Bridgend County Borough Council 2025 Air Quality Progress Report

In fulfilment of Part IV of the Environment Act 1995, as amended by the Environment Act 2021

Local Air Quality Management

Date: September 2025

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Executive Summary: Air Quality in Our Area

What has become distinctly apparent is that air pollution is a local and national problem. Long-term exposure reduces life expectancy by increasing mortality, as well as increasing morbidity risks from heart disease and strokes, respiratory diseases, lung cancer and other effects.

What we know is that poor air quality in Wales poses a significant concern for Public Health and is regarded as the most significant environmental determinant of health. Its associated adverse risk to public health is particularly prevalent within urban areas and near major roads. The pollutants of concern for public health are particulate matter (PM_{10}, $PM_{2.5}$) and primary/ secondary derived nitrogen dioxide (NO_2). Both pollutants primarily originate from motor vehicles. Particulate matter can also be generated by industrial sources and forms of domestic solid fuel burning, such as wood burning stoves.

The UK expert Committee on the Medical Effects of Air Pollution (COMEAP) estimated that air pollution is responsible for "an effect equivalent of between 28,000 and 36,000 deaths (at typical ages) each year" in the UK. In 2022, the UK Health Security Agency updated this estimate; the burden range is now reported as the equivalent of between 29,000 and 43,000 deaths per year[1].

The burden range does not reflect 'actual' deaths from air pollution exposure but is an estimate of the 'equivalent' reduced life expectancy, when summed, which everyone experiences because of air pollution exposure (6-8 months on average but could range from days to years).

In Wales – based on modelled air pollution data pre-pandemic – Public Health Wales estimated the burden of long-term air pollution exposure to be around the equivalent of 1,000 to 1,400 deaths each year[2]. This estimate was calculated using a more accurate method that considers the combined effects of different pollutants, meaning that the overlapping effects of $PM_{2.5}$ and NO_2 are accounted for. Impact estimates are uncertain, however, which

[1] https://airquality.gov.wales/about-air-quality/health-advice

[2] https://phw.nhs.wales/services-and-teams/environmental-public-health/air-quality/air-pollution-and-health-fact-sheet/

is why they should always be presented as a range of values, rather than a single, central estimate.

Although estimating the burden of air pollution is difficult, there is clear and strong evidence that it does harm health. It is therefore important to take action to reduce air pollution and the harms that go with it.

Air Quality in Bridgend

Local authorities have a statutory duty under Part IV of the Environment Act 1995 (as amended by the Environment Act 2021) & Air Quality Strategy for England, Scotland, Wales, and Northern Ireland 2007 to manage local air quality. Under Section 82 of the Environment Act 1995, the Local Air Quality Management (LAQM) process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether air quality objectives are likely to be achieved.

The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138) and Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298). Where the air quality reviews indicate that the air quality objectives may not be met, the local authority is required to designate an Air Quality Management Area (AQMA). Action must then be taken at a local level and outlined in a specific Air Quality Action Plan (AQAP) to ensure that air quality in the identified area improves.

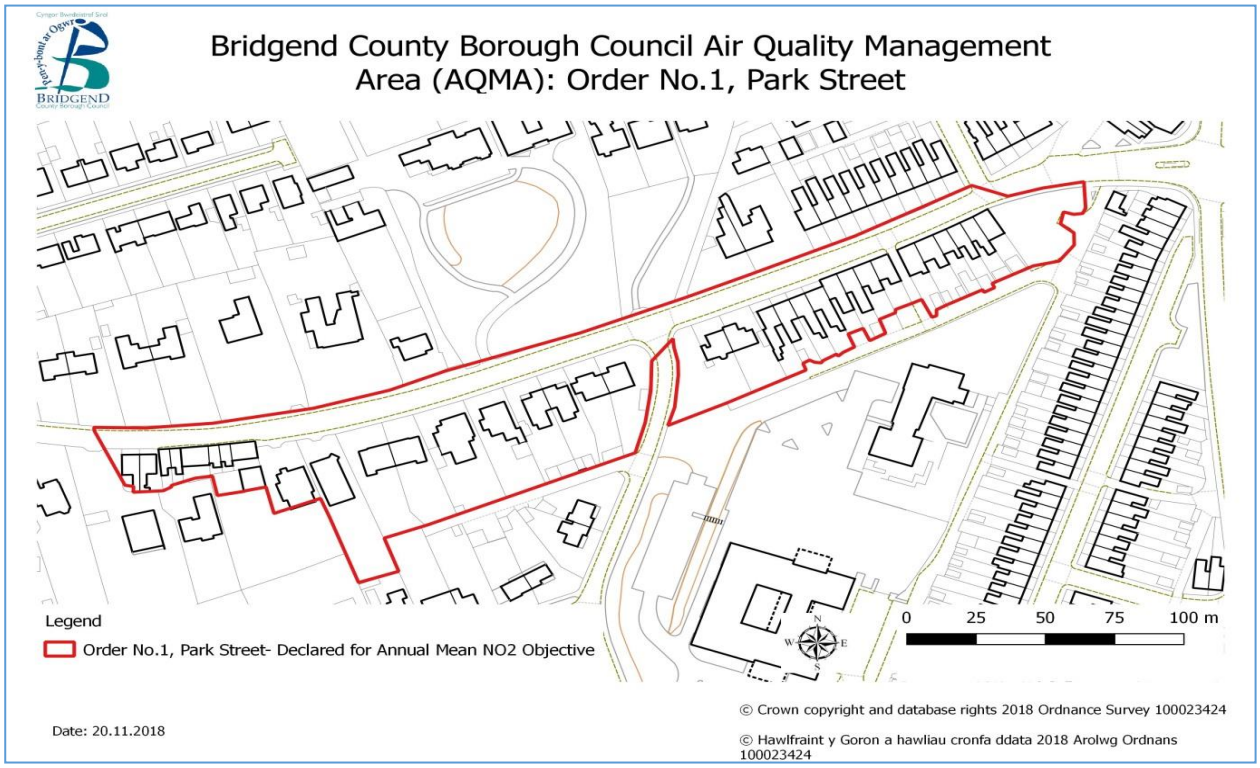
In line with the Local Authorities' statutory duties under Part IV of the Environment Act 1995, in 2024 Shared Regulatory Services (SRS) on behalf of Bridgend County Borough Council (BCBC) undertook regular air quality monitoring at specifically allocated locations across Bridgend using automated and non-automated principles for ambient air nitrogen dioxide (NO_2) and particulate matter (PM_{10}).

With regards to prioritising ambient air quality sampling locations, the Council adopts a risk-based approach to any allocation of monitoring sites, considering the requirements of The Department for Environment, Food and Rural Affairs' (Defra) Local Air Quality Management (LAQM) Technical Guidance. The designated monitoring locations are assigned based on relevant exposure and where the certain Air Quality Objective levels for a particular pollutant applies. It states that annual mean objectives should apply at "All locations where members of the public might be regularly exposed. Building facades of residential properties, schools, hospitals, care homes etc."

Bridgend Council's 2018 APR[3] documented and made the recommendation to implement and raise an Order for an Air Quality Management Area (AQMA), designated to Park Street, Bridgend. On 18th September 2018 BCBC's Cabinet approved the 2018 LAQM APR 2018 for Bridgend. The report examined datasets captured during 2017 and noted that Park Street, Bridgend was an area of particular concern and subsequently an Air Quality Management Area (AQMA) was required.

The designated AQMA borders the green space area prior to the rear entrance of properties located on Sunnyside Road. The designated area incorporates all north facing properties, including their open space areas between 39 Park Street and 105 Park Street. The boundaries' northern side borders the open space areas that front the south facing properties encapsulating the public access pathway.

Figure 1 – Map of Park Street AQMA

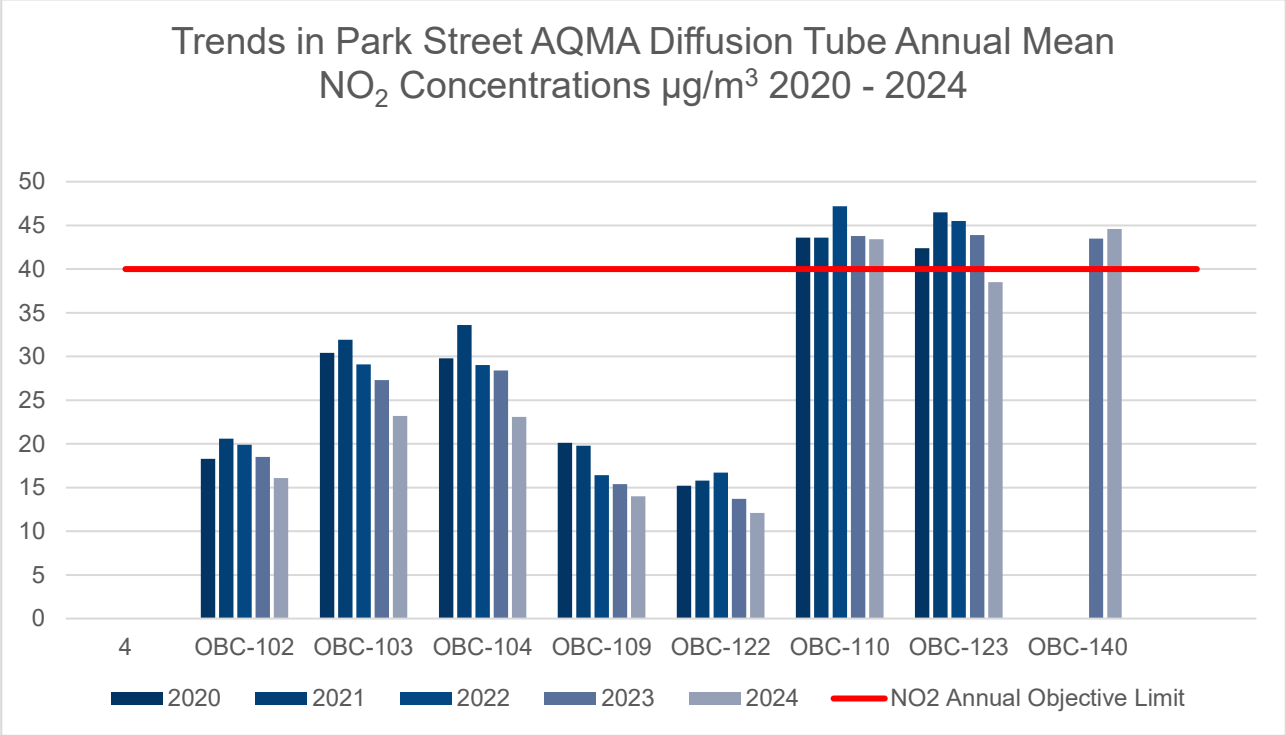


Within the Park Street AQMA, there has been a decreasing trend in NO_2 concentrations since the Covid-19 pre-pandemic period. However, in 2024, two non-automatic monitoring

[3] https://www.srs.wales/Documents/Air-Quality/Bridgend/7294-7279-Bridgend-Council-2018-Air-Quality-Progress-Report.pdf

locations within the AQMA remain in exceedance of the annual air quality objective for nitrogen dioxide. All other monitoring locations within Bridgend county display compliance with all relevant air quality objectives.

Figure 2 - Park Street AQMA Diffusion Tubes Annual Mean Concentration Trends



In 2024, the results for monitoring undertaken at sites OBC-110 and OBC-140 located on Park Street residential facades, exceed the annual average air quality objective set at (40µg/m^3) for NO_2. OBC-110 recorded annual average figures of 43.6µg/m^3 and OBC-140 recorded an annual average figure of 44.6µg/m^3. In 2024, monitoring site OBC-123 was compliant with the NO_2 annual objective for the first time since the commencement of monitoring at this location, with a result of 38.4µg/m^3.

Figure 2 - Area in Exceedance of the NO_2 Annual Objective Limit

Figure 3 - Park Street AQMA Monitoring Sites Exceeding the NO_2 Annual Objective Limit

Sites currently exceeding annual air quality objectives are isolated to one area of Park Street. This area of Park Street experiences higher concentrations of pollutants due to the proximity of houses to a heavily trafficked primary route with congestion issues. These issues are compounded by gradients increasing engine load and poor dispersion of pollutants caused by buildings.

All other monitoring locations within Park Street AQMA and across Bridgend currently demonstrate compliance with the applicable air quality objectives.

Actions to Improve Air Quality

The Air Quality Action Plan (AQAP) for the Park Street AQMA was published in March 2024. Various options within the AQAP have been adopted following development of the AQAP and public consultations.

In the summer of 2022, work was carried out to upgrade the traffic signals located at the junction of Park Street and Angel Street, along the A473. The refurbishment of the existing traffic lights was needed as the traffic light system was over 25 years old and the upgrade was essential to safeguard pedestrians, as well as making sure that traffic is managed in the best way possible on what is one of the county borough's busiest routes. The works follow-on from previous work completed on traffic lights at the A473's junction with Broadlands.

A right turn holding lane at the Junction of Park Street with Heol y Nant was implemented in January 2022. This was to be introduced by the developer (Persimmon) of the former Ysgol Bryn Castell site (Llangewydd Road, Cefn Glas) under the requirement of Condition 27 of Planning consent P/18/1006/FUL.

Both the Park Street/ Angel Street junction, and Heol y Nant right turn holding lane options were assessed by air quality modelling within the Park Street AQAP, as part of the 'do something' scheme, and were deemed to have a positive effect on traffic flows and air quality within Park Street.

Measures such as restricting HGVs, and electrification of buses using Park Street have also been explored and air quality dispersion modelling has been carried out to assess these measures. Restricting HGV's will result in a negligible improvement to air quality within the AQMA. The electrification of buses using Park Street AQMA will only result in only a small improvement to air quality, predicted as -0.7µg/m^3 at the worst effected receptor currently exceeding the Annual Air Quality Objective for NO_2 on Park Street.

An assessment has also been undertaken to investigate when Park Street AQMA could see compliance with the NO_2 Annual Objective at all locations. The results of this compliance assessment suggest that without additional measures in place, the annual mean NO_2 concentrations will fall below the 40 µg/m^3 threshold in 2026, and that the local authority could start to make a case for revoking the AQMA at these locations from 2027 onwards.

Figure 4 - Air Quality Dispersion Modelling Receptors

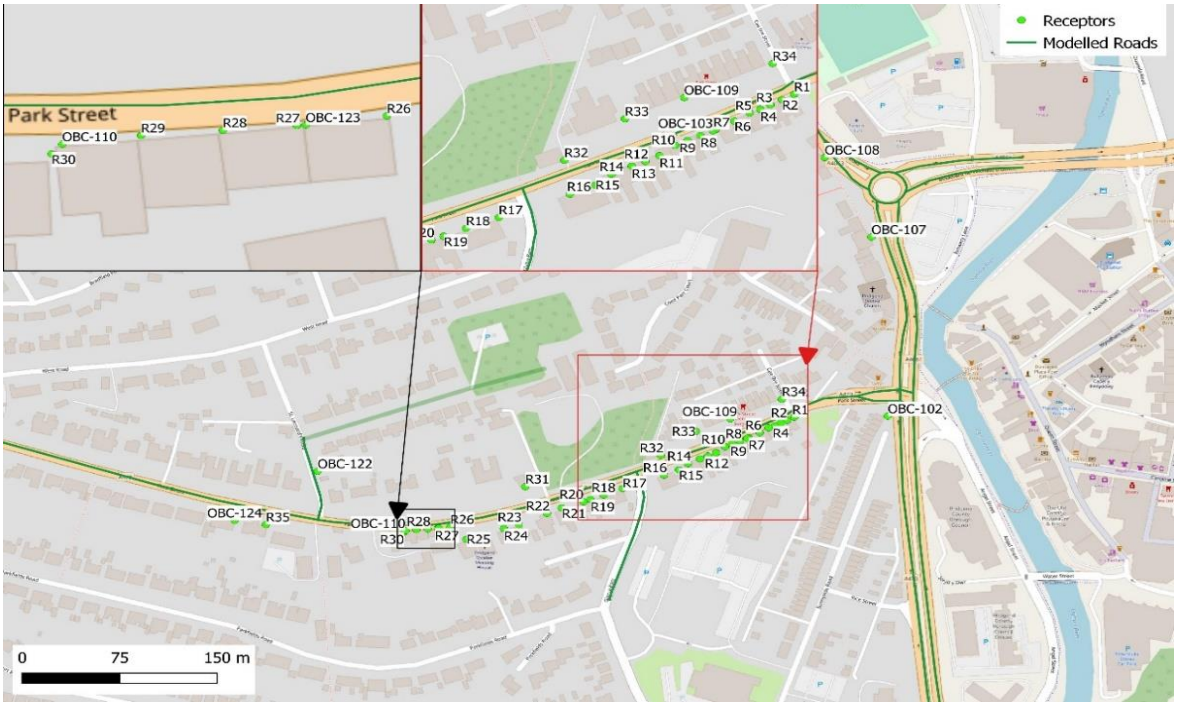


Table 1 - Annual averaged NO_2 concentrations (µg/m^3) at each receptor from the 2025 – 2027 natural compliance models

Receptor ID	2019	2023	2025	2026	2027
R26	56.8	44.6	37.6	35.3	33.2
R27	60.2	47.3	39.9	37.5	35.3
R28	60.5	47.5	40.1	37.7	35.4
R29	57.4	44.9	39.1	36.7	34.5
OBC-123	56.4	44.3	37.4	35.2	33.1

At present, completion of the 'do something' scheme has the potential to bring forward compliance to 2025. However, this timescale is unrealistic due to the fact that the implementation of Measure 18, which is the final 'do something' scheme measure within the AQAP, denying all access onto St Leonards Road from Park Street, requires a consultation process due to the introduction of a traffic order. It is important to consider this in terms of

timescale for implementation in comparison to the predicted year of natural compliance of 2026.

Any decision to move forward with this measure must take into consideration the benefits that further air quality improvements will bring, in balance with the costs and timescales to implement the measure. This measure will be retained and will be reconsidered dependent on ongoing NO_2 monitoring results in the Park Street AQMA.

Electric Vehicle Charging Network

In line with the council's aim to reach Net Zero Carbon by 2030 and supported by Welsh Government funding, Cardiff Capital Region (CCR) will be leading on EV chargers to be installed at council owned public car parks and Bridgend County Borough Council will focus on EV charger installation at leisure centres, council offices and depots. Further details for EV charging point locations in Bridgend can be found at Electric Vehicle (EV) charging points.

Net Zero Strategy

Figure 5 - Net Zero Carbon Strategy

Welsh Government has legislated for a Net Zero Wales by 2050 with the public sector leading by example to be Net Zero by 2030. We have committed to the Net Zero 2030 target as an organisation and recognises the leadership role to enable wider Net Zero for businesses and communities in the county. Projects designed to reduce carbon emissions can have a positive effect on air quality and its related human health impacts.

We declared our own climate emergency in June 2020 and set up its Climate Emergency Response programme. The Bridgend 2030 Net Zero Carbon Strategy is the initial strategic step in achieving this commitment.

Importantly, this Strategy will not be the only driver for Net Zero, it will be an integral part of the Council's Corporate Plan and Wellbeing Plan, whilst policies, strategies and ongoing plans will all reflect the commitment to Net Zero. This will ensure it is fully embraced across the organisation.

Our Commitments

- The Council will **demonstrate leadership and commitment** to deliver the Bridgend 2030 Net Zero Carbon Strategy, to address the Climate Emergency as declared by Welsh Government, the Senedd and the Council.

- The Council will **integrate low and zero-carbon behaviours** throughout the organisation and carbon impact will become a key consideration in all strategic decisions.

- The Council will **decarbonise its built estate by 2030** with a strong focus on energy efficiency, low carbon heating and on-site renewable generation.

- The Council will undertake a programme of **fleet renewal to ultra-low emission vehicles**, such that all vehicles are ULEV by 2030.

- The Council will **promote active and low-carbon travel** options throughout its own operations.

- The Council will **decarbonise its procurement activity** by engaging the supply chain, supporting and mandating suppliers to decarbonise, and progressing sustainable, local procurement practices.

- The Council will **ensure its land holdings are developed and maintained to support Net Zero objectives** through high levels of carbon sequestration and biodiversity.

- The Council will **decarbonise its waste streams** by ending landfill use and adopting a reuse culture alongside sustainable methods of disposal.

Active Travel

Supported by Welsh Government funding for active travel routes across Wales, Bridgend County Borough Council has recently completed a new active travel route from Ynysawdre to Coleg Cymunedol Y Dderwen, near Bridgend. A map of the route can be found at Ynysawdre Active Travel.

The 440m long route runs through an area of previously overgrown and wooded land, bounding the north side of Brynmenyn Primary School and the east side of Coleg Cymunedol Y Dderwen. It links two points on the existing active travel network, as well as provides the start of a proposed future route, continuing to the east of the River Ogmore.

The route opened at the beginning of April 2024, with work carried out over a period of months, from October 2023 to March 2024, to complete the £500k project.

Local Priorities and Challenges

The priority for the coming year is to continue to monitor and review air quality within and around the Park Street AQMA. Further action may be taken dependant on this monitoring data and the AQAP updated accordingly. The natural compliance model predicts compliance within the AQMA in 2026. Therefore, monitoring results from 2025 and 2026 will inform the decision on whether to implement measure 18 of the AQAP (denying all access onto St Leonards Road from Park Street).

How to Get Involved

Bridgend County Borough Council welcomes any correspondence relating to air quality enquiries or concerns. Shared Regulatory Services (SRS) Specialist Services Team represents the Vale of Glamorgan Council for air quality management and therefore is contactable via the webpage www.srs.wales/en/Home.aspx.

Further information including previous Annual Progress Reports for Air Quality can be found at the following link https://www.srs.wales/en/Environmental-Health/Noise-and-Air-Pollution/Air-quality-and-pollution/Air-Quality-and-Pollution.aspx

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1 Actions to Improve Air Quality

1.1 Previous Work in Relation to Air Quality

First Round of Review and Assessment

Between 1999 and 2001, Bridgend County Borough Council published reports corresponding to stages 1, 2 and 3 of the first round of review and assessment of air quality. Seven key pollutants were examined (carbon monoxide, benzene, 1,3-butadiene, lead, nitrogen dioxide, fine particles (PM_{10}) and sulphur dioxide). These assessments predicted no exceedances of any of the objectives. It concluded that to fulfil the requirements of the Environment Act 1995, air quality should be reviewed and assessed again in 2003.

Second Round of Review and Assessment

Following new technical and policy guidance issued by Defra, Bridgend County Borough Council published its first Updating and Screening Assessment (USA) in June 2003. Of the seven pollutants subjected to the updating and screening assessment process, it was concluded that the likelihood of the air quality objectives for carbon monoxide, benzene, 1,3-butadiene, lead, and sulphur dioxide being exceeded was negligible and that it was not necessary to carry out a detailed assessment of any of these pollutants. However, the updating and screening assessment for nitrogen dioxide and PM_{10} revealed gaps in the data gathered and concluded that there was evidence to suggest non-compliance with the air quality objectives for PM_{10} and NO_2 at three locations resulting from road traffic emissions. It was suggested that there was a requirement to continue to a Detailed Assessment for the following locations:

- A48 Ewenny Cross, Bridgend
- The western end of Cowbridge Road, Bridgend
- The western end of the Bridgend Cross Valley Link Road.

In addition, it was also recommended to carry out a co-location exercise to determine the bias correction for the passive nitrogen dioxide detector tubes provided and analysed by Severn Trent Laboratories.

In July 2005, Bridgend County Borough Council's Local Air Quality Management Progress Report recommended that:

- All currently held data should be, as far as possible, ratified.
- Data shall continue to be gathered from the three sites identified in the June 2003 USA to enable conclusions to be drawn on the current and future air quality at these locations. The results will be presented in a Detailed Assessment of Air Quality at these locations by 31st December 2005.
- The mobile PM_{10} and NO_x monitoring station should be added to the Welsh Air Quality Forum Network of sites and receive appropriate Quality Assurance and Quality Control (QA/QC) to validate any data gathered.

In March 2006, a Detailed Assessment for Nitrogen Dioxide and Particles (PM_{10}) was and concluded that the current air quality objectives for nitrogen dioxide and particles PM_{10} are being met and that the 2010 Air Quality Daughter Directive limit value for nitrogen dioxide will also be achieved at the three road junctions assessed. However, it also recommended that monitoring data from the three road junction sites identified in the June 2003 USA should continue to be gathered to enable assessment of future air quality at these locations.

Third Round of Review and Assessment

Bridgend County Council published its second USA in May 2006. The assessment concluded that there was no requirement to proceed to a detailed assessment for any pollutant in Bridgend County Borough.

The Council published Progress Reports in 2007 and 2008. Both reports coincided with one another, issuing similar conclusions and recommendations. They indicated that no air quality objectives prescribed in the Air Quality (Wales) Regulations 2000 and the Air Quality (Amendment) (Wales) Regulations 2002 will be breached at any relevant locations.

In terms of monitoring locations, the reports highlighted the following:

- Data on NO_2 concentrations will continue to be gathered at relevant locations adjacent to A48 Ewenny Cross, the western end of Cowbridge Road and at Tondu Road on the western end of the Bridgend Cross Valley Link Road.
- Monitoring of PM_{10} and NO_2 will continue at Kenfig Hill adjacent to the opencast coal site operated by Celtic Energy Ltd.

- Monitoring of NO_2 and sulphur dioxide (SO_2) will take place at relevant locations adjacent to Rockwool Ltd, Wern Fawr, Pencoed when the new factory extension becomes operational.

Fourth Round of Review and Assessment

The Bridgend County Borough Council published its third USA in June 2009. There was no evidence of any significant breaches of the air quality objectives prescribed in the Air Quality (Wales) Regulations 2000 and the Air Quality (Amendment) (Wales) Regulations 2002, at any relevant locations. The report did however draw attention upon an ongoing trend for NO_2 concentrations at Ewenny Cross, Bridgend, and Tondu Road, Bridgend, at the façade of the nearest houses, to be at or close to the air quality objective for NO_2 for 2007. It was decided that monitoring would continue at the two highlighted sites as part of an ongoing Detailed Assessment to be produced later that year.

The 2010 Progress Report stated the following:

- The conclusions for the new monitoring data in relation to Ewenny Cross and Tondu Rd show that Ewenny Cross has exceeded the annual mean National Air Quality Objective for nitrogen dioxide (NO_2), and this will be reported in depth in the Detailed Assessment to be produced later this year.

The results for nitrogen dioxide at Tondu Rd show that the annual mean National Air Quality Objective for nitrogen dioxide (NO_2) has not been exceeded. However, in view of the results which are very close to the objective, monitoring will continue at this location for at least another year.

The 2010 Detailed Assessment for Ewenny Cross was subsequently submitted and stated:

This Detailed Assessment of Air Quality has shown that the current air quality objectives for nitrogen dioxide (NO_2) are not being met at the southwestern sector of Ewenny Cross, Bridgend but are being met at the Bridgend Cross Valley Link, Tondu Road, Bridgend.

In view of the above, the following recommendations have been made:

-Monitoring should continue at its present level at the Bridgend Cross Valley Link, Tondu Road and at Ewenny Cross, Bridgend.

-A continuous monitor, together with a meteorological station, should be installed at or as near to the southwestern sector of Ewenny roundabout as is practical.

Following discussions with Welsh Assembly Government and University of the West of England (UWE) it was decided that the Detailed Assessment should remain ongoing and that any decision to declare an AQMA for Ewenny Cross should be delayed until continuous monitoring data for 2010 has been collated and analysed.

The 2011 Progress report stated the following:

Following the Detailed Assessment submitted in June 2010 and the response from WAG, the Authority decided, in consultation with WAG and UWE to defer a decision to declare an AQMA for Ewenny Cross until a full calendar year of continuous monitoring data had been collated and analysed.

Due to equipment failure and contractual issues, continuous monitoring at Ewenny Cross has been significantly delayed. Continuous sampling commenced in March 2011 as did a diffusion tube co-location study.

The conclusions from annualised monitoring data obtained since the last report show that one sampling point at Ewenny Cross has exceeded the annual mean National Air Quality Objective for nitrogen dioxide (NO_2). The other nine around the Cross remain within the annual mean National Air Quality Objective.

The results for nitrogen dioxide diffusion tube monitoring at Tondu Rd show that the National Air Quality Objective's annual mean for nitrogen dioxide (NO_2) has not been exceeded. However, results are very close to the objective and monitoring will continue at this location for another year.

No continuous PM_{10} data could be retrieved for South Cornelly or Kenfig Hill due to equipment failure.

The nitrogen dioxide diffusion tube sampling locations in Maesteg town centre which were set up in July 2010 following local concerns have shown to date, an exceedance at one sampling point. As a result, more monitoring location points have been put in place and will be reported upon in the next USA report.

Fifth Round of Review and Assessment

Bridgend County Council published its fourth USA May 2012. In addition, a Detailed Assessment was submitted for Ewenny Cross. The reports identified:

There were no indications of any significant breaches of the air quality objectives prescribed in the Air Quality (Wales) Regulations 2000 and the Air Quality (Amendment) (Wales) Regulations 2002.

There was an exceedance of the objective for Nitrogen Dioxide at one location in Maesteg. However, this was marginal and the other sample points in the immediate vicinity were below the National Objectives for Nitrogen Dioxide. Monitoring continued at this site and extra sample sites, in addition to those already in place were set up where practicable. The data so far for this location, in view of the above, does not suggest that a Detailed Assessment is necessary at this time, although this will be subject to review as more data is collected and analysed.

The positioning of an Automated Continuous NOx Analyser and co-location study at Ewenny Cross has provided robust information as to the air quality situation and indicates that Nitrogen Dioxide levels do not exceed the National Air Quality Objectives. This Automated Continuous NOx Analyser will be retained at this site to gather more data over the coming year.

The Detailed Assessment 2012 completed in tandem with this Report concluded that it is not necessary at this point in time to proceed with declaring an Air Quality Management Area at Ewenny Cross. The situation will continue to be monitored by way of the co-location study utilising the Automated Continuous NOx Analyser and the numerous Nitrogen Dioxide Diffusion Tube sites situated at Ewenny Cross.

The 2013 Progress report provided the following findings and recommendations:

- The Report has not identified a need to proceed to a Detailed Assessment for any pollutant.
- The Report has identified a need to continue monitoring for Nitrogen Dioxide in Maesteg Town Centre.
- Monitoring of Nitrogen Dioxide and PM_{10} will continue at the same sites as at the end of 2012.

The Automated Continuous NOx Analyser and co-location study will continue at Ewenny Cross Roundabout for this year to acquire more robust data. In the light of the acquired data, the positioning and possible relocation of the Automatic Monitoring Station will be decided at the end of 2013.

Bridgend County Borough Council will submit a Progress Report in May 2014.

The 2014 Progress report stated the following:

- the exception of Ewenny Cross Roundabout as highlighted above; the Progress Report has not identified a need to consider proceeding to a Detailed Assessment for any other pollutant.
- Monitoring of Nitrogen Dioxide and PM_{10} will continue at the same sites as at the end of 2013.
- Bridgend County Borough Council will submit a progress report in May 2015.
-

Sixth Round of Review and Assessment

Bridgend County Council published its fourth USA September 2015. The assessment identified no need to proceed to a Detailed Assessment for any pollutant.

2016 Annual Progress Report highlighted no concerns, and no objectives were exceeded.

2017 Annual Progress Report

BCBC's 2017 Annual Progress Report highlighted that air quality within Bridgend County Borough continued to meet the relevant air quality objectives as prescribed in the Air Quality (Wales) Regulations 2000 and the Air Quality (Amendment) (Wales) Regulations 2002.

Reporting described the amendments to the non-automatic NO_2 network with 10 new locations commissioned for 2017.

Quality and technical issues were outlined regarding the automatic monitoring at Ewenny Cross Roundabout, for both NO_2 and PM_{10}. The inability to conform to the frequency of calibration checks and technical issues faced with the PM_{10} Met One E Sampler were noted. Data capture was also an issue at the Rockwool Ltd site for SO_2 monitoring, recorded at 47.1%.

2018 Annual Progress Report

BCBC's 2018 Annual Progress Report highlighted elevated and exceeding annual average levels of nitrogen dioxide (NO_2) and outlined the requirement to proceed to implement and formalise an Air Quality Management Area (AQMA) Order for Park Street, Bridgend. On January 1st, 2019, an official AQMA Order was raised for Park Street, Bridgend, designated on the basis of exceeding annual average NO_2 air quality objectives/ limit values.

2019 Annual Progress Report

BCBC's 2019 Annual Progress Report highlighted general compliance for monitoring undertaken in 2018, however it did note the elevated and exceeding annual average levels of nitrogen dioxide (NO_2), especially within and close to the established Park Street AQMA boundary. The report outlined the works initiated to develop an effective Air Quality Action Plan (AQAP) to support the AQMA. In doing so the report highlighted the commitment of a designated work steering group to develop appropriate mitigation measures that would not only benefit the Park Street AQMA "hot spot" but would also generate wider air quality benefits to improve and protect the amenity of public health. The report specified commitments to gather public engagement on the AQAP's development via public drop-in sessions through the course of December 2019. It outlined how suggested mitigation measures would be assessed and indicated that detailed transportation and air quality modelling would be required to quantify the impacts derived by any preferred options. The report also noted the need for enhanced monitoring capabilities in the form of automated monitoring within the Park Street AQMA to improve understanding and provide a platform for public to access data.

2020 Annual Progress Report

BCBC'S 2020 Annual Progress Report showed continued elevated and exceeding levels of NO2 at sensitive receptor locations situated on Park Street within the established AQMA Order boundary. Development of Air Quality Action Plan (AQAP) continued, and full approval was given to locate an automatic monitoring station within the Park Street, Bridgend AQMA. Despite the areas of concern within the Park Street AQMA, compliance with the air quality objectives was achieved at all other monitoring locations.

2021 Annual Progress Report

The 2021 Annual Progress Report shown a reduction in NO_2 concentrations at all locations, although still slightly exceeding the annual air quality objective at two locations within Park Street. Monitoring continued at all locations within the Park Street AQMA with the addition of an automatic air quality monitoring station in December 2020.

2022 Annual Progress Report

Annual average datasets outline continued elevated and exceeding levels of NO_2 at two sensitive receptor locations situated on Park Street within the established AQMA Order boundary. It is noted that monitoring undertaken in 2021 at sites OBC-110 & OBC-123, located on Park Street at residential facades exceed the annual average air quality objective set at (40µg/m^3) for NO_2. All automated and non- automated datasets show compliance with the air quality objectives at every other monitored location.

2023 Annual Progress Report

Annual average datasets outline continued elevated and exceeding levels of NO_2 at sensitive receptor locations situated on Park Street within the established AQMA Order boundary. It is noted that monitoring undertaken in 2022 at sites OBC-110 & OBC-123, located on Park Street, demonstrates annual average levels in exceedance of the annual average air quality objective set at (40µg/m3) for NO2. OBC-110 & OBC-123 recorded annual average figures in 2022 of 47.2µg/m^3 & 45.5µg/m^3 respectively. This represents a reduction in NO_2 concentrations of 12% and 17% at these receptors since 2019.

Automatic monitoring carried on Park Street demonstrates compliance with the annual air quality objective for NO_2. This automatic monitor also showed no exceedances of the 1-hour NO_2 objective of 200 µg/m^3 not to be exceeded more than 18 times annually for both periods.

Compliance of air quality objectives at the automatic monitoring station confirms the varied impact of pollutant emissions on Park Street. Two non-automatic monitoring sites located approximately 17 metres from the monitoring station, OBC-110 & OBC-123, exceed the annual air quality objective for NO_2. Air quality issues are exacerbated in the location of non-compliance by the proximity of terrace housing to the road and poor dispersion of pollutants.

Nitrogen dioxide concentrations at all other non-automatic locations were shown to be compliant the annual air quality objective for NO_2 of 40µg/m^3.

2024 Annual Progress Report

Annual average datasets outline continued elevated and exceeding levels of NO_2 at sensitive receptor locations situated on Park Street within the established AQMA Order boundary. It is noted that monitoring undertaken in 2023 at sites OBC-110, OBC-123 and OBC-140 located on Park Street at residential facades exceed the annual average air quality

objective set at (40µg/m^3) for NO_2. All automated and non- automated datasets show compliance with the air quality objectives at every other monitored location.

Monitoring data from Park Street AQMA will be reviewed to ensure that compliance will be met in the shortest time possible. If trends in air quality data indicate that compliance will not be met by 2025/2026, then further traffic management measures, such as measure 18 within the AQAP may be implemented.

At present, the 'do something' scheme has the potential to bring forward compliance to 2025. However, this is unlikely due to the fact that the implementation of Measure 18 within the AQAP, denying all access onto St Leonards Road from Park Street, will require a consultation process due to the introduction of a traffic order. It is important to consider this in terms of timescale for implementation in comparison to the predicted year of natural compliance of 2026. This measure will be retained and will be reconsidered dependent on ongoing NO_2 monitoring results in the Park Street AQMA.

1.2 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when air quality is close to or above an acceptable level of pollution (known as the air quality objective (Please see Appendix A)). After declaring an AQMA the authority must prepare an Air Quality Action Plan (AQAP) within 18 months setting out measures it intends to put in place to improve air quality to at least the air quality objectives, if not even better. AQMA(s) are seen by local authorities as the focal points to channel resources into the most pressing areas of pollution as a priority.

A summary of AQMAs declared by Bridgend County Borough Council can be found in Table 2.

Figure 6 - Map of Park Street AQMA

Bridgend County Borough Council Air Quality Management Area Order No. 1, Park Street.

Schedule 2

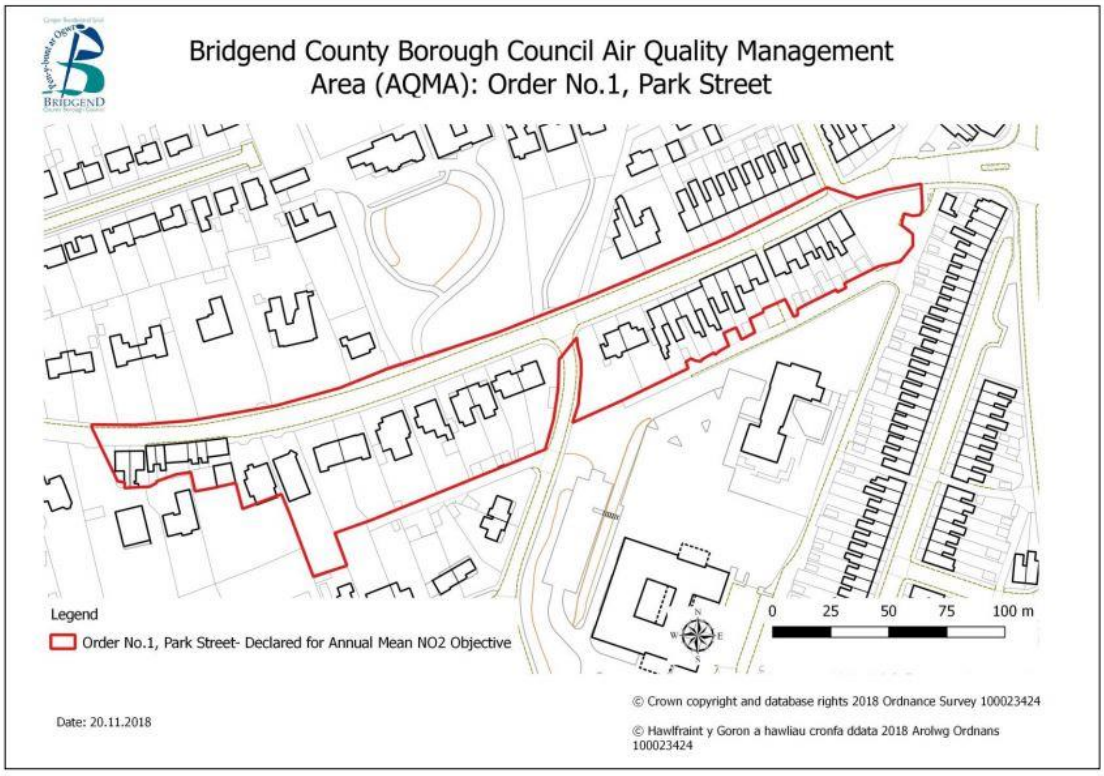


Table 2 - Declared Air Quality Management Areas

AQMA	Relevant Air Quality Objective(s)	Comments on Air Quality Trend	Town	Description	Action Plan
Park Street	NO_2 annual mean	Slight increase in NO2 concentrations at one monitoring site exceeding the objective limit. All other sites display a decreasing trend within the AQMA.	Bridgend	The designated AQMA borders the green space area prior to the rear entrance of properties located on Sunnyside Road. The designated area incorporates all north facing properties, including their open space areas between 39 Park Street and 105 Park Street. The boundaries' northern side borders the open space areas that front the south facing properties encapsulating the public access pathway.	AQAP BCBC Park Street final (srs.wales)

1.3 Implementation of Action Plans

As the exceedance in air quality is isolated to one specific area of Park Street, the focus on improving air quality has been to improve traffic flows and reduce queuing traffic within this specific area. The achieve this, interventions for traffic management have been the assessed, modelled and prioritised for inclusion within the published AQAP as part of a 'do something' scheme. In 2022, measure 20, optimising the traffic signals at the Tondu Rd/ Park Street/ Angel Street Junction, and measure 17, installation of a ghost right hand turn from Park Street to Heol Y Nant were implemented.

One remaining measure within the Park Street AQAP 'do something scheme' (Measure 18) has yet to be implemented. Based on the modelling undertaken, this measure would provide further improvements to air quality, although it may not necessarily bring forward the compliance date, based on timescales for consultation, appeals process, and implementation. Any decision to move forward with this measure must take into consideration the benefits that further air quality improvements will bring, in balance with the costs and timescales to implement the measure. This measure will be retained and will be reconsidered dependent on ongoing NO_2 monitoring results in the Park Street AQMA.

Table 3 - Annual averaged NO_2 concentrations (µg/m^3) at each receptor from the 2025 – 2027 natural compliance models

Receptor ID	2019	2023	2025	2026	2027
R26	56.8	44.6	37.6	35.3	33.2
R27	60.2	47.3	39.9	37.5	35.3
R28	60.5	47.5	40.1	37.7	35.4
R29	57.4	44.9	39.1	36.7	34.5
OBC-123	56.4	44.3	37.4	35.2	33.1

Measures such as restricting HGVs, and electrification of buses using Park Street have also been explored and air quality dispersion modelling has been carried out to assess these measures. Restricting HGV's will result in a negligible improvement to air quality within the AQMA. The electrification of buses using Park Street AQMA will only result in only a small

improvement to air quality, predicted as -0.7µg/m^3 at the worst effected receptor currently exceeding the Annual Air Quality Objective for NO_2 on Park Street.

Table 4 - Comparisons of bus electrification in addition to Do Minimum and Do Something Schemes (µg/m^3)

Receptor ID	2026 DM	2026 DS	NO_2 reduction (DM minus DS)	2026 DS with 100% Electric buses	NO_2 reduction (DS minus electric bus)
R26	35.3	34.7	0.6	34.4	0.3
R27	37.5	36.9	0.6	36.5	0.4
R28	37.7	37.0	0.7	36.6	0.4
R29	36.7	36.1	0.6	35.7	0.4
OBC-123	35.2	34.6	0.6	34.2	0.4

Other local authority measures, such as Net Zero Projects and Active Travel Plans and polices can also improve County wide air quality. This may also influence air quality within the AQMA by reducing emissions, encouraging sustainable travel and promoting alternatives to vehicular travel.

Air Quality Action Plans are continuously reviewed and updated whenever deemed necessary, but no less frequently than once every five years. Such updates are completed in close consultation with local communities.

Table 5 - Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	Public Health information campaign including additional automatic monitoring	Public Information	Via the Internet	Unknown	Unknown	. Local Authority Environmental Health, BCBC, Local Communities Forum	Potential DEFRA AQ Grant Funding		Unknown	Unknown.	The number of hits on website. Number of initiatives delivered. Delivery of a public education campaign. Cross reference obtained air quality results to the applicable air quality objectives. Improvements to those figures outlined in Bridgend LTP 2015 using data acquired by 2011 Census.	No progress to date.	Requires ongoing grant funding.
2	Support the creation of a local "Air Quality Action Group."	Public Information	Via the Internet/Leaflets/Other	2023	Unknown	Local Communities Forum	Measure could be included in funding for measure one.		As above	Unknown.	Number of associated members.	No progress to date	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
3	Increase the monitoring capabilities of the Council with investment in more air quality monitoring techniques. Creation of an online platform linked to the Air Quality Index.	Public Information	Via the internet	2021	2024	. Local Authority Environmental Health, BCBC, Local Communities Forum	DEFRA AQ Grant Funding		£10 - £50k	Unknown.	Cross reference obtained air quality results to the applicable air quality objectives.	Automatic monitoring station installed at Park Street AQMA in 2021. Data available for public at www.airqualitywales.gov.wales	New owners of land have requested air quality monitoring station is removed. Officers are assessing other options.
4	Electronic "pollutant signage" within AQMA and local area	Public Information/Traffic management	Other	Unknown		. Local Authority Environmental Health, BCBC	Unknown		£50k - £250k	Not directly applicable – NOx reduction not estimated	Improved Public awareness/ Increase in the use of sustainable alternatives.	No progress to date	
5	Signs and banners for engine idling. Signage at key intersections, near junctions and on public transport / taxis encouraging people to switch off engines when traffic comes to a stop.	Public Information/Traffic management	Other	Unknown	Unknown	Local Communities Forum	Unknown		£50k - £250k	Not directly applicable – NOx reduction not estimated	Improved Public awareness/ Increase in the use of sustainable alternatives.	No progress to date	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
6	Develop Supplementary Planning Guidance (SPG) to provide a specific guidance for air quality in accordance with new developments.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Unknown	Unknown	. Local Authority Environmental Health, BCBC	Unknown		< £10k	Not directly applicable – NOx reduction not estimated	Production of an SPG.	No progress to date	.
7	Planning guidance for the provision of Electric Vehicle Charging Points. To note; EV points are now compulsory in England	Policy Guidance and Development Control	Other	Various		BCBC	Welsh Government		£10k – 50k	Not directly applicable – NOx reduction not estimated	Number of properties where a power spur for an electric vehicle charge point is installed. Number of planning applications approved with a vehicle charge point as an advisory or required condition.	Various EV charging points installed at specific locations across Bridgend	
8	Revise BCBC's Walking and Cycling Strategy; Revise the existing 2009 document	Policy Guidance and Development	Promotion of cycling	Unknown	Unknown	BCBC	Unknown		< £10k	Not directly applicable – NOx reduction not estimated	Production of a revised document.	No progress to date	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
9	Endorse SP19, Biodiversity and Development. Further influence the use of green infrastructure for new developments.	Policy Guidance and Development Control	Other	Unknown	Unknown	BCBC	Unknown		< £10k	Not directly applicable – NOx reduction not estimated	Number of trees planted.	No progress to date	.
10	Implement 'smoke control zone' for Bridgend. Wood burners installations would need authorisation to operate and receive permissions in accordance with the Clean Air Act.	Policy Guidance and Development Control	Other	Unknown		BCBC	Unknown		Cost unknown	Not directly applicable – NOx reduction not estimated. Not necessarily applicable to reduction of emissions on Park Street as source of problem is from vehicles. Unlikely to impact NO_2 exceedances at effected receptors	Number of nuisance complaints generated.	No progress to date	Unlikely to impact area of concern within Park Street AQMA
11	School Active Travel Plans	Promoting Travel Alternatives	Incentivise active travel campaign & infrastructure	Various	Ongoing	BCBC	Existing funding sources / Planning conditions	No	< £10k	Not directly applicable – NOx reduction not estimated		Ongoing	Funding provided to improve active travel route for Bryntirion Comprehensive

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
12	Encourage/ Facilitate homeworking. BCBC/ SRS is one of the largest employers in Bridgend and therefore could look to adopt more flexible/ agile working patterns	Promoting Travel Alternatives	Encourage / Facilitate home working.	Unknown	Unknown	BCBC	Unknown		< £10k	Not directly applicable – NOx reduction not estimated	Produce Healthy Travel Charter. Number of individuals enrolled on programme.	Flexible working patterns implemented	.
13	Work with local businesses to develop active travel to work programmes. Cardiff Staff Travel Charter currently being rolled out but only for public sector establishments.	Promoting Travel Alternatives	Other	Unknown		BCBC/ Cwm Taf Morgannwg University Health Board/ Public Health Wales.	Unknown		< £10k	Not directly applicable – NOx reduction not estimated	Produce Healthy Travel Charter. Number of individuals enrolled on programme.	No progress to date	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
14	Park and Ride facilities to be implemented at strategic sites (Broadlands)/ Shuttle bus service linking Bridgend train station to strategic points (Broadlands/ Hospital/ Coity/ McArthur Glen). There is also the potential to look at shared shuttle service for persons accessing proposed Health Centres.	Alternatives to private vehicle use	Bus Park and Ride scheme	Unknown	Unknown	BCBC	Unknown		£250k - £1m	NOx reduction not estimated although a reduction in cars will mean benefits in air quality and congestion.	Bus patronage figures.	No progress to date	
15	Anti-idling implemented as TROs specific to sensitive areas such as outside schools, hospitals, care homes, as well as Park Street AQMA	Traffic Management	Anti-idling enforcement	Unknown	Unknown	BCBC	Unknown		<10k	Not directly applicable – NOx reduction not estimated	Cross reference obtained air quality results on Park Street to the applicable air quality objectives.	No progress to date	.

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
16	Introduce a pilot scheme "20mph speed limit" to Park Street.	Traffic Management	Anti-idling enforcement	Unknown	Unknown	BCBC	Welsh Government		Cost unknown	Unlikely to improve air quality on Park Street, as the air quality issue is caused by slow moving and queuing traffic.	Evaluation of annual air quality datasets for NO_2. Reduction in vehicle speeds via traffic flow analysis Any marked improvement in collision/ incident rates. Cross reference obtained air quality results on Park Street to the applicable air quality objectives.	Nationwide implementation of 20mph limit in residential September 2023.	
17	Ghost right hand turn onto Heol-Y-Nant.	Traffic Management	Strategic highway improvement	2022	2022	BCBC/ Planning	Planning condition		<£10k	Exact reduction unknown. However, improvements in NO_2 reductions are evident since the implementation of the measure	Cross reference obtained air quality results on Park Street to the applicable air quality objectives.	Measure completed in February 2022.	Measure included in AQAP detailed assessment as part of 'do minimum' scenario.

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
18	Deny all access onto St Leonard's Road from Park Street for all traffic movements.	Traffic Management	Strategic highway improvement	Unknown	Unknown	BCBC	Unknown		£10k - £50k	Modelling for 'do something' scenario predicts a decrease in NO2 emissions of up to 5.8µg/m3 when with addition of measure twenty.	Cross reference obtained air quality results on Park Street to the applicable air quality objectives.	Measure retained pending monitoring results.	Measure included in AQAP detailed assessment as part of 'do something' scenario.
19	Deny a through route movement from Angel Street onto Park Street.	Traffic Management	Strategic highway improvement	Unknown	Unknown	BCBC	Unknown		Cost unknown	Unknown.	Reduced capacity on Park Street captured via traffic flow analysis.	Option not taken forward as part of "do something scheme".	
20	Optimise the traffic signals at the Tondu Rd/ Park Street/ Angel Street Junction- Adopt a MOVA system.	Traffic Management	Strategic highway improvement	2022	2022	BCBC	Welsh Government		£10k - £50k	Modelling for 'do something' scenario predicts a decrease in NO2 emissions of up to 5.8µg/m3 as part of a 'do something' scenario with measure eighteen	Cross reference obtained air quality results on Park Street to the applicable air quality objectives.	Measure completed in February 2022.	Completed September 2022. Measure included in AQAP detailed assessment as part of 'do something' scenario.

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
22	Bus Programme- Strategic Bus Network. Buses not to use St Leonard's Road due to the experienced access constraints onto and off Park Street.	Transport Planning and Infrastructure	Bus Route Improvements	Unknown	Unknown	BCBC	Unknown		£50k - £250k	Unknown.	Customer satisfaction questionnaires from the bus operators.	No progress to date	
23	Assessment of HGV restrictions for Park Street.	Traffic Management / Promoting Low Emission Transport	UTC, Congestion management, traffic reduction	Unknown	Unknown	BCBC	LAQM support fund	Yes	<£10k	Dispersion modelling indicates this option will have little effect on reducing NO2 concentrations at the worst effected receptors.	Cross reference obtained air quality results on Park Street to the applicable air quality objectives. Review data gathered via modelling assessment	Modelling has carried out to assess measure	Negligible benefit to HGV restrictions as source of NOx emissions are primarily from private vehicles
24	Assessment of Bus Electrification for buses using Park Street	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	Unknown	Unknown	BCBC	LAQM Support Fund	Yes	<£10k	Dispersion modelling indicates this option will have little effect on reducing NO2 concentrations at the worst effected receptors.	Cross reference obtained air quality results on Park Street to the applicable air quality objectives. Review data gathered via modelling assessment	Modelling has carried out to assess measure	Small benefit of bus electrification as source of NOx emissions are primarily from private vehicles

2 Air Quality Monitoring Data and Comparison with Air Quality Objectives

2.1 Summary of Monitoring Undertaken in 2024

2.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how results compare with the objectives.

SRS on behalf of BCBC undertook automatic (continuous) monitoring at one site within Park Street during 2024. Table 6 presents the details of the site. National monitoring results are available at https://airquality.gov.wales/. This monitoring station experienced technical faults during 2024. Therefore, data capture for 2024 is at 68% and has been annualised in accordance with LAQM guidance.

Maps showing the location of the monitoring sites are provided in Figure 7. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

2.1.2 Non-Automating Monitoring Sites

SRS on behalf of BCBC undertook non- automatic (passive) monitoring of NO_2 at 33 sites during 2024. Table 7 presents the details of the sites.

New sites were installed at

- Picton Gardens, Bridgend (OBC-141)
- Abergarw Road, Brynmenyn (OBC-142)
- Derllwyn Road, Tondu (OBC-143)

These sites were installed due to concerns from residents being made to Councillors.

The following sites from 2023 were removed from the non-automatic monitoring network due to continued compliance well within the NO_2 annual air quality objective.

- Bridgend Town Centre
- 133 Park Street
- New Road Porthcawl
- Moriah Place, Kenfig Hill

- Maerdy Park, Pencoed

Maps showing the location of the 2024 monitoring sites are provided in Figure 8 to Figure 18. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

Table 6 - Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	Associated with (Named) AQMA?	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	Monitoring Technique	Inlet Height (m)	Distance from monitor to nearest relevant exposure (m) (1)	Distance from Kerb to Nearest Relevant Exposure (m)	Distance from Kerb to Monitor (m)
AQMA1	Bridgend Park Street AQMA	Roadside	Y	290040	179704	NO_2, PM_{10}	Chemiluminescence/ Beta Attenuation Monitor with Gravimetric Equivalence	1.5	4	5.5	1.5

Notes:

(1) N/A if not applicable

(2) 0m indicates that the sited monitor represents exposure and as such no distance calculation is required.

Figure 7 – Map(s) of Automatic Monitoring Sites

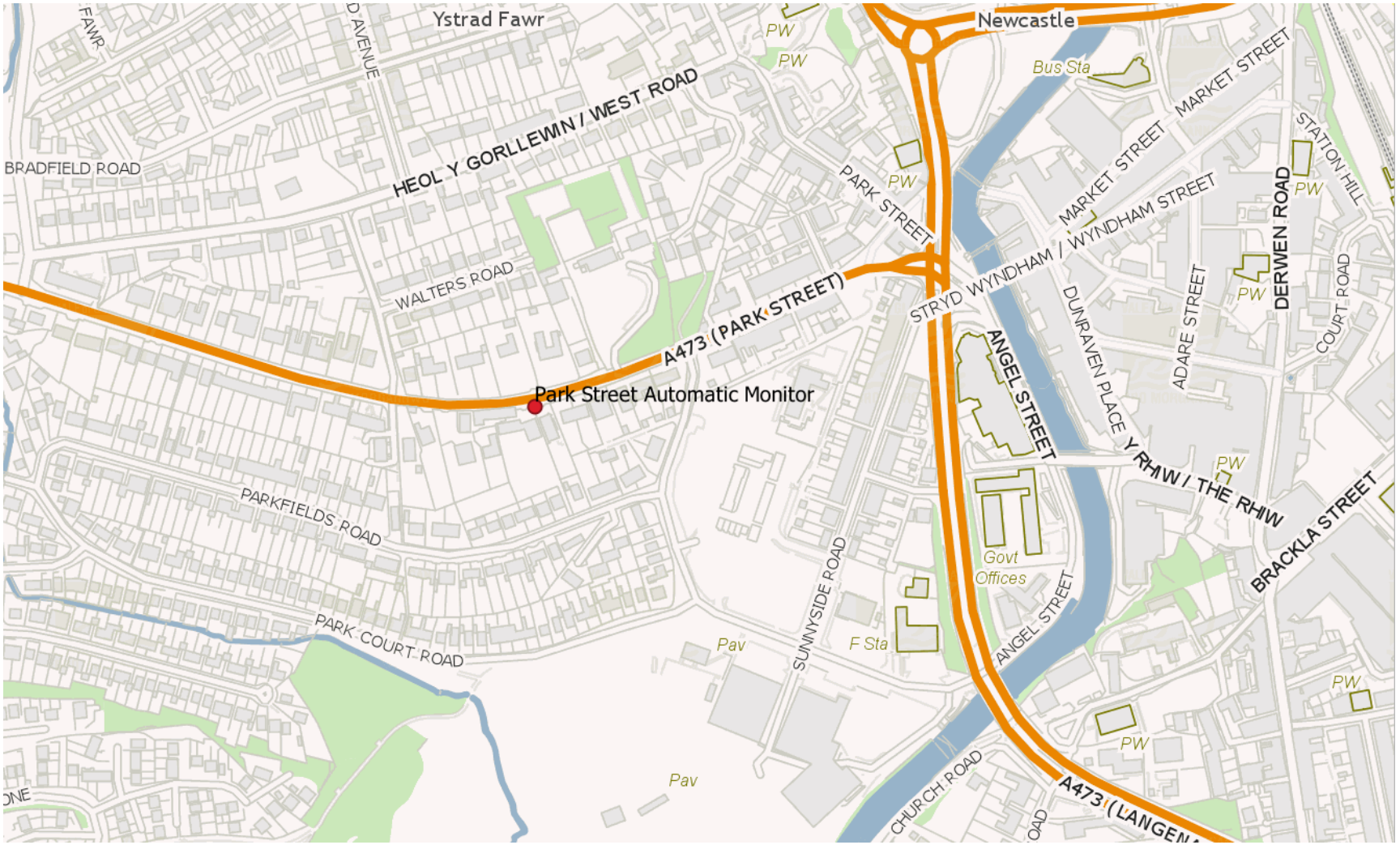


Table 7 - Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
OBC-115	105 Ewenny Road	Roadside	290667	178529	NO_2		0.0	12.0		1.5
OBC-141	Picton Gardens	Kerbside	291164	178580	NO_2		4.0	1.5		1.5
OBC-105	65 Cowbridge Road	Roadside	290899	179185	NO_2		0.0	4.1		1.5
OBC-106	38/40 Cowbridge Road	Roadside	290826	179210	NO_2		0.0	1.0		1.5
OBC-112	33 Cowbridge Road	Roadside	290798	179244	NO_2		0.0	1.0		1.5
OBC-111	01 Cowbridge Road	Roadside	290700	179305	NO_2		0.0	5.0		1.5
OBC-102	4 Sunnyside	Roadside	290354	179807	NO_2		0.0	3.0		1.5
OBC-103	39 Park Street	Roadside	290250	179782	NO_2	Park Street AQMA	0.0	3.0		1.5
OBC-104	51 Park Street	Roadside	290286	179800	NO_2	Park Street AQMA	0.0	1.2		1.5
OBC-109	32 Park Street	Roadside	290239	179795	NO_2	Park Street AQMA	0.0	1.1		1.5
OBC-107	17 Tondu Road	Roadside	290347	179959	NO_2		0.0	2.0		1.5
OBC-108	43 Tondu Road	Roadside	290311	180032	NO_2		0.0	0.9		1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
OBC-131	Park Street 1 Co-location	Roadside	290040	179704	NO_2	Park Street AQMA	0.0	1.0	Y	1.5
OBC-123	93 Park Street	Roadside	290014	179698	NO_2	Park Street AQMA	0.0	0.5		1.5
OBC-140	97 Park Street	Roadside	290002	179702	NO_2	Park Street AQMA	0.0	0.5		1.5
OBC-110	101/103 Park Street	Roadside	289988	179701	NO_2	Park Street AQMA	0.0	0.5		1.5
OBC-122	Post on St Leonards Road	Kerbside	289919	179755	NO_2		0.0	0.9		1.5
OBC-126	31 Tremains Road	Roadside	291125	179517	NO_2		0.0	8.0		1.5
OBC-127	Longacre, Brackla	Roadside	292236	179473	NO_2		2.0	2.0		1.5
OBC-097	22 Coity Road	Kerbside	290687	180185	NO_2		0.0	5.0		1.5
OBC-130	A4061 Opposite Mason Arms	Roadside	291386	184168	NO_2		0.0	1.5		1.5
OBC-132	Meadow View Blackmill	Roadside	293418	186662	NO_2		0.5	2.0		1.5
OBC-125	Commercial Street, Maesteg	Roadside	285299	191136	NO_2		0.0	2.0		1.5
OBC-135	33 Maesteg Road, Tondu	Roadside	289402	184461	NO_2		0.0	2.0		1.5
OBC-137	Main Road, Coychurch	Roadside	294309	179872	NO_2		4.0	2.0		1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
OBC-138	A473 Coychurch Road	Kerbside	294218	179795	NO_2		4.0	1.5		1.5
OBC-133	Coychurch Road, Pencoed	Roadside	295899	181363	NO_2		4.0	1.0		1.5
OBC-139	Britannia Pub Pencoed	Roadside	295967	181623	NO_2		0.0	1.5		1.5
OBC-116	20 Henre Road Pencoed	Roadside	295886	181642	NO_2		0.0	1.0		1.5
OBC-142	Abergarw Road, Brynmenyn	Roadside	290717	184822	NO_2		0.0	4.5		1.5
OBC-143	Derllwyn Road, Tondu	Roadside	289345	184754	NO_2		2.5	1.0		1.5

Notes:

(1) 0m indicates that the sited monitor represents exposure and as such no distance calculation is required.

(2) N/A if not applicable.

Figure 8 - Map Non-Automatic Monitoring Sites Park Street AQMA and Tondu Road

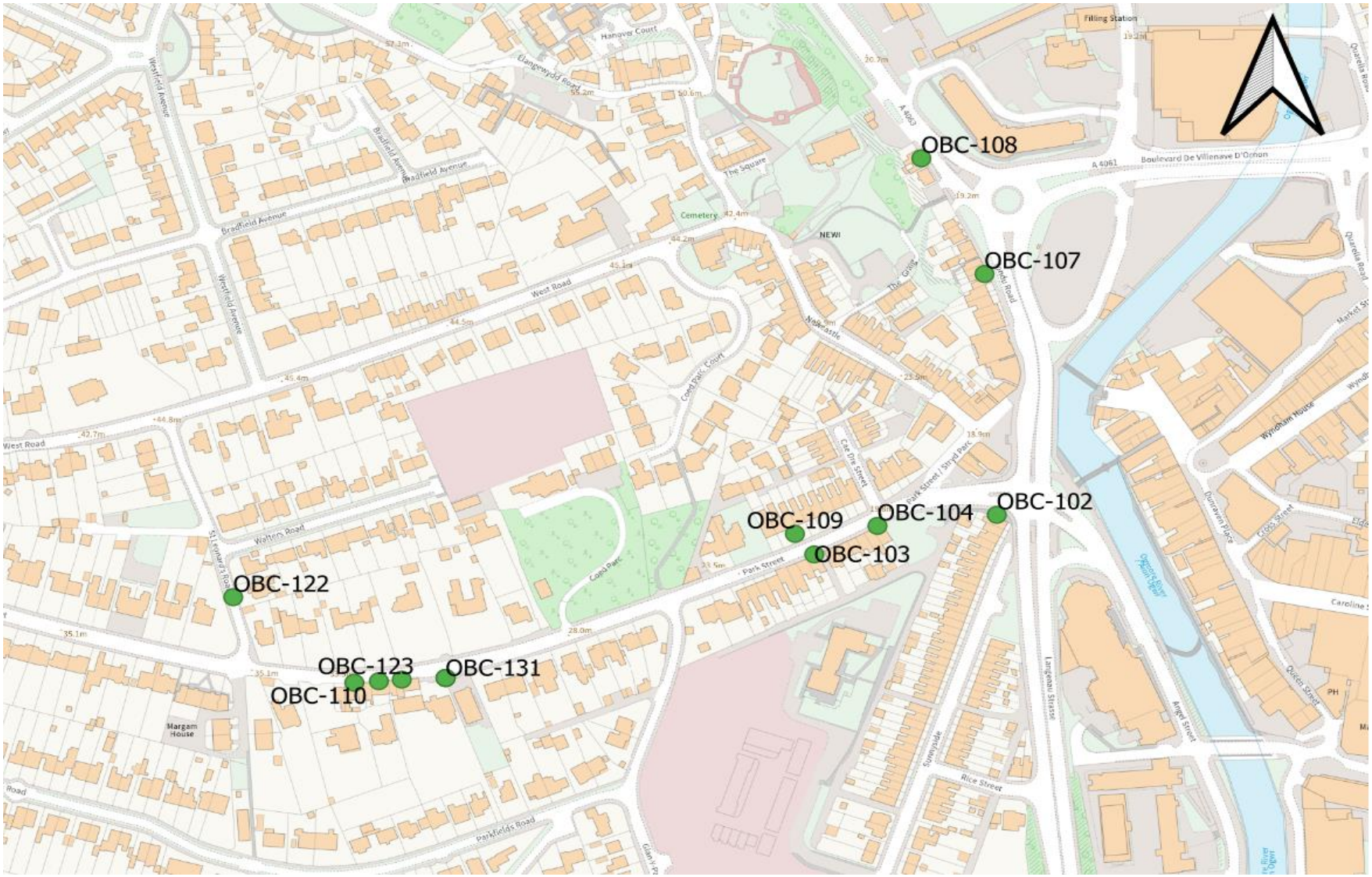


Figure 9 - Map Non-Automatic Monitoring Sites A48 Ewenny Roundabout and Picton Gardens, Bridgend

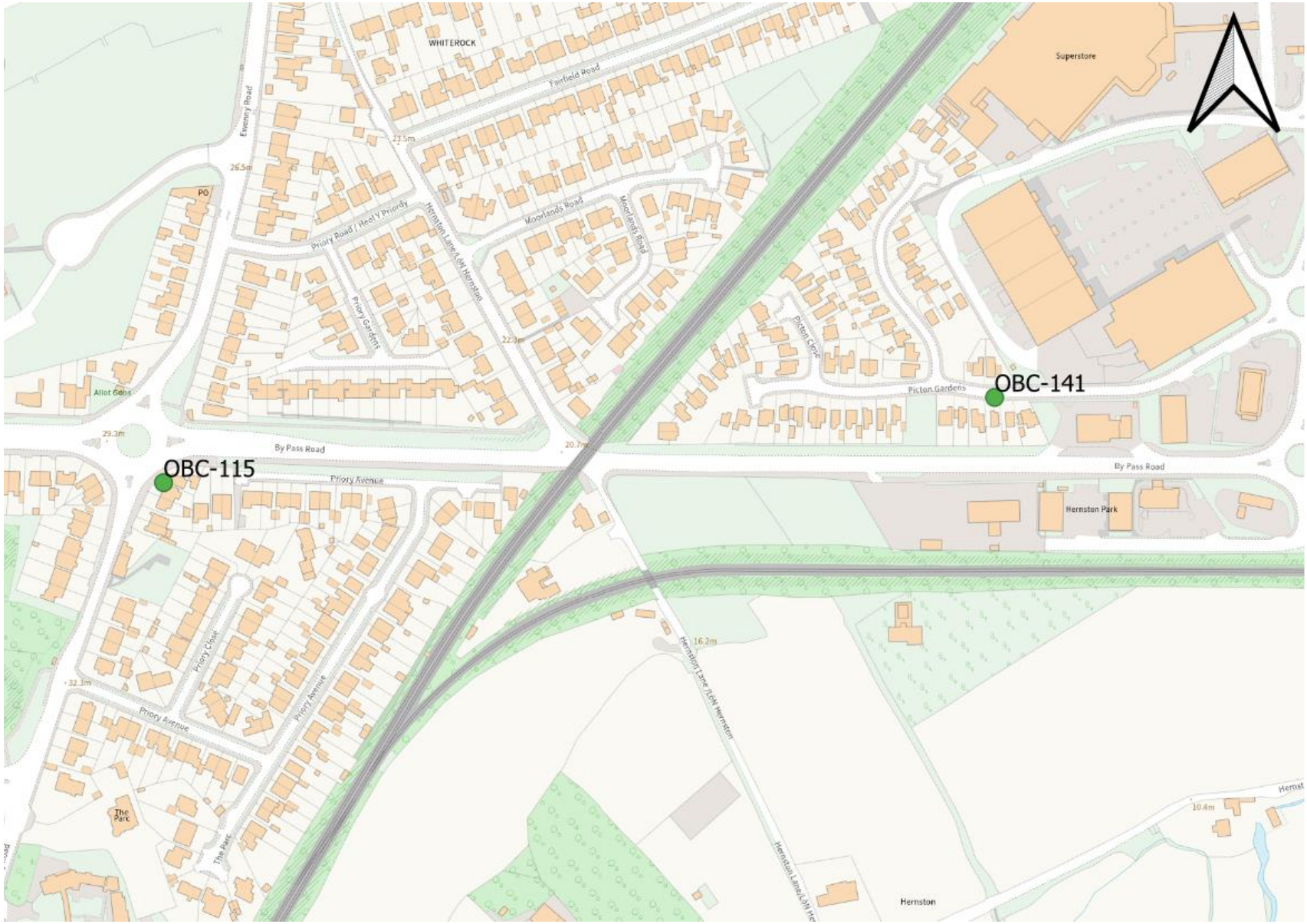


Figure 10 - Map Non-Automatic Monitoring Sites Cowbridge Road and Tremains Road, Bridgend

Figure 11 - Map Non-Automatic Monitoring Sites Longacre, Brackla, Bridgend

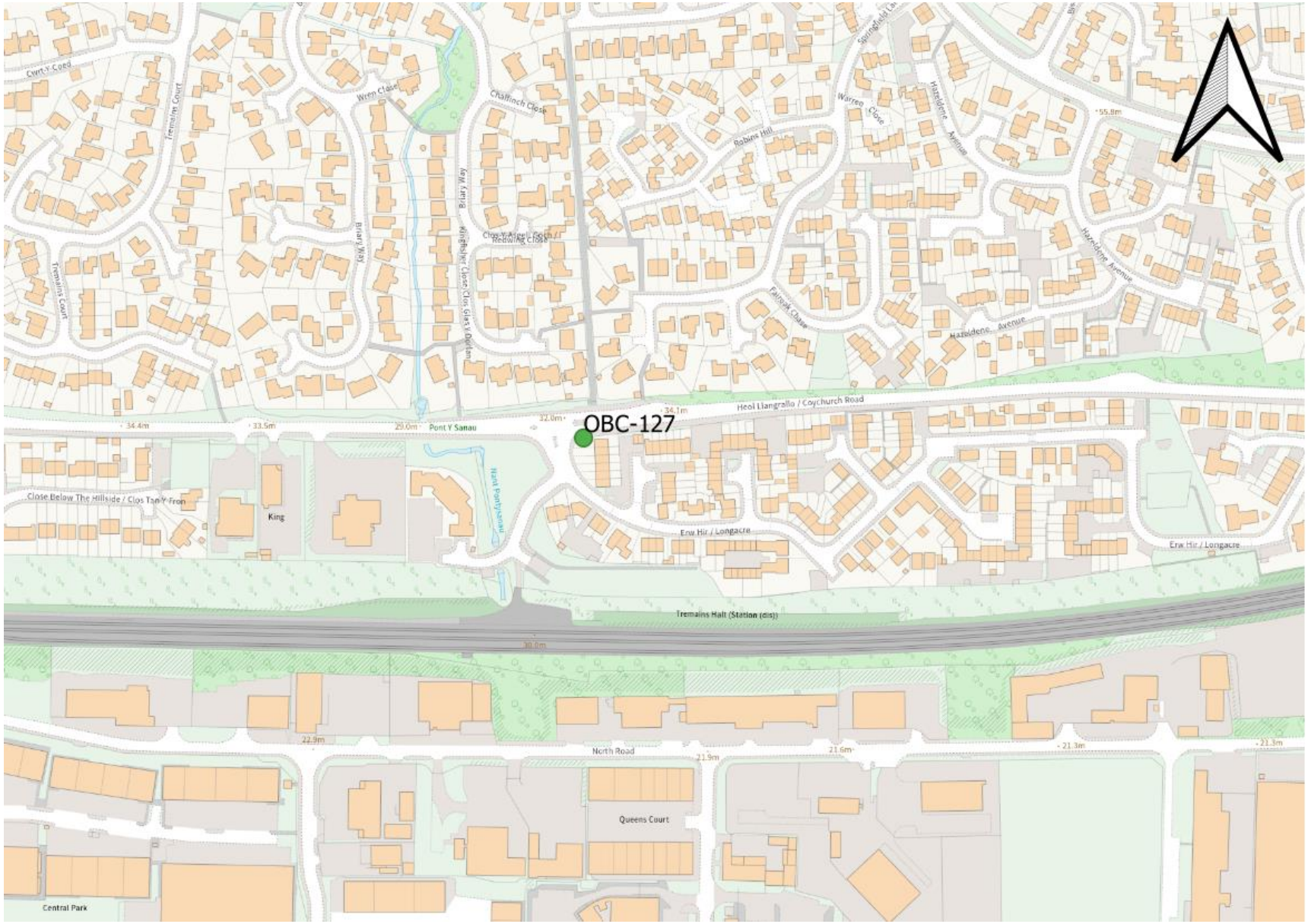


Figure 12 - Map Non-Automatic Monitoring Sites Coity Road, Bridgend

Figure 13 - Map Non-Automatic Monitoring Sites Coychurch A473, Bridgend

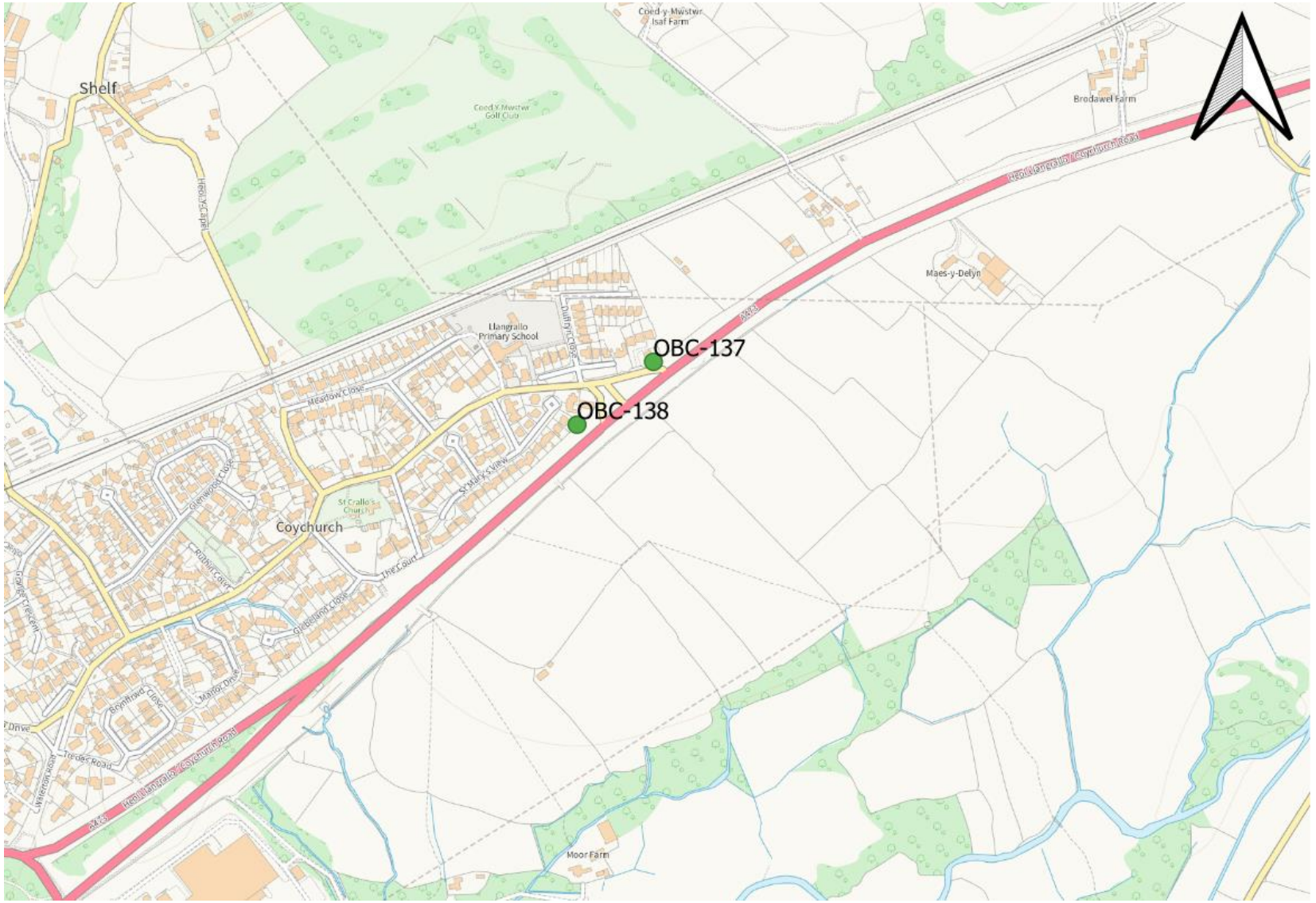


Figure 14 - Map Non-Automatic Monitoring Sites Bryncethin & Brynmenyn

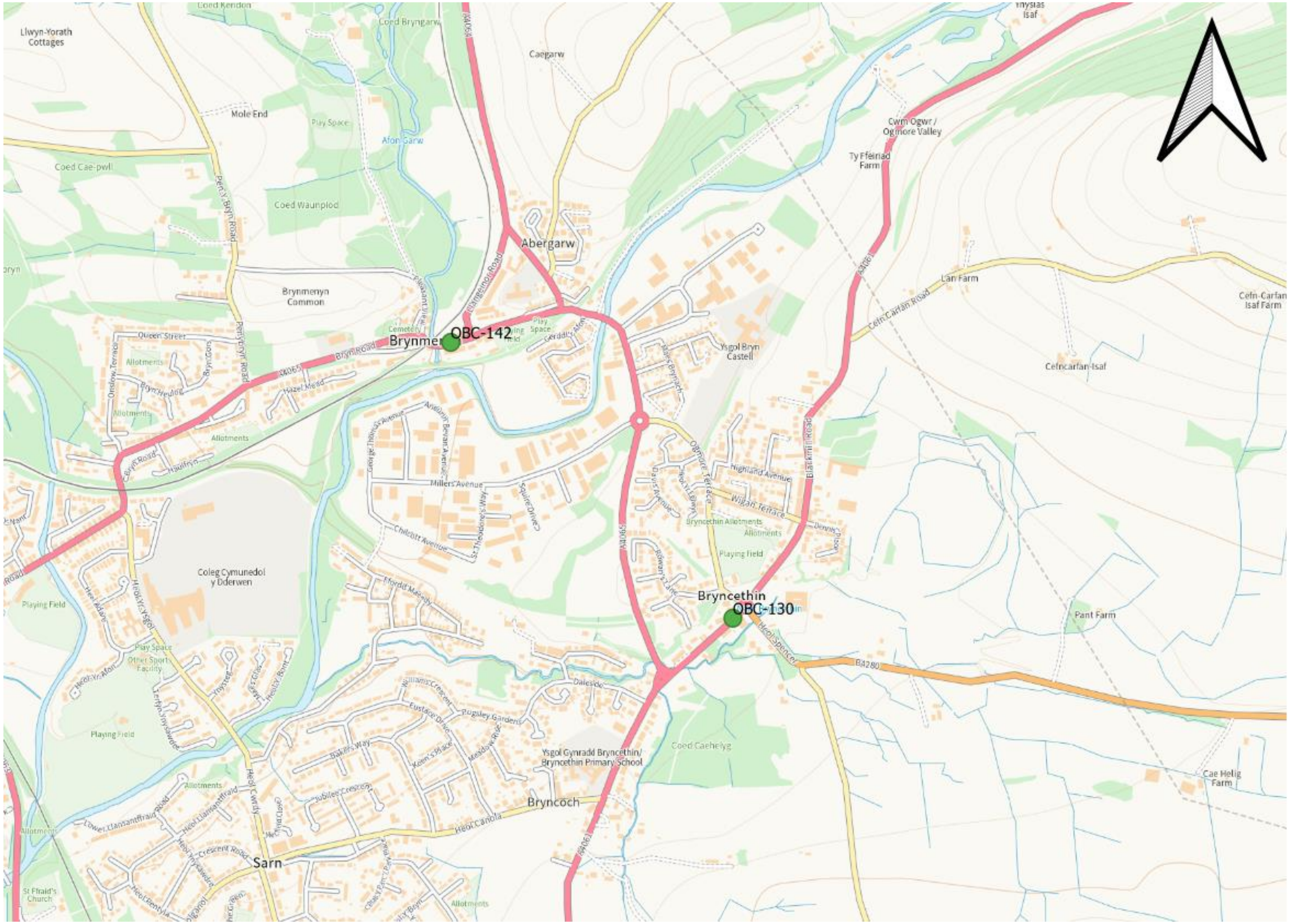


Figure 15 - Map Non-Automatic Monitoring Sites Blackmill

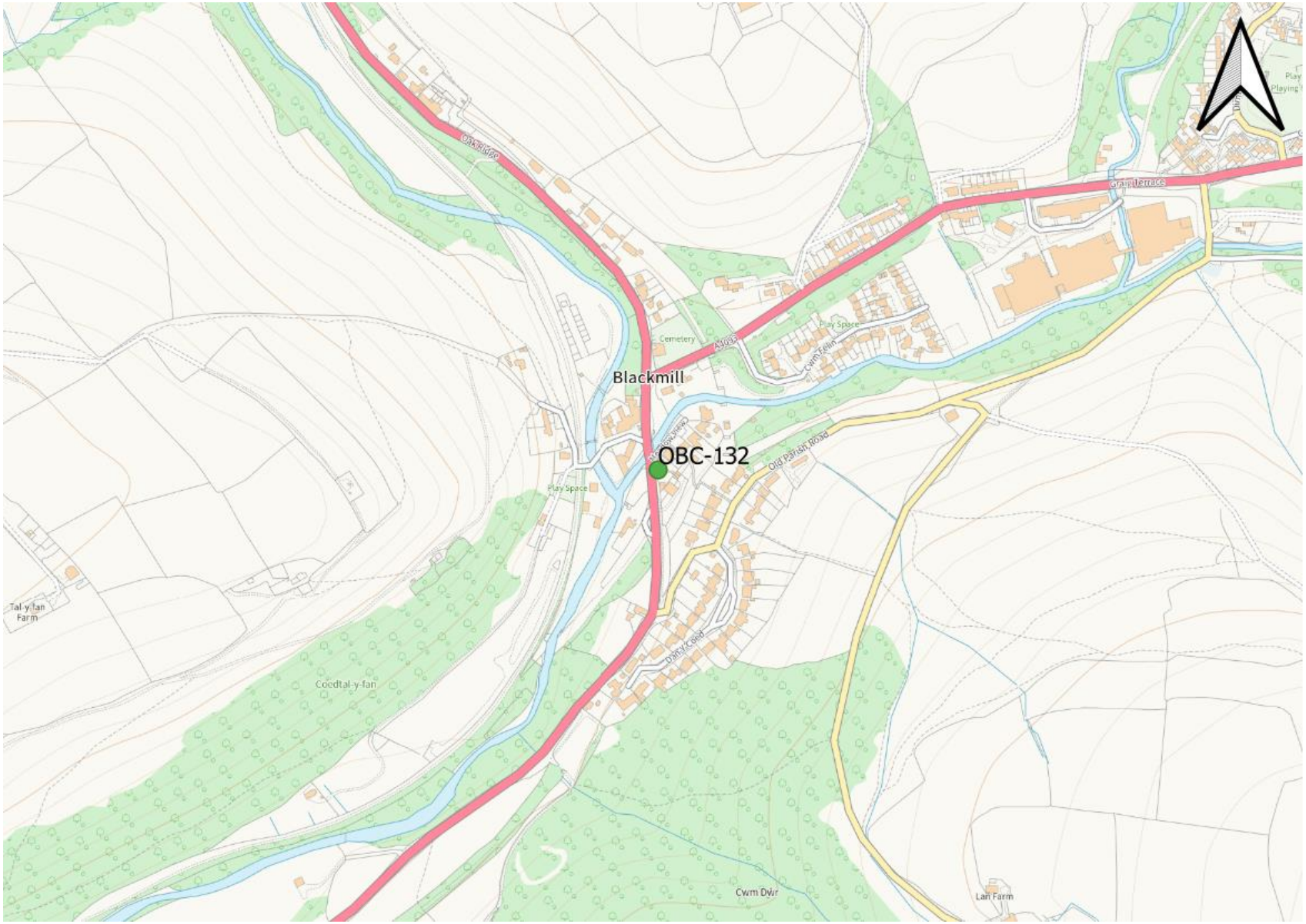


Figure 16 - Map Non-Automatic Monitoring Sites Tondu

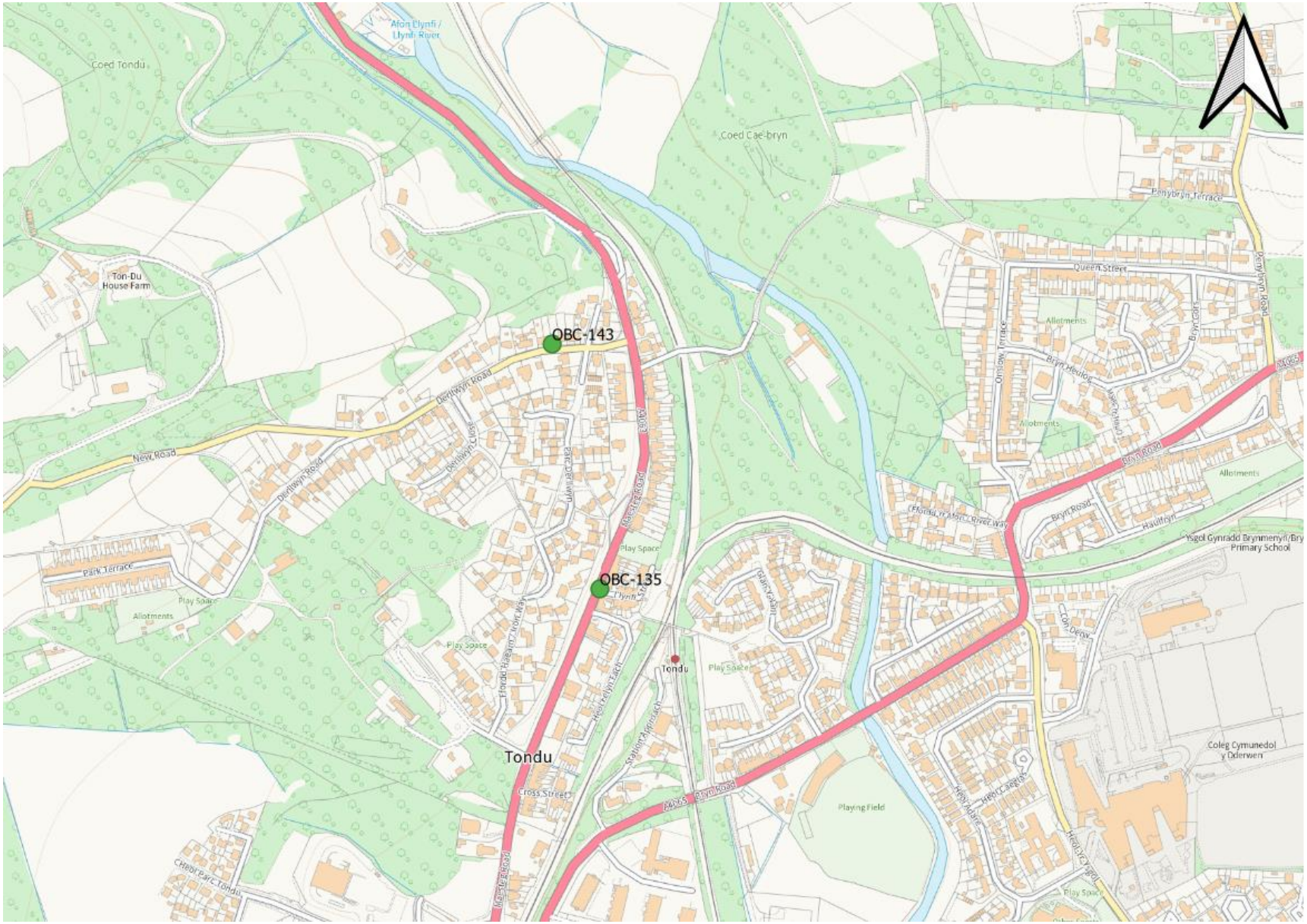


Figure 17 - Map Non-Automatic Monitoring Sites Maesteg

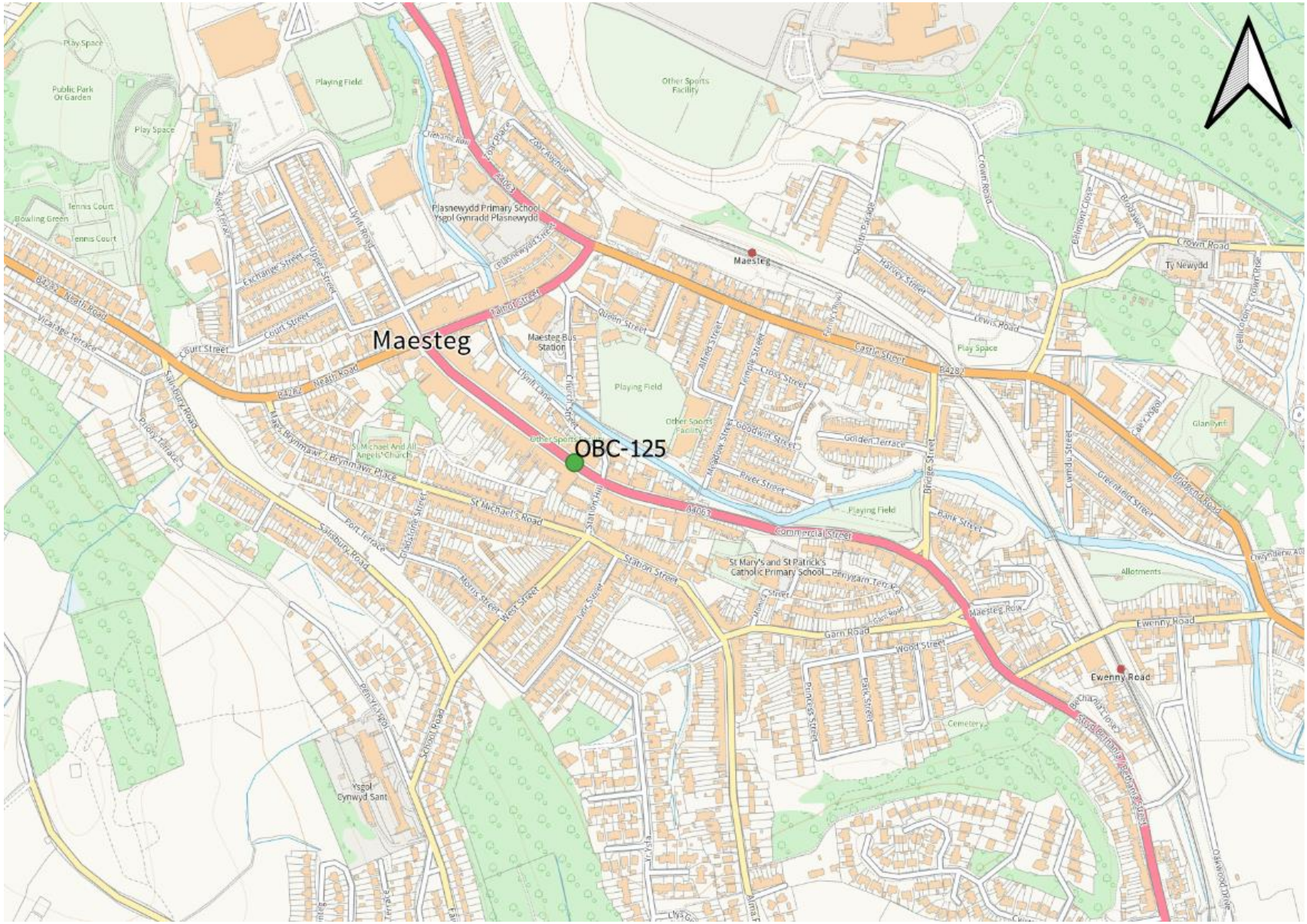


Figure 18 - Map Non-Automatic Monitoring Sites Pencoed

2.2 2024 Air Quality Monitoring Results

Table 8 - Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	Site Location	Site Type	Within AQMA?	Valid Data Capture 2024 %	Annual Mean Concentration (µg/m^3)			
					2021	2022	2023	2024
AQMA 1	Park Street AQMA Automatic Monitor	Roadside	Y	68%	27	28	27	27.6

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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%).

Table 9 - Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO_2 Annual Mean Concentration (µg/m^3)				
						2020	2021	2022	2023	2024
OBC-115	290667	178529	Roadside	100	100	16.3	18.5	17.0	14.0	14.3
OBC-141	291164	178580	Kerbside	100	100	-	-	-	-	11.3
OBC-105	290899	179185	Roadside	100	100	16.1	19.2	18.1	15.9	15.0
OBC-106	290826	179210	Roadside	84	84	25.8	26.1	22.7	20.2	16.0
OBC-112	290798	179244	Roadside	100	100	23.7	29.2	26.7	25.3	20.8
OBC-111	290700	179305	Roadside	66	66	19.7	22.4	20.9	19.8	18.1
OBC-102	290354	179807	Roadside	100	100	18.3	20.6	19.9	18.5	16.1
OBC-103	290250	179782	Roadside	92	92	30.4	31.9	29.1	27.3	23.2
OBC-104	290286	179800	Roadside	100	100	29.8	33.6	29.0	28.4	23.1
OBC-109	290239	179795	Roadside	66	66	20.1	19.8	16.4	15.4	14.0
OBC-107	290347	179959	Roadside	100	100	24.3	27.7	26.1	25.2	21.6
OBC-108	290311	180032	Roadside	100	100	27.5	31.7	29.4	27.6	22.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO_2 Annual Mean Concentration ($\mu g/m^3$)				
						2020	2021	2022	2023	2024
OBC-131	290040	179704	Kerbside	100	100	-	28.3	27.3	25	22.9
OBC-123	290014	179698	Roadside	82	82	**42.4**	**46.5**	**45.5**	**43.9**	38.5
OBC-140	290002	179702	Roadside	75	75	-	-	-	**43.5**	**44.6**
OBC-110	289988	179701	Roadside	100	100	**43.6**	**43.6**	**47.2**	**43.8**	**43.4**
OBC-122	289919	179755	Kerbside	91	91	15.2	15.8	16.7	13.7	12.1
OBC-126	291125	179517	Roadside	100	100	18.5	18.7	17.6	16.4	15.1
OBC-127	292236	179473	Roadside	100	100	13.7	15.6	16.1	15.1	12.7
OBC-097	290687	180185	Kerbside	100	100	15.2	15.8	16.7	13.7	16.2
OBC-130	291386	184168	Roadside	100	100	-	31.1	29.0	25.7	24.8
OBC-132	293418	186662	Roadside	100	100	-	25.1	21.6	21.1	19.7
OBC-125	285299	191136	Roadside	66	66	19.3	9.8	14.5	20.8	13.1
OBC-135	289402	184461	Roadside	82	82		17.8	21.5	21.7	22.6
OBC-137	294309	179872	Roadside	91	91	-	-	16.5	17.0	14.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2024 (%)	NO_2 Annual Mean Concentration (µg/m^3)				
						2020	2021	2022	2023	2024
OBC-138	294218	179795	Kerbside	100	100	-	-	23.8	19.6	17.7
OBC-133	295899	181363	Roadside	0	0	-	17.8	18.8	17.0	-
OBC-139	295967	181623	Roadside	91	85	-	-	-	22.6	20.8
OBC-116	295886	181642	Roadside	0	0	15.8	18.5	17.9	17.4	-
OBC-142	290702	184828	Roadside	100	43	-	-	-	-	12.2
OBC-143	289345	184754	Roadside	100	43	-	-	-	-	9.0

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(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%).

Figure 19 - Park Street Automatic Monitoring Annual Mean Trends NO_2 (µg/m^3)

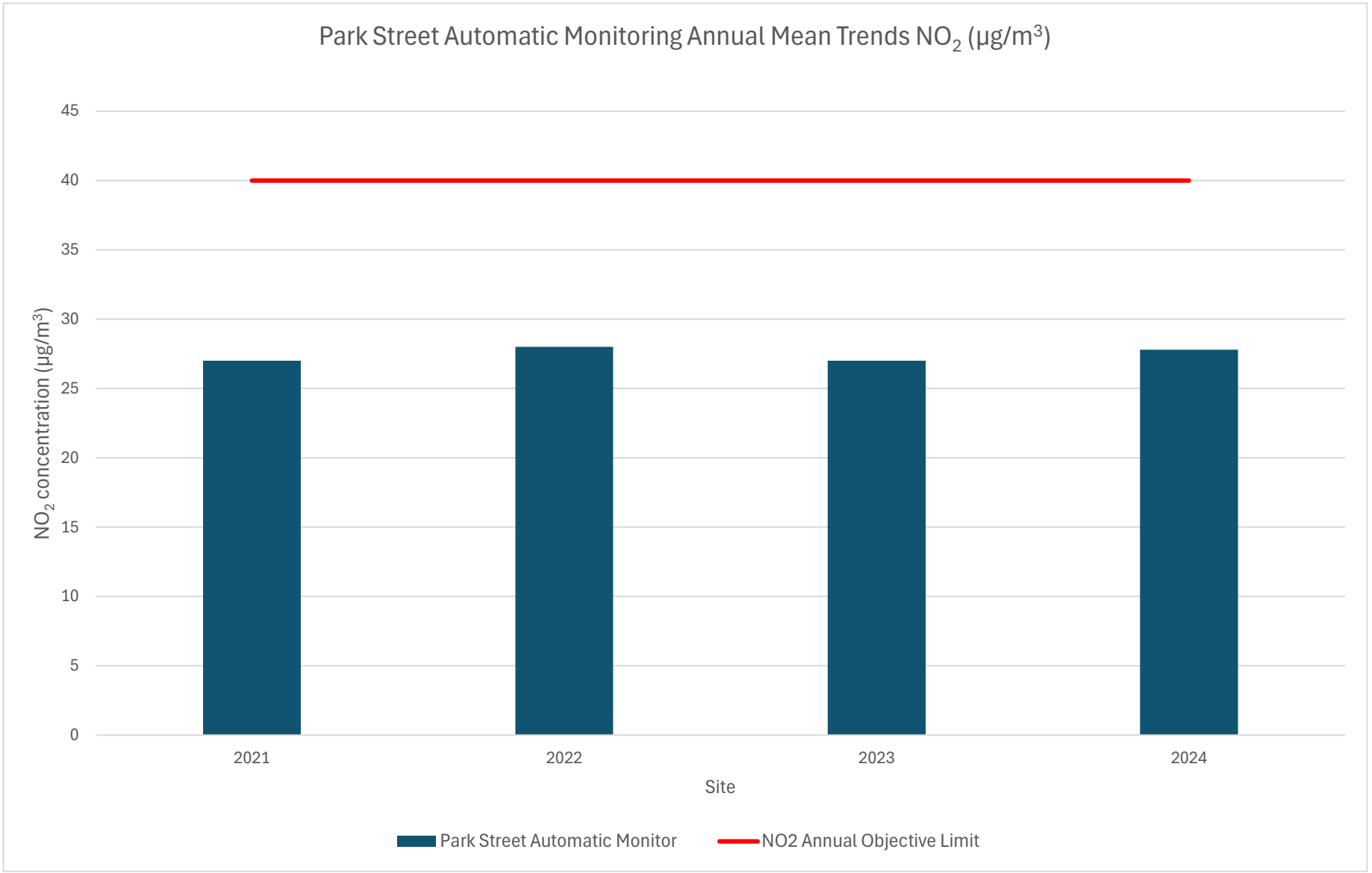
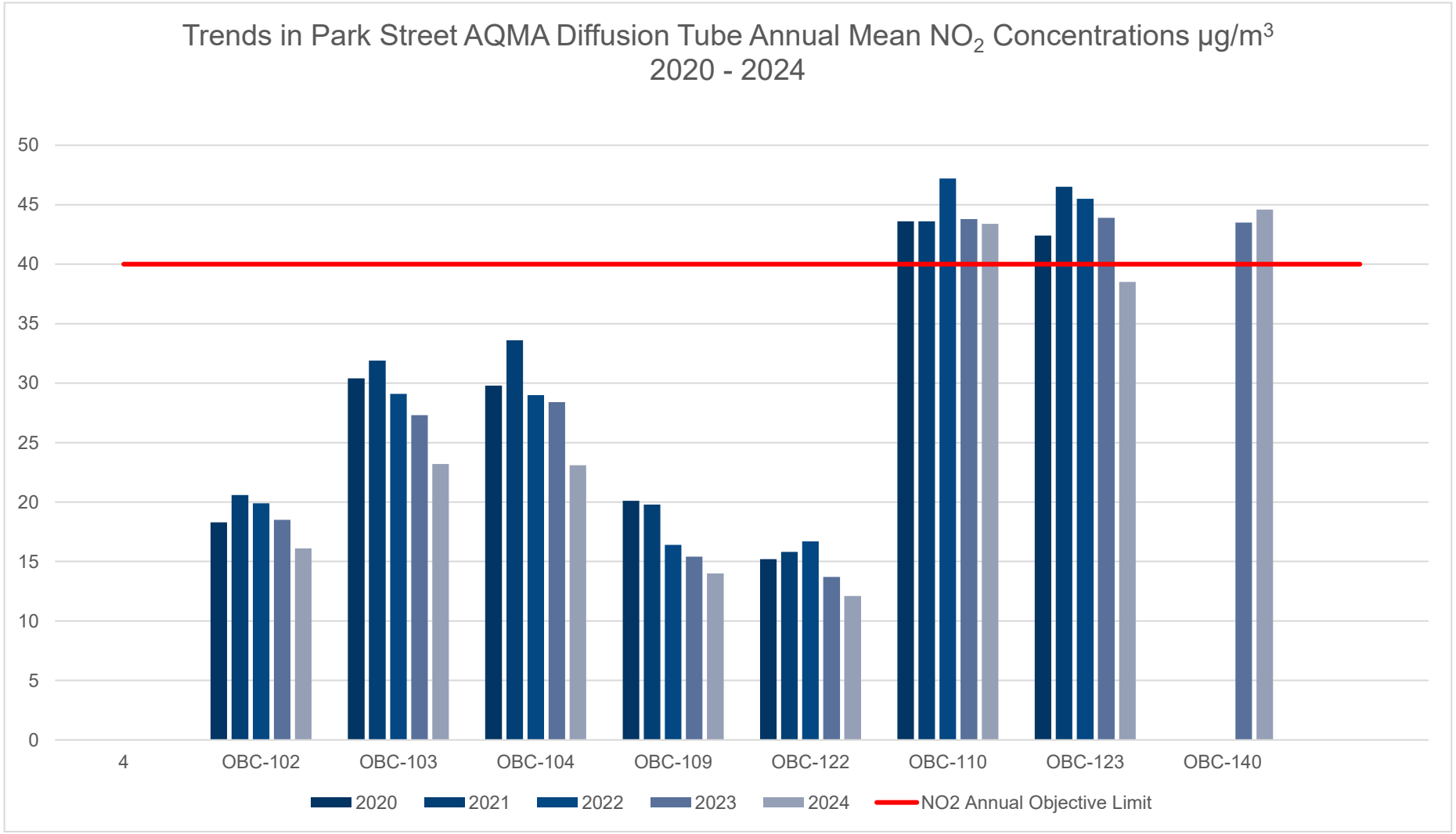
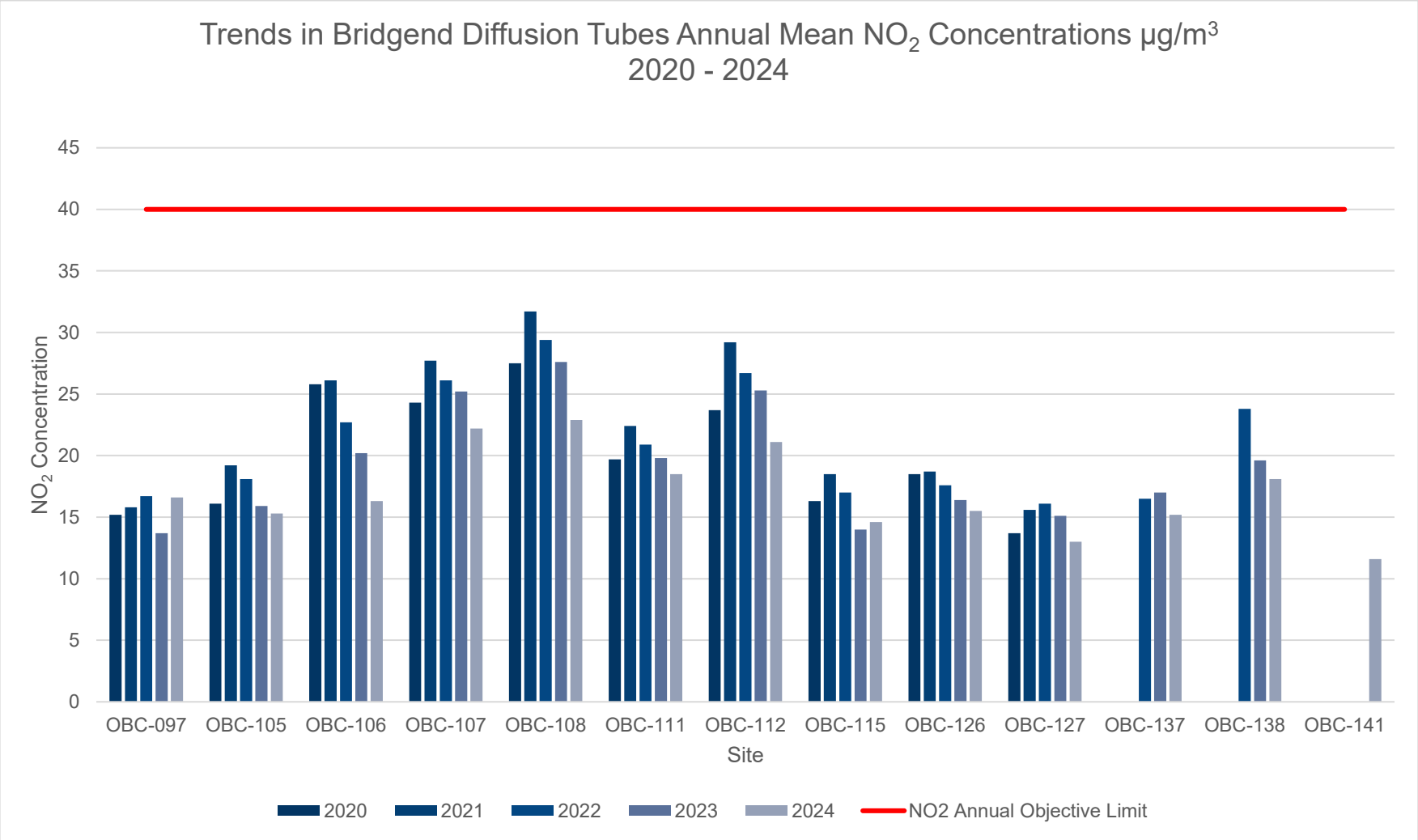


Figure 20 - Trends in Annual Mean NO_2 Concentrations Park Street AQMA



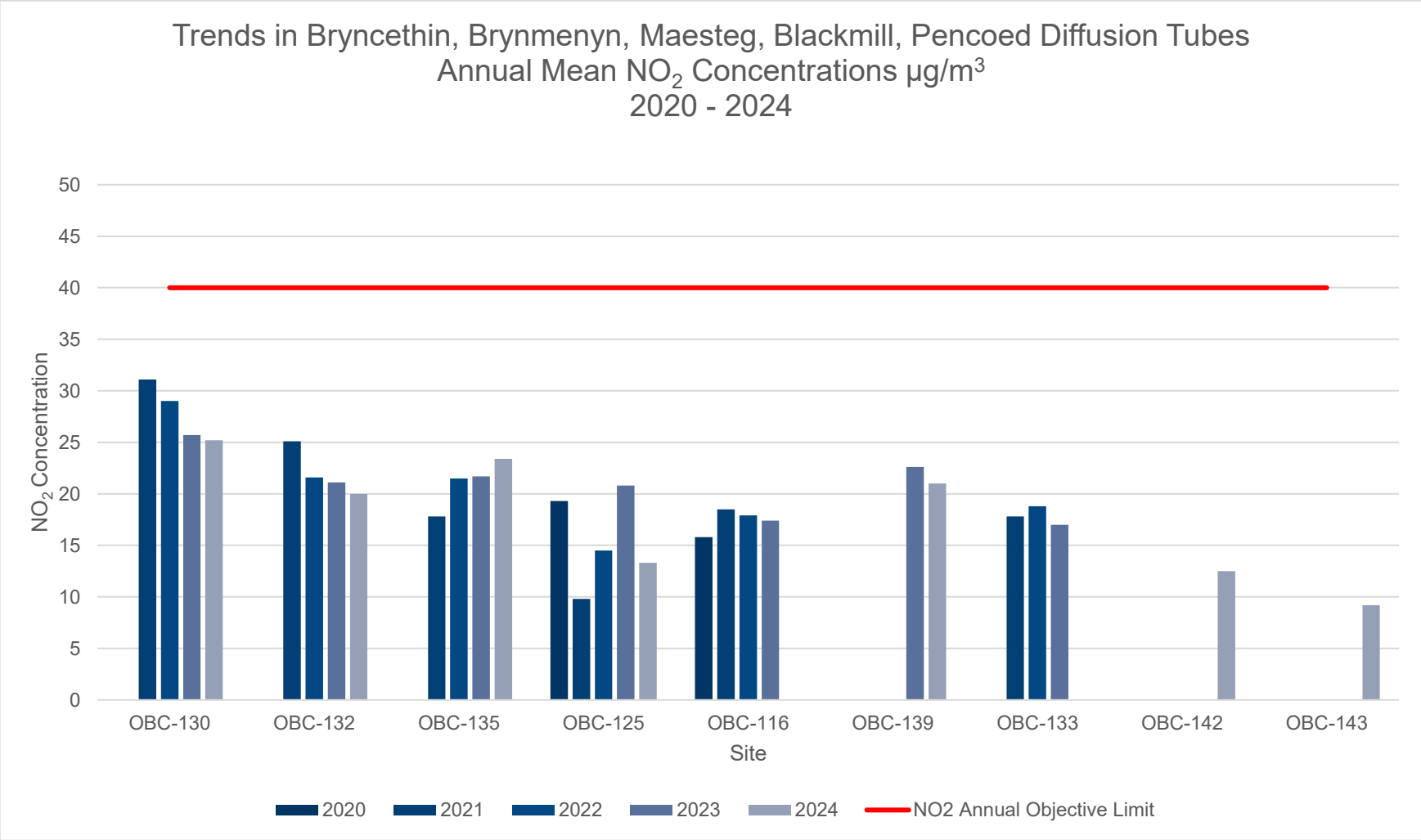
Sites OBC-110 and OBC-140 exceed the NO_2 Annual Objective limit. All other sites are within the objective limit.

Figure 21 - Trends in Bridgend Diffusion Tubes Annual Mean NO_2 Concentrations µg/m^3 2020 - 2024



All sites outside the Park Street AQMA are compliant with the NO_2 annual objective limit.

Figure 22 - Trends in Brycethin, Brynmenyn, Maesteg, Blackmill, Pencoed Diffusion Tubes Annual Mean NO_2 Concentrations µg/m^3 2020 - 2024



All sites outside the Park Street AQMA are compliant with the NO_2 annual objective limit

Table 10 - 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site Name	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2021	2022	2023	2024
Park Street AQMA	Roadside	Automatic	68	68	0	0	0	0

Notes:

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-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%).

Table 11 - Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2021	2022	2023	2024
Park Street AQMA	Roadside	94	94	17	18	18	16.4

Notes:

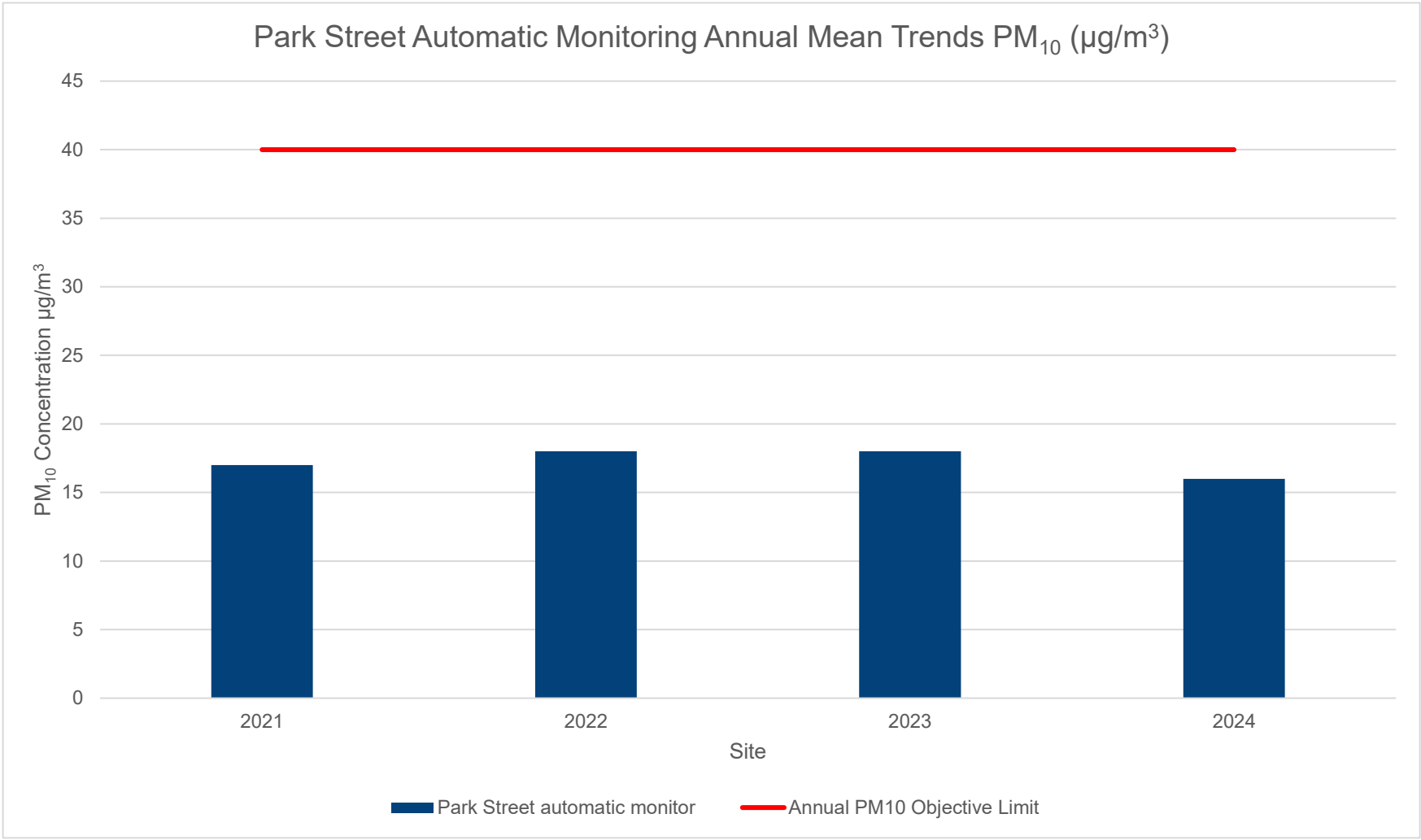
Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ are shown in **bold**.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(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%).

Figure 23 – Trends in Annual Mean PM_{10} Concentrations Park Street AQMA



All PM_{10} concentrations are within the annual objective limit.

Table 12 - 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2021	2022	2023	2024
Park Street AQMA	Roadside	68	68	0	0	2	0

Notes:

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th 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%).

2.3 Comparison of 2024 Monitoring Results with Previous Years and the Air Quality Objectives

2.3.1 Nitrogen Dioxide (NO_2)

In 2024, the results for monitoring undertaken at sites OBC-110 and OBC-140 located on Park Street residential facades, exceeds the annual average air quality objective set at (40µg/m^3) for NO_2. OBC-110 recorded annual average figures of 43.6µg/m^3 and OBC-140 recorded an annual average figure of 44.6µg/m^3. In 2024, monitoring site OBC-123 was compliant with the NO_2 annual objective for the first time since the commencement of monitoring at this location, with a result of 38.4µg/m^3.

Sites currently exceeding annual air quality objectives are isolated to one area of Park Street. This area of Park Street experiences higher concentrations of pollutants due to the proximity of houses to a heavily trafficked primary route with congestion issues. These issues are compounded by gradients increasing engine load and poor dispersion of pollutants caused by buildings.

All other monitoring locations within Park Street AQMA and across Bridgend currently demonstrate compliance with the applicable air quality objectives.

Due to diffusion tubes being stolen from the monitoring points, site OBC-133 and OBC-116 did not have sufficient monthly data of >25% to calculate an annual result.

2.3.2 Particulate Matter (PM_{10})

Particulate matter (PM_{10}) monitoring was carried out by the automatic monitoring station located in Park Street AQMA. The annual average figure shown at this site in 2022 was 16µg/m^3, which is compliant with the PM_{10} annual average objective of 40 µg/m^3. There were no exceedances of the 24-hour PM_{10} objective of 50 µg/m^3 air quality objective limit for this objective, which is to not be exceeded more than 35 times annually.

2.4 Summary of Compliance with AQS Objectives as of 2024

Concentrations within Park Street AQMA still exceed the annual objective for NO_2 at two monitoring locations, therefore, this AQMA should remain.

3 New Local Developments

Before the approval of any new development, the impact of both demolition, construction, and operational air quality is considered. If certain criteria are met, such as a substantial increase in vehicle generation, combustion processes, or the introduction of new receptors to areas of potential air quality concerns, then Air Quality Assessments (AQA's) are submitted to the local authority. This criterion is set within the Institute of Air Quality Management and Environmental Protection UK "Land-Use Planning & Development Control: Planning For Air Quality"[4]. AQA's use dispersion modelling to predict air quality impacts, and mitigation measures or conditions can be set as a result of these assessments.

3.1 Road Traffic Sources (and Other Transport)

No new road traffic sources have been identified which require consideration in this report.

3.2 Industrial / Fugitive or Uncontrolled Sources / Commercial Sources

No new Industrial / Fugitive or Uncontrolled Sources / Commercial Sources have been identified which require consideration in this report.

3.3 Other Sources

No other sources have been identified which require consideration in this report.

3.4 Domestic Wood Burners

It should be noted that the Council receives a number of enquiries each year from residents in respect of national or local requirements were they to wish to install log-burners or similar appliances in their homes. There are no smoke control areas in Bridgend and hence no

[4] https://laqm.defra.gov.uk/assets/airqualityplanningguidance.pdf

legal requirements with regard to appliances that may be installed. However, residents are always reminded of the legislation in respect of statutory smoke nuisance and, where they can't be persuaded otherwise for reasons of air quality and health, are recommended to seek out an appliance certified for use in a smoke control area.

SRS on behalf of BCBC can confirm that there are no areas of significant domestic fuel use in the Local Authority area.

4 Policies and Strategies Affecting Airborne Pollution

4.1 Air Quality Planning Policies

On 13 March 2024, Bridgend County Borough Council adopted the Replacement Local Development Plan (RLDP) 2018-2033 for Bridgend County Borough. The RLDP became operative on the date of its adoption.

It supersedes and replaces the previous adopted Bridgend County Borough Local Development Plan (LDP) 2006-2021. The adopted RLDP constitutes the development plan for Bridgend County Borough and will be the basis for decisions on land-use planning in the area. It sets out key policies and land use allocations that will shape the future of Bridgend County Borough and guide development up to 2033.

Proposed development projects currently listed in the Local Development Plan (LDP) will require up to date air quality impact assessment in support of the planning application.

Further details for the RLDP can be found at Adopted Replacement Local Development Plan 2018-2033

4.2 Local Transport Plans and Strategies

The Local Transport Plan (LTP) 2015- 2030. The Welsh Government now requires local authorities in Wales to prepare and adopt Local Transport Plan (LTPs) as the framework for identifying local transport schemes for improvements. LTPs therefore replace Regional Transport Plans.

Under guidance from the Welsh Government, local authorities have the choice to develop and adopt either joint LTPs with neighbouring local authorities or a stand-alone LTP for their own geographical area.

Bridgend County Borough Council has opted for the latter approach in view of the uncertainty of the future of local authority boundaries and structures amid discussions of reorganisation of local government.

The LTP looks to tackle growing traffic levels (and hence air quality impacts) by providing strategies which focus upon providing efficient and effective transport networks. “The Council is mindful of the broader negative impact of transport related emissions on health and the natural environment” “To reduce the environmental impact of transport, the LTP

includes measures and interventions that will increase opportunities for active travel, encourage the use of public transport and promote modal integration."

The LTP policy recognises the Council's objective to achieving sustainable travel (alternatives to using cars) and reducing negative impacts on the environment. The policy suggests that through improved transport infrastructure and transport services this can be achieved.

The LTP policy is available at Local Transport Plan.

4.3 Active Travel Plans and Strategies

In September 2014, the Welsh Government introduced the Active Travel (Wales) Act. This measure legally requires Welsh local authorities to map and plan suitable routes for Active Travel within certain areas, as designated by the Welsh Government.

Following formal public consultation and review by Welsh Government, BCBC has produced Integrated Network Maps (INM) that show highlighted routes dedicated to pedestrians and cyclists. The maps are available to download from Active travel.

Supported by Welsh Government funding for active travel routes across Wales, Bridgend County Borough Council has recently completed a new active travel route from Ynysawdre to Coleg Cymunedol Y Dderwen, near Bridgend. A map of the route can be found at Ynysawdre Active Travel.

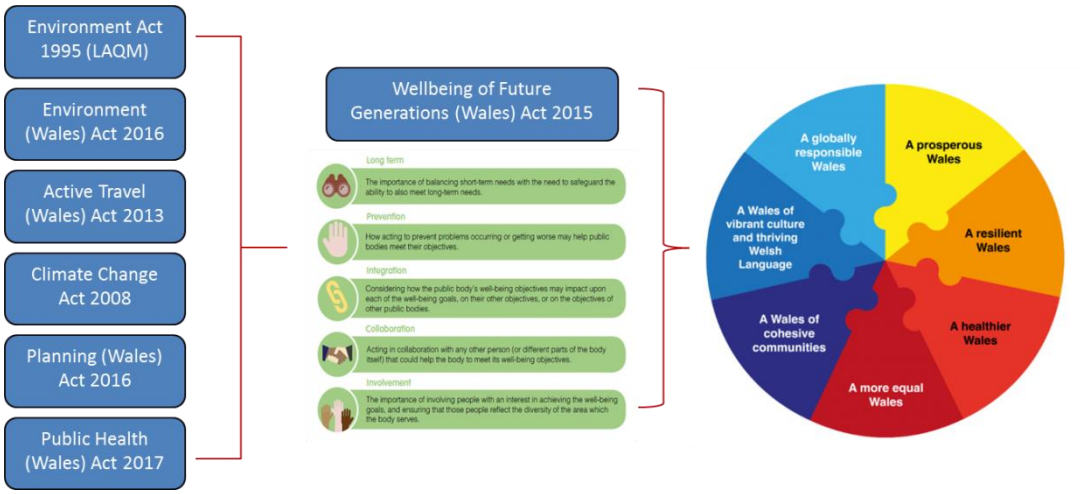
The 440m long route runs through an area of previously overgrown and wooded land, bounding the north side of Brynmenyn Primary School and the east side of Coleg Cymunedol Y Dderwen. It links two points on the existing active travel network, as well as provides the start of a proposed future route, continuing to the east of the River Ogmore.

The route opened at the beginning of April 2024, with work carried out over a period of months, from October 2023 to March 2024, to complete the £500k project.

4.4 Local Authorities Well-being Objectives

In 2015 Welsh Government made a new law called the Well-being of Future Generations (Wales) Act. The new law has the sustainable development principle at its heart. This means that we need to work in a way that improves wellbeing for people today without doing anything that could make things worse for future generations.

Figure 24 - Well-being of Future Generations (Wales) Act



As highlighted in Figure 24, there are seven national well-being goals that form the basis of the Act and five ways of working which support the goals.

Public bodies have come together in Bridgend to form a Public Services Board (PSB). Bridgend PSB is committed to working together to improve wellbeing in Bridgend County Borough now and in the future. Bridgend PSB has used the sustainable development principle and the new five ways of working to develop a Well-Being Plan (2018-2023).

The plan outlines the things that Bridgend PSB will work together on, over the next five years, well-being objectives and steps, and provide a vision for how Bridgend will look in 10 years' time. The plan is seen as a mechanism that provides the best possible means of working to help understand the underlying causes of problems and prevent those problems getting worse or happening in the future.

Contributing to the seven national well-being goals and long-term vision for Bridgend, Bridgend PSB has developed four main objectives.

Figure 25 - Bridgend Well-Being Objectives

In accordance with air quality, as part of the objective for "Healthy Choices in a Healthy Environment" Bridgend PSB outlines that resources are best utilised and collaborative working ensures that the built, cultural, and natural environment remains resilient in future. The priority areas to endorse and encourage the success of the objective will include working together to maximise benefit from cultural, built, and natural assets. It will also look at promoting a more resource and energy efficient way of living and working. In order to measure the success of promoting a more resource and energy way of living, air quality, particularly NO_2 levels will be examined. The Bridgend PSB wellbeing plan is available at https://www.bridgend.gov.uk/media/3657/bridgend-wellbeing-bps-plan-e-0518.pdf

4.5 Green Infrastructure Plans and Strategies

Green infrastructure will be provided through the protection and enhancement of existing natural assets and the creation of new multi-functional areas of green space. Green infrastructure corridors will connect locations of natural heritage, green space, biodiversity, or other environmental interest. They will be safeguarded through:

1) Not permitting development that compromises their integrity and therefore that of the overall green infrastructure framework;

2) Using developer contributions to facilitate improvements to their quality and robustness;

3) Investing in appropriate management, enhancement and restoration, and the creation of new resources.

A Supplementary Planning Guidance (SPG) concerning Green Infrastructure was produced in 2014 by BCBC to provide a detailed understanding to the elements raised in the LDP. The document highlights how the Council expect habitats to be considered as part of development proposals within the County Borough of Bridgend. It also introduces the concept of adopting a Green Infrastructure Approach to development.

Figure 26 - Green Infrastructure

In addition to the above, outlined within the Bridgend PSB Well-being Plan, as part of the objective “Healthy Choices in a Healthy Environment” and priority area to include working together to maximise benefit from cultural, built, and natural assets, the steps involved will;

- Identify opportunities to improve the green asset base by implementing the Bridgend Nature Recovery Plan.
- Improve the public estate and green spaces in urban areas by encouraging award of green flag status.

4.6 Climate Change Strategies

Welsh Government has legislated for a Net Zero Wales by 2050 with the public sector leading by example to be Net Zero by 2030. We have committed to the Net Zero 2030 target as an organisation and recognises the leadership role to enable wider Net Zero for businesses and communities in the county. Projects designed to reduce carbon emissions can have a positive effect on air quality and its related human health impacts.

We declared our own climate emergency in June 2020 and set up its Climate Emergency Response programme. The Bridgend 2030 Net Zero Carbon Strategy is the initial strategic step in achieving this commitment.

Importantly, this Strategy will not be the only driver for Net Zero, it will be an integral part of the Council's Corporate Plan and Wellbeing Plan, whilst policies, strategies and ongoing plans will all reflect the commitment to Net Zero. This will ensure it is fully embraced across the organisation.

Our Commitments

- The Council will **demonstrate leadership and commitment** to deliver the Bridgend 2030 Net Zero Carbon Strategy, to address the Climate Emergency as declared by Welsh Government, the Senedd and the Council.

- The Council will **integrate low and zero-carbon behaviours** throughout the organisation and carbon impact will become a key consideration in all strategic decisions.

- The Council will **decarbonise its built estate by 2030** with a strong focus on energy efficiency, low carbon heating and on-site renewable generation.

- The Council will undertake a programme of **fleet renewal to ultra-low emission vehicles**, such that all vehicles are ULEV by 2030.

- The Council will **promote active and low-carbon travel** options throughout its own operations.

- The Council will **decarbonise its procurement activity** by engaging the supply chain, supporting and mandating suppliers to decarbonise, and progressing sustainable, local procurement practices.

- The Council will **ensure its land holdings are developed and maintained to support Net Zero objectives** through high levels of carbon sequestration and biodiversity.

- The Council will **decarbonise its waste streams** by ending landfill use and adopting a reuse culture alongside sustainable methods of disposal.

5 Conclusion and Proposed Actions

5.1 Conclusions from New Monitoring Data

Annual average datasets outline continued elevated and exceeding levels of NO_2 at sensitive receptor locations situated on Park Street within the established AQMA Order boundary. It is noted that monitoring undertaken in 2023 at sites OBC-110 and OBC-140 located on Park Street at residential facades exceed the annual average air quality objective set at (40µg/m^3) for NO_2. All automated and non- automated datasets show compliance with the air quality objectives at every other monitored location.

5.2 Conclusions relating to New Local Developments

No new local developments have been identified which are expected to have significant impacts on air quality within Bridgend County Borough.

5.3 Proposed Actions

Monitoring data from Park Street AQMA will be reviewed to ensure that compliance will be met in the shortest time possible. If trends in air quality data indicate that compliance will not be met by 2025/2026, further traffic management measures, such as measure 18 within the AQAP may be implemented.

At present, the ‘do something’ scheme has the potential to bring forward compliance to 2025. However, this is unrealistic due to the fact that the implementation of Measure 18 within the AQAP, denying all access onto St Leonards Road from Park Street, requires a consultation process due to the introduction of a traffic order. It is important to consider this in terms of timescale for implementation in comparison to the predicted year of natural compliance of 2026. This measure will be retained and will be reconsidered dependent on ongoing NO_2 monitoring results in the Park Street AQMA.

References

1. Bridgend County Borough Council Annual Air Quality Progress Reports Air Quality and Pollution
2. Bridgend County Borough Council Active Travel Active travel
3. Bridgend County Borough County Net Zero Net Zero Carbon Strategy
4. Bridgend County Borough Council RLDP Replacement Bridgend Local Development Plan 2018 to 2033
5. Department for Environment, Food and Rural Affairs, 2003. *Part IV of the Environment Act 1995, Environment (Northern Ireland) Order 2002 Part III Local Air Quality Management, Technical Guidance LAQM.TG(22).* London: DEFRA (as updated August 2022). https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf
6. Institute of Air Quality Management, Environmental Protection UK, *Land-Use Planning & Development Control: Planning For Air Quality* https://laqm.defra.gov.uk/assets/airqualityplanningguidance.pdf
7. Public Health Wales, *Air Pollution and Health Fact Sheet*, https://phw.nhs.wales/services-and-teams/environmental-public-health/air-quality/air-pollution-and-health-fact-sheet/
8. Welsh Government, *Local Air Quality Management in Wales, Policy Guidance*,2017 local-air-quality-management-in-wales.pdf (gov.wales)
9. Welsh Government, *Air Pollution Health Advice* Health Advice | Air Quality In Wales (gov.wales)

Appendices

Appendix A: Monthly Diffusion Tube Monitoring Results

Appendix B: A Summary of Local Air Quality Management

Appendix C: Air Quality Monitoring Data QA/QC

Appendix D: AQMA Boundary Maps

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

Table A.1 – Full Monthly Diffusion Tube Results for 2024 (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO_2 Mean Concentrations (µg/m^3)												Simple Annual Mean (µg/m^3)		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.78) and Annualised	Distance Corrected to Nearest Exposure
OBC-115	290667	178529	24.4	22.2	17.6	19.0	17.5	13.6	12.9	12.4	17.8	19.6	22.4	20.7	18.3	14.3	-
OBC-141	291164	178580	20.5	13.2	14.3	12.6	12.9	9.4	9.5	9.3	13.3	18.8	20.4	20.4	14.6	11.3	-
OBC-105	290899	179185	25.7	22.6	19.6	16.8	18.5	14.1	12.2	9.5	17.5	19.2	30.2	24.3	19.2	15.0	-
OBC-106	290826	179210			27.1	19.5	22.5	19.0	18.5	17.1	23.2	16.9	27.4	13.4	20.5	16.0	-
OBC-112	290798	179244	43.7	28.6	24.5	32.4	26.9	21.2	18.3	14.6	19.7	35.3	41.3	13.4	26.7	20.8	-
OBC-111	290700	179305	36.2	20.2	22.8	19.3	22.1	17.5	14.4	14.4					20.9	18.1	-
OBC-102	290354	179807	31.2	24.6	22.0	20.6	19.4	15.8	14.2	13.3	15.0	24.5	27.3	19.1	20.6	16.1	-
OBC-103	290250	179782		37.7	35.0	29.7	22.9	24.6	26.3	26.5	24.0	28.9	36.4	35.7	29.8	23.2	-
OBC-104	290286	179800	47.4	35.6	33.4	33.5	30.1	23.8	12.5	24.6	28.6	31.9	34.5	18.8	29.6	23.1	-
OBC-109	290239	179795	20.3	20.7	15.7	18.8	15.4	14.8	12.3	11.2					16.2	14.0	-
OBC-107	290347	179959	24.8	37.8	32.9	29.6	25.8	24.4	21.1	23.3	25.9	30.1	32.9	23.2	27.7	21.6	-
OBC-108	290311	180032	38.4	36.1	38.3	34.8	31.3	30.4	27.5	27.3	23.0	30.4	3.9	23.6	28.8	22.4	-
OBC-131	290040	179704	16.5	36.9	29.6	33.3	31.6	26.9	28.8	25.3	30.9	32.7	30.4	38.9	30.1	23.5	-
OBC-123	290014	179698	66.8			54.0	47.0	42.6	44.5	38.0	35.6	52.0	56.2	57.0	49.4	38.5	-
OBC-140	290002	179702				54.2	55.1	48.0	49.0	46.0	44.5	48.7	66.0	67.1	53.2	**44.6**	-
OBC-110	289988	179701	64.9	47.2	82.9	63.9	44.7	40.4	51.1	47.3	53.1	59.8	63.5	48.4	55.6	**43.4**	-
OBC-122	289919	179755	24.9	17.9		15.4	14.8	9.8	6.3	6.4	12.2	21.4	21.8	20.1	15.5	12.1	-

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO_2 Mean Concentrations (µg/m³)												Simple Annual Mean (µg/m³)		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.78) and Annualised	Distance Corrected to Nearest Exposure
OBC-126	291125	179517	28.3	22.5	20.9	19.9	17.3	13.8	14.0	11.7	11.3	22.7	26.9	23.2	19.4	15.1	-
OBC-127	292236	179473	22.5	8.9	16.4	14.8	15.8	13.0	12.2	12.2	14.7	20.7	22.8	21.8	16.3	12.7	-
OBC-097	290687	180185	27.5	19.6	22.9	19.7	21.1	15.9	14.9	14.6	15.2	25.9	27.2	25.2	20.8	16.2	-
OBC-130	291386	184168	53.9	39.3	33.3	39.3	36.1	31.0	27.0	29.8	31.9	27.1	7.9	25.1	31.8	24.8	-
OBC-132	293418	186662	29.1	32.8	26.1	28.1	27.1	21.8	20.4	17.5	22.6	29.1	23.9	23.9	25.2	19.7	-
OBC-125	285299	191136	22.5		16.6	16.7	15.4	15.2	12.2	8.6			20.9		16.0	13.1	-
OBC-135	289402	184461	32.0	19.3	26.6	21.1	22.7		22.2	21.5	23.2		69.1	32.5	29.0	22.6	-
OBC-137	294309	179872	28.7	20.5	21.1	19.6	17.1	13.8	13.2		15.7	19.0	25.3	15.4	19.0	14.8	-
OBC-138	294218	179795	31.1	26.4	22.0	19.1	22.0	18.1	17.1	18.5	17.1	26.7	28.9	25.6	22.7	17.7	-
OBC-133	295899	181363														-	-
OBC-139	295967	181623	50.1	30.2	29.3	25.3		22.7	23.4	22.7	20.0	26.1	17.1		26.7	20.8	-
OBC-116	295886	181642														-	-
OBC-142	290702	184828								15.2	14.0	16.5	16.5	22.0	16.8	12.2	-
OBC-143	289345	184754								9.5	8.5	13.7	13.7	16.7	12.4	9.0	-

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m³ are shown in **bold**.

NO_2 annual means exceeding 60µg/m³, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix B: A Summary of Local Air Quality Management

5.4 Purpose of an Annual Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment Act 1995, as amended by the Environment Act 2021, and associated government guidance. 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 being achieved. Where exceedances occur, or are likely to occur, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) within 18 months of declaration setting out the measures it intends to put in place in pursuit of the objectives. Action plans must then be reviewed and updated no later than every five years; or if a local authority considers there is a need for further or different measures to be taken in order to achieve air quality standards; or if significant changes to sources occur within your local area.

For Local Authorities in Wales, an Annual Progress Report replaces all other formal reporting requirements and have a very clear purpose of updating the general public on air quality, including what ongoing actions are being taken locally to improve it if necessary.

5.5 Air Quality Objectives

The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138), Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298), and are shown in Table 13.

The table shows the objectives in units of micrograms per cubic metre μg/m^3 (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table 13 - Air Quality Objectives Included in Regulations for the Purpose of LAQM in Wales

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as	Date to be achieved by
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean	31.12.2005
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean	31.12.2010
Particulate Matter (PM_{10})	40µg/m^3	Annual mean	31.12.2010
Sulphur dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	16.25µg/m^3	Running annual mean	31.12.2003
Benzene	5µg/m^3	Annual mean	31 12 2010
1,3 Butadiene	2.25µg/m^3	Running annual mean	31.12.2003
Carbon Monoxide	10.0mg/m^3	Maximum Daily Running 8-Hour mean	31.12.2003
Lead	0.25µg/m^3	Annual Mean	31.12.2008

Appendix C: Air Quality Monitoring Data QA/QC

5.6 QA/QC of Diffusion Tube Monitoring

The diffusion tubes are supplied and analysed by Socotec UK Ltd Didcot, using the 50% triethanolamine (TEA) in water method. Socotec UK Ltd Didcot participates in the Annual Field Inter-Comparison Exercise and Workplace Analysis Scheme for Proficiency (WASP) inter-comparison scheme for nitrogen dioxide diffusion tube analysis. From April 2014 the WASP Scheme was combined with the STACKS scheme to form the new AIR scheme, which Socotec UK Ltd Didcot participates in. The AIR scheme is an independent analytical proficiency testing scheme operated by LGC Standards and supported by the Health and Safety Laboratory (HSL).

The laboratory Socotec UK Ltd Didcot is regarded ranked as the highest rank of satisfactory in relation to the WASP intercomparison scheme for spiked nitrogen dioxide diffusion tubes. Information regarding tube precision can be obtained via http://laqm.defra.gov.uk/diffusion-tubes/precision.html Information regarding WASP results can be obtained via http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html

Diffusion Tube Annualisation

5 diffusion tube sites required annualisation in 2024. Details for these sites are provided in Table 17. Annualisation is required for any site with data capture less than 75% but greater than 25%.

Diffusion Tube Bias Adjustment Factors

SRS on behalf of BCBC have applied a national bias adjustment factor of 0.78 to the 2024 monitoring data. A summary of bias adjustment factors used by BCBC over the past five years is presented in

It should be noted that the automatic monitoring station located within Park Street AQMA had 68% data capture due to technical issues. In light of this issue, local bias adjustment factors from a co-location study carried out using the monitoring station have not been utilised to calculate the final bias adjusted figures for the diffusion tube network. Instead, diffusion tubes have been bias adjusted using the national bias adjustment figure.

Table 14 - Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/24	0.78
2023	National	09/24	0.78
2022	Local	-	0.73
2021	National	03/22	0.78
2020	National	06/21	0.76

NO_2 Fall-off with Distance from the Road

No diffusion tube NO_2 monitoring locations within Bridgend required distance correction during 2024

5.7 QA/QC of Automatic Monitoring

Local Site Operator duties are performed by officers within the SRS Environment Team. The Park Street AQMA Automatic Monitor is part of the Welsh Automatic Urban pollution Monitoring Network. The monitor is owned and managed by Bridgend Council and is calibrated fortnightly by an officer from the Shared Regulatory Services Environment Team.

Automatic monitoring data presented in this APR from the above monitors is ratified by Ricardo. Live and historical data is available at https://airquality.gov.wales/.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The type of PM_{10} monitor utilised within Bridgend does not required the application of a correction factor.

Automatic Monitoring Annualisation

Table 15 - Automatic NO2 Annualisation Summary (concentrations presented in µg/m^3

Background Site	Annual Data Capture	Annual Mean (A_m)	AQMA1	
			Period Mean (P_m)	Ratio (A_m/P_m)
Site 1 Name	100.0	14.1	12.7	1.108
Site 2 Name	100.0	11.9	10.6	1.117
Site 3 Name				
Site 4 Name				
Average (R_a)			**1.113**	
Raw Data Annual Mean (M)			**24.8**	
Annualised Annual Mean (M x R_a)			**27.6**	

Table 16 - Automatic PM10 Annualisation Summary (concentrations presented in µg/m^3

Background Site	Annual Data Capture	Annual Mean (A_m)	AQMA1	
			Period Mean (P_m)	Ratio (A_m/P_m)
Site 1 Name	100.0	12.4	12.6	0.986
Site 2 Name	100.0	12.7	12.7	0.999
Site 3 Name				
Site 4 Name				
Average (R_a)			**0.993**	
Raw Data Annual Mean (M)			**16.5**	
Annualised Annual Mean (M x R_a)			**16.4**	

NO_2 Fall-off with Distance from the Road

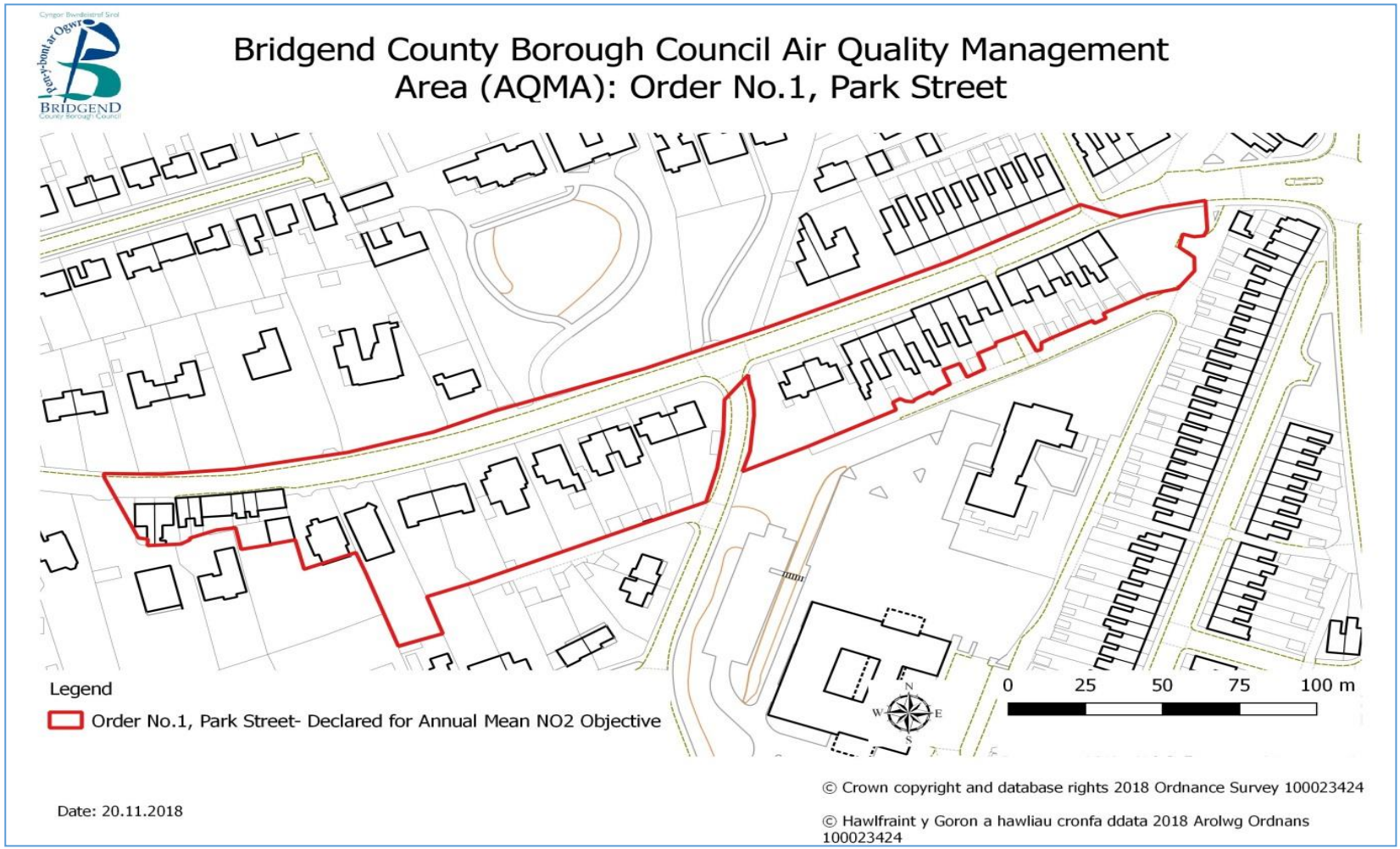
No automatic NO_2 monitoring locations within Bridgend County Borough required distance correction during 2024.

Table 17 - Annualisation Summary (concentrations presented in µg/m³)

Diffusion Tube ID	Annualisation Factor Site Cardiff Centre	Annualisation Factor Site Newport St Julians	Annualisation Factor Site 3 Name	Annualisation Factor Site 4 Name	Average Annualisation Factor	Raw Data Simple Annual Mean (µg/m³)	Annualised Data Simple Annual Mean (µg/m3)
OBC-111	1.1078	1.1183			1.1130	20.9	23.2
OBC-109	1.1078	1.1183			1.1130	16.2	18.0
OBC-140	1.0826	1.0668			1.0747	53.2	57.1
OBC-125	1.0389	1.0539			1.0464	16.0	16.8
OBC-142	0.9404	0.9182			0.9293	16.8	15.6
OBC-143	0.9404	0.9182			0.9293	12.4	11.5

Appendix D: AQMA Boundary Maps

Figure 27 - Map of Park Street AQMA



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)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10 µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5 µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide