



Monitoring Report: Savernake Road Safe & Healthy Streets scheme

Historically a high volume of motor vehicles have used Constantine Road and Savernake Road to avoid the junction at Agincourt Road and B518 Mansfield Road.

In response to this challenge a motor vehicle restriction, enforced by signage and bollards, has been installed on Savernake Road outside the entrance to Hampstead Heath between Lisburne Road and Roderick Road. Pedestrians and cyclists are able to travel through the restriction at all times. This scheme has been implemented as a trial using an Experimental Traffic Order ('ETO'), with construction completed in May 2020.



The purpose of the change is to reduce the number of cars moving using these local streets as a short cut, making it safer for all pedestrians and cyclists. It also supports the Healthy School Street Scheme at Gospel Oak Primary.

To identify the impact of the scheme on local traffic and cycle flows, pre- and post-scheme data within Savernake Road Safe & Healthy Streets scheme (where available) has been compared for motor vehicles, cycles, air quality and emergency response times.









Summary

This document sets out data and other information gathered during the trial period of the Savernake Road Safe & Healthy Streets scheme. It has been gathered and analysed to help assess the impact of the scheme.

A review of 'Before' and 'After' scheme data for the Savernake Road Safe & Healthy Streets scheme indicates the following:

-  In total, across all roads surveyed overall motorised traffic levels were **8% lower** 'After-scheme' when adjusting for the effects of Covid-19. Nine out of eleven roads surveyed recorded **lower** traffic levels, with two roads showing **small traffic increases**.
-  A **21% average increase** in Lime bicycle usage in the Savernake Road scheme area when comparing the July 2019-March 2020 period (Before-scheme) to July 2020-March 2021 (After-scheme).
-  An average **decrease** in Nitrogen Oxide (NO₂) of **9%** at the monitoring station in close proximity to Gospel Oak Primary School when comparing the raw unadjusted data for the September 2019-February 2020 (Before-scheme) and September 2020-February 2021 periods (After-scheme).
-  No impact on emergency response times from the introduction of the Savernake Road scheme area have been identified to date.

In summary, there has been a reduction in motor vehicle traffic on residential streets, including Constantine Road and Savernake Road, during the scheme trial compared to before. The reduction in motor vehicle traffic observed can in part be attributed to a change in travel patterns in 2020 due to COVID-19, however, the analysis of adjusted data also indicates lower motor vehicle levels during the scheme trial compared to before.

Gospel Oak Healthy School Street provided NO₂ reductions outside Gospel Oak Primary School, and air quality monitoring results post implementation of the Savernake Road Safe & Healthy Streets scheme suggest that the scheme is supporting and strengthening these air quality improvements.

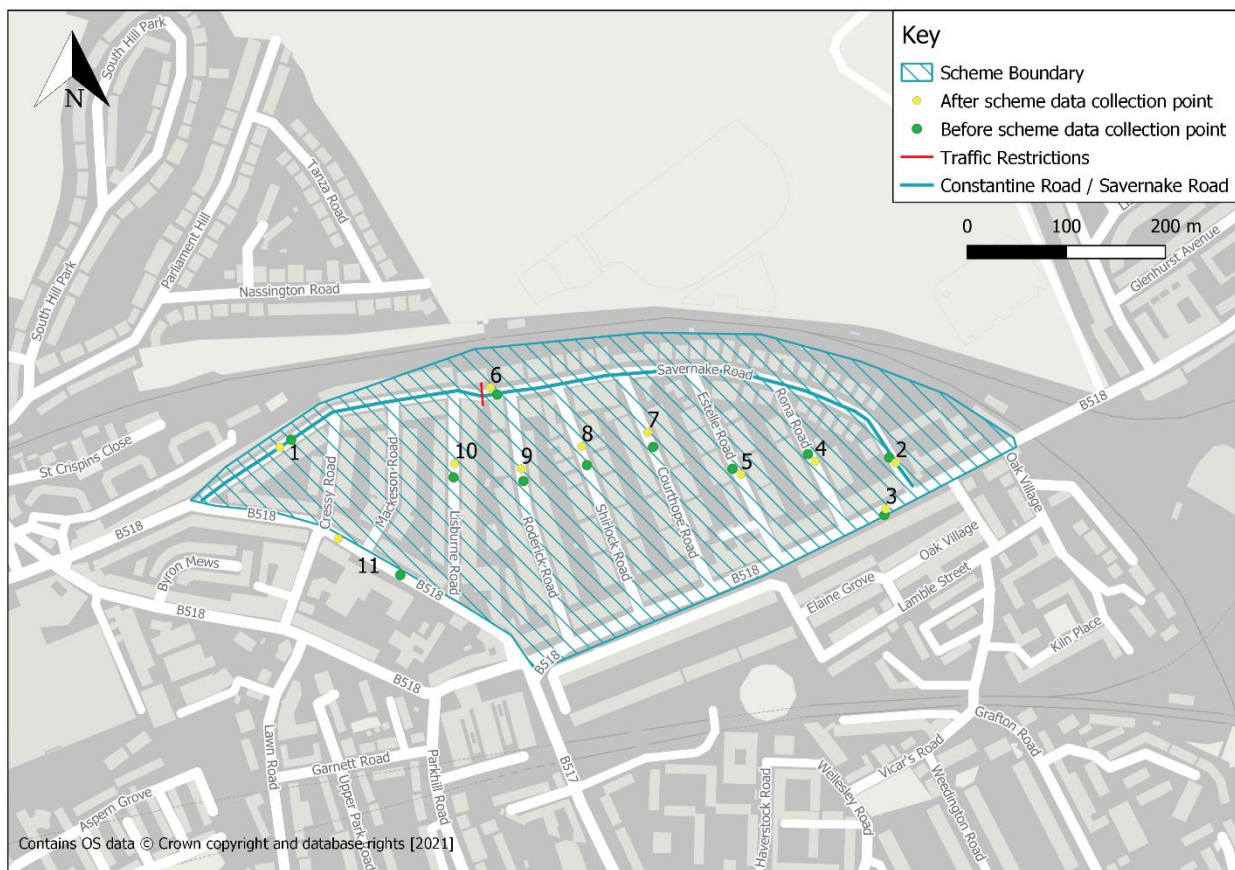


Motor Vehicle Data

To identify the impact of the scheme on local traffic flows Camden Council has monitored and compared pre- and post-scheme traffic counts in the Savernake Road scheme area.

'Before-scheme' data was collected in **June 2019** through automatic traffic counts, with the exception of Constantine Rd (Site 1) which was collected in **March 2019**. 'After-scheme' data was collected seven months after the scheme was installed, in **December 2020** also through automatic traffic counts. 24-hour traffic counts were analysed for each vehicle class, including cycles, motorcycles, cars, Light Goods Vehicles (LGVs) and Heavy-Duty Vehicles (HDVs¹). Due to the classification of vehicles in the before-scheme data, it has not been possible to separate cycles and motorcycles, therefore both cycles and motorcycles have been excluded from the total 'Before' and 'After' scheme motorised flows in the analysis.

Savernake Road Safe and Healthy Streets Scheme Traffic Count Sites



¹ Heavy Duty Vehicles include Heavy Goods Vehicles and Buses.



Motorised traffic counts have been adjusted to account for seasonality and for change in travel patterns due to COVID-19. Data collected in 2020 has been normalised to a 2019 (pre-COVID) baseline to ensure 'Before' and 'After' scheme counts are comparable. An adjustment factor for motorised vehicles has been derived from continuous 2019-2020 London-wide vehicle count data. The adjusted and unadjusted average motor vehicle (excluding motorcycles) daily flows for the Safe & Healthy Streets scheme are shown in the table below. See Appendix A for further details on the methodology used.

Savernake Road Scheme Daily Average (7-Day) Traffic Flow (excluding motorcycles)

Site ID	Road Name	Between	Unadjusted			Adjusted		
			Before	After	Total	Before	After	Total
1	Constantine Road*	Pond Street and Savernake Rd	622	299	-52%	617	349	-43%
2	Savernake Road	Rona Rd and Mansfield Rd	1,064	263	-75%	1,029	307	-70%
3	Mansfield Road	Rona Rd and Savernake Rd	12,971	10,586	-18%	12,553	12,361	-2%
4	Rona Road	Savernake Rd and Mansfield Rd	573	224	-61%	554	261	-53%
5	Estelle Road	Savernake Rd and Mansfield Rd	596	267	-55%	577	312	-46%
6	Savernake Road	Lisburne Rd and Roderick Rd	1,452	13	-99%	1,405	15	-99%
7	Courthope Road	Savernake Rd and Mansfield Rd	793	283	-64%	767	330	-57%
8	Shirlock Road	Savernake Rd and Mansfield Rd	795	339	-57%	769	396	-49%
9	Roderick Road	Savernake Rd and Mansfield Rd	653	266	-59%	632	310	-51%
10	Lisburne Road	Agincourt Rd and Constantine Rd	334	329	-2%	334	384	15%
11	Agincourt Road*	Cressy Road and Lisburne Road	9,594	9,889	3%	9,594	11,547	20%
Total (across all survey sites)			29,446	22,758	-23%	28,832	26,573	-8%

*Eastbound traffic only

The results indicate lower traffic levels 'After-Scheme' on all roads monitored in both the unadjusted and adjusted scenarios, with the exception of Agincourt Road and Lisburne Road (adjusted case only) where traffic levels are higher. With the closure of Savernake Road to through traffic, greater traffic levels on Agincourt Road are expected. Overall, total traffic levels across all count points monitored in the Safe & Healthy Streets scheme are lower in both the unadjusted (-23%) and adjusted (-8%) scenarios.

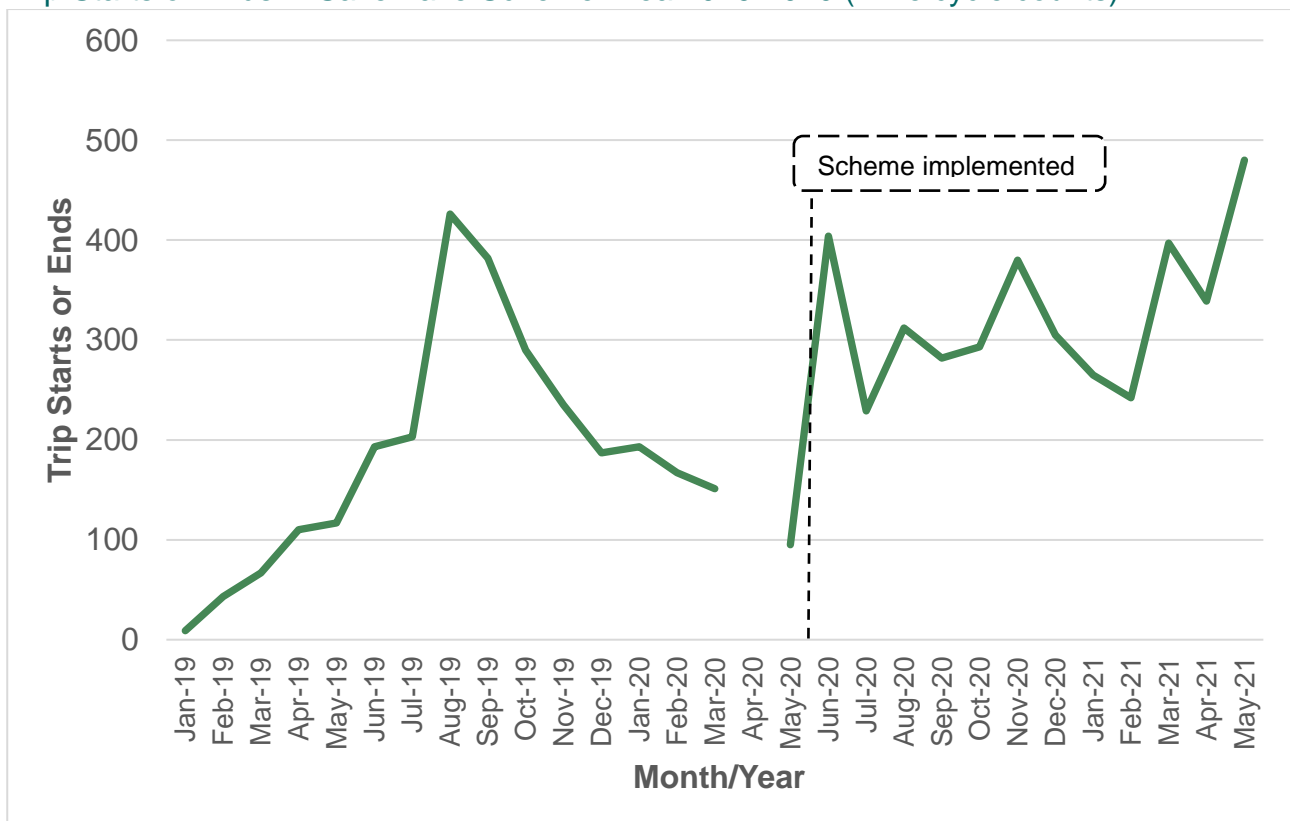


Cycling Data

Due to the classification of vehicles in the **'Before'**-scheme data, it was not possible to differentiate between motorcyclists and cyclists, and therefore the **'Before'** and **'After'** cycle flows from traffic counts have not been compared.

Cycling data collected in the Savernake Road scheme area by Lime (bike rental operator) over 2019, 2020 and 2021 shows that usage of Lime cycles has increased following the scheme's implementation. The graph below illustrates the absolute number of trip starts or ends in the Savernake Road Safe & Healthy Streets scheme from 2019 to the most recently available data in 2021.

Trip Starts or Ends in Savernake Scheme Area 2019-2020 (Lime cycle counts)



N.B. Data was not available for April 2020 from Lime

Comparison of data from **July 2019-March 2020 (Before-scheme)** and **July 2020-March 2021 (After-scheme)** shows that Lime bike usage has increased from 2,234 to 2,705 trips starts or ends in the scheme area, which is equivalent to 21%. In May 2021, Lime recorded the highest number of e-bike rides ever in the Savernake Road Safe & Healthy Streets scheme area.

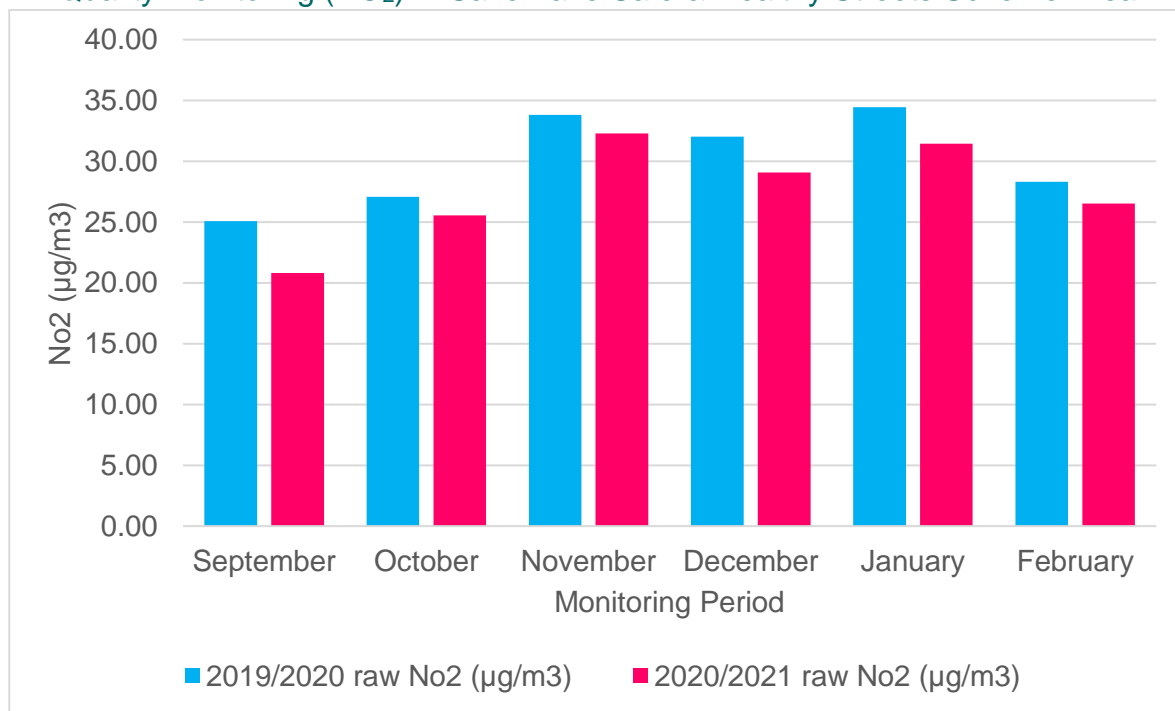


Air Quality

Air quality has been monitored on Savernake Road as part of the Savernake Road Safe & Healthy Streets scheme. Nitrogen Oxide (NO₂) levels are monitored using a diffusion tube in close proximity to Gospel Oak Primary School.

The most recent data available is for **September 2020 to February 2021** (after the scheme was constructed), which has been compared to an equivalent period before scheme comprising **September 2019 to February 2020**. This data indicates that the site has experienced an average reduction in NO₂ of 9% when comparing **September 2020 to February 2021** to **September 2019 to February 2020**. The raw data is provided in Appendix C.

Air Quality Monitoring (NO₂) in Savernake Safe & Healthy Streets Scheme Area



The bias-adjusted and average annual mean² NO₂ concentration for Savernake Road for the entirety of 2020 was 18.7µg/m³, in 2019 this value was 24.4µg/m³. When compared to the legal limit for NO₂ (40µg/m³), NO₂ levels on Savernake Road were compliant over the 2019 and 2020 periods.

² Annual mean figures have been 'bias adjusted' which corrects for any deviation between the NO₂ concentrations measured by diffusion tubes and the 'true' NO₂ concentration in the air as measured by a more accurate electrochemical sensor



Air pollution is caused by multiple factors and therefore a change in NO₂ concentration is unlikely to result from traffic levels alone, with other factors such as building heating systems contributing to pollution levels. However, Gospel Oak Healthy School Street provided NO₂ reductions outside Gospel Oak Primary School, and those benefits appear to have been supported by this scheme given that stretch of road now benefits from reduced traffic at all times, not just school run times.

Emergency Response Times

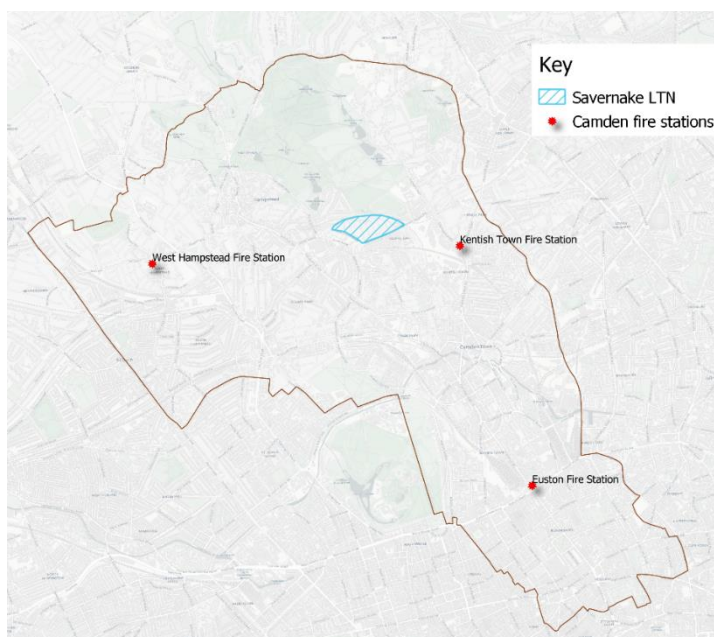
The London Fire Brigade (LFB) monitors the time it takes their vehicles to attend emergencies (attendance times). They use average attendance times because there are a significant number of variables that can impact attendance times – for example, responding vehicles are not always setting off from the same place.

In their ‘*Incident response times*’ report published in 2020³, the LFB has set up their London-wide target response times (time the emergency call is answered to the arrival of a fire engine with crew at the incident scene), which for 2020 were:

- To get the first fire engine to an incident within an average of **six minutes**.
- To get a fire engine anywhere in London within **12 minutes** on 95 per cent of occasions.

In this report the LFB has also evaluated the impact of the Low Traffic Neighbourhoods (also commonly referred to as Safe & Healthy Streets scheme) also introduced in London

London Borough of Camden Fire Stations



in response to COVID-19 on LFB’s emergency response times, and concluded that these have not slowed down response times to date. Within their report they note:

“During the pandemic we have has more resources that are immediately available to respond and roads (during lockdown periods) have been quieter. That being the case, we haven’t yet noticed any impact on our attendance times due to the LTN schemes established in 2020”.

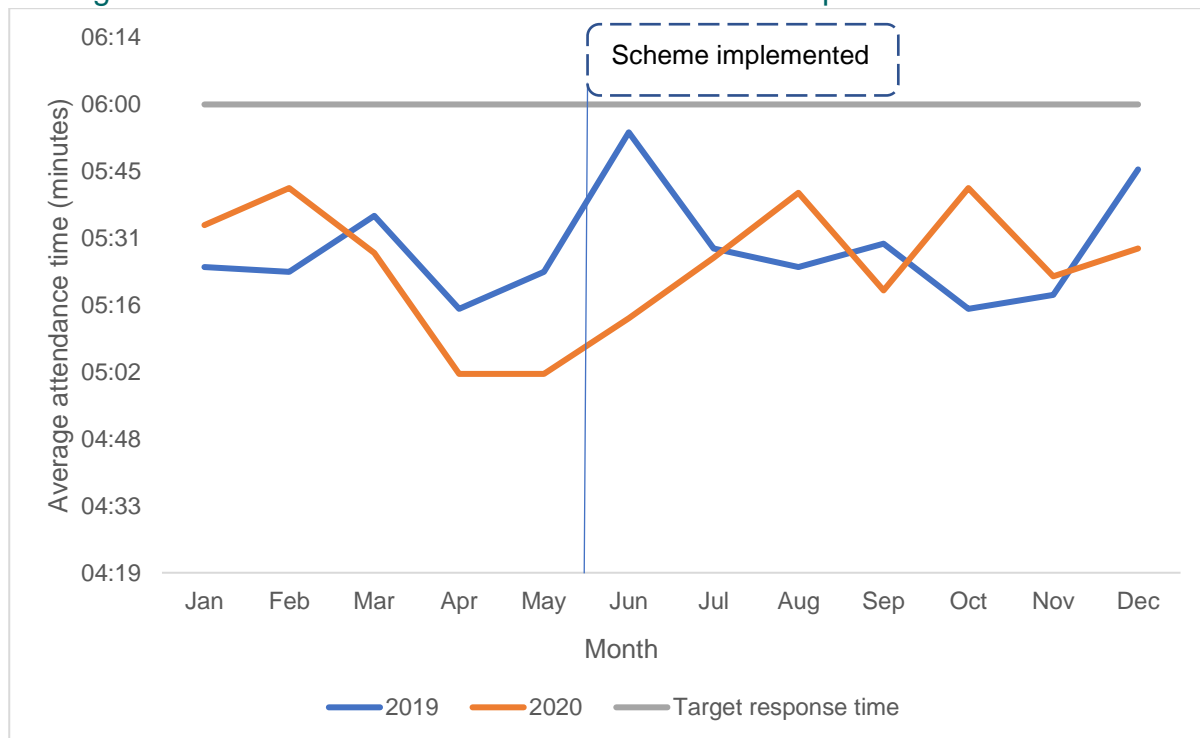
³ <https://data.london.gov.uk/dataset/incident-response-times-fire-facts>



The LFB’s Mobilisation Records⁴ have also been analysed for the fire stations locations in Camden near the Savernake Road Safe & Healthy Streets scheme (see the map).

The graphs below compare the average response times for the closest fire station to the Safe & Healthy Streets scheme in 2019 and 2020, which comprises Kentish Town Fire Station.

Average attendance time from Kentish Town Fire Station per month 2019-2020



Overall, the data indicates a 1% decrease in attendance times from Kentish Town Fire Station between 2019 and 2020. The graph demonstrates that the LFB is consistently meeting or bettering their response time targets of 6 minutes for a first fire engine to arrive, which supports the conclusions drawn by the LFB at this point regarding the impact of Safe & Healthy Streets schemes.

Camden Council continues to engage and consult with the London Ambulance Service (LAS) and Metropolitan Police Service (MPS) as part of the implementation of Safe & Healthy Streets programme and explore the ways to determine the effects of the Safe & Healthy Streets schemes on emergency response times.

⁴ <https://data.london.gov.uk/dataset/london-fire-brigade-mobilisation-records>



Appendix A: Traffic Data Methodology

Traffic Count Data

To monitor and review the impacts of the scheme, traffic count data has been collected before and after the opening of the scheme as follows:

- Before: Automatic Traffic Counters⁵ were used to collect data on hourly traffic volumes by direction and vehicle class before the scheme was constructed and prior to the COVID-19 pandemic and first lockdown. The data was collected between 10/06/2019 and 23/06/2019 with the average daily traffic volume calculated and reported by vehicle class for this period. The exception to this is the following:
 - Constantine Road (Site 1) count data was collected in between 06/03/2019-28/03/2019 for Eastbound traffic only.
 - Lisburne Road (Site 10) count data was collected between 15/03/2016-21/03/2016 for two-way traffic; and
 - Agincourt Road (Site 11) count data was collected between 15/03/2016-21/03/2016 for Eastbound traffic only (one-way).
- After: Automatic Traffic Counters² were used to collect data on hourly traffic volumes by direction and vehicle class after the scheme was constructed and post the COVID-19 pandemic and first lockdown. The data was collected for between 05/12/2020 and 18/12/2020 with the average daily traffic volume calculated and reported by vehicle class for this period.

If a full day of data was unavailable from the traffic counts, then this day was excluded from the average daily calculation of traffic volumes. The table below summarises the number of days of available date for each count site.

⁵ Automatic Traffic Counter – Typically pneumatic tubing that runs across the road, which records vehicle volumes and classification (by axle base separation) when wheels pass over the tube.



Days of available traffic survey data (sample)

Site ID	Road Name	Between	Sample (Days)	
			Pre-scheme	Post-scheme
1	Constantine Road	Agincourt Rd and Cressy Rd	21	13
2	Savernake Road	Rona Rd and Mansfield Rd	14	14
3	Mansfield Road	Rona Rd and Savernake Rd	12	13
4	Rona Road	Savernake Rd and Mansfield Rd	12	14
5	Estelle Road	Savernake Rd and Mansfield Rd	13	14
6	Savernake Road	Lisburne Rd and Roderick Rd	13	14
7	Courthope Road	Savernake Rd and Mansfield Rd	9	14
8	Shirlock Road	Savernake Rd and Mansfield Rd	10	14
9	Roderick Road	Savernake Rd and Mansfield Rd	14	11
10	Lisburne Road	Agincourt Rd and Constantine Rd	7	14
11	Agincourt Road	Cressy Rd and Lisburne Rd	7	13

At Constantine Road (Site 1) only Eastbound data was available from the 'Before-scheme' counts, as such only this direction of travel has been analysed pre- and post-scheme at this location.

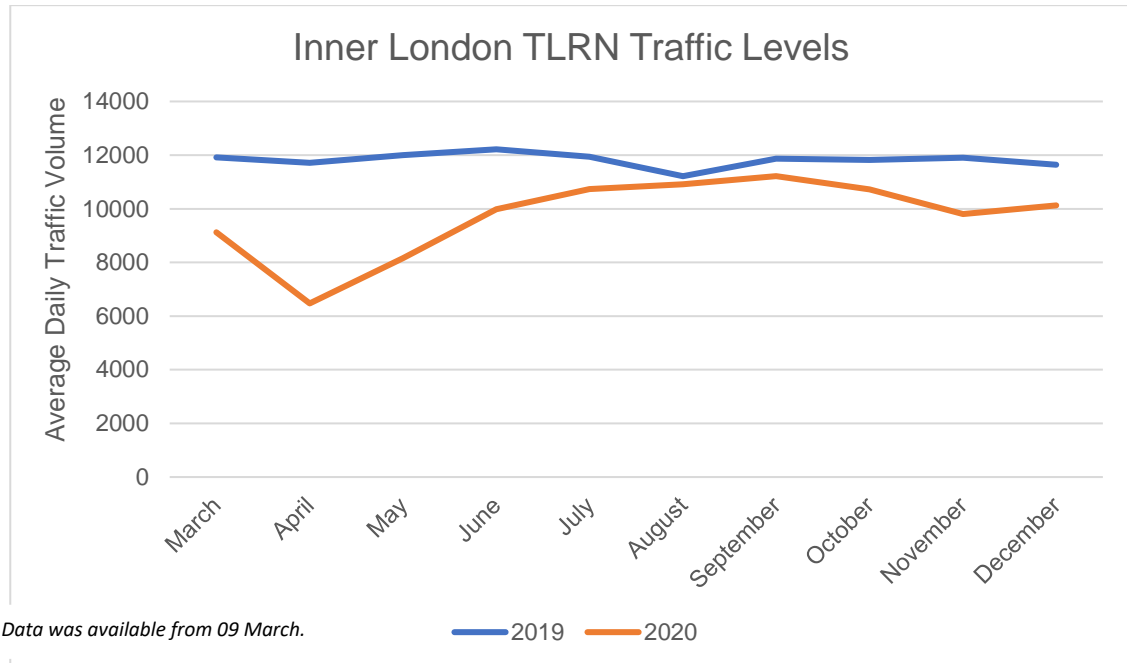
Traffic Count Data Adjustment

To monitor the effects of the scheme it has been necessary to complete traffic data collection during 2020 and at a time when travel patterns will have been affected by COVID-19 restrictions.

To account for this disruption and the influence of seasonality⁶, the post scheme traffic data has been adjusted as follows:

- 1) Data collected in December 2020 has been normalised to a 2019 (pre-COVID-19) baseline using a factor (1.1494) derived from continuous traffic count data provided by Transport for London for the Inner Transport for London Road Network (TLRN) for the appropriate month. For example, traffic volumes in December 2020 were 13% lower in Inner London than in December 2019.

⁶ Seasonality – Seasonal variation in travel patterns associated with changes in weather including temperature and rainfall.



- The data has been further adjusted to account for seasonal variations in traffic flows using a factor (1.0159) derived from comparing average daily traffic volumes in December 2019 to the daily average for 2019 from the Transport for London dataset. The before scheme data collected in March 2019 (0.9921) and June 2019 (0.9677) has also been adjusted for seasonality. The data collected pre-2019 has not been adjusted due to the availability of comparable continuous data at the time of writing and is therefore unadjusted.

The adjusted results provide an indication of the impacts of the scheme without COVID-19 and without the effects of seasonal variation in travel patterns. Both the unadjusted (raw) and adjusted traffic data are presented in the monitoring review for the scheme in the interests of transparency.

Appendix B: Traffic Data

Savernake Road Safe & Healthy Streets Scheme Daily Average (7-Day) Raw Data

Site ID	Road Name	Description	Direction	Before				After			
				PC/MC*	Light**	Heavy***	Total****	PC/MC	Light	Heavy	Total
1	Constantine Road	Agincourt Rd and Cressy Rd	Eastbound	144	599	23	622	224	294	5	299
2	Savernake Road	Rona Rd and Mansfield Rd	Eastbound	61	406	56	462	189	158	11	169
			Westbound	167	557	45	602	48	90	4	94
			Combined	228	963	100	1,064	237	249	15	263
3	Mansfield Road	Rona Rd and Savernake Rd	Eastbound	306	5,531	590	6,121	340	4,852	493	5,345
			Westbound	490	6,147	704	6,851	462	5,009	232	5,241
			Combined	795	11,677	1,294	12,971	802	9,861	725	10,586
4	Rona Road	Savernake Rd and Mansfield Rd	Northbound	25	392	51	442	7	118	5	123
			Southbound	14	117	13	130	8	97	5	101
			Combined	39	509	64	573	15	214	10	224
5	Estelle Road	Savernake Rd and Mansfield Rd	Northbound	32	403	58	461	19	147	6	153
			Southbound	18	124	11	136	20	108	6	114
			Combined	50	527	69	596	38	255	12	267
6	Savernake Road	Lisburne Rd and Roderick Rd	Eastbound	245	1,082	102	1,184	232	6	3	8
			Westbound	77	241	27	268	53	5	0	5
			Combined	321	1,323	129	1,452	285	10	3	13
7	Courthope Road	Savernake Rd and Mansfield Rd	Northbound	34	556	76	632	12	148	6	154
			Southbound	13	144	17	161	17	124	5	129
			Combined	47	700	93	793	29	272	11	283
8	Shirlock Road	Savernake Rd and Mansfield Rd	Northbound	37	548	77	625	8	140	6	146
			Southbound	21	148	22	170	14	183	10	193
			Combined	58	696	99	795	22	323	16	339
9	Roderick Road	Savernake Rd and Mansfield Rd	Northbound	54	407	58	465	4	126	10	136
			Southbound	38	171	17	187	5	126	4	130
			Combined	92	578	75	653	10	252	14	266
10	Lisburne Road	Agincourt Rd and Constantine Rd	Northbound	8	80	2	82	10	84	8	92
			Southbound	34	246	6	252	24	213	25	238
			Combined	43	326	8	334	34	296	33	329
11	Agincourt Road	Cressy Rd and Lisburne Rd	Eastbound	375	9,472	122	9,594	718	8,999	890	9,898

*PC=pedal cycle, MC=motorcycle. **Light=Light vehicles including cars and LGVs ***Heavy=OGVs and PSVs ****Total excludes PC/MC

Savernake Road Safe & Healthy Streets Scheme Daily (7-Day) Adjusted Data

Site ID	Road Name	Description	Direction	Before				After			
				PC/MC*	Light**	Heavy***	Total****	PC/MC	Light	Heavy	Total
1	Constantine Road	Agincourt Rd and Cressy Rd	Eastbound	144	594	23	617	224	343	6	349
2	Savernake Road	Rona Rd and Mansfield Rd	Eastbound	61	393	54	447	189	185	12	197
			Westbound	167	539	43	583	48	105	5	110
			Combined	228	932	97	1,029	237	290	17	307
3	Mansfield Road	Rona Rd and Savernake Rd	Eastbound	306	5,352	571	5,923	340	5,666	576	6,241
			Westbound	490	5,949	681	6,630	462	5,849	271	6,120
			Combined	795	11,301	1,252	12,553	802	11,515	846	12,361
4	Rona Road	Savernake Rd and Mansfield Rd	Northbound	25	379	49	428	7	137	6	143
			Southbound	14	113	13	126	8	113	5	118
			Combined	39	492	62	554	15	250	11	261
5	Estelle Road	Savernake Rd and Mansfield Rd	Northbound	32	390	56	446	19	172	7	179
			Southbound	18	120	11	131	20	126	6	133
			Combined	50	510	67	577	38	298	14	312
6	Savernake Road	Lisburne Rd and Roderick Rd	Eastbound	245	1,047	99	1,146	232	7	3	10
			Westbound	77	233	26	259	53	5	0	5
			Combined	321	1,280	125	1,405	285	12	3	15
7	Courthope Road	Savernake Rd and Mansfield Rd	Northbound	34	538	73	612	12	173	7	180
			Southbound	13	139	17	156	17	144	6	150
			Combined	47	678	90	767	29	317	13	330
8	Shirlock Road	Savernake Rd and Mansfield Rd	Northbound	37	530	74	604	8	164	7	170
			Southbound	21	144	21	165	14	214	12	226
			Combined	58	674	95	769	22	378	18	396
9	Roderick Road	Savernake Rd and Mansfield Rd	Northbound	54	394	56	450	4	147	11	159
			Southbound	38	165	16	181	5	147	5	152
			Combined	92	559	72	632	10	294	16	310
10	Lisburne Road	Agincourt Rd and Constantine Rd	Northbound	8	80	2	82	10	98	9	107
			Southbound	34	246	6	252	24	248	29	277
			Combined	43	326	8	334	34	346	38	384
11	Agincourt Road	Cressy Rd and Lisburne Rd	Eastbound	375	9,472	122	9,594	718	10,508	1,039	11,547

*PC=pedal cycle, MC=motorcycle. **Light=Light vehicles including cars and LGVs ***Heavy=OGVs and PSVs ****Total excludes PC/MC

Count Sites 10 and 11 'Before' data is unadjusted due to unavailability of 2019 data

Appendix C: Air Quality Data

Raw air quality data for Savernake Road (Gospel Oak Primary School) monitoring site

2019/2020 raw No2 ($\mu\text{g}/\text{m}^3$)		2020/2021 raw No2 ($\mu\text{g}/\text{m}^3$)		% Change
Sep-19	25.09	Sep-20	20.81	-17%
Oct-19	27.08	Oct-20	25.56	-6%
Nov-19	33.81	Nov-20	32.30	-4%
Dec-19	32.04	Dec-20	29.07	-9%
Jan-20	34.44	Jan-21	31.44	-9%
Feb-20	28.32	Feb-21	26.53	-6%

Bias-adjusted and average annual mean air quality data for Savernake Road (Gospel Oak Primary School) monitoring site

Year	Bias-adjusted average annual mean ($\mu\text{g}/\text{m}^3$)
2019	24.44
2020	18.72

Appendix D: Emergency Response Times

Kentish Town Fire Station average response times in seconds

Month	2019	2020	% change
Jan	325	334	3%
Feb	324	342	5%
Mar	336	328	-2%
Apr	316	302	-5%
May	324	302	-7%
Jun	354	314	-11%
Jul	329	327	-1%
Aug	325	341	5%
Sep	330	320	-3%
Oct	316	342	8%
Nov	319	323	1%
Dec	346	329	-5%
Total	329	325	-1%