

Transport and Environment Committee

10.00am, Thursday, 11 January 2023

Air Quality Annual Progress Report

Executive/routine
Wards

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All

1. Recommendations

- 1.1 It is recommended that Committee notes the content of the 2023 statutory Air Quality Annual Progress Report, which sets out 2022 air quality monitoring data, as submitted to the Scottish and United Kingdom (UK) Governments as part of the Local Air Quality Management Framework.

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Air Quality Annual Progress Report

2. Executive Summary

- 2.1 This report provides an annual update on the most recently available ratified annual air quality monitoring data (2022), local pollutant trends and emerging issues in Edinburgh, fulfilling the requirements of the statutory Local Air Quality Management Framework.

3. Background

- 3.1 The Local Air Quality Management (LAQM) framework is set out in the Environment Act (1995) and obliges local authorities to review and assess air quality in their areas against statutory objectives. When a pollutant fails to comply with an objective, an Air Quality Management Area (AQMA) must be declared and an Action Plan prepared, detailing measures which will be implemented to improve air quality within the designated area.
- 3.2 The Council is obliged to produce an Annual Progress Report, described herein, to give an update on progress made with respect to actions that may improve air quality in the past year. The Annual Progress Report must also detail the latest annual air quality monitoring data (2022), trends in local pollutants and emerging issues.
- 3.3 Reports are compiled in accordance with the Technical Guidance issued by the Department of Environment Food and Rural Affairs and updated Scottish LAQM Policy Guidance (PG(S)(23)) which took account of the Cleaner Air for Scotland strategy (CAFS) LAQM review, the findings of the Environmental Standard Scotland (ESS) Air Quality Investigation 2022 and Scottish Government's response to this. (Section 10 provides links to relevant reports.)
- 3.4 In Edinburgh there are five AQMAs declared for breaches of the nitrogen dioxide (NO₂) objectives – Central, St John's Road, Great Junction Street, Glasgow Road (Newbridge) and Inverleith Row. Revocation of the Inverleith Row AQMA and amendment of the St John's Row AQMA are in-process.

- 3.5 The Council is also in the process of developing a new Air Quality Action Plan (AQAP) in respect to these AQMAs.
- 3.6 There is one additional AQMA declared for fine particles (PM₁₀) in the Salamander Street area, which has a mix of sources including fugitive, industrial and traffic emissions.

4. Main report

- 4.1 The Council is predominately concerned with the review and assessment of Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀ and PM_{2.5}). Statutory objectives for these pollutants are defined in Appendix 1. Scotland has set tighter standards for particulate matter (PM₁₀ and PM_{2.5}) compared with the rest of the United Kingdom (UK).
- 4.2 In general, there continues to be a decreasing trend of annual mean NO₂ concentrations observed (Appendix 2). This general downward trend remains to be in line with the national trend of NO₂ pollution, showing long-term improvement at urban background and roadside locations and is likely to be the result of lower traffic flows since the COVID-19 pandemic and a cleaner fleet supported by the city getting ready for enforcement of the Low Emission Zone. A detailed traffic survey is planned for early 2024, which will allow further analysis of these factors.
- 4.3 Only one exceedance of the annual mean NO₂ air quality objective was reported in 2022. The monitoring site (Queensferry Road) is not located at a site of relevant exposure e.g., residential properties, and therefore required distance correction. Once distance corrected, the concentration was within the statutory parameters.
- 4.4 There were no exceedances (or risk of exceedances) of the one-hour NO₂ objective.
- 4.5 2022 was the first year there were no travel restrictions following the COVID-19 pandemic. However, NO₂ concentrations were similar to that in 2021 and generally have remained lower than pre-pandemic years. Areas where relative annual mean concentration increased from 2021 are largely surrounding junctions or areas of known congestion. This is to be expected with traffic levels stabilising following the easing of the pandemic restrictions.
- 4.6 Whilst 2020 and 2021 monitoring data should be taken with a degree of caution, due to the pandemic travel restrictions, changes to the AQMAs will be considered on an annual basis. Revocation and amendment of the Inverleith Row and St John's Road AQMAs are in-process, with orders to be published in January 2024.
- 4.7 There were no reported exceedances of the Scottish PM₁₀ annual mean objective or of the PM_{2.5} annual mean objective during 2022. Trend analysis of particulate matter shows a slight decreasing pattern, except at St John's Road (Appendices 3 and 4).
- 4.8 St John's Road exceeded the PM₁₀ 24-hour mean objective in-part due to a one-off event during road surface dressing works. An accumulation of aggregate materials

occurred on the main road following the works and heavy rain. Thereafter, with the fine dry weather that ensued, there was an increase in concentrations due to resuspended dust from the crushing of the material by vehicles on the road. The levels of PM₁₀ concentrations remained high until the material was removed and the road swept.

Air Quality Action Planning

- 4.9 In December 2022, Committee approved a draft [Air Quality Action Plan](#) (AQAP) for consultation. The draft AQAP set out actions to tackle NO₂ in Edinburgh and covered eight key themes:
- 4.9.1 Low Emission Zone (LEZ);
 - 4.9.2 Strategic Transport;
 - 4.9.3 Behavioural Change to Active Travel;
 - 4.9.4 Public Transport;
 - 4.9.5 Low Emission Vehicles;
 - 4.9.6 2030 Climate Strategy;
 - 4.9.7 Integrated Policies and Guidance; and
 - 4.9.8 Domestic Emissions.
- 4.10 Statutory consultation was undertaken in Spring/Summer 2023 and the finalised Plan will be presented to Committee in February 2024, taking account of the feedback.
- 4.11 The draft AQAP focuses on locations where exceedances or risk of exceedances of the NO₂ objectives are identified, but it also includes strategic measures which will ensure concentrations of several pollutants are reduced across Edinburgh, even below current statutory objectives. This precautionary approach to public health is supported by the [Cleaner Air for Scotland 2 Strategy](#) and assists in ensuring the objectives continue to be met and maintained.
- 4.12 Priority is being given to the ongoing delivery of the LEZ as a significant measure in the new AQAP. This will ensure enforcement by 1 June 2024 following its implementation in May 2022. The LEZ scheme remains a necessary intervention, as evidenced by the National Modelling Framework, to contribute towards meeting air quality objectives and in maintaining them, with helping to ensure that a cleaner fleet operates in the city. Annual uptake of Scottish Government funding to support eligible businesses and residents remains high. National and local awareness-raising will continue to support LEZ readiness.
- 4.13 Continuing economic growth in the city and wider region presents a challenge for air quality. Population growth has inevitable demand for all modes of transport and supported infrastructure. The new freeport status at the Port of Leith may also change transport and industrial patterns in the area.
- 4.14 In May 2023, the Scottish Parliament published a report on the Scottish Government's Air Quality Improvement Plan and Wider Air Quality Issues, which

supported the aspiration of adopting the 2021 World Health Organisation (WHO) recommended Air Quality Guideline (AQG) levels on air pollutants as statutory measures. There was also some acceptance that the immediate adoption of such measures would present practical challenges.

- 4.15 Some of the recommended annual mean AQG levels are significantly lower than existing objectives in Scotland. For example, Scotland's NO₂ objective is 40µg/m³; the AQG level is 10µg/m³. An estimated comparison with Edinburgh's 2022 monitoring data shows the concentrations at every roadside monitoring location would breach the WHO recommended AQG level. Additionally, most background concentrations (predominately emissions from commercial and domestic heating as well as the general road network) were also above the level.
- 4.16 There is a similar outcome when comparing Edinburgh's PM_{2.5} 2022 monitoring data, with the recommended AQG level of 5µg/m³. The current Scottish objective is 10µg/m³, with concentrations from all eight monitoring locations in Edinburgh showing this is met. However, only Currie, the suburban monitoring location, would meet the recommended AQG level.
- 4.17 Scotland has already set some of the tightest PM₁₀ objectives in the world – annual mean of 18µg/m³. The recommended AQG level is 15µg/m³ for the same averaging period. In 2022, Salamander Street and St John's Road would fail to meet the WHO recommended AQG level.
- 4.18 The Scottish Parliament has urged the Scottish Government to work with local authorities and others to map out pathways for achieving these ambitious targets and consider enshrining a continuous improvement approach into air quality policy, as part of the next review of the Cleaner Air for Scotland Strategy. Officers will continue to engage on this.
- 4.19 It is recognised that there are air quality policy areas that are outside of the direct control of the Council, such as vehicle emissions standards. The Council will therefore continue to work with the Scottish Government and key stakeholders on policies and issues beyond the Council's direct influence, particularly where local evidence can be provided to support and influence change.

5. Next Steps

- 5.1 The 2023 Air Quality Annual Progress Report is published on the [Council's website](#).
- 5.2 The main priorities for the Council in 2024 will be finalising the delivery and commencing enforcement of the LEZ and finalising the NO₂ AQAP for approval by Committee in February 2024.
- 5.3 Work will also progress in respect to the Salamander Street PM₁₀ AQAP and monitoring will be further considered in the area.
- 5.4 The revocation and amendments to Inverleith Row and St John's Road AQMAs will also proceed.

6. Financial impact

- 6.1 There are no direct financial impacts with noting this report.

7. Equality and Poverty Impact

- 7.1 An Integrated Impact Assessment (IIA) is not required for consideration of this report. The report is a routine submission to Committee to give an update on progress which has been made with respect to actions that may improve air quality in the past year, detail the latest monitoring data (2022), trends in local pollutants and emerging issues.
- 7.2 The presentation of the finalised NO₂ Air Quality Action Plan to Committee in February will be accompanied by an updated IIA.

8. Climate and Nature Emergency Implications

- 8.1 Action to progress improvements in air quality will have a positive effect on the environment. As the new Air Quality Action Plan is confirmed (in 2024 subject to Committee approval) and actions progressed thereafter, the annual update will include emissions benefit and any other wider benefits.

9. Risk, policy, compliance, governance and community impact

- 9.1 The 2023 Air Quality Annual Progress Report discharges the Council's statutory duty to report on the review and assessment of air quality, as specified under the terms of the Environment Act 1995 and the associated Local Air Quality Management framework.

10. Background reading/external references

- 10.1 Local Air Quality Management – Policy Guidance PG(S) (23)
https://www.scottishairquality.scot/sites/default/files/publications/2023-04/Air-Quality-Cleaner-Air-for-Scotland-2-LAQM-PG%28S%29-23-revison-final-22-March-23_0.pdf
- 10.2 Local Air Quality Management – Technical Guidance TG(22)
https://www.scottishairquality.scot/sites/default/files/publications/2023-04/LAQM-TG22-August-22-v1.0_0.pdf
- 10.3 Cleaner Air for Scotland 2 Strategy <https://www.gov.scot/publications/cleaner-air-scotland-2-towards-better-place-everyone/>
- 10.4 Environmental Standards Scotland Air Quality Investigation –
<https://environmentalstandards.scot/investigations/air-quality-investigation-summary-report/>

- 10.5 Scottish Government improvement plan relating to Environmental Standards Scotland (ESS) air quality investigation
<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/03/environmental-standards-scotland-air-quality-investigation-scottish-government-improvement-plan/documents/environmental-standards-scotland-air-quality-investigation-scottish-government-improvement-plan/environmental-standards-scotland-air-quality-investigation-scottish-government-improvement-plan/govscot%3Adocument/environmental-standards-scotland-air-quality-investigation-scottish-government-improvement-plan.pdf>
- 10.6 Scottish Parliament's Report On The Scottish Government's Air Quality Improvement Plan And Wider Air Quality Issues
<https://digitalpublications.parliament.scot/Committees/Report/NZET/2023/5/11/3bd4a2ae-c7fb-4738-8693-c9b37b6bbd46-2#9a5a1c18-999e-438a-a6d3-436f6edeab19.dita>
- 10.7 [WHO Air Quality Guidelines 2021](#) - World Health Organisation Air Quality Guidelines updated 2021.
- 10.8 2023 Air Quality Annual Progress Report (APR) for City of Edinburgh Council
<https://www.edinburgh.gov.uk/downloads/download/12967/local-air-quality-management-reports>

11. Appendices

- Appendix 1 Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀ and PM_{2.5}) Air quality objectives prescribed in regulations for LAQM purposes in Scotland.
- Appendix 2 NO₂ Concentration Trends at Automatic (Continuous) Monitoring Locations and Non-Automatic (Passive Diffusion Tube) Monitoring Locations.
- Appendix 3 PM₁₀ Concentration Trends at Automatic (Continuous) Monitoring Locations.
- Appendix 4 PM_{2.5} Concentration Trends at Automatic (Continuous) Monitoring Locations.

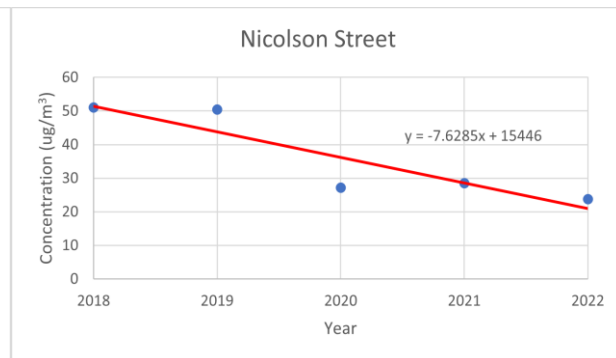
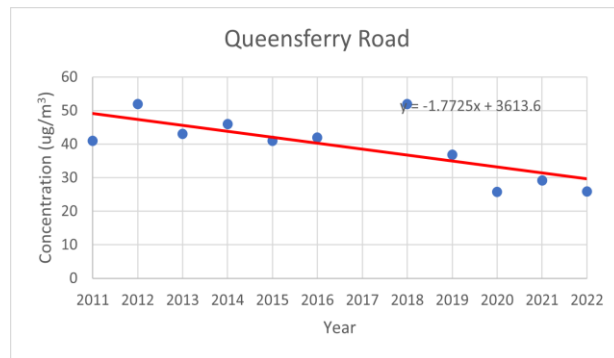
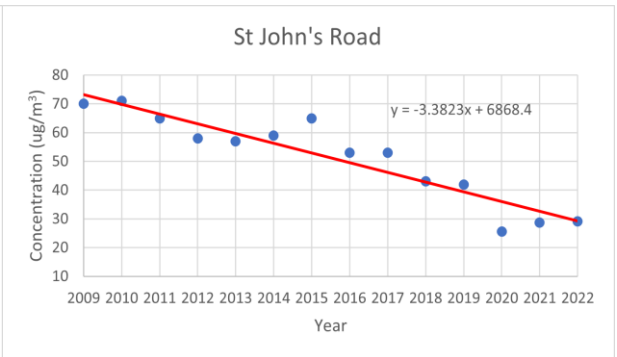
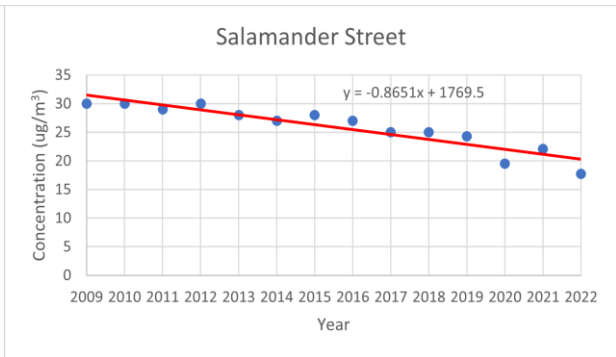
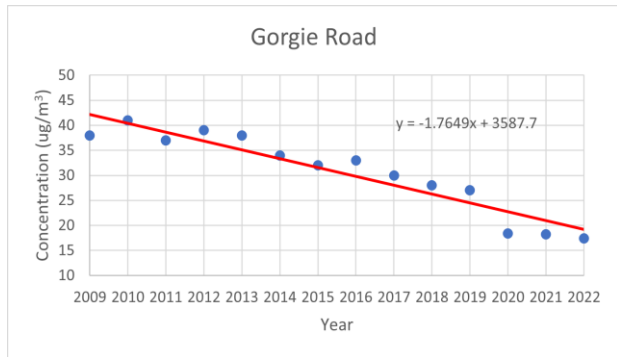
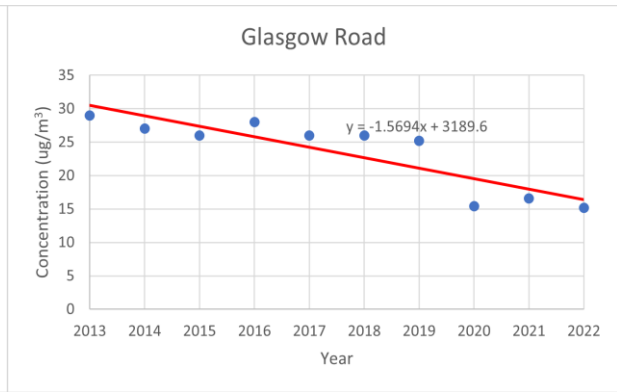
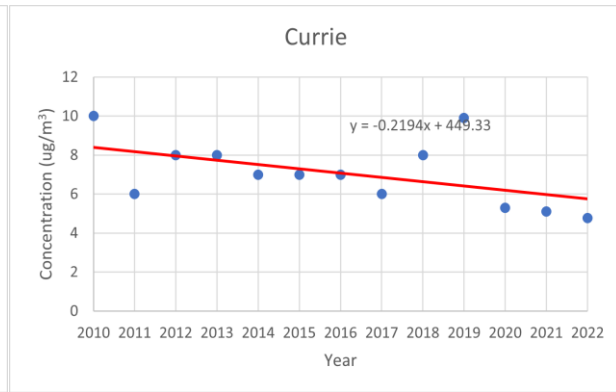
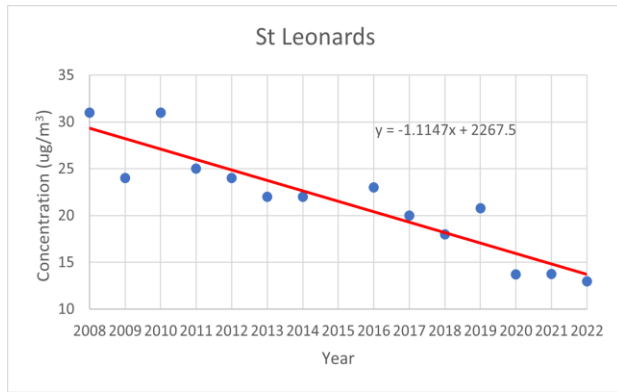
APPENDIX 1

Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀ and PM_{2.5}) Air quality objectives prescribed in regulations for LAQM purposes in Scotland

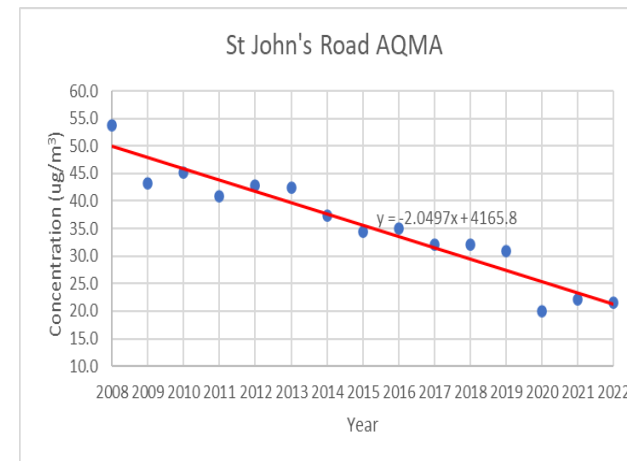
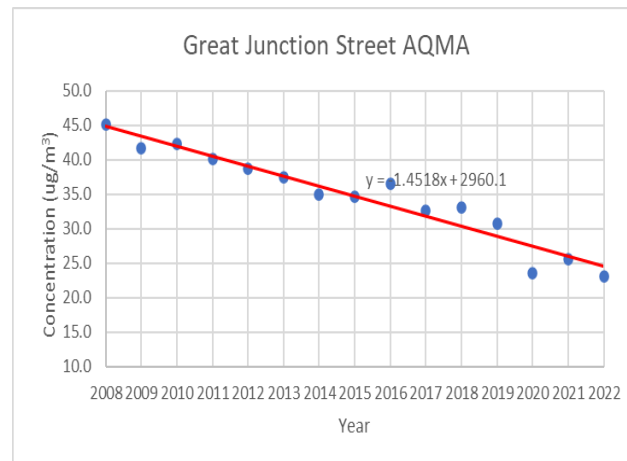
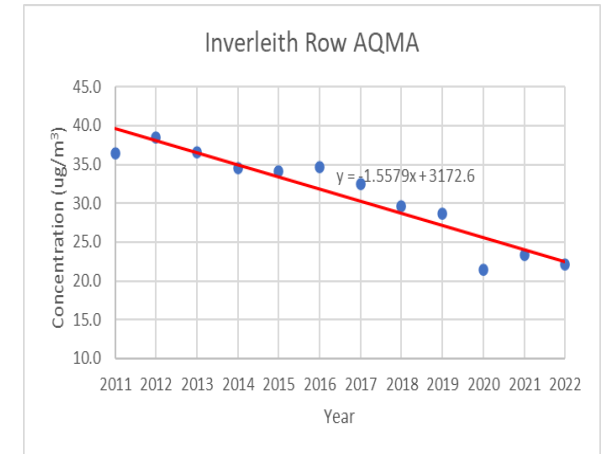
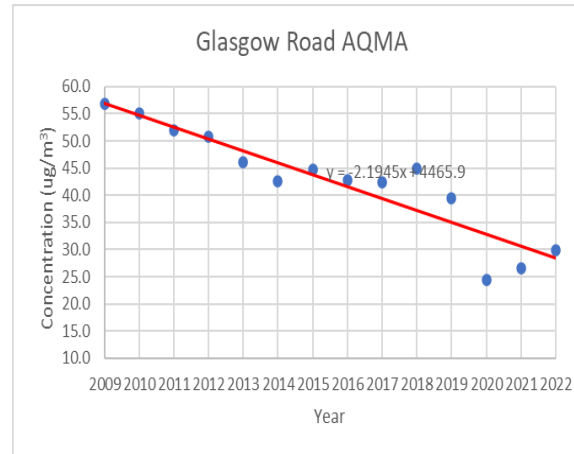
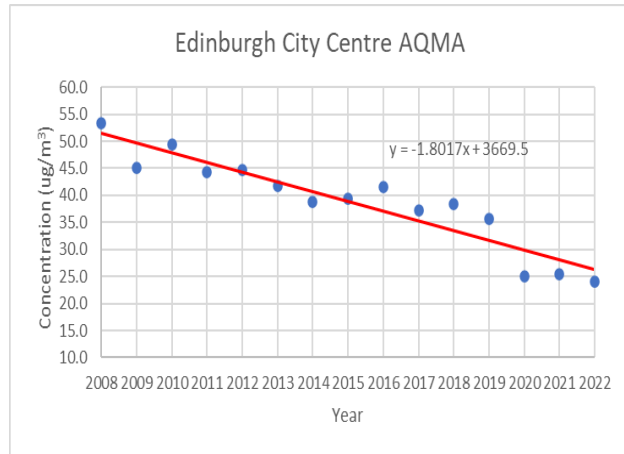
Pollutant	Status	Concentration in Ambient air	Measured as	To be achieved by
NO₂	Scottish & UK Statutory Air Quality Objective and EU limit values	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005*
		40 µg/m ³	Annual mean	31.12.2005*
PM₁₀	Scottish Statutory Air Quality Objectives	18 µg/m ³	Annual mean	2010
		50 µg/m ³ not to be exceeded more than 7 times a year	Daily mean	2010
PM_{2.5}	Scottish Statutory Air Quality Objective	10 µg/m ³	Annual mean	2020

* The European Commission allowed an extension until 1 January 2015 for compliance.

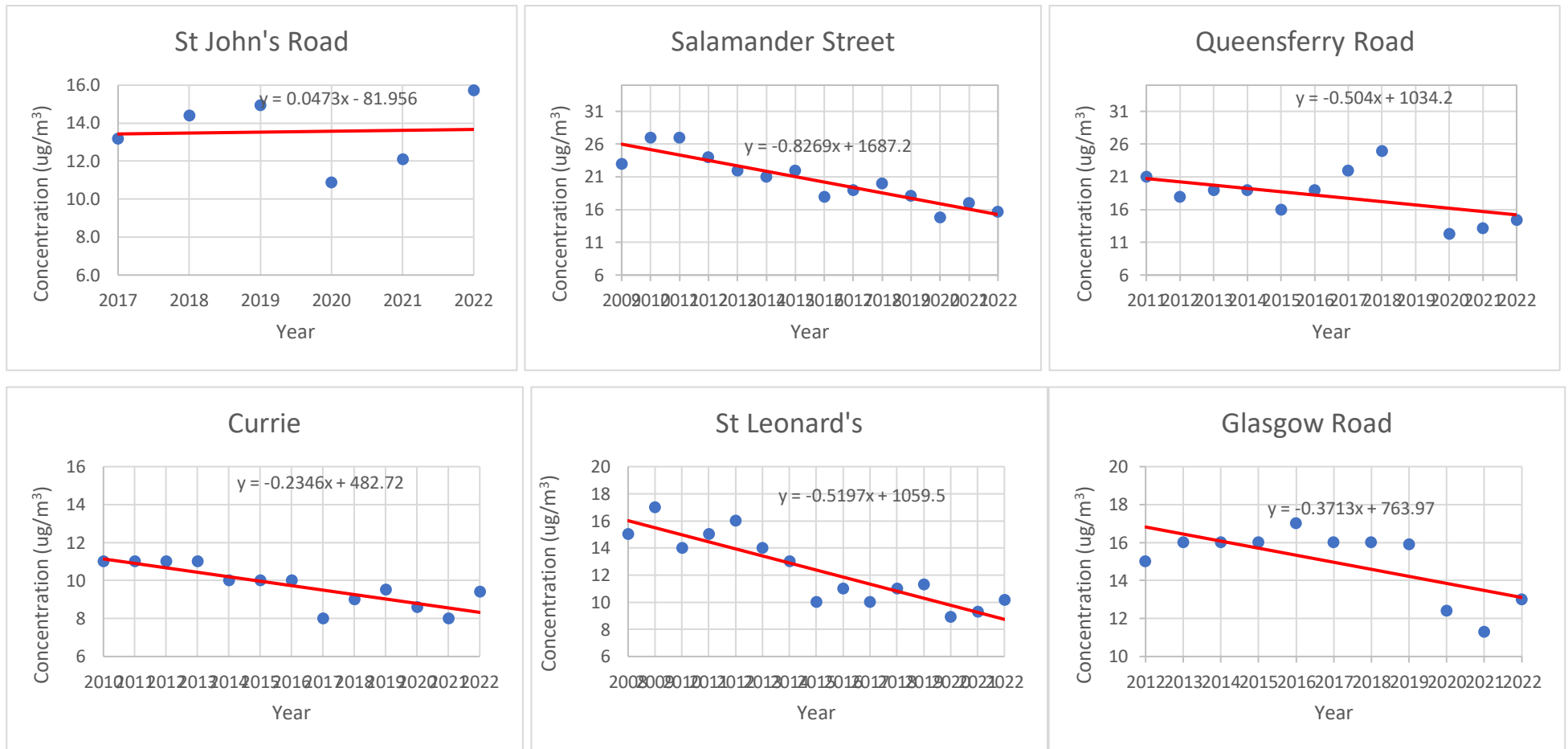
Appendix 2 – NO₂ Concentration Trends at Continuous Monitoring Locations



Appendix 2 (continued) - NO₂ Concentration Trends at Passive Diffusion Tube Monitoring Locations



Appendix 3 – PM₁₀ Concentration Trends at Continuous Monitoring Locations



Appendix 4 - PM_{2.5} Concentration Trends at Continuous Monitoring Locations

