



# Falkirk Council

## **Proposal for the Revocation of the Falkirk Town Centre Air Quality Management Area (AQMA) for Particulate Matter (PM<sub>10</sub>)**

In fulfillment of Part IV of the Environment Act 1995  
Local Air Quality Management

2022

<b>Local Authority Officer:</b>	<b>Author: John Millar (Air Quality Specialist)</b>
	<b>Reviewed by: David Gray (Env. Protection Co-ordinator)</b>
<b>Department:</b>	<b>Environmental Health, Development Services</b>
<b>Address:</b>	<b>Abbotsford House, David's Loan, Falkirk, FK2 7YZ</b>
<b>Email:</b>	<b><a href="mailto:pollution@falkirk.gov.uk">pollution@falkirk.gov.uk</a></b>
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## **Background**

Falkirk Council has been working to improve air quality and public health for many years. The Council has a responsibility to comply with legislation and policy regulations when managing local air quality. The Council completes its Local Air Quality Management (LAQM) duties by managing an extensive air quality network, assessing monitoring data, and reporting on areas of existing or anticipated poor air quality - declared via Air Quality Management Areas (AQMA).

After many years of compliance with the relevant National Air Quality Strategy (NAQS) objectives, Falkirk Council is proposing to revoke the Falkirk Town Centre (FTC) AQMA for particulate matter (PM<sub>10</sub>) annual mean and 24-hour mean elements only. The nitrogen dioxide (NO<sub>2</sub>) annual mean element of the FTC AQMA is remaining in place and is unaffected by this AQMA revocation proposal.

**Revoking an AQMA is an indication that there has been an improvement in air quality within that area over a certain period of time. This improvement has public health benefits through the achievement and the on-going work of the relevant Air Quality Action Plan (AQAP) measures.**

## **Local Pollution Sources**

The FTC 2015 AQAP<sup>1</sup> identified that the “principal source of PM<sub>10</sub> pollution in FTC is road traffic, with commercial and residential combustion as significant contributors.” The PM<sub>10</sub> source apportionment (as displayed in Figure 3.16 of the AQAP) identified that, at locations where the PM<sub>10</sub> concentrations are predicted to exceed NAQS objective the exceedances are “principally attributable to road traffic emissions.”

## **Legislation and Policy**

### **European Legislation**

The European Union (EU) has published a Directive on Ambient Air Quality Assessment and Management<sup>2</sup> which came into force in September 1996. This Directive was intended as a strategic framework for tackling air quality consistently, through setting European-wide air quality limit values in a series of daughter directives, superseding and extending European legislation. The first four daughter directives were placed into national legislation. A new EU air quality directive<sup>3</sup> came into force in June 2008 and was transposed into “The Air Quality Standards Regulations”<sup>4</sup> in England, Wales, Scotland, and Northern Ireland in June 2010.

### **National Legislation**

The Environment Act 1995<sup>5</sup> (UK Government) required the preparation of a National Air Quality Strategy (NAQS) setting Air Quality Objectives (AQOs) for specified pollutants and outlining measures to be adopted by local authorities through the system of LAQM and by others to work in pursuit of the achievement of these objectives. The NAQS was published in 1997 and subsequently reviewed and revised in 2000, and an addendum to the Strategy published in 2002. The current Strategy<sup>6</sup> was published in July 2007.

The Air Quality Standards (AQS) are set for the purpose of protecting human health, vegetation, and ecosystems from certain harmful atmospheric pollutants. The Scottish air quality standards take account of the EU objective values and are either effectively identical, or more stringent. The standards applicable to the study are shown in Table 1.

### **Cleaner Air for Scotland**

The Scottish Government’s “Cleaner Air for Scotland (CAFS) Strategy - The Road to a Healthier Future”<sup>7</sup> is a national strategy that sets out how the Scottish Government will deliver its commitment to further improving air quality to protect human health.

The CAFS strategy aims to help the Scottish Government achieve the ambitious goal “to have the best air quality in Europe”. A National Modelling Framework (NMF) and National Low Emission Framework (NLEF) are being developed to provide the tools and mechanisms to improve national air quality.

“Cleaner Air for Scotland 2 (CAFS2) - Towards a Better Place for Everyone”<sup>8</sup> is Scotland’s second air quality strategy. CAFS2 sets out how the Scottish Government and its partner organisations propose to further reduce air pollution to protect human health and fulfil Scotland’s legal responsibilities over the period from 2021 to 2026. A series of actions across a range of policy areas are outlined within the strategy.

### Local Air Quality Management

The AQOs which are relevant to LAQM in Scotland and have been set into regulations, namely the Air Quality (Scotland) Regulations 2000<sup>9</sup>, the Air Quality (Scotland) Amendment Regulations 2002<sup>10</sup> and the Air Quality (Scotland) Amendment Regulations 2016<sup>11</sup>, the latter of which introduces an additional statutory obligation for Scottish local authorities to comply with an annual mean standard for PM<sub>2.5</sub> to align with the World Health Organisation (WHO) guideline value<sup>12</sup>.

LAQM Technical Guidance “TG16”<sup>13</sup> requires that a decision to amend or revoke an AQMA should only be taken “following a detailed study, providing sufficient information to justify a decision. Supporting information for revocation should be equivalent to the detail required in declaring an AQMA. An AQMA can be revoked on the basis of robust monitoring evidence” as displayed in this report.

### Local Air Quality Standards

The Air Quality Standards (AQSs) are set for the purpose of protecting human health, vegetation, and ecosystems from certain harmful atmospheric pollutants. The Scottish standards take account of the EU objective values and are either effectively identical, or more stringent. The standards applicable to the study are shown in Table 1.

Table 1 – AQS Relevant for This Study

Pollutant	Concentration	Measured As
Particulate Material (PM <sub>10</sub> )	50 µg/m <sup>3</sup> not to be exceeded more than 7 times per year	24-hour mean
	18 µg/m <sup>3</sup>	Annual mean

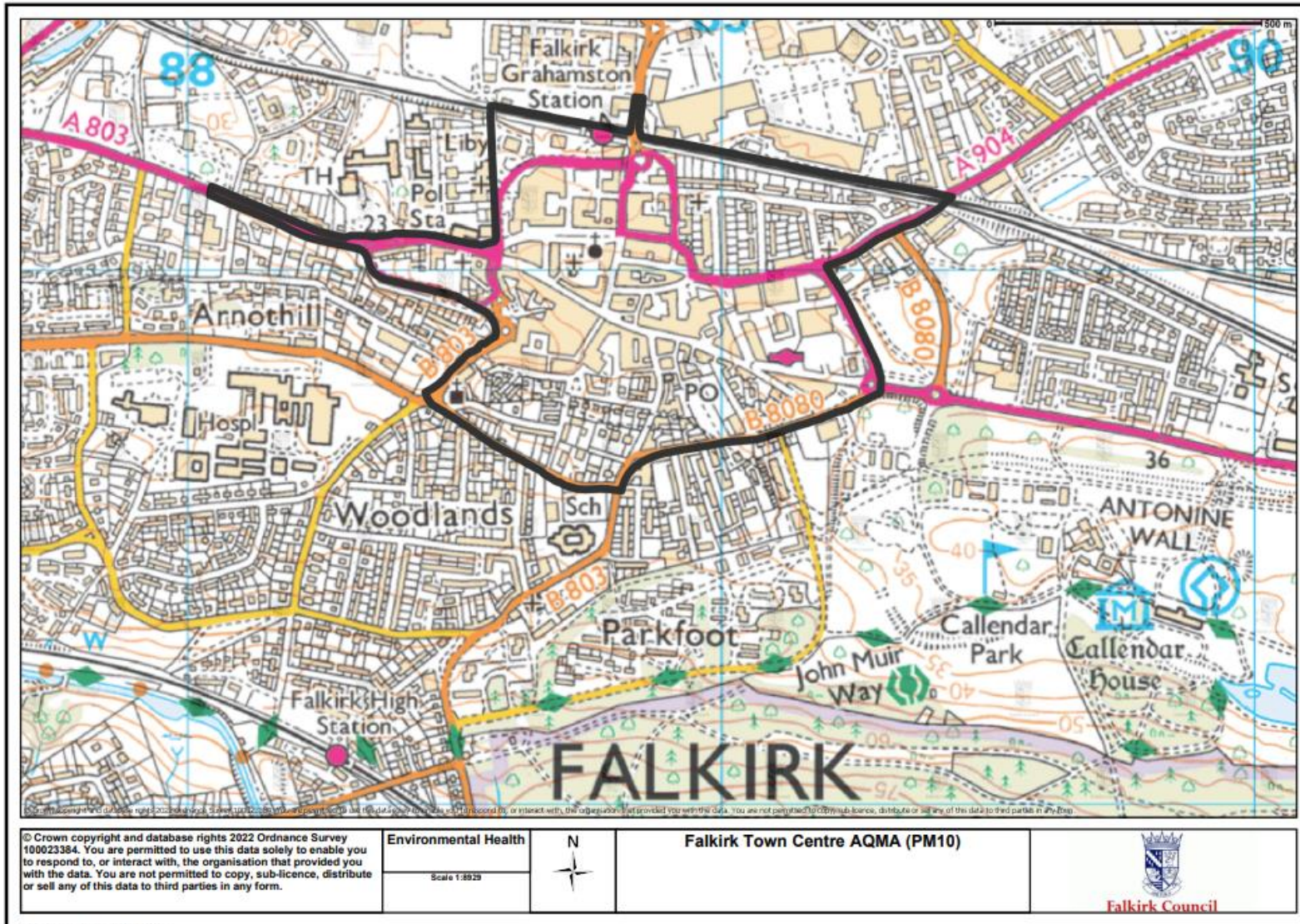
LAQM Technical Guidance “TG16”<sup>13</sup> provides advice on where the AQS for pollutants considered in this study apply. These are summarised in Table 2.

Falkirk Council

One of the areas identified which was subject to historic, poor air quality was FTC. This area is shown in Figure 1 – Map of Falkirk Town Centre AQMA. The AQMA was declared by Falkirk Council on 25<sup>th</sup> January 2013.



Figure 1 – Map of Falkirk Town Centre AQMA



Created by John Miller on 18 August 2022



**Table 2 – Examples of Where the AQS Apply**

Averaging Period	Standards Should Apply to	Standards Should Generally Not Apply to
24-hour mean and 8-hour mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless used as a permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties.	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be shorter than either the 24- or 8-hour relevant mean.
1-hour mean	<p>All locations where the annual mean and 24- and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more.</p> <p>Any outdoor locations where members of the public might reasonably expect to spend one hour or longer. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more.</p> <p>Any outdoor locations where members of the public might reasonably expect to spend one hour or longer.</p>	Kerbside sites where the public would not be expected to have regular access.

### **Scope of the Study**

This report considers air quality monitoring (PM<sub>10</sub> specific) data within the FTC area from the last ten years (since 2011) to determine trends in measured concentrations and to provide a robust study for the proposed AQMA revocation (in accordance with LAQM Technical Guidance “TG16”<sup>13</sup>). Measured PM<sub>10</sub> concentrations are compared against NAQS objectives displaying overall compliance with the PM<sub>10</sub> (annual and 24-hr mean) NAQS objectives.

### **FTC AQAP Measures Achieved and On-going**

The 2015 FTC AQAP<sup>1</sup> details the following grouped action measures which has led to an improvement of PM<sub>10</sub>-related air quality within the FTC area:

- Reducing emissions from individual vehicles.
- Promotion of the Falkirk ECO Stars scheme for commercial vehicle operators.
- Planning and development measures.
- Reducing demand for travel and promoting alternative modes of transport; and
- Educating and informing the public regarding air quality.

Specific AQAP Measures completed in recent years which have led to a reduction in FTC PM<sub>10</sub> concentrations include:

#### **Falkirk Council Fleet Management**

Falkirk Council’s vehicle fleet (in 2022) includes seventy-seven fully electric vehicles (EV) including minibuses, vans and cars. The Council’s EV fleet has gradually increased over the years since the FTC AQMA was declared in 2013. This is due to increase to one-hundred EVs in late 2022. Further information on the Council’s new electric fleet can be found using the following Falkirk Council weblink:

<https://www.falkirk.gov.uk/employees/news/article.aspx?aid=6735>

In 2022, there are ninety-six vehicle charging bays with various capacities (7, 22, 50, 150kW). An additional thirty-three chargers (with sixty-six vehicle bays) are being planned to be installed in various locations throughout the Falkirk Council area in 2022. This action helps to promote alternative / sustainable modes of travel and to achieve measures included in Falkirk Council’s [Climate Change & Sustainability Policies](#) .

### **ECO Stars**

ECO Stars is a fleet recognition scheme designed to provide recognition and guidance on operational practices to companies operating goods vehicles, taxis, buses and coaches within the Falkirk Council area. The scheme aims to improve local air quality and reduce other environmental impacts as well as improving operational efficiency of vehicles.

The ECO Stars scheme has been in place with Falkirk Council since 2012. The scheme has since grown to two-hundred and sixty-three members in 2022.

### **Traffic Light System Improvements in Falkirk / Grangemouth**

An improved traffic light system was installed at the junction of Main Street, Bainsford and Bankside in February 2012. With Microprocessor Optimised Vehicle Actuation (MOVA) in use, this has led to an improvement in traffic capacity and helped reduce delays at this junction (judged to be around 10%).

Traffic light signal improvements have also been completed at the high-capacity M9 junctions in Polmont and Grangemouth to help alleviate congestion, reduce vehicle idling and allowing free flowing traffic in the vicinity of local receptors.

### **Take the Right Route**

Falkirk Council's "Take the Right Route" is a scheme which aims to tackle traffic congestion and reduce car dependency by promoting walking, cycling and the use of public transport for everyday short journeys. Take the Right Route covers a wide range of projects including:

- Personal travel planning;
- Marketing and promotion: and
- Infrastructure improvements

Further information on current and specific Take the Right Route projects can be found here:

<https://www.falkirk.gov.uk/services/roads-parking-transport/transport/take-the-right-route.aspx>

Other (non-AQAP specific) measures that Falkirk Council has implemented which has assisted with the improvement of FTC (PM<sub>10</sub>) air quality include:

### **Electric A9**

On the 10<sup>th</sup> August 2020, the [Falkirk Stadium Vehicle Charging Hub](#) was opened and became operational accepting electric vehicles to park and charge-up. The £1.4m facility has charging capacity for twenty-six electric vehicles - 30% more than the second largest EV facility in Scotland. This supports the Scottish Government's ambition to phase-out the need for new petrol and diesel vehicles by 2032 as outlined in the Scottish Government's Renewable and Low Carbon Energy Policy [Renewable and Low Carbon Energy Policy](#) . The Falkirk Stadium Vehicle Charging hub is an integral part of Transport Scotland's "Electric A9" project with the overall aim of improving the electric vehicle charging infrastructure throughout Scotland.

### **East Central Scotland Vehicle Emission Partnership "Switch Off and Breathe"**

Falkirk Council has been working closely with fellow members of the East Central Scotland Vehicle Emissions Partnership (VEP, "[Switch Off and Breathe](#)") to work to the objectives set out in the Scottish Government's CAFS strategies.

The remit of the VEP is to help reduce vehicle emissions (and as a result, air pollution) by encouraging drivers to switch off their engine whenever possible. The VEP also handle vehicle idling complaints and provide educational resources for schools and communities.

### **Forth Bike**

[Forth Bike](#) (in conjunction with [Forth Environment Link](#)) operates an electric bike hire scheme within the Falkirk and Stirling areas utilising the local path network. The Forth Bike system currently includes over one-hundred electric pedal assist 'Pedelec' bikes distributed between their four local stations: the Falkirk Wheel, the Helix, Forth Valley Royal Hospital, and the University of Stirling. The scheme operates using a smart phone app to aid in the selection of the electric bikes from one of the local stations.

## **Monitoring Sites, Equipment and Data**

Falkirk Council monitors PM<sub>10</sub> and other pollutants at several locations throughout the Council area using automatic and manual sampling methods. The automatic monitoring data displayed below has been fully checked and ratified in accordance with the Scottish Air Quality Database Quality Assurance / Quality Control (QA/QC) process<sup>14</sup>.

The Council currently operates two automatic monitoring stations located within the FTC AQMA (as detailed in Table 3). Previous monitoring stations / equipment are also shown in this table for reference. The locations of the Falkirk Hope Street and West Bridge Street automatic monitoring stations are displayed in Appendix A – Maps of Automatic Monitoring Locations.

The PM<sub>10</sub> (annual mean and 24-hr mean) monitoring results are shown in Tables 4 and 5. These results are also displayed in Graphs 1 and 2.

### **PM<sub>10</sub> Annual Mean Results (2011 – 2021)**

There were four PM<sub>10</sub> annual mean NAQS objective exceedances recorded at one site, A7 Falkirk West Bridge Street, over the displayed, last ten-year period. No further NAQS objective exceedances were recorded since 2015 at any of the monitoring sites in the FTC area with all results displaying a decreasing trend in annual mean concentration results. These results demonstrate that the annual mean PM<sub>10</sub> concentrations for the past seven years (since 2015) have complied with the NAQS objective. Falkirk Council expects the PM<sub>10</sub> annual mean concentrations to remain within the NAQS objective for many years in the future due to the ongoing AQAP work as detailed in the above section “FTC AQAP Measures Achieved and On-going”.

There was a lower-than-expected PM<sub>10</sub> annual mean concentration recorded in 2020 (7µg/m<sup>3</sup>) at the Falkirk West Bridge Street site, this is likely to be attributable to a reduction in normal traffic volumes and patterns due to the Covid-19 pandemic.

### **Number of Days PM<sub>10</sub> 24-hr Mean Concentrations Above 50µg/m<sup>3</sup> (2011 – 2021)**

There have been no NAQS objective exceedances of the “Number of Days PM<sub>10</sub> 24-hr Mean Concentrations Above 50µg/m<sup>3</sup>” at any of the FTC monitoring sites over the past ten years.

The site which recorded the highest number of days was A7 Falkirk West Bridge Street in 2016 (6). The general trend of mean concentrations has been decreasing at all sites since 2013 when the FTC AQMA was declared. These results demonstrate that the PM<sub>10</sub> 24-hr mean concentrations above 50µg/m<sup>3</sup> have complied with the NAQS objective.



## Monitoring Equipment

The FTC automatic, fixed air quality monitoring equipment are displayed in Table 3.

**Table 3: FTC AQMA Air Quality Monitoring Stations and Equipment**

AQ Monitoring Site ID:	A5 Falkirk Hope Street	A6 Falkirk Park Street (Closed)	A7 Falkirk West Bridge Street	A12 Falkirk Grahams Road (Closed)	
<b>Site Type:</b>	Roadside (Automatic)	Roadside (Automatic)	Roadside (Automatic)	Roadside (Automatic)	
<b>Address:</b>	Car Park at Garrison Place (West), Falkirk, FK1 1HU	Education Building, Park St, Falkirk, FK1 1RE	West Bridge St, Falkirk, FK1 5RQ	Grahams Rd, Falkirk, FK1 1HU	
<b>Easting / Northing:</b>	288688 / 680219	288892 / 680070	288457 / 680064	288823 / 680242	
<b>Monitoring Equipment:</b>	<b>PM<sub>10</sub></b>	R&P 1400 TEOM (PM <sub>10</sub> ) (10/10/2018 - 15/12/2020) Palas FIDAS 200 (PM <sub>1-10</sub> ) (15/12/2020 - Present)	R&P 1400 TEOM (PM <sub>10</sub> ) (2005 - 23/04/2014)	R&P 1400 TEOM (PM <sub>10</sub> ) (16/09/2009 - 09/11/2016) Palas FIDAS 200 (PM <sub>1-10</sub> ) (09/11/2016 - Present)	R&P 1400 TEOM (PM <sub>10</sub> ) (20/12/2011 - 10/10/2018)
	<b>NO<sub>x</sub></b>	Horiba 360 APNA (NO <sub>x</sub> ) (01/07/2007 - 09/03/2022) API Teledyne T200 (NO <sub>x</sub> ) (09/03/2022 - Present)	Horiba 360 APNA (NO <sub>x</sub> ) (2005 - 23/04/2014)	Monitor Labs ML9841B (NO <sub>x</sub> ) (07/11/2007 - 25/03/2015) API Teledyne T200 (NO <sub>x</sub> ) (25/03/2015 - Present)	Casella ML9841B (NO <sub>x</sub> ) (30/09/2010 - 30/09/2011)
	<b>SO<sub>2</sub></b>	Horiba 360 APSA (SO <sub>2</sub> ) (01/07/2007 - 09/03/2022) API Teledyne T100 (SO <sub>2</sub> ) (09/03/2022 - Present)	Horiba 360 APSA (SO <sub>2</sub> ) (2005 - 23/04/2014)		
<b>Reference Method Monitoring Technique:</b>	<b>PM<sub>10</sub></b>	R&P 1400 TEOM: Gravimetric Palas FIDAS 200: Optical, light-scattering	R&P 1400 TEOM: Gravimetric	R&P 1400 TEOM: Gravimetric Palas FIDAS 200: Optical, light-scattering	R&P 1400 TEOM: Gravimetric
	<b>NO<sub>x</sub></b>	Horiba 360 APNA: Chemiluminescence API Teledyne T200: Chemiluminescence	Horiba 360 APNA: Chemiluminescence	Monitor Labs ML9841B: Chemiluminescence API Teledyne T200: Chemiluminescence	Casella ML9841B: Chemiluminescence
	<b>SO<sub>2</sub></b>	Horiba 360 APSA: UV fluorescence API Teledyne T100: UV fluorescence	Horiba 360 APSA: UV fluorescence		
<b>Date Site Installed:</b>	1997	2005	07/11/2007	30/09/2010	
<b>Date Site Removed:</b>	Still operational	23/04/2014	Still operational	30/04/2019	
<b>Comments:</b>		PM <sub>10</sub> TEOM transferred from Park Street to Grahams Road on 20/12/2011		PM <sub>10</sub> TEOM transferred from Grahams Road to Hope Street on 10/10/2018	

Table 4: Measured Automatic PM<sub>10</sub> Annual Mean Results 2011 - 2021

Site ID	Site Type	PM <sub>10</sub> Annual Mean Concentration (µg/m <sup>3</sup> )										
		Pre AQMA		AQMA Declared	AQMA Active							
		2011	2012	2013	2014	2015	2016	2017	2018	2019	COVID-19	
										2020	2021	
<b>A5</b>	<b>Falkirk Hope Street</b>								11	13	9	9
	A5 Falkirk Hope Street Valid Data Capture for Monitoring Year (%)								20 <sup>(1)</sup>	71	87	91
<b>A6</b>	<b>Falkirk Park Street</b>	15	14	15	14							
	A6 Falkirk Park Street Valid Data Capture for Monitoring Year (%)	93	95	96	31 <sup>(1)</sup>							
<b>A7</b>	<b>Falkirk West Bridge Street</b>	<b>19</b>	<b>18</b>	<b>19</b>	<b>18</b>	15	15	10	12	10	7	9
	A7 Falkirk WBS Valid Data Capture for Monitoring Year (%)	76	98	97	85	80	98	88	67	98	38	100
<b>A12</b>	<b>Falkirk Grahams Road</b>		16	16	13	11	13	12				
	A12 Falkirk Grahams Road Valid Data Capture for Monitoring Year (%)		96	95	94	78	95	98				

Notes: **Exceedances of the PM<sub>10</sub> annual mean objective of 18µg/m<sup>3</sup> are shown in bold.**

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



Graph 1: Measured Automatic PM<sub>10</sub> Annual Mean Results with NAQS Objective Limit (2011 – 2021)

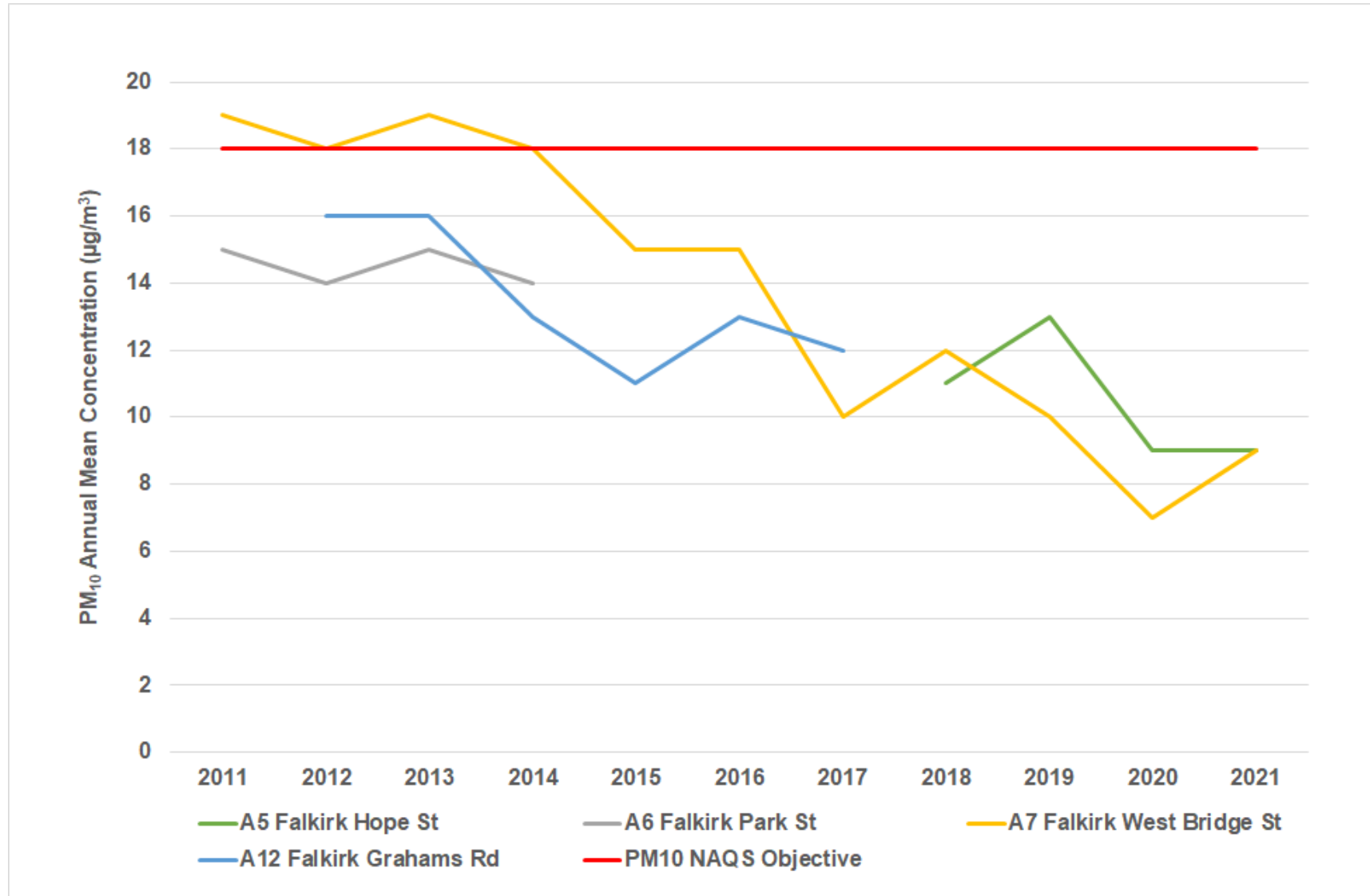


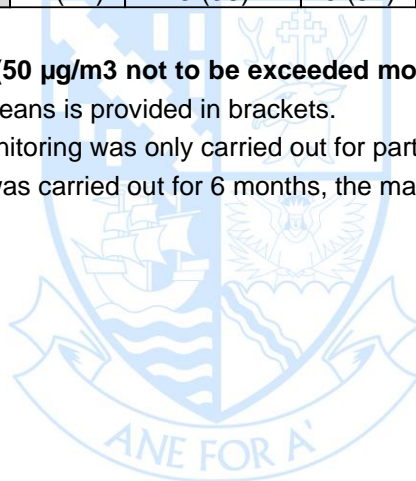
Table 5: Number of Days PM<sub>10</sub> 24-hr Mean Concentrations Above 50µg/m<sup>3</sup> (2011 - 2021)

Site ID	Site Type	Number of Days PM <sub>10</sub> 24-hr Mean Concentrations Above 50µg/m <sup>3</sup>												
		Pre AQMA		AQMA Declared	AQMA Active								COVID-19	
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
<b>A5</b>	<b>Falkirk Hope Street</b>									0 (30)	1	0	0	
<b>A6</b>	<b>Falkirk Park Street</b>	2 (38)	2 (38)	1 (34)	0 (34)									
<b>A7</b>	<b>Falkirk West Bridge Street</b>	5 (49)	6 (46)	4 (49)	2 (40)	2 (29)	0	0	0 (47)	1	0 (18)	0		
<b>A12</b>	<b>Falkirk Grahams Road</b>		4 (44)	3 (38)	0 (32)	0 (18)	0	0						

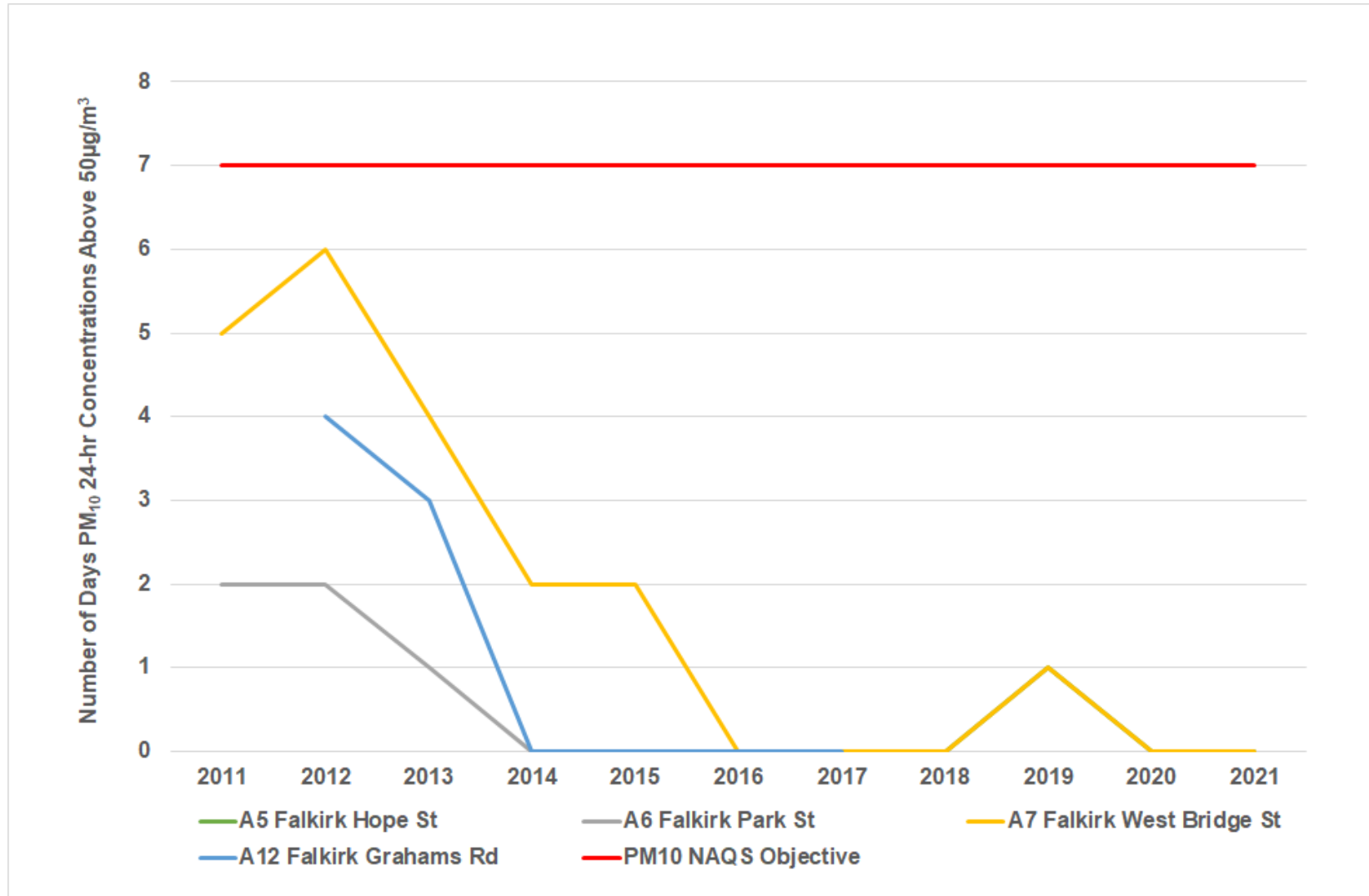
**Notes: Exceedances of the PM<sub>10</sub> 24-hour mean objective (50 µg/m<sup>3</sup> not to be exceeded more than seven times/year) are shown in bold.** If the period of valid data is less than 85%, the 98.1st percentile of 24-hour means is provided in brackets.

(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%)



Graph 2: Number of Days PM<sub>10</sub> 24-hr Mean Concentrations Above 50µg/m<sup>3</sup> (2011 - 2021)



## Conclusions and Proposed Action

The FTC AQMA was declared on the 25<sup>th</sup> January 2013 following NAQS exceedances of PM<sub>10</sub> (annual mean and 24-hour mean elements). Since the AQMA was declared, measured concentrations of PM<sub>10</sub> (using automatic monitoring methods) have gradually decreased and have since become compliant with the NAQS objectives consistently over the past six years (since 2015).

The FTC 2015 AQAP<sup>1</sup> identified that the “principal source of PM<sub>10</sub> pollution in FTC is road traffic, with commercial and residential combustion as significant contributors.” The PM<sub>10</sub> source apportionment (as displayed in Figure 3.16 within the AQAP report) identified that, at locations where the PM<sub>10</sub> concentrations are predicted to exceed NAQS objective concentrations the exceedances are principally attributable to road traffic emissions.

As a result of the ongoing automatic air quality monitoring within the FTC AQMA and with the achievement and on-going work of the AQAP measures (as described in the above section “FTC AQAP Measures Achieved and On-going”), the Council has demonstrated that the annual mean and 24-hr mean concentrations of PM<sub>10</sub> complies with the relevant NAQS objective.

As stated within the [Air Quality in Scotland \(LAQM\) website](#) in relation to AQMA Revocation:

“Where a local authority feels that it has sufficient evidence to justify the need to amend/revoke an AQMA at any time, it should submit that evidence to the Scottish Government for appraisal. For those authorities that have continuous monitoring, the Scottish Government would expect them to keep the AQMA under regular review, and to act where necessary, rather than await the next round of reviews and assessments.”

Falkirk Council will continue to have (automatic, reference method) PM<sub>10</sub> monitoring capabilities within the FTC area for many years to come. It is anticipated that annual Scottish Government LAQM funding will continued to be provided for this. This will provide a valuable resource for public health resources into the future

Falkirk Council is requesting the permission of the Scottish Government and Scottish Environment Protection Agency (SEPA) to revoke the FTC AQMA for PM<sub>10</sub> (annual mean and 24-hr mean elements only). Pending permission approval, Falkirk Council will notify all other statutory consultees and publicise the revocation through local / social media, so the public and local businesses are fully aware of the situation.

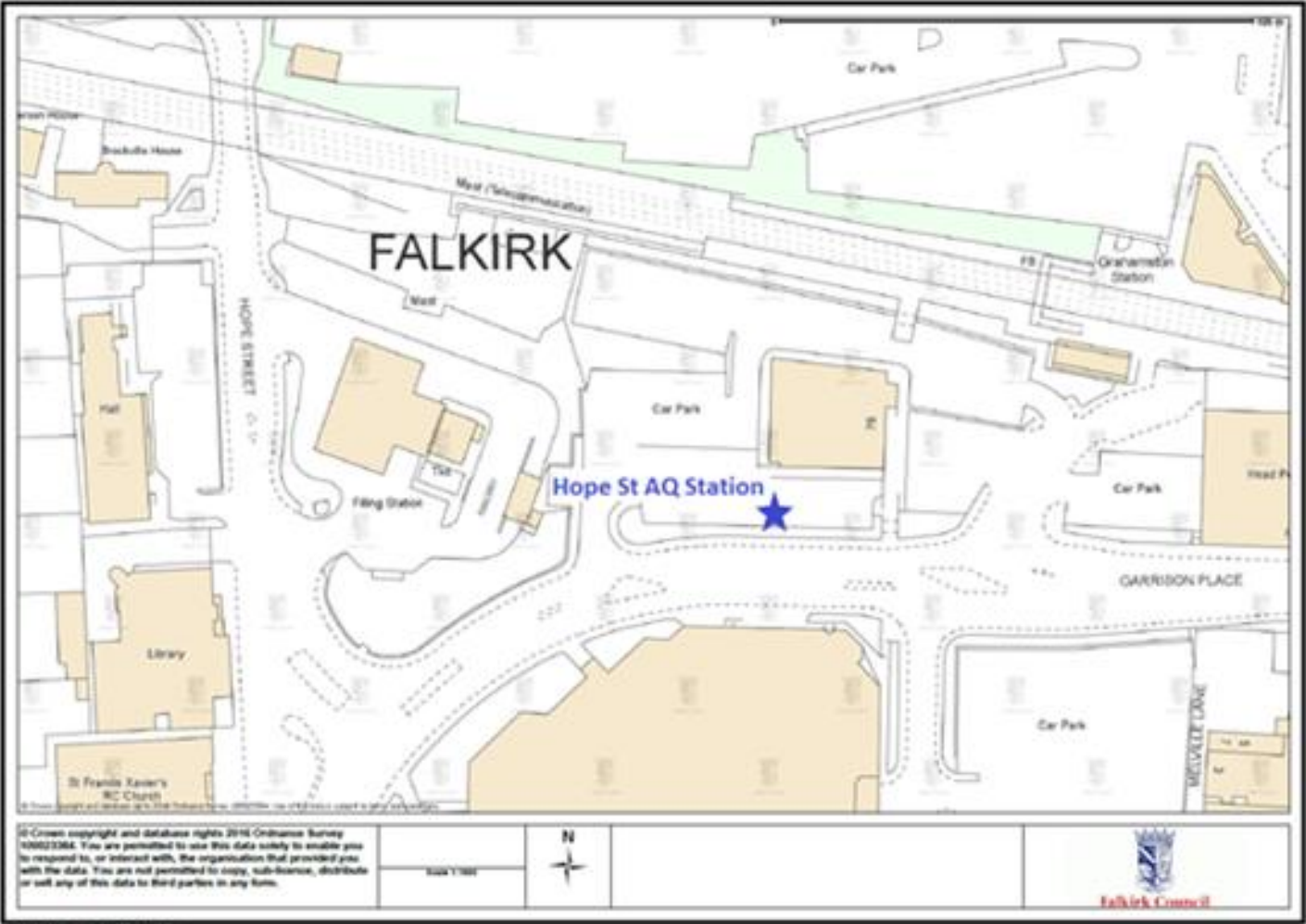


## References

1. [Air Quality Management Action Plan \(Falkirk Town Centre and Haggs\)](#) (June 2015, Golder Associates for Falkirk Council, Report Number: 11514880001)
2. [Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management](#) (27/09/1996, Council of the European Union, Ref: 31996L0062)
3. [Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe](#) (21<sup>st</sup> May 2008, European Parliament, Council of the European Union, Ref: Document 32008L0050)
4. [The Air Quality Standards Regulations 2010](#) (25<sup>th</sup> March 2010, UK Secretary of State, 2010 No. 1001)
5. [Environment Act 1995](#) (19<sup>th</sup> July 1995, UK Government, 1995 Chapter 25)
6. [The Air Quality Strategy for England, Scotland, Wales and Northern Ireland](#) (Volume 1, July 2007, Department for Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland)
7. [Cleaner air for Scotland: the road to a healthier future](#) (4<sup>th</sup> November 2015, The Scottish Government)
8. [Cleaner Air for Scotland 2 - Towards a Better Place for Everyone](#) (15<sup>th</sup> July 2021, The Scottish Government)
9. [The Air Quality \(Scotland\) Regulations 2000](#) (31<sup>st</sup> March 2000, The Scottish Government)
10. [The Air Quality \(Scotland\) Amendment Regulations 2002](#) (11<sup>th</sup> June 2002, The Scottish Government)
11. [The Air Quality \(Scotland\) Amendment Regulations 2016](#) (1<sup>st</sup> April 2016, The Scottish Government)
12. [WHO global air quality guidelines: particulate matter \(PM2.5 and PM10\), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide](#) (22<sup>nd</sup> September 2022, World Health Organisation)
13. [Local Air Quality Management Technical Guidance \(TG16\)](#) (April 2021, Department for Environment, Food and Rural Affairs)
14. [Scottish Air Quality Website Quality Assurance / Quality Control](#) (2021, Ricardo)

**Appendix A – Maps of Automatic Monitoring Stations**

A) A5 Falkirk Hope Street



B) A7 Falkirk West Bridge Street

