POLLUTION REPORT

[Created 5th February 2021]

Air Quality Management Area 5 (AQMA5), Greenstreet/Teynham/Lynsted

This evidence is submitted in Objection to 19/505036/OUT | Outline application for the erection of up to 86no. residential dwellings, including 50% affordable housing (Access being Sought), as amended by drawings received 28th May 2020 and further amended by drawings information and drawings received 18/11/2020 and 26/01/2021. | Land South Of London Road Teynham Kent ME9 9QJ

Submitted by: Mr N Heriz-Smith, Woodthorpe Cottage, 138 London Road, Lynsted, ME99QH.
Date: 8th February 2021

INTRODUCTION

Devices Used: The following Report is based on measurements using Plume Laboratories – Flow Devices.

Device Sampling Rate and Accuracy: Data is recorded continuously. These devices operate within the following tolerances - Flow is at 90 to 95% correlation with static reference monitors in benchmark tests for the core pollutants measured. Data is securely stored on remote (cloud) servers maintained by the manufacturer. Full data export can be requested.

Data Quality Comparisons with Swale Borough Council (SBC).

- **Flow Devices Measure**: ***Appendix 1***
  - NOx, PM2.5, PM10 and VOCs. The daily data is recorded on the "Pollution Diary" Web Pages to be found on www.aqma5.co.uk.
  - Spot data (138 London Road, which sits to the west of the AQMA5 area) and mobile data.
- **Swale Borough Council**
  - Employs fixed single diffusion tubes that are supposed to be mounted at several points - diffusion tubes are not always present at all sites. These devices are notoriously inaccurate and unreliable at measuring Nitrogen dioxide (NOx). They only measure pollution **averaged** over the period between installation and collection.
  - In AQMA5, SBC has made **no effort** to record the **full range** of the most harmful pollutants prioritised by Government on health grounds.
  - Fails to record 'real time' peaks and troughs of pollution, rendering it useless for detecting hourly and daily exceedances.

Presentation of Data.

Data has been collected during pre-Covid (http://aqma5.co.uk/Pollution_Diary_Year_1.html) and Covid (: http://aqma5.co.uk/Pollution_Diary.html) periods. The presentation of data is in the public domain. Those measurements span the period – February 2019 to date.

This report focuses on the pre-Covid data collection as being more representative of 'normal' conditions in Greenstreet. The 'Covid-19 data' is distorted by Government policies restricting movements.

Flow devices empower users continuously to record data trends, peaks, and troughs of each pollutant at static sites and when on the move **[Appendix 2]**. The Flow devices enable mapping of the spread of pollution.

This Report presents the available data as:

- Tabular record of 24-hour averages for each pollutant;

- “Exceedances” of safe levels of individual pollutants over one hour (for VERY HIGH levels of pollution) and 24-hours (for HIGH levels of pollution). The Report employs colour coding (‘traffic light’ system) in line with international practice.
- Annual Baseline Pollution - rarely dropping below MODERATE. “Moderate” pollution, measured over a year, is an “exceedance” in itself.

SUMMARY - 22nd February 2019 to 29th February 2020

AIR QUALITY INDICATOR (AQI) USED ON THE SITE

0 - 20	21 - 50	51 - 100	101+
no health concerns	*one year* is harmful (WHO)	*24 hours* is harmful	*1 hour* harmful

(Bear in mind, there are no known lower safety levels for PM2.5)

Pollution "Exceedance" Episodes

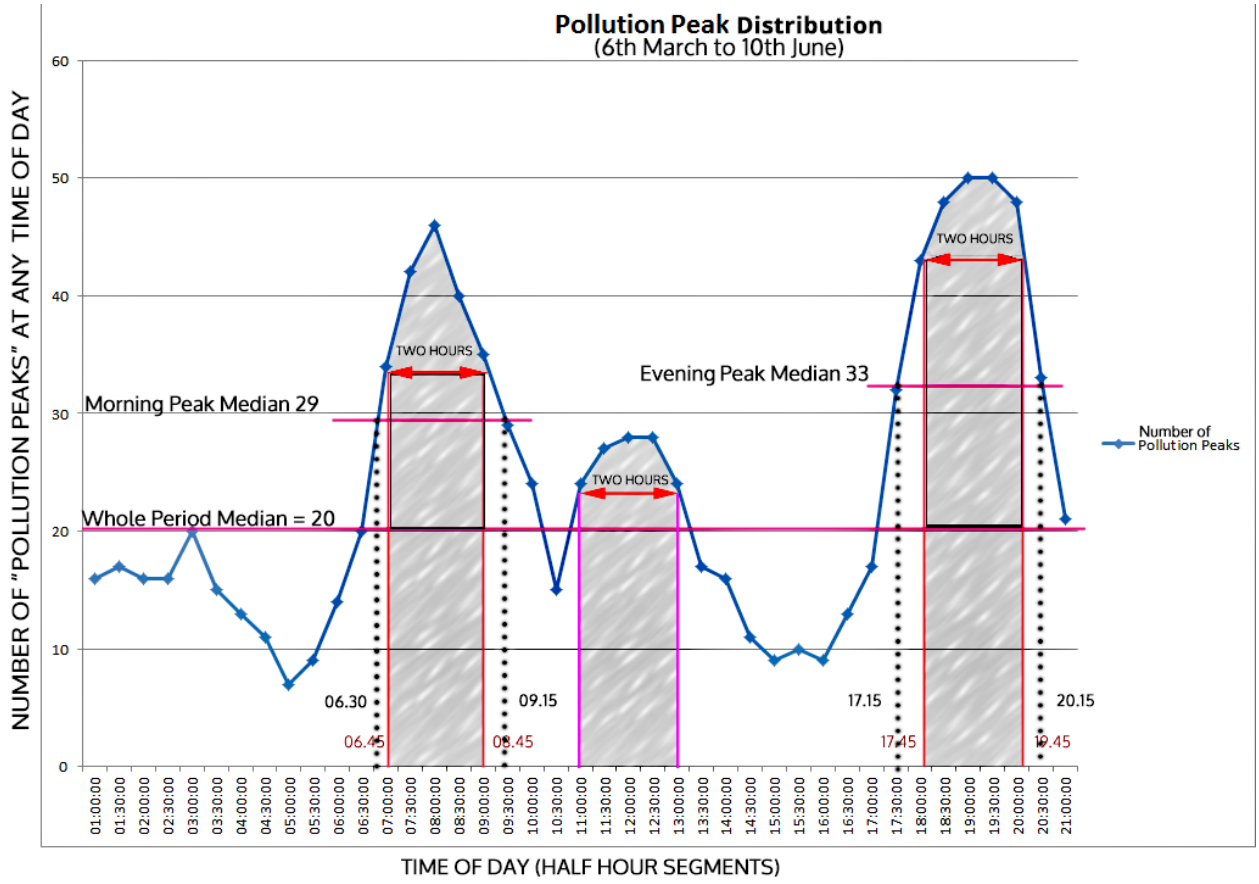
"Very High" Pollution lasting for more than one hour – 41 days with at least one "exceedance" (some days had multiple exceedances) – See illustrations at Appendix 1

"High" Pollution lasting 24-hours or more - 37 days of "exceedances" – See Appendix 1

"Moderate" Pollution – 353 days measured "Moderate or above" [only 12 days were "green" along Greenstreet]

"Low" Pollution – 12 days only

Distribution of "most polluting" peak episodes (calculated in 2019)



APPENDIX 1: TABULAR DATA [Active links to maps]

Data - February 2019 - February 2020

ss							
	Toxic Pollution Levels					Exceedances (time and duration)		
Date	PM2.5	PM10	NO2	VOCs	Daily Average	High (24 hours or more)	Very High + (1 hour or more)	Graphs, Maps and Comments
22 February 2019	51	48	9	19	HIGH	Exceedance	Exceedance:- 20.55pm - 21.55pm - PM2.5 & PM10 -	Graph; Wind SW to SE
22 (13.00pm) - 25 (10.54am) February	54	53	25	17	HIGH	Exceedance over 2 days and 8 hours		Graph; Wind SW to SE
24 February	52	49	16	18	HIGH			
25 February	56	55	25	16	HIGH	Exceedance	Exceedance:- 18.00pm - 20.20pm - PM2.5 & PM10 -	Graph; Wind SE
26 February	56	58	27	17	HIGH	Exceedance	Exceedance:- 17.05pm - 18.20pm - PM2.5 & PM10 -	Graph; Wind SE - E - SE
27 February	50	50	32	23	HIGH	Exceedance		Graph with map; Wind S - SW
28 February	44	47	19	32	MODERATE		Exceedances:- Midnight - 03.50am - PM2.5 & PM10 - 17.25 -18.38 - PM2.5 & PM10 -	Graph & map; Heavy overnight traffic. Wind SW - W

MARCH 2019								
	Toxic Pollution Levels					Exceedances (time and duration)		
Date	PM2.5	PM10	NO2	VOCs	Daily Average	High (24 hours or more)	Very High + (1 hour or more)	Graphs, Maps and Comments
1 March	**74**	**98**	**21**	19	HIGH	**Exceedance**	**Exceedances:- 03.20am - 06.05am - PM2.5 - PM10 - 11.00 am - 21.30pm - PM2.5 & PM10 -**	Graph; Heavy traffic. Wind veering NW - SW. Rain 2.30mm
2 March **NO DATA**	-	-	-	-	-			**NO DATA**
3 March	**25**	18	3	**29**	MODERATE			Graph; Wind SW; Rain all day 14mm.
4 March	**31**	**23**	5	19	MODERATE		**Exceedance:- 17.36pm - 18.53pm - PM2.5 & PM10 -**	Graph; Wind SW - WSW; Rain all day 13.2mm
5 March	**37**	**30**	4	16	MODERATE		**Exceedance:- 17.47pm - 20.16pm - PM2.5 & PM10 -**	Graph; Wind WSW - S. Rain evening 0.9mm
6 March	**28**	20	5	**28**	MODERATE			Graph; Wind S - SSW. Rain 2.9mm
7 March	**24**	13	5	**28**	MODERATE			Graph; Wind SW - W (20kph). Rain 0.6mm p.m.
8 March	**23**	12	17	20	MODERATE			Graph; Wind W - SW. Dry
9 March	**29**	**27**	8	**25**	MODERATE			Graph; Wind SW - W. Rain 0.5mm
10 March	**35**	**32**	14	**22**	MODERATE		**Exceedance:- 17.26pm - 19.18pm - PM2.5 & PM10 -**	Graph; Wind S - W. Rain 13.1mm (morning)

11 March	**32**	**27**	**25**	19	MODERATE		**Exceedance:- 17.53pm - 19.56pm - PM2.5 & PM10 -**	Graph with Map to Lower Road. Wind W - NW - SW (25kph). Dry.
12 March	**32**	**29**	3	**32**	MODERATE		**Exceedance:- 17.43pm - 19.00pm - PM2.5 & PM 10 -**	Graph; Wind SSW - WSW. Rain 17.20mm (all day)
13 March	**27**	**22**	7	**36**	MODERATE			Graph; Wind WSW - W (35kph); Rain 1.5mm (pm)
14 March	**28**	**22**	4	**42**	MODERATE		**Exceedance:- 18.24pm - 19.40pm - PM2.5 & PM10 -**	Graph & Map (Dully Road-Lynsted Lane); Wind W - WSW. Rain 4.6mm
15 March	15	2	4	**63**	HIGH	**Exceedance**		Graph; Wind SW - W - WSW (30kph). Rain 8.6mm (all day)
16 March	**21**	15	5	**65**	HIGH	**Exceedance**	**Exceedance:- 19.21pm - 20.23pm - VOCs -**	Graph; Wind WSW - W. Rain 6.50mm (all day).
17 March	15	2	6	**36**	MODERATE			Graph; Wind SW - W. 7.70mm (am & pm)
18 March	**31**	**30**	6	**22**	MODERATE		**Exceedance:- 19.04pm - 20.04pm - PM2.5 & PM10 -**	Graph; Wind NW - SW. Rain 0.9mm. Very High pollution spikes from 4pm onwards.
19 March	20	9	**39**	**33**	MODERATE			Graph. Wind WSW - SW - Light. Rain 1.2mm.
	18	4	**124**	13	VERY HIGH		*Jogging: A2 and Lower Road/Deerton Street (40min)*	Map (**Very High NOx**)
20 March	20	10	6	**39**	MODERATE			Graph. Wind WSW - SW Light. Rain 0.2mm.

21 March	**36**	**28**	8	**42**	MODERATE			Graph & Map (High). Wind SW Light. Dry. Pollution rising.
22 March	**47**	**38**	9	**36**	MODERATE			Graph. Peaks (PMs & VOCs). Wind SSW - SW Light. Dry. Pollution rising.
23 March	**41**	**39**	7	**28**	MODERATE			Graph. Peaks (PMs).Wind WSW - W - NW - NE - ENE, stiffening wind. Rain 0.3mm.
24 March	**46**	**49**	19	**21**	MODERATE		**Exceedances:- 23.20pm - 01.00 am; 02.07am - 03.50am; - PM2.5 & PM10 -**	Graph. Pollution Exceedances overnight. Wind NE - NW strengthening. Dry.
25 March	20	14	18	**22**	MODERATE		**Exceedance:- 19.58pm - 21.04pm - NOx & VOCs -**	Graph & Map. NOx & VOC. Exceedance. Wind NNW - N. Dry.
26 March	**28**	**24**	**29**	**30**	MODERATE		**Exceedance:- 14.46pm - 16.16pm - NOx & VOCs -**	Graph. NOx. Wind N - NNW (15 kph). Dry
27 March	**32**	**25**	2	**34**	MODERATE			Graph.WNW - NW (9 kph). Rain 0.1mm.
28 March	**46**	**39**	8	**39**	MODERATE			Graph. Wind W - N - SE Light. Rain 0.3mm. Pollution increasing.
29 March	**78**	**92**	10	**29**	HIGH	**Exceedance**	**Exceedances:- 09.18am - 13.24pm; 17.24pm - 20.53pm; 21.36pm - 00.50am - PM2.5 and PM10 -**	Graph.Wind SSE - S - SE Very light. Dry. Particulate Matter sharply increased.

30 March	**101**	**142**	17	**49**	VERY HIGH	**Exceedance**	**Exceedances:- All Day (with 4 short dips to "HIGH")**	Graph & Map. Wind SE - NE - SSE Very Light. Rain 4.8mm
31 March	**49**	**68**	4	**34**	HIGH	**Exceedance**	**Exceedances:- 00.00am - 0630am**	Graph. Wind NE - ENE (25kph); Rain 0.5mm
APRIL 2019								
	Toxic Pollution Levels					**Exceedances (time and duration)**		
Date	**PM2.5**	**PM10**	**NO2**	**VOCs**	**Daily Average**	**High (24 hours or more)**	**Very High + (1 hour or more)**	**Graphs, Maps and Comments**
1 April	**32**	**32**	**45**	**32**	MODERATE		**Exceedances:- 08.00am - 10.00am; 19.46pm - 20.47pm - NOx -**	Graph. NOx highest. Wind ENE. Rain 0.7mm.
2 April	**68**	**78**	16	**30**	HIGH	**Exceedance**	**Exceedances:- 06.33am - 13.20pm - PM2.5 & PM10 - 16.50pm - 18.20pm - NOx & VOCs -**	Graph. PMs in morning; NOx and VOCs in evening. Wind N - SW - W. Rain 6.60mm.
28 March to 2 April Average	**85**	**112**	**11**	**38**	VERY HIGH	**Exceedance**	*Dominated by PM10 pollution. "Spot" monitoring (i.e. not jogging)*	Graph.
3 April	**58**	**51**	**27**	**21**	HIGH	**Exceedance**	**Exceedances:- 15.26pm - 16.40pm; - NOx - 20.27pm -**	Graph. Wind SW - N - SE - SSW (8kph); Rain 5.1mm

							23.16pm - PM2.5 & PM10 -	
4 April	**46**	**33**	**32**	**29**	MODERATE		**Exceedance:- 08.38am - 11.36am - NOx & VOCs -**	Graph. Wind S - SSE (25kph); Rain 1.2mm.
5 April	**42**	**32**	**22**	**30**	MODERATE		**Exceedances:- 16.03pm - 17.35pm - NOx & VOCs - 20.18pm - 21.50pm - PM2.5 & PM10 -**	Graph. Wind SSE - SE - E (24kph); Dry. Very High exceedance of **NOx** and VOCs alongside PM2.5 and PM10
6 April	**80**	**100**	5	**33**	VERY HIGH	**Exceedance**	**Exceedances:- Average across the whole day - predominantly PM2.5 and PM10**	Graph. Wind E - NE (20kph); Rain 0.3mm. Very High exceedances all day and night
7 April	**114**	**169**	5	**42**	VERY HIGH	**Exceedance**	**Exceedances:- Average across the whole day - predominantly PM2.5 and PM10**	Graph. Wind NE (13kph); Rain 0.3mm. Very High Exceedance all day and night.
8 April	**115**	**170**	7	**51**	VERY HIGH	**Exceedance**	**Exceedances:- Average across the whole day - predominantly PM2.5 and PM10**	Graph. Wind NNW - W - WSW - NNW (Light); Rain 6.30mm. Very High exceedances all day and night
9 April	**86**	**116**	8	**40**	VERY HIGH	**Exceedance**	**Exceedances:- Average across the whole day - predominantly PM2.5 and PM10**	Graph & Map. Wind NNE - NE (20kph); Rain 15.00mm

10 April	16	**32**	10	10	MODERATE			Graph & Map. Wind NE (25kph); Dry.
11 April	15	**26**	**27**	11	MODERATE		**Exceedance:- 11.20am - 13.30pm - NOx -**	Graph & Map. Wind NE (18kph); Dry. Nitrogen Dioxide Exceedance (NOx)
12 April	17	**23**	19	13	MODERATE			Graph. Wind NE - ENE (15kph); Rain 0.4mm
13 April	15	**23**	**26**	13	MODERATE			Graph. Wind ENE - E - ENE (15kph); Rain 1.40mm.
14 April	**25**	**25**	17	16	MODERATE			Graph. Wind NE - E (25kph); Rain 0.6mm
15 April	**41**	**30**	20	17	MODERATE			Graph. Wind ESE - E (20kph); Dry.
16 April	**46**	**37**	16	**21**	MODERATE			Graph. Wind ESE - E - NNE (10kph); Dry.
17 April	**54**	**51**	6	**25**	HIGH	**Exceedance**		Graph & Map. Wind NW - W - SE - E (8kph); Rain 0.1mm
18 April	**49**	**38**	16	**22**	MODERATE			Graph. Wind ENE (16kph); Dry.
19 April	**35**	**32**	7	19	MODERATE			Graph. Wind ENE - N - NNE (15kph); Dry
20 April	**38**	**32**	6	19	MODERATE			Graph & Map. Wind NNE - NE (14kph); Dry
21 April	**48**	**34**	4	17	MODERATE			Graph & Map. Wind NE - ENE (12kph); Dry
22 April	**53**	**34**	4	18	HIGH	**Exceedance**		Graph.Wind ENE - ESE - SE - ENE (10kph); Dry
23 April	**38**	**33**	7	17	MODERATE			Graph & Map. Wind E - ENE - NE (13kph). Dry
24 April - 2 May	-	-	-	-	**NO DATA**	**2nd May was VERY close to being GREEN! Possibly due to wind direction and strength. 26th April - 2nd May: Background pollution HIGH at times. Ozone in particular!**		
MAY 2019								
3 May	14	**26**	12	6	MODERATE			Graph. Wind NNE - SW - NNE (12 kph). 10.7 mm.

								Spike of PM2.5/10 at 12.30 = sudden traffic jam.
4 May	12	**31**	7	5	MODERATE			Graph. Wind NNE - N (28 kph). 6.4mm - all day
5 May	18	**33**	18	7	MODERATE			Graph & Map (15.54-16.07 HIGH). Wind NNW - NNE (16kph). Rain 0.8mm
6 May	13	**24**	6	8	MODERATE			Graph. Wind WSW - WNW - NW - ENE - E (13 kph)Rain: 1.6mm
A second "Flow" Device has been added south of Lynsted Village! So, I shall add that data from now on:-								
7 May	14	**26**	12	10	MODERATE			Graph. Wind WSW - SW - S - SSE (13 kph) Rain: 2.9mm
8 May Flow 1 A2 Flow 2 Kingsdown	 12 12	 **28** **26**	 7 11	 14 16	 MODERATE MODERATE			Graph. Wind SE - SSE - SSW - SW (ave: 26kph - peaking 34kph) Rain 21.6mm all day **Flow 2**: Graph and map
9 May Flow 1 A2 Flow 2 Kingsdown	 12 4	 **27** **15**	 11 9	 15 13	 MODERATE GREEN			Graph. Wind SSW - WSW - W - SW - NW - NNW (ave: 12kph) Rain 15.10 mm (patchy) **Flow 2**: Graph and map
10 May Flow 1 Flow 2	 18 12	 **23** **25**	 9 6	 12 13	MODERATE Greenstreet Kingsdown+			Graph. Wind NW - W - WSW - SSW - S (ave: 9kph) Rain 4.9mm (most of the day - patchy) **Flow 2 Map**: M2 and M20. Averages shown
11 May Flow 1 Flow 2	 13 12	 **26** **30**	 10 **27**	 11 10	MODERATE Greenstreet Kingsdown+			Graph. Wind ENE - N - ENE - E (ave: 10kph) Rain 13mm (midday onward) **Flow 2 Map**: (a) Clean to Whitstable except near the M2. PM10 mainly; (b) 24-hour period

12 May Flow 1 Flow 2	12 16	**30** 25	27 5	10 12	MODERATE			Graph: Data until 1pm. Curiously, the graph equates to the Flow 2 the previous day. **Flow 2 Map**: Air pollution changed travelling eastward and westward on A2. May arise from air conditioner setting (recycle?), vehicles ahead are more polluting, bonfires have been lit? Detailed Map. Unresolved
13 May Flow 1: None Flow 2: Kingsdown	- 7	- **17**	- 5	- 12	NO DATA LOW Kingsdown+			No Data: Wind light then stiffening - ENE - E - ENE (ave 14 kph). **Flow 2:** Graph: Clean-air south of Lynsted village but interesting as it shows peaks near the A20 (morning and midday) and don't forget **housework** as a source of pollution (afternoon peaks). The mapping feature may have lost satellite links to give the odd pattern?
14 May Flow 1 Greenstreet Flow 2 Kingsdown	10 4	**25** **14**	4 5	14 12	MODERATE LOW			Graph & Map: Wind: ENE - N - ENE (17kph). Dry and sunny. Graph: Mapping clitch but away from the A2, the clearer air is evident. The pollutant distribution mirrors Flow 1.
15 May Flow 1 Greenstreet Flow 2 Kingsdown	16 9	**30** **17**	5 5	15 12	MODERATE LOW			Graph: One hour of "High" from 2.30pm. Wind: ENE - E - ENE (14kph). Dry Graph and Map: Interesting map showing GREEN in the countryside (note nearby Motoways) but more polluted along the A2 and Sittingbourne.

16 May Flow 1 Greenstreet Flow 2 Kingsdown	14 6	**29** **19**	7 4	15 14	MODERATE LOW			Graph & Map: Wind: ENE - E - ENE - NE (18kph). Very light rain 0.1mm midday. Graph and Map: PM10 just under the threshold for "Moderate" - the Map shows concentrations on the A2.
17 May Flow 1 Greenstreet Flow 2 Kingsdown	18 14	**28** **27**	7 4	16 18	MODERATE MODERATE			Graph: Wind: NNE (17kph). Rain: 1.70mm, occasional showers Graph & Map showing "High Pollution" along a rural lane alongside the M2.
18 May Flow 1 Greenstreet Flow 2 Kingsdown	**33**	**26**	9	15	MODERATE LOW			Graph: High pollution from 9pm to 03.15am next morning. Wind: Veering N - NE - SE (7kph). Rain: 1.10mm, occasional showers. Graph and Map contrast with 17th May lane alongside the M2.
19 May Flow 1 Greenstreet Flow 2 Kingsdown	32 9	**37** **22**	4 10	15 13	MODERATE MODERATE			Graph: Wind: E - NE - E (9kph). Rain: dry Graph: **Flow 2**: The Higher figures in the graph correspond with a stop in Faversham during the Vintage Car event. No surprise there was more pollution!
20 May Flow 1 Greenstreet Flow 2 Kingdown	20	**23**	7	14	MODERATE			Graph and Map: Wind E - N - E (7kph). Rain 0.8mm. The map again reveals pollution north and south of AQMA5.
21 May Flow 1 Greenstreet Flow 2	16 -	**22** -	10 -	12 -	MODERATE			Graph: Wind: NW - NNW (11kph). Rain 0.60mm (overnight). Steady pollution with some 'dips' into "Low". But not quite there yet! Map of Barham - Flow 2.

Kingsdown								Very rural but high pollution - suggesting agricultural spraying nearby.
22 May Flow 1 Greenstreet Flow 2 Kingsdown to A2 Map	13 **28**	**21** **38**	7 6	14 10	MODERATE			Graph: Wind: NW - S - SW (11kph). Rain 0.30 (overnight). Steady levels & peaks in 'usual places' - 2-3am (lorries), morning and evening rush hours and lunchtime. Flow 2 Map: High pollution from the M2 through Lynsted Village. The wind had veered bringing a concentrated pollution event.
23 May Flow 1 Greenstreet Flow 2 Kingsdown: a.m. and all day	10 **16** **9**	**20** **15** **19**	5 9 6	14 10 13	MODERATE LOW			Graph: Wind: SW - WSW (11kph). Dry. About as close to "Low" as we have seen on the A2. It was "Low" during a jog in the morning. Flow 2: Morning Graph: Traversing Lynsted Parish with highest pollution close to M2 (and Ospringe). Day Graph: Countryside largely "pollution free."
24th May Flow 1 Greenstreet Flow 2 Kingsdown	**18** 8	**18** **.** **22**	6 3	14 13	LOW MODERATE			Graph. Wind: WSW - NW - N - W (7kph, light eddying wind in evening); Rain: 1.2mm. The first **A2 GREEN DAY** in over three months! Two peaks - a spike when lorries got stuck; a period around the school run. Flow 2: Outward and return journeys show same variability in pollution spikes on A2.
25th May Flow 1 Greenstreet Flow 2	**37** 11	**24** **26**	9 2	13 14	**MODERATE** **"Queueing Theory"** **Illustrated Pollution spreads to**		**Exceedance:-** **11.30am -** **14.10pm** **- PM2.5 -**	Graph: Wind: NNW - NW (9kph). Rain: 4.5mm. **A good example of "Queuing Theory" in action!** When traffic density is low enough, vehicles pass with lower contribution to pollution. But we noticed the traffic **very**

Kingsdown					**Lynsted Village**			**suddenly grinding to very slow and jammed**. This led to two Very High peaks (PM2.5 in particular) followed by an exceedance period, then mixed pollution into the evening. This shows that braking & idling vehicles suddenly build harmful levels of pollution. Jogging Map: Spread of pollution toward **Lynsted Village**. Flow 2: A2 shows as polluted while most countryside was Green
26th May Flow 1 Greenstreet	14	**20**	3	16	MODERATE			Graph: Wind: WSW - W - WNW (18kph). Rain: 4.70mm. Periods of "Low" pollution and a spike of High (traffic got snarled up) then bumped along after 15.00pm.
27th May Flow 1 Greenstreet	**20**	**27**	7	12	MODERATE			Graph: Wind: NW - W (15kph). Rain: 2.00mm (evening). Something for everyone! "Low" to "Very High" - between 17.40 to 20.06pm there was a 'block' of peaks as the A2 passed it's "Service Rate". **"Service Rate"** is the principle that roads of different types and complexity have the ability to serve a particular volume and type of traffic - as soon as traffic hits the maximum "Service Rate" you get **queues and jams and pollution concentrations**.
28th May Flow 1 Greenstreet	14.	**20**	12	11	MODERATE			Graph: Very close to "Low" - a good day to enjoy strenuous exercise! Wind: W - NW - NNE - E (15kph). Rain: 6.50mm
Flow 2 Kingsdown	7	**18**	7	12	LOW			Graph: Another good day on the move.

29th May Flow 1 Greenstreet Flow 2 Kingsdown (out and about)	**33**	18	7	12	MODERATE			Graph: Wind: SE - S - SW (18kph). Rain: 1.60mm. Traffic lights on Station Road created tailbacks to Frognal Lane in the evening Rush hour.
	7	**17**	7	12	LOW			Graph: A good day to be up on the Downs or simply out in the cold clear air! Now let's hope there is a world in which this is NORMAL!
30th May Flow 1 Greenstreet Flow 2 Kingsdown	**30.**	**21**	2	16	MODERATE			Graph: Wind: WSW - SW (19kph). Rain 0.50mm
	5	**13**	3	13	LOW			Graph: "Low" except on the A2 and Sittingbourne.
31st May Flow 1 Greenstreet Flow 2 Kingsdown	**21.**	**18**	6	13	MODERATE			Graph: Wind: WSW - SW (17kph). Rain:0.80mm
	6	**17**	7	13	LOW			Graph: The map confirms that marine craft emissions are not restricted in the same way that road vehicles are!
JUNE 2019								
1st June Flow 1 Greenstreet Flow 2 Kingsdown	**23**	**14**	4	13	MODERATE			Graph and map: Traffic lights removed. Small peaks at 'normal' times. Wind: SW - S - SSE (11kph). Rain: Dry.
	6	**14**	9	13	LOW			Graph and map: A second day to illustrate how seriously polluted our waterways can be - without the same pollutant restrictions as landlubbers must adhere to.
2nd June	**24**	14	3	15	MODERATE			Graph: Wind: SSE - SSW - SW (22kph). Rain: Dry.

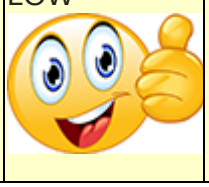
Flow 1 Greenstreet Flow 2 Kingsdown	5	**14**	5	14	LOW			Graph and Map: High levels of pollution on a return journey from Sittingbourne alongside the M2. Perhaps a jam? Pungent smells suggest that agricultural spraying was a potential source? Otherwise, a good day to be enjoying the countryside.
3rd June Flow 1 Greenstreet	17	**21**	6	11	MODERATE			Graph: Wind: W - WSW - SW (18kph). Rain:1.10mm. Traffic flowed fairly evenly inspite of the traffic lights at the other end of Greenstreet
4th June Flow 1 Greenstreet Flow 2 Kingsdown	15	**23**	5	11	MODERATE			Graph: Wind: SSW - SE - SSW - S (13kph). Rain: 9.4mm (afternoon)
	5	**16**	5	13	LOW			Graph and Map: Low pollution throughout the downland area with a small impact close to the M2
5th June Flow 1 Greenstreet Flow 2 Kingsdown	15	**27**	5	12	MODERATE			Graph: Wind: S - SW - SSW - SW (16kph). Rain: 0.50mm Generally increasing pollution but still Moderate.
	5	**15**	3	13	LOW			Graph and Map: A good day in the countryside.
6th June Flow 1 Greenstreet	12	**32**	4	13	MODERATE			Graph: Wind: SW - WSW - SW - SSE (17kph). Rain: 0.50mm. High pollution overnight, there was a closure of the on and off slip roads between the A249 and A2.
7th June Flow 1 Greenstreet	12	**29**	9	11	MODERATE			Graph and Map: Wind: E - ESE - SE - SW (30kph). Rain: 10.40mm (all day after 9am).Stronger winds tend to lower pollution readings. Rain has the same effect.

8th June Flow 1 Greenstreet	9	**26**	3	14	MODERATE			Graph: Wind: SW-WSW-SW (35kph). Rain: 4.2mm. Wet day with breaks. Traffic hit saturation briefly in the afternoon to create a "Very High" peak.
9th June Flow 1 Greenstreet	15	**34**	7	12	MODERATE			Graph: Wind: SW - SSE - SSW (12kph). Rain: 3.4mm (afternoon and evening). Another "Very High" peak (PM10) when traffic ground to a stop-start in the evening.
10th June Flow 1 Greenstreet	13	**31**	9	12	MODERATE			Graph: Wind: NNW - N - NNE - ENE - SSE - SSW (15kph). Rain: 40.10mm. Very Wet! From 4.30pm PM10 pollutants very suddenly increased - until calming down at 11pm.
11th June Flow 1 Greenstreet	8	**20**	6	13	MODERATE			Graph: Wind: SSW - S - SE (10kph). Rain: 0.80mm. Flow 2: This map comes from a dog-walk amongst active coppicing. So, if this was the culprit, there is no getting entirely away from pullution particles.
12th June Flow 1 Greenstreet	9	**21**	7	13	MODERATE			Graph: Wind: NNE - NE - E - ESE (8kph). Rain: 8.40mm. The 3.00am peak returns.
Flow 2 Kingsdown	7	**21**	6	15	MODERATE			Graph: Wind: NNE - NE - E - ESE (8kph). Rain: 8.40mm. The 3.00am peak returns. Graph: Indoors pollution features when cleaning undertaken.
13th June Flow 1 Greenstreet Flow 2 Kingsdown	10	**19**	7	14	LOW			Graph: Wind: S - SW - SSW (25kph) Rain: 2.20mm. The second **LOW** pollution on the A2 (cf 24th May). Marginal result as I got MODERATE on a run - NOx was higher down Nouds Lane.

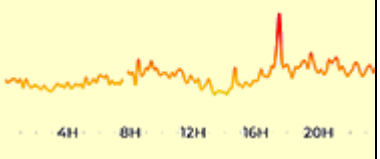
	8	**15**	8	13	LOW			Flow 2: Graph: A good day in the countryside. Low pollution at many times.
14th June Flow 1	8	**23**	5	14	MODERATE			Graph: Wind: SSW (21kph). Rain: 0.80mm. There appears to have been a problem on the M2/A249 overnight, magnifying the expected peaks.
15th June Flow 1	8	**23**	4	14	MODERATE			Graph: Wind: SSW - S (17kph). Rain: 2.10mm
16th June Flow 1 Greenstreet	13	**28**	15	12	MODERATE			No image. Wind: SW - SSW - SW (23kph). Rain: 2.10mm
17th June Flow 1 Greenstreet	10	**26**	3	15	MODERATE			Graph: Wind: SSW - SW - SSW (12kph). Rain: Dry.
Flow 2 Kingsdown	8	**22**	3	12	MODERATE			Flow 2: Graph: Another good day in the countryside. "Moderate" measurements on the move but only nearer to Sittingbourne.
18th June Flow 1 Greenstreet	11	**23**	6	13	MODERATE			Wind: SW - SSE - E (8kph). Rain: 1.90mm
Flow 2 Kingsdown	7	**19**	3	13	LOW			Flow 2: Graph: Low pollution out and about to the south of Lynsted village
19th June Flow 1 Greenstreet	13	**28**	2	14	MODERATE			Wind: E - NNW - N - WNW - W (10kph). Rain: 6.00mm
Flow 2 Kingsdown	7	**20**	2	15	LOW			Flow 2: Graph: Low again out and about.

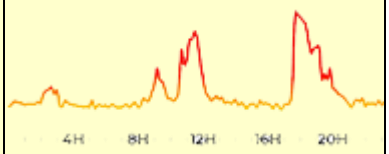
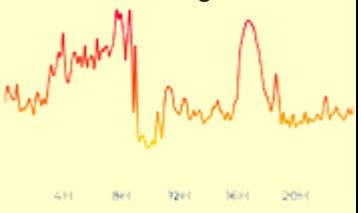
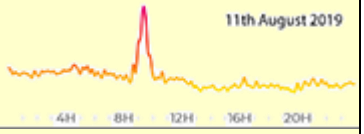
20th June Flow 1 Greenstreet	7	**19**	6	14	LOW			Wind: W - WSW (17kph). Rain: 0.7mm. The third "Low Pollution" day in the last four months!
Flow 2 Kingsdown	9	**21**	4	12	MODERATE			Flow 2: Graph & Map: Moderate. AQMA5 saw pollution up Lynsted Lane. A 'hot spot' in a marginal LOW/MODERATE.
21st June Flow 1 Greenstreet Flow 2 Kingsdown					NO **LOCAL** DATA			Fourth LOW pollution day of the year! Wind: W - SW - SSW (10kph). Rain: 0.60mm
	5	**15**	5	12	LOW			Flow 2: Graph: LOW Pollution across the A2. Very firmly "Low" pollution out and about
22nd June Flow 1 Greenstreet Flow 2 Kingsdown	9	**23**	7	11	MODERATE			Wind: S - SE - E - ENE (11kph). Rain: 0.30mm
	12	**18**	6	12	LOW			Flow 2: Graph: Good Air Quality in the countryside. Low with high patch in the early evening.
23rd June Flow 1	16	**28**	5	13	MODERATE			Wind: ENE - E - ESE (15kph). Rain: 0.60mm
24th June Flow 1	14	**23**	5	12	MODERATE			Wind: SSE - S - W - WSW - S - NW (20kph). Rain: 3.10mm
25th June Flow 1	11	**20**	5	17	MODERATE			Wind: NNE - NE - E (12kph). Rain: 5.6mm
26th June Flow 1	-	**-**	-	-	NO DATA			Wind: NNE - E (12kph). Rain: 5.60mm
27th June Flow 1 Car.	8	**22**	2	12	MODERATE			Wind: NE - ENE (30kph). Rain: DRY. The air quality is still not ideal, even in the countryside.

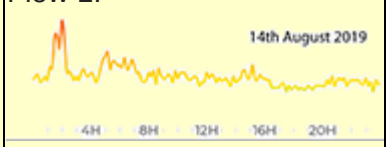
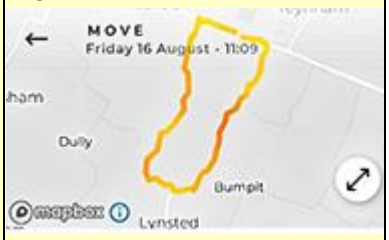
28th June Flow 1	13	**32**	5	12	NO **LOCAL** DATA			Flow 1: at the coast (sea spray made the Flow go Red/High.). Wind: ENE all day (24kph). Rain: Dry
	8	**19**	3	15	LOW			Graph & Map: The Lower Road had a significant hike in pollution. The wind direction points to Sittingbourne industry, housebuilding in Bapchild, even Medway sources.
29th June Flow 1 Travelling Flow 2 Kingsdown	13	**26**	2	16	NORTH of the THAMES			Wind: E - SE - SSW (13kph). Rain: DRY. Not of much interest locally as I was north of the Thames. The balance of pollutants is close to Greenstreet pattern.
	5	14	2	**15**	LOW			Graph: In the countryside - LOW. But when in and around Sittingbourne - MODERATE/HIGH
30th June Flow 1					NO **LOCAL** DATA			**Wind: W - WSW (18kph). Rain: 1.70mm FLOW CHANGED THE APP WITH SOME TEMPORARY DISRUPTION + ENHANCEMENTS TO GRAPH EACH POLLUTANT SEPARATELY IF WANTED.**
JULY 2019								
1st July Flow 1 Flow 2	6	**17**	5	14	NO **LOCAL** DATA			Wind: W - NNW. (17kph). Rain: 0.1mm. In the countryside
	4	**12**	**28**	12	MODERATE			Flow 2: Graph & Map: Notably NOx provides the peak
2nd July Flow 1	6	**18**	9	12	NO **LOCAL** DATA			Wind: NNW - N - NE - ENE (11kph). Rain: 0.3mm. Driving/walking in the countryside.

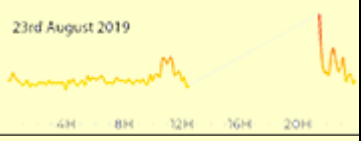
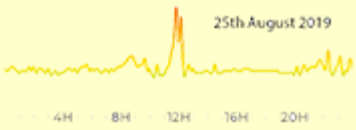
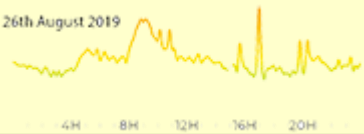
Flow 2	13	**25**	8	12	MODERATE			Flow 2: Graph & Map: Complex comparable hotspots around Sittingbourne and M20.
3rd July Flow 1 Greenstreet Flow 2	8	**22**	4	8	MODERATE			Graph & Jogging Map: Wind: ESE - NE - ENE (14kph). Rain: 0.10mm. HIGH peaks on jog towards Lynsted Village
	11	**25**	4	12	MODERATE			Flow 2: Graph: LOW pollution until moving near the A2 hotspots in traffic conditions.
4th July Flow 1 Flow 2	11	**25**	4	12	MODERATE			Flow 1: Graph: Wind: ENE - NE - ENE - SW (13kph). Rain: DRY. A very serious extended peak at midday as traffic came to a halt for an unknown reason.
	13	**26**	3	14	MODERATE			Graph and Map: Hotspot areas - Sittingbourne, Teynham, Kingsdown & Faversham
5th July Flow 1 Flow 2	8	**21**	2	15	MODERATE			Flow 1: Graph and Jogging Map: Wind: SW - NW - NNW - W (6kph). Rain: DRY. Peaks - A2, Tonge Lane, Lower Road.
								FLOW 2: Has had problems since a driver update. Run from iOS tech. **PLUME LABS ARE AWARE**.
6th July Flow 1	9	**21**	3	14	MODERATE			Flow 1: Graph: High Peak at 6.15pm
7th July Flow 1	7	**20**	2	11	MODERATE			Flow 1: Graph: Morning Peaks 8am-9am.
8th July Flow 1	6	**19**	4	11	LOW 			Flow 1: Graph: Early Morning mild peaks.

9th July Flow 1	6	**19**	5	13	LOW			Flow 1: Graph:
10th July Flow 1	8	**21**	3	15	MODERATE			Flow 1: Graph:
11th July Flow 1	8	**20**	3	15	MODERATE			Flow 1: Graph: 2 maps - Short Walk & Jogging. Higher readings in AQMA area and down Station Road.
12th July	7	**20**	4	13	MODERATE			Flow 1: Graph: Congested all morning.
13th July Saturday	7	**19**	2	11	LOW **Dodgy Data**			Flow 1: Graph: Gap because I forgot to charge the device before going out. Probably under reported pollution as traffic was very heavy during that period.
14th July	8	**22**	4	12	MODERATE			Flow 1: Graph & Map (LOW)
15th July	8	**22**	4	12	MODERATE			Flow 1: Graph:
16th July	11	**24**	3	15	MODERATE			Flow 1: Gr (Higher down Claxfield Lane)
17th July	11	**23**	3	16	MODERATE			Flow 1: Graph: Busy traffic all day.
18th July	12	**26**	2	15	MODERATE			Flow 1: Graph & Map (Greenstreet - higher at West end)
19th July	8	**23**	4	13	MODERATE			Flow 1: Graph & Map (Greenstreet - slightly higher at East end, Coop)
20th July	13	**29**	1	14	MODERATE			Flow 1: Graph: Saturday road issues.
21st July	7	**20**	6	12	MODERATE			Flow 1: Graph & Map (M2 Westbound Shut traffic

Flow 1 Flow 2								tailing back from Sittingbourne)
	3	**11**	6	13	LOW			Flow 2: Graph & Map: Coming back on stream
22nd July	11	**25**	3	14	MODERATE			Flow 1: Graph: Peak of Very High at midday
23rd July	12	**24**	2	14	MODERATE			Flow 1: Graph & Map: Jog to south of A2.
24th July	16	**25**	2	14	MODERATE			Flow 1: Graph: High Peak in early evening
25th July	13	**25**	4	13	MODERATE			Flow 1: Graph: Patchy all day.
26th July	12	**27**	3	12	MODERATE			Flow 1: Graph: Overnight and early evening elevated readings.
27th July Flow 1	10	**24**	3	11	MODERATE			Flow 1: Graph: Rained on, early evening and overnight.
Flow 2	5	**15**	4	13	LOW			Flow 2: Graph & Map: Green from Kingsdown to Faversham! Excellent news!
28th July Flow 1	8	**23**	2	12	MODERATE			Flow 1: Graph and Map: Hot spot towards Claxfield Lane.
Flow 2	4	**12**	4	12	LOW			Flow 2: Graph and Map - A2 at Teynham MODERATE.
29th July	9	**23**	5	12	MODERATE			Flow 1: Graph. Midday Peak
30th July	11	**28**	3	13	MODERATE			Flow 1: 
31st July	9	**25**	2	12	MODERATE			Flow 1:

AUGUST 2019								
1st August	19	**32**	3	14	MODERATE			Flow 1:  Traffic Lights in Place - off Frognal Lane
2nd August	-	**29**	-	-	MODERATE			Flow 1:
3rd August	-	**27**	-	-	MODERATE			Background Pollution
4th August	-	**27**	-	-	MODERATE			Background Pollution
5th August	-	**29**	-	-	MODERATE			Background Pollution
6th August	-	**28**	-	-	MODERATE			Background Pollution
7th August	-	**28**	-	-	MODERATE			Background Pollution
8th August	-	**27**	-	-	MODERATE			Background Pollution
9th August	-	**34**	-	-	MODERATE			Background Pollution
10th August	20	**50**	17	12	HIGH	**Exceedance**		Flow 1: Just tipping into exceedance/marginal. 
11th August	13	**34**	2	12	MODERATE			Flow 1: 

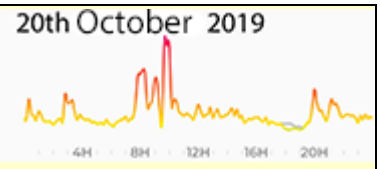
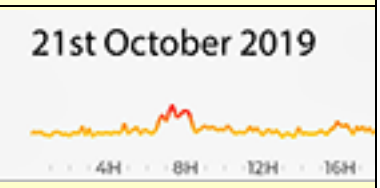
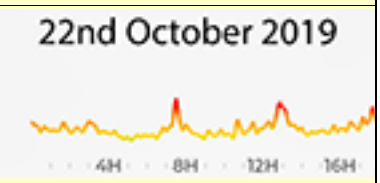
12th August	10	**25**	4	11	MODERATE			Flow 1:
13th August	11	**25**	3	11	MODERATE			Flow 1:
14th August	9	**23**	2	13	MODERATE			Flow 1: 
15th August	9	**23**	1	13	MODERATE			Flow 1:
16th August	9	**23**	4	11	MODERATE			Flow 1: 
17th August	9	**24**	2	13	MODERATE			Flow 1:
18th August	9	**26**	2	12	MODERATE			Flow 1:
19th August	10	**27**	1	12	MODERATE			Flow 1: From this date we see a worsening position for PM2.5 through the month of August.

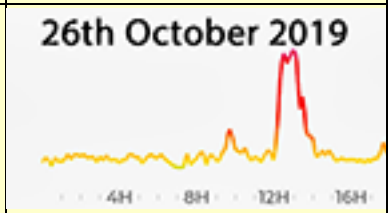
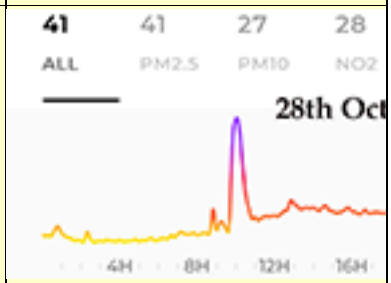
20th August	11	**26**	3	11	MODERATE			Flow 1:
21st August	14	**26**	3	15	MODERATE			Flow 1:
22nd Aug	14	**26**	3	13	MODERATE			Flow 1:
23rd Aug	11	**25**	4	12	MODERATE			Flow 1: 
24th Aug	20	**23**	2	14	MODERATE			Flow 1:
25th August	15	**17**	4	15	LOW			Flow 1: 
26th August	19	**15**	3	12	LOW			Flow 1: 
27th August	26	**18**	2	15	MODERATE			Flow 1:

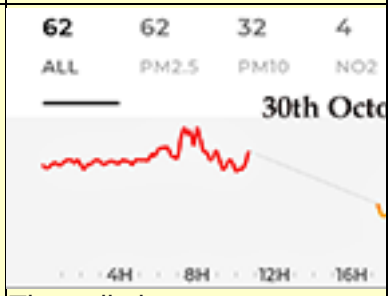
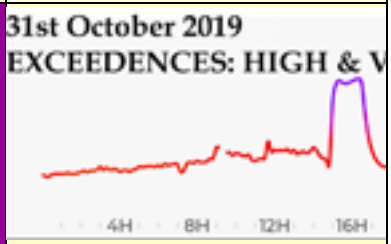
28th August	21	**19**	3	13	MODERATE			Flow 1: Power interrupted
29th August	15	**18**	4	10	LOW			Flow 1:
30th August	33	**22**	3	12	MODERATE			Flow 1: Power interrupted
31st August	20	**19**	3	15	MODERATE			Flow 1:
1st September	31	**21**	5	11	MODERATE			
2nd September	20	**20**	5	25	MODERATE			
3rd September	13	**16**	0	19	MODERATE			
4th September	11	**16**	1	16	LOW 			
5th September	12	**20**	4	12	MODERATE			
6th September	11	**23**	2	16	MODERATE			

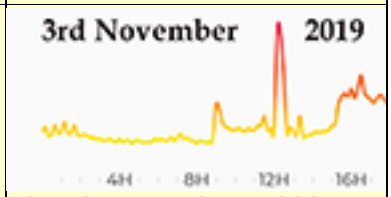
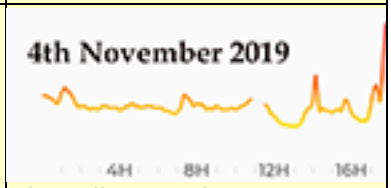
7th September	10	**25**	4	10	MODERATE			
8th September	10	**23**	4	11	MODERATE			
9th September	9	**23**	4	14	MODERATE			
10th September	10	**24**	2	14	MODERATE			
11th September	8	**22**	1	15	MODERATE			
12th September	7	**20**	1	14	MODERATE			
13th September	8	**20**	4	11	MODERATE			
14th September	11	**27**	5	9	MODERATE			
15th September	11	**24**	1	13	MODERATE			
16th September	9	**21**	3	13	MODERATE			
17th September	9	**23**	4	12	MODERATE			
18th September	12	**30**	3	15	MODERATE			
19th September	12	**28**	3	14	MODERATE			

20th September	9	**24**	4	13	MODERATE			
21st September	13	**29**	3	15	MODERATE			
22nd September	10	**23**	1	20	MODERATE			
23rd September	8	**22**	2	17	MODERATE			
24th September	10	**26**	0	16	MODERATE			
25th September	8	**23**	2	14	MODERATE			
26th September	9	**24**	1	13	MODERATE			
27th September	13	**31**	2	11	MODERATE			
28th September	10	**25**	0	12	MODERATE			
NO MEASUREMENTS MADE IN AQMA5 between 28th September and 18th October								
18th October	18	**23**	2	13	MODERATE			
19th October	11	**23**	2	13	MODERATE			PM10 was the dominant fraction throughout.

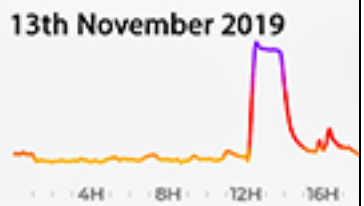
20th October	14	**31**	6	8	MODERATE			 PM10 was the dominant pollution fraction with raised PM2.5 during the morning peaks.
21st October	11	**28**	14	10	MODERATE		**EXCEEDANCE [20.00-21.20pm]**	 NO2 peak of "Very High" Exceedance in the evening. The period quoted only covers the period with evidential data (there was a break in power that is excluded from the calculation)
22nd October	20	**30**	14	13	MODERATE			 **PM10 dominant fraction** with the exception of the "very high" **peak of NO2** - the last peak of the day.
23rd October	20	**26**	5	12	MODERATE			**PM10 pollution fractions** dominated all day with slightly elevated PM2.5 in the evening.

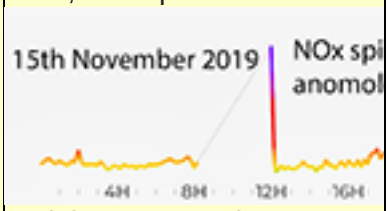
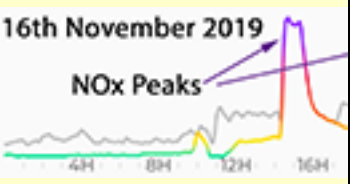
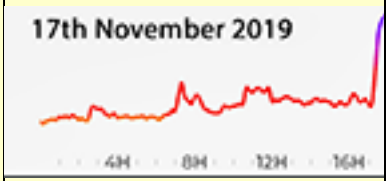
24th October	16	**19**	3	17	**LOW**			A **good** day. **PM2.5 highest in morning**; Afternoon a wider spread of pollutant fractions also at low levels. The figure is at the margin for "Low".
25th October	11	**26**	3	15	MODERATE			PM10 makes up nearly all the pollution fractions
26th October	13	**28**	2	13	MODERATE			 PM10 makes up nearly all the pollution fractions.
27th October	16	**22**	5	10	MODERATE			**This Map link** illustrates spread of pollution south over the lanes..
28th October	**41**	**27**	28	5	MODERATE			 "Very High" (173) [9.47-10.23am] when heavy machinery movement was stuck. Congestion remained for a while afterwards.

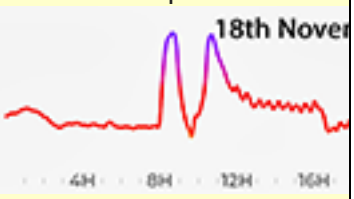
29th October	**66**	**35**	8	10	HIGH	**EXCEEDANCE**		Incomplete data. Although it **appears** there was a "Very High" peak of NO2 - this **cannot** be confirmed - battery ran out.
30th October	62	**32**	4	11	HIGH	**EXCEEDANCE**		 The pollution was very strongly dominated **by PM2.5** throughout the day.
31st October	61	**40**	33	15	HIGH	**EXCEEDANCE**	**EXCEEDANCE**	 Interestingly the "Very High" measurement was dominated by **NO2**, the bulk of pollution over the 24-hour period was, however mainly **PM2.5** pollutants.
NOVEMBER 2019								
1st November	23	**21**	2	26	MODERATE			The peaks to the right were made up mostly by **PM10 pollutants**

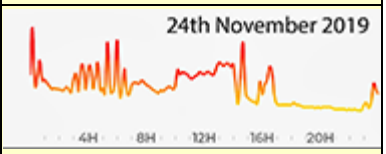
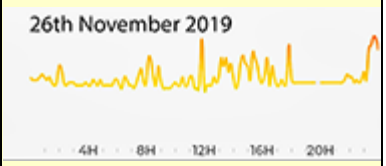
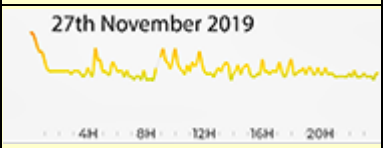
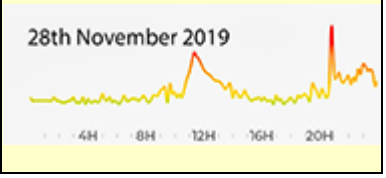
2nd November	22	**22**	2	25	MODERATE			The main components of pollution were in the **PM2.5 and PM10 fractions of pollutants** measured.
3rd November	**33**	**23**	10	18	MODERATE			 The sharp peak at midday was dominated by the **NO2 fraction of pollutants.**
4th November	**35**	**22**	2	15	MODERATE			 The tallest peak was generated by **PM10 fraction of pollutants**.
5th November	41	**24**	5	13	MODERATE			The **main peak is dominated by PM2.5**, although the last peak in that series was dominated by **PM10**.
6th November	**54**	**29**	8	12	HIGH	**EXCEEDANCE**		The density of traffic here is increasing now that the roadworks in **Faversham** have cleared and drivers are no longer driving the 'long way round' to Sittingbourne and

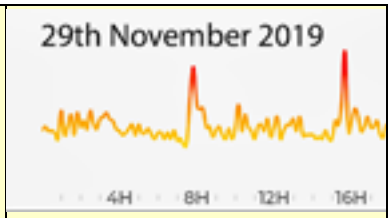
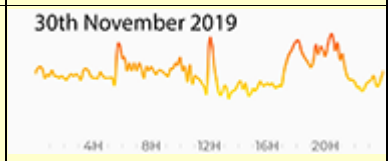
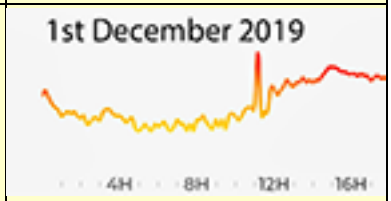
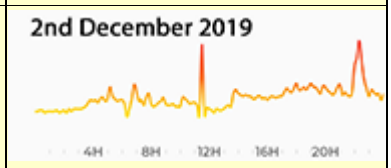
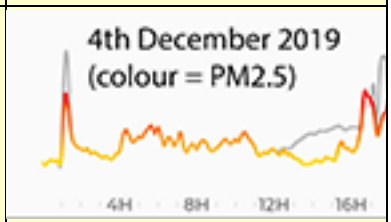
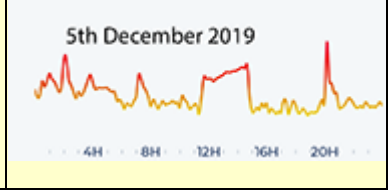
								beyond. **The dominant pollutant was from the PM2.5 fraction.**
7th November	**58**	**30**	6	15	**HIGH**	**EXCEEDANCE**		The density of traffic here is increasing now that the **roadworks in Faversham** have cleared and drivers are no longer driving the 'long way round' to Sittingbourne and beyond. **Both Exceedances were from the NO2 fraction of Pollutants**
8th November	**66**	**35**	**32**	10	HIGH	**EXCEEDANCE**		Traffic levels are noticeably higher than in recent weeks - heavy traffic well into the evenings. The high pollution is a reasonable measure of what is "normal" for us in Teynham and Lynsted. But once we see **Traffic throttling** by Drain Repairs (starting January 2020) it will be interesting to see what happens to the mix of pollutants. **The Exceedance was from the NO2 fraction of pollutants.**
9th November	74	**38**	33	10	HIGH	**EXCEEDANCE**	**EXCEEDANCE [12.01 - 13.11pm]**	**Both peaks were from the PM2.5 fraction** - only the first peak was an

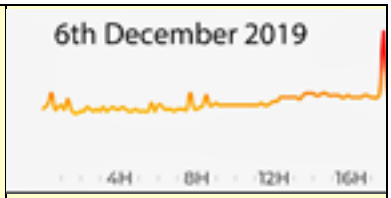
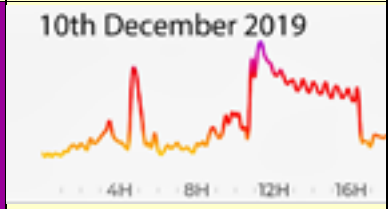
								"exceedance" at **"Very High"** levels.
10th November	**66**	**36**	15	13	HIGH	**EXCEEDANCE**		The "Very High" peaks were in the **NO2 pollution** fraction. These measurements were not an Exceedance at "Very High" levels as the periods were less than one hour continuous - 7.04-8.03am & 20.16-21.12pm).
11th November	**49**	**29**	15	15	MODERATE (see comment)			This PM2.5 measurement is right at the margin, so I have placed it into "MODERATE" even though the App data identifies it as "HIGH". **The dominant pollution was NO2.**
12th November	**46**	**25**	34	14	MODERATE		**EXCEEDANCE [13.55-16.10pm]**	**Exceedance** was in the **NO2 pollution** fraction
13th November	31	**21**	21	12	MODERATE		**EXCEEDANCE [12.20-14.05pm]**	 The principle pollutant was in the PM2.5 fraction of Particulate Matter (very fine and most damaging). Map south of A2. However,

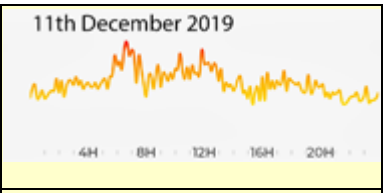
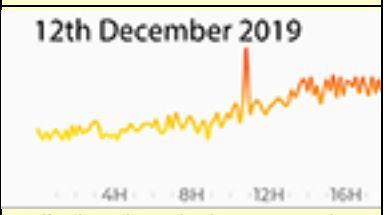
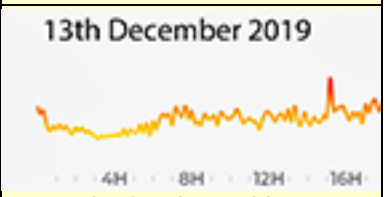
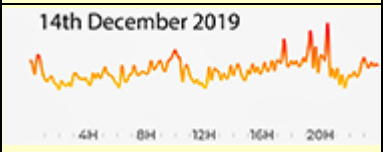
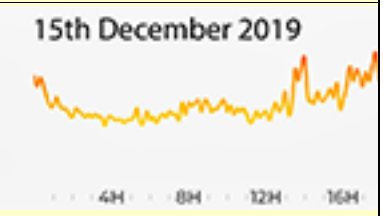
								the **exceedance** was in the **NO2 fraction** of pollutants (156 score)..
14th November	21	**20**	24	13	MODERATE		**EXCEEDANCE [8.30-10.30pm]**	Exceedance was in the NO2 fraction. Otherwise the pollution was at the lower end of MODERATE.
15th November	21	**24**	4	9	MODERATE			The anomylous spike was NO2; other polutants are  mainly PM2.5 and PM10
16th November	38	**24**	28	14	MODERATE		**EXCEEDANCE 14.26-15.40 and 21.40-22.50**	Two VERY HIGH **NOx** episodes of more than one hour =  harmful. Map of jogging.
17th November	**57**	**32**	14	13	HIGH	**EXCEEDANCE**		Five minutes **short** of EXCEEDANCE at "VERY HIGH" for NOx. The **whole** day measured as "HIGH" for 24 hours  (Exceedance)

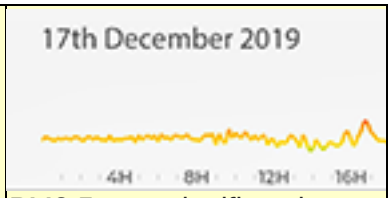
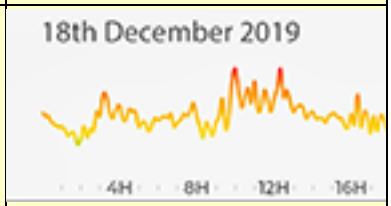
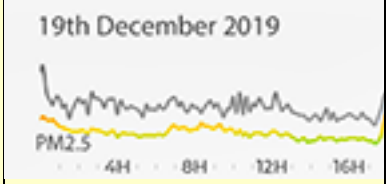
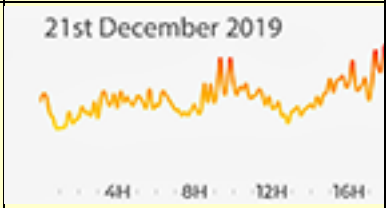
18th November	**54**	**29**	36	14	HIGH	**EXCEEDANCE**	**EXCEEDANCE 10.20-11.35 - second spike only**	The first NOx spike did not  last an hour; the second did.
19th November	**77**	**40**	17	9	**HIGH**	**EXCEEDANCE**	.	**For Information:** NOx was raised in the afternoon but th main pollutant was PM2.5
20th November	**72**	**37**	17	11	**HIGH**	**EXCEEDANCE**	**EXCEEDANCE 22.47- 23.52**	NOx Spike was an exceedance of 65 minutes - this is at the margins but still registers as "Exceedance".
21st November	**84**	**44**	28	12	**HIGH**	**EXCEEDANCE**		Almost uniform HIGH levels of pollution all day.
22nd November	**81**	**42**	14	20	**HIGH**	**EXCEEDANCE**		Map of jog south of A2 - HIGH pollution throughout.
23rd November	**54**	**33**	9	21	**HIGH**	**EXCEEDANCE**		The midday peak (PM10) coincided with peaks of PM2.5 and NOx

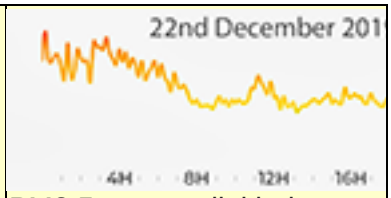
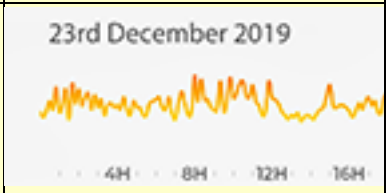
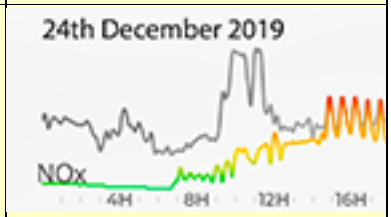
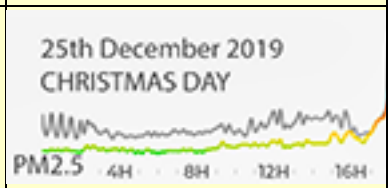
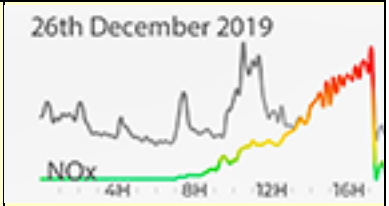
								.
24th November	35	**27**	5	21	MODERATE			 PM2.5 component dropped during the afternoon after high levels earlier. Also mapped jogging.
25th November	24	**24**	2	20	MODERATE			8am 5-vehicle pile-up on M2 Junction 5 (A249).. This accounts for earlier pulses of high pollution.
26th November	16	**20**	0	19	MODERATE			Right at the margins with **"LOW"** PM2.5 and VOCs. . 
27th November	14	**18**	1	17	**LOW** 			
28th November	14	**19**	1	15	**LOW** 			Right at the margin with **"MODERATE"** 

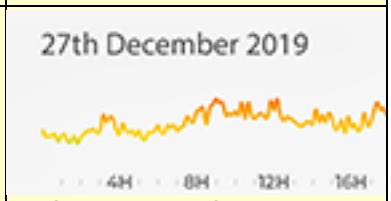
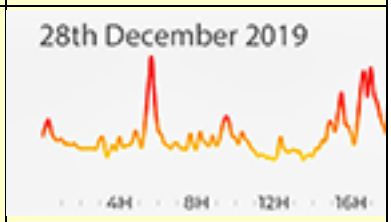
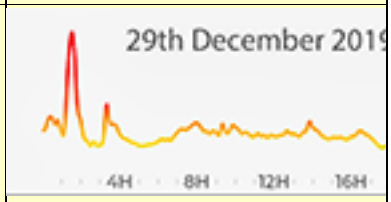
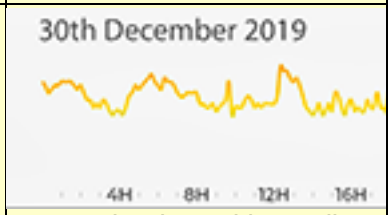
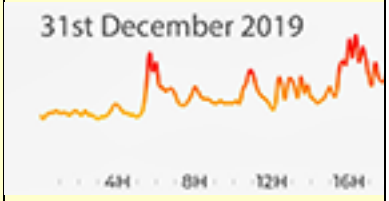
29th November	23	**30**	1	6	MODERATE			 Mapped Jog South of the A2.
30th November	33	**25**	9	4	MODERATE			
1st December	18	**24**	22	5	MODERATE			 Mapped jog along Lower Road.
2nd December	34	**24**	11	6	MODERATE			
3rd December	31	**22**	25	8	MODERATE			 Also mapped jog to Deerton Street
4th December	41	**29**	17	9	MODERATE			 Showing PM2.5 in colour; the grey line is total with PM10 giving the sharp peaks.
5th December	28	**25**	10	15	MODERATE			

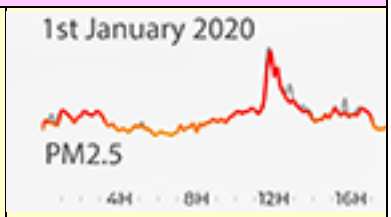
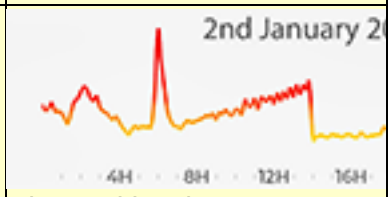
6th December	11	**27**	3	31	MODERATE			 Unusually high for VOCs (solvents, incomplete combustion, chemical reactions in damp, etc)
7th December	11	**24**	2	27	MODERATE			Unusually high VOCs.
8th December	12	**27**	0	23	MODERATE			**High pollution** (PM10 & PM2.5) during run along A2, Tonge Lane and Lower Road to Teynham again. Mapped run from 10.15am..
9th December	16	**31**	3	11	MODERATE			PM10 dominant.
10th December	21	**38**	25	16	MODERATE		**EXCEEDANCE 10.50-12.25**	 VERY HIGH episode = EXCEEDANCE in **NOx**!! NOx peaked in particular between 10am to 4pm.

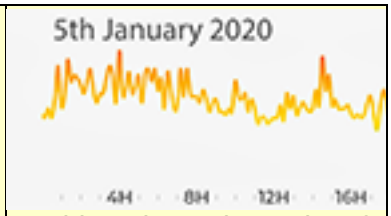
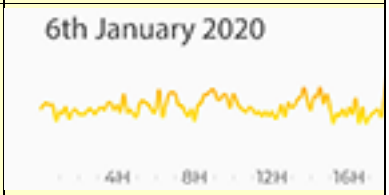
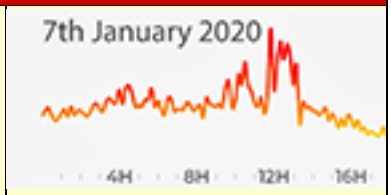
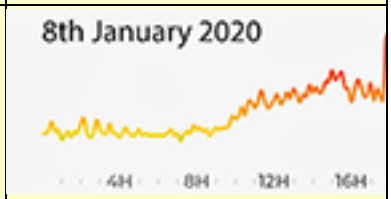
11th December	15	**30**	2	14	MODERATE			
12th December	17	**29**	22	12	MODERATE			 Pollution levels increased throughout the day. The 'pulses' of pollution may be linked with traffic control systems and weight of traffic (accident on M2??)
13th December	14	**34**	5	13	MODERATE			 Strongly dominated by PM10 again.
14th December	15	**35**	3	13	MODERATE			
15th December	13	**31**	1	12	MODERATE			 Another day characterised by 'pulsing' peaks throughout the day. Map run to Tonge Lane starting at 13.26pm.
16th December	16	**29**	2	11	MODERATE			 Small NOx peak in early afternoon, otherwise very much dominated by PM10

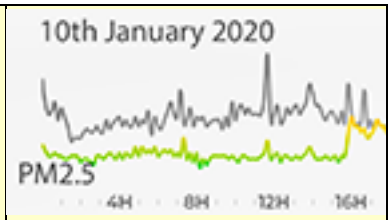
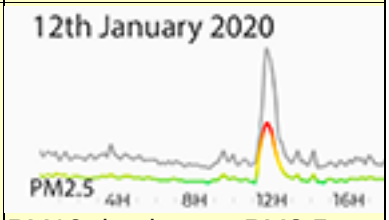
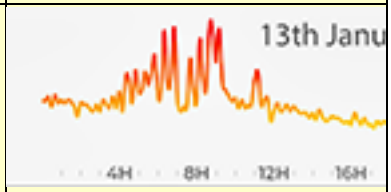
17th December	19	**26**	1	11	MODERATE			 PM2.5 rose significantly from 4pm until 11pm.
18th December	20	**30**	4	13	MODERATE			 Underlying PM2.5 peaked from 8am-midday and again in late evening
19th December	19	**37**	0	19	MODERATE			 PM2.5 levels mirrored PM2.5 throughout the day.
20th December	11	**23**	1	17	MODERATE			PM2.5 mostly paralleled PM10 until 9pm when the registered peak was made up of PM2.5 overnight.
21st December	16	**30**	1	13	MODERATE			 Figures strongly dominated by PM10. The overnight peaks of PM2.5 returned to previous levels by 2am.

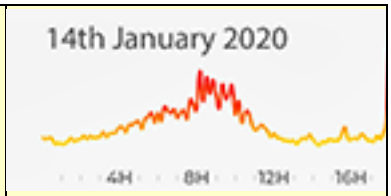
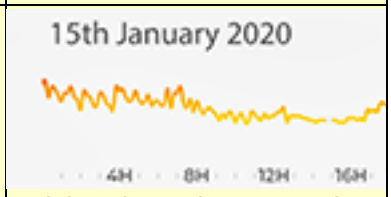
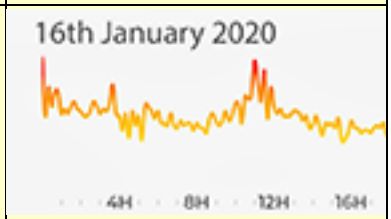
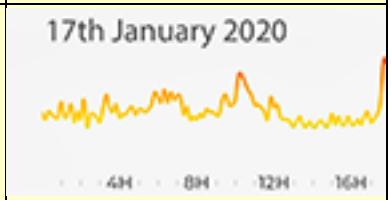
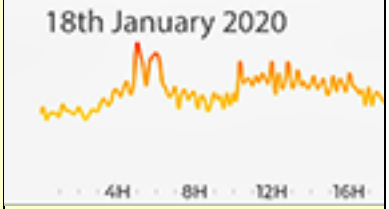
22nd December	12	**26**	1	12	MODERATE			 PM2.5 ran parallel below PM10 throughout the day.
23rd December	14	**32**	1	11	MODERATE			 PM2.5 ran parallel below PM10 throughout the day.
24th December	15	**34**	19	20	MODERATE			 Sudden change in balance! NOx peaks make up most of the pollution from 3pm to the end of the day. The graph picks this out for information. Could this be the pre-Christmas travel?
25th December	24	**37**	5	8	MODERATE			 Hopefully most people travelling arrived safely. 6pm sees major peaks including bursts of "Very High" levels of both PM2.5 and PM10. PM2.5 highlighted in graph.
26th December	20	**32**	11	13	MODERATE			 Dominated by PM10 except for a period from 1pm to 5pm when NOx created the large block of peaks.

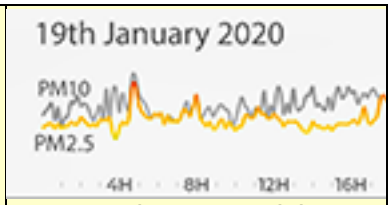
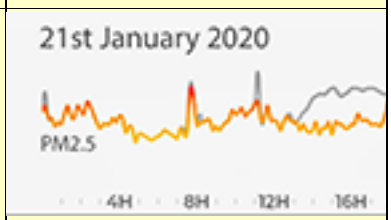
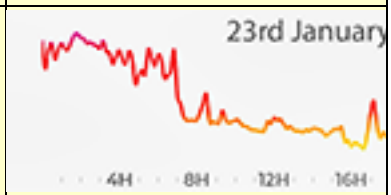
								Perhaps people returning home after Christmas? NOx peaks highlighted in graph.
27th December	29	**29**	4	11	MODERATE			 Both PM2.5 and PM10 were almost exactly the same throughout the day.
28th December	34	**31**	5	12	MODERATE			 Both PM2.5 and PM10 were almost exactly the same throughout the day.
29th December	27	**24**	6	11	MODERATE			 PM2.5 and PM10 were the same except the early morning peak (2am) which was PM10.
30th December	23	**19**	3	12	MODERATE			 PM2.5 dominated by a slim margin over PM10.
31st December	35	**33**	4	10	MODERATE			 PM2.5 and PM10 mirrored eachother except the "High" peaks were PM10.

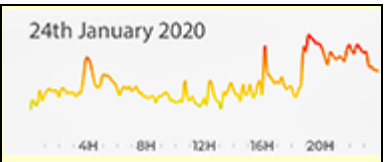
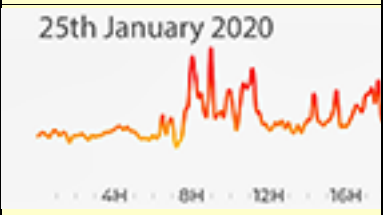
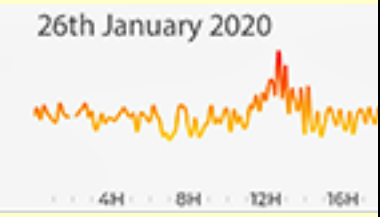
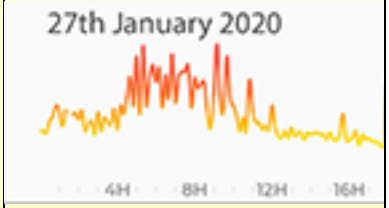
2020								
1st January	44	**35**	11	10	MODERATE			 PM2.5 accounts for the shape and peaks/troughs of the whole graph.
2nd January	20	**27**	21	17	MODERATE			 Elevated levels across **all** four pollution fractions. NOx dominated between 7am-2pm; the sharp "High" peak at 6am was PM10 and PM2.5. **The A2 drain-works did not materialise on this 'due date.**' Rapid cycles in traffic impacted by flow through Bapchild - the worst of which may halt when Greenstreet roadworks come on stream.
3rd January	14	**30**	5	16	MODERATE			Evenly spread polution levels - PM10 dominated.
4th January	11	**26**	3	13	MODERATE			PM10 dominated again.

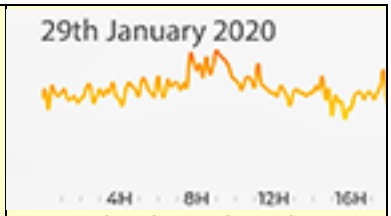
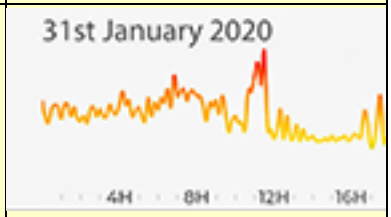
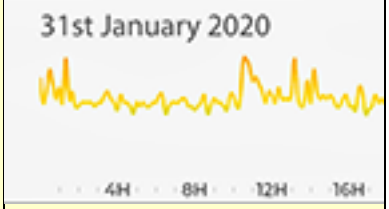
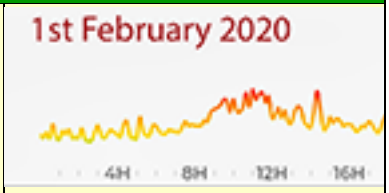
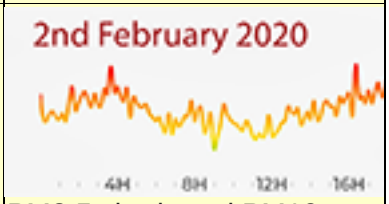
5th January	13	**27**	1	12	MODERATE			 Rapid peaks and troughs of PM10; also of PM2.5.
6th January	14	**28**	6	13	MODERATE			 Rapid peaks and troughs of PM10; also of PM2.5.
LONDON ROAD (A2) - GREENSTREET - DRAIN RENEWAL (traffic pulsing through) --- Avoidance Tactics in Evidence but Local Construction Traffic Heavier ---								
7th January	16	**38**	2	14	MODERATE			 Rapid peaks and troughs in PM10 (and PM2.5)
8th January	15	**31**	1	16	MODERATE			 Rapid peaks and troughs with parallel tracking of PM2.5 and PM10.
9th January	11	**26**	0	14	MODERATE			Pulses of PM10 dominating the measures of overall pollution. Reports of traffic in byways/'rat runs' starting to have an impact locally.

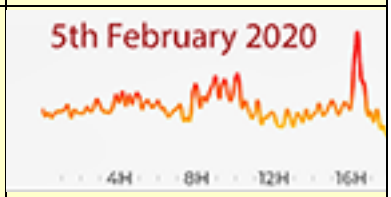
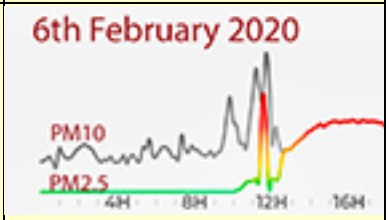
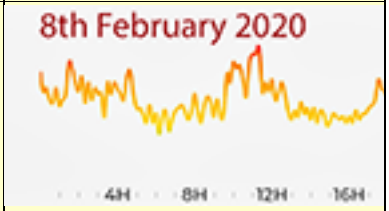
10th January	14	**23**	4	7	MODERATE			 PM10 dominates until PM2.5 increases to equal levels from 4pm into the night. Pulses of traffic governed by new traffic lights at Station Road.
11th January	14	**29**	1	11	MODERATE			PM10 dominates, PM2.5 parallel at lower levels. Pulses of traffic.
12th January	12	**28**	2	13	MODERATE			 PM10 dominates, PM2.5 tracks the same pattern. Graph highlights PM2.5. Single peak at midday - HIGH.
13th January	14	**34**	1	11	MODERATE			 PM10 dominates, PM2.5 tracks the same pattern. Graph highlights PM2.5. Pollution HIGH between 4am-9am - multiple peaks. PM10 is parallel to PM2.5.

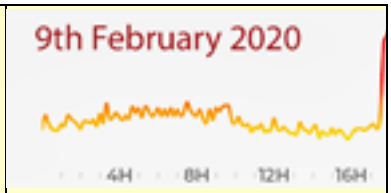
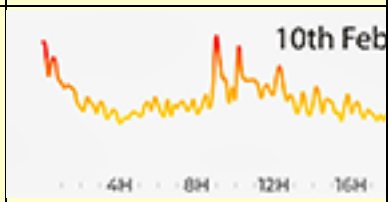
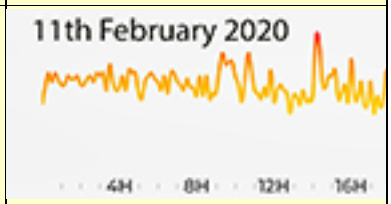
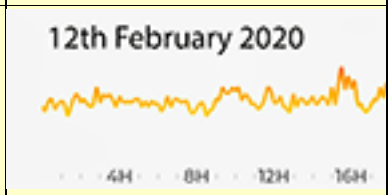
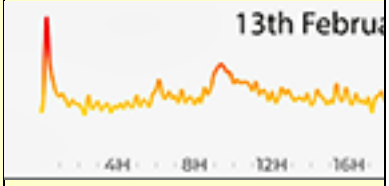
14th January	15	**37**	1	14	MODERATE			 Rapid pulses dominated by PM10, mirrored by PM2.5. HIGH from 7.45am to 10am.
15th January	13	**30**	2	12	MODERATE			 Pulsing throughout, growing to HIGH in late evening.
16th January	14	**29**	1	11	MODERATE			 Pulsing dominated by PM10; PM2.5 in parallel peaks and troughs.
17th January	11	**25**	2	12	MODERATE			 Pulsing throughout of both PMs. HIGH peak at 6pm.
18th January	17	**30**	5	5	MODERATE			 Pulsing throughout of both PMs.

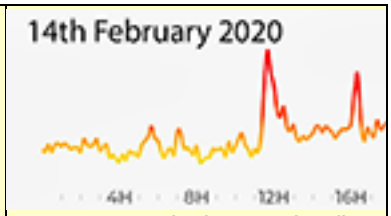
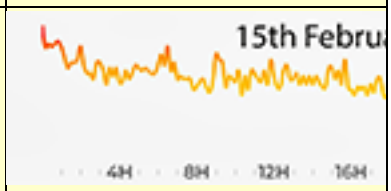
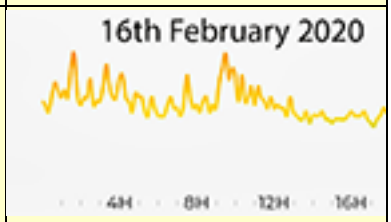
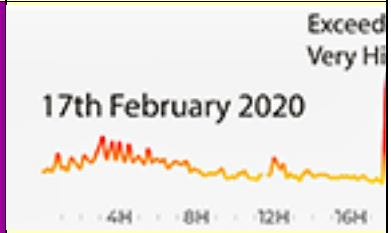
19th January	29	**32**	11	4	MODERATE			 PM10 and PM2.5 pulsing alongside eachother throughout.
20th January	38	**28**	14	5	MODERATE			PM2.5 dominates all peaks (PM10 higher between 1pm-6pm.
21st January	37	**29**	18	5	MODERATE			 PM2.5 dominates all peaks (PM10 higher between 1pm-6pm.
22nd January	46	**57**	29	10	HIGH	**EXCEEDANCE**		Both PM2.5 and PM10 were high into the evening in multiple peaks. NOx was also higher than usual. Overall, a bad day for breathing!
23rd January	37	**48**	3	13	MODERATE			 Only just under "HIGH" for PM10 in particular overnight into early morning.

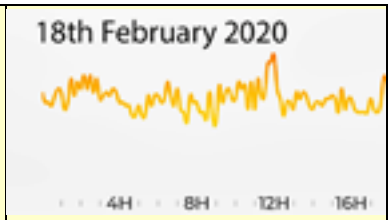
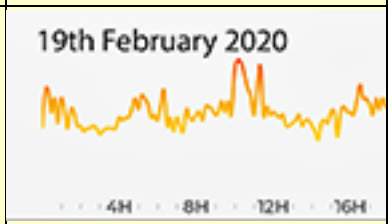
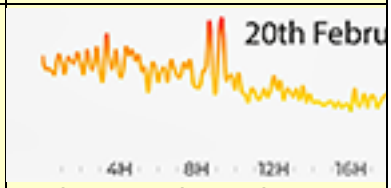
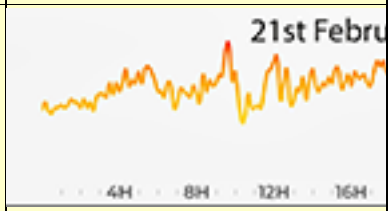
24th January	26	**24**	2	13	MODERATE			 Usual 'saw-toothed' profile. This reflects the continuation of traffic-lights on the A2.
25th January	40	**45**	1	11	MODERATE			 Throughout the day there were serious peaks in Particulate Matter into the evening again.
26th January	22	**32**	4	16	MODERATE			 PM10 provides the peaks around midday. Unhealthy levels of PM2.5.
27th January	17	**38**	1	15	MODERATE			 PM2.5 peaked in the evening after 8pm.
28th January	12	**29**	1	12	MODERATE			PM10 dominated with a marked peak in the early evening.

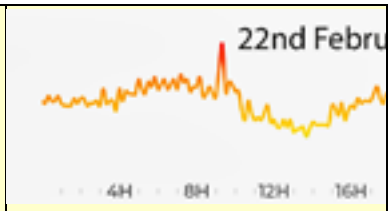
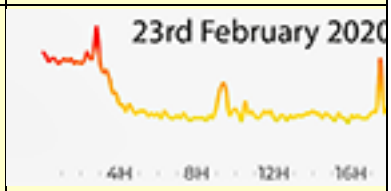
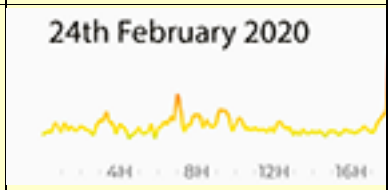
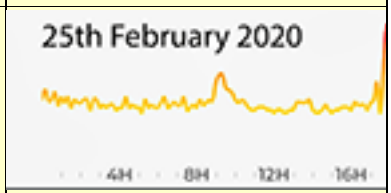
29th January	12	**30**	9	11	MODERATE			 PM10 dominated against. Interestingly NOx was fairly high in the afternoon.
30th January	13	**28**	6	14	MODERATE			 PM10 dominated again.
31st January	7	**21**	1	16	MODERATE			 Very nearly a good day. Low pressure descended and wind direction changed.
FEBRUARY 2020								
1st Februar y	14	**33**	0	14	MODERATE			 PM2.5 shadowed PM10, including the evening peak
2nd Februar y	17	**39**	3	14	MODERATE			 PM2.5 shadowed PM10.
3rd Februar y	15	**34**	3	11	MODERATE			PM2.5 shadowed PM10.

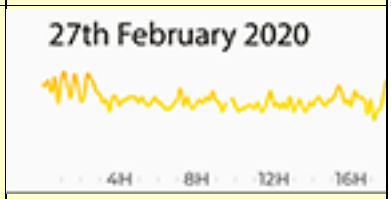
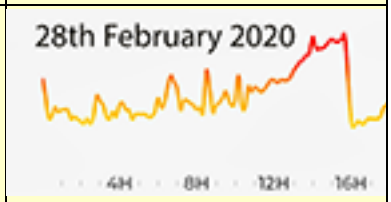
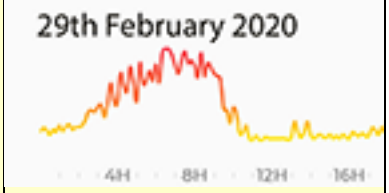
4th February	13	**31**	2	7	MODERATE			PM2.5 shadowed PM10.
5th February	20	**37**	2	7	MODERATE			 PM2.5 shadowed PM10.
6th February	31	**33**	19	6	MODERATE			 **Run** at midday was very worrying! 54/90/37/3 figures meaning **BOTH** PM fractions were "High" and "Very High" Pollution. NOx was higher throughout the afternoon and evening.
7th February	37	**29**	12	7	MODERATE			PM2.5 was EQUAL to PM10 until midday but shadowed PM10 therafter.
8th February	18	**29**	4	17	MODERATE			 Run at 11am showing spread of pollutants. PM2.5 shadowed PM10 at spot station..

9th February	17	**33**	0	17	MODERATE			 PM2.5 shaddowed PM10.
10th February	12	**28**	1	13	MODERATE			 Light Rain (10.1mm). Wind 41-37km/h (gusts to 66km/h) - WSW-W
11th February	14	**30**	2	11	MODERATE			 Partly cloudy (0.6mm). Wind 36km/h (gusts to 62km/h) - Westerly. Jogging Map.
12th February	16	**29**	1	10	MODERATE			 12/2: Overcast. Wind 30-15km/h (gusts to 50km/h) - WSW-W-SW. PM10 dominant.
13th February	14	**28**	2	12	MODERATE			 Moderate Rain (21.30mm). Wind 19-51-19km/h (gusts to 77km/h) - S-SW-WNW. PM2.5 peak after midnight.

14th February	20	**38**	5	12	MODERATE			 Overcast. Wind 17-28km/h (gusts to 30-49km/h) - WNW-SSW. Run via Lower Lane HIGH Pollution. Most polluted throughout afternoon. PM2.5 & PM10 mirrored throughout. Jogging map.
15th February	14	**29**	0	18	MODERATE			 Light Rain (2.80mm). Wind 26-60km/h (gusts to 45-98km/h) - SSW-SW
16th February	10	**24**	0	16	MODERATE			 Heavy Rain (32.60mm). Wind 48-62-33km/h (gusts 81-103-59km/h) - South Westerly. PM2.5 & PM10 mirrored throughout.
17th February	17	**37**	1	12	MODERATE		**EXCEEDANCE 17.50-18.55**	 Light Showers (0.80mm). Wind 29-39-30km/h (gusts 53-60-48km/h) - SW-WSW. The **exceedance** was of PM10 (PM2.5 peak too).

18th Fabruary	12	**26**	1	11	MODERATE			 Light Drizzle (1.10mm). Wind 29-34-28km/h (gusts to 46-50-43km/h) - WSW. PM10 dominating; PM2.5 mirroring.
19th February	15	**31**	2	10	MODERATE			 Light Drizzle (1.5mm). Wind 24-27km/h (gusts to 42-45km/h) - WNW-SW. Run on Lynsted Lane and Cellar Hill - Moderately higher pollution South of A2. Jogging Map.
20th February	12	**28**	1	12	MODERATE			 Moderate Rain at Times (5.60mm). Wind 27-51-23km/h (gusts to 47-69-41km/h) - SW-W.
21st February	15	**34**	1	11	MODERATE			 Overcast. Wind 23-42km/h (gusts 43-68km/h) - W-SW. Pulsing traffic as usual ALL DAY (as usual).

22nd February	14	**32**	0	13	MODERATE			 Patchy Rain Possible (0.30mm). Wind 41-28km/h (gusts to 67-75-47km/h) - SW-W-WSW.
23rd February	11	**25**	2	12	MODERATE			 Light Drizzle (4.20mm). Wind 24-50-10km/h (gusts 41-89-16km/h) - WSW-W-NW. HIGHER pollution early morning.
24th February	13	**25**	1	12	MODERATE			 Light Rain (6.10mm). Wind 7-47-30km/h (gusts 11-71-49km/h) - S-SW-W. 6pm peak significant PM2.5 and PM10.
25th February	12	**23**	3	11	MODERATE			 Light Sleet Showers (1.90mm). Wind 23-32 (gusts 39-50km/h) - W-WSW-W. The 6pm peak was dominated by **PM2.5.**
26th February	13	**28**	4	6	MODERATE			Patchy Rain Possible (0.50mm). Wind 32-18 (gusts 48-31km/h) - W-

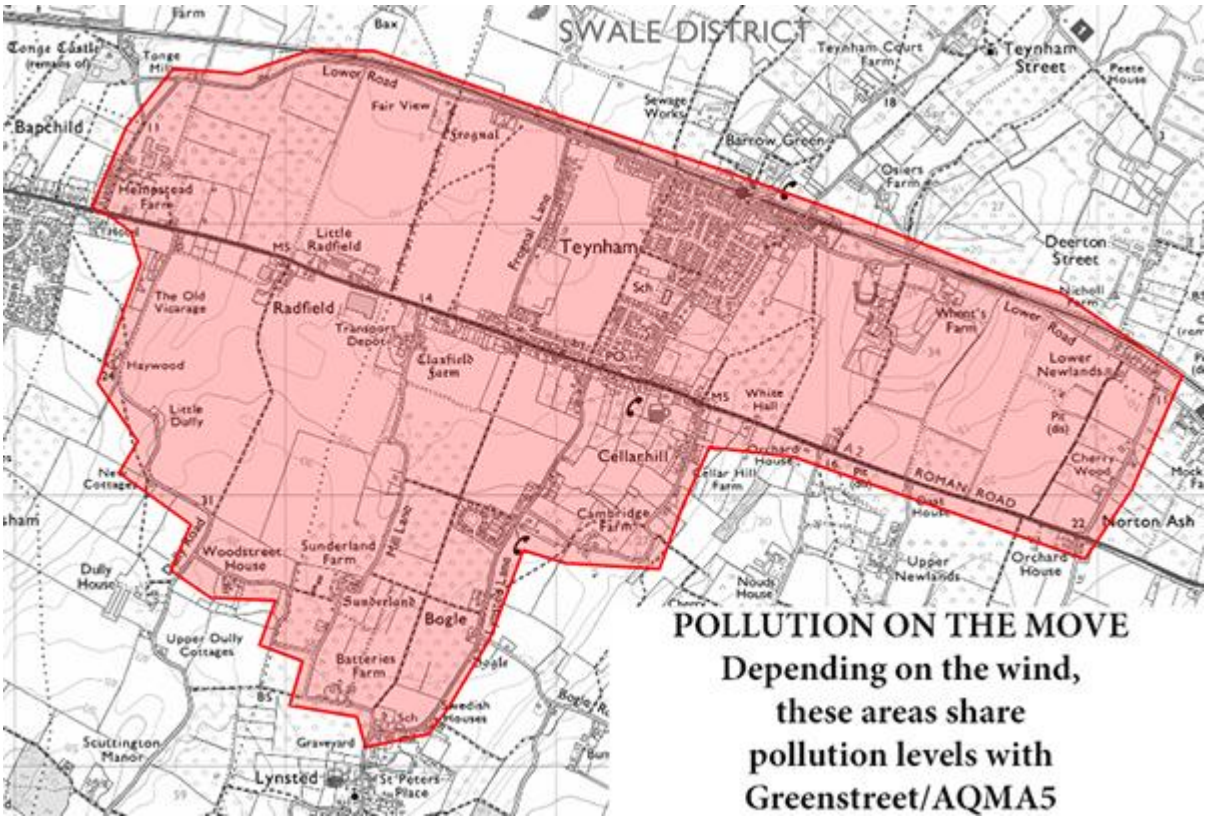
								WNW-WSW. **PM2.5** highest between 6pm and 9pm.
27th February	15	**25**	1	5	MODERATE			 Heavy Snow/Rain (14.40mm). Wind 17-33-18 (gusts 28-44-36km/h) - WSW-S-NNW-WNW. **PM2.5** highest early morning and late evening.
28th February	18	**29**	14	11	MODERATE			 Moderate Rain (12.20mm). Wind 16-43-37km/h (gusts 31-63-62km/h) - W-S-SW. **Midday to 4pm peak is NOx.**
29th February	17	**42**	10	17	MODERATE			 Moderate Rain (11.10mm). Wind 40-47-36km/h (gusts 64-73-58km/h) - SSW-WSW-SW. **PM10 dominant.**

Note: There are no known lower safety levels for PM2.5 (W.H.O.)

APPENDIX 2: MAPPED DATA – DISTRIBUTION PATTERNS

By Collating real-time mapped data from Plume Laboratories "Flow" Device I have measured the same **band of pollution** spread from the A2 as far as the indicated edges on this map.

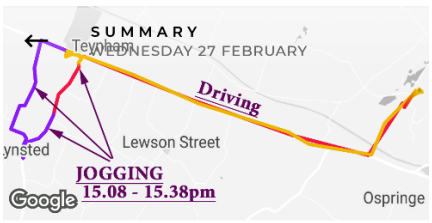
The degree of 'pollution spread' and the direction that the 'blanket' of pollution will spread is subject to weather conditions and wind direction.



Individual maps can be inspected from the web-page - http://aqma5.co.uk/Pollution_Diary_Year_1.html

SAMPLE DISTRIBUTION MAPS – February 2019 to February 2020 [period typical of conditions the pre-Covid-19 suppression of vehicle numbers]

- For the benefit of understanding that localised pollution along the built-up area of Greenstreet (including the AQMA5) extends as widely as 1km north or south of the A2 depending on weather conditions and wind direction.
- These sample maps show how pollutants at the A2 in a particular band (Very High; High; Moderate) of intensity can extend widely within that band.
- These measurements have employed Plume Laboratories Flow Devices.

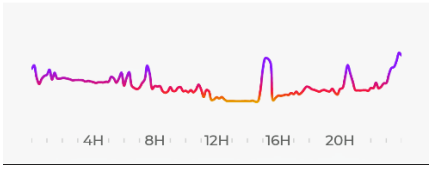


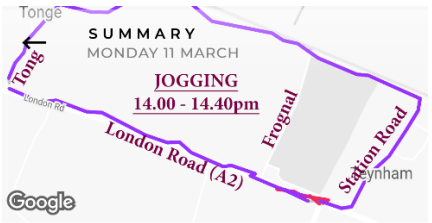
AVERAGE EXPOSURE

High

50 AQI

50	50	32	23
PM2.5	PM10	NO2	VOC



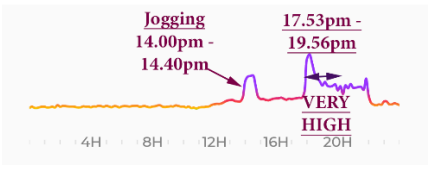


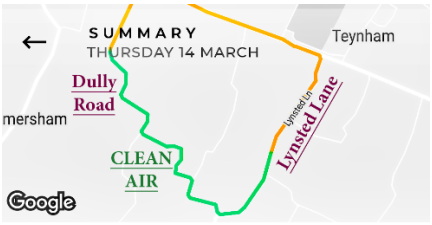
AVERAGE EXPOSURE

Moderate

32 AQI

32	27	25	19
PM2.5	PM10	NO2	VOC



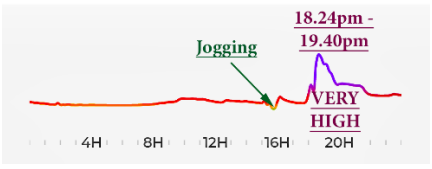


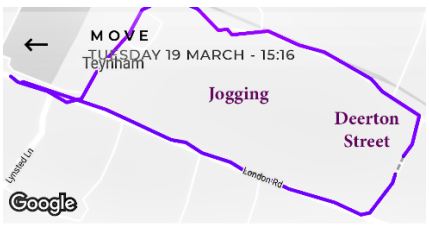
AVERAGE EXPOSURE

Moderate

42 AQI

28	22	4	42
PM2.5	PM10	NO2	VOC



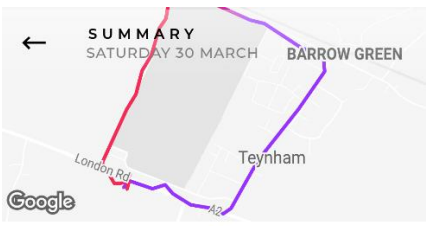


AVERAGE EXPOSURE

Very high

124 AQI

18	4	124	13
PM2.5	PM10	NO2	VOC

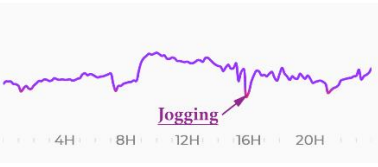


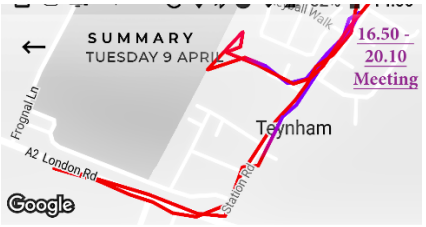
AVERAGE EXPOSURE

Very high

142 AQI

101	142	17	49
PM2.5	PM10	NO2	VOC



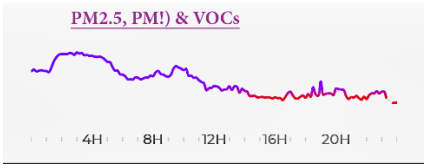


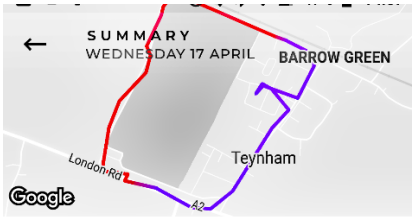
AVERAGE EXPOSURE

Very high

116 AQI

86	116	8	40
PM2.5	PM10	NO2	VOC



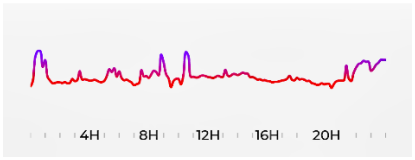


AVERAGE EXPOSURE

High

54 AQI

54	51	6	25
PM2.5	PM10	NO2	VOC

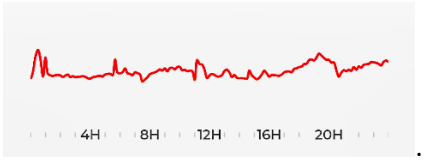


AVERAGE EXPOSURE

Moderate

48 AQI

48	34	4	17
PM2.5	PM10	NO2	VOC



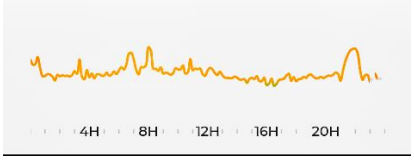
Run 15.44 - 16.04

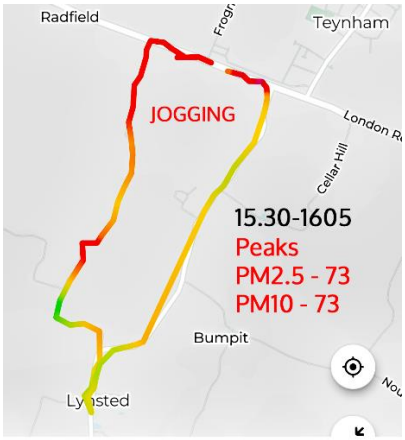
AVERAGE EXPOSURE

Moderate

25 AQI

10	25	4	14
PM2.5	PM10	NO2	VOC





AVERAGE EXPOSURE

3rd July 2019

Moderate

22 AQI

22	8	22	4	8
ALL	PM2.5	PM10	NO2	VOC

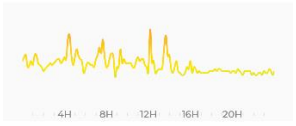
AVERAGE EXPOSURE

11th July 2019

Moderate

20 AQI

20	8	20	3	15
ALL	PM2.5	PM10	NO2	VOC



APPENDIX 3: Annual Average daily flow (Defra: 2000 to 2019 data)

Swale Borough Council Central Objective to achieve meaningful Modal Shifts to "active" travel underpins their Site selection for developments. The use of this metric ("active travel") is entirely unsuited to the location of Greenstreet with respect to the principal employment centres and convenient access to most services day and night, rain or shine.

- Pedal cycles represent 0.14% of total movements measured at **181 London Road**;
- That percentage will be significantly smaller for the number of people moved once you factor in more than one person sitting in each vehicle.
- **NPPF** and Guidelines **oblige** Swale Borough Council (SBC) to take measures to reduce pollution in AQMAs by avoiding cumulative impact of planning approvals. To date, home-building is already increasing to overwhelm the "service rate" of the A2/AQMA5 and neighbouring AQMAs at East Street and Ospringe.
- **"Bearing Fruits" and the Draft Local Plan together (if fully realised)** would add more than 1,700 NEW homes, potentially creating more than 5,000 NEW vehicle movements each day. This cannot be consistent with the status of AQMA5 and the location of Greenstreet.

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2019	**Manual count**	19	106	11045	84	2275	492	14001
2018	Estimated using previous year's AADF	30	93	10491	90	2041	469	13184
2017	Estimated using previous year's AADF	30	95	10542	94	1949	460	13140
2016	Estimated using previous year's AADF	30	98	10554	97	1842	448	13039
2015	**Manual count**	30	98	10425	98	1706	431	12758
2014	Estimated using previous year's AADF	12	193	12400	127	2520	723	15963
2013	Estimated using previous year's AADF	15	187	12121	113	2348	733	15502
2012	Estimated using previous year's AADF	15	177	12267	110	2212	711	15476
2011	Estimated using previous year's AADF	16	182	12356	108	2124	705	15475
2010	**Manual count**	19	184	12431	106	2076	710	15507

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2009	Estimated using previous year's AADF	39	128	10775	86	2116	533	13638
2008	**Manual count**	34	123	10906	86	2077	588	13780
2007	**Manual count**	27	132	11037	160	2203	602	14134
2006	**Manual count**	34	107	10218	141	1791	677	12934
2005	**Manual count**	22	186	10833	147	1737	557	13460
2004	**Manual count**	22	175	11621	184	1842	539	14361
2003	**Manual count**	25	219	10861	149	1717	624	13570
2002	**Manual count**	28	230	11399	150	1777	674	14230
2001	**Manual count**	24	122	10263	121	1859	654	13019
2000	**Manual count**	118	186	11376	191	1884	603	14240