

Annual Progress Report (APR)



2022 Air Quality Annual Progress Report (APR) for
East Renfrewshire Council

In fulfilment of Part IV of the
Environment Act 1995

Local Air Quality Management

October 2022

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Executive Summary: Air Quality in Our Area

Air Quality in East Renfrewshire Council

Air quality in East Renfrewshire remains generally good. There are no major industrial or commercial sources of air pollutants within the area and road traffic is therefore the main source of local air pollution. No air quality monitoring areas have been declared in East Renfrewshire and our monitoring of air quality across the district has found that pollutant levels have decreased over recent years.

2021 continued to be an exceptionally unusual period for Air Quality monitoring. As in 2020, 2021 showed significant reduction in pollutant concentrations witnessed across the country as a direct result of continuing Covid-19 travel restrictions and periods of community lockdowns. East Renfrewshire was no exception – although recorded levels of NO₂ were increased from 2020, we witnessed another year of reductions in NO₂ levels across all 23 of its monitoring locations compared to previous years (pre-covid).

Actions to Improve Air Quality

This progress report reviews air quality and actions completed in 2021.

Like many businesses, organisations and communities affected by the Covid-19 Pandemic, East Renfrewshire Council's efforts were redirected to supporting the local and national response to the Pandemic. The planned proactive work for the year designed to improve local air quality and increase public awareness of the steps that we can all take to minimise our impact on our local environment had to be put on hold. Council manpower and resources were targeted at the Pandemic response and as the country progressed through varying stages of lockdown, testing, vaccination and support, the priority for general enforcement work in vehicle idling and emission testing was suspended.

Planned work by the Environmental Health Department with colleagues in Education, Active Travel co-ordinators and School committees to run air quality presentations and competitions was also put on hold as teachers, pupils and families continued with home working and home learning. Although Schools across Scotland began to

return to the classroom in April 2021 the approach was cautious and school assemblies and visitors were kept to a minimum.

However work streams were prioritised as a response to the pandemic which supported home working, virtual meetings and on line training by almost all departments within East Renfrewshire Council and the wider business community. Information technology and network infrastructure remained in place to ensure many employees had a digital platform at home reducing the need to travel to their workplace, meetings and training. As was expected, as the country gradually emerged from the pandemic many of these measures put in place remain as common practise with support for home or agile working/ distant learning and virtual meetings. Hybrid working is becoming the norm rather than an exception- with many organisations and companies opting for a 50/50 or 60/40 hybrid working programme for their employees.

Similarly, infrastructure projects were prioritised across East Renfrewshire to support active travel and “Spaces for People” allowing residents additional space and extended routes to travel across the district without need for car journeys or public transport. Although some projects were planned for the near future, many were brought forward and extended to help with the Covid-19 response to “Stay Local” and “Social Distance”

Local Priorities and Challenges

As air quality in East Renfrewshire is generally good, local priorities are not only about meeting objectives but the challenge remains to go beyond compliance and to deliver the Council's 3rd Single Outcome Agreement in the Outcome Delivery Plan to ensure East Renfrewshire is "*a thriving, attractive and sustainable place for businesses and residents*".

Although the priorities for the Council this year remain a pivotal role in supporting local and national recovery from the ongoing Coronavirus Pandemic. However the time was seen to be right to reinstate our vehicle idling enforcement programme across East Renfrewshire. Our Community Safety Officers will carry out 10 hours per week of idling enforcement outside schools, leisure centres and at taxi stands / bus terminus.

We will also look to reinstate support to, ERC's Education Department by recommencing air quality education to pupils and promote active travel to and from school. It will also be the intention to attend community hubs and events to reiterate the pro-active measures that can be taken to improve local air quality.

We will continue to be committed to monitoring pollutant levels and analysing them as they hopefully ease back to below pre-Covid 19 levels.

How to Get Involved

East Renfrewshire Council's Prevention Team has developed a unique partnership with many local MOT stations to offer free vehicle emissions checks to local residents. Any resident who is concerned about their vehicle's emissions can visit one of the participating local garages for a free check – details of all of the participating garages can be found on East Renfrewshire Council's website at:

<https://www.eastrenfrewshire.gov.uk/reduce-car-pollution>

Further information on local air quality and our enforcement and education activities can also be found on East Renfrewshire Council's website at <http://www.eastrenfrewshire.gov.uk/air-quality>

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Additional information on our local air quality and monitoring results can also be found here

<http://www.scottishairquality.scot/>

<https://www.scottishairquality.scot/latest>

Residents who are concerned about local air quality can contact Environmental Health at environmentalhealth@eastrenfrewshire.gov.uk, by phone on 0141 577 3127 or via the 'Contact Us' section of our website.

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1. Local Air Quality Management

This report provides an overview of air quality in East Renfrewshire Council during 2021. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Progress Report (APR) summarises the work being undertaken by East Renfrewshire Council to improve air quality and any progress that has been made.

Table 1.1 – Summary of Air Quality Objectives in Scotland

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Nitrogen dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 µg/m ³	Annual mean	31.12.2010
Particulate Matter (PM _{2.5})	10 µg/m ³	Annual mean	31.12.2020
Sulphur dioxide (SO ₂)	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m ³	Running annual mean	31.12.2010
1,3 Butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m ³	Running 8-Hour mean	31.12.2003
Lead	0.25 µg/m ³	Annual Mean	31.12.2008

2. Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance, or likely exceedance, of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12 months, setting out measures it intends to put in place in pursuit of the objectives.

East Renfrewshire Council has not declared any AQMAs.

2.2 Progress and Impact of Measures to address Air Quality in East Renfrewshire.

Due to the national and local response required for the Coronavirus Pandemic, East Renfrewshire Council was unable to take forward the measures and initiatives planned for the current reporting year of 2021 in pursuit of improving local air quality. That being said, the various stages of national and regional lockdown requirements as part of the pandemic response has seen noticeable improvements in ERC's air quality in both 2020 and continuing into 2021. As road traffic is considered the major source of pollution within ERC, with less vehicles on the road during lockdowns, significant lower pollutant levels were recorded at all our monitoring sites.

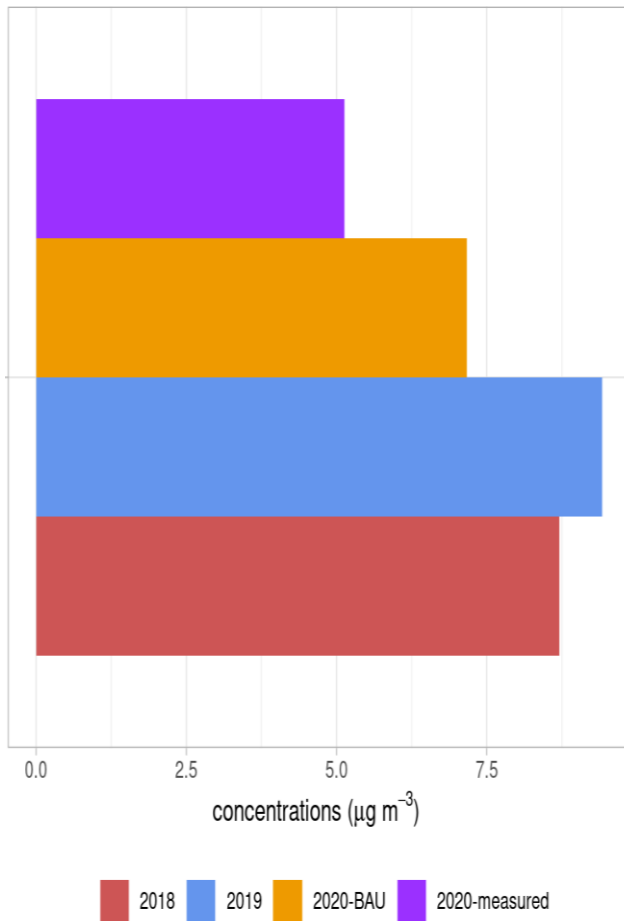
A report into the "**Covid19 lockdown effects on Air Quality**" was produced for East Renfrewshire and examines the impact of lockdown measures on evolving ambient air quality data. This analysis focuses on NO_x, NO₂ and ozone. Data was measured from January 2020 through January 2021, and proven modelling techniques to discount the influence of weather on ambient pollutant concentrations were used.

The result of the study carried out at the Waukmill Glen automatic measuring station (which lies on the Glasgow /East Renfrewshire Boundary) compares 2018 , 2019 , modelled 2020-Business as Usual and the 2020 measured concentrations of NO₂.

The results suggest that measured 2020 concentrations were approximately 65% of the measured 2018 and 2019 NO₂ levels or a drop of 22% on modelled Business as usual figure for 2020. **Figure 1** below summarises the report's findings and the full report can be viewed at:

http://www.scottishairquality.scot/assets/documents//East_Renfrewshire_covid_analyses_updated.html

Figure 1. Covid – 19 Lockdown Effects on Air Quality



The national vaccination programme co-ordinated by the Scottish Government allowed the gradual easing of Covid restrictions to commence in early 2021- however, it is noted that schools did not return to the classroom until 19th April, with the whole of Scotland moving to “protection level 0” on the 19th July 2021 and “beyond level 0 restrictions” commencing on the 9th of August 2021. The full timeline of Covid national protection measures and their easing is included in the Scottish Parliament Information Centre’s Report “**Timeline of coronavirus (COVID-19) in Scotland**”

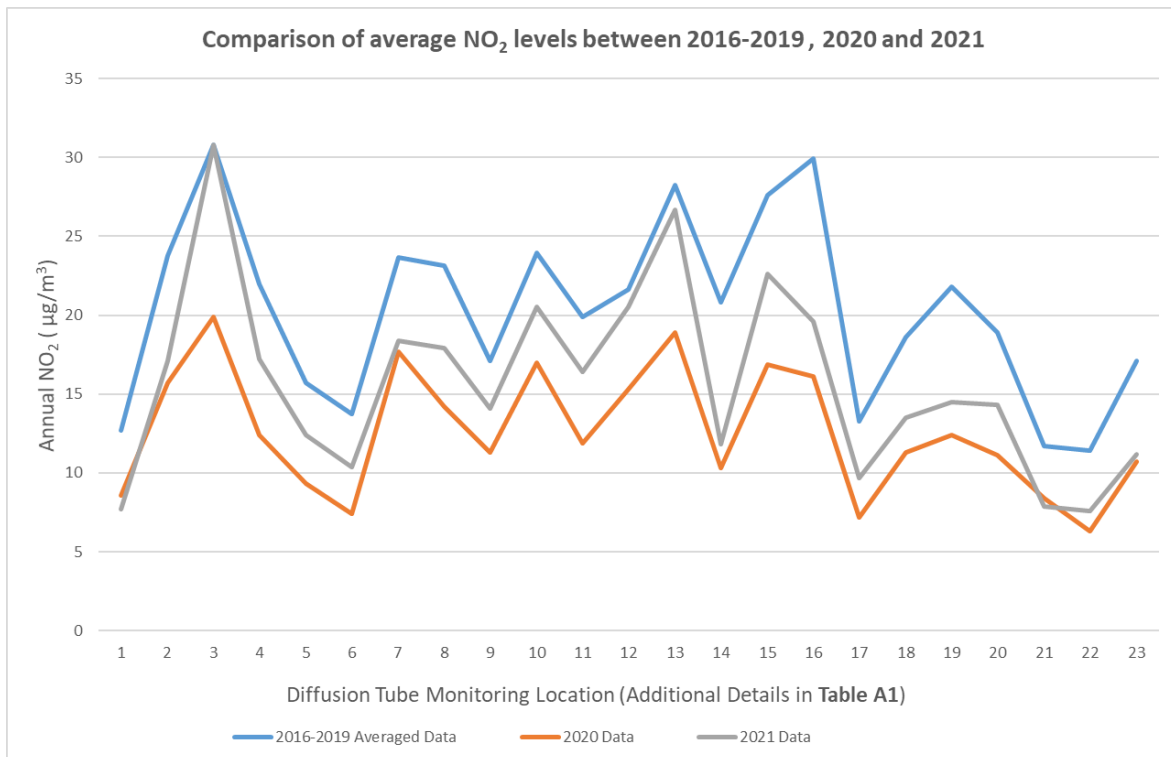
<https://spice-spotlight.scot/2022/08/19/timeline-of-coronavirus-covid-19-in-scotland/>

The gradual easing of restrictions and concurrent gradual return to what is being described as the “new normal” makes interpretation of 2021 annual monitoring data very difficult. It will not be possible to determine whether any improvements seen are a direct result of lockdowns and restrictions early in the year or due to the return to a

“new normal” where we expect air quality to be improved as we realise the introduction of hybrid working, virtual meetings and new ways of working.

A very simple comparison of the data – comparing figures for average NO₂ levels across East Renfrewshire’s 23 monitoring sites for the years 2017-2019 versus the average annual levels experienced during 2020 (full Covid restrictions) and 2021 (gradual easing of restrictions and introduction of the new normal) is demonstrated in **Figure 2**. The results for 2021 are where we might expect them to be – approximately mid-way between 2017-2019 levels versus 2020 Covid lockdown levels. What the Graph does not show however is where 2021 figures would lie if compared to Business as Usual Data.

Figure 2. Covid – 19 Comparison of averaged historical data (2017-2019) with Covid Lockdown Effects (2020 data) and Covid Recovery (2021 data) on Air Quality



Key completed measures include the adoption of enhanced enforcement powers to target vehicle idling (particularly outside schools, at public transport hubs and leisure facilities) and roadside emissions checks, in conjunction with Police Scotland. The enhanced enforcement powers have been retained for when the measures can recommence in full.

We will continue to work with local Schools and Junior Road Safety Officers to produce promotional material that can be used to promote an anti-idling message around the school gates when able to do so. Across East Renfrewshire Council, an active travel strategy has been developed, together with energy efficiency and sustainable transport projects and will be continued when the Pandemic response allows. Further detail on these projects running pre-pandemic and others across East Renfrewshire are detailed in **Table 2.1** (Page 6).

2.2.1 Collaborative and Partnership working

In 2018 and 2019 East Renfrewshire Council's focus was on air quality education in schools, promoting active travel, responsible driving/parking and anti-idling.

Pooled resources from Environmental Health, Active Travel and Education in partnership with SEPA, Living Streets and "Smarter Choices, Smarter Places" allowed the production of an educational package that could be delivered in schools.

This educational resource was used to compliment a wider health initiative - **Beat the Street** creating the perfect opportunity to look at Air Quality in a more holistic manner – and in particular local air quality around schools during drop off and collection times.

This work will continue in full when Pandemic response allows.

Table 2.1 – Progress on Measures to Improve Air Quality (extracted from the 2020 Annual Progress Report on Air Quality)

Measure No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Progress to Date	Estimated Completion Date	Comments
1	Air Quality education project in schools	Public Information	ERC Education Department will be supported to deliver active travel and air quality education in Primary schools.	ERC Education Department and Environment Department	1/4/17	1/4/18	No. Of Schools supported	11 Schools were involved reaching over 3900 children	Ongoing	This Project successfully combines air quality and active travel education.
2.	Vehicle Idling Enforcement	Traffic management	Vehicle idling enforcement around local schools, leisure and transport hubs	ERC Community Safety	1/4/15	ongoing		Level of enforcement continued at 10 Hours per week	ongoing	Enforcement has increased from some local schools to all local schools, leisure centres and transport hubs.
3	Roadside emission checks	Traffic Management	ERC and Police Scotland carry out roadside vehicle emission testing, with Fixed Penalty Notice issued to any drivers vehicle which fails the test	ERC Environment in partnership with Police Scotland	1/4/15	phasing out	Nos. vehicle failing emission test	1 Day of enforcement carried out in 2018 (calendar year)	April 2019	Measure removed and resources now focus on idling and public information
4	Local garage emission test partnership	Vehicle fleet efficiency	ERC created a partnership with local MOTstations to offer free vehicle emission checks to residents	ERC Environment and local garages	1/4/16	Scheme fully operational		16 Garages have signed up to voluntary scheme	ongoing	Information available on council Website
5	Staff Pool Cars Electric Vehicles available	Promoting low emission transport	ERC now has 15 electric vehicles available for use as a staff pool car	ERC Environment Department		Scheme fully operational		Scheme fully operational	ongoing	The scheme is publicised across all staff to encourage uptake.

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Measure No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Progress to Date	Estimated Completion Date	Comments
6.	Replacement of 2 diesel powered vans by electric vans for use by the community Warden Service	Promoting low emission transport		ERC Environment Department	April 2018	2019		Performance monitoring	ongoing	The purchase of two new electric vans has been made to evaluate opportunity for further vehicles to be replaced especially for interdepartmental delivery services for example the print room.
8.	Promotion of Active travel to and from schools.	Active Travel	Reduction of children travelling to school in cars	ERC Environment Department	2017/8	2018/19	School travel assessments	Engagement through active programmes – “Beat the Street” , “Walk and Stride” “Walk to School Week” , extension of “Bikeability” and the “Primary to Secondary transition travel Initiative”	Ongoing	4 Secure , covered cycle parking shelters have been installed at local schools to support this programme.

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Measure No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Progress to Date	Estimated Completion Date	Comments
9.	Enforcement of Parking in vehicle electrical charging spaces for controlled vehicles/	Promoting low emission transport	Community Wardens are monitoring electrical charging stations in controlled car parks for vehicles either not being charged or not capable of being charged	ERC Community Safety	April 2017	June 2018	No. of fixed penalty notices issued vs. no of spaces monitored	40 Fixed Penalty notices served during 2018.	ongoing	Monitoring of electrical charging stations ensures that these bays can be fully available for recharging purposes. The Initiative was suspended for Covid and rescheduled for 2022.

2.3 Cleaner Air for Scotland

Cleaner Air for Scotland – The Road to a Healthier Future (CAFS) is a national cross-government strategy that sets out how the Scottish Government and its partner organisations propose to reduce air pollution further to protect human health and fulfil Scotland’s legal responsibilities as soon as possible. A series of actions across a range of policy areas are outlined, a summary of which is available at <http://www.gov.scot/Publications/2015/11/5671/17>. Progress by East Renfrewshire Council against relevant actions within this strategy is demonstrated below.

2.3.1 Transport – Avoiding travel – T1

All local authorities should ensure that they have a corporate travel plan, which is consistent with any local air quality action plan. Details of East Renfrewshire Council’s most recent climate change report can be viewed at :

<https://www.eastrenfrewshire.gov.uk/climate-change>

The report contains details of how ERC is performing in its target to promote active travel, promote the use of low emission vehicles and reduce the need for “unnecessary journeys”. The reduction of staff making “unnecessary journeys” is underpinned by Service redesign promoting the use of a digital platform for conference calls, agile working, hot desks and virtual training. Significant progress has been made in this area since 2020 as Covid restrictions essentially forced the majority of employees to work from home. Meetings and general work duties were completed on a virtual platform and systems quickly adapted to allow remote access and communication via the network. Progress in this field will remain and become established as promotion of agile work compliments gradual return of employees to the workplace. Many departments have agreed hybrid work between office and home as established work patterns.

Similarly a dynamic response was introduced to create “Covid Safe Streets” across the area in the Transport Response to Covid 19. The project brief is set out in

Figure 3. ERC Transport Response to Covid - 19

Fig 3: East Renfrewshire Council's Transport Response to Covid-19

TRANSPORT RESPONSE TO COVID:

Key principles include:

- - **Enable compliance with government guidance**
- - **Enable essential journeys to be made safely**
- - **Support vulnerable people**
- - **Support the local economy**
- - **Plan for now, near and longer term**

Ultimately we want to make it easier and safer for people to move around healthily by supporting local journeys and improving accessibility to (and within) Town Centres and other key destinations. We also want to protect the most vulnerable and support local businesses to help them adapt to the changes brought on by COVID-19.

Many of us have already changed our transport habits by walking, cycling and wheeling more for exercise or essential journeys. Although urgent action needs to be taken to protect public health, we also need to consider longer term objectives, such as how we manage our transport network sustainably and how best support the revitalisation of our local economy by encouraging people to shop locally.

By taking action now, we are more likely to emerge from COVID-19 stronger, better connected and more resilient

Projects included the extension of cycle lanes and walking routes, temporary pop-up cycle lanes , segregation of cycle routes, School Street pilot projects and alteration of parking zones to prevent congestion. It was intended that some of the measures trialled and piloted during 2020 would be retained /improved and extended in 2021.

<https://eastrenfrewshire.maps.arcgis.com/apps/MapSeries/index.html?appid=bab9e74ba33b4a35b1be846c361222b1>

Access to details of the projects taken forward are regularly updated in East Renfrewshire's Spaces for People Website-

<https://erspacesforpeople.commonplace.is/>

The Spaces for People project includes a number of specific measures taken to encourage active travel in general and to school access. The website has details and information on the restriction of traffic on Academy Road , Giffnock during school pick-up and drop off times, reorganisation and modification of road markings on Davieland Road to improve safety for cyclists and Phase 2 of the “pop up” Bike and Roll Corridors on the A77 and Fenwick road.

2.3.2 Climate Change – Effective co-ordination of climate change and air quality policies to deliver co-benefits – CC2

Scottish Government expects any Scottish local authority which has or is currently developing a Sustainable Energy Action Plan to ensure that air quality considerations are covered. East Renfrewshire Council have presented to Cabinet a report on their proposed approach to the Environmental Sustainability Strategy for 2020 – 2022/23 Available at:

https://eastrenfrewshire.gov.uk/media/1772/Cabinet-Supplementary-Papers-13-August-2020/pdf/Cabinet_Supplementary_Papers_-_13_August_2020.pdf?m=637322255037000000

This ESS underpins a group of strategies, plans and policies that describe the function of the Council in reducing its resource use and mitigating its environmental impact; mainly in relation to emission of Greenhouse Gases (GHGs). The aim of the East Renfrewshire Council LAQM Annual Progress Report 2021 document is, therefore, to create a unified approach to resource use, sustainability and environmental management within the organisation.

The Council declared a climate emergency in October 2021 and have committed to a a Get to Zero (GTZ) Action Plan, setting out our initial high level plans and ambition statement to achieve net zero GHG emissions by 2045. A new Get to Zero Manager was appointed in October 2021 and a report approved by committee on the 25 November 2021

https://www.eastrenfrewshire.gov.uk/media/7575/ERC-Get-to-Zero-Ambition-Statement/pdf/Cabinet_item_10_25_November_2021.pdf?m=637850141063830000

The responsibility for implementing this Strategy and the GTZ Plan will lie with the Council. Changes to Council operations will be needed as well as the Council playing a role in facilitating change in the wider community. However, there may be projects arising from this strategy that have a bearing on other community planning partnership organisations.

- The Council Cabinet will oversee this strategy.
- The Corporate Asset Management Group will assume the management role.
- Environment Dept. – namely the Environment Partnership will be responsible for the implementation of the overall Strategy.

The responsibility for the success of the Strategy will rely on all Council staff understanding their part in helping to reduce the environmental impacts of the Council.

Air Quality considerations are covered across the strategy and include the following examples:

- Planning and the local development plan have targets to increase the current capacity of wind turbines, establish 2.85km of new walkway by 2029, establish new bus route for Levern valley and establish new rail station at Barrhead south
- Public sustainable transport have targets to enhance the lengths of cycle tracks and cycle routes, work with public transport providers to increase the number of people using public transport and encourage the implementation of a school “walking bus” scheme..
- Housing have targets to ensure 100% of Council and RSL homes meet Energy Efficiency in Social Housing standards by 2020, to contact households re support for energy efficiency measures and maximise available support for home energy efficiency improvements directed towards the most vulnerable households

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- The launch of the Think Green Campaign within East Renfrewshire aims to support the Council by raising awareness of current environmental issues and encourage staff to take action.

East Renfrewshire Council has confirmed support of the Glasgow City Region Adaption Strategy and Climate Ready Clyde. : https://eastrenfrewshire.gov.uk/media/5069/Cabinet-Item-10-03-June-2021/pdf/Cabinet_Item_10_-_03_June_2021.pdf?m=637571921616230000

You can find out more about East Renfrewshire Council's action to tackle Climate Change at: <https://www.eastrenfrewshire.gov.uk/article/3002/Climate-change>.

3. Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

East Renfrewshire Council does not currently have any automatic monitoring sites.

3.1.2 Non-Automatic Monitoring Sites

East Renfrewshire Council undertook non-automatic (passive) monitoring of NO₂ at 23 sites during 2021. APPENDIX A: MONITORING RESULTS

Table A. **Appendix A** provides details of the monitoring sites and data recovered.

Maps are also included in **Appendix A** showing the location of the monitoring sites. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in **Appendix C**.

3.2 Individual pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in **Appendix C**.

3.2.1 Nitrogen Dioxide (NO₂)

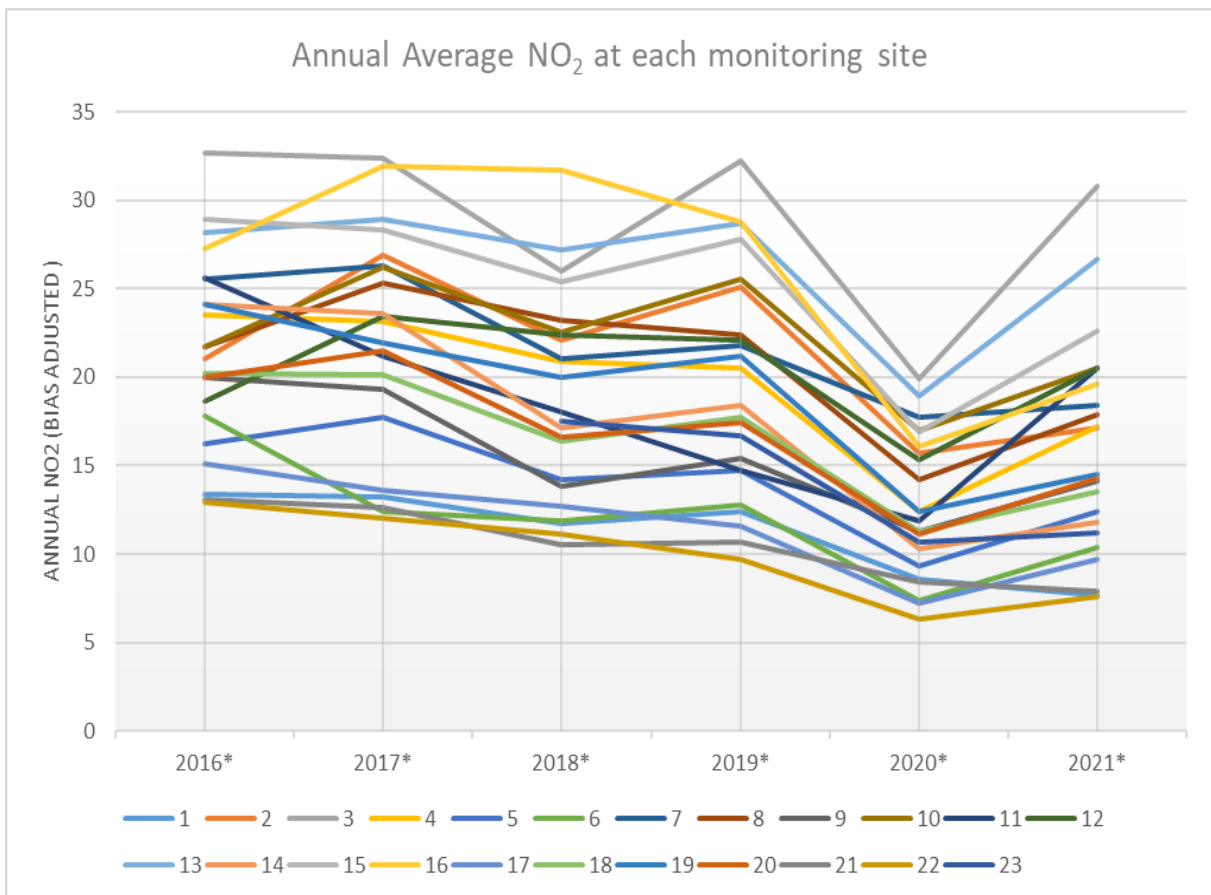
East Renfrewshire Council currently monitors nitrogen dioxide at 23 locations, using diffusion tubes. During 2021, nitrogen dioxide levels at all 23 sites were within the annual mean objective. **There is therefore no need to proceed to any more detailed monitoring or assessment of nitrogen dioxide levels for any location within East Renfrewshire.**

All monitoring sites have recorded a significant decrease in nitrogen dioxide levels during 2021 compared to the previous, pre-covid, calendar year, levels. Overall trend in NO₂ levels over the last six years is shown in **Figure 4.1** below. If a simplistic view is taken then it could be said that 2021 NO₂ levels have increased from the very low levels witnessed during 2020 where full covid restrictions and national lockdowns were being adhered to but have not returned to the “pre-covid” levels seen in 2017-2019. This is likely to be due to the fluid nature of covid

restriction and protection measure as they changed throughout 2021. Impact on the air quality by returning to the “new normal” will not be seen in East Renfrewshire until at least the end of 2022. The simplistic comparison is included on **Page 4, Figure 2** .

Table A.2 in **Appendix A** compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 6 years with the air quality objective of 40µg/m³.

Fig. 4.1 Nitrogen Dioxide diffusion tube results at each monitoring site 2016-2021



For diffusion tubes, the full 2021 dataset of monthly mean values is provided in **Appendix B- Table B.1**.

3.2.2 Particulate Matter (PM₁₀)

PM₁₀. Monitoring was undertaken at Sheddens Roundabout until mid-2014. Data results up until that time had indicated that there was no likelihood of failing to meet the hourly or annual mean objective for PM₁₀.

3.2.3 Particulate Matter (PM_{2.5})

East Renfrewshire Council does not monitor PM_{2.5} and currently has no plans to do so.

3.2.4 Sulphur Dioxide (SO₂)

East Renfrewshire Council does not monitor SO₂ as there are no significant sources of SO₂ in the area.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

East Renfrewshire Council does not monitor any of these pollutants as there are no significant sources of these pollutants within our area.

4. New Local Developments

There are significant new local developments currently either being considered under the development management system or are under construction around the south of Barrhead and Newton Mearns. As part of the development management process, air quality assessments are required for any significant development. These may be stand-alone assessments or may form a chapter of the wider Environmental Impact Assessment for the development. The conclusions of each of these air quality assessments has been reviewed by the Environmental Health Service; as background pollutant levels across the district are generally low, none of these developments has been considered to create a risk of exceedance of air quality objectives. Any of these air quality assessments can be viewed via East Renfrewshire Council's Online Planning Portal at:

<http://www.eastrenfrewshire.gov.uk/planning-and-building-standards>

4.1 Road Traffic Sources

2021 has not seen any new:

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Significant Junctions.
- New roads constructed or proposed
- Roads with significantly changed traffic flows.
- Bus or coach stations

4.2 Other Transport Sources

There are no airports or shipping ports within East Renfrewshire, nor are there any:

- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Industrial Sources

There are no new:

- **Industrial installations:** new or proposed installations for which an air quality assessment has been carried out.
- **Industrial installations:** existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- **Industrial installations:** new or significantly changed installations with no previous air quality assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms.

4.4 Commercial and Domestic Sources

There are no new:

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.
- Combined Heat and Power (CHP) plant.

4.5 New Developments with Fugitive or Uncontrolled Sources

Although there have been applications for small extensions to a quarry and landfill, there are no new:

- Landfill sites.
- Quarries.
- Unmade haulage roads on industrial sites.
- Waste transfer stations, etc.
- Other potential sources of fugitive particulate matter emissions.

5. Planning Applications

There are significant areas of development around the south of Barrhead and Newton Mearns. These developments predominantly comprise residential development, together with associated community facilities e.g. schools. There is also approval for residential developments in areas to the north east of Barrhead and west of Newton Mearns regenerating industrial/commercial areas that have been lying vacant for a number of years.

Wherever such significant development is being considered, the Environmental Health Service recommends to the Development Management team that an air quality assessment is required. Often the developer's appointed consultant will contact the EH service to discuss the requirement for an assessment, obtain any available local monitoring data and agree a suitable methodology for the assessment.

For the smaller housing developments, the assessment usually comprises a stand-alone report. For larger scale developments, air quality is normally included as a chapter of the full Environmental Impact Assessment for the site. The assessment will cover both the construction and operational phases of the development. East Renfrewshire Council encourages developers to consider the cumulative effect of their own development and other nearby developments which are already the subject of a planning application or under construction.

6. Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

There were no exceedances of Scottish objectives identified within East Renfrewshire in 2020. The monitoring data shows a continued downward trend in NOx levels over the last 6 years.

6.2 Conclusions relating to New Local Developments

There are areas of significant development around the south of the existing suburbs of Newton Mearns and Barrhead and a number of regeneration projects to bring vacant commercial and industrial land to the north of Barrhead and west of Newton Mearns back into use as residential areas. Much of this development is already under construction, although some is still being processed through the development management system. For all planning applications for significant development, air quality assessments are required. These assessments will include review of the impact on local air quality during any demolition works, construction works or the completed and operational phase of the development. None of these assessments have considered that any of the development present a risk of national air quality objectives being exceeded, primarily as a result of the comparatively low background levels of pollutants.

This notwithstanding, Environmental Health has liaised with the Development Management section and with other services across East Renfrewshire Council to work towards securing some mitigation of any impacts on local air quality. East Renfrewshire Council seeks to encourage active travel within the context of place-making for significant new developments.

As new developments are completed and occupied, Environmental Health will review East Renfrewshire Council's air quality monitoring network to ensure that it continues to be appropriate in both scale and location.

6.3 Proposed Actions

As there are no exceedances of national or Scottish air quality objectives within East Renfrewshire, there is no need to progress to any further formal assessments before the next Annual Progress Report (due June 2023).

Although there is no requirement to proceed through any additional formal stages of the Local Air Quality Management process, East Renfrewshire Council is committed to improving local air quality, as part of the council's strategic outcome agreement to ensure that "*East Renfrewshire is a thriving, attractive and sustainable place for businesses and residents*" and as a part of ERC Environment Department's wider 'Prevention' agenda. East Renfrewshire Council is also cognisant of the key role of local authorities in delivery of the new Scottish Government "*Cleaner Air for Scotland*" strategy.

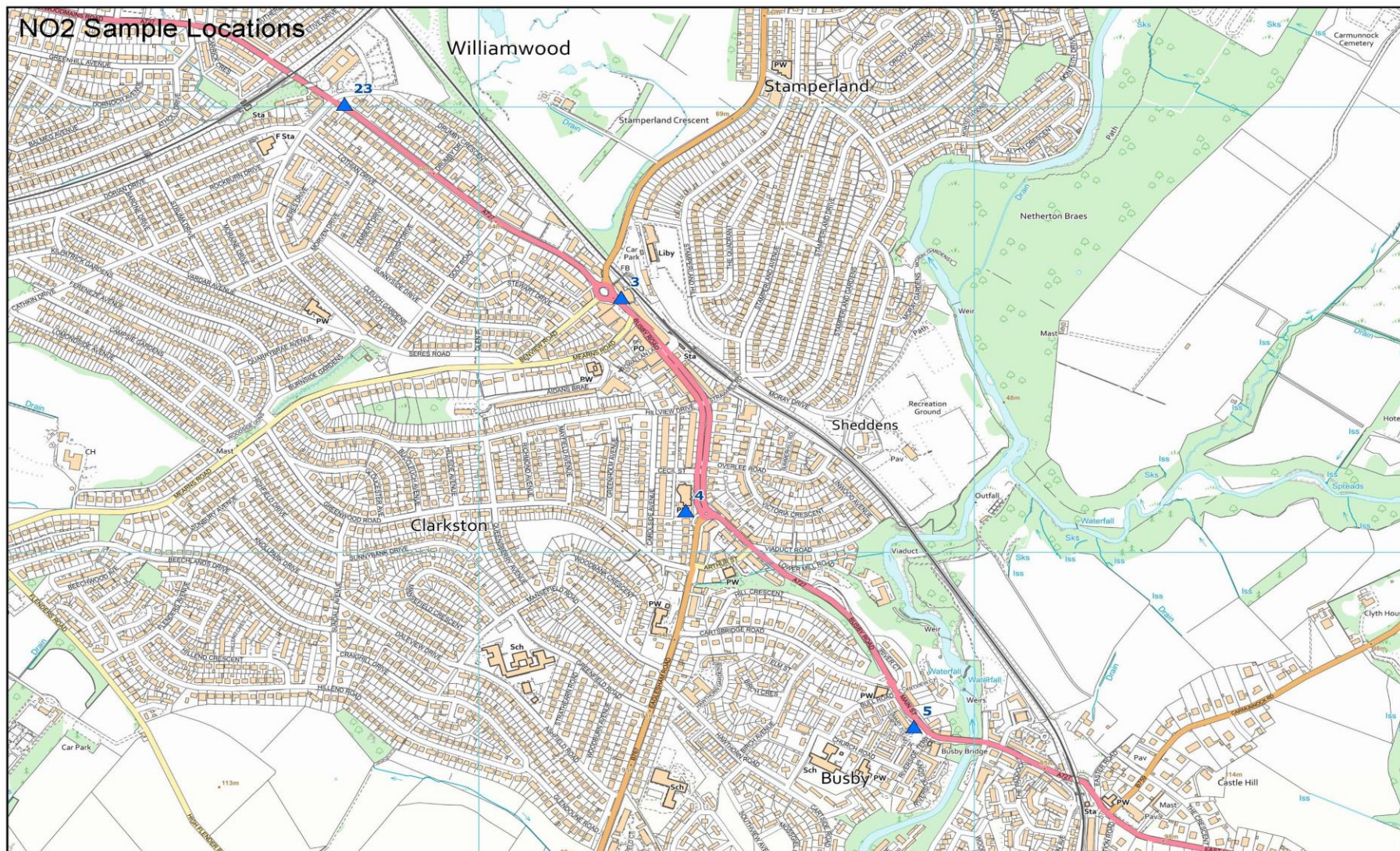
We will therefore be continuing to work throughout 2022/23 on air quality education projects within local schools and at community events, on vehicle idling enforcement and on promotion of the anti-idling message. East Renfrewshire Council is also committed to providing and promoting opportunities for active travel and will continue to deliver on this throughout 2022/23.

Environmental Health will continue to liaise with colleagues in Development Management and Development Plans to ensure that air quality impacts from new developments are appropriately assessed and that mitigation measures are included wherever necessary.

East Renfrewshire Council will demonstrate our on-going commitment to improving local air quality throughout 2022/23, through developing partnerships between ERC services and with external organisations. This integrated partnership approach will help us to deliver beyond air quality compliance, to contribute to wider environmental and health benefits for our residents.

APPENDIX A: MONITORING RESULTS**Table A.1 – Details of Non-Automatic Monitoring Sites for NO₂**

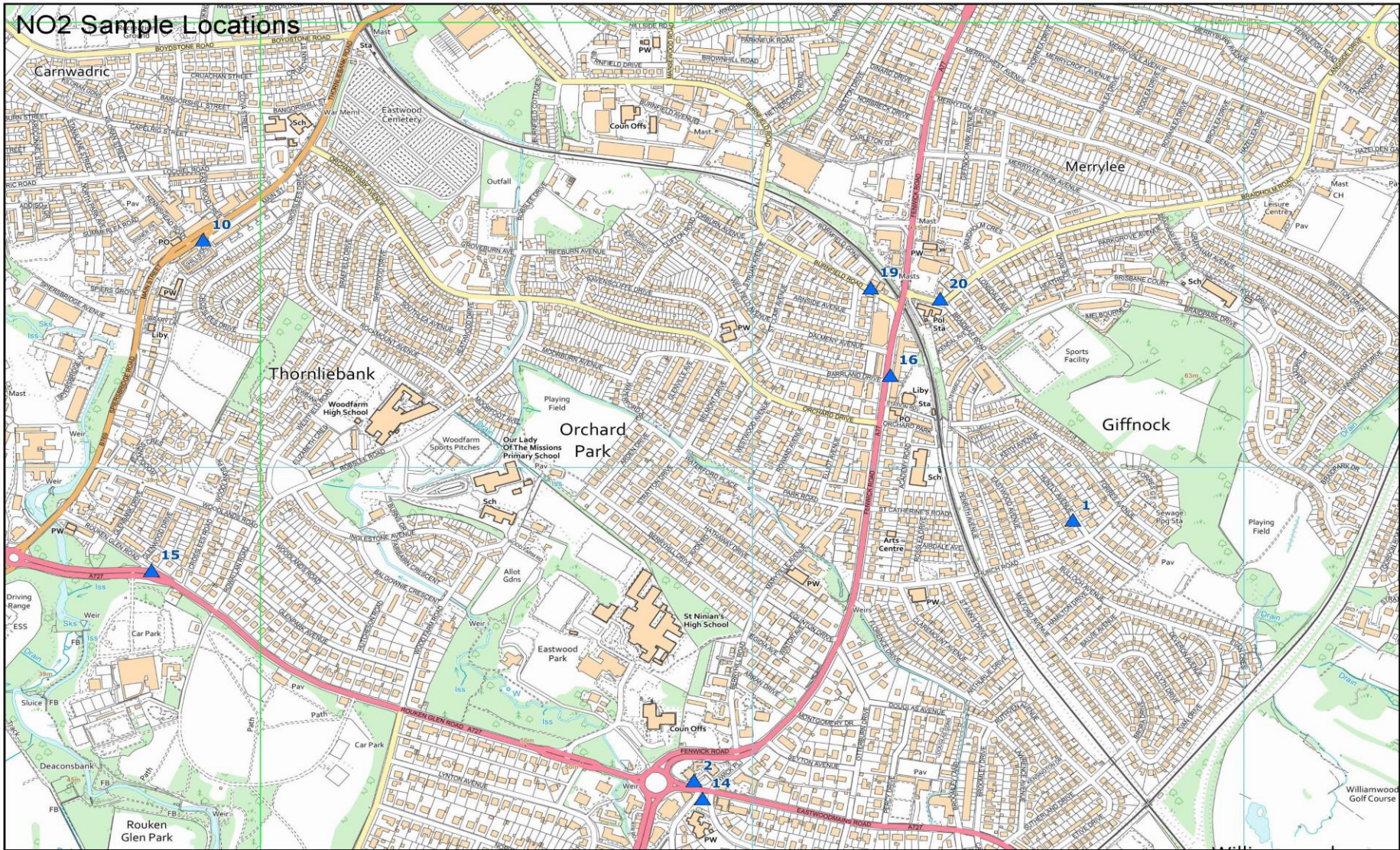
Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (m)	Does this location represent worst-case exposure?
1	Huntly Drive, Giffnock	Roadside	256633	658900	Y 2.0m	0	Y
2	Eastwoodmains Road	Kerbside	255950	658269	Y 5.0m	2.5	Y
3	Clarkston Toll	Roadside	257278	657569	Y 5.0m	0	Y
4	Sheddens Roundabout	Kerbside	257437	657092	Y 2.0m	3	Y
5	Riverside Terrace, Busby	Kerbside	257889	656601	Y 2.5m	2.5	Y
6	Main Street, Neilston	Kerbside	247958	657299	Y 1.0m	2.5	Y
7	Kelburn St, Neilston Rd, Barrhead	Kerbside	249401	658377	Y 2.0m	2.5	Y
8	Cross Arthurlie St, Barrhead	Kerbside	249787	659237	Y 1.0m	2	Y
9	Darnley Rd, Barrhead	Kerbside	250845	659308	Y 5.0m	2.5	Y
10	Main St, Thornliebank	Kerbside	254759	659474	Y 5.0m	2.5	Y
11	Main St, Barrhead, North	Roadside	250651	659238	Y 5.0m	0.5	Y
12	Main St, Barrhead, South (Allans Corner)	Roadside	249845	658779	Y 15.0m	0.5	Y
13	Lochlibo Rd at W. Arthurlie	Kerbside	249344	658392	Y 7.0m	4	Y
14	Eastwoodmains Rd, Mains Ave	Kerbside	255709	658109	Y 5.0m	2	Y
15	Rouken Glen Rd	Kerbside	254777	658770	Y 5.0m	2	Y
16	195 Fenwick Road	Kerbside	256279	659209	Y 2.0m	0.5	Y
17	Mearnskirk Nursing Home	Roadside	253798	655385	Y 2.5m	1	Y
18	Brodick Place, Newton Mearns	Roadside	252407	655475	Y 1.0m	0	Y
19	Burnfield Road	Roadside	256218	659414	Y 1.0m	1.5	Y
20	Braidholm Rd, Giffnock	Roadside	256381	659380	Y 4.5m	2	Y
21	Mearns Castle High School Sports	Kerbside	255418	655265	Y 10m	2	Y
22	Mearns Castle High School Entrance	Kerbside	255405	655274	Y 5m	0.5	Y
23	Eastwood Health Centre Drumby Crescent	Kerbside	256728	658007	Y 5m	3	Y



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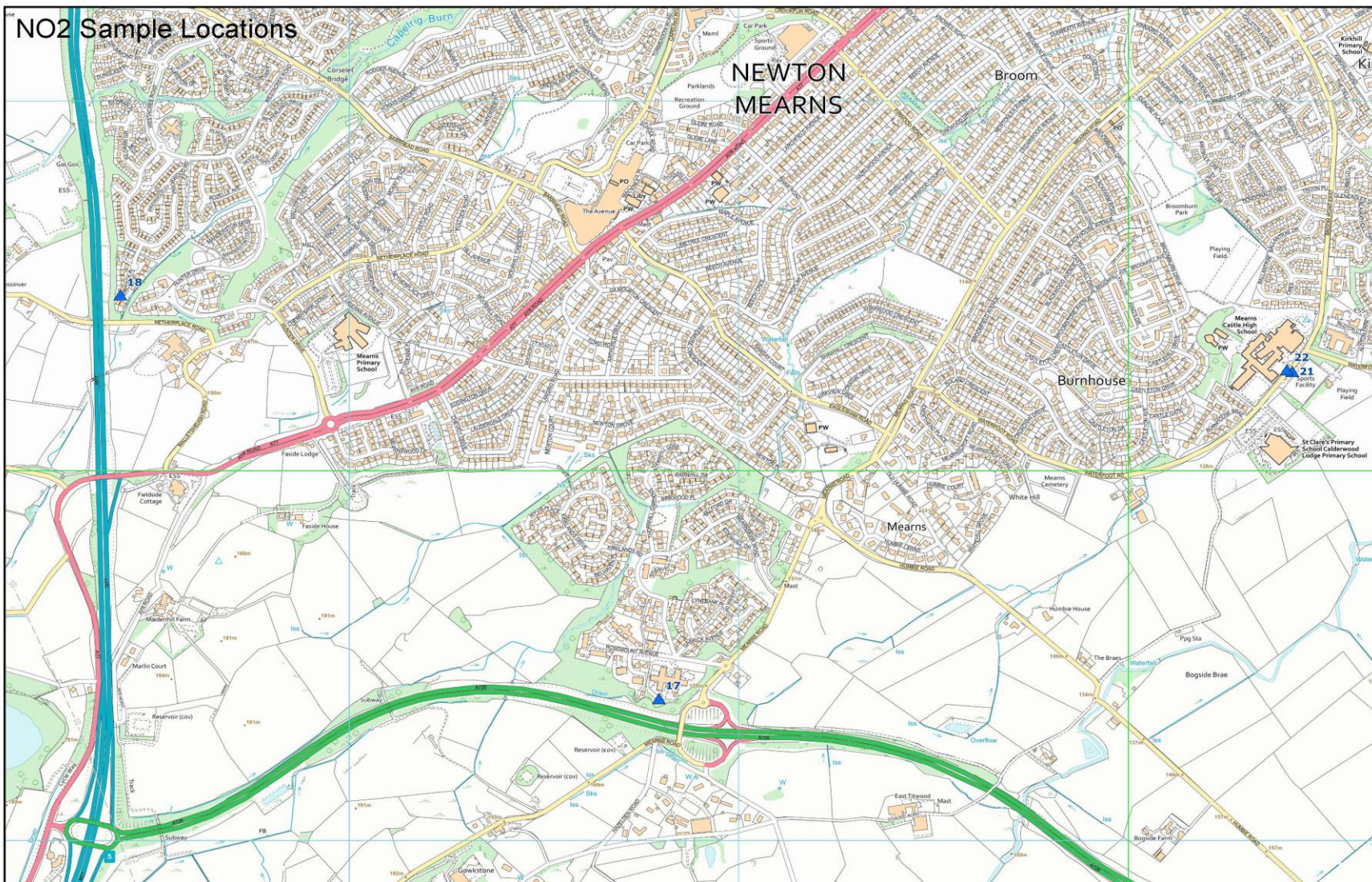
CLARKSTON AND BUSBY



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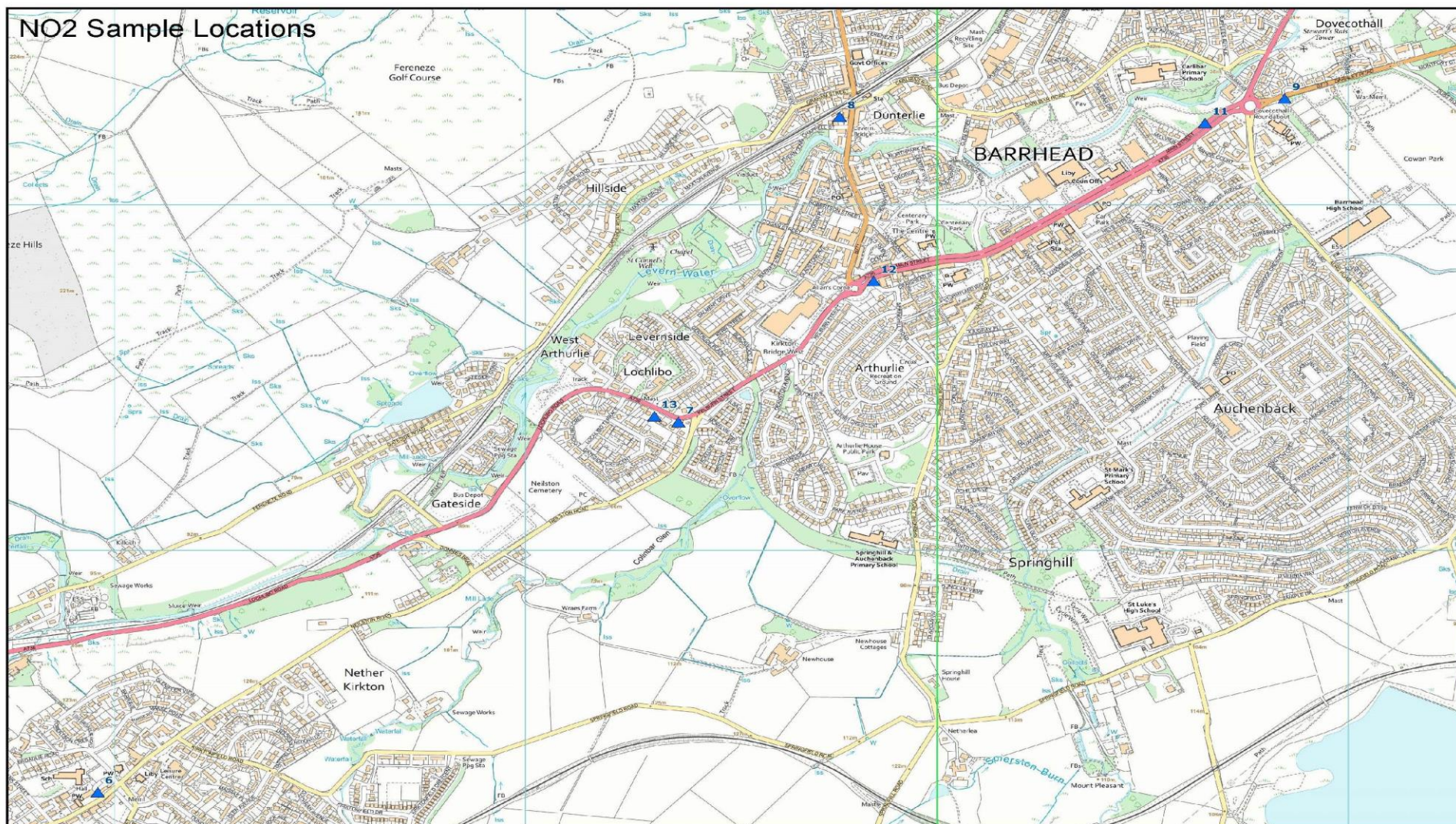
Thornliebank and Giffnock



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NEWTON MEARNS (South)



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BARRHEAD AND NEILSTON

LAQM Annual Progress Report 2022

Table A.2 – Annual Mean NO₂ Monitoring Results

Site ID	Site Type	Monitoring type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020(%) ⁽²⁾	Annual mean concentration (adjusted for bias) µg/m ³					
					2016* (Bias Adjustment Factor = 0.98)	2017* (Bias Adjustment Factor =0.97)	2018* (Bias Adjustment Factor =0.91)	2019* (Bias Adjustment Factor =0.86)	2020* (Bias Adjustment Factor =0.87)	2021* (Bias Adjustment Factor = 1.1) ⁽³⁾
1	Roadside	Diffusion tube	100	100	13.4	13.2	11.7	12.4	8.6	7.7
2	Kerbside	Diffusion tube	100	100	21.0	26.9	22.1	25.1	15.7	17.1
3	Roadside	Diffusion tube	92	92	32.7	32.4	26.0	32.2	19.9	30.8
4	Kerbside	Diffusion tube	92	92	23.5	23.1	20.9	20.5	12.4	17.2
5	Kerbside	Diffusion tube	100	100	16.2	17.7	14.2	14.7	9.3	12.4
6	Kerbside	Diffusion tube	100	100	17.8	12.4	11.9	12.8	7.4	10.4
7	Kerbside	Diffusion tube	100	100	25.5	26.3	21.0	21.8	17.7	18.4
8	Kerbside	Diffusion tube	75	75	21.7	25.3	23.2	22.4	14.2	17.9
9	Kerbside	Diffusion tube	100	100	20.0	19.3	13.8	15.4	11.3	14.1
10	Kerbside	Diffusion tube	100	100	21.7	26.2	22.5	25.5	17.0	20.5
11	Roadside	Diffusion tube	66.6	66.6	25.6	21.2	18.0	14.7	11.6 ⁽⁴⁾	16.43 (*4)
12	Kerbside	Diffusion tube	100	100	18.6	23.4	22.4	22.1	15.3	20.5
13	Kerbside	Diffusion tube	100	100	28.2	28.9	27.2	28.7	18.9	26.7
14	Kerbside	Diffusion tube	100	100	24.1	23.6	17.1	18.4	10.3	11.8

Site ID	Site Type	Monitoring type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2020(%) ⁽²⁾	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$					
					2016* (Bias Adjustment Factor = 0.98)	2017* (Bias Adjustment Factor = 0.97)	2018* (Bias Adjustment Factor = 0.91)	2019* (Bias Adjustment Factor = 0.86)	2020* (Bias Adjustment Factor = 0.87)	2021* (Bias Adjustment Factor = 1.1) ⁽³⁾
15	Roadside	Diffusion tube	92	92	28.9	28.3	25.4	27.8	16.9	22.6
16	Roadside	Diffusion tube	100	100	27.3	31.9	31.7	28.8	16.1	19.6
17	Roadside	Diffusion tube	100	100	15.1	13.6	12.7	11.6	7.2	9.7
18	Roadside	Diffusion tube	100	100	20.2	20.1	16.4	17.7	11.3	13.5
19	Roadside	Diffusion tube	100	100	24.1	21.9	20.0	21.2	12.4	14.5
20	Roadside	Diffusion tube	100	100	20.0	21.5	16.6	17.4	11.1	14.3
21	Roadside	Diffusion tube	100	100	13.1	12.6	10.5	10.7	8.4	7.9
22	Roadside	Diffusion tube	100	100	12.9	12.0	11.1	9.7	6.3	7.6
23	Kerbside	Diffusion Tube	92	92	NA	NA	17.5	16.7	10.7	11.2

Notes: Exceedances of the NO₂ annual mean objective of 40 $\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO₂ annual means exceeding 60 $\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

(1) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias.

(4) All means have been “annualised” as per LAQM.TG(16) if valid data capture for the full calendar year is less than 75% and annualisation is appropriate. See Appendix C for details.

Appendix B: Full Monthly Diffusion Tube Results for 2021**Table B.1 – NO₂ Monthly Diffusion Tube Results for 2020**

SITE ID		NO ₂ Mean Concentrations (µg/m ³)													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
														Raw Data (%)	Bias Adjusted ⁽¹⁾ (Factor = 1.11)
1	Huntly Drive, Giffnock	10.4	3.2	3.4	4.7	7.2	5	6.5	1.9	6	11	11.4	12	100	7.7
2	Eastwoodmains Road, Giffnock	19.5	10.5	5.8	7.9	17.2	14.3	14.8	4.5	20.6	22	23.3	22.8	100	17.1
3	Clarkston Toll	24.8	46.2	9.4	35.5	31.8	27.7	24.8	17.7	NR	30	27.4	27.2	92	30.8
4	Sheddens Roundabout, Clarkston	14.5	14.9	6.8	18.9	11.2	14.3	12.7	30.2	8.6	19	17.9	NR	92	17.2
5	Riverside Terrace, Busby	12.2	7.7	5.4	14.6	10.3	12.7	10.1	19.1	5.5	12	9.4	14.1	100	12.4
6	Main Street, Neilston	13.8	14.2	4.4	10.2	6.5	6.8	7.8	14.3	5.6	10	7	11.3	100	10.4
7	Kelburn St @ Neilston Rd, Barrhead	20.4	18	9.6	14.5	12.7	18.5	18.2	10.9	12.3	24	15.8	22	100	18.4
8	Cross Arthurlie St, Barrhead	12.1	12.1	8	15.6	NR	14.6	NR	20.5	11.5	17	13.6	18.7	75	17.9
9	Darnley Rd, Barrhead	12.2	9	6.4	15.1	13.8	16.7	9.9	19.2	6.9	12	13.2	16.1	100	14.1
10	Main St, Thornliebank	23.1	11.2	9.3	25	21.5	17.7	15	15.4	12	22	22.1	25.1	100	20.5
11	Main St, Barrhead, North	19.2	7.9	NR	NR	NR	14.6	NR	18.8	10.4	30	22.1	23.5	66.6	16.43 (*3)
12	Main St, Barrhead, South	13.6	16.6	10.6	25.3	18.9	22.8	18	21.3	13.4	23	13.9	22.8	100	20.5
13	Lochlibo Rd at W. Arthurlie	35	4.3	10.7	31.2	27.5	22.4	25.8	46	13.5	24	21.4	23.5	100	26.7
14	Eastwoodmains Rd @ Mains Ave	20	4.4	4.6	11.6	6.2	2.3	10.9	29.1	3.3	10	11.3	12.2	100	11.8
15	27 Rouken Glen Rd @ Gushet	27.1	20.5	8.9	26.7	22.9	15.7	NR	10	12.5	28	26.1	23.7	92	22.6
16	195 Fenwick Road	18.9	19.6	8.3	23.6	21.6	9.2	20.4	17	10.8	22	15.5	22.8	100	19.6
17	Mearns Kirk Nursing Home (GSO)	13	11.2	4.7	9.7	6.6	4.1	5.2	21.5	3.1	8	7.4	10	100	9.7
18	Brodick Place, Newton Mearns (M77)	9.5	13.2	6	15.1	12.4	8.4	10.7	7.8	7.7	18	18.9	16.7	100	13.5
19	5 Burnfield Road	15.5	11.1	6.5	17.4	16.3	9.2	5.1	12.7	7.8	17	16.3	21.1	100	14.5
20	8 Braidholm Rd, Giffnock	17.9	5.6	7.3	15.4	13.8	9	6.5	17.4	6.4	16	18.3	19.7	100	14.3
21	Mearns Castle High School Sports	6.9	3.5	2.6	10.4	6.9	5.1	4.8	12.8	3.5	8	9.8	10.1	100	7.9
22	Mearns Castle High School Entrance	11.8	3.2	2.9	9	7	3.3	3.4	14.2	3.2	7	7.2	8.8	100	7.6
23	Eastwood Health Centre at Drumby Cres.	8	5.3	5.3	NR	15	7.5	9.6	8.3	6	13	13.2	18.2	92	11.2

(1) See Appendix C for details on bias adjustment (2) Erroneous result has been removed to calculate annual mean of raw data. (3) Results have been annualised due to data collection being < 75 % .See Appendix C

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

Bias Adjustment Factor For Glasgow Scientific Services

The diffusion tubes are supplied and analysed by Glasgow Scientific Services (GSS) and are prepared using the 20% TEA in water method and in accordance with the procedures set out in the practical guidance. East Renfrewshire has not carried out any co-location studies itself, although co-location studies are available for GSS. The Department for Environment and Rural Affairs (DEFRA) reports that in co-location testing in 2021, GSS demonstrated 'poor' precision for 5 out of 7 assessments (see <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/>)

DEFRA further reports that the 2021 bias adjustment factor for GSS is 1.11 (see <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-data-processing-tool/> Spreadsheet 06/22). This bias adjustment factor has therefore been applied to the annual average diffusion tube results reported above. Laboratory performance in analysing diffusion tubes is subject to quality assurance/control under the AIR-PT scheme operated by LGC and supported by the Health and Safety Laboratory.

Annualising Results

It is recommended that for results with less than 75% data collection that the results are annualised for the annual average. All results for NO2 diffusion tubes had above, or met the recommended 75% collection rate except for return of the Barrhead North (11) site which only recovered 66.6 % data. Therefore the annualisation process was required to be used for this year’s results of the Barrhead North Diffusion tube. The annualisation process is described fully in LAQM.TG(16) . An example of the annualisation process is included below in Table C.1 and calculations using two background sites (Waukmill Glen and Bush Estate) are also detailed.

Table C.1- Example: Annualising Monitoring Data

It has only been possible to carry out a monitoring survey at site for six months between July and December 2015. The measured mean concentration **M** for this period is 30.2µg/m³. How can this be used to estimate the annual mean for this location?

- Identify two to four nearby, long-term, continuous monitoring sites, ideally those forming part of the national network. The data capture for each of these sites should be at least 85%. These sites should be background (Urban Background, Suburban or Rural) sites to avoid any very local effects that may occur at Urban Centre, Roadside or Kerbside sites, and should, wherever possible lie within a radius of about 50 miles. If no background sites are available, and the site to be annualised is itself a Urban Centre, Roadside or Kerbside site, then it is permissible to annualise using roadside or kerbside sites rather than background sites, though this should be clearly stated in the annual report.
- Obtain the annual means, **A_m**, for the calendar year for these sites.
- Work out the period means, **P_m**, for the period of interest, in this case July to December 2015.
- Calculate the ratio, **R**, of the annual mean to the period mean (**A_m/P_m**) for each of the sites.
- Calculate the average of these ratios, **R_a**. This is then the annualisation factor.
- Multiply the measured period mean concentration **M** by this annualisation factor **R_a** to give the estimate of the annual mean for 2015.

For this example the best estimate of the annual mean for site S in 2015 will be **M × R_a = 30.2 × 0.944 = 28.5µg/m³**.

Background Site	Annual mean 2015 (A _m)	Period Mean 2015 (P _m)	Ratio (A _m /P _m)
A	28.6	29.7	0.963
B	22.0	22.8	0.965
C	26.9	28.9	0.931
D	23.7	25.9	0.915
Average (R _a)			0.944

If the short-term period covers, for instance, February to June 2016, and the work is being carried out in August 2016, then an annual mean for 2016 will not be available. The calculation can then be carried out using the ratio to the 2015 annual mean, but the result is then an estimate of the 2015 annual mean at the short-term site. The 2016 bias correction factor would also not be available, and so it would be necessary to use the 2015 factor instead.

Where a short-term monitoring survey has been completed in the present year and an estimate of annual mean is required, please contact the LAQM Support Helpdesk for further information.

Annualising Process for Barrhead North Diffusion Tube:

a). Glasgow Waulkmillglen Reservoir is located 1 mile from ERC boundary :

Site Information	
Environment Type	Rural
Coordinates (Lat/Long)	55.794120, -4.354968
Altitude	90m
Kerb Distance	700
Site Comments	The site is 700m to the North West of the M77.

Monthly Statistics (monthly averages) for 2021

The monthly data below are average concentration data, followed by data capture rates (shown as a percentage of each month).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
17	8	5	8	6	4	5	6	7	6	5	11
99%	99%	98%	99%	100%	97%	66%	98%	89%	99%	97%	93%

Annual Hourly Mean	7	µg/m ³	Provisional	95% DC
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b). Bush Estate located approximately 44miles from ERC boundary

Site Information	
Environment Type	Rural
Coordinates (Lat/Long)	55.862281, -3.205782
Altitude	180m
Kerb Distance	50
Site Comments	The nearest road is a quiet rural road approximately 50 metres north of the station. The A702 is approximately 450 metres west of the site.

Monthly Statistics (monthly averages) for 2020

The monthly data below are average concentration data, followed by data capture rates (shown as a percentage of each month).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	4	4	5	5	3	4	4	4	3	3	5
100%	99%	96%	100%	100%	100%	99%	100%	100%	96%	96%	96%

Annual Statistics for 2020

Annual Hourly Mean	4	µg/m ³	Ratified	98% DC
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Table :C.2 Annualisation of Data for NO2 Tubes in East Renfrewshire

Site	Annual Mean 2021 (A _m) µg/m ³	Period Mean 2021 (P _m) µg/m ³	Ratio (A _m /P _m)	Avg Ratio	Annualised Figure (for Jan, Feb, Jun, Aug, Sep, Nov, Dec)= Period Data x Average Ratio (A _m /P _m) µg/m ³
Waukmill Glen	5.0	8.0	0.625	0.7975	
Bush Estate	4.0	4.125	0.970		
Barrhead North No2 tube		20.5 µg/m ³		0.7975	16.349 (Bias Adjusted µg/m ³)

Data Source:

<https://www.scottishairquality.scot/latest/site-info/GLA7>

<https://www.scottishairquality.scot/latest/site-info/BUSH>

Road Side Adjustment

Fall off from distance correction calculations are only required in the event that both of the following circumstances are met:

- A diffusion tube reports an NO₂ annual mean concentration to be greater than 36 µg/m³ (to account for the inherent uncertainty in diffusion tube monitoring concentration data); and
- That same diffusion tube is not located at relevant exposure.

Therefore, as all of the sites are recording concentrations to be lower than 36 µg/m³ road side adjustment calculations are not required.

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
APR	Air quality Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
CAFS	Clean Air For Scotland
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
ERC	East Renfrewshire Council
ESS	Environmental Sustainability Strategy
FDMS	Filter Dynamics Measurement System
GHG	Green House Gasses
GTZ	Get to Zero (Climate Change)
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control

SEPA	Scottish Environmental Protection Agency
SO ₂	Sulphur Dioxide