

Corstorphine Connections - Low Traffic Neighbourhood

Baseline Data Collection – Summary Note

City of Edinburgh Council

July 2023

Introduction

AECOM was commissioned by The City of Edinburgh Council to provide consultancy support to carry out associated pre and post monitoring and evaluation tasks for the Corstorphine Connections project.

This document summarises the results from the following baseline surveys:

1. **Automatic Traffic Counts (ATCs);**
2. **Pedestrian/Cycle surveys;**
3. **Pedestrian Movement Tracing surveys;**
4. **School surveys;**
5. **Acoustic surveys; and**
6. **Air Quality.**

The sites are as follows:

Site A – Meadow Place Road;
Site B – St John's Road;
Site C – Station Road;
Site D – Pinkhill;
Site E – Balgreen Road;
Site F – Ladywell Avenue;
Site G – Dovecot Road;
Site H – Broomhall Crescent;
Site I – Saughton Road North;
Site J – Broomhouse Drive;
Site K – Ladywell Road;
Site L – Featherhall Avenue;
Site M – Manse Street;
Site N – Manse Road;
Site O – Corstorphine High Street;
Site P – Kirk Loan; and
Site Q – Lampacre Road.

1. Automatic Traffic Counts

A summary of the ATC results from surveys undertaken between 7th of November and 13th the November 2021 is given in Figure 2.1. Results are given for each of the 16 sites labelled A-P. The following results are given:

- Average number of vehicles (weekday);
- Average northbound/eastbound AM peak hour flow (weekday) and the average northbound/eastbound PM peak hour flow (weekday);
- Average southbound/westbound AM peak hour flow (weekday) and the average southbound/westbound PM peak hour flow (weekday);
- Average northbound/eastbound AM peak speed (weekday) and the average northbound/eastbound PM peak speed (weekday);
- Average southbound/westbound AM peak speed (weekday) and the average southbound/westbound PM peak speed (weekday);

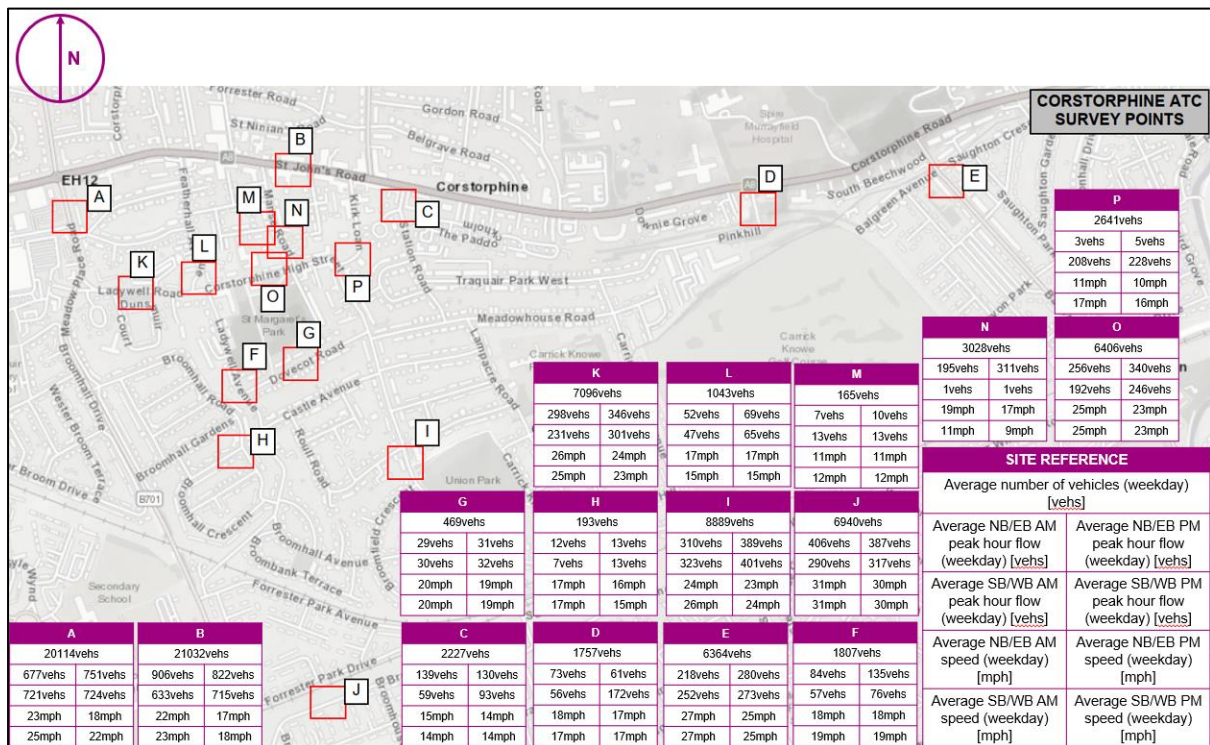


Figure 1.1 – Summary of ATC surveys

2. Pedestrian/Cycle Surveys

A summary of the pedestrian/cycle surveys results is given in Figure 3.1. Results are given for each of the 8 sites; I, K, L, M, N, O, P, and Q which correspond to the respective sites shown in Figure 2.1. The surveys were undertaken on Tuesday 9th, Thursday 11th and Saturday 13th of November 2021 at all sites except Site O which were undertaken on Tuesday 16th, Thursday 18th and Saturday 20th of November 2021. The following results are given for both pedestrians and cyclists:

- Average number on a weekday and weekend;
- Average northbound/eastbound AM peak hour flow (weekday and weekend) and the average northbound/eastbound PM peak hour flow (weekday and weekend); and
- Average southbound/westbound AM peak hour flow (weekday and weekend) and the average southbound/westbound PM peak hour flow (weekday and weekend).

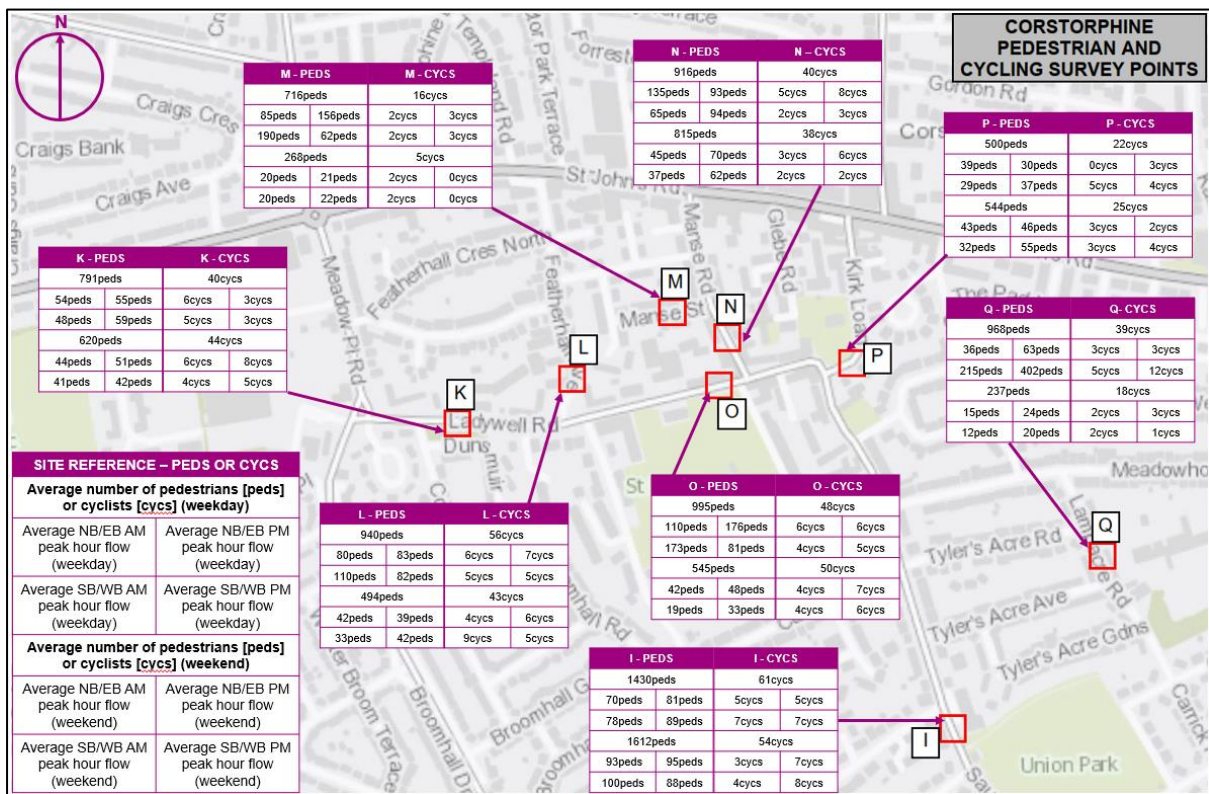


Figure 2.1 - Summary of pedestrian and cycle surveys

3. Pedestrian Movement Tracing

An overview of the results from the pedestrian movement tracing is given in this section. Results are given for the 8 sites in a series of tables. Results were given in peak hourly intervals and a combined movement tracing for the 12-hour survey period was also produced. The pedestrian movement tracing surveys at each site were undertaken on the same dates in November 2021 as the Pedestrian/Cycle Surveys as detailed in the previous section. The following set of tables shows the movement tracing for each site at the following intervals:

- 8am-9am;
- 4pm-5pm; and
- 7am-7pm

This is replicated for each of the three survey days per site.

The movement tracing for Site I is given in Table 3.1.

Table 3.1 - Site I (Saughton Road North) pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the footway on the east side of the road is well used by people accessing the shops. The uncontrolled crossing point appears to be well used and it is likely that pedestrians crossing here are accessing the shops. There is evidence that a significant number of pedestrians cross Saughton Road south of the uncontrolled crossing point.

The movement tracing for Site K is given in Table 3.2.

Table 3.2 - Site K (Ladywell Road) pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the north and south footways are well used and there is some evidence of pedestrians crossing Ladywell Road between the footways.

The movement tracing for Site L (Featherhall Avenue) is given in Table 3.3.

Table 3.3 - Site L pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the footways on the east and west sides of Featherhall Avenue are well used. There is evidence of pedestrians crossing Featherhall Avenue.

The movement tracing for Site M is given in Table 3.4.

Table 3.4 - Site M (Manse Street) pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows a significant number of pedestrian movements across Manse Street in the direction of Corstorphine Primary School. The greatest number of movements are at the time intervals 8am-9am and 3pm-4pm which would indicate that these movements are due to pedestrians accessing and leaving the school. There is no crossing provision on Manse Street.

The movement tracing for Site N is given in Table 3.5.

Table 3.5 - Site N (Manse Road) pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the footways on the east and west sides of Manse Road are well used. There is evidence of movements on the road next to the eastern footway and there are few movements across Manse Road.

The movement tracing for Site O is given in Table 3.6.

Table 3.6 - Site O (Corstorphine High Street) pedestrian movement tracing

	Tuesday 6/11/21	Thursday 18/11/21	Saturday 20/11/21
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the footways on north and south sides of Ladywell Road. There is evidence of movements across Ladywell Road in the direction of the bus stop situated on the southern footway where there is no crossing provision.

The movement tracing for Site P is given in Table 3.7.

Table 3.7 - Site P (Kirk Loan) pedestrian movement tracing

	Tuesday (9/11/21)	Thursday (11/11/21)	Saturday (13/11/21)
AM (8am - 9am)			
PM (4pm - 5pm)			
All day (7am - 7pm)			

Summary – the tracing shows that the footways on the south and north sides of Kirk Loan are well used with a greater number of movements on the southern side. There is some evidence of pedestrians crossing Kirk Loan but it doesn't appear to be significant.

The movement tracing for Site Q is given in Table 3.8.

Table 3.8 - Site Q (Lampacre Road) pedestrian movement tracing



Summary – the tracing shows that the footways on the east and west side of Lampacre Road are well used. There is evidence of limited movements on the street and some movements crossing Lampacre Road.

4. School Hands-up Surveys

Surveys were conducted at two primary schools to determine how the pupils travelled to school. Table 4.1 gives a summary of the totals for each of the specified modes of transport for Carrick Knowe Primary School. The results are illustrated in Figure 4.1 and walking is the dominant mode of transport. Travel by public transport is low and a relatively small proportion of pupils are driven to school compared to those walk cycle or use a scooter/skate.

Table 4.1 - Carrick Knowe Primary School survey summary

	Walk	Cycle	Scooter/Skate	Park and Stride	Driven	Bus	Taxi	Other
Total	146	17	22	30	40	1	3	0
Percentage of total	56.4%	6.6%	8.5%	11.6%	15.4%	0.4%	1.2%	0.0%

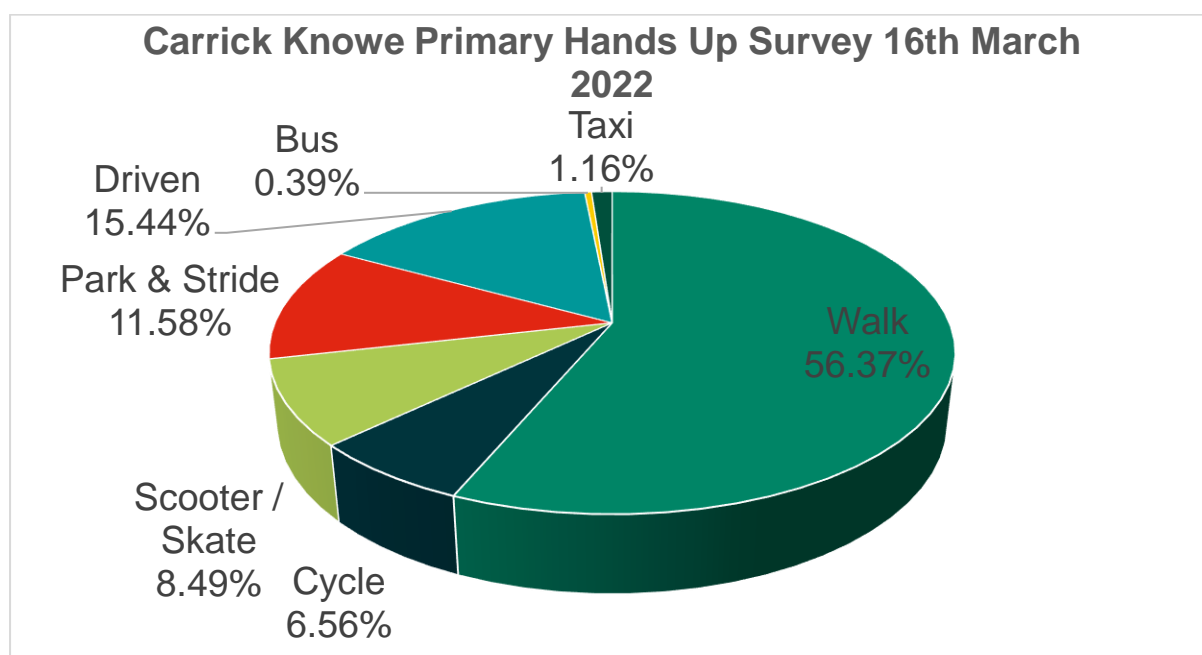


Figure 4.1 - Carrick Knowe Primary School survey summary chart

Table 4.2 gives a summary of the totals for each of the specified modes of transport for Corstorphine Primary School. The results are illustrated in Figure 4.2 and similarly to the results for Carrick Knowe, walking is the dominant mode of transport. The number of pupils who cycle to school is low at approximately 2%. Park and stride accounts for 21.4% of journeys.

Table 4.2 - Corstorphine Primary School survey summary

	Walk	Cycle	Scooter/Skate	Park and Stride	Driven	Bus	Taxi	Other
Total	280	9	30	107	57	16	0	1
Percentage of total	56.0%	1.8%	6.0%	21.4%	11.4%	3.2%	0.0%	0.2%

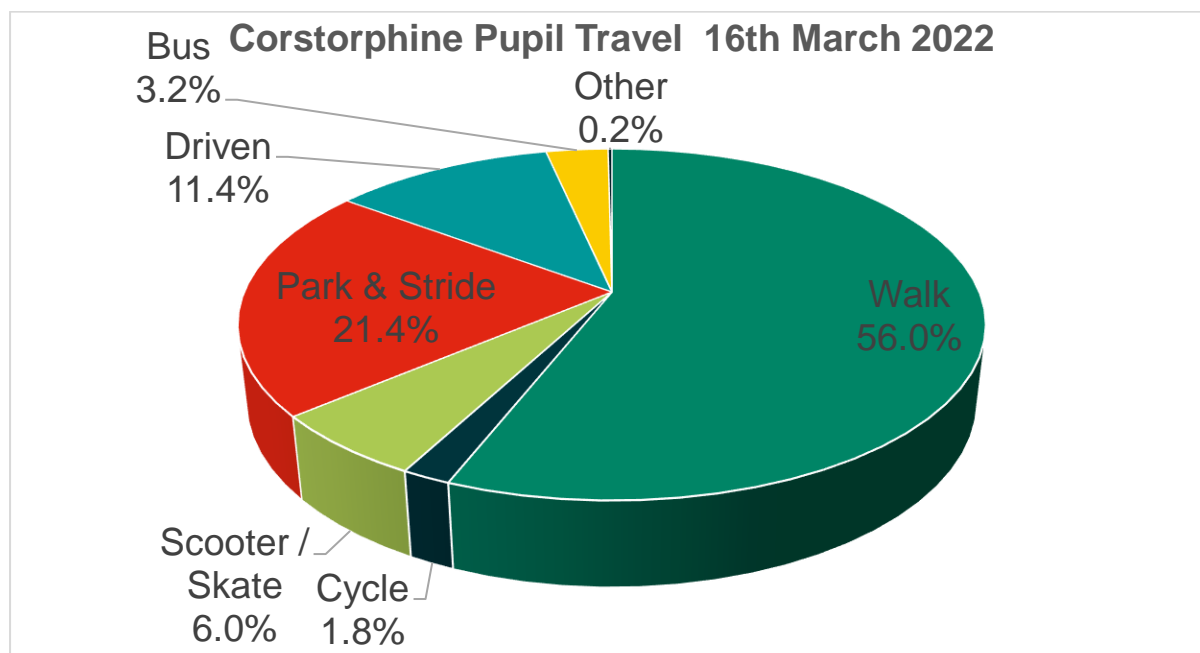


Figure 4.2 - Corstorphine Primary School survey summary chart

5. Acoustic Surveys

Noise monitoring was undertaken to coincide with selected automatic traffic counts (ATCs). Measurements were conducted using the shortened Calculation of Road Traffic Noise (CRTN¹) method. A total of five locations were monitored; B, I, L, N, and O where ATC's were simultaneously surveyed. Monitoring was conducted at different times on two separate days at the same locations to consider variations that may occur on specific days or at specific times.

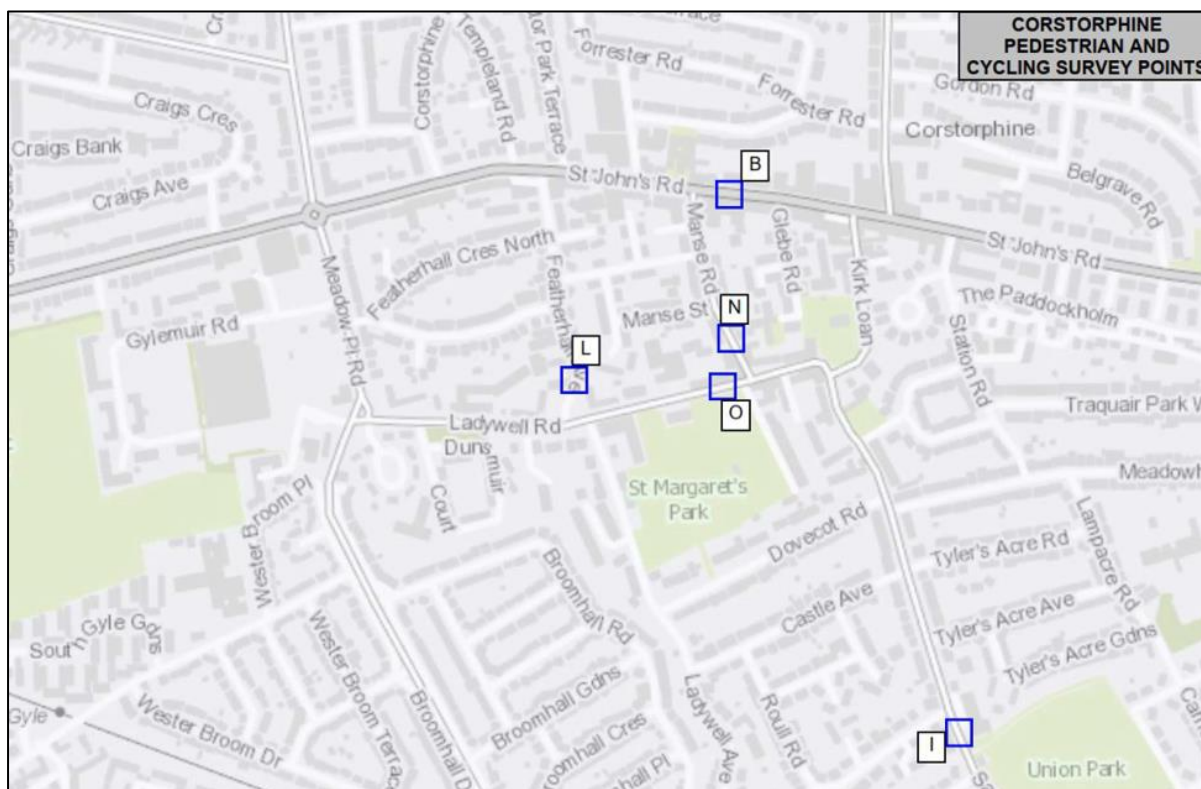


Figure 5.1 – ATC noise survey locations

The results of the noise monitoring are given in Table 4.1. The results show a range of L_{Aeq} values between 56 dB and 69 dB, L_{A10} values ranged from 58 dB to 72 dB, L_{A90} values were range between 45 dB and 62 dB, and $L_{A_{fmax}}$ values ranged from 79 dB to 95 dB.

The dominant sound source at all locations was road traffic, although several other extraneous sources also contributed to the sound levels at all locations. This mainly included sounds from pedestrians passing by and sounds from children playing at the nearby primary school (locations L and O).

The sound levels at B, I and O are typical for roadside locations along a road with a 30mph speed limit in urban areas. The sound levels at L and N are typical for roadside locations along a road with a 30mph speed limit in residential areas.

¹ Department of Transport, Welsh Office (1988) Calculation of Road Traffic Noise (CRTN)

Table 5.1 - Noise monitoring results

Measurement Location	Free-field/ Façade	Measurement Period	L _{Aeq, 3hr} (dB)	L _{A10, T} (dB)	L _{A90, T} (dB)	L _{AFmax} (dB)
B	Façade	09/11/21 14:00 - 17:00	69	72	62	98
		11/11/21 10:00 - 13:00	69	72	62	94
I	Façade	09/11/21 15:15 - 17:13*	67	71	54	84
		11/11/21 10:00 - 13:00	65	69	49	85
L	Free-field	09/11/21 10:00 - 14:00	56	58	48	79
		11/11/21 14:00 - 17:00	56	59	45	86
N	Façade	09/11/21 10:00 - 13:00	61	65	47	92
		11/11/21 14:00 - 17:00	62	66	46	88
O	Façade	09/11/21 10:00 - 13:00	68	72	52	90
		11/11/21 14:00 - 17:00	67	71	50	95

* Equipment error - only 2 hours of measurements were done at this location on the first day

6. Air Quality

Diffusion tube surveys have been undertaken at 25 locations to establish baseline nitrogen dioxide (NO₂) concentrations around Corstorphine ahead of implementation of a Low Traffic Neighbourhood (LTN).

The below table summarises raw NO₂ diffusion tube results, undertaken between November 2021 and May 2022. The air quality survey will be repeated once the LTN is in place, and the two sets of data compared to indicate potential air quality effects.

Table 6.1 Averaged, annualised and bias adjusted diffusion tube survey results

Tube	Period Mean	Period Mean (2021 adjusted)	Annualised Mean 2021	Bias Adjusted and Annualised Mean 2021
Cor 1	28.4	29.4	25.5	23.5
Cor 2	17.5	18.1	15.2	14.0
Cor 3	15.9	16.5	14.6	13.5
Cor 4	16.6	17.3	15.3	14.1
Cor 5	15.3	15.8	14.0	12.9
Cor 6	15.0	15.6	13.8	12.7
Cor 7	15.8	16.6	14.1	13.0
Cor 8	17.8	18.3	15.4	14.2
Cor 9	22.2	22.9	22.3	20.6
Cor 10	23.0	23.9	21.1	19.4
Cor 11	16.5	17.1	15.1	13.9
Cor 12	16.4	17.1	15.1	13.9
Cor 13	18.6	19.3	17.1	15.7
Cor 14	20.9	21.6	21.2	19.5
Cor 15	17.2	17.8	15.7	14.5
Cor 16	33.4	34.6	30.6	28.2
Cor 17	36.9	38.3	33.9	31.2
Cor 18	27.0	28.1	24.8	22.8
Cor 19	27.3	28.3	27.8	25.6
Cor 20	25.9	26.9	23.8	21.9
Cor 21	28.8	29.9	26.5	24.3
Cor 22	14.8	15.4	13.6	12.5
Cor 23	15.8	16.4	14.5	13.3
Cor 24	16.1	16.6	14.7	13.5
Cor 25	16.1	16.7	14.8	13.6

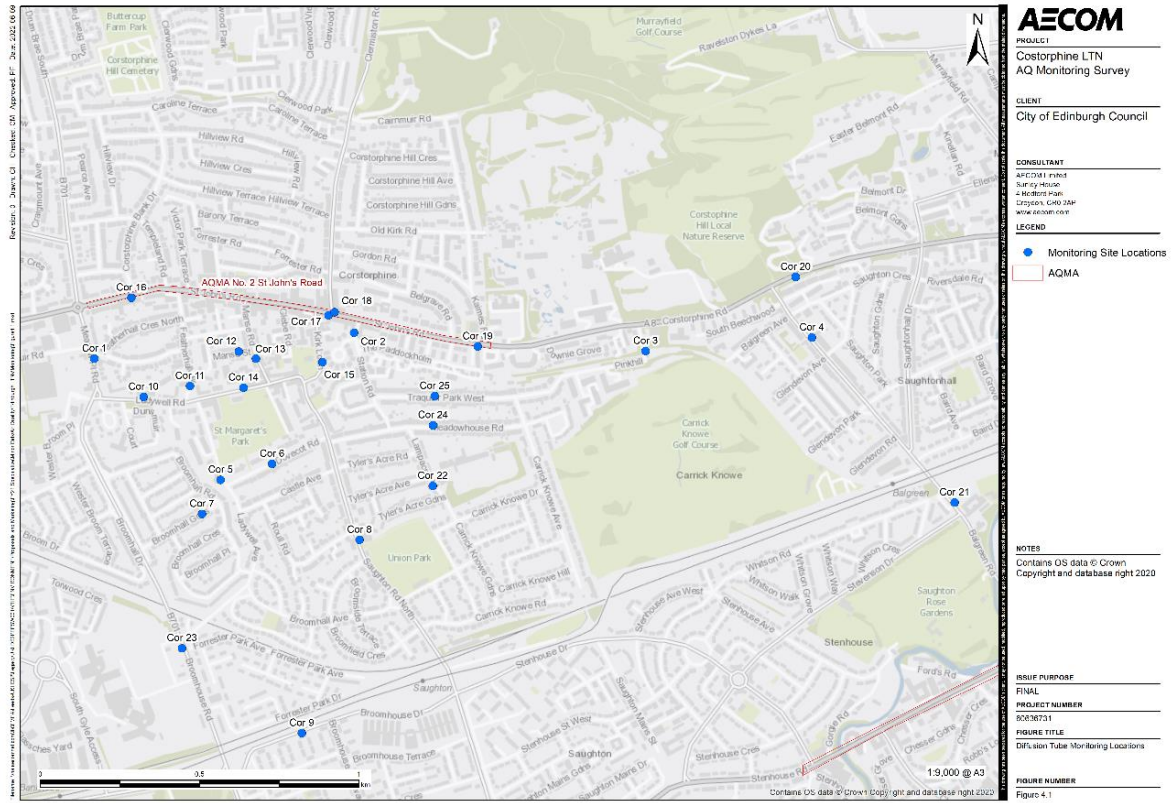


Figure 6.1 – Diffusion tube survey locations

