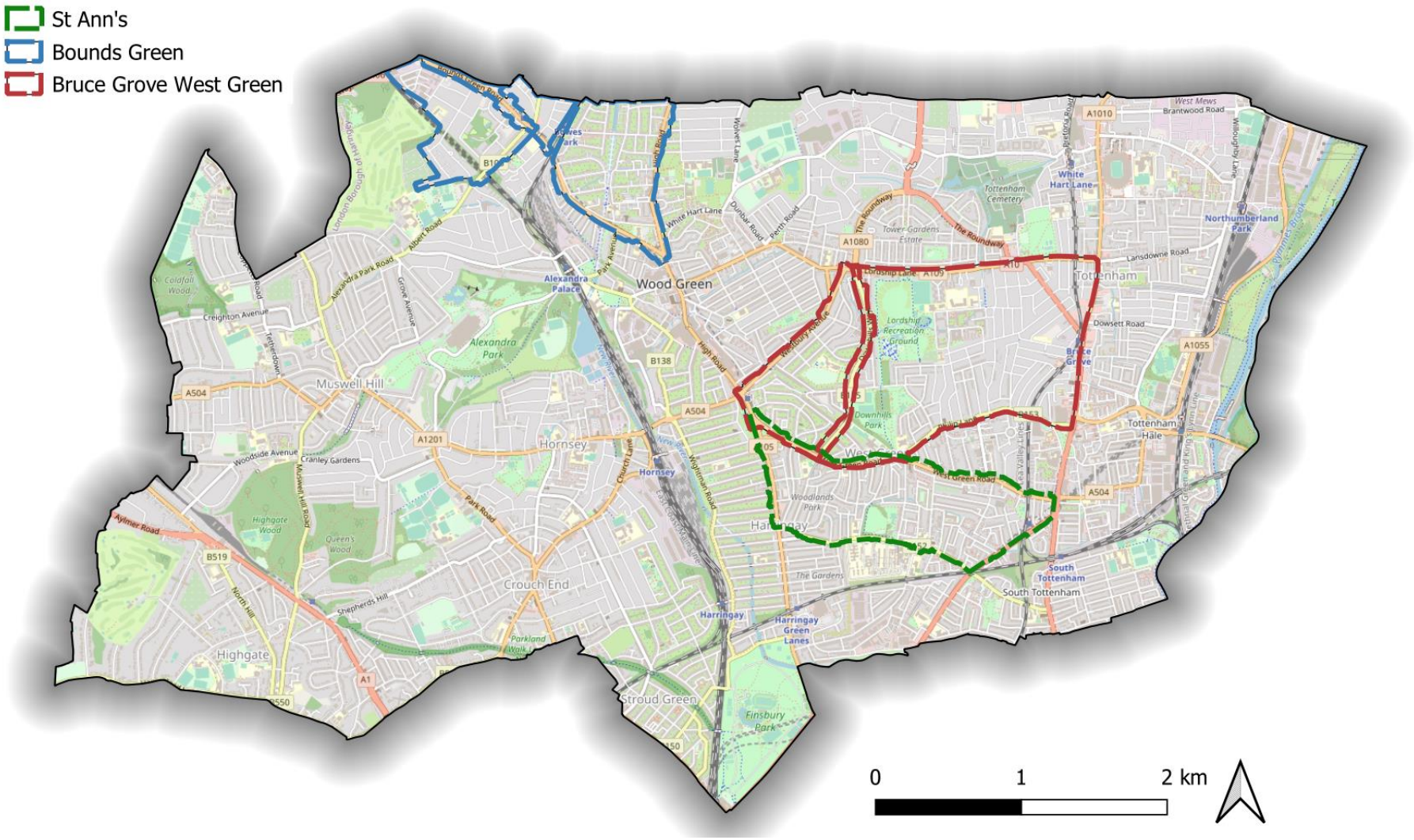
Haringey Council's 'Streets for People' initiative has been developed to promote a vision for thriving local streets, streets that are greener, safer and cleaner. The introduction of measures under the ambitious 'Streets for People' project is aimed at cutting road traffic and pollution, as well as to 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 trial people-friendly Low-Traffic Neighbourhoods (LTNs) across the borough. These schemes use filters, such as bollards or ANPR cameras, to stop traffic taking shortcuts along local roads, creating a safer, cleaner, and quieter neighbourhood for the people living there.

The borough's 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)

Map 1: Location of Haringey LTNs Within the Borough

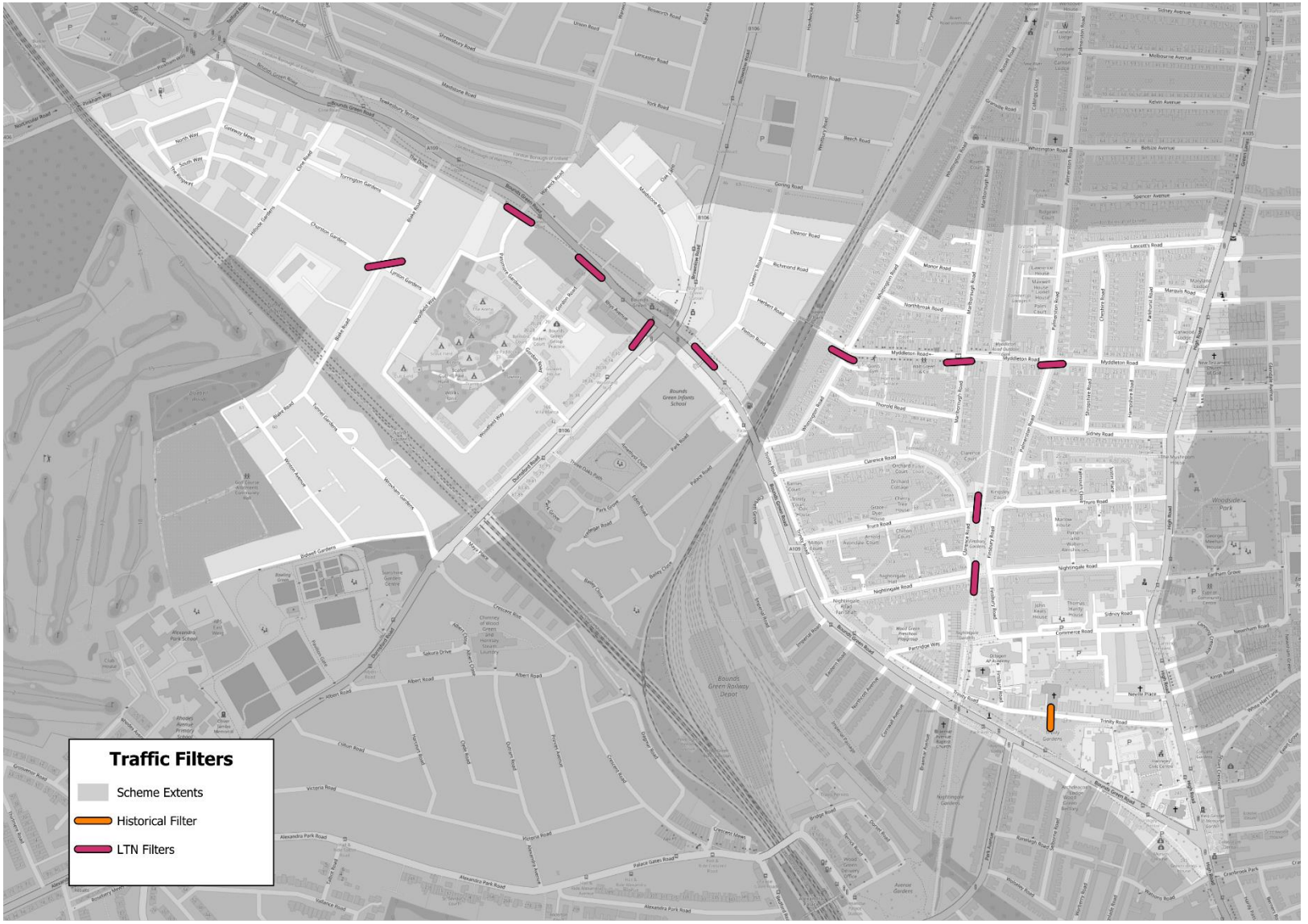


Scheme Context

For the Bounds Green LTN, the council has installed 10 new traffic filters in the trial area to prevent motor vehicles from using local streets as through routes. This is shown in Map 2 on the following page. Camera enforcement is used in some locations so that emergency vehicles, refuse vehicles and where relevant buses can still pass through some of the traffic filters. Others are enforced with a physical measure such as a bollard.

Camera filters also enable those eligible for exemptions to pass through the traffic filters for which an exemption has been granted by the council 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.

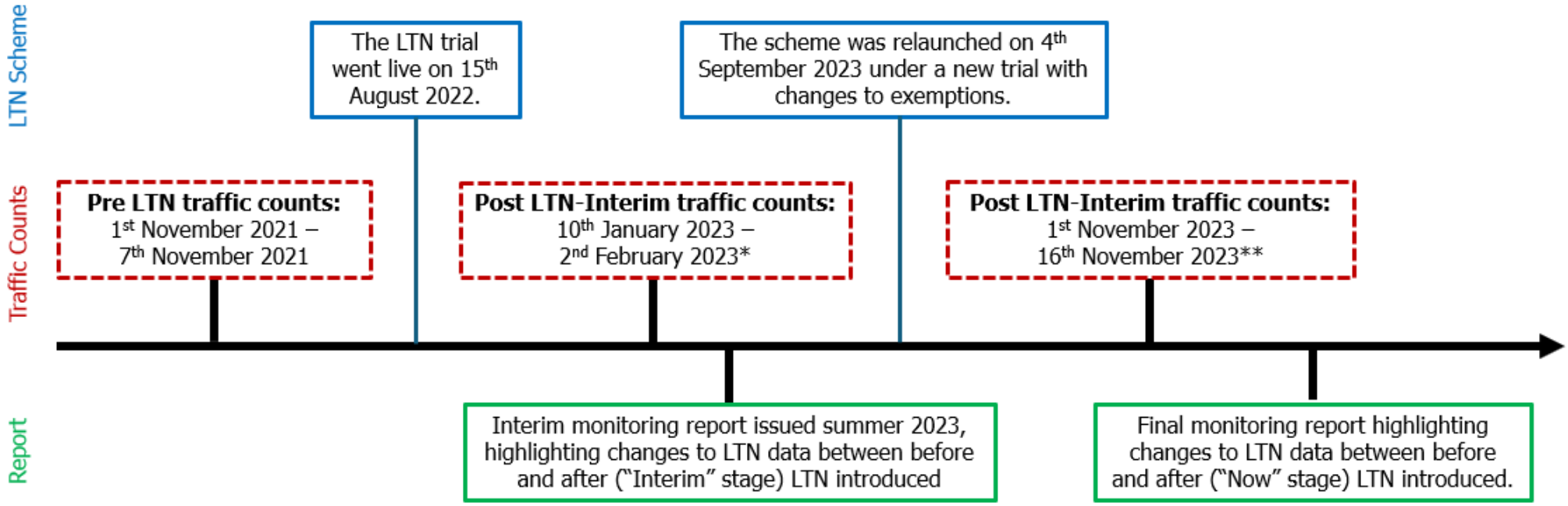
Map 2: Location of Bounds Green LTN Filters



Introduction – Monitoring Report

This monitoring report provides data and insights relating to the Bounds Green LTN trial.

Graph 1: Monitoring Process



*The survey period varied across sites during this period to account for roadworks and other disruptions. Counts were undertaken for some sites in the second week of January 2023; for the remaining sites, counts were undertaken in the last week of the month.
**Blake Road data was collected from 10th November 2023 – 16th November 2023.

Traffic Counts Approach

The count data presented in this report is not traffic modelling, but actual observed traffic, comparing traffic flows between November 2021 and November 2023.

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) were used for all sites for the Bounds Green LTN area. ATCs measure motorised and cycle traffic volumes and motorised traffic speeds and classify the traffic by type and are able to collect data for all vehicles regardless of their speed of travel (including those travelling at <10mph). More 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 3: Bounds Green LTN and Monitoring Sites

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 – and 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. Normalisation methodologies using TfL count locations across types of typologies (only within 2km of scheme, only on trunk routes etc.) have been considered in studies for other Boroughs and have 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 Bounds Green counts, in November 2021 motorised traffic was approximately 1% lower than in November 2019 and in November 2023 motorised traffic was approximately 2% 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%

Month	**Impact**
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%
Feb-23	93.87%
Mar-23	93.22%
Apr-23	92.23%
May-23	94.44%
Jun-23	93.65%
Jul-23	93.70%

Sep-21	97.43%
Oct-21	101.60%
Nov-21	98.94%
Dec-21	94.96%
Jan-22	94.94%

Aug-23	92.94%
Sep-23	94.36%
Oct-23	98.51%
Nov-23	97.76%
Dec-23	94.45%

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. Normalised results have been given for the total results regarding motorised vehicles. A breakdown per mode of transport has then been provided. It is noted that cycling data and speed data cannot be normalised as there is no representative background dataset to use in the normalisation process ; raw data is thus provided. However, averages for speed data were weighted using normalised figures to provide normalised weighted total figures.

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

The maps, on the other hand, have not been colour-coded to reflect the data; they have instead been colour-coded to portray which sites are boundary roads and which sites are internal roads.

It is noted that results in the tables provided throughout this report indicate **daily** vehicle flows.

In addition, it must be noted that as vehicles travelling through the LTN/on boundary roads may go through multiple counter sites, the summed number of vehicles counted across all monitored roads is higher than the actual number of trips taken. As such, a decrease/increase in total volumes of vehicles counted across multiple individual roads does not represent the same decrease/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 LTN periods. It is also important to note that this methodology is consistent with the analysis of LTN schemes in other London boroughs.

External Factors

These results must be considered 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. The main external factors which could be influencing results are as follows:

Nearby Low Traffic Neighbourhoods – As can be seen in Map 1, the Bruce Grove LTN is located approximately 1.7km to the southeast of the Bounds Green scheme. St Ann's LTN is directly south of the Bruce Grove West Green LTN. It is considered that due to distance, any impacts from other Haringey Schemes on Bounds Green would have been minimal. There are a range of schemes with similar objectives as LTNs in neighboring boroughs, including in Waltham Forest to the east, Islington and Hackney to the south and Enfield to the north. Most these schemes are relatively far away and were in place well before the Haringey schemes were introduced, with the exception of Bowes Quieter Neighbourhood in Enfield, which was made permanent in January 2022 (between the pre-LTN counts and scheme implementation, so may have impacted some parts of Bounds Green Road). However, in most cases these schemes are unlikely to have impacted on flows in the study area.

Weather – Weather can have a significant impact on travel choices, especially cycling. Weather also impacts air pollution, with more changeable weather better able to disperse pollutants in the wind. During the month in which Pre LTN 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 LTN-Now counts, taken in November 2023, show an average temperature of 9°C, with average highs of 11°C and average lows of 6°C. Rain levels differed more between the different periods, with 10.2mm of rain falling at Heathrow (the nearest location with continuous data) during the month of the Pre LTN counts, but 78.4mm of rain falling during the month of the Post LTN-Now counts. This indicates that generally, whilst temperatures in the Post LTN-Now data collection period were similar to those collected in the Pre LTN period, the Post LTN-Now period saw considerably higher rainfall levels.

COVID-19 Impacts – In the Pre LTN (November 2021) period, 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 LTN-Interim counts were conducted in January 2023, 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. Post LTN-Now counts were taken almost another year later, so it is expected that working patterns were largely unchanged since the previous round, perhaps with somewhat more hybrid working in professional services sectors. Given that most of the aforementioned 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 monthly normalisation methodology.

Cost of Living Crisis – During both the Post LTN-Interim (January 2023) and Post LTN-Now counts (November 2023), 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 LTN 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 LTN counts occurred soon after this, there may still have been some lag in driver behaviour as motorists became more familiar with this restriction. In February 2023, Mayor of London published Inner London Ultra Low Emission Zone – One Year Report, which stated that in October 2022, the new ULEZ reduced traffic by 47,000 vehicles in the zone on an average day (a reduction of almost 5 per cent). 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.

The ULEZ was further expanded across all London boroughs on 29 August 2023, between the Post LTN-Interim (January 2023) and Post LTN-Now (November 2023) counts. Whilst Transport for London states that 95% of vehicles driving in London comply with ULEZ standards, it is considered that traffic behaviour may have been impacted by this scheme.

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.

Reporting

For the purpose of this report, the three study periods are referred to with the following terms:

Table 2: Monitoring Periods

Survey Period #	Study Period	Report Designation
1	November 2021 (before LTN scheme)	Pre LTN (Nov-21)
2	January 2023 (LTN scheme)	Post LTN-Interim (Jan-23)
3	November 2023 (LTN scheme)	Post LTN-Now (Nov-23)

Analysis of Vehicle Volumes

All Motorised Vehicle Volumes (7-Day Daily Average)

This section outlines the changes in normalised volumes for all motorised vehicles, including cars (both private cars and taxis/company-owned cars), goods vehicles ranging from delivery vans to large articulated lorries, and motorcycles.

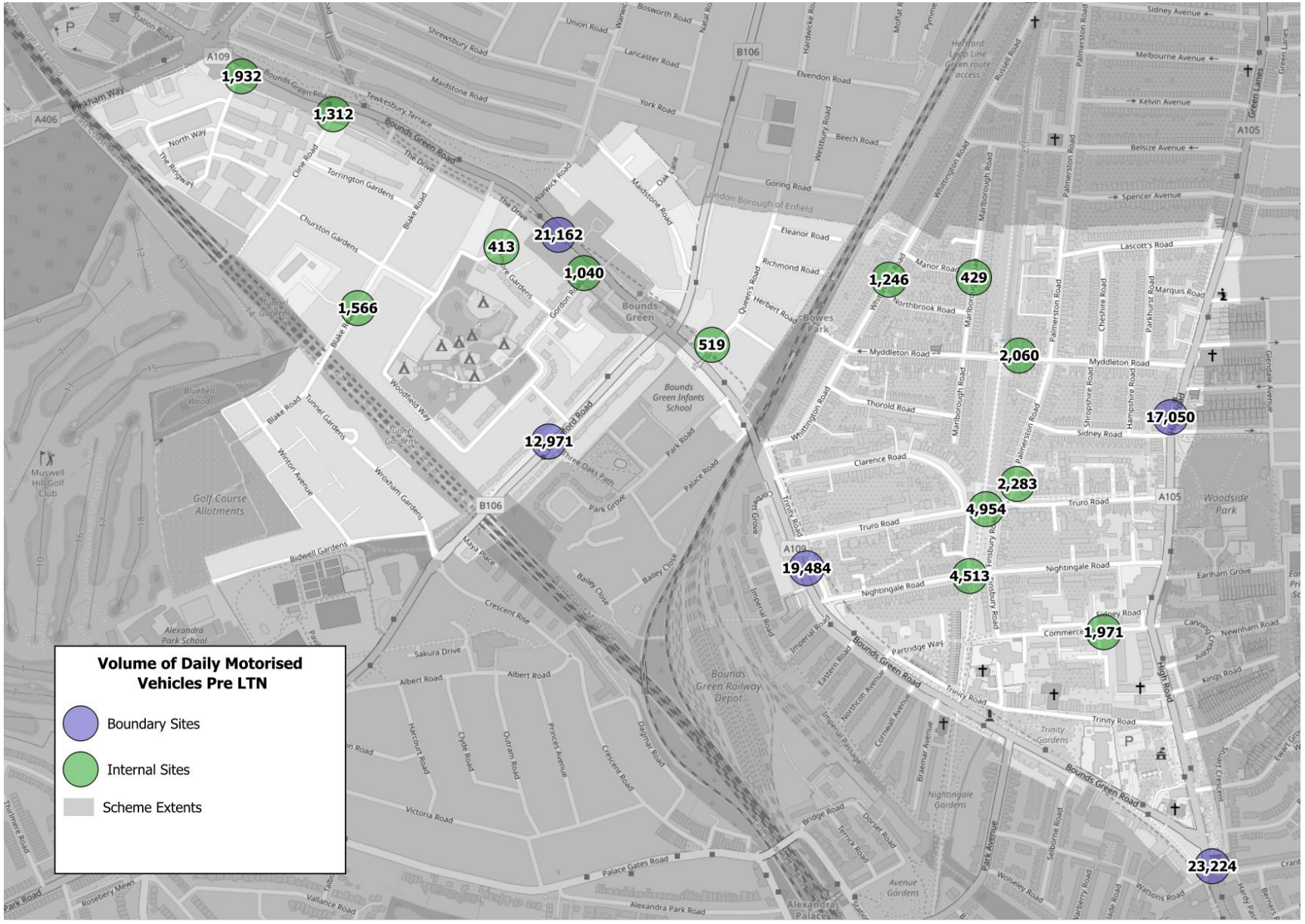
The total number of such motorised vehicles counted in the monitored week has been summed and divided by seven to create a daily average. If roads are less heavily used on weekends, it is possible that seven-day averages are slightly lower than five-day (weekday) averages – however, as usage patterns 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 the survey periods. 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 4 below shows the total volume of vehicles recorded during the Pre LTN period (November 2021) on both boundary and internal roads, Map 5 shows the same data for the Post LTN-Interim period (January 2023), and Map 6 shows the same data for the Post LTN-Now period (November 2023). Map 7 then presents the percentage change in motorised vehicle volumes between the Pre LTN (November 2021) and Post LTN-Now (November 2023) data.

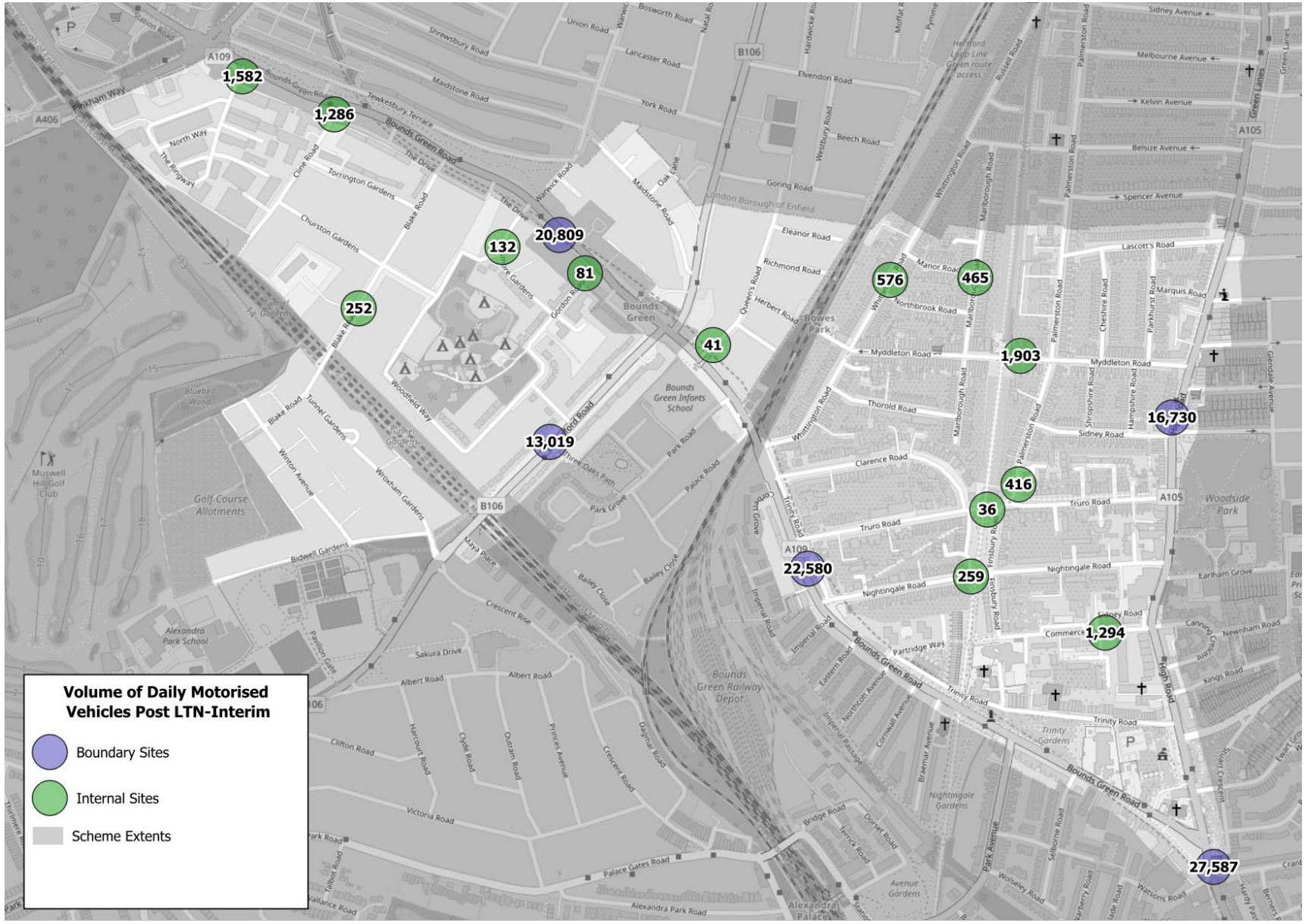
It is important that percentage change figures are considered in the context of raw/nominal changes, as presented in the tables, as a significant percentage change could indicate a relatively minor change in actual vehicles counted on a particularly quiet road. Conversely, a busy road could see a small percentage change even if there the number of vehicles counted is quite different between the two monitored periods. In such cases, it is useful to compare data in Maps 4, 5 and 7, or to refer to the tables for full context.

All tables depict normalised data. 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.

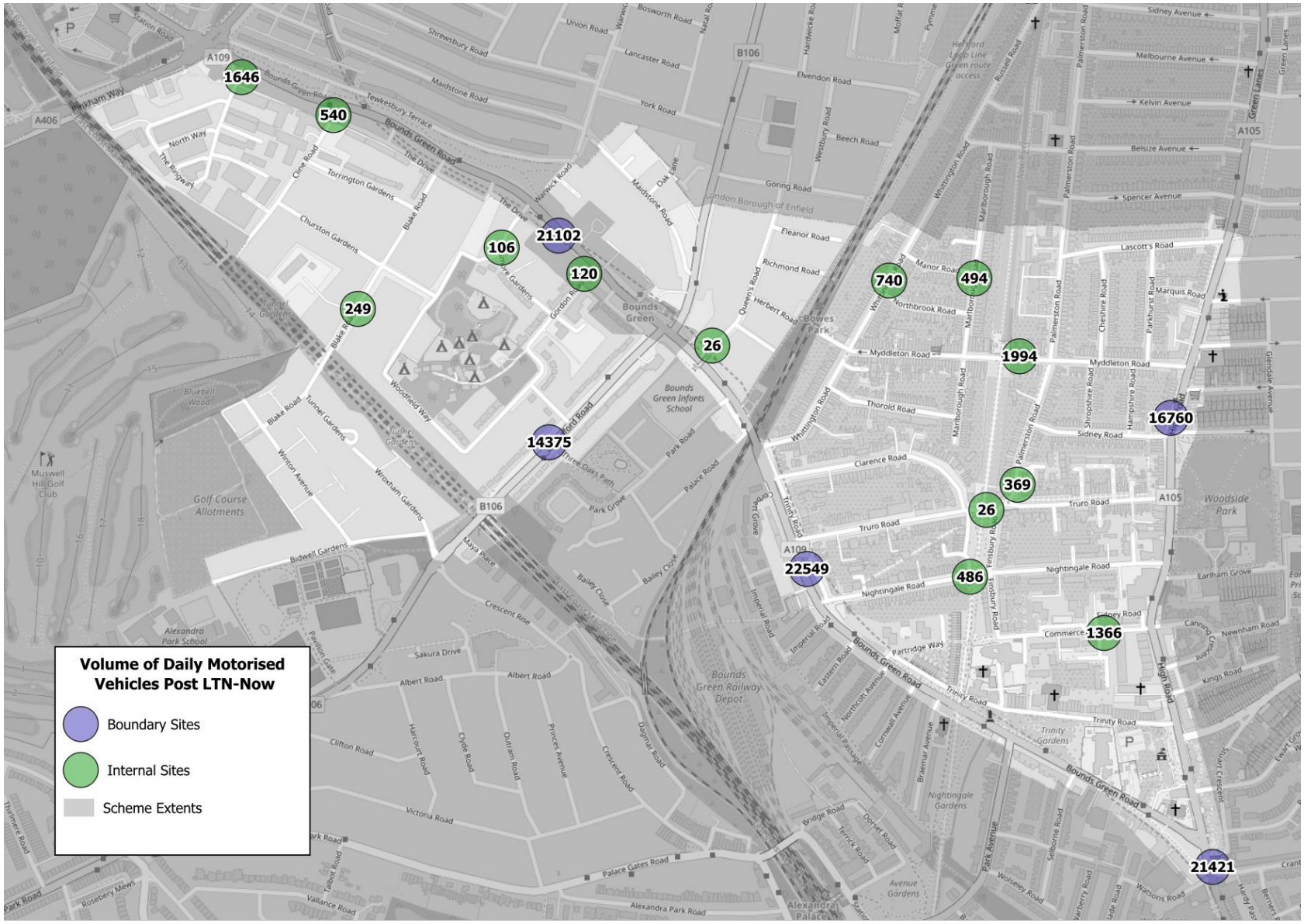
Map 4: Pre LTN (Nov-21) Motorised Vehicles Volumes (Normalised)



Map 5: Post LTN-Interim (Jan-23) Motorised Vehicle Volumes (Normalised)



Map 6: Post LTN-Now (Nov-23) Motorised Vehicle Volumes



Map 7: Percentage Change in Motorised Vehicle Volumes: Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)

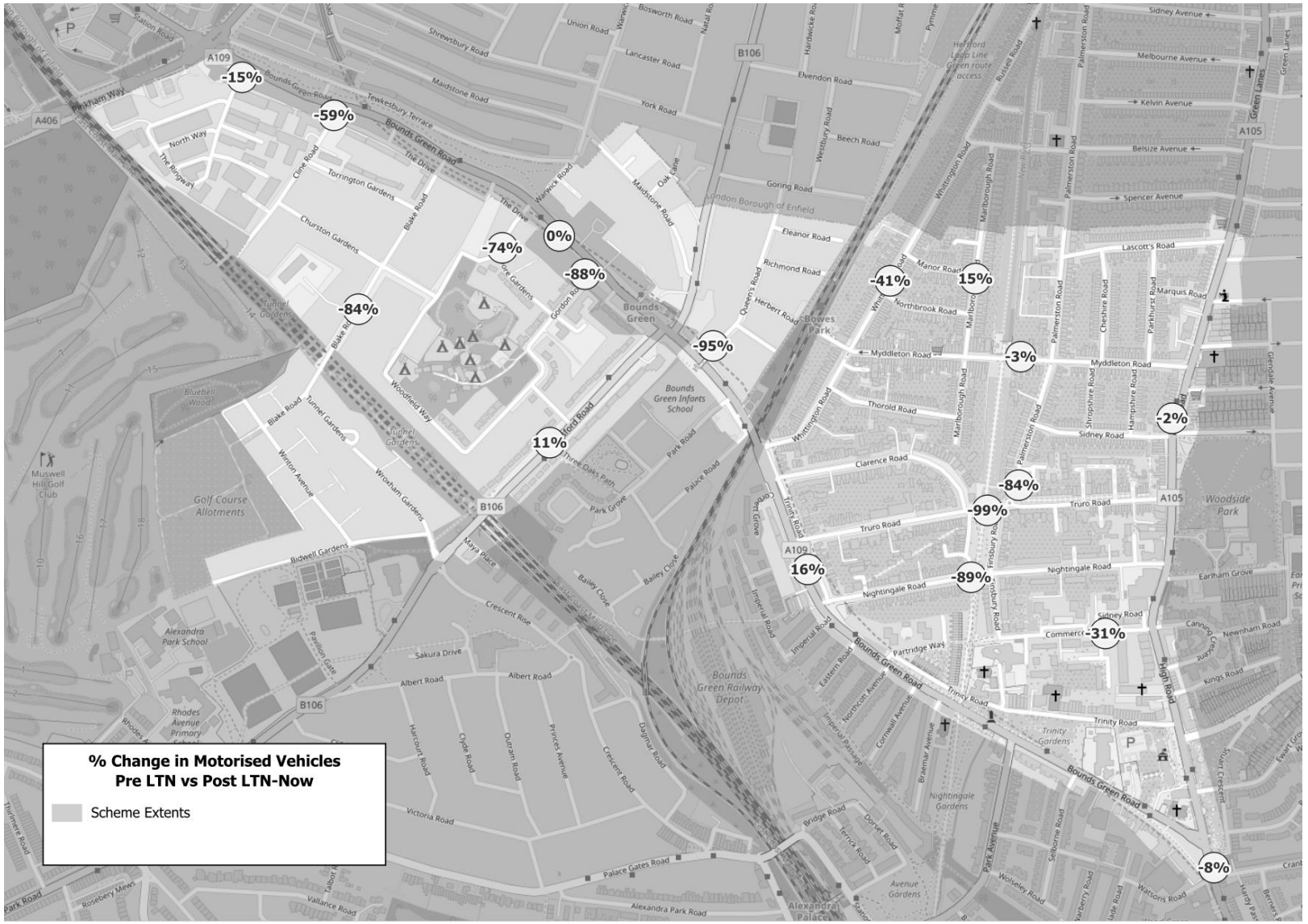


Table 3: Motorised Traffic Volumes on Internal Roads (Normalised)

	Pre LTN (Nov-21)	Post LTN-Interim (Jan-23)	Post LTN-Now (Nov-23)	Difference Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	% Difference Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
Blake Road	1,566	252	249	-1,317	**-84%**
Cline Road	1,312	1,286	540	-772	**-59%**
Commerce Road	1,971	1,294	1366	-605	**-31%**
Gordon Road	1,040	81	120	-920	**-88%**
Marlborough Road	429	465	494	65	**15%**
Myddleton Road	2,060	1,903	1994	-66	-3%
Nightingale Road	4,513	259	486	-4,027	**-89%**
Palmerston Road	2,283	416	369	-1,914	**-84%**
Passmore Gardens	413	132	106	-307	**-74%**
Queen's Road	519	41	26	-493	**-95%**
Ring Way	1,932	1,582	1646	-286	**-15%**
Truro Road	4,954	36	26	-4,928	**-99%**
Whittington Road	1,246	576	740	-506	**-41%**
Total	**24,238**	**8,323**	**8,162**	**-16,076**	**-66%**

*As detailed on pages 20-21, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, 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 Boundary Roads (Normalised)

	Pre LTN (Nov-21)	Post LTN-Interim (Jan-23)	Post LTN-Now (Nov-23)	Difference Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	% Difference Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	23,224	27,587	21,421	-1,803	-8%
A105 High Road (@Sidney Road/Woodside Road)	17,050	16,730	16,760	-290	-2%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	21,162	20,809	21,102	-60	0%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	19,484	22,580	22,549	3,065	**16%**
B106 Durnsford Road	12,971	13,019	14,375	1,404	**11%**
Total	**93,891**	**100,725**	**96,207**	**2,316**	**2%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 5: Motorised Traffic Volumes on Key Internal Roads, Direction A (Normalised)

		Pre LTN (Nov-21) Daily Flow	Post LTN-Interim (Jan-23) Daily Flow	Post LTN-Now (Nov-23) Daily Flow	Absolute Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	% Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
Blake Road	NB	1,048	167	157	-891	**-85%**
Cline Road	NB	639	639	255	-384	**-60%**
Commerce Road	EB	744	655	693	-51	-7%
Gordon Road	NB	551	50	74	-477	**-87%**
Marlborough Road	NB	236	251	262	26	**11%**
Myddleton Road	EB	982	777	857	-125	**-13%**
Nightingale Road	EB	2,070	123	218	-1,852	**-89%**
Palmerston Road	NB	955	211	162	-793	**-83%**
Passmore Gardens	NB	202	69	56	-146	**-72%**
Queen's Road	NB	10	11	5	-5	**-47%**
Ring Way	NB	899	785	825	-74	-8%
Truro Road	EB	1,919	19	12	-1,907	**-99%**
Whittington Road	NB	874	383	469	-405	**-46%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 6: Motorised Traffic Volumes on Key Internal Roads, Direction B (Normalised)

		Pre LTN (Nov-21) Daily Flow	Post LTN-Interim (Jan-23) Daily Flow	Post LTN-Now (Nov-23) Daily Flow	Absolute Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	% Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
Blake Road	SB	518	85	91	-427	**-82%**
Cline Road	SB	673	647	285	-388	**-58%**
Commerce Road	WB	1,227	639	673	-554	**-45%**
Gordon Road	SB	489	31	46	-442	**-91%**
Marlborough Road	SB	193	214	231	37	**19%**
Myddleton Road	WB	1,078	1,126	1,137	60	6%
Nightingale Road	WB	2,443	136	267	-2,177	**-89%**
Palmerston Road	SB	1,328	205	207	-1,120	**-84%**
Passmore Gardens	SB	211	63	49	-162	**-77%**
Queen's Road	SB	509	30	22	-488	**-96%**
Ring Way	SB	1,033	797	820	-213	**-21%**
Truro Road	WB	3,035	17	14	-3,021	**-99%**
Whittington Road	SB	372	193	271	-102	**-27%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 7: Motorised Traffic Volumes on Boundary Roads, Direction A (Normalised)

		Pre LTN (Nov-21) Daily Flow	Post LTN-Interim (Jan-23) Daily Flow	Post LTN-Now (Nov-23) Daily Flow	Absolute Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	% Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	NB	10,501	13,554	8,623	-1,878	-18%
A105 High Road (@Sidney Road/Woodside Road)	NB	7,369	7,625	7,134	-235	-3%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	NB	10,345	10,538	10,597	252	2%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	NB	10,055	12,532	9,491	-564	-6%
B106 Durnsford Road	NB	7,423	7,011	7,447	24	0%

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 8: Motorised Traffic Volumes on Boundary Roads, Direction B (Normalised)

		Pre LTN (Nov-21) Daily Flow	Post LTN-Interim (Jan-23) Daily Flow	Post LTN-Now (Nov-23) Daily Flow	Absolute Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	% Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	SB	12,723	14,033	12,319	-404	-3%
A105 High Road (@Sidney Road/Woodside Road)	SB	9,681	9,105	9,251	-430	-4%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	SB	10,817	10,271	10,032	-785	-7%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	SB	9,429	10,048	12,553	3,124	33%
B106 Durnsford Road	SB	5,548	6,008	6,606	1,058	19%

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Insights: All Motorised Vehicle Volumes

The comparison of normalised flows between the November 2021 Pre LTN and November 2023 Post LTN-Now surveys indicates that total motorised vehicles volumes have declined for almost all internal roads within the Bounds Green LTN area, whilst there has been a slight percentage increase on some boundary roads. Across all monitored internal roads, 16,076 fewer daily vehicles were counted in November 2023 (Post LTN-Now) in comparison to November 2021 (Pre LTN), equating to a 66% decrease in volume. On boundary roads, a marginal percentage increase of 2% was recorded, equating to 2,316 additional vehicles (from 93,891 to 96,207) in comparison to the Pre LTN counts.

Of the 13 monitored internal roads, 9 experienced a decrease of at least 50%, with 9 roads observing decreases of over 500 daily vehicles, in line with the objectives of the LTN to reduce traffic levels on residential roads. Only Marlborough Road experienced an increase in traffic, with 65 additional vehicles (from 429 to 494, +15%), representing a marginal change in nominal terms. Truro Road and Nightingale Road experienced the largest reductions in traffic flows, with decreases of around 4,928 and 4,027 daily vehicles respectively, differences of -99% and -89% respectively when compared to Pre LTN flows. Both roads were filtered, thus the significant drop in traffic volumes was expected. Other roads, including Queens Road, also experienced significant percentage decreases in vehicle flows (-95%), but without the same magnitude in net changes for traffic volumes (-493 daily motorised vehicles).

The picture on boundary roads was more varied but resulted in an overall marginal increase in flows of 2%, equating to 2,316 additional motorised vehicles. The most significant increase by both volume and percentage change was experienced on A109 Bounds Green Road (@Truro Road/ Nightingale Road), where there were 3,065 additional vehicles in November 2023 (Post LTN-Now) than in November 2021 (Pre LTN) – an increase of 16%. It is noted that this increase was observed in the southbound direction. There is also a 11% increase in daily motorised vehicles on B106 Durnsford Road, equating to 1,404 additional daily motorised vehicles. This increase was also observed in the southbound direction. In contrast to this, A105 High Road (@Cranbrook Park/Watsons Road) and A105 High Road (@Sidney Road/Woodside Road) experienced a decrease of 8% and 2% respectively (-1,803 and -290 respectively), while minor changes were observed at A109 Bounds Green Road (@Gordon Road/Passmore Gardens), with a decrease of 60 vehicles resulting in a 0% change.

These findings indicate that the Bounds Green LTN trial scheme is delivering on its objective. While some boundary roads have seen increases since implementation and merit further monitoring by the council, there has been a considerable net decrease in motorised vehicle volumes across the scheme area between November 2021 (Pre LTN) and November 2023 (Post LTN-Now).

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.

According to data released by the Department for Transport in 2022 and updated in July 2024, the number of registered LGVs and HGVs has grown at different rates between the Pre LTN monitoring period and the Post LTN-Now monitoring period. This is set out in Graph 2 on the overleaf, which shows the indexed growth of both vehicle types since the start of 2021. From around Q3 2022 onwards, the growth in registrations begins to diverge, and by the Post LTN-Now period of Q4 2023, LGV volumes had grown by 3.7% vs. only 1.1% growth for HGVs.

Whilst more local data for this comparison is not available, it is considered that the above trend for high growth in LGVs and more muted growth in HGVs may be more extreme in London due to the ULEZ and its expansion in August 2023, which would further penalise the use of petrol or diesel-based HGVs vs. potentially electric LGVs, thus incentivizing companies to more frequently rely on LGVs.

This context should be taken into account when considering the results for the Bounds Green scheme.

Graph 2: Index of LGVs vs. HGVs Registered in Great Britain, Q1 2021-Q1 2024

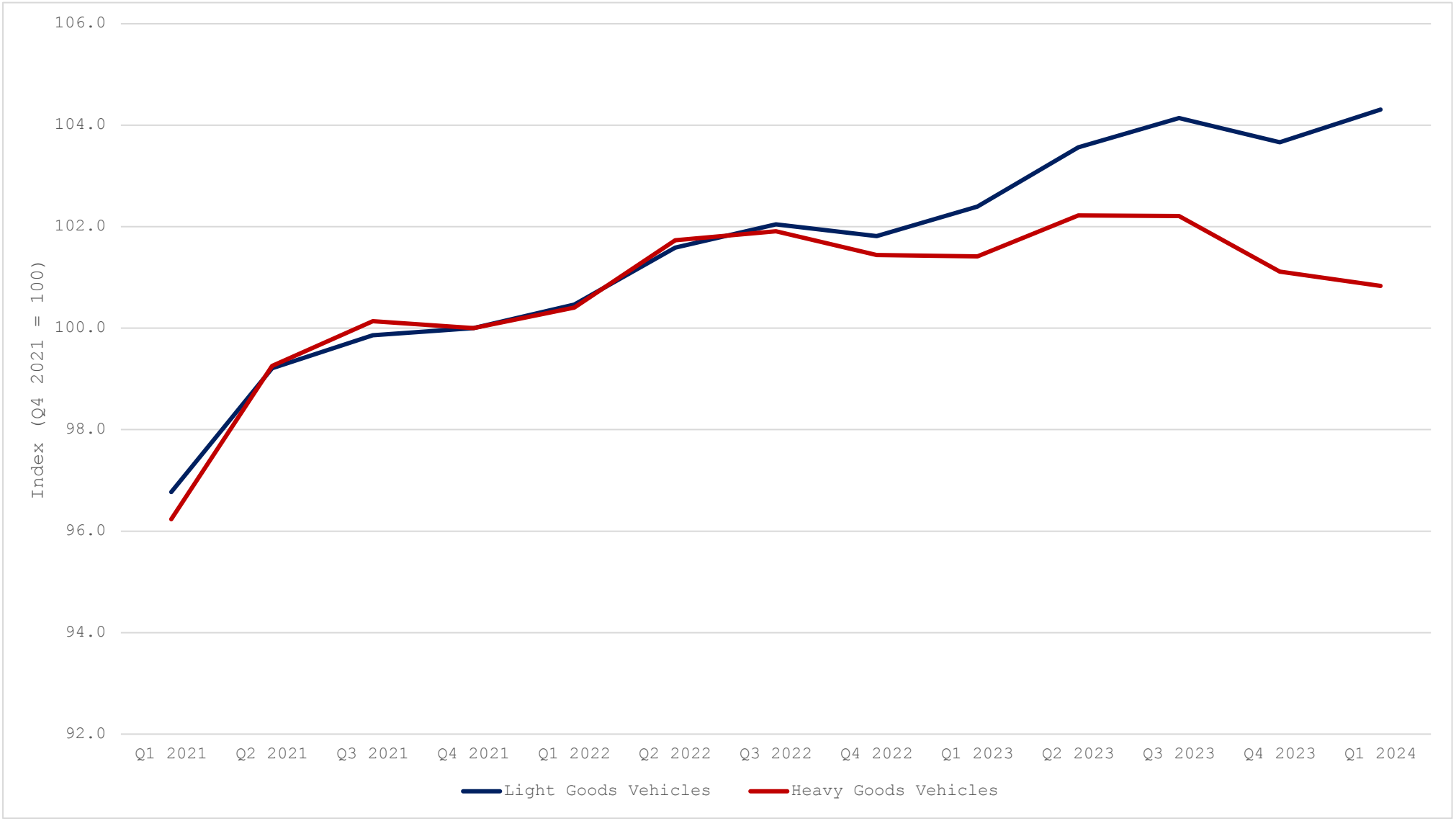


Table 9: Heavy Goods Vehicle Volumes on Internal Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	Change in Proportion Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
Blake Road	9	1%	1	0%	10	4%	1	3%
Cline Road	62	5%	104	8%	27	5%	-35	0%
Commerce Road	46	2%	5	0%	15	1%	-31	-1%
Gordon Road	52	5%	3	3%	7	6%	-45	1%
Marlborough Road	3	1%	2	0%	19	4%	16	3%
Myddleton Road	41	2%	77	4%	184	9%	143	7%
Nightingale Road	84	2%	7	2%	11	2%	-73	0%
Palmerston Road	6	0%	8	2%	6	1%	0	1%
Passmore Gardens	3	1%	6	4%	5	4%	2	3%
Queen's Road	2	0%	0	0%	1	4%	-1	4%
Ring Way	180	8%	43	2%	43	2%	-137	-6%
Truro Road	194	4%	0	0%	0	0%	-194	0%
Whittington Road	9	1%	3	1%	2	0%	-7	-1%
Total/ Average	**691**	**3%**	**259**	**3%**	**330**	**4%**	**-361**	**1%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 10: Light Goods Vehicle Volumes on Internal Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	Change in Proportion Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
Blake Road	127	7%	40	15%	23	9%	-104	2%
Cline Road	27	2%	113	9%	24	4%	-3	2%
Commerce Road	121	6%	82	6%	127	9%	6	3%
Gordon Road	20	2%	7	8%	12	10%	-8	8%
Marlborough Road	48	11%	55	12%	40	8%	-8	-3%
Myddleton Road	163	8%	81	4%	55	3%	-108	-5%
Nightingale Road	328	7%	59	20%	54	10%	-274	3%
Palmerston Road	240	10%	44	10%	49	12%	-191	2%
Passmore Gardens	30	8%	13	9%	3	3%	-27	-5%
Queen's Road	38	7%	2	4%	2	7%	-36	0%
Ring Way	48	2%	293	16%	202	10%	154	8%

Truro Road	179	3%	0	0%	0	0%	-179	-3%
Whittington Road	134	11%	73	12%	35	5%	-99	-6%
Total/Average	**1503**	**6%**	**862**	**10%**	**626**	**8%**	**-877**	**2%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 11: Heavy Goods Vehicle Volumes on Boundary Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	Change in Proportion Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	529	2%	1579	6%	494	2%	-35	0%
A105 High Road (@Sidney Road/Woodside Road)	240	1%	201	1%	157	1%	-83	0%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	357	2%	403	2%	377	2%	20	0%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	214	1%	517	2%	402	2%	188	1%
B106 Durnsford Road	687	5%	79	1%	595	4%	-92	-1%
Total / Average	**2027**	**2%**	**2779**	**3%**	**2025**	**2%**	**-2**	**0%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 12: Light Goods Vehicle Volumes on Boundary Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)	Change in Proportion Post LTN-Now vs. Pre LTN (Nov-23 vs. Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	1,172	5%	664	2%	2,908	14%	1,736	9%
A105 High Road (@Sidney Road/Woodside Road)	1,854	11%	1994	12%	2,076	13%	222	2%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	2,215	10%	2202	11%	2,345	11%	130	1%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	1,895	10%	1787	8%	1,609	7%	-286	-3%
B106 Durnsford Road	743	6%	1405	11%	621	4%	-122	-2%
Total / Average	**7,879**	**8%**	**8,052**	**8%**	**9,559**	**10%**	**1,680**	**2%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, 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 above are for full, seven-day weeks).

On internal roads, the volumes of both LGVs and HGVs have decreased by 58% and 52%[1], respectively. However, it is important to note that on internal roads, the proportion of LGVs compared to total motorised vehicles has increased by 2 percentage points, and by 1 percentage point for HGVs. In both cases, this may indicate that trips by goods vehicles are less flexible than those taken by passenger cars, and in particular that LGVs may be more popular for local trips in line with general vehicle choice trends.

For individual internal roads, as changes in vehicle flows often translate to substantial percentage changes (based on low initial volumes), it is generally more useful to look at changes in actual vehicle numbers. Internal roads saw an overall reduction of 877 LGVs (-58% total). Roads including Nightingale Road (-274 LGVs), Palmerston Road (-191 LGVs), Truro Road (-179 LGVs), Myddleton Road (-108 LGVs) and Blake Road (-104 LGVs) all saw considerable decreases in LGV volumes.

HGVs comprised a smaller starting proportion of all motorised traffic within the scheme area. A decrease of 361 HGVs was observed on internal roads, equating to an overall 52% reduction. Three internal roads observed reductions of over 50 HGVs: Truro Road (-194 HGVs), Ring Way (-137 HGVs), Nightingale Way (-73 HGVs). Only Myddleton Road observed an increase of over 50 HGVs, with 143 additional HGVs (+349%), likely as this is a key remaining access to the eastern sub-cell of the LTN. In percentage terms, six internal roads observed reductions of over 50%: Nightingale Road (-87%), Gordon Road (-87%), Whittington Road (-78%), Ring Way (-76%), Commerce Way (67%) and Cline Road (-56%). Conversely, Marlborough Road observed an increase in HGVs of 533%, but it is noted that given the small starting volumes, this equates to only 16 additional HGVs.

On boundary roads, in comparison to November 2021 (Pre LTN), November 2023 (Post LTN-Now), findings show a total 21% increase in LGVs (+1,680) and a 0% change in HGVs (-2 HGVs), which again aligns with national trends of increasing deliveries post-COVID, particularly by smaller vans. A109 Bounds Green Road (@Truro Road/Nightingale Road) saw the highest reduction of LGVs (-286 LGVs), followed by B106 Durnsford Road (-122 LGVs). This is equivalent to -15% and -16% respectively. Conversely, A105 High Road (@Cranbrook Park/Watsons Road) saw an increase of 1,736 LGVs, this is equivalent to 148%. A105 High Road (@Sidney Road/Woodside Road) and A109 Bounds Green Road (@Gordon Road/Passmore Gardens) observed increases of 222 and 130 daily LGVs, respectively.

[1] Percentages are calculated directly from the tables of LGV/HGV flows.

On boundary roads, the highest reduction in HGVs was observed on B106 Durnsford Road (-92 HGVs), and the highest percentage decrease was of -35%, observed on A105 High Road (@Sidney Road/Woodside Road). In contrast, the highest increase was observed on A109 Bounds Green Road (@Truro Road/Nightingale Road) (+188 HGVs), which also observed the highest percentage increase (+88%).

The findings show that the Bounds Green LTN trial scheme is delivering on its objectives of reducing through traffic. Internal roads saw an overall reduction of 877 LGVs counted (-58%), and of 361 HGVs counted (-52%). On boundary roads, findings indicate an increase of 1,680 LGVs counted (+21%) and a reduction of 2 HGVs counted (0% change). Internal roads have experienced significant reductions in LGV and HGVs levels, whilst the increase in LGVs on boundary roads (with no corresponding increase in HGVs on such roads) may be more indicative of wider trends and policy impacts such as the ULEZ expansion than the scheme itself.

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, they have seen quite different trends from other motorised vehicles given their prevalence following COVID-19 and the spike in deliveries made by motorcycle in London. As such, a metric of "motorcycles as a proportion of total motorised traffic" has been included in the tables of this section to assess whether changes in the volume of motorcycles differs from wider trends in motorised vehicles.

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

Table 13: Motorcycle Volumes on Internal Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	Change in Proportion Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
Blake Road	64	4%	14	5%	8	3%	**-88%**	-1%
Cline Road	234	18%	272	21%	24	4%	**-90%**	**-14%**
Commerce Road	99	5%	90	7%	87	6%	**-12%**	1%
Gordon Road	22	2%	4	4%	8	7%	**-64%**	5%
Marlborough Road	26	6%	40	9%	44	9%	**66%**	3%
Myddleton Road	95	5%	121	6%	101	5%	7%	0%
Nightingale Road	95	2%	8	3%	10	2%	**-89%**	0%
Palmerston Road	33	1%	52	12%	36	10%	**11%**	8%
Passmore Gardens	12	3%	5	4%	6	6%	**-49%**	3%
Queen's Road	50	10%	12	29%	5	19%	**-89%**	10%
Ring Way	59	3%	43	3%	53	3%	-10%	0%
Truro Road	114	2%	34	95%	25	96%	**-78%**	94%
Whittington Road	72	6%	57	10%	63	8%	**-12%**	3%
Total/Average	**975**	**4%**	**750**	**9%**	**471**	**6%**	**-52%**	**2%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 14: Motorcycle Volumes on Boundary Roads (Normalised)

	Volume Pre LTN: Nov-21	Proportion Pre LTN: Nov-21	Volume Post LTN-Interim: Jan-23	Proportion Post LTN-Interim: Jan-23	Volume Post LTN-Now: Nov-23	Proportion Post LTN-Now: Nov-23	Change in Volume Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	Change in Proportion Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)
A105 High Road (@Cranbrook Park/Watsons Road)	304	1%	1,090	4%	993	5%	**227%**	4%
A105 High Road (@Sidney Road/Woodside Road)	675	4%	852	5%	784	5%	**16%**	1%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	437	2%	503	2%	513	2%	**17%**	0%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	676	3%	690	3%	631	3%	-7%	0%
B106 Durnsford Road	247	2%	309	2%	317	2%	**29%**	0%
Total/Average	**2,338**	**2%**	**3,445**	**3%**	**3,238**	**3%**	**38%**	**1%**

*As detailed on pages 19-20, it is important to note that vehicles travelling through the LTN may go through multiple counter sites, 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. Findings indicate that internal roads have observed a 52% reduction in motorcycles while boundary roads have experienced a 38% increase in motorcycle flows since the implementation of the LTN scheme.

On internal roads, motorcycle volumes have decreased in 10 of the 13 sites, leading to an overall reduction of 504 daily motorcycles (-52%). Despite this drop, the proportional representation of motorcycles increased from 4% in November 2021 (Pre LTN) to 6% in November 2023 (Post LTN-Now). This perhaps indicates less flexibility for motorcycles (and motorcycle-based deliveries) than for general traffic in terms of routing options. It may also be a result of motorcycles passing illegally through filters with physical barriers such as bollards, which other motorised vehicles are unable to do. The most significant decrease in daily motorcycles was on Cline Road where a drop of 211 motorcycles equated to a 90% reduction in volume. Other notable decreases included Truro Road, with 89 fewer motorcycles (-78%) and Nightingale Road (-89%). Interestingly, whilst the Truro Road filter has stopped almost all general traffic, it has not stopped all motorcycles, which now account for 94% of all vehicles counted at this site – indicating a level of noncompliance for motorcyclists. The highest increase in levels of motorcycles were observed at Marlborough Road with 18 additional motorcycles, equating to a 66% increase in comparison to Pre LTN (November 2021) levels.

There were increases in motorcycle volume across 4 of the 5 monitored boundary roads. Overall, this reflected around 900 additional motorcycles (+38%) in November 2023 (Post LTN-Now) than in November 2021 (Pre LTN). The proportional representation of motorcycles increased by 1 percentage point, this was largely driven by a 227% and 4 percentage points increase at A105 High Road (@Cranbrook Park/Watsons Road), representing 689 additional motorcycles per day.

Ultimately, it appears that motorcycle volumes tend to follow the general trend of motorised vehicles (decrease for internal roads and increase for boundary roads) but in both cases show a higher degree of prevalence.

Cycle Volumes (7-Day Daily Average)

Cycling figures have not been normalised to account 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. Indeed, available background sources for cycling data are highly varied.

Unlike motorised traffic trends, cycling levels are significantly impacted by seasonal and daily weather changes including in 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 – although even this is different year-to-year. There are several interlinked factors when it comes to the impact seasonal weather variation has on cycling levels, and 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).

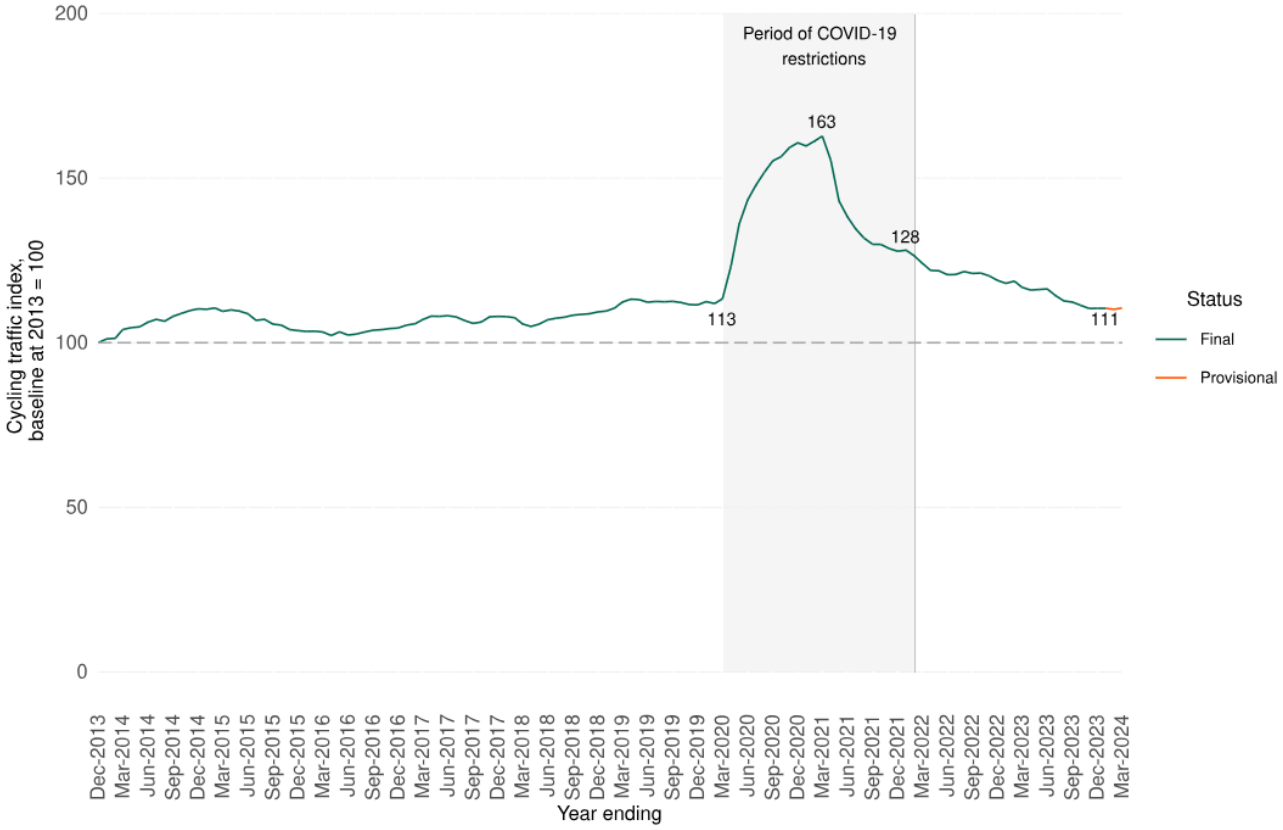
During the month in which Pre LTN counts were conducted (November 2021), the average temperature in Greater London was 9°C, with average highs of 11°C and average lows of 7°C. Post LTN-Now counts, taken in November 2023, show an average temperature of 9°C, with average highs of 11°C and average lows of 6°C. However, levels of precipitation were considerably higher in November 2023 than in November 2021, with rainfall at the nearest national counter (Heathrow) measured at 78.4mm in the month of the Post LTN-Now counts and 10.2mm measured in the month of the Pre LTN counts. This indicates that generally, whilst temperatures in the Post LTN-Now data collection period were similar to those collected in the Pre LTN period, the Post LTN-Now period saw considerably higher rainfall levels, which may have reduced cycling levels.

Considering these caveats, it is also important to note that government regulations and COVID-19 guidance have significantly impacted wider cycling trends, particularly since March 2020 (data from DfT's Official Statistics). Graph 3 on the next page shows, on a national basis, the number of cycle trips completed since March 2013. This typically indicates that whilst cycling grew rapidly in popularity through 2020 and early 2021, volumes of cycling trips dropped sharply leading into the summer of 2021 and have continued to decline since – today they are at more or less pre-COVID levels. In contrast, data from Transport for London's 2023 Annual Overview indicates that the number of cycle stages/journeys in Inner London boroughs (including Haringey) increased by 8.2% between 2022-2023, noting that this is full-year data and does not neatly map onto the months considered in the monitoring approach.

Route choices made by people cycling will also be impacted by the availability of nearby protected cycle infrastructure and less traffic-dominated neighbourhoods.

Graph 3 below outlines nationwide cycling trends, with the following maps and tables outlining the Pre LTN cycling levels and how these have changed between data collection phases.

Graph 3: National Cycling Levels – Since December 2013

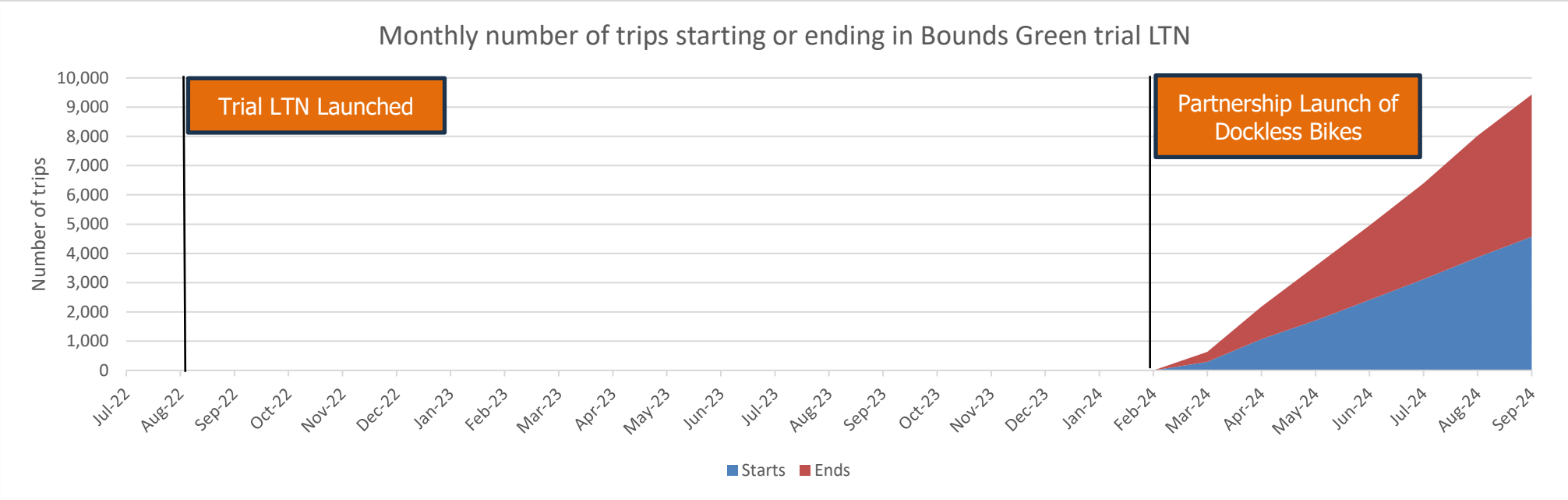


*Given that all monitoring for this report has taken place post-COVID, it would be expected that (given the national benchmark) that cycling levels in Haringey would also decrease over time.

Dockless Cycles

The introduction of dockless cycles in London is another trend that may have impacted cycling levels in and around the LTN area. Dockless cycles are available for hire across Haringey, bikes can be picked up and parked anywhere (with certain exclusions – for example, because of safety). Such bikes have been operating in parts of Haringey since 2022 and the council entered into a 2-year trial partnership with Lime and Forest in February 2024, with specific locations chosen where bikes can be left. Data has been supplied by Lime to show the number of trips that start or end within the LTN. More information about the trial is available online.

Graph 4: Dockless Cycle Levels for Bounds Green



The data indicates a significant increase in the use of dockless bikes starting and ending within the LTN, which aligns with the launch of the dockless bike trial in the borough.

It is expected that dockless cycles play a role in the trends seen in the following maps, which measure the total volumes of cycles traveling at each of the count sites. However, it is not possible to determine whether cycles counted are personal, docked or dockless.

Map 8: Pre LTN (Nov-21) Volume of Cycles (Observed)

Map 9: Post LTN-Interim (Jan-23) Volume of Cycles (Observed)

Map 10: Post LTN-Now (Nov-23) Implementation Volume of Cycles (Observed)

Map 11: Percentage Change in Cycle Volumes: Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (Observed)

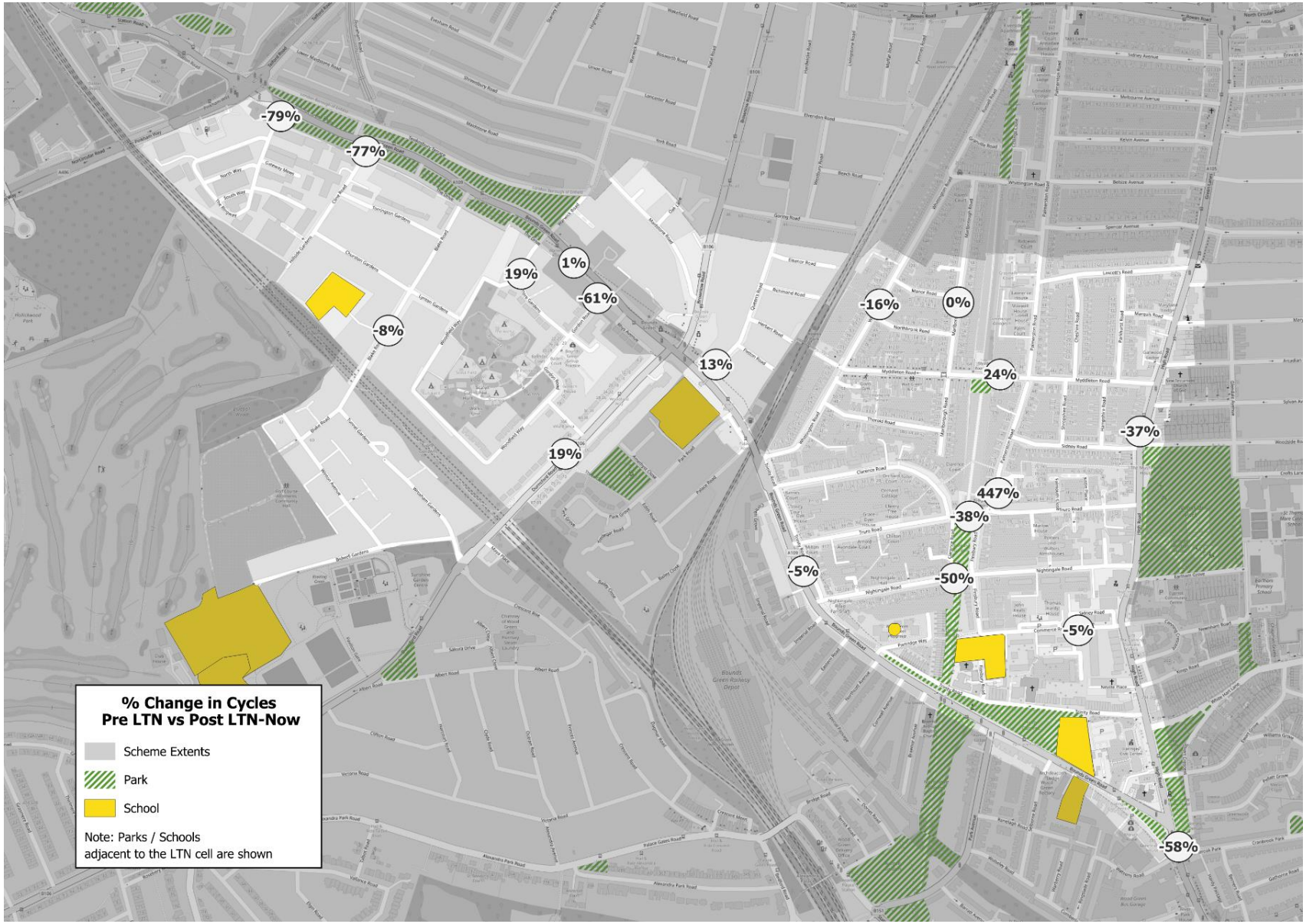


Table 15: Cycling Volumes on Internal Roads (Observed)

	Pre LTN: Nov-21	Post LTN-Interim: Jan-23	Post LTN-Now: Nov-23	Volume Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
Blake Road	25	29	23	-1	-6%
Cline Road	52	43	12	-40	**-78%**
Commerce Road	65	48	62	-3	-4%
Gordon Road	51	21	20	-31	**-61%**
Marlborough Road	31	24	31	0	-1%
Myddleton Road	110	115	136	26	**24%**
Nightingale Road	32	90	16	-16	**-50%**
Palmerston Road	36	178	197	161	**446%**
Passmore Gardens	16	18	19	2	**14%**
Queen's Road	53	49	60	7	**14%**
Ring Way	103	21	22	-81	**-78%**
Truro Road	45	27	28	-17	**-38%**
Whittington Road	62	56	52	-10	**-16%**
Total	**679**	**720**	**676**	**-3**	**-1%**

*As detailed on pages 19-20, it is important to note that cycles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Table 16: Cycling Volumes on Boundary Roads (Observed)

	Pre LTN: Nov-21	Post LTN-Interim: Jan-23	Post LTN-Now: Nov-23	Volume Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21)	Difference Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
A105 High Road (@Cranbrook Park/Watsons Road)	1,112	839	463	-648	**-58%**
A105 High Road (@Sidney Road/Woodside Road)	418	194	262	-156	**-37%**
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	122	87	123	1	1%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	197	157	187	-9	-5%
B106 Durnsford Road	206	150	245	38	**19%**
Total	**2,054**	**1,427**	**1,280**	**-774**	**-38%**

*As detailed on pages 19-20, it is important to note that cycles travelling through the LTN may go through multiple counter sites, so the total number of vehicle journeys counted is certain to be higher than the actual number of trips taken.

Insights: Cycling Volumes

Based on the data, it appears that cycling levels have decreased across both internal and boundary roads within the Bounds Green LTN scheme area between November 2021 (Pre LTN) and November 2023 (Post LTN-Now). However, it should be noted that there was considerably more rainfall in November 2023 than November 2021, so it should be noted that the increases in cycling flows were seen in spite of materially worse weather in the month of the Post LTN-now counts. These changes should also be set against the national context of decreasing cycle flows since COVID, but the London context of increasing year-on-year cycle flows between 2022-2023.

On internal roads, daily cycling volumes decreased by 1%, equating to 3 fewer cycles. Significant decreases were observed on Ring Way, which saw 81 fewer daily cycles (-78%). Cline Road observed 40 fewer daily cycles (-78%). The most notable increase was on Palmerston Road, where daily cycle volumes increased by 161 (446%) – perhaps as this is now an especially attractive north-south route when combined with the North Circular Road crossing installed just before COVID.

On boundary roads, daily cycling levels decreased by 38%, representing 774 fewer daily cycles. This change was largely driven by significant cycle flow decreases on A105 High Road, with 648 fewer daily cycles on Cranbrook Park/Watsons Road and 156 few daily cycles on Sidney Road/Woodside Road. It is noted that A105 High Road at this location has seen a significant increase in overall traffic and especially HGVs which may have resulted in this section becoming less attractive to cyclists, who appear to have chosen to use Palmerston Road in greater volumes instead. B106 Durnsford Road saw the highest increase in cycling volumes, with 38 additional daily cycles which represents a 19% increase in cycling levels at this site.

While some sites on internal roads have seen an increase and others have observed a decrease in cycling levels since the implementation of the LTN scheme, overall findings do not indicate a notable change in cycling levels across internal roads. On boundary roads, however, daily cycling levels have decreased significantly. It is unclear if there is a specific reason cycling decreases were seen within the scheme area, although it is considered that these results are likely due to the much rainier weather in the month of the Post LTN-Now counts. It may also be due to new cycling routes opening along similar desire lines to those running through the LTN, attracting cyclists previously using roads in the scheme area. In any case, cycling levels should be further monitored to ensure that a satisfactory cycling environment is fostered within and on the boundaries of the LTN scheme area.

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 roads in the Borough, with the exception of the following:

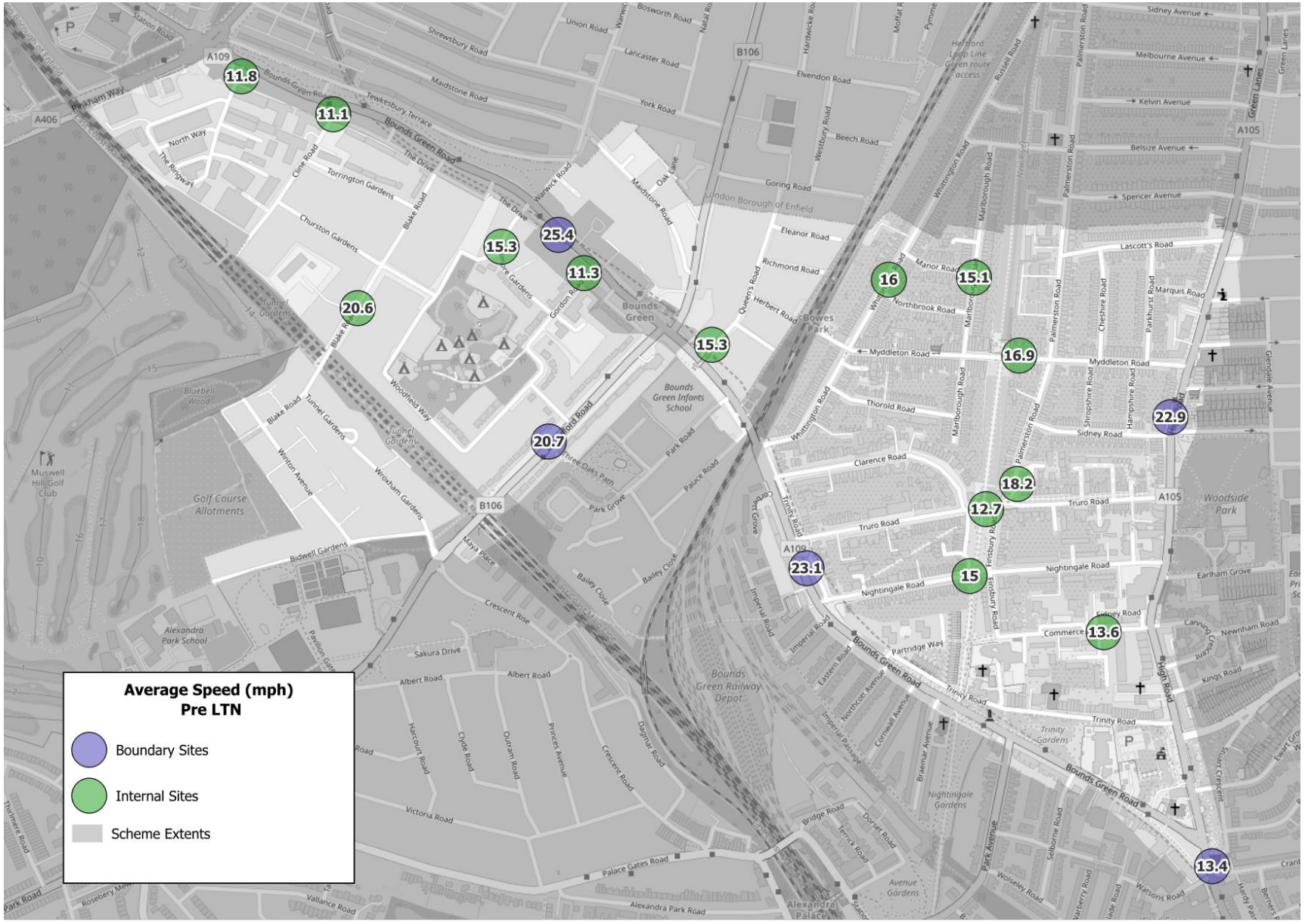
Table 17: Borough Speed Limit Exceptions

LB Haringey Road	Postcode	Speed Limit
Boreham Road	N22	30mph
Bounds Green Road (between Braemar Avenue & A406)	N22	30mph
Ferry Lane (between Broad Lane and Borough boundary)	N17	30mph
Fortis Green (between Muswell Hill Broadway and Borough boundary)	N2	30mph
Great North Road	N2	30mph
Hale Road	N17	30mph
High Road (between Bounds Green Road and Borough boundary)	N22	30mph
Lordship Lane	N17 & N22	30mph
Muswell Hill (between Muswell Hill Roundabout and Park Road/Crouch End junction)	N10	30mph
Priory Road (between Park Road/Crouch End junction and High Street junction with Middle Lane)	N8	30mph
The Roundway (between Lordship Lane and A10)	N17	30mph
Westbury Avenue (between Frome Road & Lordship Lane)	N22	30mph
Watermead Way	N17	40mph

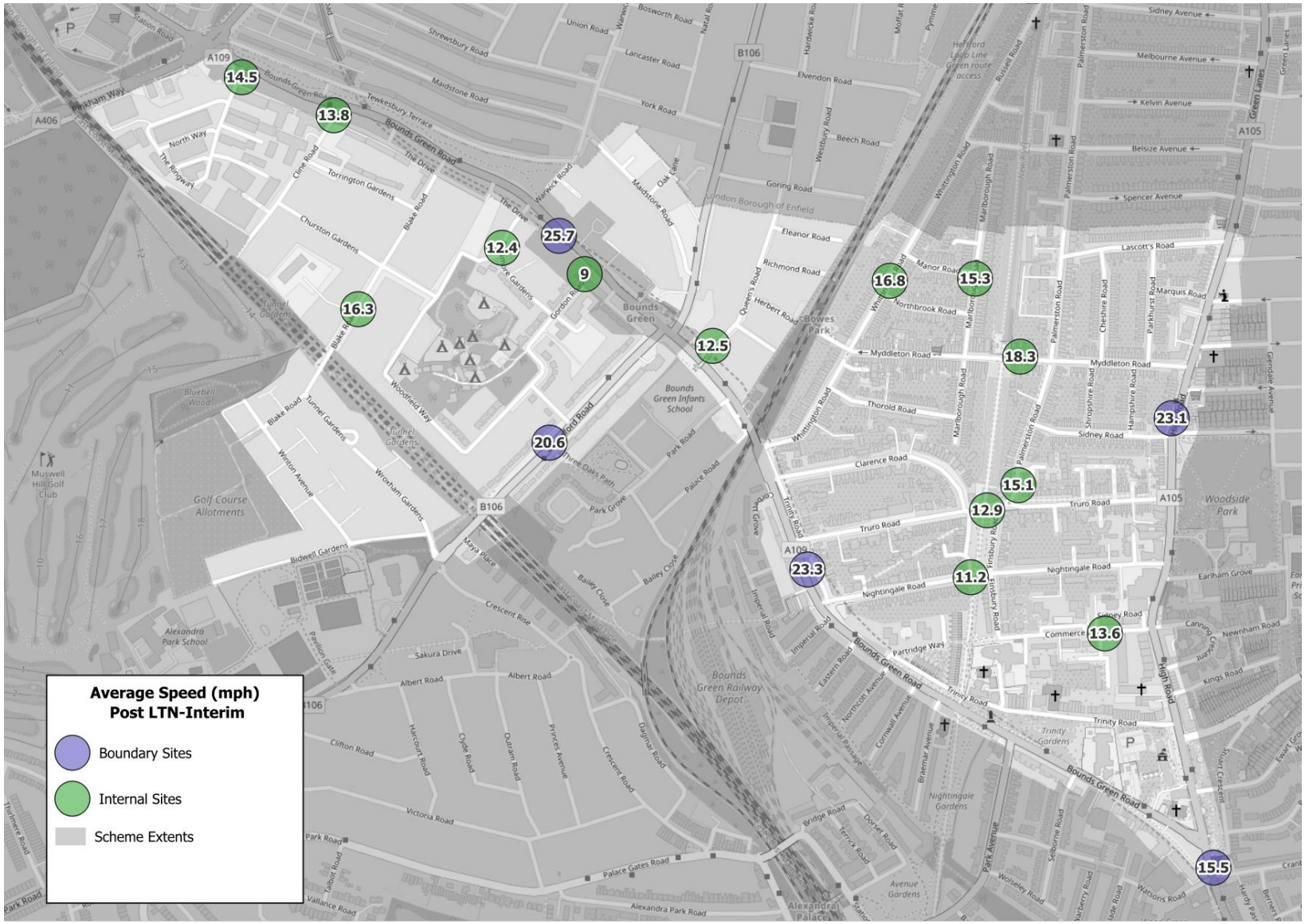
The normalised results presented here are seven-day averages.

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.

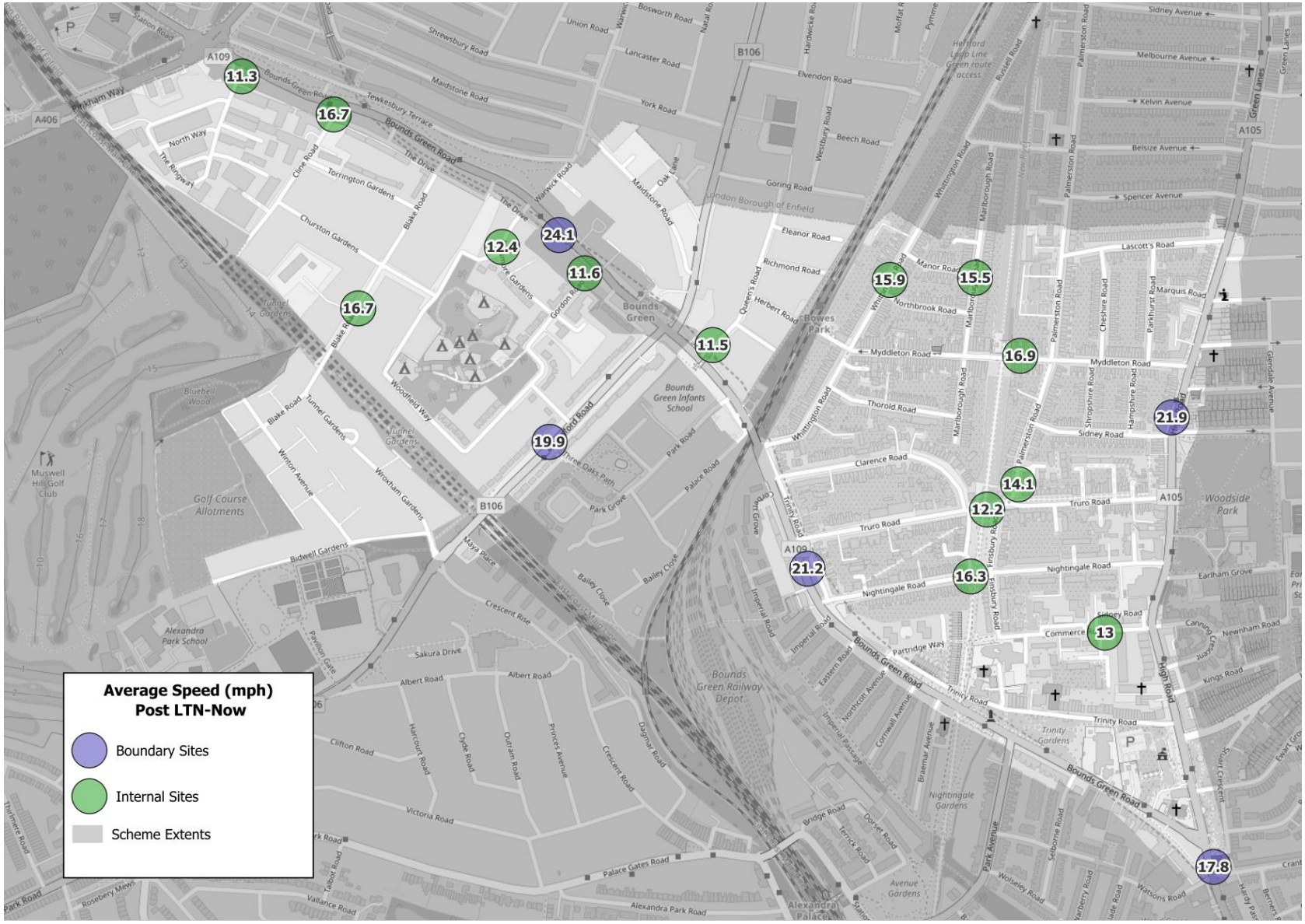
Map 12: Pre LTN (Nov-21) Average Vehicle Speed in mph (Observed)



Map 13: Post LTN-Interim (Jan-23) Average Vehicle Speed in mph (Observed)



Map 14: Post LTN-Now (Nov-23) Average Vehicle Speed in mph (Observed)



Map 15: % Change in Motorised Vehicle Average Speed: Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (Observed)

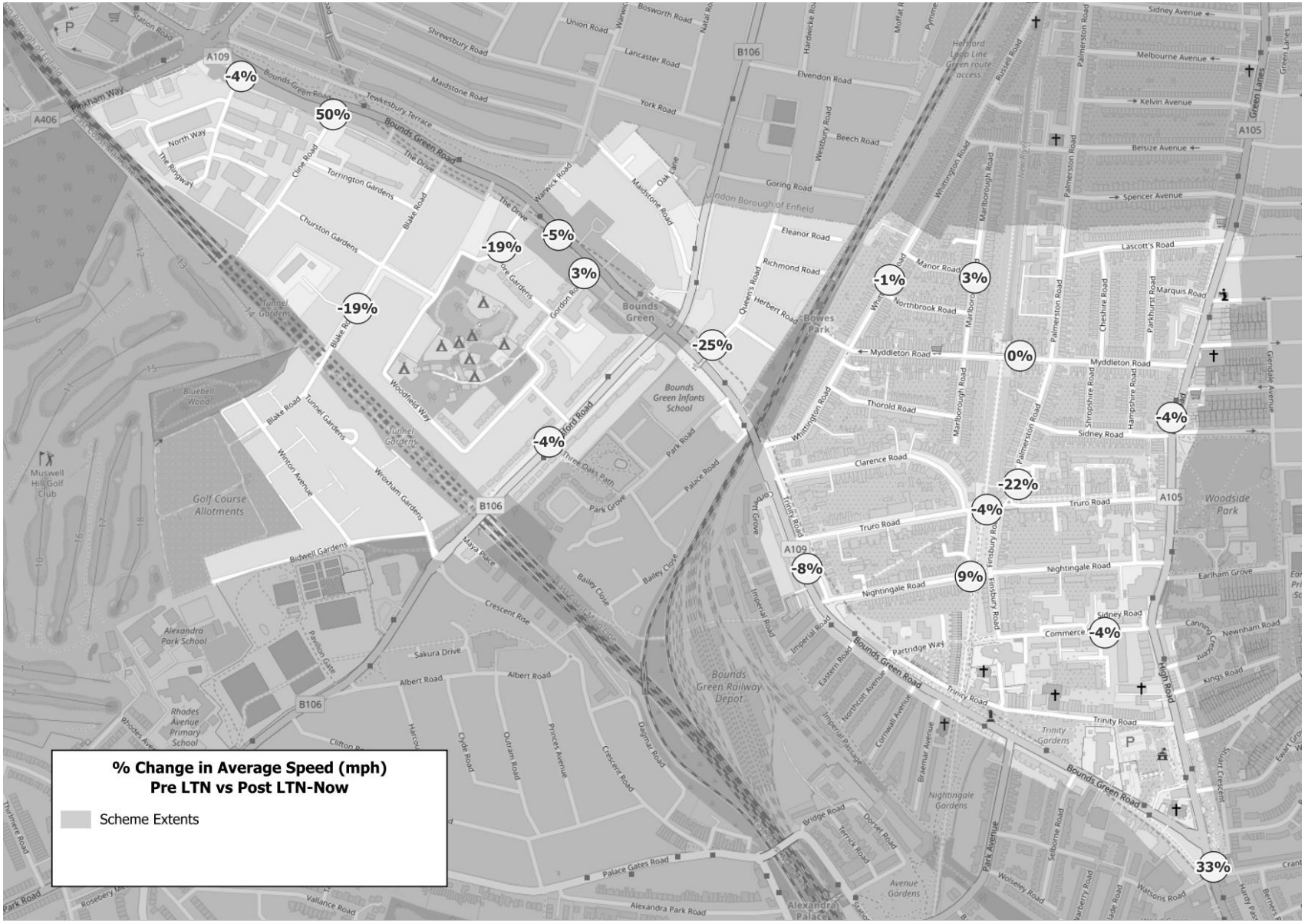


Table 18: Average Speeds of Motorised Vehicles on Internal Roads

	Pre LTN (Nov-21) Average Speed (mph)	Post LTN-Interim (Jan-23) Average Speed (mph)	Post LTN-Now (Nov-23) Average Speed (mph)	Average Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (mph)	Average Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
Blake Road	20.6	16.3	16.7	-3.9	**-19%**
Cline Road	11.1	13.8	16.7	5.6	**50%**
Commerce Road	13.6	13.6	13.0	-0.6	-4%
Gordon Road	11.3	9.0	11.6	0.3	3%
Marlborough Road	15.1	15.3	15.5	0.4	3%
Myddleton Road	16.9	18.3	16.9	0.0	0%
Nightingale Road	15.0	11.2	16.3	1.3	9%
Palmerston Road	18.2	15.1	14.1	-4.1	**-22%**
Passmore Gardens	15.3	12.4	12.4	-2.9	**-19%**
Queen's Road	15.3	12.5	11.5	-3.8	**-25%**
Ring Way	11.8	14.5	11.3	-0.5	-4%
Truro Road	12.7	12.9	12.2	-0.5	-4%
Whittington Road	16.0	16.8	15.9	-0.1	-1%
Total Internal / Weighted Average	**14.7**	**15.2**	**14.6**	**-0.1**	**0%**

Table 19: 85th Percentile Speed of Motorised Vehicles on Internal Roads

	85th Pct. Speed Pre LTN (Nov-21) (mph)	85th Pct. Speed Post LTN-Interim (Jan-23) (mph)	85th Percentile Speed Post LTN-Now (Nov-23) (mph)	85th Percentile Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (mph)	85th Percentile Speed – Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
Blake Road	25.4	20.4	21.3	-4.1	**-16%**
Cline Road	14.1	17.4	20.9	6.8	**48%**
Commerce Road	17.5	17.6	17.2	-0.3	-2%
Gordon Road	13.8	13.0	13.6	-0.2	-1%
Marlborough Road	20.3	20.4	19.6	-0.7	-3%
Myddleton Road	21.3	22.4	20.5	-0.8	-4%
Nightingale Road	18.4	13.8	19.3	0.9	5%
Palmerston Road	21.9	19.0	17.6	-4.3	**-20%**
Passmore Gardens	19.0	15.1	15.7	-3.3	**-17%**
Queen's Road	19.1	16.6	14.5	-4.6	**-24%**
Ring Way	14.4	18.3	14.1	-0.3	-2%
Truro Road	14.9	17.5	16.8	1.9	**13%**
Whittington Road	19.8	20.8	19.7	-0.1	-1%
Total Internal / Weighted Average	**18.0**	**19.1**	**18.2**	**0.2**	**1%**

Table 20: % of Speeding, Motorised Vehicles on Internal Roads

	% Speeding Pre LTN (Nov-21)	% Speeding Post LTN-Interim (Jan-23)	% Speeding Post LTN-Now (Nov-23)	Speeding Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (% pt.)
Blake Road	54%	23%	27%	**-27%**
Cline Road	0%	3%	21%	**21%**
Commerce Road	5%	7%	5%	0%
Gordon Road	0%	0%	1%	1%
Marlborough Road	19%	17%	16%	-3%
Myddleton Road	23%	34%	20%	-3%
Nightingale Road	5%	1%	13%	8%
Palmerston Road	28%	9%	5%	**-23%**
Passmore Gardens	11%	3%	1%	**-10%**
Queen's Road	13%	5%	2%	**-11%**
Ring Way	0%	6%	0%	0%
Truro Road	0%	4%	3%	3%
Whittington Road	14%	20%	13%	-1%
Total Internal / Weighted Average	**11%**	**14%**	**11%**	**0%**

Table 21: Average Speed of Motorised Vehicles on Boundary Roads

	Pre LTN (Nov-21) Average Speed (mph)	Post LTN-Interim (Jan-23) Average Speed (mph)	Post LTN-Now (Nov-23) Average Speed (mph)	Average Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (mph)	Average Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
A105 High Road (@Cranbrook Park/Watsons Road)	13.4	15.5	17.8	4.4	**33%**
A105 High Road (@Sidney Road/Woodside Road)	22.9	23.1	21.9	-1.0	-4%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	25.4	25.7	24.1	-1.3	-5%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	23.1	23.3	21.2	-1.9	-8%
B106 Durnsford Road	20.7	20.6	19.9	-0.8	-4%
Total Internal / Weighted Average	**20.8**	**21.3**	**21.0**	**0.2**	**1%**

Table 22: 85th Percentile Speed of Motorised Vehicles on Boundary Roads

	85th Pct. Speed Pre LTN (Nov-21) (mph)	85th Pct. Speed Post LTN-Interim (Jan-23) (mph)	85th Percentile Speed Post LTN-Now (Nov-23) (mph)	85th Percentile Speed Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (mph)	85th Percentile Speed – Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (%)
A105 High Road (@Cranbrook Park/Watsons Road)	18.3	21.4	22.7	4.4	**24%**
A105 High Road (@Sidney Road/Woodside Road)	27.3	27.5	26.5	-0.8	-3%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	29.9	30.0	28.6	-1.3	-4%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	28.4	28.1	26.4	-2.0	-7%
B106 Durnsford Road	25.7	25.5	24.4	-1.3	-5%
Total Internal / Weighted Average	**25.7**	**26.2**	**25.8**	**0.1**	**0%**

Table 23: % of Speeding, Motorised Vehicles on Boundary Roads

	% Speeding Pre LTN (Nov-21)	% Speeding Post LTN-Interim (Jan-23)	% Speeding Post LTN-Now (Nov-23)	Speeding Post LTN-Now (Nov-23) vs. Pre LTN (Nov-21) (% pt.)
A105 High Road (@Cranbrook Park/Watsons Road)	10%	25%	34%	**15%**
A105 High Road (@Sidney Road/Woodside Road)	8%	8%	7%	0%
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	16%	16%	10%	0%
A109 Bounds Green Road (@Truro Road/Nightingale Road)	9%	7%	4%	-2%
B106 Durnsford Road	60%	61%	52%	1%
Total Internal / Weighted Average	**18%**	**21%**	**20%**	**3%**

Insights: Vehicle Speeds

Overall, vehicle speed data indicates that vehicle speed metrics on internal roads decreased slightly, while they increased slightly on boundary roads.

On internal roads, there are a wide range of changes for vehicle speeds, but the overall data demonstrates that average speeds across internal roads decreased by a limited 0.1mph when compared to Pre LTN vehicle speeds (0%). The most notable increase in average vehicle speed was observed on Cline Road (11.mph to 16.7mph). It is noted that this was the only site to experience an increase in average speed of over 10%. In contrast, significant decreases were observed on Palmerston Road (from 18.2mph to 14.1mph , -22%), Blake Road (from 20.6mph to 16.7mph, -19%), Passmore Gardens (from 15.3mph to 11.5mph, -19%), and Queen's Road (from 15.3mph to 11.5mph, -25%). The other internal sites saw no notable change in average speed between November 2021 (Pre LTN) and November 2023 (Post LTN-Now).

The 85th percentile speed of motorised vehicles on internal roads increased by 1% between November 2021 (Pre LTN) and November 2023 (Post LTN-Now). The two sites that experienced an increase in 85th percentile speed were Cline Road, with an 85th percentile speed of 6.8mph (from 14.1mph to 20.9mph, +48%) and Truro Road, with an 85th percentile speed of 1.9mph (from 14.9mph to 16.8mph, +13%). Conversely, four internal sites experienced a decrease in 85th percentile speed exceeding 10%: Queen's Road (from 19.1mph to 14.5mph, -24%), Palmerston Road (from 21.9mph to 17.6mph, -20%), Blake Road (from 15.4mph to 21.3mph, -16%), and Passmore Gardens (from 19.0mph to 15.7mph, -17%). Moreover, percentage of speeding on internal roads did not change between November 2021 (Pre LTN) and November 2023 (Post LTN-Now). The only site which experienced an increase in speeding was Cline Road, which saw a 21% increase in speeding. On the other hand, several sites saw a reduction in speeding that exceeded -10%: Blank Road (-27%), Palmerston Roads (-23%) and Queen's Way (-11%).

The situation on boundary roads did not change significantly between November 2021 and November 2023. Overall, average speeds increased by 0.2mph (+1%), 85th percentile speed did not change, and the percentage of speeding vehicles increased by 2% between the two periods. The increase in average speeds was driven by the 33% increase (from 13.4mph to 17.8mph) observed on A105 High Road (@Cranbrook Park/Watsons Road), as all other boundary roads observed decreases in average speeds. This site also observed a 24% increase in both 85th percentile speed (from 18.3mph to 22.7mph) and speeding while all other boundary roads saw decreases in both instances. This suggests the council should continue to monitor this site.

Overall, vehicle speed data indicates that vehicle speed metrics on internal roads decreased or did not change, while they remained broadly the same on boundary roads, apart from one site.

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.

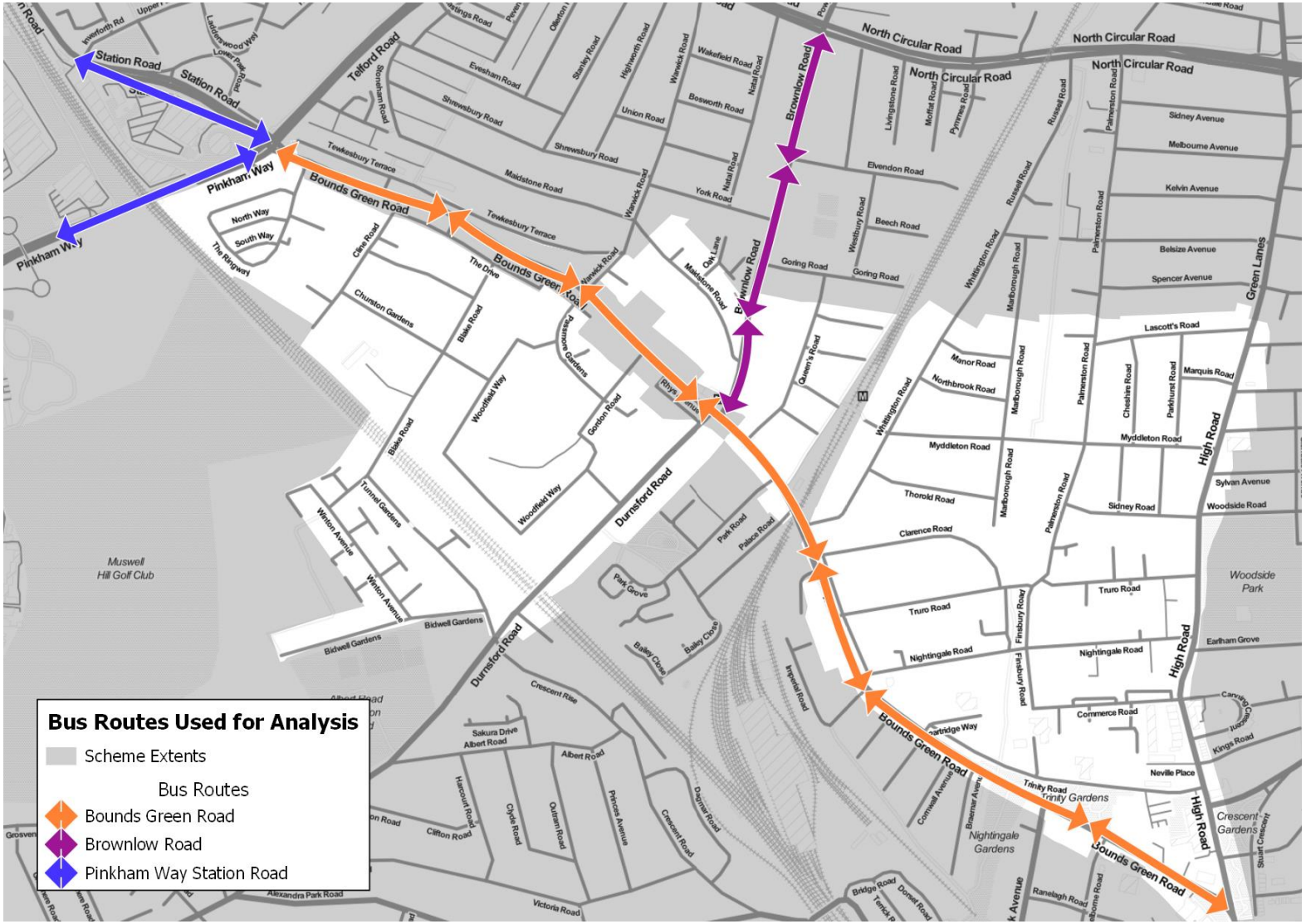
- **Bounds Green Road** (Routes 221, N91)
- **Brownlow Road** (Routes 102, 184, 299)
- **Pinkham Way Station Road** (Routes 221, 232, 382, N91)

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 results of 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 ('Pre LTN Upper' & 'Pre LTN Lower'). These thresholds have been found by taking the mean journey time plus or minus one standard deviation during the pre-COVID-19 Pre LTN 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."

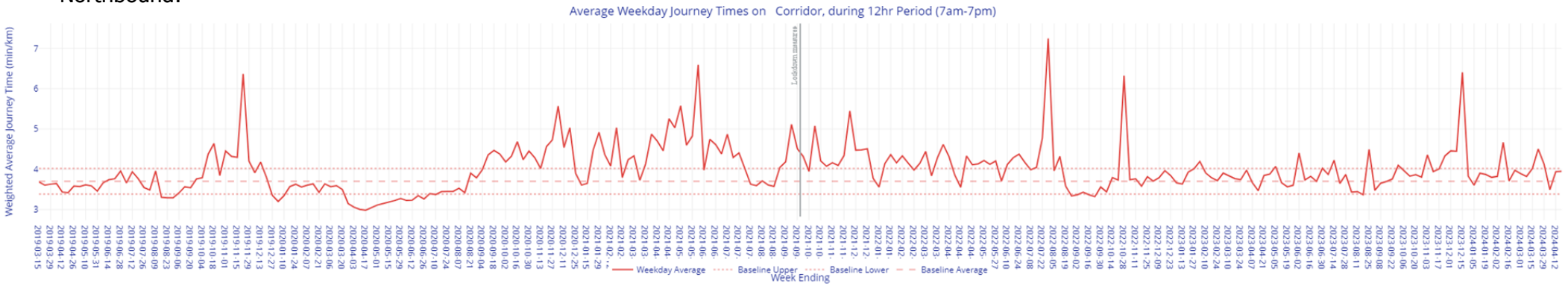
Map 16: Corridors Analysed Using iBus Data



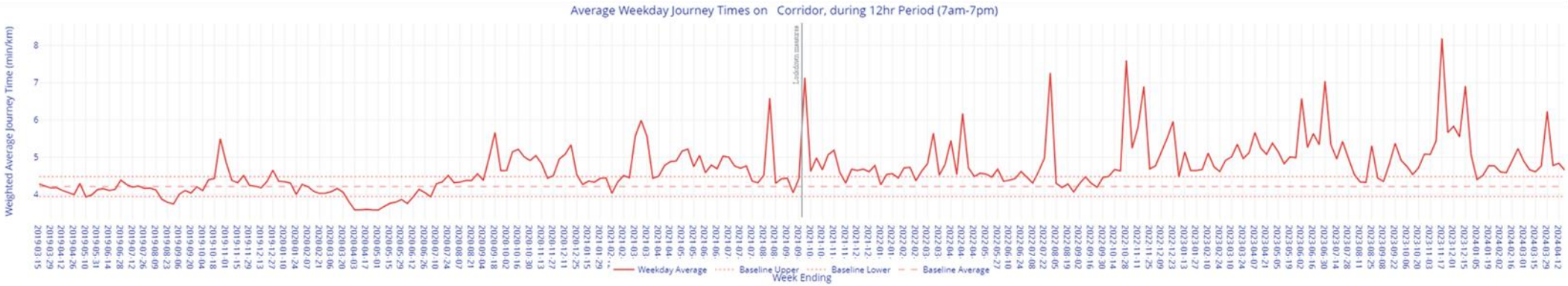
The results are shown in Graph 4 to Graph 6 on the following pages. The dashed red lines indicate the baseline threshold, and the red line indicates the average journey times, on a three-week basis.

Graph 5: Bounds Green Road Corridor (Northbound and Southbound)

Northbound:

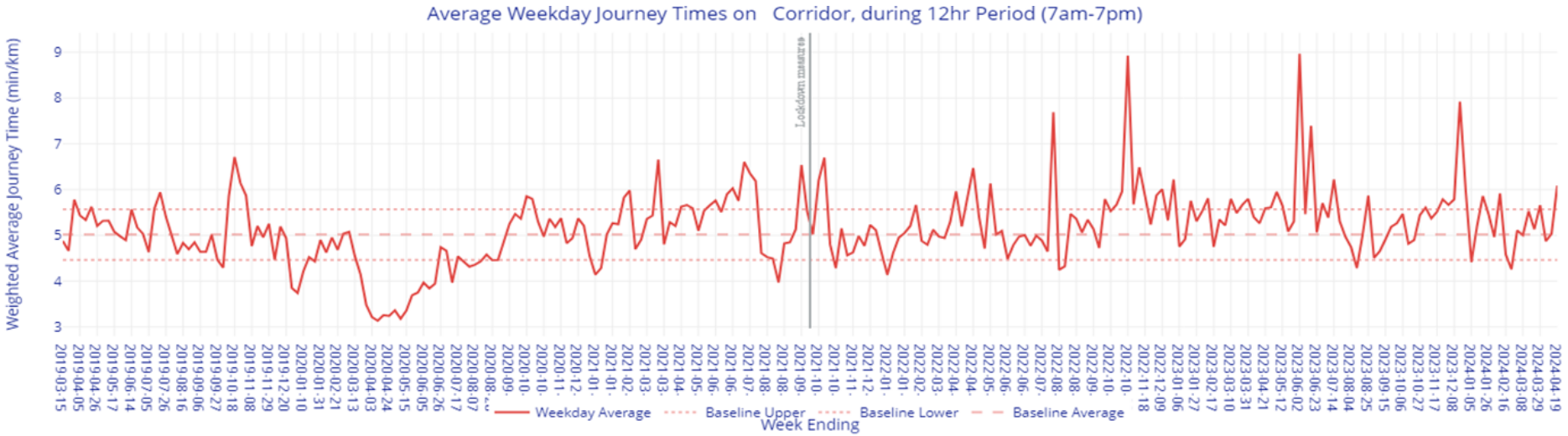


Southbound:

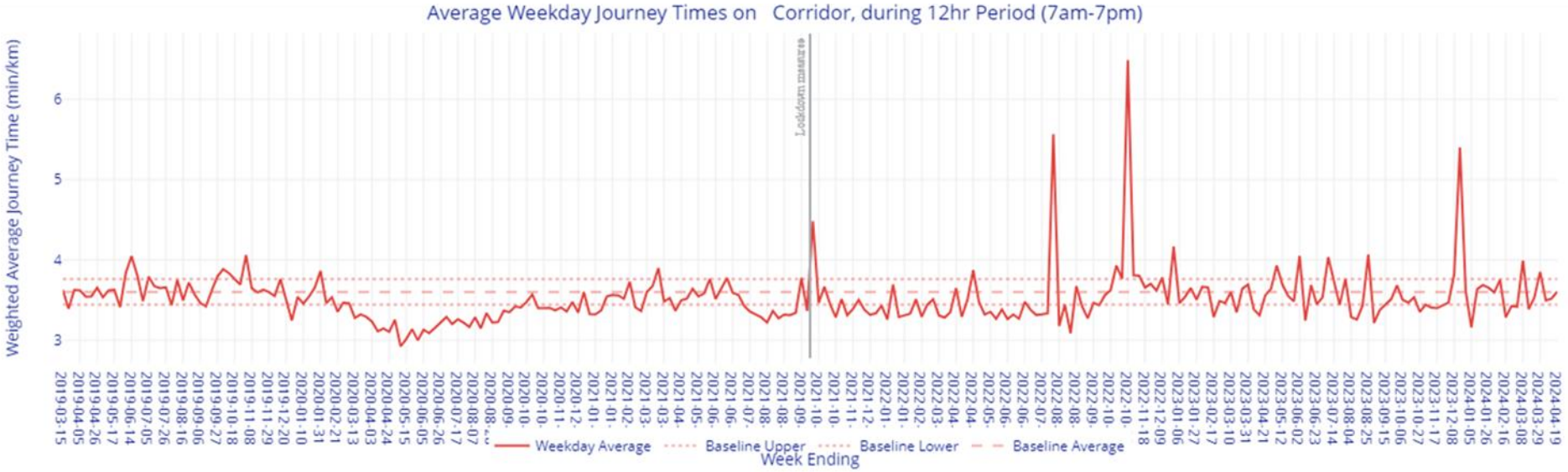


Graph 6: Brownlow Road Corridor (Northbound and Southbound)

Northbound:

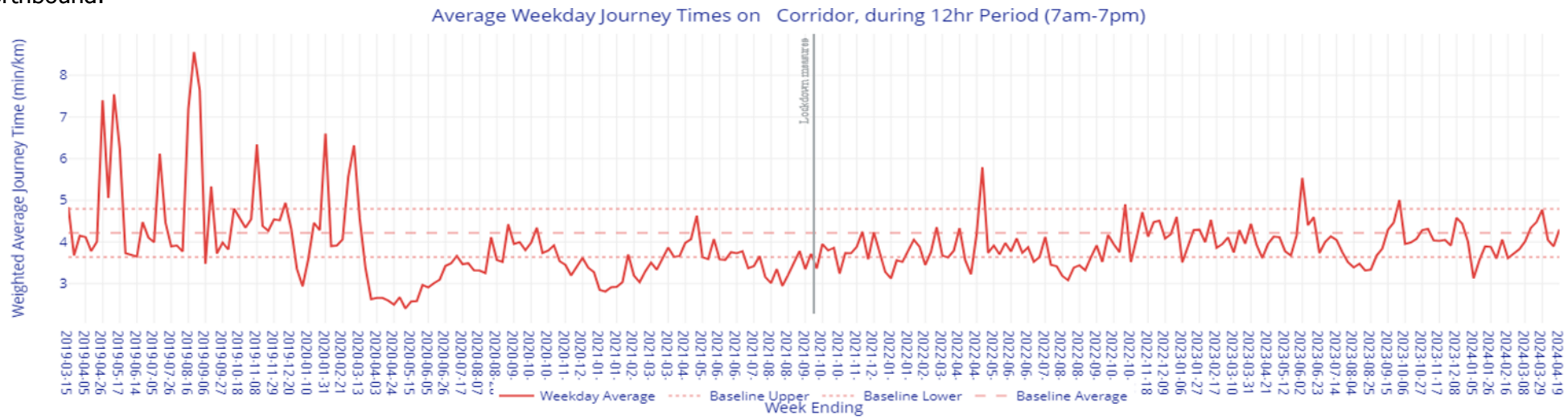


Southbound:

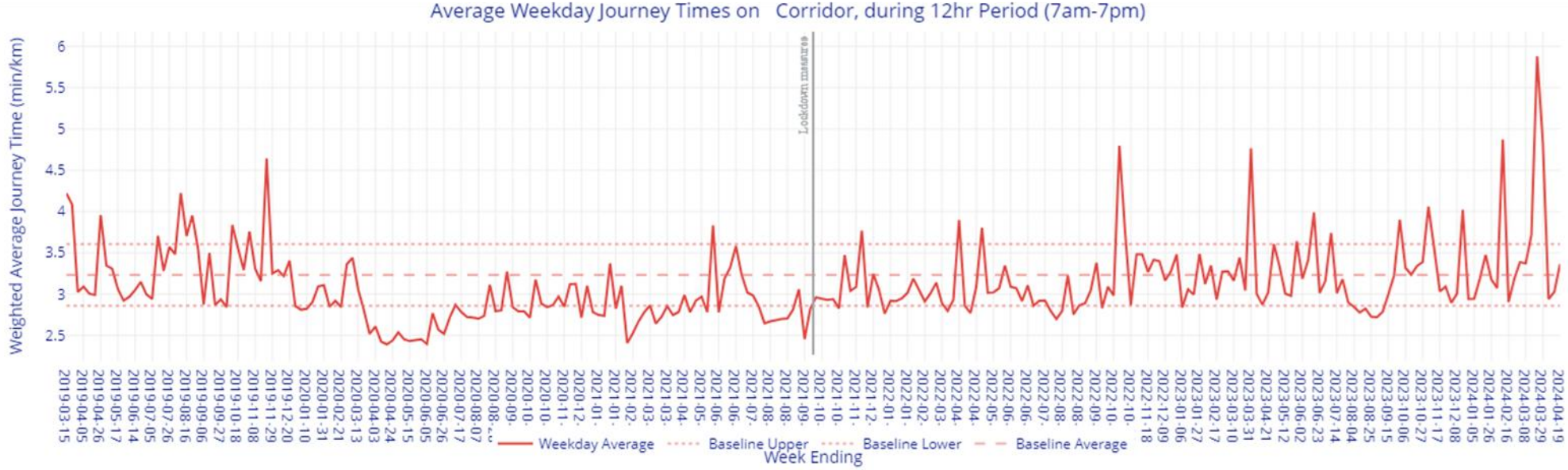


Graph 7: Pinkham Way Station Road Corridor (Northbound and Southbound)

Northbound:



Southbound:



Insights: Bus Speeds on Boundary Roads

Bounds Green Road Bus Journey Times

Bounds Green Road serves 2 buses (bus 221, N91). Northbound, since the trial LTN has been introduced, bus journey times on the northbound corridor between 7am-7pm show an average of 4.8min/km, which is equivalent to +0.1min/km in comparison to the baseline. The minimum average bus journey times observed was 3.4min/km, the maximum was 6.2min/km. This corridor has seen less variability in bus journey times. Southbound, since the trial LTN has been introduced, bus journey times on the southbound corridor between 7am -7pm show an average of 5min/km, which is 0.75min/km higher than the baseline average. Average bus journey times range between 4min/km and 8.1min/km, there has been more variability in bus journey times.

Brownlow Road Bus Journey Times

Brownlow Road serves 3 buses (102, 184 and 299). Northbound, since the trial LTN has been introduced, journey times on the northbound corridor between 7am-7pm show an average of 5.4min/km, which is 0.4min/km longer than the baseline. Average journey times have generally increased, they fluctuate between 4.4min/km and 9min/km and generally range between 4.5min/km and 6min/km. This corridor has seen more variability in bus journey times. Southbound, since the trial LTN has been introduced, bus journey times show an average of 3.7min/km, which is 0.1min/km more than the baseline. Average bus journey times generally range between 3.3min/km and 4min/km. Despite several peaks exceeding 5min/km, bus journey times show similar variability.

Pinkham Way Station Road Bus Journey Times

This road serves 4 buses (221, 232, 382 and N91). Northbound, since the trial LTN has been introduced, journey times on the northbound corridor between 7am -7pm are showing an average of 4.0min/km, which is 0.20min/km lower than the baseline. Average bus journey times are showing less variability, generally fluctuating between the baseline lower (3.6min/km) and the baseline upper (4.8min/km). Southbound, since the trial LTN has been introduced, bus journey times on the southbound corridor between 7am-7pm are showing an average of 3.35min/km, which is 0.1min/km lower than the baseline. Average bus journey times are showing more variability, ranging between 2.7min/km and 5.8min/km.

Collision Data

Any scheme in which there are changes to road environments may have an impact on the safety of those traveling within that environment. In the case of this report, the is measured by the difference in the number of collisions and severity of casualties before and after the LTN scheme was implemented (one year before and one year after).

Vehicle collisions, as defined in this report, refer specifically to data collected by police officers at the scene of road traffic collisions, or data reported to the police from such instances. Data is only entered into this dataset if there is a personal injury caused by the collision; data from collisions resulting in property damage is not included. Similarly, collisions that do not result in police attendance or are not self-reported to the police directly are not recorded in the dataset For recorded entries, a range of information is collected, including the coordinates/location, time and day, severity of collision (slight, serious and fatal), roadway types and conditions, demographics of casualties, and information (if available) on how the collision occurred.

It is noted that there is likely a strong correlation between motorised vehicle flows and the number of collisions, as lower traffic levels reduce the risk of exposure to collisions. However, other factors such as vehicle speeds, changes in proportions of vehicle types (e.g. more cycles, motorcycles and goods vehicles) can also have a significant effect on collision and casualty numbers.

It is also important to note that whilst some collisions occur due to the road environment, many are noted as due to "driver error", which typically has more to do with driving choices (driving under the influence, driving whilst using a mobile phone, etc.) than the road environment itself. Thankfully, there are limited collisions across most of the scheme area, with repeat collisions in specific locations typically few in number as well – although this means that it is difficult to draw statistically conclusive findings based on the very small sample sizes.

The maps and tables on the following pages show a comparison of both the number of collisions (instances) and casualties (number of individuals injured), broken down by casualty severity, scheme area (internal or boundary) and period (12 months before or 12 months after implementation).

Map 17: Collision Locations, Pre-Implementation 12 Months

*It should be noted that coordinates do not always clearly outline an internal/boundary road. In such cases, the actual street name was referenced to confirm which category the collision belonged to.

Map 18: Collision Locations, Post-Implementation 12 Months

*It should be noted that coordinates do not always clearly outline an internal/boundary road. In such cases, the actual street name was referenced to confirm which category the collision belonged to.

Table 24: Collision Volumes, Internal Roads

	Internal, Pre-Implementation	Internal, Post-Implementation	Internal, Change	Internal, % Change
# Fatal Collisions	**0**	**0**	**0**	
# Serious Collisions	**1**	**0**	**-1**	**-100%**
# Slight Collisions	**5**	**3**	**-2**	**-40%**
Total Collisions	**6**	**3**	**-3**	**-50%**

Table 25: Casualty Volumes, Internal Roads

	Internal, Pre-Implementation	Internal, Post-Implementation	Internal, Change	Internal, % Change
# Fatal Casualties	**0**	**0**	**0**	
# Serious Casualties	**1**	**0**	**-1**	**-100%**
# Slight Casualties	**5**	**3**	**-2**	**-40%**
Total Casualties	**6**	**3**	**-3**	**-50%**

Table 26: Collision Volumes, Boundary Roads

	Boundary, Pre-Implementation	Boundary, Post-Implementation	Boundary, Change	Boundary, % Change
# Fatal Collisions	**0**	**0**	**0**	
# Serious Collisions	**4**	**8**	**4**	**100%**
# Slight Collisions	**43**	**31**	**-12**	**-28%**
Total Collisions	**47**	**39**	**-8**	**-17%**

Table 27: Casualty Volumes, Boundary Roads

	Boundary, Pre-Implementation	Boundary, Post-Implementation	Boundary, Change	Boundary, % Change
# Fatal Casualties	**0**	**0**	**0**	
# Serious Casualties	**5**	**8**	**3**	**60%**
# Slight Casualties	**47**	**33**	**-14**	**-30%**
Total Casualties	**52**	**41**	**-11**	**-21%**

Insights: Collisions

As previously outlined, drawing conclusions about the scheme based on collision data is difficult, as the sample size is thankfully too small (particularly for specific parts of the network) to know whether changes are related to the LTN and/or other factors. This is particularly true of drawing conclusions about specific junctions or stretches of road. As such, it would not be appropriate to report at this level of detail, particularly as this dataset is usually analysed for entries over a three-year period (noting that this was not possible in the context of this report).

That said, on a general basis, there was a small nominal decrease in collisions on internal roads (six pre-implementation, three post-implementation). For boundary roads, the reduction number of collisions was also moderate, with 8 fewer total collisions and 11 fewer total casualties, representing drops of 17% and 21%, respectively.

It is possible that changes in traffic volumes have played a role in these changes, but other metrics such as vehicle speeds, increased driver awareness and caution (in light of the scheme being new) and many others could have also been factors.

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 we monitor 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 (i.e. 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 within the LTN.

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 Bounds Green LTN are listed in Appendix 3, with details about type and location.

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

In the case of this report, data is available from January 2018 to December 2023. Data for individual sites is easily skewed, particularly if 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 (2019 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, 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(checking accuracy in a few of te same locations using more accurate but expensive equipment). 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.

Results: Air Quality Diffusion Tubes

The table below provides an indication of the average air quality before and after scheme implementation, comparing average NO^2 levels for the twelve months on either side of implementation for monitoring sites, both in the scheme area and elsewhere in the borough.

Table 28: Average NO_2 levels for the twelve months on either side of implementation for monitoring sites, LTN scheme and borough

Monitoring Location	Before LTN NO_2 ($\mu g/m^3$)	After LTN NO_2 ($\mu g/m^3$)	Before LTN vs After LTN NO_2 ($\mu g/m^3$)	Before LTN vs After LTN NO_2 (%)
Roadside (Boundary) - LTN	26	29.2	3.2	12%
Roadside (Boundary) - Borough	30.9	33.9	3.0	10%
Urban Background (Internal) - LTN	21.1	23.7	2.6	12%
Urban Background (Internal) - Borough	20.9	22.5	1.6	8%
All - LTN	23.4	25.6	2.2	9%
All - Borough	25.2	27.3	2.1	8%

The tables below provide an indication of the average air quality before and after scheme implementation, comparing average NO_2 levels for the twelve months on either side of implementation for monitoring sites, both on internal sites and boundary sites.

Table 29: Average NO_2 levels for the twelve months on either side of implementation for monitoring sites, Internal Roads

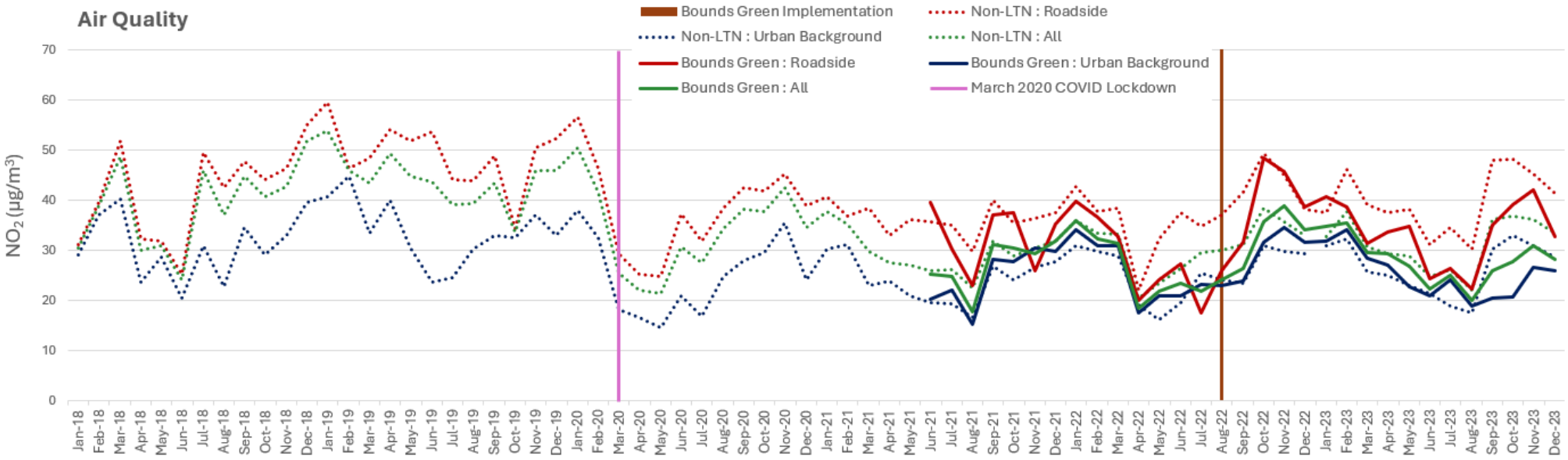
Diffusion Tube	Internal - Location / Road	NO_2 Annual Mean Objective ($40\mu g/m^3$)	
		Before LTN August 2021 - July 2022	After LTN August 2022 - July 2023
LTN/17	46, Myddleton Road, London, N22 8NW	24.5	21.5
LTN/18	66 Truro Rd, London N22 8DN	24.7	26.8
LTN/19	6 Warwick Rd, London N11 2TU	26.6	31.1
LTN/20	St Martin of Porres Pr. Schl, Bounds Green, N11 2AF	19.1	21.2
LTN/21	21 Queen's Rd, London N11 2QJ	19.8	20.8
LTN/23	162 Woodfield Way, London N11 2NU	18.1	21.0

Table 30: Average NO_2 levels for the twelve months on either side of implementation for monitoring sites, Boundary Roads

Diffusion Tube	Boundary - Location / Road	NO_2 Annual Mean Objective ($40\mu g/m^3$)	
		Before LTN August 2021 - July 2022	After LTN August 2022 - July 2023
LTN/15	300A High Rd, London N22 8JR	40.1	44.2
LTN/16	5 Brownlow Rd, London N11 2ET	19.4	22.6
LTN/24	83 Durnsford Rd, London N11 2EN	18.5	20.9

The chart below shows the trendlines for air quality sites within the Bounds Green LTN, as well as across the wider Borough, allowing for easy comparison of trends in NO_2 levels for boundary, urban background and all roads combined.

Graph 8: Average NO_2 Levels in Bounds Green LTN Compared to Long-Term Borough-Wide Sites from Diffusion Tubes



Insights: Air Quality

Air Quality demonstrates that 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 noticeably 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 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. Air quality improved after the introduction of LTN scheme until August 2023 before worsening again at the end of 2023 at the onset of autumn – following seasonal patterns. Broadly, the same trend can be seen for borough wide, non-LTN monitors as for monitors inside the LTN – both before and after the scheme were implemented – indicating no specific impact from its introduction.

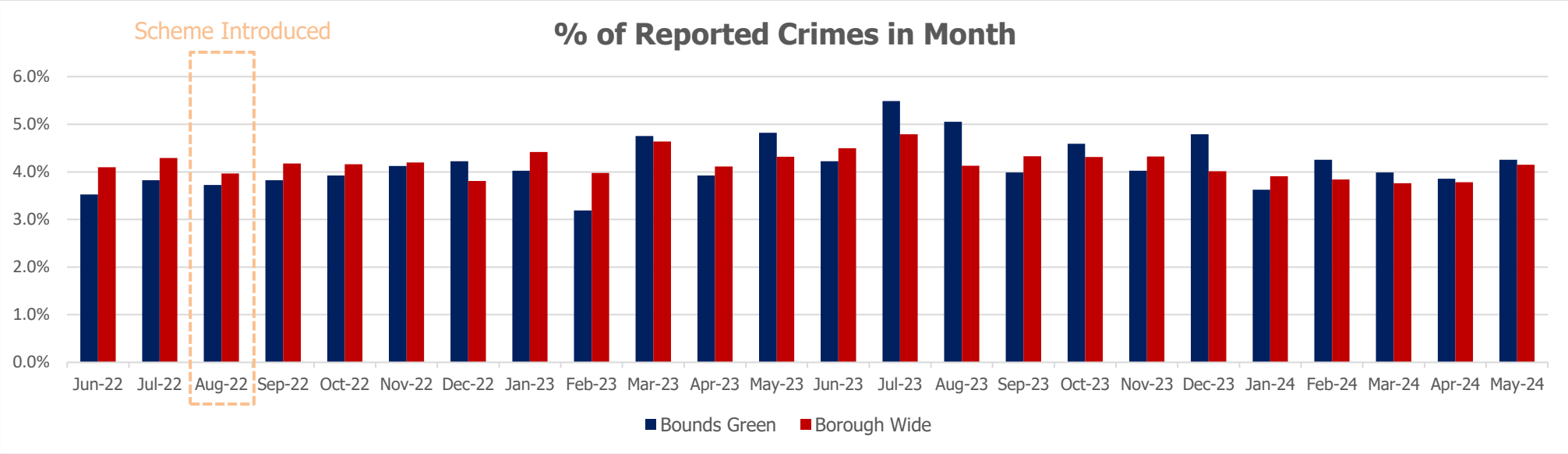
It has been found that, generally, there has been limited change in air quality at monitoring sites in the scheme area, and that any changes are similar to wider changes across the borough, indicating that the scheme did not notably impact air quality. Across internal roads, NO_2 concentration increased by 12%, while there was an 8% increase observed at borough-wide level. Across boundary roads in the LTN scheme area, NO_2 concentration increased by 12% while borough-wide monitors showed a 10% increase. The overall concentration of NO_2 in Bounds Green increased by 9% for the sites in the LTN scheme area and by 8% for sites elsewhere in the Borough.

Crime Patterns within the LTN

Crime data has been drawn from the London datastore for the 8 Lower Super Output Areas included within the Bounds Green area, as well as for the entirety of Haringey, for a period covering June 2022 to May 2024. The dataset includes an indication of all criminal activity as reported to the police, including a wide range of offences including public order offences, theft, drug offences and burglary, among others. The graph below shows 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.

Data has been drawn from the Bounds Green 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.

Graph 9: Proportional Breakdown of Calls and Crimes in Bounds Green LTN area and Haringey



Insights: Anti-Social Behaviour and Crime Patterns

From the limited available data from before scheme implementation, Bounds Green showed lower percentage of reported crimes than the rest of the borough, however there were significant peaks in Bounds Green crime levels in April and May 2022. The minimum percentage of reported crimes was 3.5% in Bounds Green (4.1% borough-wide), the maximum was 3.8% (4.3% borough-wide) and the average was 3.7% (4.2% borough-wide)

Post LTN, as shown above, Bounds Green shows similar percentage of reported crimes in comparison to the rest of the borough. The average is the same in both areas (4.2% across all months), the maximum reported was 5.5% in Bounds Green (and 4.8% borough-wide), while the minimum was 3.2% (3.8% borough-wide). The largest different between Bounds Green and borough-wide crime reports was of +0.9 % points in Bounds Green, reported in August 2023. The volume 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.

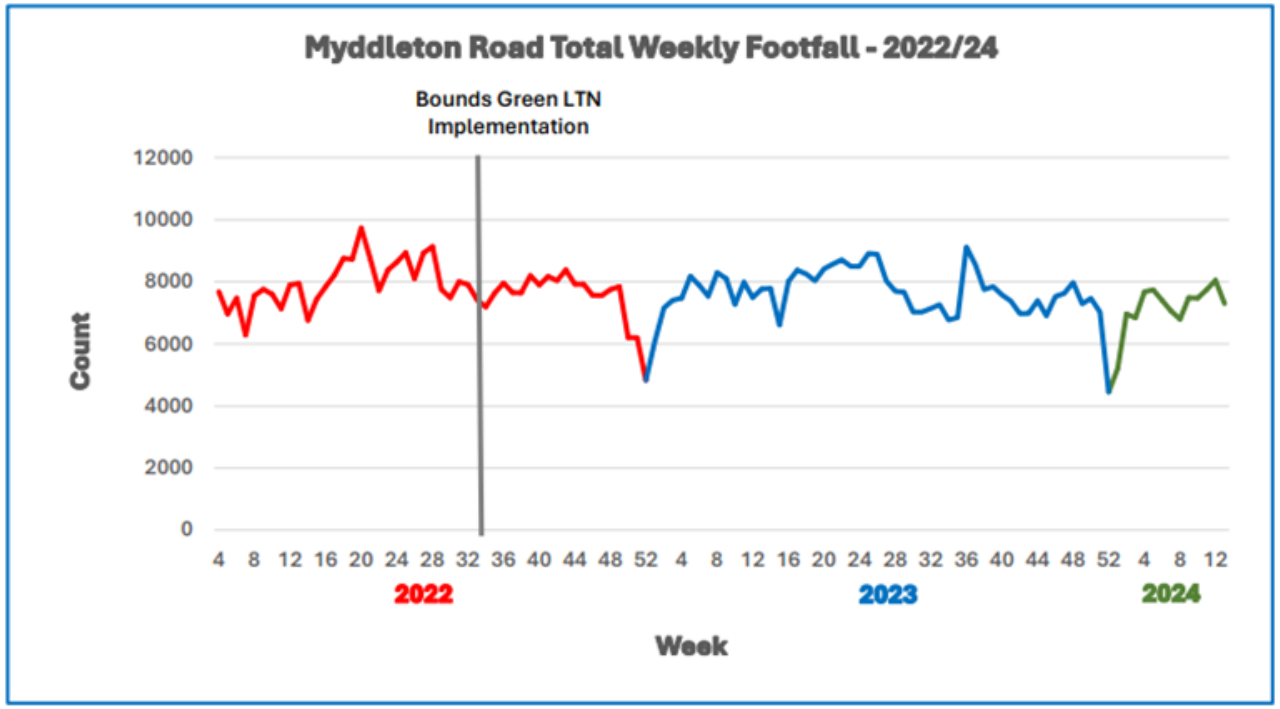
With over a year of crime data following from the introduction of the scheme, there is no indication yet that crime patterns within the Bounds Green LTN area have been impacted by the introduction of the LTN scheme's introduction.

Footfall within the LTN

Footfall data in district and local centres around the Bounds Green LTN area has been analysed to assess whether the introduction of the LTN scheme has impacted businesses. Data is available between mid-May 2022 and end of March 2024 for Myddleton Road, which is within the Bounds Green LTN scheme area. Total weekly footfall is shown in the graph below.

Methodology – MRI (Springboard) Footfall Counters
Haringey Council collects footfall data through MRI (formerly Springboard) footfall counters based at strategic locations on High Streets across the borough. The data is used to compare hourly, week-week, month-month, and year on year footfall to assist in the development of strategic high street interventions

Graph 10: Footfall Data



Insights: Footfall within the LTN

Footfall data in Myddleton Road (Bounds Green area) is available between early 2022 and mid-March 2024.

Footfall was higher in 63 of the 84 weeks following the first week of the Bounds Green LTN scheme.

The graph shows that weeks 4 to 32 in 2022 (Pre LTN) reported slightly higher footfall than weeks 4 to 32 in 2023 (Post LTN): 2022 had higher footfall for 5 of the 8 weeks (although noting that Christmas fell during this time). When comparing 2023 (Post LTN) with 2022 (partly Pre LTN, partly Post LTN), 2022 had higher footfall than 2023 for 8 weeks, while 2023 had higher footfall than 2022 for 5 weeks.

Studying Post LTN months in both 2022 and 2023 helps to understand whether there are larger seasonal explanations at play rather than simply LTN-induced effects. Both periods exhibit very similar results from weeks 36 to 48 (between 7800 and 8200), and both periods drop to between 4500 and 5000 on week 52. Generally, data shows that the LTN does not seem to have particularly negatively impacted footfall, it is noted that there are seasonal fluctuations and that the general decrease observed around Christmas week is consistent with other high streets.

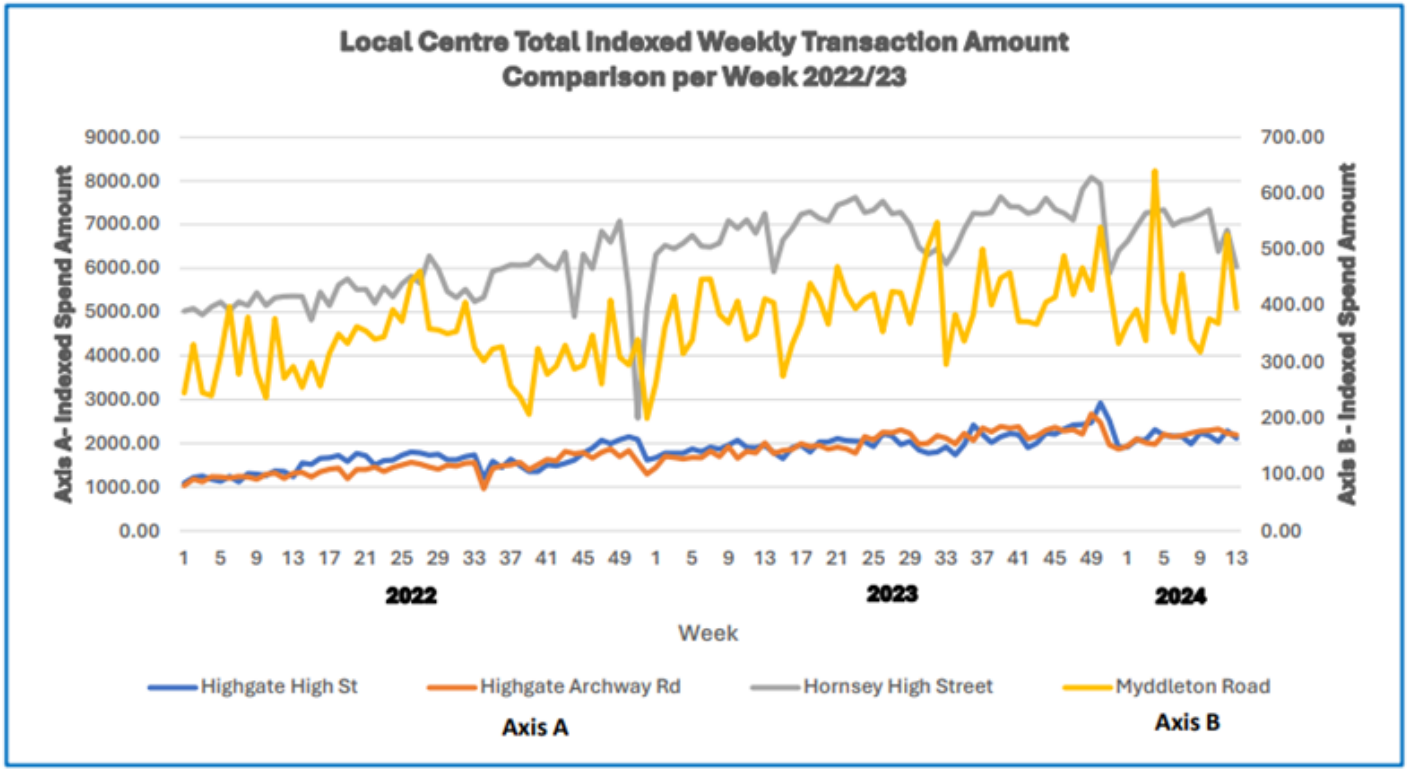
Footfall is therefore generally similar to Pre LTN levels.

Instore Card Spend within the LTN

In addition to a footfall analysis, instore card spend has been analysed to evaluate whether businesses have been impacted by the LTN scheme. Instore card spend data for the Bounds Green scheme area is available between 2022 and mid-March 2024, and data for Myddleton Road has been analysed as it is located in within the scheme area. Index transaction amounts before and after the implementation of the LTN are shown on the following page.

Methodology – GLA London Datastore Mastercard Retail Location Index
Mastercard's Retail Location Index (MRLI) uses anonymised and aggregated transaction data from billions of cards to measure sales, transactions, and accounts. Mastercard uses the geocoded location of merchants aggregated to an area and transaction data to create a timeseries. The data only includes physical sales (i.e. not online). The MRLI is a relative index compared to a common base area and time frame for each measure. The index is provided to the GLA at a 150m resolution, which has been combined into the geographies. Haringey Council uses the data to compare month-month and year-on-year spend on the high streets.

Graph 11: Instore Card Spend



Insights: Instore Card Spend within the LTN

Results show that indexed card spend is generally higher in 2023 than in 2022, and higher in 2024 than both 2022 and 2023.

Instore card spend in Myddelton Road is statistically lower than all other high streets and town centres across the borough. Trends of spend fluctuate markedly in Myddleton Road compared to the other comparable local centres.

However, it is noted that no direct causal relationship between the introduction of LTNs and lower instore card has been made.

It should be noted that there may be wider impacts on spend, such as cost of living, inflation, and the energy crisis. Also, pre-pandemic numbers of card transactions are lower than post pandemic due to a recent increase in card payments.

Exemptions

Exemptions allow specific groups of motorists to drive through one or more traffic filter. This benefits some motorists (typically those with greatest accessibility needs) by allowing them to pass through an LTN traffic filter, but it reduces the overall effectiveness of the LTN by increasing the volume of through-traffic. The following table explains the circumstances where motor vehicles are exempt:

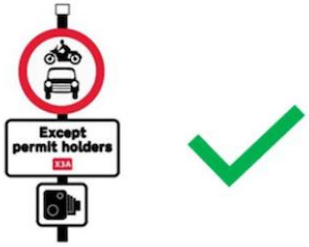
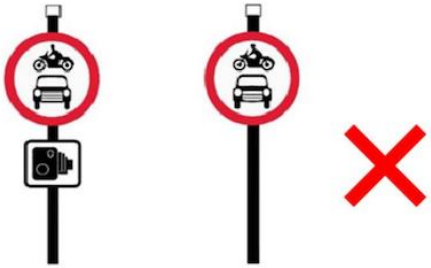
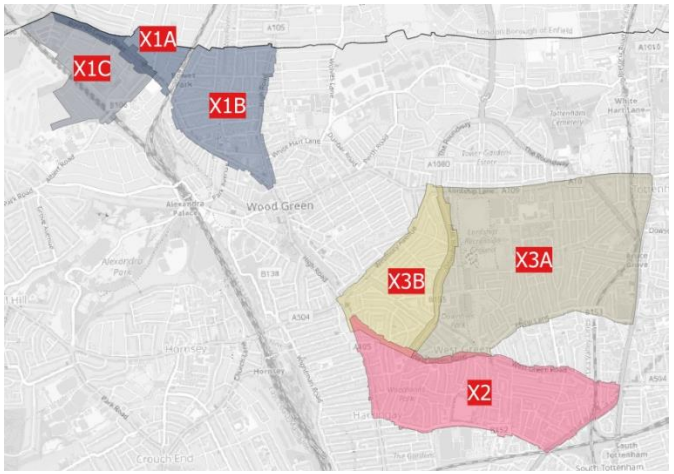
Table 31: Restriction Applications

Moving traffic restrictions (LTN traffic filters) do not apply to:	Exemption permits (eg X1, X2, X3) may be issued, upon application, to:

• any motor vehicle when used for fire brigade, ambulance or police purposes;
• any motor vehicle when used in an emergency by Hatzolah north west ambulance service.
• anything done with the permission or at the direction of a police constable in uniform;
• any person who causes any vehicle to proceed in accordance with any restriction or requirement indicated by traffic signs placed pursuant to section 66 or section 67 of the Road Traffic Regulation Act 1984;
• permit holders (eg X1, X2, X3) *(see right for detail)*
• local buses (only where traffic signs allow them to proceed)
• Council refuse and cleansing vehicles
• Pedal cycles
• motor vehicles authorised by Haringey Council for the transport of a person with special education needs and disabilities (SEND) to facilitate home to school transport.
• vehicles that have written permission from the Council, authorised by the Assistant Director for Direct Services, provided that any conditions or requirements imposed are being complied with.
	• One motor vehicle nominated by a person who holds a valid disabled badge living within the London Borough of Haringey;
	• any motor vehicles authorised by Haringey Council for the transport of a person with special education needs and disabilities (SEND) to facilitate home to school transport;
	• any motor vehicles authorised by Haringey Council services and commissioned services transporting people with a disability and Transport for London's Dial-a-ride service;
	• any other motor vehicles required for urgent safety matters with written permission of the Council.
	• any motor vehicle with individual circumstance to drive through a designated filter and with the written permission of the Council, provided that any condition or requirements imposed are being complied with, including
	  ○ Person, or person with a child, with a condition that means sitting in a car or a re-routed journey causes overwhelming psychological distress;
	  ○ Person, or person with a child, with a chronic health condition that makes sitting in a car very difficult;
	  ○ A professional carer whose ability to transport a care recipient in a car or directly assist them with their care needs is significantly impaired by an LTN;
	  ○ An organisation that solely transports people with access or disability needs.

Depending upon the criteria that the applicant applied under, exemptions can be approved for (a) one specific traffic filter, (b) a group of filters, (c) the entire LTN* or (d) all three trial LTNs* as explained in the following table.

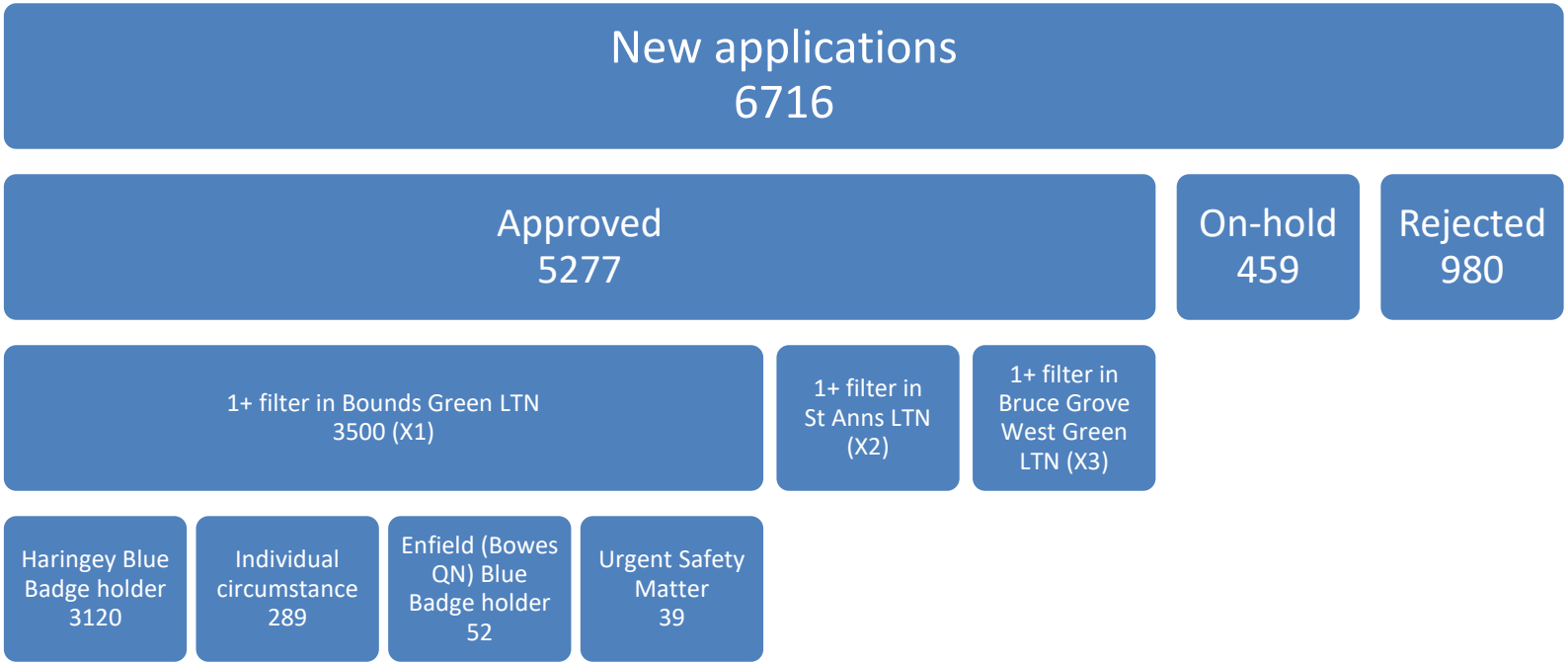
Table 32: Exemption Coverage

What the exemption covers	**What the exemption does not cover**	**Map of LTNs and corresponding permit identifiers**
This exemption lets you drive your exempt vehicle through all traffic filters that have an 'Except permit holders' sign underneath a 'No motor vehicles' sign (a red circle containing a picture of a motorbike and a car). The 'Except permit holder' signs will have one of the following letter and number combinations: • Bounds Green LTN will show X1A, X1B or X1C • St Ann's LTN will show X2 • Bruce Grove West Green LTN will show X3A or X3B 	You cannot drive through traffic filters that do not have an 'Except permit holders' sign under the red circle sign. If you do, you'll get a fine – also know as a 'penalty charge notice'. 	
*where the traffic signs include the 'except permit holders' variant, shown above.		

Quantity of exemptions

The following figure illustrates the number of online exemption permit applications that have been received and approved and include at least one filter within Bounds Green LTN, for the period between the LTN launch and 1 October 2024.

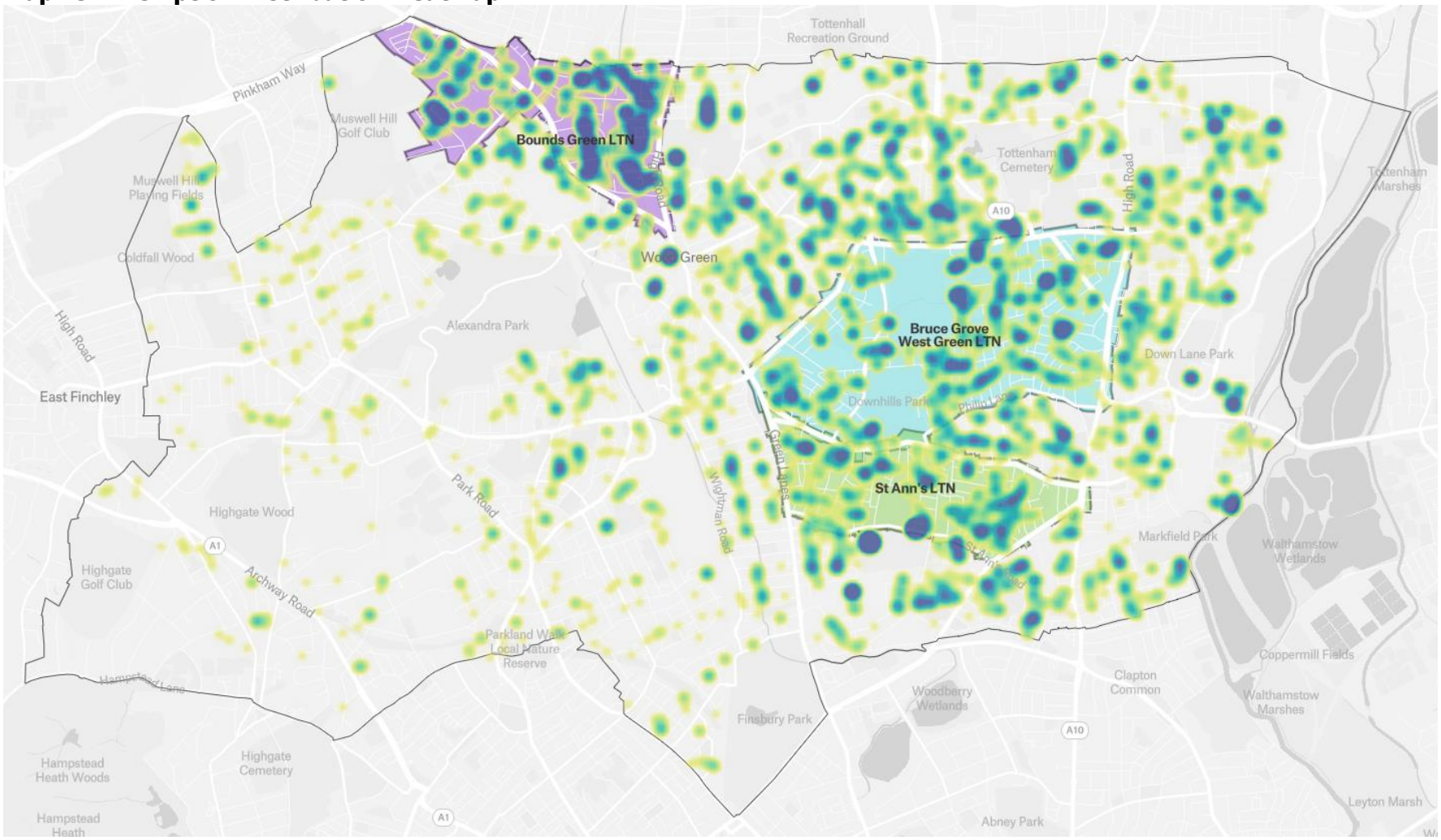
Graph 12: Exemptions Breakdown



Distribution of exemptions

The following heatmap shows the distribution of approved exemptions and only where the exemption is valid for one or more traffic filter in Bounds Green.

Map 19: Exemption Distribution Heatmap



Insights: Exemptions

Exemptions have been available since the launch of the LTN and, following the interim review, were extended so that all Blue Badge holders living in Haringey could apply to drive through most of the traffic filters that are enforced by camera (previously, exemptions were available only for Blue Badge holders who lived within or on the immediate boundary of the LTN).

Most (79%) of applications have been approved. Those categorised as 'on-hold' (7%) are where an incomplete application has been made eg. the applicant has not provided all the necessary evidence. The exemption team will have contacted the applicant and asked for further details, but a response has not yet been received. Those rejected (15%) are where the applicant has not met the criteria for an exemption.

The majority of exemption permits have been issued to motorists who applied under the 'Haringey Blue Badge holder' (89%) or 'Individual Circumstances' (9%) criteria. In those cases, exemptions are generally valid across all three trial LTNs (where the traffic filter displays the relevant permit code (X1, X2, X3)).

Unsurprisingly, most applications are made by people who live within the LTN. However, of those who live outside an LTN, there is a significantly larger proportion of applicants living in the east of the borough than in the west; this aligns with health and deprivation data that shows that communities in the east of the borough have higher levels of long-term health conditions and, therefore, are more likely to be eligible for an exemption under the Blue Badge or Individual Circumstance criteria.

Concluding Remark

This Post LTN-Now monitoring report demonstrates that, in general, the Bounds Green LTN is delivering the intended local impacts in terms of a reduction in motorised traffic volumes on internal roads without significant impact to most boundary roads.

The following table summarises the key takeaways for each vehicle classification in Bounds Green boundary and internal roads.

Table 33: Key Takeaways in the Bounds Green LTN

	Pre LTN vs Post LTN-Now (Nov 2021 vs. Nov 2023)	
Vehicle Classification	**Internal Roads**	**Boundary Roads**
Motorised Vehicles (volume, normalised)	-16,076 (-66%)	+2,316 (+2%)
HGVs (volume, normalised)	-361 HGVs (-52%)	-2 HGVs (0%)
LGVs (volume, normalised)	-877 LGVs (-58%)	+1,680 LGVs (+21%)
Motorcycles (volume, normalised)	-504 motorcycles (-52%)	+900 motorcycles (+38%)
Cycles (volume, observed)	-3 cycles (-1%)	-774 cycles (-38%)
Speeding (normalised)	0.1 mph (0%)	0.2mph (+1%)

Internal roads have seen a decrease of 16,076 vehicles (-66%), whereas boundary roads have observed an increase of 2,316 vehicles (+2%). 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 broadly accurate in their magnitude and direction of change – indicating that the scheme is performing well against its strategic objectives, and will help improve 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.

More specifically, of the 13 monitored internal roads, 9 experienced decreases of at least 50%, with 9 roads observing drops of more than 500 daily vehicles, in line with the objectives of the LTN to reduce traffic levels on quieter residential roads. Truro Road and Nightingale Road experienced the largest reductions in traffic flows, with decreases of around 4,928 and 4,027 daily vehicles respectively, differences of -99% and -89% respectively when compared to Pre LTN flows. Other roads, including Queens Road, also experienced substantial percentage decreases in vehicle flows (-95%), but without large net changes in traffic volumes (-493 daily motorised vehicles). Only Marlborough Road experienced an increase in traffic, with 65 additional vehicles (+15%). On boundary roads, the most significant increase by both volume and percentage change was experienced on A109 Bounds Green Road (@Truro Road/ Nightingale

Road), where there were 3,065 additional vehicles in November 2023 (Post LTN-Now) than in November 2021 (Pre LTN), an increase of 16%. There was also a 11% increase in daily motorised vehicles on B106 Durnsford Road, equating to 1,404 additional daily motorised vehicles. In both instances, increases were observed in the southbound direction.

A significant reduction in goods vehicles was observed on internal roads: there was an overall decrease of 877 LGVs (-52%) and of 361 HGVs (-58%) between November 2021 and November 2023. However, their proportions among total motorised vehicles increased slightly (+2% respectively). On boundary roads, LGVs volumes increased by 21% (+1,680 LGVs) but HGVs volumes virtually remained unchanged, aligning with general trends of increasing LGV sales and therefore volumes across the UK. These findings suggest that the LTN scheme has reduced goods vehicles on internal roads, and that LGV volumes have increased on boundary roads without affecting HGV traffic.

Motorcycle flows have broadly reflected overall motorised vehicles traffic trends, with a 52% decrease on internal roads and a 38% increase on boundary roads since the implementation of the LTN scheme. Internal roads saw significant reductions, particularly on Cline Road (-90%) and Truro Road (-78%). However, they also exhibited an increase in motorcycles' proportional representation (+2%). Boundary roads experienced notable increases, this was especially observed at A105 High Road which contributed to an overall rise in motorcycle prevalence. These figures may indicate less flexibility for motorcycle (and motorcycle-based deliveries) and goods vehicles than for general traffic in terms of routing options.

With regards to cycling levels across the LTN scheme, it must first be noted that the rainfall levels in the Post LTN-Now period (November 2023) were considerably higher than those in the Pre LTN period (November 2021), which almost certainly resulted in lower cycling flows than would otherwise have been seen. Internal roads across the scheme area saw a negligible 1% decrease in daily cycling volumes. A significant decrease was observed on Ring Way and Cline Road, but Palmerston Road experienced a notable increase in daily cycling volumes. Results demonstrate a 38% decrease in daily cycling levels across boundary roads, primarily driven by significant reductions on A105 High Road (perhaps largely because cyclists have moved from High Road to Palmerston Road). B106 Durnsford Road nonetheless saw a notable increase, which suggests mixed impacts within the scheme area and the need for further monitoring. The volume of dockless bikes traveling within the scheme area has also seen a significant increase since they were introduced.

Internal roads observed an average speed decrease of 0.1mph (0%). Significant reductions were recorded on Palmerston Road, Blake Road, Passmore Gardens and Queen's Way, while a notable increase was observed on Cline Road. Average speeds across boundary roads increased by 0.2mph (+1%), this was driven by an increase on A105 High Road as the four other monitored boundary roads observed a slight reduction in average speed. Overall, data indicates that vehicle speed metrics decreased or did not change, except on A105 High Road (boundary road) and Cline Road (internal road) which consequently may require further monitoring.

The assessment of average bus journey times helps us understand the impact that the LTN scheme may have on public transport. Findings indicate that since the implementation of the Bounds Green LTN, average bus journey times on Bounds Green Road have increased insignificantly northbound (+0.1min/km) with less variability, and more significantly in the southbound direction (+0.75min/km) with increased variability. On Brownlow Road, journey times increased slightly in both directions (+0.4min/km northbound and +0.1min/km southbound); however, less variability was observed on the northbound corridor. Pinkham Way saw decreases, albeit minimal, in bus journey times on the northbound corridor (-0.2min/km) and reduced variability. On its southbound corridor, average journey times decreased insignificantly (-0.1min/km) yet resulted in heightened variability.

Air quality monitoring sites indicate that the Bounds Green scheme did not notably impact air quality. Across internal roads, NO_2 concentration increased by 12%, while there was an 8% increase observed at borough-wide level. Across boundary roads in the LTN scheme area, NO_2 concentration increased by 12% while borough-wide monitors reported a 10% increase. Overall, the concentration of NO_2 in Bounds Green increased by 9% for the sites in the LTN scheme area and by 8% for sites elsewhere in the Borough.

With relation to wider safety and economic impacts of the LTNs, road collision, crime patterns, footfall, and card spend have been analysed. The volume 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. Moreover, data on Myddleton Road indicates that footfall is generally similar to Pre LTN levels, consistent with other high streets, and that the LTN has not particularly impacted footfall. Instore card spend in Myddelton Road is statistically lower than all other high streets and town centres across the borough, but it is noted that no direct causal relationship between the introduction of LTNs and lower instore card has been made. Similarly, the number of collisions decreased from the year before LTN implementation to the year after; however, the sample size and location of collisions does not provide sufficient evidence to draw a causal relationship between the scheme and road safety.

Following an interim review, exemptions for Haringey LTNs were extended to all Blue Badge holders in the borough, with 79% of applications approved, most permits issued to those under the Blue Badge or Individual Circumstance criteria, and a higher proportion of applicants from the more deprived east of the borough.

The Bounds Green LTN has been in place for around two years at the time of writing this final monitoring report. It 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.

Appendices

Appendix 1: Bounds Green Traffic Count Locations and Type

Haringey-commissioned traffic count sites and type

Site	Latitude	Longitude	Site Type
A105 High Road (@Cranbrook Park/Watsons Road)	51.59859	-0.11076	ATC
A105 High Road (@Sidney Road/Woodside Road)	51.60547	-0.11179	ATC
A109 Bounds Green Road (@Gordon Road/Passmore Gardens)	51.60827	-0.1269	ATC
A109 Bounds Green Road (@Truro Road/Nightingale Road)	51.60316	-0.12077	ATC
Albert Road	51.60134	-0.1313	ATC
Alexandra Park Road	51.59874	-0.13122	ATC
B106 Brownlow Road	51.60983	-0.12283	ATC
B106 Durnsford Road	51.6051	-0.12714	ATC
Blake Road	51.60714	-0.13186	ATC
Cline Road	51.61011	-0.13246	ATC
Commerce Road	51.60218	-0.11344	ATC
Crescent Road	51.60141	-0.12635	ATC
Gordon Road	51.60768	-0.12627	ATC
Goring Road	51.60899	-0.12074	ATC
Maidstone Road	51.61043	-0.12897	ATC
Marlborough Road	51.60761	-0.11664	ATC
Maryland Road	51.60731	-0.10809	ATC
Myddleton Road	51.60642	-0.11552	ATC
Nightingale Road	51.60304	-0.11675	ATC
Palace Gates Road	51.5987	-0.12228	ATC
Palmerston Road	51.60445	-0.11557	ATC
Passmore Gardens	51.60808	-0.12831	ATC
Queen's Road	51.60658	-0.12311	ATC
Ring Way	51.6107	-0.13473	ATC
Tottenhall Road	51.61119	-0.10627	ATC
Truro Road	51.60406	-0.11634	ATC

Victoria Road	51.59907	-0.12793	ATC
Warwick Road	51.60961	-0.12629	ATC
White Hart Lane	51.6014	-0.10906	ATC
Whittington Road	51.60758	-0.11874	ATC
Wolves Lane	51.60753	-0.10367	ATC
Woodside Road	51.60532	-0.10816	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 and the November 2023 traffic counts by 0.9776 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, January 2023 and November 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, 9 of which were within the bounds of the Bounds Green scheme.

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

Bounds Green LTN air quality monitoring sites type and period of installation (all diffusion tubes)

Location	Postcode	Defra Classification
300a High Rd	N22 8JR	Roadside
5 Brownlow Rd	N11 2ET	Roadside
46, Myddleton Road	N22 8NW	Urban Background
66 Truro Rd	N22 8DN	Urban Background
6 Warwick Rd	N11 2TU	Urban Background
St Martin of Porres Primary School, Bounds Green	N11 2AF	Urban Background
21 Queen's Rd	N11 2QJ	Urban Background
162 Woodfield Way	N11 2NU	Urban Background
83 Durnsford Rd	N11 2EN	Roadside

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 NO_2 in July 2001.

Haringey, like all authorities with AQMAs, has to produce annual reports for both Defra (Department for Environment, Food & Rural Affairs) 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 latest status report can be found on the Haringey website by following the link below.

https://new.haringey.gov.uk/sites/default/files/2024-09/air_quality_annual_status_report_for_2023.pdfPollution 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) for which this study has not corrected. Therefore, ideally, a longer period of study would be required to analyse these results more fully. This would also allow further quality control of data that has not been possible with these results. There is also further uncertainty in recent results and whether these will represent longer term trends due to COVID-19. Studies of the first lockdown in March, for example by the Greater London Authority, show a decrease in overall motorised traffic and NO_2 levels but no consistent change in PM due to weather impacts.

Appendix 4: Individual Site Volumes & Speeds

Detail for each monitored site including a breakdown of flows and speeds by monitoring period and by vehicle class is appended as a PowerPoint slide pack.

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).

Appendix 5: 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.