Pecyn Dogfen Gyhoeddus

Swyddog Cyswllt:
Sharon Thomas / 01352 702324
sharon.b.thomas@flintshire.gov.uk

At: Cyng Ray Hughes (Cadeirydd)

Y Cynghorwyr: Mike Allport, Haydn Bateman, Sean Bibby, Chris Dolphin, Andy Dunbobbin, David Evans, Veronica Gay, Cindy Hinds, Dave Hughes, Joe Johnson, Colin Legg, Vicky Perfect, Paul Shotton ac Owen Thomas

11 Ebrill 2018

Annwyl Gynghorydd,

Fe'ch gwahoddir i fynychu cyfarfod Pwyllgor Trosolwg a Chraffu yr Amgylchedd a fydd yn cael ei gynnal am 10.00 am Dydd Mawrth, 17eg Ebrill, 2018 yn Parc Treftadaeth Amgueddfa Dyffryn Maes Glas, Ffordd Maes Glas, Treffynnon CH8 7GH i ystyried yr eitemau canlynol

*** Nodwch y lleoliad. Gofynnir i Aelodau Pwyllgor gyrraedd erbyn 9.30am am daith fer cyn dechrau'r cyfarfod.**

R H A G L E N

1 **YMDDIHEURIADAU**

Pwrpas: I dderbyn unrhyw ymddiheuriadau.

2 **DATGAN CYSYLLTIAD (GAN GYNNWYS DATGANIADAU CHWIPIO)**

Pwrpas: I dderbyn unrhyw ddatganiad o gysylltiad a chynghori'r Aelodau yn unol a hynny.

3 **COFNODION** (Tudalennau 3 - 16)

Pwrpas: Cadarnhau cofnodion y cyfarfod 13 Mawrth a'r cyd-gyfarfod 15 Mawrth 2018, fel cofnod cywir.

DEDDF LLYWODRAETH LEOL (MYNEDIAD I WYBODAETH) 1985 - YSTYRIED GWAHARDD Y WASG A'R CYHOEDD

Mae'r eitem a ganlyn yn cael ei hystyried yn eitem eithriedig yn rhinwedd Paragraff(au) 12, 13 Rhan 4 Atodiad 12A o Ddeddf Llywodraeth Leol 1972 (fel y cafodd ei diwygio)

Niwed a gofid i'r unigolyn os datgelir gwybodaeth bersonol.

4 **YMWELIAD A CHYFLWYNIAD AR BARC TREFTADAETH AC AMGUEDDFA DYFFRYN MAES GLAS** (Tudalennau 17 - 34)

Adroddiad Prif Swyddog (Cynllunio a'r Amgylchedd) - Aelod Cabinet dros Strydlun a Chefn Gwlad

Pwrpas: Derbyn diweddariad ar ddatblygiadau yn Nhreftadaeth Dyffryn Maes Glas.

5 **ANSAWDD AER YN SIR Y FFLINT** (Tudalennau 35 - 160)

Adroddiad Prif Swyddog (Cynllunio a'r Amgylchedd) - Aelod Cabinet dros Gynllunio a Diogelu'r Cyhoedd

Pwrpas: Darparu trosolwg o asesiad Ansawdd Aer Gogledd Cymru, a chynghori Aelodau am y systemau a'r prosesau lleol sydd gan Gyngor Sir y Fflint ar waith er mwyn monitro ansawdd aer.

6 **RHAGLEN GWAITH I'R DYFODOL** (Tudalennau 161 - 166)

Adroddiad Hwylusydd Trosolwg a Chraffu yr Amgylchedd -

Pwrpas: Ystyried y flaenraglen waith Pwyllgor Craffu & Trosolwg amgylchedd.

Yn gywir

Robert Robins
Rheolwr Gwasanaethau Democrataidd

ENVIRONMENT OVERVIEW & SCRUTINY COMMITTEE
13 MARCH 2018

Minutes of the meeting of the Environment Overview & Scrutiny Committee of Flintshire County Council held in the Delyn Committee Room, County Hall, Mold on Tuesday, 13 March 2018

PRESENT: Councillor Ray Hughes (Chairman)
Councillors: Mike Allport, Haydn Bateman, Sean Bibby, Chris Dolphin, Andy Dunbobbin, David Evans, Veronica Gay, Cindy Hinds, Dave Hughes, Joe Johnson, Colin Legg, Paul Shotton and Owen Thomas

APOLOGY: Councillor Chris Bithell, Cabinet Member for Planning and Public Protection

ALSO PRESENT: Councillors Patrick Heesom and Mike Peers attended as observers

CONTRIBUTORS: Councillor Derek Butler, Cabinet Member for Economic Development; Councillor Carolyn Thomas, Cabinet Member for Streetscene & Countryside; Chief Officer (Streetscene & Transportation); Chief Officer (Planning & Environment); and Transportation & Logistics Manager

Mr. Askar Sheibani (Chair of Deeside Business Forum) and Highway Strategy Manager for minute number 63

IN ATTENDANCE: Environment Overview & Scrutiny Facilitator and Democratic Services Officer

61. DECLARATIONS OF INTEREST

None.

62. MINUTES

The minutes of the meeting held on 16 January 2019 were submitted.

Accuracy

Minute number 54: In the first line of the second paragraph where Councillor Peers had spoken in support of Reason 1, Councillor Gay said that the words ‘rather than’ should be replaced with ‘and’.

Minute number 56: In the first line of the third paragraph, Councillor Dolphin clarified his view that the charges should not be standardised across all car parks in Flintshire.

RESOLVED:

That, subject to the amendments, the minutes be approved as a correct record and signed by the Chairman.

63. FLINTSHIRE COUNTY COUNCIL'S INTEGRATED TRANSPORT STRATEGY

Councillor Carolyn Thomas introduced the report which gave an update on the development of the Integrated Transport Strategy for the whole of Flintshire. She thanked the team for working with Welsh Government (WG) to secure capital funding to support schemes within the Strategy which aimed to provide a long-term sustainable transport solution by integrating all modes of transport with links across the county and wider region.

The Chief Officer (Streetscene & Transportation) and the Transportation & Logistics Manager gave a presentation covering the following:

- Key Drivers - Why Now?
- A Fully Integrated Solution
- Cycleway and Active Travel
- Highway Improvements
- Bus Network
- Rail Improvements
- Linking Flintshire
- Progress To Date

The Strategy had evolved from the Deeside Plan to extend across the county and its alignment with the North East Wales Metro system (being promoted by WG) had helped to attract capital funding. Whilst some of the key drivers related to tackling congestion on Deeside Industrial Park (DIP) as the main employment hub in that area, the overall project aimed to establish links to key employment sites from residential areas throughout Flintshire. Members were encouraged to attend a workshop on 11 April 2018 on the review of public transport subsidies and development of community transport arrangements.

The Committee was introduced to Mr. Askar Sheibani (Chair of Deeside Business Forum) who spoke about the economic importance of the DIP within the region and the aim to increase connectivity with other areas of Flintshire. He praised the innovative approach taken by the Council and its achievements to date.

During discussion, Members commended the progress which had been made and the commitment to create links for accessing employment.

Councillor Shotton asked about timescales for the rail/road/bus hub. The Chief Officer advised that WG had confirmed funding for the new buses which were expected to be operational by October. Whilst funding and land was available, operational arrangements would need to be determined. The provision for rail was the most aspirational aspect and options would be discussed by a joint working group with WG.

In welcoming the Strategy, Councillor Dolphin felt that the report lacked detail, particularly on the benefits to residents in the west side of Flintshire. His concerns about congestion problems around the Lloc/Caerwys junction on the A55 were noted. The Chief Officer acknowledged that the report did not reflect the level of work done to date but he explained that the project was expanding to other areas. The total cost could not be estimated at this stage as the project comprised of a number of evolving schemes with some meeting criteria for Active Travel funding.

Councillor Bibby called for representations to be made to WG about the impact of reduced bus services in rural areas. In response to comments about DIP, it was explained that the results of a recent survey to ascertain working shift patterns would help inform the new bus timetables. On the improvements to bus journeys through Shotton High Street, full consultation would take place with residents and businesses along the Deeside corridor. On the proposed Park & Ride facility from Penyffordd to DIP, the development of the Quality Partnership would ensure that links extended to other areas such as Mold and Buckley. The Chief Officer agreed to pass concerns about anti-social behaviour on cycle paths to North Wales Police.

Councillor Evans suggested options for links to Zone 4 of DIP and alternative routes for Shotton High Street. The Chief Officer noted the safety concerns about traffic on Shotton High Street and the suggestion for sensors to be installed to alert heavy goods vehicles approaching the railway bridge. In relation to Deeside Parkway, it was noted that the Council was working with the designer of the Red Route on the development of the proposed new railway station.

In response to comments from Councillor Owen Thomas, Mr. Sheibani spoke about engaging with businesses on the DIP to encourage employees to use public transport links.

Councillor Dunbobbin referred to the potential to use the river and also for the Council to establish its own company to provide bus services. In response to queries, officers explained that applications for grant funding would link to legislative duties, and an update would be sought from Network Rail on the electrification of the Wrexham to Bidston railway line.

Following comments on Hawarden Airport, Councillor Butler informed Members that the prospect of commercial flights was unlikely at this stage. He went on to say that whilst some of the transport solutions would benefit the Mersey Dee Alliance, the project was primarily about inclusivity: improving access to employment sites and addressing recruitment and retention issues.

Councillor Gay felt it would be useful to view the map in detail and she raised issues about access from Saltney to Deeside. The Transportation & Logistics Manager gave assurance that officers were looking at wider issues and were aware of pinch points. On the proposed Park & Ride at Penyffordd, it was explained that land was already available and that other sites would be explored.

When asked by Councillor Bateman about the cycleway route from Mold to Broughton, the Chief Officer said that demand was recognised and that options

were being explored to enable a consultant to provide costings. A railway station near Broughton with a Park & Ride facility in Chester were being considered and a future report would be brought back to the Committee.

The Chief Officer (Planning & Environment) responded to a number of comments from Members and referred to the fit between the Strategy and the Local Development Plan.

The Chairman expressed his appreciation to all those involved in what he described as an exciting project for Flintshire.

RESOLVED:

That the Committee notes the work on Flintshire County Council's Integrated Transport solution and its links to the wider North East Wales Metro plans by Welsh Government.

Following the item, the Chairman announced a five minute adjournment.

64. QUARTER 3 COUNCIL PLAN 2017/18 MONITORING REPORT

The Chief Officers (Planning & Environment) and (Streetscene & Transportation) presented the monitoring report on Quarter 3 of the Council Plan 2017/18 for the 'Green Council' priority which was relevant to the Committee. Members' attention was drawn to areas such as the identification of the Local Development Plan preferred strategy and options for improving recycling performance at household recycling sites.

In response to comments from Councillor Shotton, the Chief Officer (Streetscene & Transportation) advised that discussions were taking place on the possible use of recycled plastics mixed with bitumen that could be applied to surfaces on some roads, however this method was not yet proven. Flintshire's £1.427m allocation of Welsh Government funding for road maintenance schemes together with the Council's capital allocation would need to be carefully allocated to provide maximum benefits. All roads had been surveyed to develop a programme which would be shared with the Committee.

Following comments from Councillor Evans, it was explained that road and weather conditions determined whether it was cost-effective for pothole repairs to be sealed.

Councillor Gay reported a number of issues in her ward including fly-tipping at the household recycling centre in Saltney and the loss of bus services at Boundary Lane. The Chief Officer (Streetscene & Transportation) said that options for community transport arrangements would be shared at the forthcoming workshop and he urged Members to report road surface problems to the respective area supervisor.

Councillor Hinds asked if more could be done to publicise bus timetables where service changes had occurred. The Transportation & Logistics Manager said

that the team were working with Town and Community Councils to help raise awareness amongst residents. She went on to respond to a question from Councillor Bateman on the disposal of buses following the liquidation of GHA Coaches and advised that funding was being invested back into transport arrangements.

During discussion on staffing arrangements, the Chief Officer (Planning & Environment) reported that Derrick Charlton was now the lead officer on public footpaths and that a joint approach to the Local Access Forum was being explored with Wrexham.

RESOLVED:

That the Quarter 3 Council Plan 2017/18 Quarter 3 monitoring report to monitor under performance be noted.

65. FORWARD WORK PROGRAMME

The Facilitator presented the current Forward Work Programme and gave a reminder of the transport workshop on 11 April to which Councillor Hinds submitted her apologies. On the items to be scheduled, the Facilitator explained that the site visit to Parc Adfer would be rescheduled at an appropriate time.

As requested by Councillor Evans, officers agreed to schedule the report on Enforcement and Environmental Care for the April meeting which was to be held at Greenfield Valley Heritage Park. It was also agreed that Members would be invited to take a tour of the site at 9.30am before the start of the meeting at 10am.

RESOLVED:

(a) That the Forward Work Programme be amended;

(b) That the Facilitator, in consultation with the Chair of the Committee, be authorised to vary the Forward Work Programme between meetings, as the need arises.

66. MEMBERS OF THE PUBLIC AND PRESS IN ATTENDANCE

There were one member of the press in attendance.

(The meeting started at 10am and ended at 12.45pm)

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Chairman

Mae'r dudalen hon yn wag yn bwrpasol

JOINT CORPORATE RESOUCRES AND ENVIRONMENT OVERVIEW AND SCRUTINY COMMITTEE
15 MARCH 2018

Minutes of the meeting of the Joint Corporate Resources and Environment Overview and Scrutiny Committee of Flintshire County Council held in the Council Chamber, County Hall, Mold on Thursday, 15 March 2018

PRESENT:
Councillors: Mike Allport, Haydn Bateman, Sean Bibby, Clive Carver, Bob Connah, Paul Cunningham, Chris Dolphin, Andy Dunbobbin, David Evans, Patrick Heesom, Andrew Holgate, Dave Hughes, Ray Hughes, Paul Johnson, Richard Jones, Colin Legg, Mike Lowe, Hilary McGuill, Michelle Perfect, Vicky Perfect, Owen Thomas, Andy Williams and Arnold Woolley

SUBSTITUTES: Councillors: Geoff Collett (for Paul Shotton), Mike Peers (for Veronica Gay) and David Wisinger (for Cindy Hinds)

ALSO PRESENT: Councillors: Bernie Attridge, Helen Brown, Rosetta Dolphin, Carol Ellis, Veronica Gay, Christine Jones and Billy Mullin attended as observers

CONTRIBUTORS: Councillor Aaron Shotton, Leader of the Council and Cabinet Member for Finance; Councillor Carolyn Thomas, Cabinet Member for Streetscene and Countryside; Chief Executive; Chief Officer (Streetscene and Transportation); Car Park and Enforcement Manager and Finance Programme Manager

IN ATTENDANCE: Democratic Services Manager, Overview & Scrutiny Facilitator and Democratic Services Support Officer

1. APPOINTMENT OF CHAIR

The Democratic Services Manager sought nominations for a Chair for the meeting.

RESOLVED

That Councillor Ray Hughes be appointed as Chair for the meeting.

2. DECLARATIONS OF INTEREST

There were no declarations of interest.

3. CONSULTATION ON REVIEW OF CAR PARKING CHARGES

The Democratic Services Manager introduced the report and explained why the consultation was being conducted through a joint meeting of two Overview & Scrutiny Committees (Corporate Resources and Environment). As the review of car parking charges had both budget and car park operational

sides, and the review of charges was an outstanding issue from the full Council budget meetings, a joint meeting was appropriate - Corporate Resources being the lead committee for budget scrutiny and Environment the lead committee for car parking policy and operations

The Chief Executive reminded Members that during the County Council meeting held on 20 February 2018, there had been a collective agreement to increase the income target for car parking by £450,000 for the 2018/19 financial year. He recognised that there might be differing views on how to achieve the target and reminded members that securing the target was a collective responsibility.

The Chief Officer (Streetscene and Transportation) introduced the proposals for revised charges, and details of the arrangements and commencement date for the deferred introduction of car charges in Flint. Car parking charges had previously been discussed by Members of the Environment Overview & Scrutiny Committee which was made open to all Council Members on 16 January 2018. During the meeting, a number of suggestions had been made by Members on the charging options and detailed explanations of which of the suggestions had been accommodated and the reasons why some had not been taken forward were outlined within the report.

The Chief Officer concluded that the opportunity to offer some free on-street parking, close to town centres, had been examined and that the Council was consulting with two Town Councils on the potential to remove pedestrianisation orders which would allow vehicles back into the High Streets. Town councils could consider subsidising car parking charges in their areas. Any proposals would need to ensure that corporate car parking income targets were met. The car parking charging system would be kept under review.

The Cabinet Member for Streetscene and Countryside apologised that a suggestion made by Councillor Mike Peers during the Environment Overview & Scrutiny Committee meeting held on 16 January 2018 to increase the minimum stay to 1 hour for 30p had not been included in the report. She assured Members that this suggestion had been considered but had been found to be unaffordable. She commented on the importance of ensuring the viability of town centres and explained that the increased car parking charges would cover the management costs of car parks across Flintshire.

The Leader of the Council welcomed the scrutiny process in considering the proposed car parking charges and said that the comments from the meeting would be taken into consideration by Cabinet at its meeting on 20 March 2018. He commented on the challenging budget process and his concern that if car parking charges were not increased to meet the full costs of providing the service then savings would have to be found elsewhere within the Council to balance up the budget. He said that local car parking charges would still be comparatively low.

A summary of the observations made by Members is attached at Appendix 1 of the minutes.

Following the debate, the Chief Executive advised that the following information would be collated in advance of the Cabinet meeting on 20 March 2018:-

- Evaluate and costs of the Committee proposal to adjust the schedule to £0.30 for 1 hour from £0.30 for 30 minutes (only for those towns where the 30 minutes charge is shown in the schedule/appendix);

- A breakdown of the management/maintenance costs for both 2017/18 and 2018/19 according to the budget heads listed in the report – showing exact and estimated/apportioned as necessary; and

- The full list of County charged and non-charged car parks.

It was proposed by Councillor Heesom that the recommendations to Cabinet be supported, subject to the points outlined by the Chief Executive.

RESOLVED:

(a) That Cabinet be asked to consider adjusting the schedule to £0.30 for 1 hour from £0.30 for 30 minutes (only for those towns where the 30 minutes charge is shown in the schedule/appendix);

(b) That the Committee request a breakdown of the management/maintenance costs for both 2017/18 and 2018/19 according to the budget heads listed in the report – showing exact and estimated/apportioned as necessary;

(c) That the Committee request the full list of County charged and non-charged car parks; and

(d) That the Democratic Services Manager present the formal response of the Corporate Resources and Environment Overview & Scrutiny Committees to Cabinet at its meeting on 20 March 2018.

4. MEMBERS OF THE PUBLIC AND PRESS IN ATTENDANCE

There were no members of the public and one member of the press in attendance.

(The meeting started at 11.30am and ended at 1.25pm)

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Chair

Member issues raised at the joint meeting of the Corporate Resources and Environment Overview & Scrutiny Committees Thursday 15th March 2018

Councillor	Issue	Response
Cllr David Evans	The 30p for 30 minutes is impractical. Could this be a free period before charging?	It is estimated that the cost of providing a free 30 minute period at all car parks would be £110 k per annum.
Cllr Owen Thomas	Why is Mold being penalised? Charges will impact on the viability of the market. Is Mold subsidising other places?	Mold is not being penalised. Mold is distinguished from other County towns as a tourist and day visitor destination and its charges are comparable to like towns in the region. Car parking charges go into a County wide fund for the whole service costs. There is also an income sharing arrangement with Mold Town Council by prior agreement.
Cllr Haydn Bateman	Short stay costing £1 is wrong. Should be reduced to 50p.	The 50p option is available outside Mold and at County Hall.
Cllr Ray Hughes	The proposed two hours isn't long enough, especially for people visiting on Saturdays.	No specific response required.
Cllr Chris Dolphin	Acknowledged that we can't standardise car parking charges across all of our towns. The 30 p for 30 minutes needs addressing. Should be an hour.	The car parking charges need to be seen in the context of a difficult budget round and against our corporate policy for cost recovery of services through charging where possible. Flintshire has decide to retain control of its car parks and

		the charges are less than neighbouring authorities. We are not proposing to charge at our country parks. Other council services will have to bear the financial strain if we do not cost recover in the car parking service. We have no proposals to charge for disabled parking.
Cllr Geoff Collett	Mold is being penalised: in January we voted that all towns should be treated equally. Mold is not being treated equitably. The market is shrinking. People are being offered partially used tickets: could the extent of this be surveyed?	Based on the expected contribution to MTC of £20k in the new financial year, the overall benefit of the higher charges in Mold is an estimated £200k per annum.
Cllr Andy Dunbobbin	Are there other authorities which run their own car parks but don't charge?	Our neighbouring Councils all charge for their town centre car parks.
Cllr Carol Ellis	Asked that further consideration be given to accepting the subsidy proposed by Buckley Town Council. She did not feel that the income targets would be met given the increase in free parking at Aldi and Home Bargains in Buckley and if the Council allowed Buckley Town Council to pay for the parking at the levels they are now this would be a guaranteed income for the Council. She also questioned the loss of potential income through not charging at Tinkersdale,	Any local proposal would be considered within the following constraints: • There should be no reduction to the overall income levels from the new charging levels • The proposals remain within the principles of the overall car parking strategy – i.e. no free parking for extended periods of time. This information is not currently available as the utilisation levels are not measured. It was agreed in 2015 that

	Wepre Park or Etna.	charges would not be introduced if there were less than 50 spaces in a town. The cost of introducing charges for car parks with less than 50 spaces would not be cost effective, due to the capital costs of installing the parking machines
Cllr Arnold Woolley	There are three competing forces: 1) the Council's need for cash; 2) the need for cash flow into Flintshire shops and 3) the need to keep cash in the pockets of Flintshire people. The growth deal statistics shown that there are 8,000 families of working age where there is no wage earner. We have imposed the brown bin charge and the Council Tax increase of 6.7 %.	The effects of the current financial position for the public services are acknowledged.
Cllr Paul Cunningham	Our charges are far lower than our neighbours and we are doing well to keep them as low as is being proposed.	No specific response required.
Cllr Clive Carver	Asked for that a list of all charged car parks across Flintshire be provided. Emphasised that fine income isn't shown as car parking income and should be. Could the enforcement officers use a memory stick to retrieve information on ticket sales to stop the need for telemetry	We have 42 chargeable and 13 chargeable car parks (not including leisure centres, parks depots or schools etc. – cost per car park is £16.9K per year) Income levels can be provided but there is an income target for the service from this activity. The machines communicate through SIM card to back office software that has multiple function to support the efficiency of the service.

	communication?	
Cllr Owen Thomas	Suggested that on certain days of the week car spaces near the centre of Mold be designated short stay which he felt would attract more revenue.	This would be confusing for car park users if the designation changed during the week.
Cllr McGuill	Has concerns at the impact of increased car parking charges on the business plan viability for our CAT s at Holywell and Connah's Quay.	Monitoring of attendances at the 2 leisure centres in Flint and Mold will be included as part of the 6 month monitoring process.
Cllr Mike Peers	Table 1 in the report refers to the business model. What is being done to raise income? Can we have a breakdown of the 'significant costs' referred to in para 1/07 of the report? The 1 hour option is missing from the lists and is needed. The 30 minute option is impractical for people with children, push chairs or assisting someone in a wheel chair. How did the Mold percentage pay back come about? Asked how the agreement for a percentage of income collected from Mold is given back to Mold Town Council came about. What are the special arrangements for farmers on market days at the Love Lane car	A detailed breakdown of the 2017/18 costs will be shared with Cabinet together with projected costs for 2018/19. The information states where the costs are projected or actuals. Provided. All options have been considered. Originally the Town Council kept all of the income from the car parking charges (less costs) – this arrangement was removed when charges were introduced across the County. This is a long standing formal agreement between the Council and the auctioneers J Bradburne Price & Co.

	park?	
Cllr Mike Allport	Consider changing to machines where the registration number is put in, to avoid unexpired tickets being passed on	We have just changed machines because the type suggested was found to be too complicated for users. However this may be reconsidered if it were thought to be beneficial.
Cllr Richard Jones	The car parks are not cash cows and the proposals are for more than covering costs by £34k. What are the maintenance costs? Fines income is not included and should have been. 'Flexibility 'shouldn't have been included. The proposals will have an impact on retail employees	The costs for 2017/18 are approximately £886k. The costs will increase for next year because of NNDR, pay inflation etc. so some flexibility was included. A detailed breakdown of the 2017/18 costs will be shared with Cabinet together with projected costs for 2018/19. The information states where the costs are projected or actuals. If the income from CPN's was included it would create a pressure elsewhere The flexibility was included following concerns from members of the Scrutiny Committee. The daily costs for parking are now consistent and fair across the County. The cost are reasonable when compared to the cost of daily parking costs in all towns.

ENVIRONMENT OVERVIEW AND SCRUTINY COMMITTEE	
Date of Meeting	Tuesday 17th April 2018
Report Subject	Greenfield Valley Museum Heritage Park Visit and Presentation
Cabinet Member	Cabinet Member for Streetscene and Countryside
Report Author	Andrew Farrow Chief Officer (Planning & Environment)
Type of Report	Operational

EXECUTIVE SUMMARY

In 2016/17 the operations and governance of Greenfield Valley Heritage Park was subject to a programmed Flintshire Internal Audit.

Members will receive a presentation by Officers and the Members of the Trust to update them on the work carried out to deliver the audit recommendations and the current position.

RECOMMENDATIONS	
1	Members note the update and verbal presentation.

REPORT DETAILS

1.00	EXPLAINING THE PRESENTATION
1.01	The audit of Greenfield Valley Museum and Heritage Park was included in the annual Internal Audit Plan for 2016/17.
1.02	Greenfield Valley is managed by the Greenfield Valley Trust Ltd, a registered Charity and a Limited Company. The Trust was established in 1986 to manage the Greenfield Valley on behalf of Flintshire County Council. The Trust manage the site under a Management Agreement

	(currently under renegotiation) with the Council. Under this agreement the Trust receive a management fee (currently £38.5k per annum), budget to meet other agreed costs, and the services of Council employees assigned to the Trust, together with the costs of support of these Council employees.
1.03	The Trust in turn is responsible for the upkeep of all buildings, utility services, "borders" and insurance, and is required to adhere to all the Council's policies around the management of employees.
1.04	In April 2015 the Trust engaged Sam Hunt Consulting to carry out a review of the long term governance arrangements at Greenfield Valley. The Review made recommendations for the Trust and the Council to strengthen governance of the site.
1.05	The audit was undertaken to examine the governance, funding and operating arrangements in place within Greenfield Valley and assess whether efficient and effective systems are in place to manage Greenfield Valley.
1.06	Areas highlighted which required improvement were as follows: • Strategic decision to be made around the short and medium term management arrangements at Greenfield Valley; • Clarification required around the task and reporting structures, responsibility and lines of accountability within Greenfield Valley; • Consideration of a review of the competency of the management at the Valley; • Decision to be made around Trust compliance with the Councils Contract Procedure Rules; • Implementation of full electronic banking; • Development of effective financial controls (including segregation of duties) to ensure transparency, accountability and good financial stewardship.
1.07	The presentation will detail the work carried out to date and the current position in relation to the above improvement requirements.

2.00	**RESOURCE IMPLICATIONS**
2.01	None, the improvements are being delivered within Service budget.

3.00	**CONSULTATIONS REQUIRED / CARRIED OUT**
3.01	None

4.00	RISK MANAGEMENT
4.01	The Internal Audit Report identifies a five high and three medium priority actions to be implemented.

5.00	APPENDICES
5.01	Appendix A – Internal Audit Report

6.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
6.01	**Contact Officer: Tom Woodall, Access & Natural Environment Manager** **Telephone: 01352 703902** **E-mail: tom.woodall@flintshire.gov.uk**

7.00	GLOSSARY OF TERMS
7.01	**Greenfield Valley Heritage Trust** - The Valley Trust is a registered company and charitable organisation, established to manage the Greenfield Valley on behalf of Flintshire County Council. This arrangement is via a funded management agreement.

Mae'r dudalen hon yn wag yn bwrpasol

Dogfen Gyfyngedig - Ni ddylid ei chyhoeddi

Mae'r dudalen hon yn wag yn bwrpasol

ENVIRONMENT OVERVIEW AND SCRUTINY COMMITTEE

Date of Meeting	Tuesday 17th April 2018
Report Subject	Air Quality in Flintshire
Cabinet Member	Cabinet Member for Planning and Public Protection
Report Author	Chief Officer Planning and Environment
Type of Report	Operational

EXECUTIVE SUMMARY

To provide an overview of the findings from the regional Air Quality Report, prepared in August 2017, and recommend how Flintshire County Council can do more to promote air quality considerations when key strategic and operational decisions are taken.

RECOMMENDATIONS	
1	Encourage all Flintshire County Council decisions and policies, where appropriate, to proactively consider the impact on air quality.
2	Work with the Public Services Board, as part of their environmental theme, to promote a multi-agency approach to addressing air quality.
3	Note the contents of the North Wales Combined Authority Air Quality Report.

REPORT DETAILS

1.00	**WHAT THE NORTH WALES COMBINED AUTHORITY 2017 AIR QUALITY PROGRESS REPORT MEANS FOR FLINTSHIRE**
1.01	Flintshire County Council has a statutory requirement to monitor and assess the air quality of the County, as directed by Part IV of the Environment Act 1995. In 2017/18 this requirement, for Flintshire, has been met through the North Wales Combined Authority report.
1.02	The report was prepared by the consultancy Bureau Veritas, on behalf of all six local authorities in North Wales and provides a detailed assessment of the region's air quality. It considers all new monitoring data within the region, and assesses the data against the Air Quality Strategy (AQS) objectives. It also considers any changes that may have an impact on air quality.
1.03	Various methods of monitoring air quality in the region were employed. Automatic monitoring was carried out on Anglesey and Wrexham; and diffusion tube monitoring (please refer to paragraph 7.03 for a fuller definition) was undertaken throughout the region, at key locations within town centres and along the main transport links.
1.04	Specifically for Flintshire the main source of air pollution is road traffic emissions from major roads linking England to the rest of North Wales i.e. the A55 and the A494.
1.05	Having considered each pollutant and reviewed any new developments in the region that could adversely impact air quality (such as landfill sites, quarries, industrial sites, etc), it was concluded that the local authorities should continue to maintain their monitoring programmes. No Air Quality Management Areas (AQMAs) were declared in North Wales.
1.06	Overall, air quality is considered to be good within the region, however it must be noted Nitrogen Dioxide and particulate matter, which are the pollutants of primary national concern from a public health perspective, currently have no safe threshold defined and therefore the lower the concentration of those pollutants the lower the risks of adverse health effects. It is desirable to keep levels of pollution as low as reasonably practicable.
2.00	**WHY IS AIR QUALITY IMPORTANT?**
2.01	Air quality management is a public health priority. Integrated action to improve the air people breathe must be taken internationally, nationally, regionally and locally. From this year local air quality reporting will change to include the effects of noise.
2.02	Whilst undertaking an annual air quality assessment is important (and fulfils a statutory requirement), air quality considerations should be embedded within areas of policy such as land use and transport planning,

	environmental permitting and statutory nuisance regimes, as well as with the carrying out of any other activities, not confined to the public sector, which have a bearing on local air quality.
2.03	The Welsh Government expects local authorities in Wales to follow the five ways of working set out in the Well-being of Future Generations (Wales) Act 2015 when undertaking its duties in respect of air quality. These are: ▪ looking to the **long term** so we do not compromise the ability of future ▪ generations to meet their own needs; ▪ taking an **integrated** approach; ▪ **involving** a diversity of the population in the decisions affecting them; ▪ working with others in a **collaborative** way to find shared sustainable ▪ solutions; and ▪ acting to **prevent** problems from occurring or getting worse.
2.04	The environmental thematic area identified by the Public Services Board makes reference to air quality. This should be seen as an opportunity to raise the profile of this area of work and seek to further improve air quality. It should be borne in mind that technical compliance does not mean the air should be regarded as 'clean'. The Council and its partners should strive towards lowering the levels of pollution, as this will improve health outcomes for the residents of Flintshire.

3.00	**RESOURCE IMPLICATIONS**
3.01	None as a result of this report.

4.00	**CONSULTATIONS REQUIRED / CARRIED OUT**
4.01	None required.

5.00	**RISK MANAGEMENT**
5.01	None as a result of this report

6.00	**APPENDICES**
6.01	Appendix A - North Wales Combined Authority Report on Air Quality.
6.02	Appendix B - Flintshire Public Services Board – Draft Well-Being Assessment.

7.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
7.01	**Contact Officer: Sian Jones** **Telephone: 01352 702132** **E-mail: sian-jones@flintshire.gov.uk**

7.00	GLOSSARY OF TERMS
7.01	**Local Air Quality Management (LAQM**): 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 or not the air quality objectives are likely to be achieved. This requirement is set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.
7.02	**Air Quality Management Area (AQMA):** Where exceedances are considered likely, the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. There are currently no AQMA's in North Wales.
7.03	**Diffusion Tube Monitoring:** Diffusion tubes are small plastic tubes which measure Nitrogen Dioxide levels in the atmosphere. The chemical contained within the tube indicates the level of Nitrogen Dioxide found during the monitoring period.

North Wales Combined Authority

Annual Progress Report 2017

Bureau Veritas

September 2017

Move Forward with Confidence

Document Control Sheet

Issue/Revision	Issue 1	Issue 2
Remarks	Draft	Final
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Prepared by	Hannah Smith – Senior Consultant	Hannah Smith – Senior Consultant
Signature		
Approved by	Jamie Clayton	Jamie Clayton
Signature		
Project number	6461908	

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North Wales Combined Authority 2017 Air Quality Progress Report

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

September, 2017

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Report Reference Number	6461908
Date	September 2017

Executive Summary

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work. This Annual Progress Report is a requirement of the Sixth Round of Review and Assessment and is a requirement for all local authorities. The Report covers the 6 local authorities which encompass the North Wales region (The North Wales Combined Authority). The local authorities are as follows:

- Isle of Anglesey County Council (IACC)
- Conwy County Borough Council (CCBC)
- Denbighshire County Council (DCC)
- Flintshire County Council (FCC)
- Gwynedd Council (GC)
- Wrexham County Borough Council (WCBC)

The Report has been undertaken in accordance with the Technical Guidance LAQM.TG (16) and associated tools.

This annual progress report considers all new monitoring data within the North Wales Combined Authority and assesses the data against the Air Quality Strategy (AQS) objectives. It also considers any changes that may have an impact on air quality.

Automatic monitoring was carried out in IACC and WCBC. The four Osiris monitoring stations measuring PM_{10} and $PM_{2.5}$ in IACC reported no exceedances of the annual and 24-hour mean PM_{10} AQS objectives or the $PM_{2.5}$ target value. The AURN station located in WCBC measured NO_2, PM_{10}, $PM_{2.5}$ and SO_2 concentrations in 2016. Similar to the stations in IACC, no exceedances of the relevant AQS objectives or target values for any measured pollutant was reported.

Diffusion tube NO_2 monitoring was carried out throughout the North Wales Combined Authority at key locations within town centres and along the main transport links throughout North Wales. Only one exceedance was reported, at a diffusion tube in IACC. NO_2 concentrations at this site have either exceeded or been within 10% of the annual mean AQS objective for the past 5 years. The diffusion tube is located along

the A55 at a kerbside location. There are no nearby sensitive receptors and as a consequence the site does not represent relevant exposure.

There were no other diffusion tube monitoring sites in 2016 where the annual mean AQS objective for NO_2 was exceeded.

WCBC also monitored benzene at one diffusion tube location near an acid tar lagoon. No exceedances of the annual mean AQS objective for benzene have been reported for the past 5 years.

Having considered each pollutant and reviewed the new developments approved in 2016, it can be concluded that there is no requirement for any of the six local authorities within the North Wales Combined Authority to undertake a detailed assessment.

The North Wales Combined Authority will continue to maintain their monitoring programmes and ensure new monitoring sites are installed as required.

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1 Introduction

1.1 Description of Local Authority Areas

The North Wales Combined Authority Area is comprised of six local authorities. A summary of each local authority and their main pollution sources can be found below. There are no Air Quality Management Areas (AQMAs) declared in any of the six local authority areas.

Isle of Anglesey County Council

Isle of Anglesey County Council (IACC) is an island situated off the coast of north-west Wales. It is linked to the mainland by two bridges, Telford's Menai Suspension Bridge and Stephenson's Britannia Bridge. IACC is predominately rural in nature with a number of scattered towns and villages throughout. The Council serves a resident population of approximately 67,800[1] with the majority of whom are situated in the larger towns of Holyhead, Llangefni, Amlwch, Menai Bridge and Beaumaris.

The island suffers from significant job losses and outward migration due to the closure of a number of industrial processes. IACC has been declared as an Enterprise Zone focusing on Energy by the Welsh Government in an attempt to bring low carbon energy industrial activities onto the island. The industrial emissions from such activities will likely be a source of air pollution on the island. Furthermore, Holyhead remains a principal shipping port serving Dublin and as a tourist stop for Snowdonia National Park. Road traffic emissions also contribute to pollution levels, notably along the A55 duel carriage way which begins at Holyhead and runs in a south-easterly direction across the island. The A55 is the most heavily used road on the island and helps alleviate congestion on the A5 which travels through many of the towns and villages.

Conwy County Borough Council

Conwy County Borough Council (CCBC) is bounded by the Irish Sea to the north, with the coastal boundary stretching for 37 miles between Llanfairfechan in the west to the River Clwyd in the east. CCBC extends down to Dolwyddelan and across to Carrigydrudion in the southwest. The Borough serves a total resident population of

approximately 115,200[1], the majority of which are settled along the coastal strip in the larger towns of Abergele, Colwyn Bay and Llandudno. Approximately 35% of the geographical area of CCBC lies within Snowdonia National Park. As a consequence, the number of residents and visitors increase dramatically during the summer months due to high levels of tourism.

CCBC is a main trunk route through North Wales and therefore the major arterial roads are a significant source of pollution from emissions from road vehicles. In particular, the A55 dual carriage way which is the main trunk route between the northwest and Holyhead ferry port and the A470 single carriage way which leads inland to Snowdonia.

Denbighshire County Council

Denbighshire County Council (DCC) covers an area extending from Rhyl and Prestatyn, through the Vale of Clwyd, as far south as Corwen and Llangollen. DCC is largely rural in character with tourism and agriculture being the main industries. The Council serves a total resident population of approximately 93,700[1], the majority of which are located in the largest coastal towns of Rhyl and Prestatyn.

The main source of air pollution in DCC is road traffic emissions from major roads, notably the A55, A5 and A494. The A55 crosses north Denbighshire providing direct links to the national motorway network, whilst the A5 crosses the county linking through to Snowdonia in the south. The A494 runs across the county linking Chester to Dolgellau.

Flintshire County Council

Flintshire County Council (FCC) is the north-eastern gateway to Wales. It is bounded by Wrexham in the south, Denbighshire to the west and Cheshire to the east. The extreme north-west of the Council area is bounded by the Irish Sea with the tidal estuary of the River Dee acting as the local authority boundary. FCC is largely rural in character however the coast along the Dee estuary is heavily developed by industry and the northern coast much developed for tourism. The Council serves a total resident population of approximately 152,500[1], the majority of which are located in

[1] Source : Office of National Statistics - 2011 Census Published 11th July 2012 (http://ons.gov.uk)

the larger towns of Buckley, Connah's Quay, Flint, Hawarden, Holywell, Mold, Queensferry and Shotton.

The main source of air pollution in FCC is road traffic emissions from major roads linking England to the rest of north Wales. These include the A55 towards Colwyn Bay in the north and the A494 towards Snowdonia in the south.

Gwynedd Council

Gwynedd Council (GC) lies between the area from Abergwyngregyn in the north to Aberdyfi in the south, and from the Llyn Peninsula in the west to Glan yr Afon in the east. Gwynedd has a population of approximately 120,000[1]. The county shares it's inland boundary with four other counties; Conwy, Denbighshire, Powys and Ceredigion. GC is predominantly rural in nature, with the main areas of population concentrated at the University City of Bangor and Gwyneed Administration Centre, Caernarfon, both situated on the south shore of the Manai Strait to the north-west of the county.

The main source of air pollution is emissions from road traffic due to the dependence of cars and the increase in the influx from tourism along the main roads. The busiest road within the country is the A55, connecting the port of Holyhead on Anglesey to the north-west of England. The A470 is the primary route between north and south Wales. It traverses Gwynedd from Blaenau Ffestiniog to Mallwyd in the south. Another important road is the A487 which links Caernarfon and Bangor with the south of the county before merging with the A470 at Llan Ffestiniog, then continuing from the south of Dolgellau towards, Machynlleth and beyond.

Wrexham County Borough Council

Wrexham Country Borough Council (WCBC) is bounded by the Clwydian Hills to the west and the Shropshire and Powys countryside to the south. The council serves a resident population of approximately 133,500[1] of which the majority are situated within the centre of Wrexham itself or in the surrounding urban villages. Outside Wrexham centre, the predominant land use is agriculture with the landscape being largely rural in nature.

The main source of air pollution is traffic emissions from vehicles travelling along the A483 which links the north of the county to the south. There are also several industrial estates within its borders, the largest of which is located 5 miles to the east of the main town area and contain over 300 businesses.

1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

For Local Authorities in Wales, Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedance of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 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 1.1. This 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 1.1 – Air Quality Objectives included in Regulations for the purpose of LAQM in Wales

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m^3	Running annual mean	31.12.2003
	5.00 µg/m^3	Annual mean	31.12.2011
1,3-butadiene	2.25 µg/m^3	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m^3	Annual mean	31.12.2004
	0.25 µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m^3	Annual mean	31.12.2005
Particulate matter (PM_{10}) (gravimetric)	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m^3	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Previous rounds of review and assessment have identified areas in the North Wales Combined Authority where exceedances of the annual mean objectives have occurred. Detailed assessments have been carried out when exceedances have been reported to evaluate whether an Air Quality Management Area (AQMA) needs to be declared. There are currently no AQMAs declared in the North Wales Combined Authority.

Table 1.2 – Summary of Previous Rounds of Review and Assessment in the North Wales Combines Authority

Year	Report Type	Detailed Assessment Recommended	AQMA Declared
2003	Updating and Screening Assessment	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2004	Progress Report	Detailed assessment carried out for PM_{10} and NO_2 close to the A494 in **FCC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2005	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2006	Updating and Screening Assessment	Detailed assessment required at Trimm Rock and Aberdo Limestone Quarries and at Roadrunner Waste Transfer Station in **FCC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2007	Progress Report	Detailed assessment carried out for SO_2 15-minute mean objective for Penrhos Coastal Park in **IACC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2008	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.

Year	Report Type	Detailed Assessment Recommended	AQMA Declared
2009	Updating and Screening Assessment	Detailed assessment no longer required at Trimm Rock and Aberdo Limestone Quarries and at Roadrunner Waste Transfer Station in **FCC**. Detailed assessment carried out for SO_2 15-minute mean objective for Holyhead Railway Station in **IACC**. Detailed assessment required for SO_2 as a result of steam trains in **GC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2010	Progress Report	Detailed assessment required for the area around Wrexham Road in Cefn Y Bedd in **FCC**. Detailed assessment carried out for SO_2 as a result of steam trains in **GC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2011	Progress Report	Detailed assessment carried out for NO_2 along Vale Street, Denbigh in **DCC**.	No AQMAs declared in any Local Authority Area.
2012	Updating and Screening Assessment	Detailed assessment no longer required for the area around Wrexham Road in Cefn Y Bedd in **FCC**. Detailed assessment carried out for the junction of the A5119 and A494 in Mold in **FCC**. No other detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2013	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2014	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2015	Updating and Screening Assessment	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.
2016	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMAs declared in any Local Authority Area.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Automatic monitoring was carried out at four sites within the IACC and at one location in WCBC. No other automatic monitoring was undertaken in the North Wales Combined Authority. The monitoring sites are as follows:

- CM1: Llynfaes – Measuring PM_{10} and $PM_{2.5}$ at Gwyndy Quarry;
- CM2: Brynteg – Measuring PM_{10} and $PM_{2.5}$ at Rhuddlan Back Quarry;
- CM3: Felin Cafnan – Measuring PM_{10} and $PM_{2.5}$ at a National Trust Property located near to the Wylfa Newydd construction site;
- CM4: IVC Penhesgyn – Measuring PM_{10} and $PM_{2.5}$ at Penhesgyn Recycling Centre; and
- AURN: Victoria Road – Measuring NO_2, SO_2, PM_{10} and $PM_{2.5}$ at a roadside location in Wrexham.

Figure 2.1 to Figure 2.3 and Table 2.1 provide further information with regards to the automatic monitoring sites.

There was one new automatic station installed in the North Wales Combined Authority, at Felin Cafnan, measuring PM_{10}. Monitoring started in December 2015 at the site which is run by the IACC. PM_{10} monitoring was completed in August 2016 at the IVC Penhesgyn site which was also run by the IACC.

The Rose Cottage, Mold automatic monitor measuring PM_{10}, NO_x and NO_2 in FCC was decommissioned in 2016 due to resource constraints. Reported concentrations have been below the relevant Air Quality Standards for the past couple of years and therefore continued monitoring was not deemed to be necessary at this location.

The Wrexham Isycoed automatic monitor measuring PM_{10}, SO_2 and NO_x in WCBC was decommissioned at the start of 2016 by the Welsh Air Quality Forums (WAQF) as the monitoring programme had concluded that there were no breaches of the air quality objectives over nine years of monitoring.

Figure 2.1 – Map of Automatic Monitoring Site: Isle of Anglesey County Council

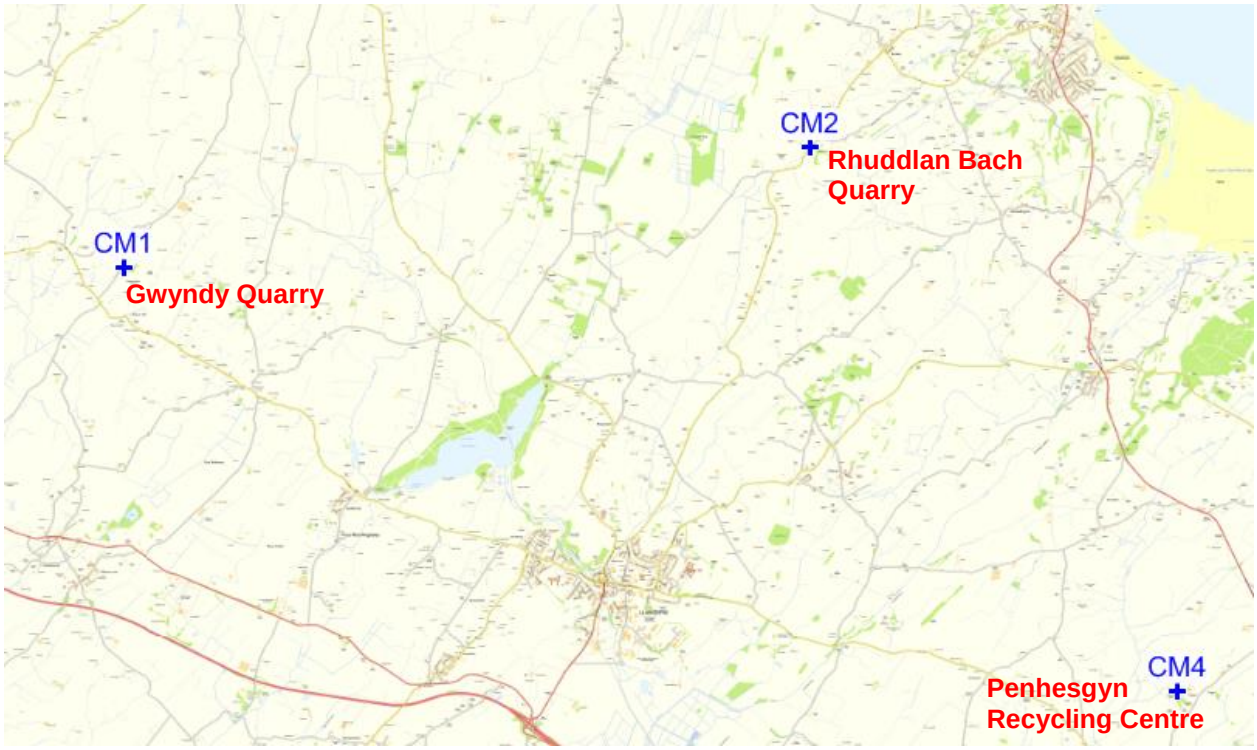

Figure 2.2 – Map of Automatic Monitoring Site: Isle of Anglesey County Council – Felin Cafnan, close to the Wylfa Newydd construction site

Figure 2.3 – Map of Automatic Monitoring Site: Wrexham County Borough Council

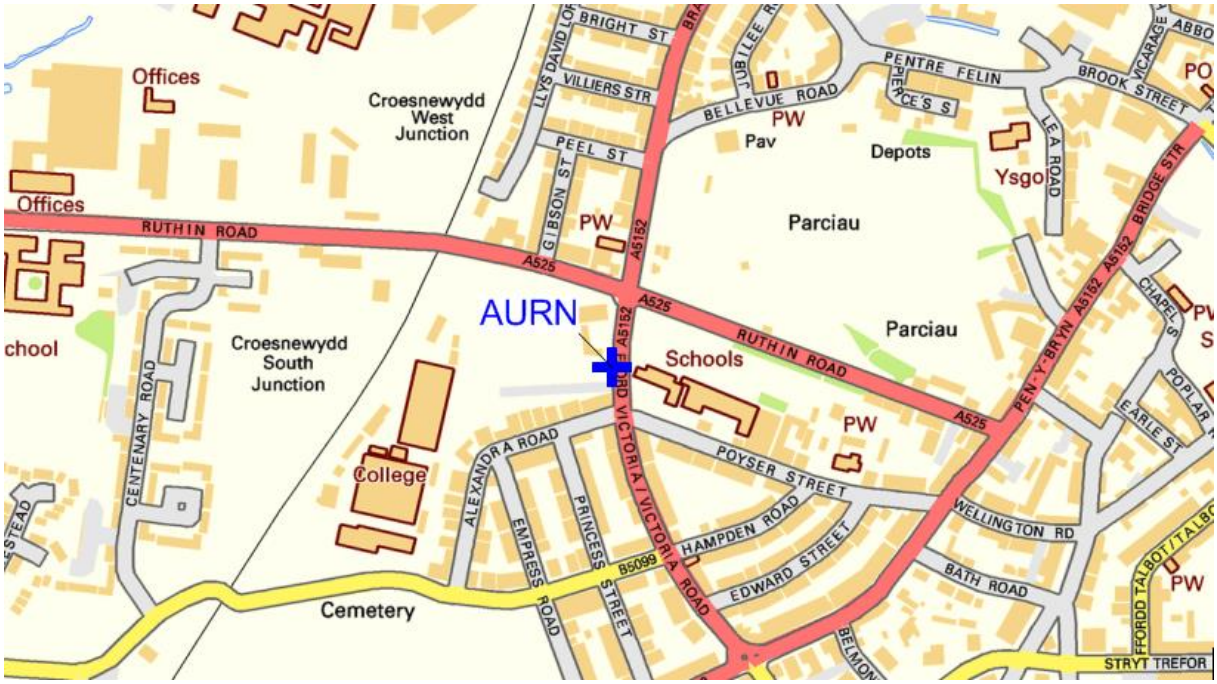

Table 2.1 – Details of Automatic Monitoring Sites in the North Wales Combined Authority

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Inlet Height (m)	Pollutants Monitored	In AQMA?	Monitoring Technique	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Isle of Anglesey County Council											
CM1	Llynfaes (Creigiau)	Rural	239692	379774	1.5	PM_{10}	N	Osiris	Y (1m)	10	Y
CM2	Brynteg (Chwarelau)	Rural	248566	381325	4.0	PM_{10}	N	Osiris	Y (1m)	5	Y
CM3	Felin Cafnan, Cemlyn	Rural	234355	393310	1.5	PM_{10}	No	Osiris	Y (10m)	N/A	Y
CM4	IVC Penhesgyn	Rural	253320	374281	1.5	PM_{10}	N	Osiris	N (100m)	200	Y
Wrexham Country Borough Council											
AURN	Victoria Road AURN	Roadside	332863	349913	3	NO_x, SO_2	No	Continuous	Y (20m)	4m	Y (20m)
AURN	Victoria Road AURN	Roadside	332863	349913	3	PM_{10}, $PM_{2.5}$	No	Daily Gravimetric	Y (20m)	4m	Y (20m)

2.1.2 Non-Automatic Monitoring Sites

Non-automatic monitoring of NO_2 using passive diffusion tubes were undertake within all six local authorities at roadside, kerbside, industrial and urban background locations. The number of monitoring locations within each local authority is as follows:

- Isle of Anglesey County Council undertook monitoring at 15 locations. A 12-month NO_2 survey, consisting of 12 diffusion tubes, commenced along sections of the A55 and A5025 in February 2016 to gather baseline data for the Horion Nuclear Power Project. The monitoring survey has been since extended for a further 6 months.
- Conwy County Borough Council undertook monitoring at 15 locations. A new diffusion tube location was added at a roadside site along Victoria Drive in March 2016 (CBC-034).
- Denbighshire County Council undertook monitoring at 26 locations. No changes to the monitoring locations or number of tubes deployed have occurred in 2016.
- Flintshire County Council undertook monitoring at 52 locations, including duplicate diffusion tube monitoring at 3 sites (3 Davies Cottage, 20/22 Glynne Way and Llys Alun). Triplicate tubes were installed at Rose Cottage until July 2016 where they were then moved to be co-located with the South Bank, Aston Park continuous station for the remainder of 2016.
- Gwynedd Council undertook monitoring at 12 locations. No changes to the monitoring locations or number of diffusion tubes deployed have occurred in 2016.
- Wrexham Country Borough Council undertook monitoring at 24 locations, including one triplicate site which is co-located with the Victoria Road AURN station. There was one new diffusion tube site installed in 2016 at Chapel Lane.

Non-automatic monitoring of benzene (C_6H_6) was also undertaken at one monitoring location in WCBC.

Figure 2.4 to Figure 2.17 and Table 2.2 provide further information with regards to the non- automatic monitoring sites.

Figure 2.4 – Map of non-Automatic Monitoring Sites: Isle of Anglesey County Council – Llanfairpwllgwyngyll and Llangefni

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Figure 2.5 – Map of non-Automatic Monitoring Sites: Isle of Anglesey County Council – Along the A55 and A5025

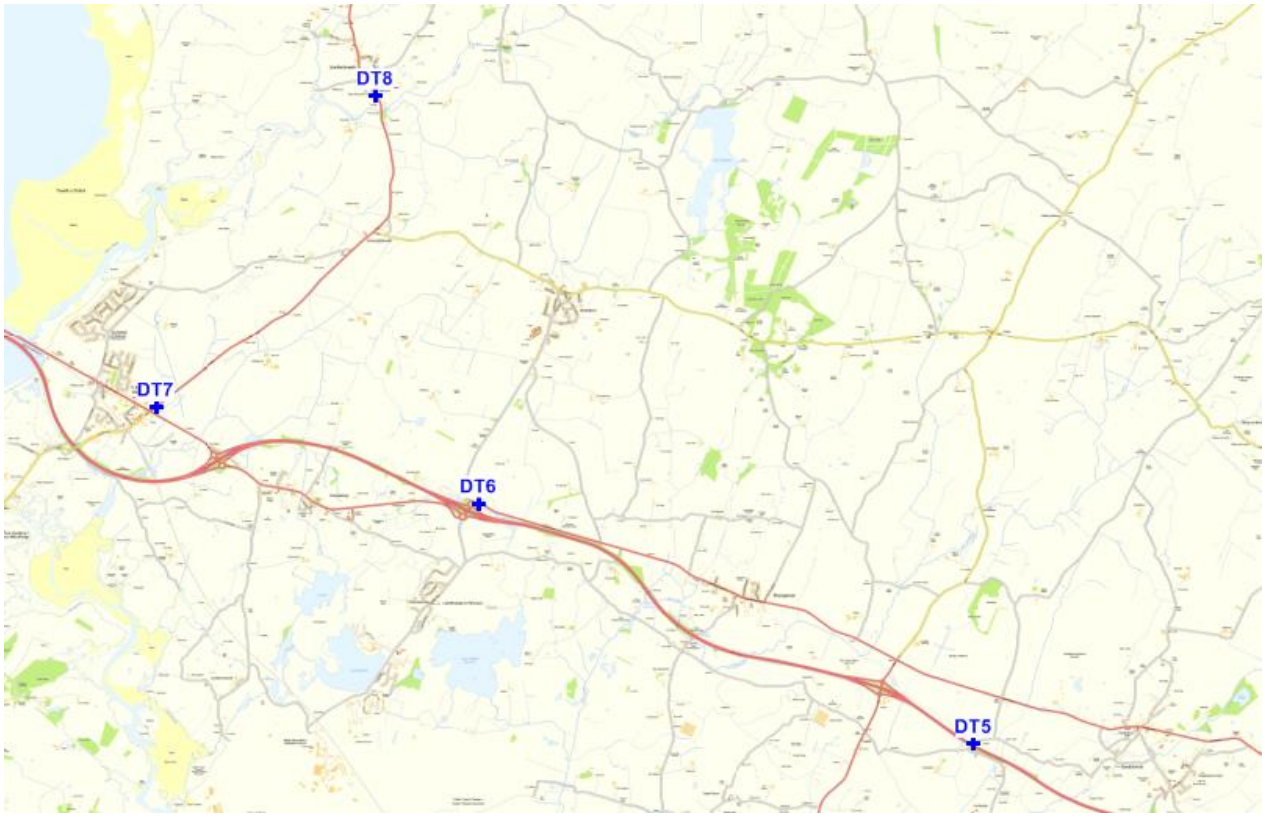

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Figure 2.6 – Map of non-Automatic Monitoring Sites: Isle of Anglesey County Council – Along A5025, Cemaes and Amlwch

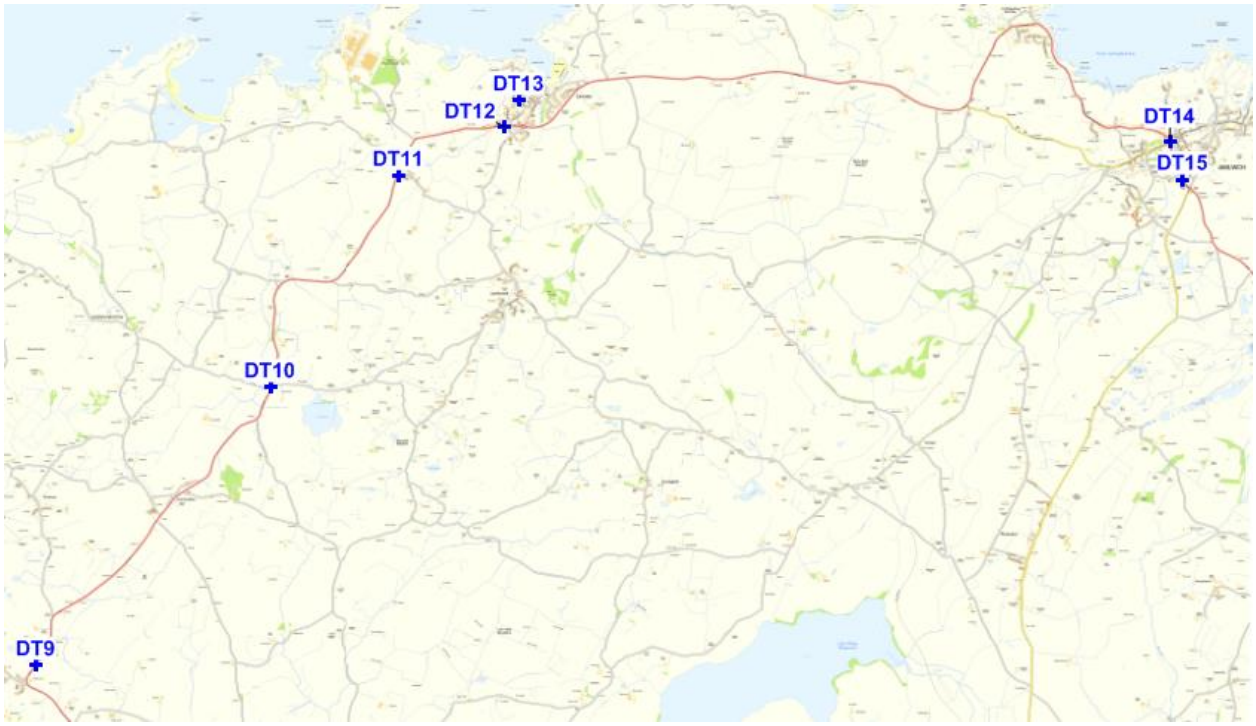

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Figure 2.7 – Map of non-Automatic Monitoring Sites: Denbighshire County Council – Ruthin

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Figure 2.8 – Map of non-Automatic Monitoring Sites: Denbighshire County Council – Denigh

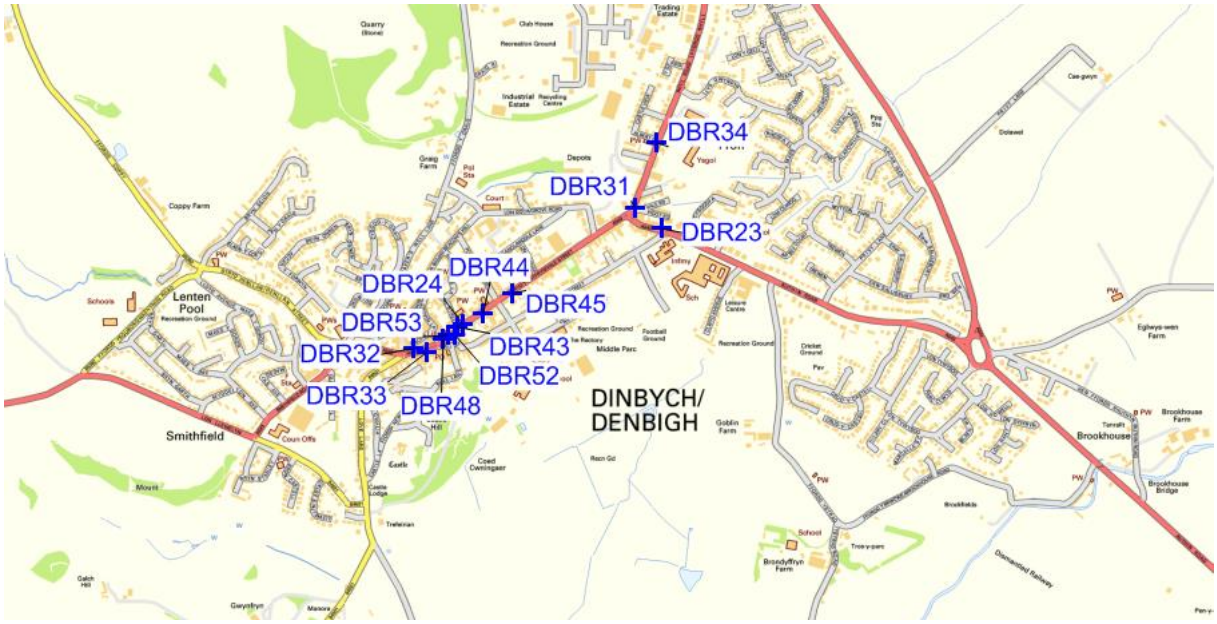

Figure 2.9 – Map of non-Automatic Monitoring Sites: Denbighshire County Council – North

Figure 2.10 – Map of non-Automatic Monitoring Sites: Conwy County Borough Council – A55 by Llanfairfechan

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Figure 2.11 – Map of non-Automatic Monitoring Sites: Conwy County Borough Council – Wider Area

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Figure 2.12 – Map of non-Automatic Monitoring Sites: Gwynedd Council – Wider Area

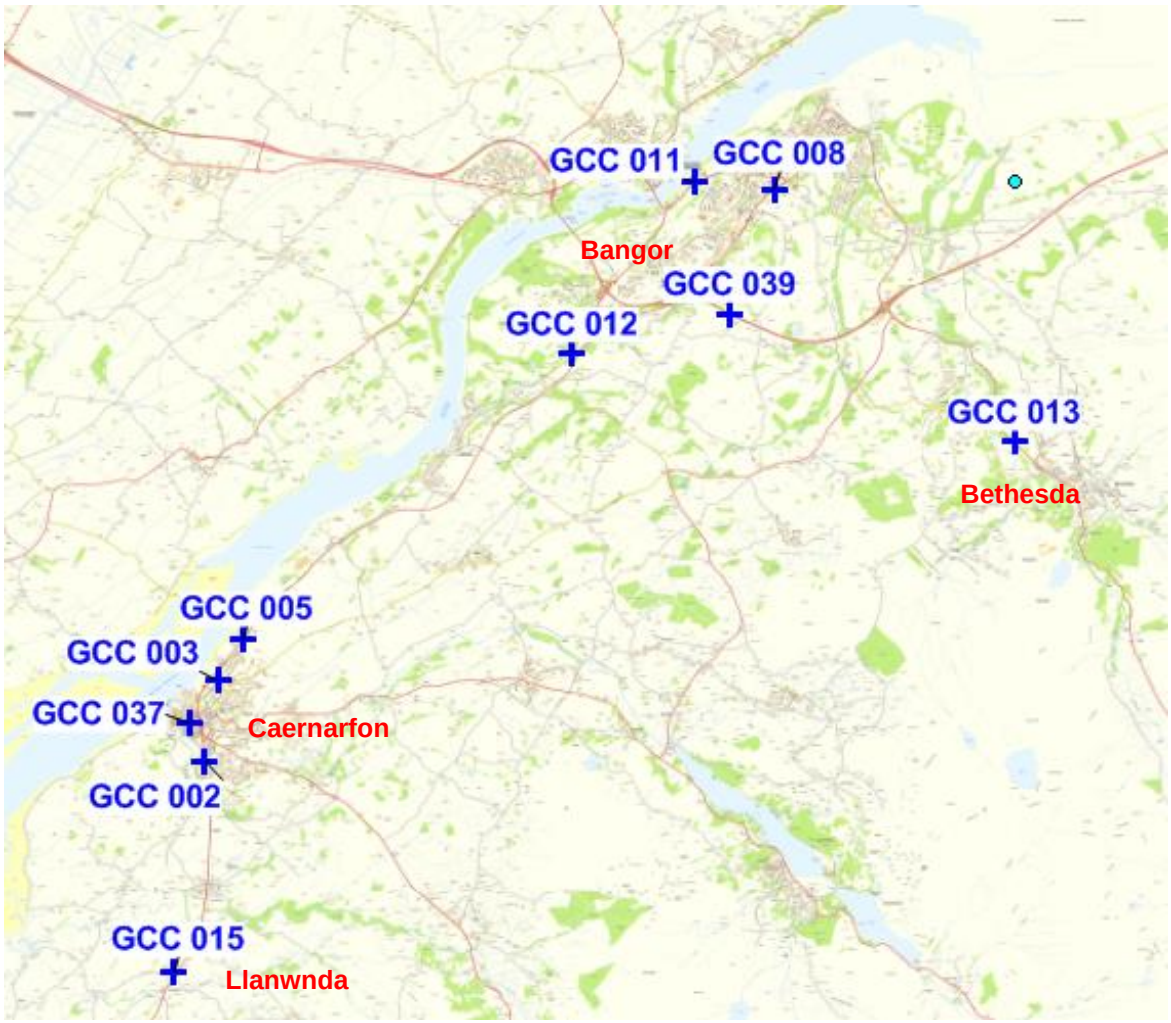

Figure 2.13 – Map of non-Automatic Monitoring Sites: Gwynedd Council – Pwllhei

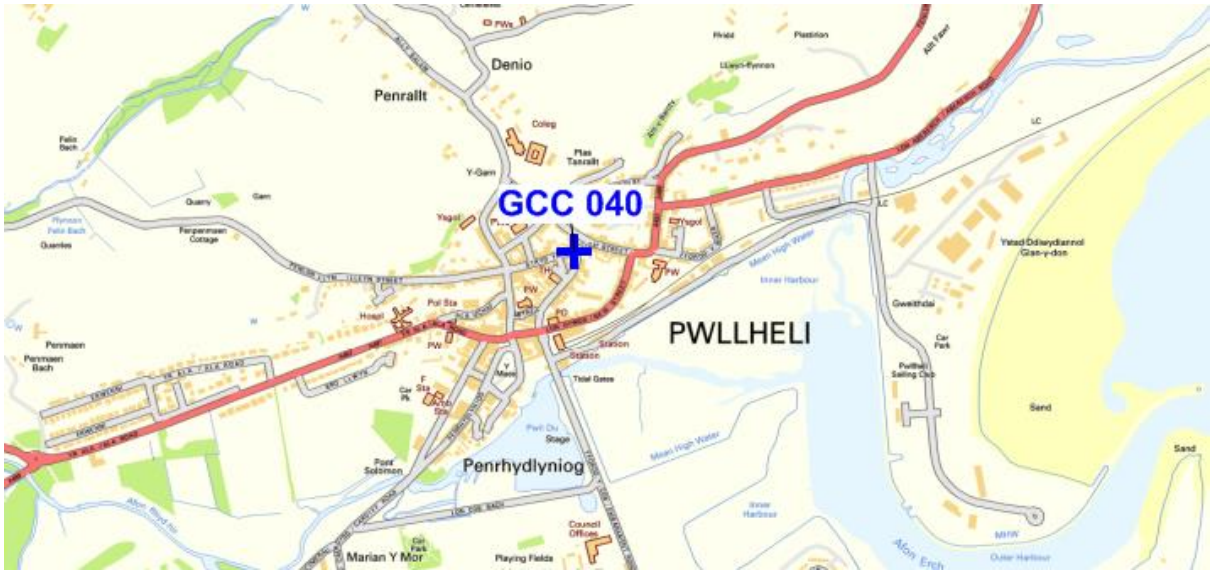

Figure 2.14 – Map of non-Automatic Monitoring Sites: Flintshire County Council Wider Area

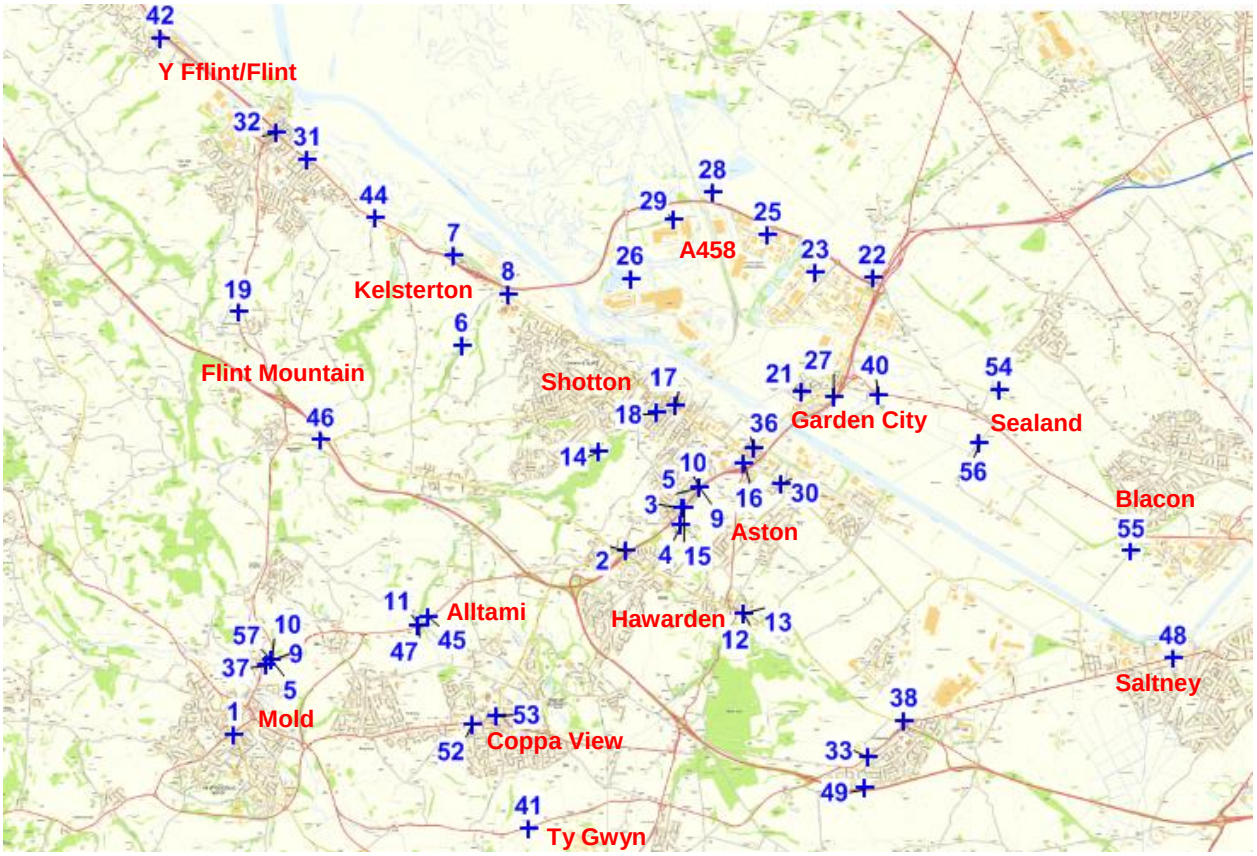

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Figure 2.15 – Map of non-Automatic Monitoring Sites: Flintshire County Council – Rhewl Mostyn and Treffynnon Holywell areas

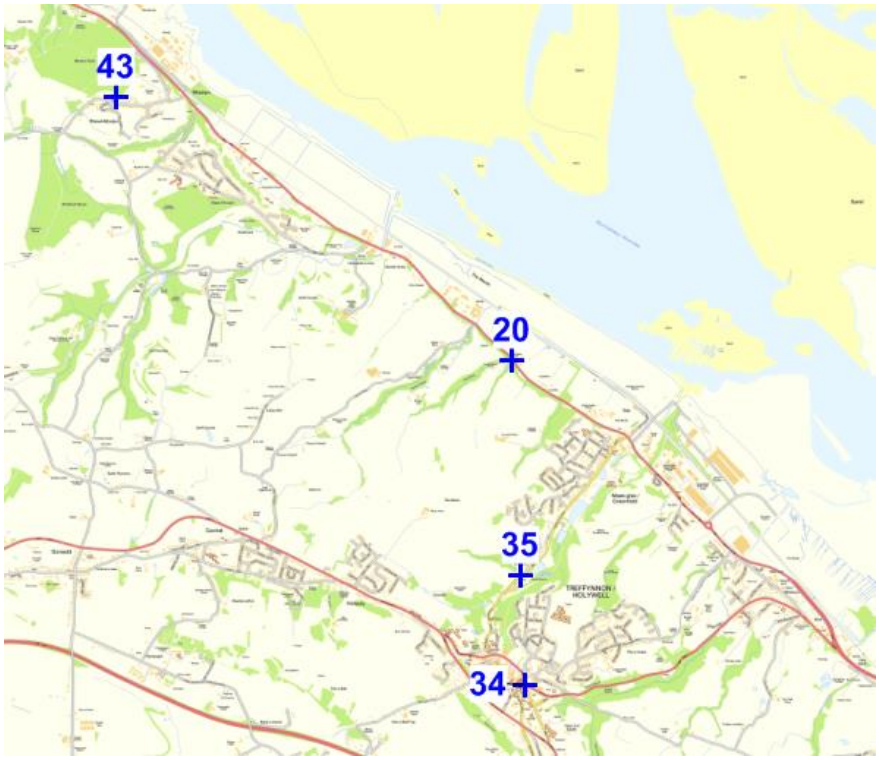

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Figure 2.16 – Map of non-Automatic Monitoring Sites: Flintshire County Council – Hope Area

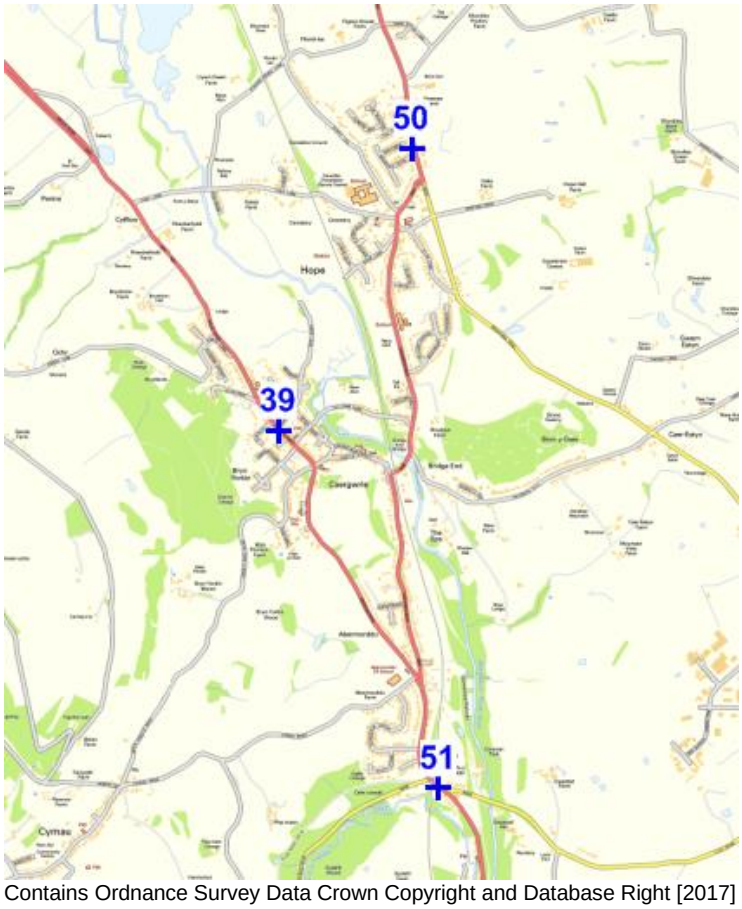

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Figure 2.17 – Map of non-Automatic Monitoring Sites: Wrexham County Borough Council – South

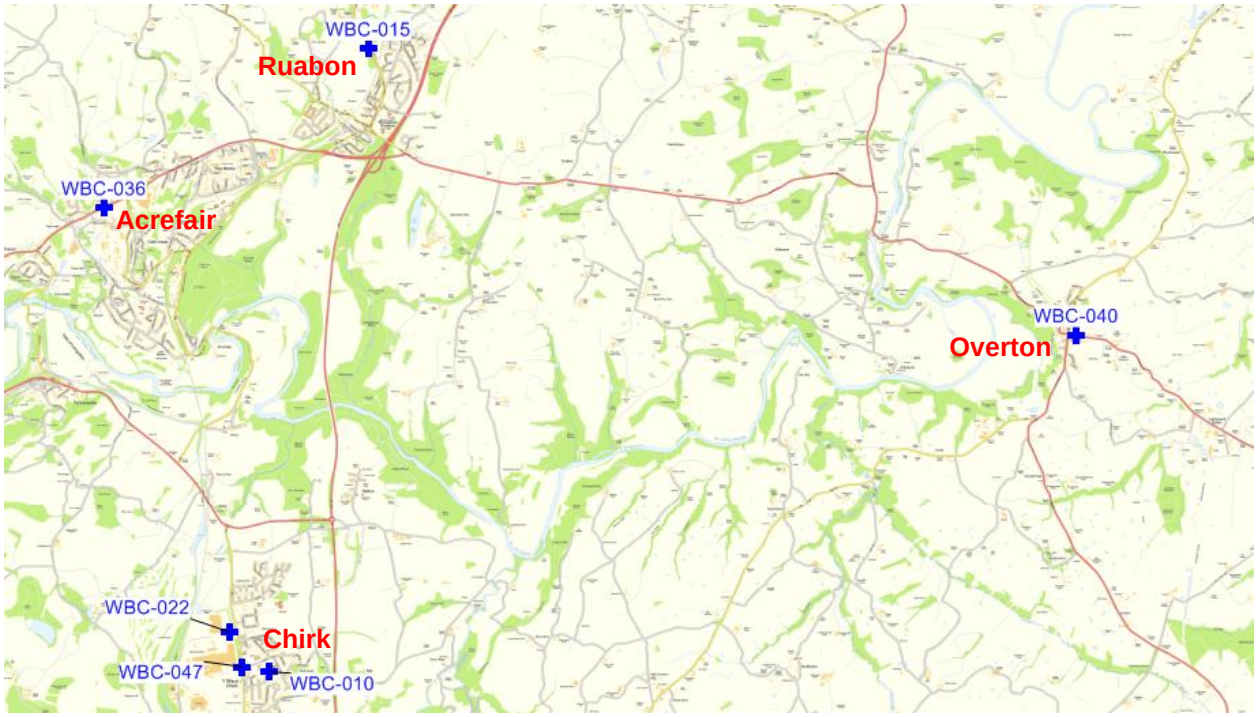

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Figure 2.18 – Map of non-Automatic Monitoring Sites: Wrexham County Borough Council – North

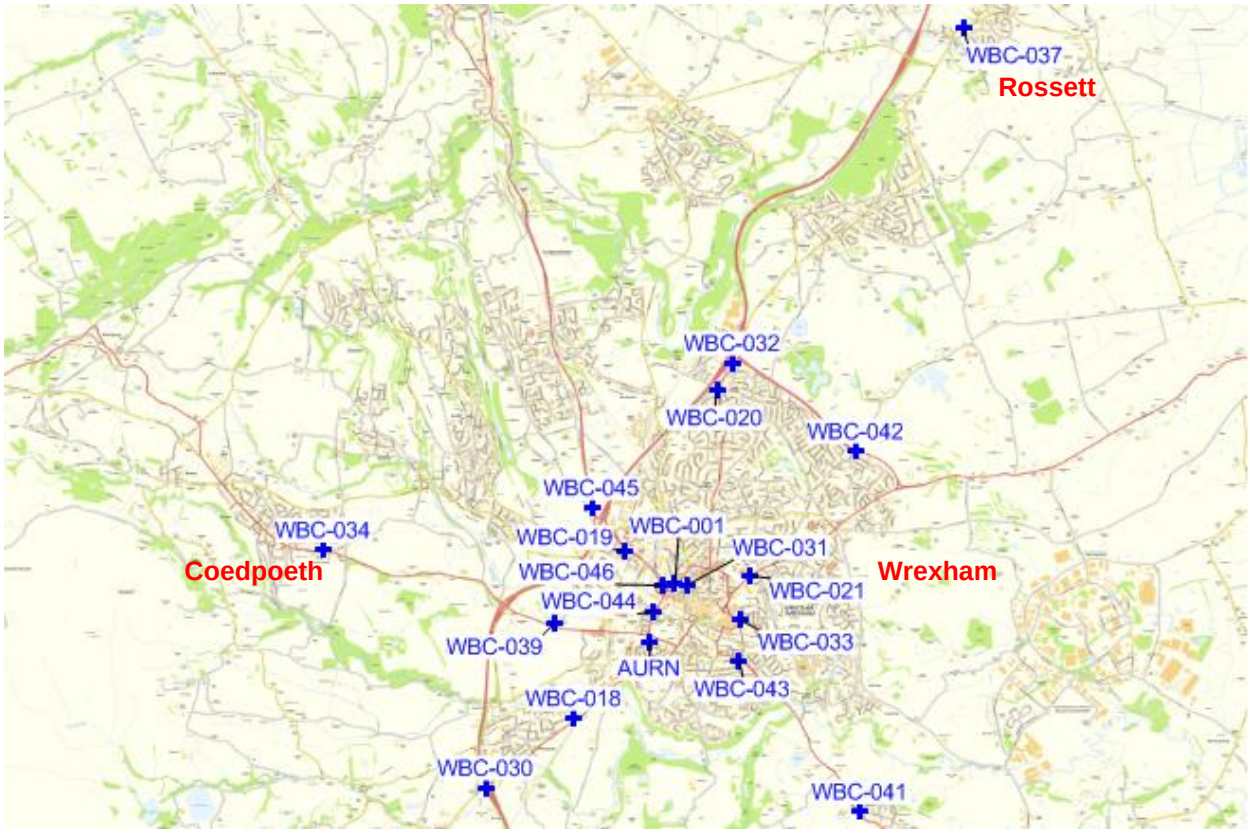


Table 2.2 – Details of Non- Automatic Monitoring Sites in the North Wales Combined Authority

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Isle of Anglesey County Council											
DT1	Llanfair P.G. By-pass	Kerbside	252700	372100	1.2	NO_2	No	No	N	1	Y
DT2	Bulkeley Square, Llangefni	Kerbside	245926	375688	2.5	NO_2	No	No	Y (1)	1	Y
DT3	Penmynydd Road	Roadside	247084	375511	2.8	NO_2	No	No	Y (10)	1.9	Y
DT4	Llanfair P.G. O_2 Mast	Roadside	253265	372372	1.4	NO_2	No	No	Y (30)	3	Y
DT5	Bridge over A55	Roadside	237267	376129	1.8	NO_2	No	No	Y (50)	1.2	Y
DT6	A55, Junction 4	Roadside	232573	378407	2.4	NO_2	No	No	Y (40)	1.5	Y
DT7	A5025, Valley	Kerbside	229513	379321	1.5	NO_2	No	No	N	1	Y
DT8	A5025, Llanfachraeth	Roadside	231593	382274	2.8	NO_2	No	No	Y (8)	1.7	Y
DT9	A5025, Llanfaethlu	Roadside	231555	387112	1.9	NO_2	No	No	Y (75)	1.5	Y
DT10	A5025, Llanfellech Crossroads	Roadside	234152	390193	1.9	NO_2	No	No	N	3.5	Y
DT11	A5025, Tregele	Roadside	235575	392545	2.5	NO_2	No	No	Y (15)	1.6	Y
DT12	Ffordd Caergybi, Cemaes	Roadside	236752	393090	2.7	NO_2	No	No	Y (10)	1.7	Y
DT13	Maes Cynfor, Cemaes	Roadside	236908	393378	2.6	NO_2	No	No	Y (10)	1.7	Y
DT14	A5025, Amlwch	Roadside	244126	392914	2.8	NO_2	No	No	Y (1)	1.4	Y
DT15	A5025 Near Salem Street, Amlwch	Roadside	244270	392498	2.2	NO_2	No	No	Y (10)	1.2	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Conwy County Borough Council											
CBC-001	Theatre Colwyn, Colwyn Bay	Roadside	285119	378817	3	NO_2	N	N	Y (0.5)	3.5	Y
CBC-034	Victoria Drive	Roadside	279245	377995	3	NO_2	N	N	Y (1.0)	2.2	Y
CBC-004	Grove Park Rd. Colwyn Bay	Urban Background	285089	378592	3	NO_2	N	N	Y (1.0)	1.7	N
CBC-016	Silva Gardens North, Llandudno	Urban Background	285089	378592	3	NO_2	N	N	Y (1.0)	2.1	N
CBC-017	Kingsway,Colwyn Bay	Roadside	279724	381877	3	NO_2	N	N	Y (1.0)	1.1	Y
CBC-018	Heol Dewi Pensarn	Roadside	284526	379417	3	NO_2	N	N	Y (2.0)	1.0	Y
CBC-026	Chapel Street Abergele	Roadside	295049	378144	3	NO_2	N	N	Y (1.0)	1.0	Y
CBC-025	Parc Llandudno	Roadside	294571	377534	3	NO_2	N	N	Y (1.0)	1.0	Y
CBC-031	Conwy Road East (53), Llandudno Jcn	Roadside	278574	382071	2.5	NO_2	N	N	Y (2.0)	1.75	Y
CBC-032	Conwy Road West, Llandudno Jcn (39)	Roadside	279279	377946	3	NO_2	N	N	Y (3.0)	1.0	Y
CBC-021	Llanfairfechan	Roadside	279235	377936	3	NO_2	N	N	Y (2.0)	1.1	Y
CBC-022	Bryn Marl, Mochdre	Roadside	268572	375472	3	NO_2	N	N	Y (2.0)	1.5	Y
CBC-033	Coed Pella Road, Colwyn Bay	Roadside	282362	378757	3	NO_2	N	N	Y (2.0)	1.0	Y

Table 2.1 Continued

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
CBC-027	Llandudno Junction, New Roundabout	Roadside	284789	378983	3	NO_2	N	N	Y (2.0)	2.0	Y
CBC-029	Llandudno Railway Stn Taxi Rank	Roadside	280271	377692	3	NO_2	N	N	Y (2.0)	1.0	Y
Denbighshire County Council											
DBK1	Wellington Road, Rhyl	Roadside	300846	381407	2.3	NO_2	N	N	Y (0.5)	2.2	Y
DBR2	10 Kinmel Street, Rhyl	Roadside	300903	381292	2.5	NO_2	N	N	Y (2.5)	0.3	Y
DBB3	5 St. Georges Cres., Rhyl	Suburban	301640	381800	2.1	NO_2	N	N	Y (0)	15.1	Y
DBB4	73 Bryn Coed Park, Rhyl	Suburban	302128	380611	2.3	NO_2	N	N	Y (4.7)	1.7	Y
DBR5	2 Pant Glas, St. Asaph	Suburban	302938	374638	2.0	NO_2	N	N	Y (9.6)	27.5	Y
DBR48	Adj. 1 Vale Street, Denbigh	Roadside	305276	366119	2.4	NO_2	N	N	Y (0)	1.0	Y
DBR23	31 Ruthin Road, Denbigh	Suburban	305878	366424	2.5	NO_2	N	N	Y (1.4)	2.5	Y
DBR8	1 Plas Elwy Orchard, The Roe, St. Asaph	Roadside	303270	374640	2.0	NO_2	N	N	Y (0)	19.4	Y
DBR9	7 Roe Park, St. Asaph	Roadside	303197	374830	2.0	NO_2	N	N	Y (0)	14	Y
DBR10	13 Roe Park, St. Asaph	Suburban	303263	374867	2.0	NO_2	N	N	Y (0)	47	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
DBR24	Denbigh Cutters, 21 Vale Street, Denbigh	Suburban	305330	366160	2.2	NO_2	N	N	Y (0)	3	Y
DBR54	Adj. 2 Market Street, Ruthin	Suburban	312502	358376	2.2	NO_2	N	N	Y (0)	2.9	Y
DBR20	25 Park Road, Ruthin.	Roadside	312106	358306	2.2	NO_2	N	N	Y (4)	1.4	Y
DBR43	Adj HSBC Bank, Vale Street, Denbigh	Suburban	305314	366153	2.6	NO_2	N	N	Y (5.5)	2.5	Y
DBR44	Opp Rowlands Pharm., Vale Street, Denbigh	Roadside	305386	366191	2.6	NO_2	N	N	Y (1.7)	1.2	Y
DBR45	Adj 50 Vale Street, Denbigh	Roadside	305467	366246	2.5	NO_2	N	N	Y (3.9)	2.0	Y
DBR37	Haul Fryn Depot, Ruthin	Roadside	312789	358231	2.3	NO_2	N	N	Y (1)	3.5	Y
DBR38	Adj 62 Rhos Street, Ruthin	Roadside	312913	358273	2.6	NO_2	N	N	Y (0)	2.3	Y
DBR52	Adj. Swayne Johnston Sol., Vale Street, Denbigh	Roadside	305308	366130	2.9	NO_2	N	N	N	1.8	Y
DBR53	7 Vale Street, Denbigh	Roadside	305290	366130	2.3	NO_2	N	N	N	2.0	Y
DBR31	2 Rhyl Road, Denbigh	Roadside	305805	366480	2.4	NO_2	N	N	Y (1.3)	0.8	Y
DBR32	47 High Street, Denbigh	Roadside	305193	366093	2.4	NO_2	N	N	N	5.9	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
DBR33	Adj CO-OP, High Street, Denbigh	Kerbside	305229	366082	2.3	NO_2	N	N	N	5.3	Y
DBR34	Adj Fairyburn, Rhyl Road, Denbigh	Roadside	305863	366661	2.5	NO_2	N	N	Y (11.4)	0.9	Y
DBR49	79 High Street, Prestatyn	Roadside	306580	382906	2.6	NO_2	N	N	N	1.0	N
DBR50	Adj., Saronie Court, High Street, Prestatyn	Kerbside	306795	382638	2.6	NO_2	N	N	N	1.0	N
Flintshire County Council											
Site 1	10A Wrexham Road, Mold	Kerbside	323800	363856	2.2	NO_2	N	N	Y (0)	1	Y
Site 2	1, St.Davids Close, Ewloe CH5 3AP	Urban	329830	366682	1.8	NO_2	N	N	Y (0)	35	Y
Site 3	Aston Hill Roadside	Kerbside	330718	367350	2	NO_2	N	N	Y (10)	1	N
Site 4	4, Moorfield Court, Aston	Urban Background	330690	367091	1.6	NO_2	N	N	Y (5)	116	Y
Site 5/9/10	Rose Cottage Junction A5119/A494 Co-Located with Continuous Monitoring Station	Kerbside	324373	365009	2.2	NO_2	N	Y - Triplicate and co-located	Y (5)	5	Y
Site 6	Kelsterton Farm, Kelsterton Lane, Connah's Quay	Rural Background	327307	369856	2.2	NO_2	N	N	Y (40)	1	N
Site 7	Kelsterton Road, Connah's Quay	Kerbside	327187	371243	1.8	NO_2	N	N	Y (15)	5	Y

Table 7.3

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Site 8	86, Kelsterton Road, Connah's Quay CH5 4BJ	Urban background	328032	370647	1.6	NO_2	N	N	Y (0)	22	Y
Site 11/47	3 Davies Cottage, Mold Road, Alltami	Kerbside	326643	365550	1.6	NO_2	N	N - Duplicate	Y (0)	4	Y
Site 12/13	20/22 Glynne Way, Hawarden	Kerbside	331648	365730	2	NO_2	N	N - Duplicate	Y (0)	1	Y
Site 14	Wepre Park, Connah's Quay	Rural Background	329406	368224	1.6	NO_2	N	N	N	290	N
Site 15	Aston Hill	Kerbside	330727	367354	2	NO_2	N	N	Y (10)	1	Y
Site 16	4, Belvedere Close, Queensferry CH5 1TG	Urban	331663	368028	1.8	NO_2	N	N	Y (0)	20	Y
Site 17	32 Chester Road West, Shotton	Kerbside	330599	368922	2.3	NO_2	N	N	Y (0)	4	Y
Site 18	Victoria Crescent, Shotton	Urban Background	330319	368812	2	NO_2	N	N	Y (7)	1	N
Site 19	Gwylfa, Northop Rd., Flint Mountain	Kerbside	323864	370368	2	NO_2	N	N	Y (0)	3	Y
Site 20	Coed Mawr Cott., Mostyn Road, Greenfield CH8 9DN	Kerbside	318669	378290	2.2	NO_2	N	N	Y (0)	2	Y
Site 21	18, Kingsley Road, Garden City CH5 2JA	Urban Background	332549	369135	1.8	NO_2	N	N	Y (0)	7	Y
Site 22	Green Lane West, Sealand	Rural Background	333645	370898	2.2	NO_2	N	N	Y (15)	70	N

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Site 23	Second Avenue, Deeside Industrial Estate (Valspar)	Kerbside	332764	370981	2	NO_2	N	N	N	1	N
Site 24/51	Llys Alun, Wrexham Road, Cefn Y Bedd	Kerbside	331079	356100	1.8	NO_2	N	N - Duplicate	Y (0)	2	Y
Site 25	BASF, Deeside Industrial Park, Sealand	Industrial	332031	371562	1.8	NO_2	N	N	N	20	N
Site 26	Corus rear entrance DIP, Sealand	Industrial	329906	370882	1.8	NO_2	N	N	N	1	N
Site 27	89, Riverside Park, Garden City	Urban Background	333040	369051	2.2	NO_2	N	N	Y (0)	15	Y
Site 28	Yacht Club, Deeside Industrial Park, Sealand	Industrial	331184	372215	2	NO_2	N	N	N	1	N
Site 29	Weighbridge Road, Deeside Industrial Park, Sealand	Industrial	330575	371802	2.2	NO_2	N	N	N	1	N
Site 30	28, Chester Road, Pentre, Deeside CH5 2DT	Kerbside	332221	367723	1.8	NO_2	N	N	Y (0)	5	Y
Site 31	Trelawney Towers 79 Chester Road, Flint CH6 5DU	Kerbside	324935	372722	2	NO_2	N	N	Y (0)	18	Y
Site 32	Flint Town Council Buildings.	Kerbside	324459	373141	4	NO_2	N	N	Y (0)	6	N
Site 33	133, Main Road, Broughton CH4 0NR	Kerbside	333568	363511	2.4	NO_2	N	N	Y (0)	1	Y

Tudalen 75

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Site 34	2, Coleshill Street, Holywell CH8 7UP	Kerbside	318766	375758	2.4	NO_2	N	N	Y (0)	1	Y
Site 35	Sycamore House, Greenfield Road, Holywell CH8 7PY	Kerbside	318735	376611	2.2	NO_2	N	N	Y (0)	1	Y
Site 36	43, Station Road, Queensferry CH5 1SU	Kerbside	331806	368271	2	NO_2	N	N	Y (0)	5	Y
Site 37	Glendale Lodge, Rhydgaled, Mold A5119	Kerbside	324281	364926	2	NO_2	N	N	Y (0)	6	Y
Site 38	Oakdene, St Marys Way, Broughton CH4 0NQ	Urban	334130	364076	1.8	NO_2	N	N	Y (0)	23	Y
Site 39	Medical Centre, High Street, Caergwrle	Kerbside	330436	357543	1.8	NO_2	N	N	Y (0)	4	Y
Site 40	1 Manor Road, Sealand CH5 2SB	Kerbside	333731	369079	1.8	NO_2	N	N	Y (0)	15	Y
Site 41	Ty-Gwyn, A5118, Padeswood CH7 4JF	Kerbside	328348	362413	2	NO_2	N	N	Y (5)	15	N
Site 42	Casa Sol, High Street, Bagillt CH6 6AP	Kerbside	322665	374595	1.8	NO_2	N	N	Y (0)	7	Y
Site 43	9, Bryn Tirion, Rhewl-Mostyn CH8 9QW	Urban Background	315580	380347	1.8	NO_2	N	N	Y (0)	15	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Site 44	413 Chester Road, Oakenholt, Flint CH6 5SF	Urban Background	325961	371822	2.2	NO_2	N	N	Y (0)	15	Y
Site 45	Belmont, Alltami, Nr. Mold CH7 6LG	Kerbside	326801	365668	1.8	NO_2	N	N	Y (1)	20	Y
Site 46	22, Park View, Northop CH7 6DD	Urban Background	325136	368397	1.8	NO_2	N	N	Y (5)	40	Y
Site 48	74, High Street, Saltney CH4 8SQ	Kerbside	338283	365032	1.8	NO_2	N	N	Y (0)	6	Y
Site 49	31, The Rowans, Broughton CH4 0TD	Kerbside	333531	363028	2	NO_2	N	N	Y (5)	25	Y
Site 50	Bryn Estyn, Wrexham Road, Hope LL12 9NB	Kerbside	330972	358681	1.8	NO_2	N	N	Y (0)	5	Y
Site 52	74, High Street, Saltney CH4 8SQ	Kerbside	327463	364013	2	NO_2	N	N	Y (0)	8	Y
Site 53	17, Mill Lane, Buckley CH7 3HA	Kerbside	327849	364146	2.3	NO_2	N	N	Y (4)	1	Y
Site 54	Elm Tree Rd Saughall	Kerbside	335594	369179	2.3	NO_2	N	N	Y (10)	1	N
Site 55	Ferry Lane, Chester	Kerbside	337632	366682	2.2	NO_2	N	N	Y (15)	2	N
Site 56	Deeside Lane, Sealand	Kerbside	335292	368346	2.2	NO_2	N	N	N	1	N
Site 57	Rose Cottage Junction A5119/A494	Kerbside	324375	365007	2.2	NO_2	N	N	Y (2)	1	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Site 58	South Bank, Aston Park, Queensferry CH5 1XZ	Kerbside	330969	367674	2.0	NO_2	N	Y*	Y (4)	3	Y
Gwynedd Council											
GCC 002	Roundabout A487, Caernarfon (C1)	Kerbside	248273	362132	1.96	NO_2	N	N	Y (10)	1	No
GCC 003	Lon Campbell, Caernarfon (C3)	Urban Background	248480	363456	2	NO_2	N	N	Y (5)	N/A	N/A
GCC 005	Ffordd Bangor, Caernarfon (C5)	Kerbside	248892	364120	1.84	NO_2	N	N	Y (7)	1	Yes
GCC 008	A4087, Bangor (B3)	Kerbside	257587	371543	1.90	NO_2	N	N	Y (2)	1	Yes
GCC 011	A5122, Bangor (B5)	Kerbside	256292	371663	1.73	NO_2	N	N	Y (>25)	1	Yes
GCC 012	Faenol Roundabout, Bangor (B6)	Kerbside	254286	368835	1.80	NO_2	N	N	Y (>25)	1	Yes
GCC 013	Bethesda (BETH 1)	Kerbside	261529	367380	2.03	NO_2	N	N	Y (10)	1	Yes
GCC 015	Llanwnda (LL1)	Roadside	247770	358663	1.93	NO_2	N	N	Y 95)	2	Y
GCC 037	Poolside, Caernarfon (C6)	Kerbside	248022	362757	1.93	NO_2	N	N	Y (2)	1	Y
GCC 038	A55, Bangor (B4)	Roadside	256871	369493	1.32	NO_2	N	N	Y (>25)	2	Y
GCC 039	A55, Bangor (CO-LOC)	Roadside	256871	369493	1.32	NO_2	N	N	Y (>25)	2	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
GCC 040	Pwllheli (PW1)	Kerbside	237517	335217	2.04	NO_2	N	N	Y (2)	1	Y
Wrexham County Borough Council											
WBC-001	Grosvenor Rd, Wrexham	Roadside	333200	350600	2.75	NO_2	N	N	N	5	Y
WBC-010	Ceiriog School, Chirk	Suburban	329300	338300	2	NO_2	N	N	Y (25)	2	Y
WBC-015	Gardden View, Ruabon	Roadside	330300	344600	2	NO_2	N	N	Y (15)	7	Y
WBC-018	Old Farm Rd, Rhostyllen	Roadside	332000	349000	1.75	NO_2	N	N	Y (40)	2	Y
WBC-019	Mold Rd, Wrexham	Roadside	332600	351000	2	NO_2	N	N	Y (30)	7	Y
WBC-020	Chester Rd, Wrexham	Intermediate	333700	352900	2	NO_2	N	N	Y (16)	3	Y
WBC-021	Holt Rd, Wrexham	Roadside	334100	350700	1.75	NO_2	N	N	Y (30)	2	Y
WBC-022	Holyhead Rd, Chirk	Intermediate	328900	338700	1.5	NO_2	N	N	Y (55) (30)	30	Y
WBC-030	Rhostyllen Roundabout, Wrexham (A483)	Roadside	330950	348170	1.5	NO_2	N	N	Y (35)	4	Y
WBC-031	Bus Station, Wrexham	Roadside	333350	350590	3	NO_2	N	N	Y (35) (3)	2	Y
WBC-032	The Sycamores, Chester Road	Roadside	333887	353222	1.75	NO_2	N	N	Y (25)	n/a	Y
WBC-033	Smithfield Road	Roadside	333981	350171	1.5	NO_2	N	N	Y (4)	1	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
WBC-034	Coed Poeth	Roadside	329017	351002	2	NO_2	N	N	Y (8)	9	Y
WBC-036	Acrefair	Roadside	327630	342990	2	NO_2	N	N	Y (2)	2	Y
WBC-037	Rossett	Roadside	336635	357211	1.5	NO_2	N	N	Y(7)	3	Y
WBC-039	Pentre Bach	Roadside	331765	350132	1.5	NO_2	N	N	Y (20) (2)	2	Y
WBC-040	Overton	Roadside	337449	341702	1.5	NO_2	N	N	Y (14)	4	Y
WBC-041	Marchwiel	Roadside	335407	347890	2	NO_2	N	N	Y (28) (3)	8	Y
WBC-042	Llan-Y-Pwll	Roadside	335359	352178	1.75	NO_2	N	N	Y (9)	5	Y
WBC-043	Hightown	Roadside	333966	349691	2	NO_2	N	N	Y(10)	1	Y
WBC-044	Cobden Road	Roadside	332935	350278	2	NO_2	N	N	Y(5)	1	Y
WBC-045	STANSTY	Roadside	332214	351503	1.75	NO_2	N	N	Y (8)	8	Y
WBC-046	Regent Street	Roadside	333063	350587	2	NO_2	N	N	Y(15)	1	Y
WBC-047	Chapel Lane	Roadside	329023	338348	3	NO_2	N	N	Y (50 (15)	1	Y
AURN 1	Victoria Road 1	Roadside	332900	349900	2	NO_2	N	Y	Y (20) (7)	5	Y
AURN 2	Victoria Road 2				1.75	NO_2	N	Y			

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
AURN 3	Victoria Road 3				2.75	NO_2	N	Y			
WBC-026	Llwyneinion Rd Rhosllanerchrugog	Urban Background	347400	328700	1.5	C_6H_6	-	-	-	-	-

* Automatic monitoring station at this location ran by the Welsh Government. Data from the site is not yet available.

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO_2)

Automatic Monitoring Data

During 2016 automatic monitoring was carried out at one roadside location along Victoria Road in WCBC.

The automatic monitoring data for NO_2 can be seen in Table 2.3 and Table 2.4. Full details of the QA/QC procedure are provided in Appendix A.

As data capture for NO_2 was 84% during 2016, annualisation was not required. Results for 2016 show that concentrations of NO_2 at the Victoria Road AURN site in Wrexham were below the annual mean objective and there were no exceedances of the hourly mean objective.

Figure 2.19 shows the trend in annual mean NO_2 concentrations at the automatic monitoring site between 2012 and 2016. The annual mean NO_2 concentration can be seen to be declining since 2013 onwards. The decrease the annual mean NO_2 concentration appears to have slowed between 2015 and 2016. Nonetheless, the reported concentration is well below the annual mean objective and no exceedances have been reported in the past 5 years.

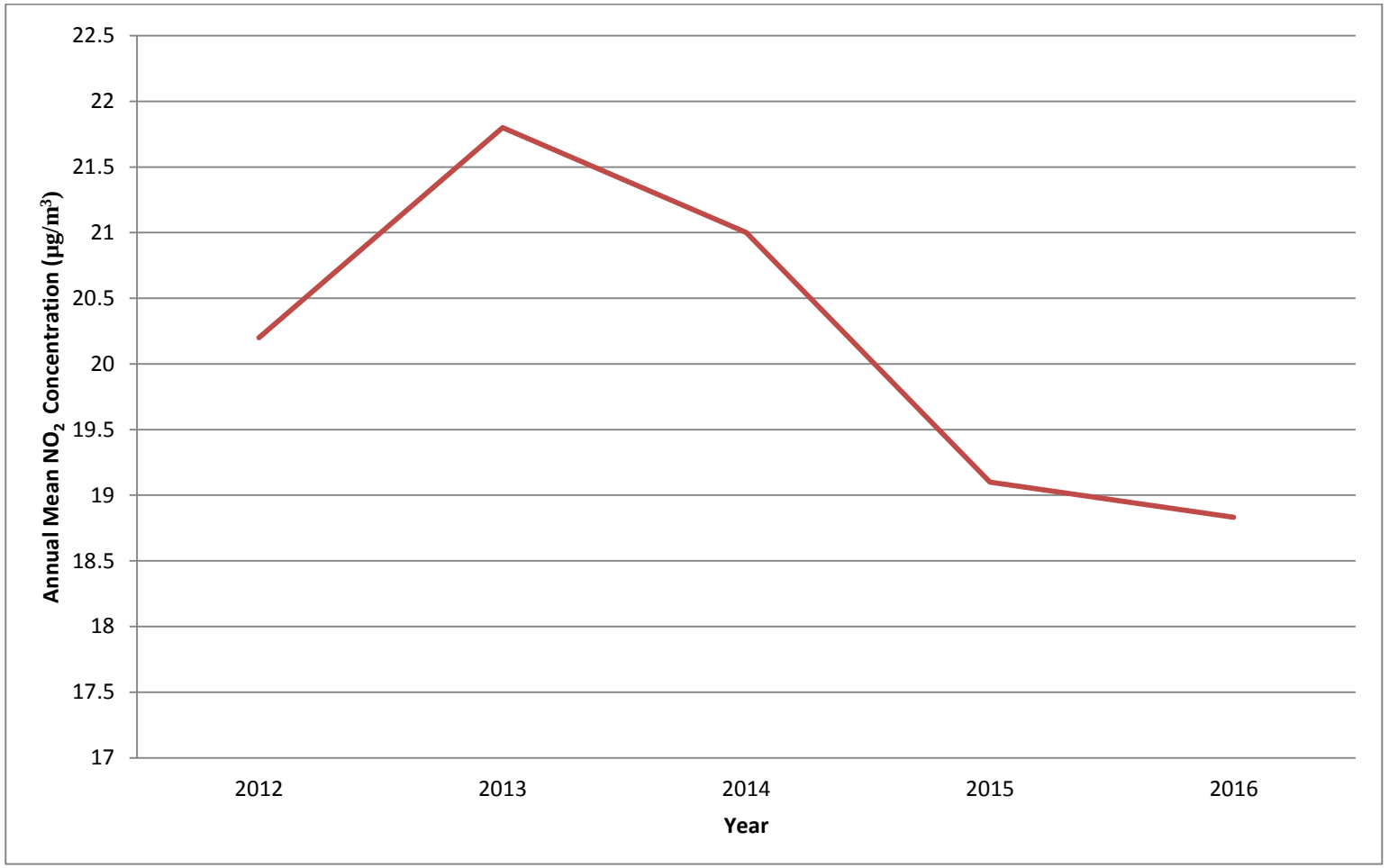
Table 2.3 – Results of Automatic Monitoring for NO_2: Comparison with Annual Mean Objective

ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2016 % [b]	Annual Mean Concentration (µg/m^3)				
					2012	2013	2014	2015	2016
AURN (WCBC)	Roadside	N	84	84	20.2	21.8	21	19.1	18.8

Table 2.4 – Results of Automatic Monitoring for NO_2: Comparison with 1-hour Mean Objective

ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2016 % [b]	Number of Hourly Means > 200µg/m^3				
					2012	2013	2014	2015	2016
AURN (WCBC)	Roadside	N	84	84	0	0	0	0	0

Figure 2.19 – Trends in Annual Mean NO_2 Concentrations Measured at Automatic Monitoring Stations



Diffusion Tube Monitoring Data

The NO_2 diffusion tube data for 2016 is summarised in Table 2.5 for all six local authorities. The full dataset, including the reported results from 2012 to 2016 and the 2016 monthly mean values are detailed in Appendix B and C respectively. Figure 2.20 to Figure 2.26 show the general trends in annual mean NO_2 concentrations for the past five years in all six local authorities. Only trend data for DT1 and DT2 in IACC are available as the remaining diffusion tubes were installed in 2016 and therefore no historic data is available.

Results for the year 2016 have been bias adjusted against national bias adjustment factors for all six local authorities. For CCBC, DCC, FCC, IACC and WCBC a factor of 0.78 was used and for GC a factor of 0.92 was used. Details of the factor selection are outlined in Appendix A.

Annualisation was carried out at the following diffusion tube locations where data capture was less than 75%:

- DT2 and DT3 in the Isle of Anglesey County Council
- Site 5/9/10 and Site 58 in Flintshire County Council
- GCC 003 and GCC 037 in Gwynedd Council
- WBC-047 in Wrexham County Borough Council

Details of the annualisation process are outlined in Appendix A.

Only one exceedance of the annual mean AQS objective for NO_2 was recorded at any diffusion tube monitoring site within the North Wales Combined Authority. The exceedance was reported at DT4 in IACC. The diffusion tube is located along the A55 at a roadside location and did not represent relevant exposure. Following distance correction to estimate the concentration at relevant exposure, the annual mean NO_2 concentration fell below 10% of the annual mean NO_2 AQS objective. It should be noted that DT4 in IACC is located over 20m from the nearest sensitive receptor. Therefore, the predicted concentration at the relevant exposure site should be treated with caution. As NO_2 concentrations fall rapidly with distance it is unlikely that concentrations at the sensitive receptor will be elevated.

There were a further two locations within the North Wales Combined Authority where annual mean NO_2 concentrations were reported to be within 10% of the annual mean AQS objective for NO_2. These were at DT1 in IACC and at Site 57 in FCC. Both these diffusion tubes were at locations which did not represent annual mean relevant exposure.

The NO_2 fall-off with distance calculator was used to estimate the NO_2 concentration at the nearest location with relevant exposure for Site 57 in FCC. Following distance correction, the annual mean NO_2 concentration fell below 10% of the annual mean NO_2 AQS objective.

Figure A.2 and Figure A.3 in Appendix A detail the procedure for calculating the concentration at relevant exposure for both DT4 and Site 57.

Distance correction was not carried out for DT1 as there were no nearby sensitive receptors. However, it should be noted that DT1 in IACC is located close to an authorised layby that has a maximum waiting time of 4-hours. Therefore DT1 is at a location where the 1-hour NO_2 AQS objective (not to be exceeded more than 18 times per year) would apply. Due to the use of a diffusion tube at this location no hourly measurements are able to be recorded. In accordance with LAQM.TG16 the 1-hour AQS objective for NO_2 is unlikely to be exceeded where the annual mean NO_2 concentration is below 60µg/m^3. The annual mean recorded at DT1 in 2016 was 45.2µg/m^3; therefore it can be assumed that the 1-hour objective was not exceeded at this location.

All other diffusion tubes measuring NO_2 concentrations in the North Wales Combined Authority were well below the annual mean NO_2 AQS objective. Furthermore, annual mean NO_2 concentrations were not greater than 60µg/m^3 at any non-automatic monitoring site. Therefore exceedances of the 1-hour mean objective are unlikely at all monitoring locations.

The diffusion tube study undertaken at 12 locations along the A5025 by IACC has shown that annual mean NO_2 concentrations are well below the annual mean AQS objective. These results will help support the A5025 highways improvements between Valley and the Wylfa Newydd Development Area. Furthermore, there were no exceedances reported at relevant exposure locations across the main road network in North Wales, including along the A55, A5 and A494.

There does not appear to be any clear overall trends with regards to annual mean NO_2 concentrations within the six local authorities. However, on the whole, there appears to be a slight overall increase in NO_2 concentrations when compared to the 2015 data. As this increase is widespread, it is unlikely that localised increases in emissions are the cause. It is more likely that adverse meteorological conditions over the year led to the overall increase in NO_2 concentrations. Nonetheless, when comparing NO_2 concentrations over the past 5 years, there has been a clear

decrease reported at the majority of diffusion tube locations throughout the North Wales Combined Authority since 2012.

Table 2.5 – Results of NO_2 Diffusion Tubes 2016

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
Isle of Anglesey County Council						
DT1	Llanfair P.G. By-pass	Kerbside	N	N	12	39.7
DT2	Bulkeley Square, Llangefni	Kerbside	N	N	6	23.5 (28.0)
DT3	Penmynydd Road	Roadside	N	N	6	9.5 (11.2)
DT4	Llanfair P.G. O_2 Mast	Roadside	N	N	11	45.2
DT5	Bridge over A55	Roadside	N	N	10	9.8
DT6	A55, Junction 4	Roadside	N	N	11	11.3
DT7	A5025, Valley	Kerbside	N	N	11	15.3
DT8	A5025, Llanfachraeth	Roadside	N	N	11	9.9
DT9	A5025, Llanfaethlu	Roadside	N	N	11	9.5
DT10	A5025, Llanfellech Crossroads	Roadside	N	N	11	7.0
DT11	A5025, Tregele	Roadside	N	N	11	10.2
DT12	Ffordd Caergybi, Cemaes	Roadside	N	N	11	9.0
DT13	Maes Cynfor, Cemaes	Roadside	N	N	11	6.7
DT14	A5025, Amlwch	Roadside	N	N	11	12.7
DT15	A5025 Near Salem Street, Amlwch	Roadside	N	N	10	11.2
Conwy County Borough Council						
CBC-001	Theatre Colwyn, Colwyn Bay	Roadside	N	N	12	19.3
CBC-034	Victoria Drive	Roadside	N	N	10	21.1
CBC-004	Grove Park Rd. Colwyn Bay	Urban Background	N	N	12	10.3

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
CBC-016	Silva Gardens North, Llandudno	Urban Background	N	N	12	9.1
CBC-017	Kingsway,Colwyn Bay	Roadside	N	N	12	19.0
CBC-018	Heol Dewi Pensarn	Roadside	N	N	12	20.9
CBC-026	Chapel Street Abergele	Roadside	N	N	12	27.8
CBC-025	Parc Llandudno	Roadside	N	N	12	15.6
CBC-031	Conwy Road East (53), Llandudno Jcn	Roadside	N	N	12	21.0
CBC-032	Conwy Road West, Llandudno Jcn (39)	Roadside	N	N	12	18.9
CBC-021	Llanfairfechan	Roadside	N	N	12	17.7
CBC-022	Bryn Marl, Mochdre	Roadside	N	N	12	20.7
CBC-033	Coed Pella Road, Colwyn Bay	Roadside	N	N	12	13.8
CBC-027	Llandudno Junction, New Roundabout	Roadside	N	N	12	14.7
CBC-029	Llandudno Railway Stn Taxi Rank	Roadside	N	N	9	11.2
Denbighshire County Council						
DBK1	Wellington Road, Rhyl	Roadside	N	N	12	23.5
DBR2	10 Kinmel Street, Rhyl	Roadside	N	N	12	26.4
DBB3	5 St. Georges Cres., Rhyl	Suburban	N	N	12	9.8
DBB4	73 Bryn Coed Park, Rhyl	Suburban	N	N	12	10.3
DBR5	2 Pant Glas, St. Asaph	Suburban	N	N	12	15.5
DBR48	Adj. 1 Vale Street, Denbigh	Roadside	N	N	11	26.7
DBR23	31 Ruthin Road, Denbigh	Roadside	N	N	12	18.6

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
DBR8	1 Plas Elwy Orchard, The Roe, St. Asaph	Suburban	N	N	12	15.5
DBR9	7 Roe Park, St. Asaph	Suburban	N	N	12	21.1
DBR10	13 Roe Park, St. Asaph	Suburban	N	N	12	16.1
DBR24	Denbigh Cutters, 21 Vale Street, Denbigh	Roadside	N	N	11	33.1
DBR20	25 Park Road, Ruthin.	Roadside	N	N	11	19.8
DBR43	Adj HSBC Bank, Vale Street, Denbigh	Roadside	N	N	12	29.1
DBR44	Opp Rowlands Pharm., Vale Street, Denbigh	Roadside	N	N	11	25.0
DBR45	Adj 50 Vale Street, Denbigh	Roadside	N	N	11	23.3
DBR37	Haul Fryn Depot, Ruthin	Roadside	N	N	12	26.6
DBR38	Adj 62 Rhos Street, Ruthin	Roadside	N	N	12	16.8
DBR31	2 Rhyl Road, Denbigh	Kerbside	N	N	12	18.9
DBR32	47 High Street, Denbigh	Roadside	N	N	12	18.9
DBR33	Adj CO-OP, High Street, Denbigh	Roadside	N	N	11	28.2
DBR34	Adj Fairyburn, Rhyl Road, Denbigh	Kerbside	N	N	12	15.2
DBR49	79 High Street, Prestatyn	Roadside	N	N	12	17.1
DBR50	Adj., Saronie Court, High Street, Prestatyn	Roadside	N	N	11	16.0
DBR52	Adj. Swayne Johnston Sol., Vale Street, Denbigh	Roadside	N	N	12	24.1
DBR53	7 Vale Street, Denbigh	Roadside	N	N	12	31.2
DBR54	Adj 2 Market Street, Ruthin	Roadside	N	N	12	13.7

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
Flintshire County Council						
Site 1	10A Wrexham Road, Mold	Kerbside	N	N	12	25.6
Site 2	1, St.Davids Close, Ewloe CH5 3AP	Urban	N	N	11	20.6
Site 3	Aston Hill Roadside	Kerbside	N	N	9	33.7
Site 4	4, Moorfield Court, Aston	Urban Background	N	N	12	18.0
Site 5/9/10	Rose Cottage Junction A5119/A494 Co-Located with Continuous Monitoring Station	Kerbside	N	Y - Triplicate and co-located	7	23.2 (33.2)
Site 6	Kelsterton Farm, Kelsterton Lane, Connah's Quay	Rural Background	N	N	10	14.0
Site 7	Kelsterton Road, Connah's Quay	Kerbside	N	N	12	15.0
Site 8	86, Kelsterton Road, Connah's Quay CH5 4BJ	Urban background	N	N	12	14.5
Site 11/47	3 Davies Cottage, Mold Road, Alltami	Kerbside	N	N - Duplicate	12	35.6
Site 12/13	20/22 Glynne Way, Hawarden	Kerbside	N	N - Duplicate	12	34.0
Site 14	Wepre Park, Connah's Quay	Rural Background	N	N	11	12.7
Site 15	Aston Hill	Kerbside	N	N	9	27.9
Site 16	4, Belvedere Close, Queensferry CH5 1TG	Urban	N	N	12	26.7
Site 17	32 Chester Road West, Shotton	Kerbside	N	N	9	29.2
Site 18	Victoria Crescent, Shotton	Urban Background	N	N	11	14.5
Site 19	Gwylfa, Northop Rd., Flint Mountain	Kerbside	N	N	12	25.0
Site 20	Coed Mawr Cott., Mostyn Road, Greenfield CH8 9DN	Kerbside	N	N	12	23.4

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
Site 21	18, Kingsley Road, Garden City CH5 2JA	Urban Background	N	N	12	15.2
Site 22	Green Lane West, Sealand	Rural Background	N	N	12	18.6
Site 23	Second Avenue, Deeside Industrial Estate (Valspar)	Kerbside	N	N	10	24.4
Site 24/51	Llys Alun, Wrexham Road, Cefn Y Bedd	Kerbside	N	N - Duplicate	10	31.4
Site 25	BASF, Deeside Industrial Park, Sealand	Industrial	N	N	12	21.3
Site 26	Corus rear entrance DIP, Sealand	Industrial	N	N	12	16.3
Site 27	89, Riverside Park, Garden City	Urban Background	N	N	11	21.3
Site 28	Yacht Club, Deeside Industrial Park, Sealand	Industrial	N	N	12	15.5
Site 29	Weighbridge Road, Deeside Industrial Park, Sealand	Industrial	N	N	12	18.0
Site 30	28, Chester Road, Pentre, Deeside CH5 2DT	Kerbside	N	N	12	24.9
Site 31	Trelawney Towers 79 Chester Road, Flint CH6 5DU	Kerbside	N	N	12	23.6
Site 32	Flint Town Council Buildings.	Kerbside	N	N	12	20.2
Site 33	133, Main Road, Broughton CH4 0NR	Kerbside	N	N	12	26.9
Site 34	2, Coleshill Street, Holywell CH8 7UP	Kerbside	N	N	12	25.3
Site 35	Sycamore House, Greenfield Road, Holywell CH8 7PY	Kerbside	N	N	12	21.0
Site 36	43, Station Road, Queensferry CH5 1SU	Kerbside	N	N	12	23.2
Site 37	Glendale Lodge, Rhydgaled, Mold A5119	Kerbside	N	N	12	26.3

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
Site 38	Oakdene, St Marys Way, Broughton CH4 0NQ	Urban	N	N	12	19.1
Site 39	Medical Centre, High Street, Caergwrle	Kerbside	N	N	12	17.2
Site 40	1 Manor Road, Sealand CH5 2SB	Kerbside	N	N	11	16.8
Site 41	Ty-Gwyn, A5118, Padeswood CH7 4JF	Kerbside	N	N	12	12.0
Site 42	Casa Sol, High Street, Bagillt CH6 6AP	Kerbside	N	N	12	12.3
Site 43	9, Bryn Tirion, Rhewl-Mostyn CH8 9QW	Urban Background	N	N	12	9.2
Site 44	413 Chester Road, Oakenholt, Flint CH6 5SF	Urban Background	N	N	10	25.5
Site 45	Belmont, Alltami, Nr. Mold CH7 6LG	Kerbside	N	N	12	17.8
Site 46	22, Park View, Northop CH7 6DD	Urban Background	N	N	11	12.7
Site 48	74, High Street, Saltney CH4 8SQ	Kerbside	N	N	12	18.8
Site 49	31, The Rowans, Broughton CH4 0TD	Kerbside	N	N	10	16.9
Site 50	Bryn Estyn, Wrexham Road, Hope LL12 9NB	Kerbside	N	N	10	16.9
Site 52	74, High Street, Saltney CH4 8SQ	Kerbside	N	N	12	16.6
Site 53	17, Mill Lane, Buckley CH7 3HA	Kerbside	N	N	12	26.7
Site 54	Elm Tree Rd Saughall	Kerbside	N	N	10	13.2
Site 55	Ferry Lane, Chester	Kerbside	N	N	10	13.0
Site 56	Deeside Lane, Sealand	Kerbside	N	N	9	13.2
Site 57	Rose Cottage Junction A5119/A494	Kerbside	N	N	11	37.8

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
Site 58	South Bank, Aston Park, Queensferry CH5 1XZ		N	Y[c]	6	24.5 (24.5)
Gwynedd Council						
GCC 002	Roundabout A487, Caernarfon (C1)	Kerbside	N	N	12	31.4
GCC 003	Lon Campbell, Caernarfon (C3)	Urban Background	N	N	5	10.9 (10.5)
GCC 005	Ffordd Bangor, Caernarfon (C5)	Kerbside	N	N	11	27.6
GCC 008	A4087, Bangor (B3)	Kerbside	N	N	12	22.8
GCC 011	A5122, Bangor (B5)	Kerbside	N	N	9	23.8
GCC 012	Faenol Roundabout, Bangor (B6)	Kerbside	N	N	12	26.9
GCC 013	Bethesda (BETH 1)	Kerbside	N	N	12	21.9
GCC 015	Llanwnda (LL1)	Roadside	N	N	12	24.8
GCC 037	Poolside, Caernarfon (C6)	Kerbside	N	N	7	24.2 (25.5)
GCC 038	A55, Bangor (B4)	Roadside	N	N	9	28.6
GCC 039	A55, Bangor (CO-LOC)	Roadside	N	N	9	28.4
GCC 040	Pwllheli (PW1)	Kerbside	N	N	12	19.1
Wrexham County Borough Council						
WBC-001	Grosvenor Rd, Wrexham	Roadside	N	N	12	27.8
WBC-010	Ceiriog School, Chirk	Suburban	N	N	12	13.2
WBC-015	Gardden View, Ruabon	Roadside	N	N	12	16.4
WBC-018	Old Farm Rd, Rhostyllen	Roadside	N	N	12	16.9
WBC-019	Mold Rd, Wrexham	Roadside	N	N	11	21.4

ID	Location	Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2016 (Number of Months)	2016 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.78[a] / 0.92[b]
WBC-020	Chester Rd, Wrexham	Intermediate	N	N	12	25.5
WBC-021	Holt Rd, Wrexham	Roadside	N	N	12	19.9
WBC-022	Holyhead Rd, Chirk	Intermediate	N	N	12	16.3
WBC-030	Rhostyllen Roundabout, Wrexham (A483)	Roadside	N	N	12	35.8
WBC-031	Bus Station, Wrexham	Roadside	N	N	12	35.9
WBC-032	The Sycamores, Chester Road	Roadside	N	N	12	29.1
WBC-033	Smithfield Road	Roadside	N	N	12	19.2
WBC-034	Coed Poeth	Roadside	N	N	12	14.6
WBC-036	Acrefair	Roadside	N	N	12	20.0
WBC-037	Rossett	Roadside	N	N	12	22.3
WBC-039	Pentre Bach	Roadside	N	N	11	19.7
WBC-040	Overton	Roadside	N	N	12	11.9
WBC-041	Marchwiel	Roadside	N	N	12	15.2
WBC-042	Llan-Y-Pwll	Roadside	N	N	12	25.6
WBC-043	Hightown	Roadside	N	N	12	17.9
WBC-044	Cobden Road	Roadside	N	N	12	23.6
WBC-045	STANSTY	Roadside	N	N	12	19.8
WBC-046	Regent Street	Roadside	N	N	12	24.1
WBC-047	Chapel Lane	Roadside	N	N	5	23.2 (21.2)
AURN	Victoria Road 1	Roadside	N	Y	12	16.7

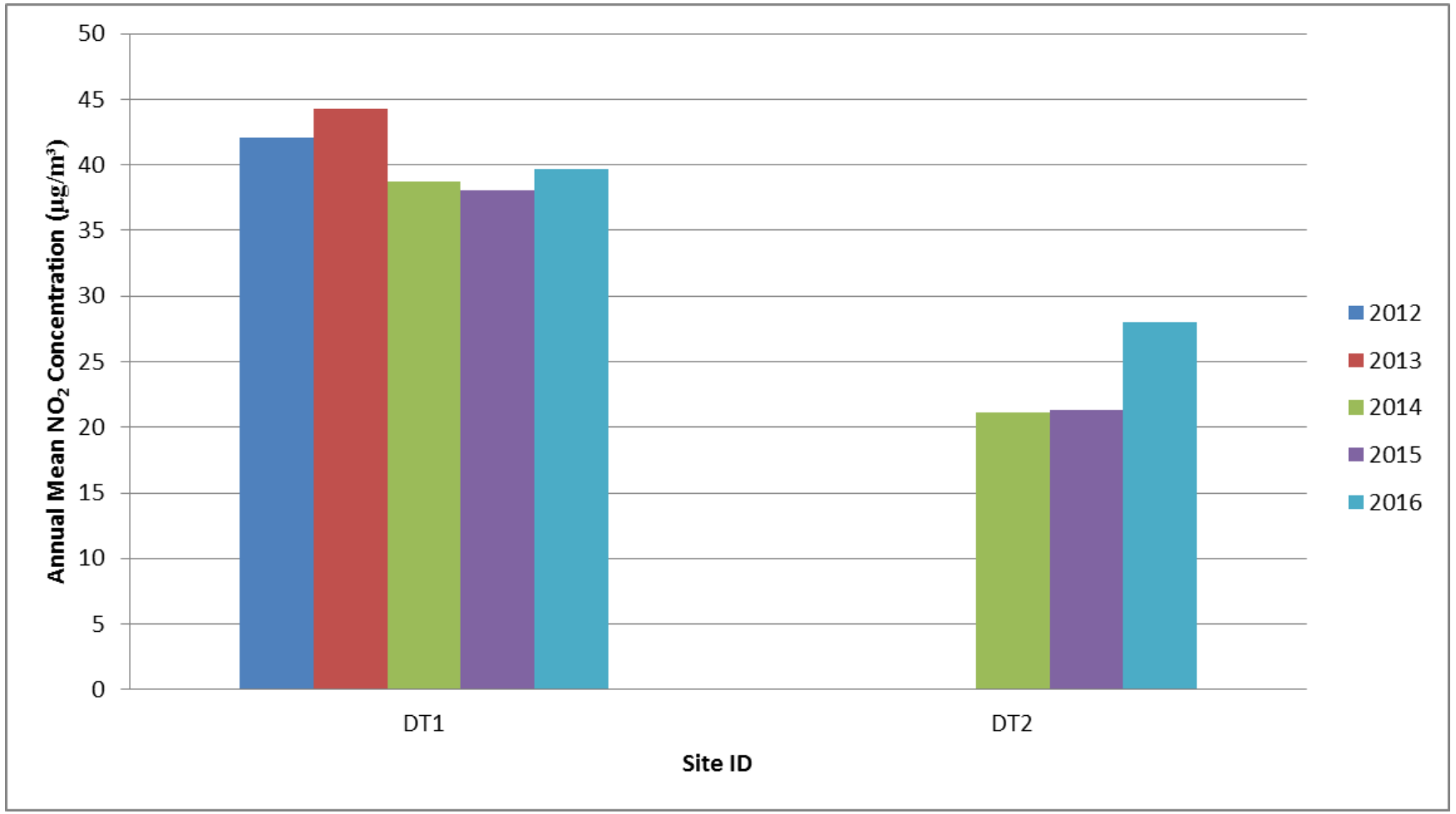
[a] Bias Adjustment factor for CCBC, DCC, FCC, IACC and WCBC

[b] Bias Adjustment factor for GC

[c] Automatic monitoring station at this location ran by the Welsh Government. Data from the site is not yet available.

*Values shown in brackets represent annualised concentrations

Figure 2.20 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Isle of Anglesey County Council



Tudalen 97

Figure 2.21 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Conwy County Borough Council

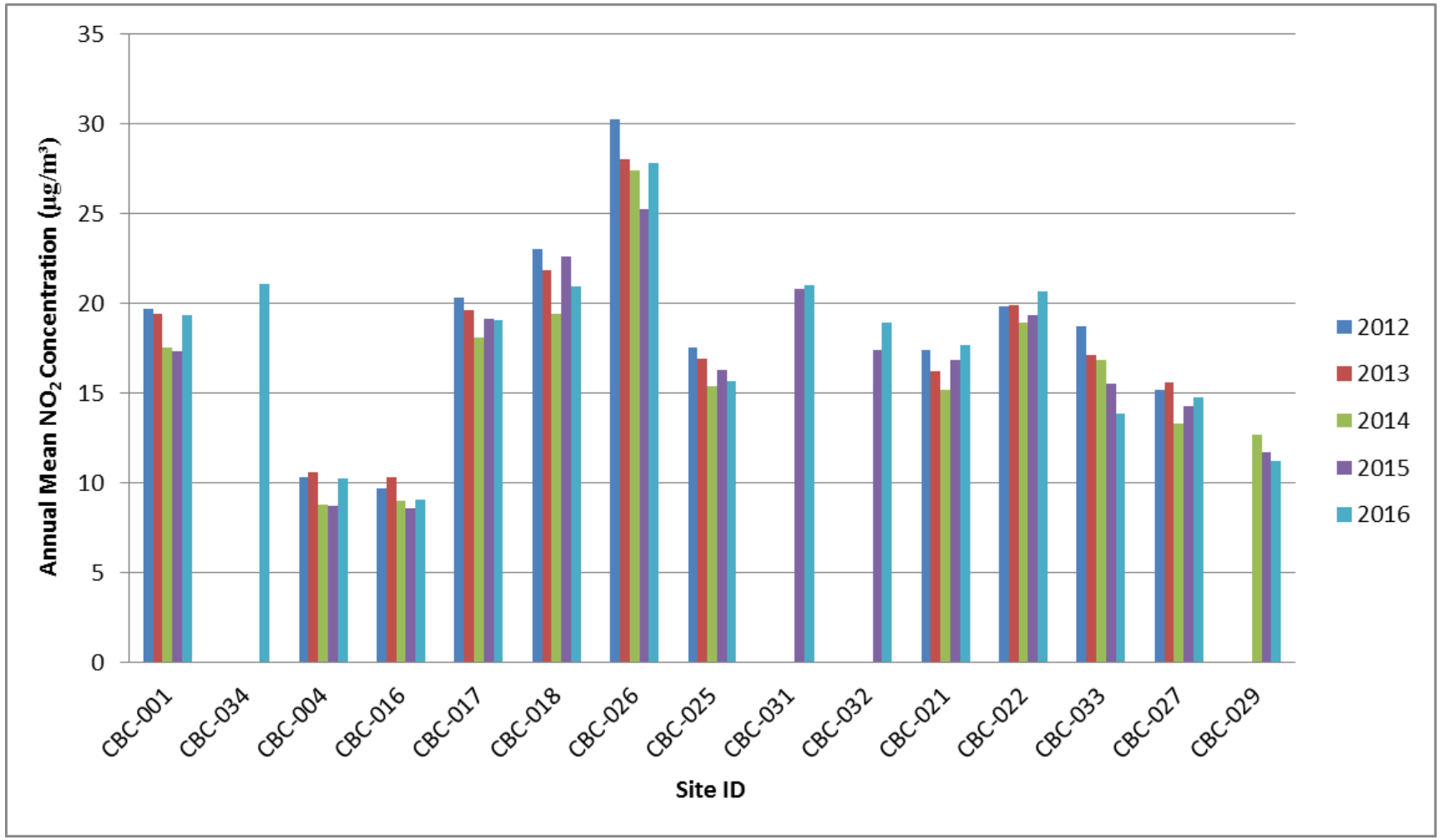


Figure 2.22 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Denbighshire County Council

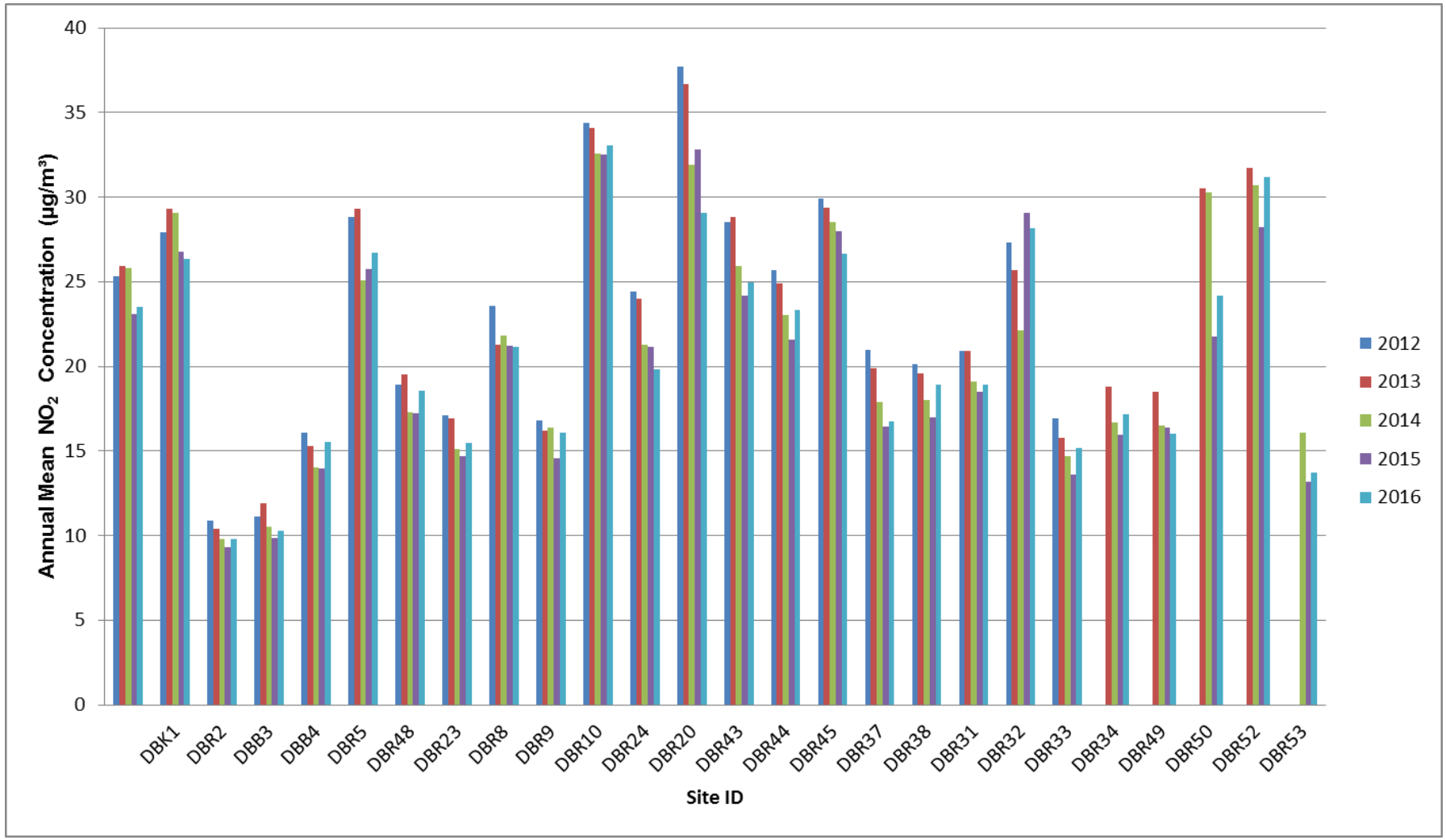
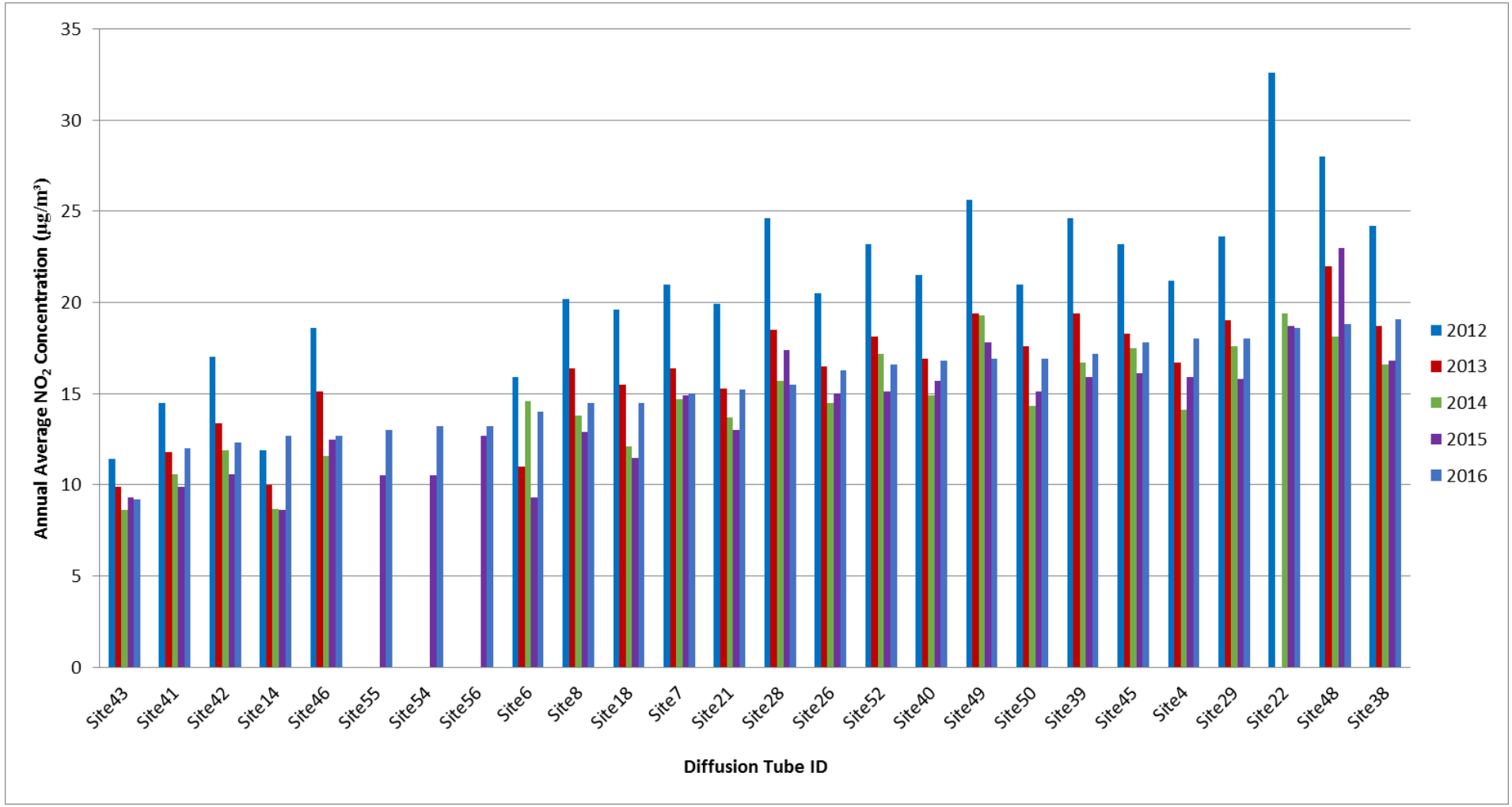
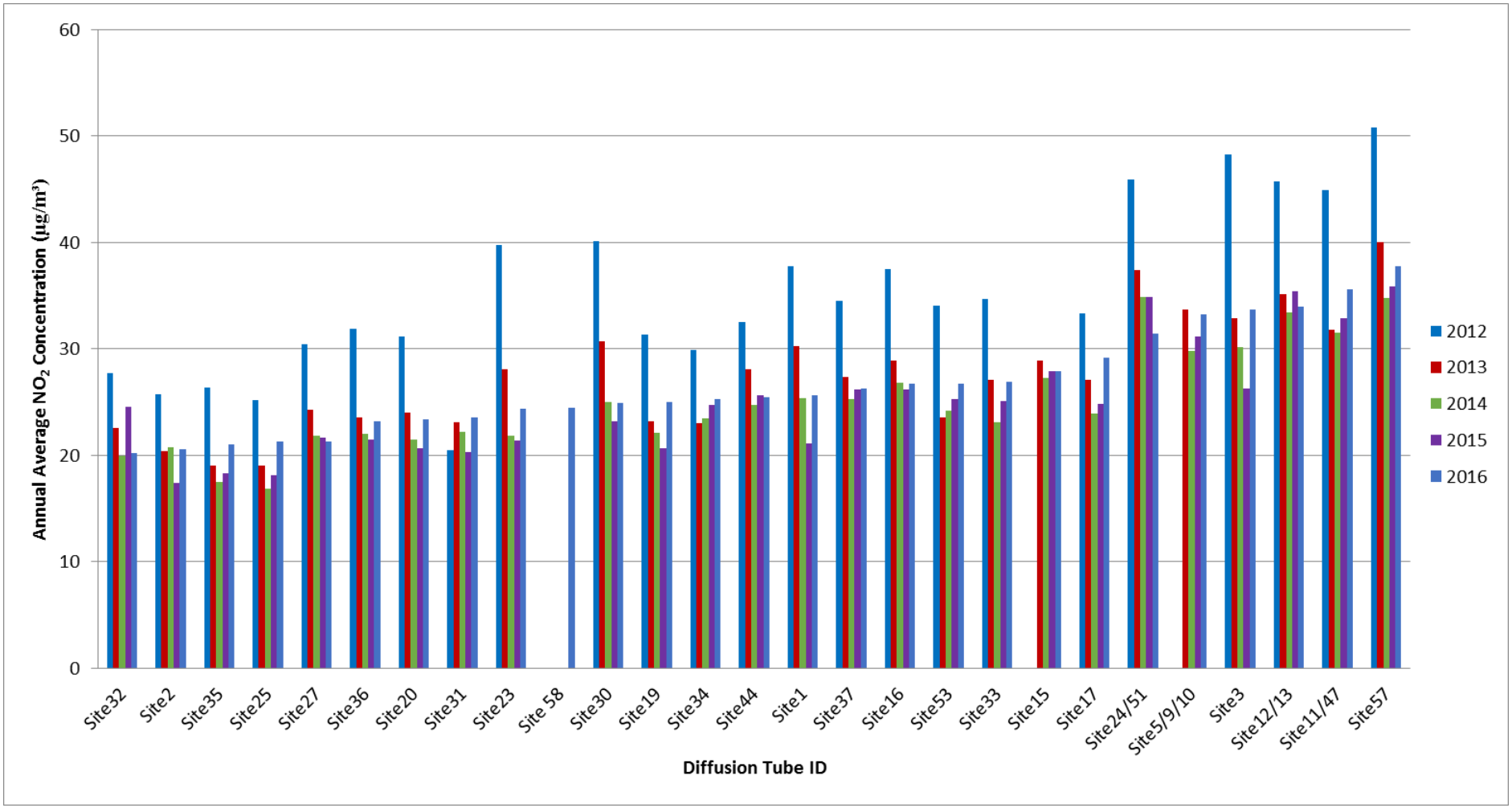


Figure 2.23 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Flintshire Council <20µg/m^3 in 2016



Tudalen 100

Figure 2.24 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Flintshire Council >20µg/m^3 in 2016



Tudalen 101

Figure 2.25 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Gwynedd Council

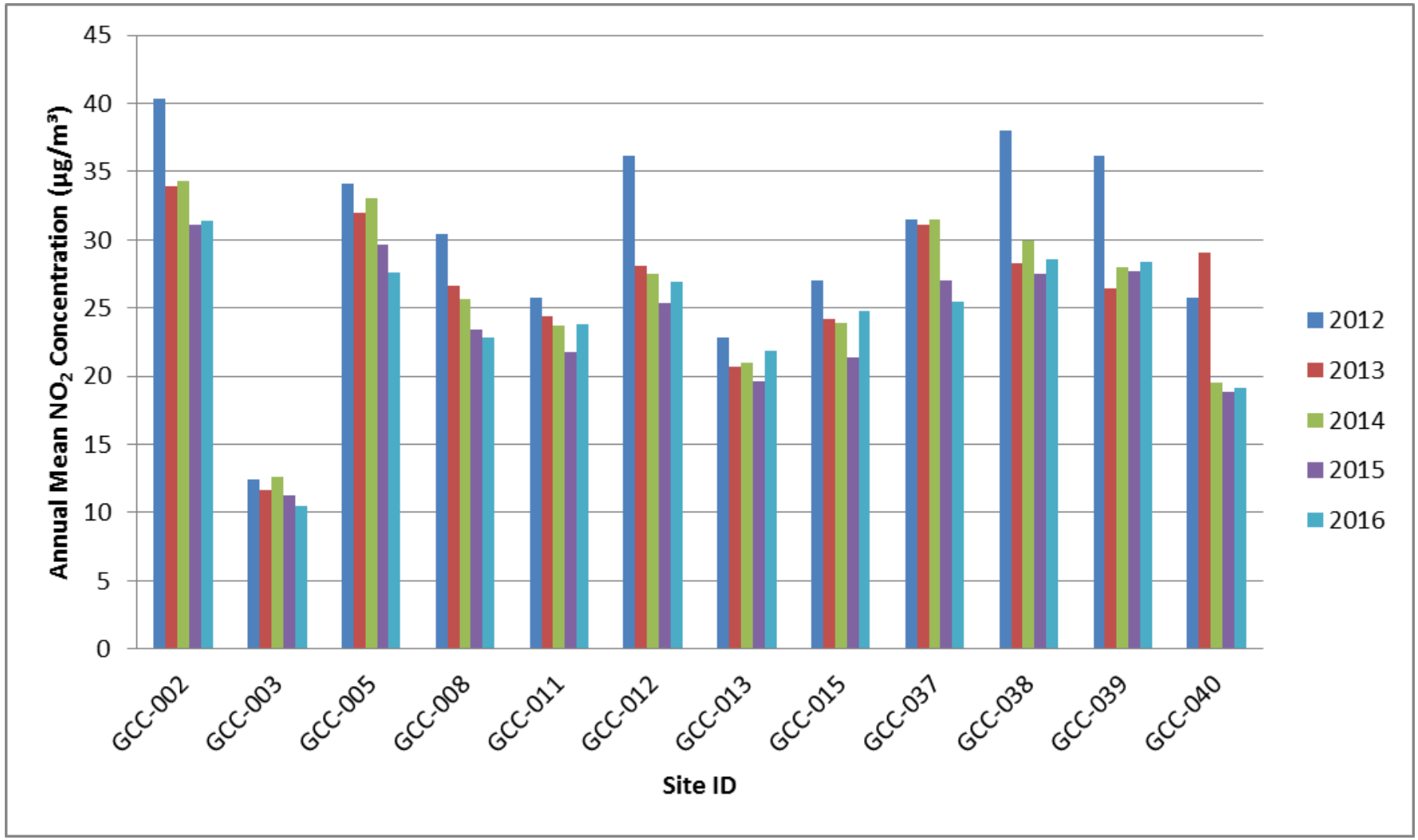
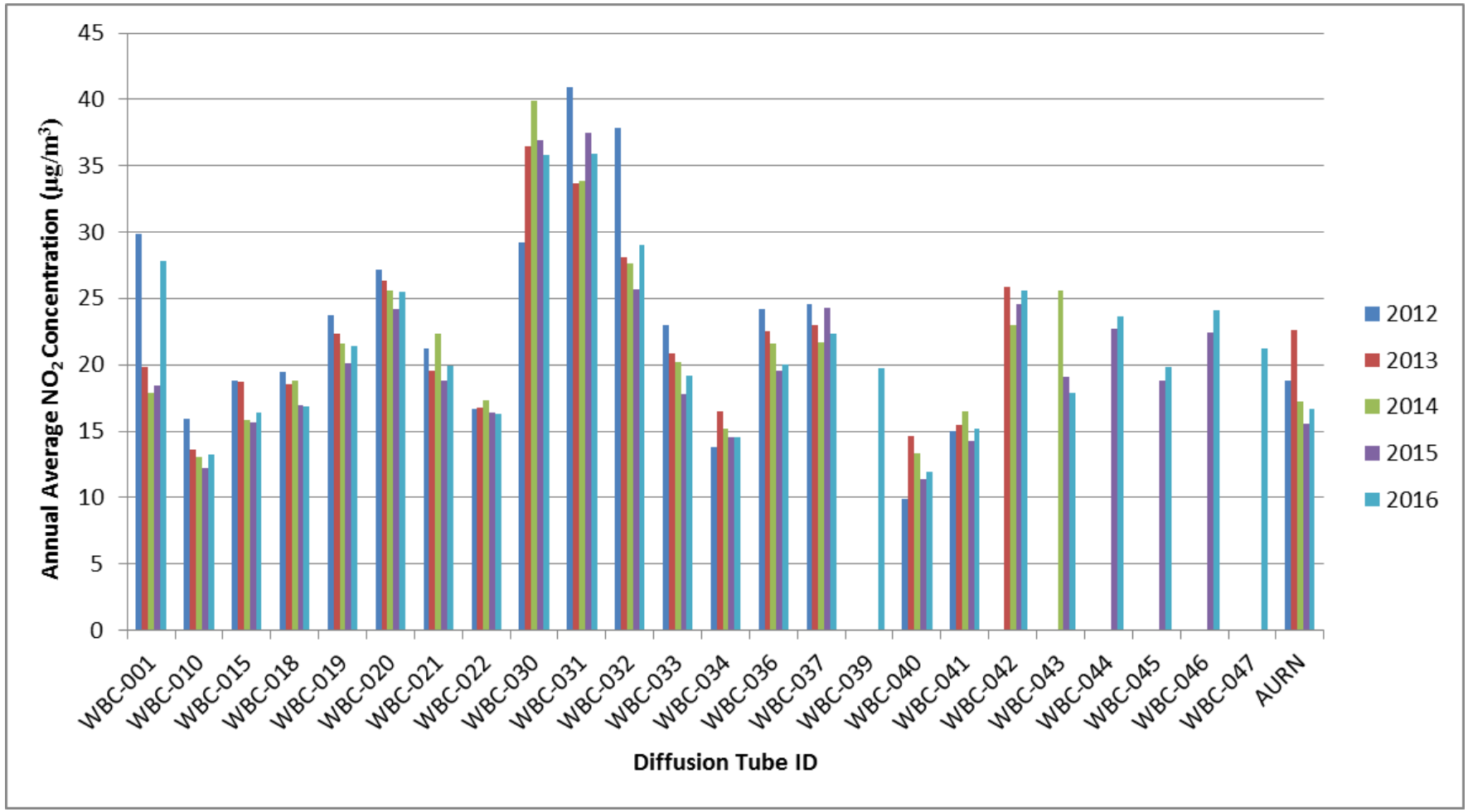


Figure 2.26 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites: Wrexham County Borough Council



2.2.2 Particulate Matter (PM_{10})

During 2016 PM_{10} monitoring was carried out at four rural and one roadside location within the North Wales Combined Authority. The automatic monitoring data for PM_{10} can be seen in Table 2.6 and Table 2.7. Full details of the QA/QC procedures are provided in Appendix A.

The four Osiris monitoring stations were run by IACC. Data capture was above 75% at CM1 (Llynfaes) and CM3 (Felin Cafnan). Data capture was just under 75% at CM2 (Brynteg). CM4 (IVC Penhesgyn) was decommissioned in August 2016 and therefore only half a years' worth of data was captured. Annualisation was carried out at CM2 and CM4. It should be noted that the background automatic monitoring stations used to annualise the data against were over 100km from the monitoring sites. Therefore, the results of the annualisation should be used with caution as the background locations may not necessarily be representative of the background conditions at the PM_{10} monitoring sites. Further information can be found in Appendix A.

CM1 reported 4 exceedances of the 24-hour mean objective. This is well below the 18 allowed exceedances in a year. As less than 85% of data was available at sites CM2, CM3 and CM4, the 90.4th percentile was recorded to compare against the 24-hour mean objective. The 90.4th percentile concentrations were all well below the objective level of 50$\mu g/m^3$. The roadside monitoring location measuring PM_{10} was situated along Victoria Road in Wrexham and is run by the AURN. There were also no exceedances of the 24-hour mean air quality objective at this location.

No exceedances of the annual mean air quality objective was reported at any of the PM_{10} monitoring locations in 2016. Figure 2.27 shows the trend in annual mean PM_{10} concentrations over the past 5 years. CM3 was not included in the graph as 2016 was the first year with a complete set of data available.

CM2 reported the lowest annual mean PM_{10} concentration in 2016. Concentrations have continued to decline since 2014. The Osiris is located by a quarry and suggests that improvements made to manage dust emissions at the quarry have been successful in reducing PM_{10} concentrations. CM4 and the AURN monitoring sites

have also both reported a decrease in annual mean PM_{10} concentrations since 2015. CM4 is located on the boundary of a recycling centre with no relevant exposure nearby. The site is now out of service. The AURN site is located at a roadside location. Similar to the annual mean NO_2 downward trend at the same site, it is likely that traffic management in the area has reduced the level of pollutants emitted from vehicles.

An increase in the annual mean PM_{10} concentration was reported at CM1. There has been a reported upward trend in annual mean PM_{10} concentrations since 2014. Prior to 2014 concentrations had been gradually declining. The monitoring site is located at a quarry. The quarry implemented a stockpile management plan in late 2013 which resulted in processed material being relocated away from the site boundary to a more sheltered location. Reported concentrations are still below levels prior to this management plan being enforced however, continued monitoring at the site will help determine whether it has been successful in maintaining a low PM_{10} annual mean concentration.

CM3 was relocated to a National Trust Property in December 2015 which is close to the Wylfa Newydd construction site. The annual mean PM_{10} concentration reported at this site was well below the AQS objective in 2016. Continued monitoring at this site will help assess annual PM_{10} trends at the site.

Overall there have been no reported exceedances of the annual and 24-hour mean AQS objectives for PM_{10} at any of the monitoring locations in 2016.

Table 2.6 – Results of Automatic Monitoring for PM_{10}: Comparison with Annual Mean Objective

ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2016 %	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration (µg/m^3)				
						2012	2013	2014	2015	2016
Isle of Anglesey County Council										
CM1	Rural	N	86.9	86.9	Y	25.4	19.2	13.8	17.2	18.8
CM2	Rural	N	74.3	74.3	Y	15.6	15.2	17.6	13.1	8.1 (8.1)
CM3	Rural	N	76.8	76.8	Y	-	-	-	34.8[a]	14.9
CM4	Rural	N	78.2	46.2[b]	Y	14.3	-	9.8	10.4	9.0 (9.1)
Wrexham County Borough Council										
AURN	Roadside	N	96	96	Y	15.1	17.1	14.1	13.3	12.2

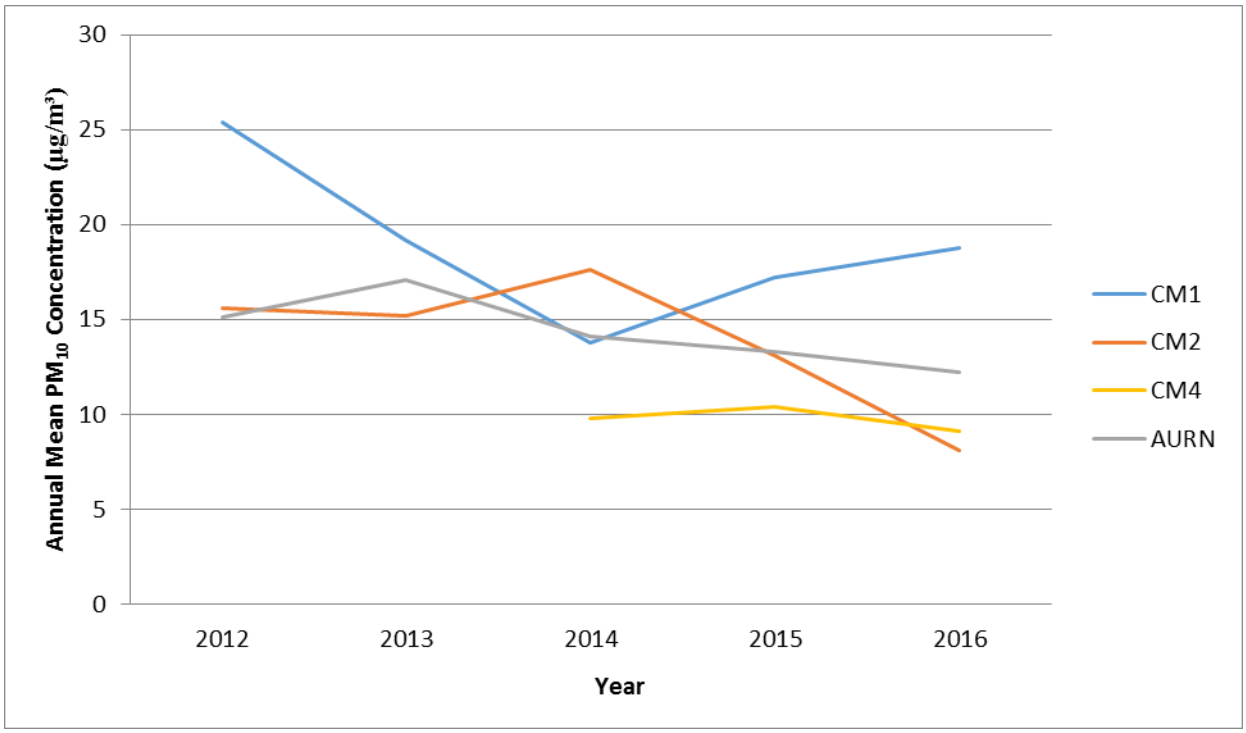
[a] CM3 installed on the 16th December 2015 [b]CM4 was decommissioned in August 2016 *Values shown in brackets represent annualised concentrations

Table 2.7 – Results of Automatic Monitoring for PM_{10}: Comparison with 24-hour Mean Objective

ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2016 %	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50µg/m^3				
						2012	2013	2014	2015	2016
Isle of Anglesey County Council										
CM1	Rural	N	86.9	86.9	Y	8	5	2	2	4
CM2	Rural	N	74.3	74.3	Y	4	0	6	3	16.9µg/m^3
CM3	Rural	N	76.8	76.8	Y	-	-	-	-	24.9µg/m^3
CM4	Rural	N	78.2	46.2[a]	Y	1	-	0	0	15.5µg/m^3
Wrexham County Borough Council										
AURN	Roadside	N	96	96	Y	4	12	8	3	0

[a]CM4 was decommissioned in August 2016 *Where there is less than 85% data capture, the 90.4th percentile is reported

Figure 2.27 – Trends in Annual Mean PM_{10} Concentrations



2.2.3 Particulate Matter ($PM_{2.5}$)

Obligatory standards for $PM_{2.5}$ are provided in the AQS however currently there is no statutory duty on local government to achieve of these standards. Nonetheless, as detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$. $PM_{2.5}$ monitoring is carried out at the Victoria Road AURN continuous monitor in Wrexham County Borough Council and at CM1, CM2, CM3 and CM4 in the Isle of Anglesey County Council. No other local authorities in the North Wales Combined Authority monitor $PM_{2.5}$.

Annualisation was carried out at CM2 and CM4. It should be noted that the background automatic monitoring stations used to annualise the data against were over 80km from the monitoring sites. Therefore, the results of the annualisation should be used with caution as the background locations may not necessarily be representative of the background conditions at the $PM_{2.5}$ monitoring sites. Further information can be found in Appendix A.

Table 2.8 shows the results of the $PM_{2.5}$ monitoring over the past five years. The IACC only began publishing collected $PM_{2.5}$ data in 2016 as a response to the growing interest surrounding the health impacts of $PM_{2.5}$. As a consequence, data for previous years are not available for these sites.

No exceedances of the 25µg/m^3 annual mean target, to be achieved by 2020 and published in the AQS, were recorded in the past five years at any of the monitoring locations.

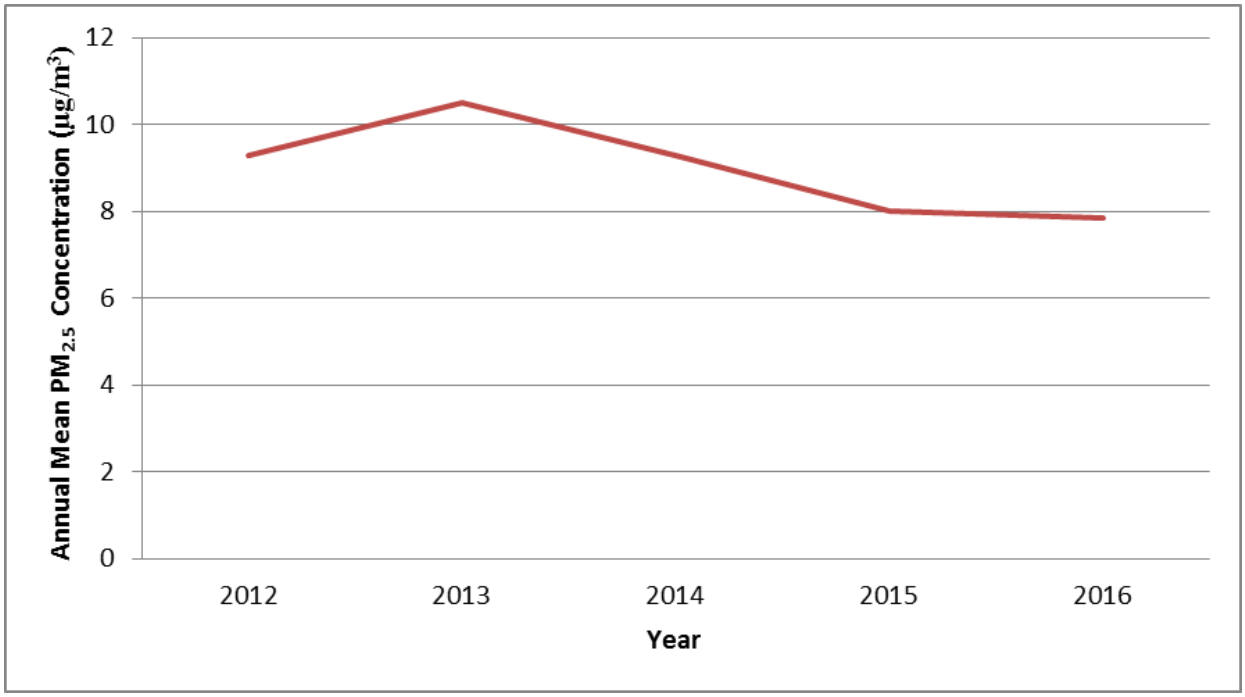
Table 2.8 – Results of $PM_{2.5}$ Automatic Monitoring

Site ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2016 %	Annual mean concentrations (µg/m^3)				
					2012	2013	2014	2015	2016
Isle of Anglesey County Council									
CM1	Rural	N	86.9	86.9	-	-	-	-	6.1
CM2	Rural	N	74.3	74.3	-	-	-	-	3.9 (4.0)
CM3	Rural	N	76.8	76.8	-	-	-	-	7.4
CM4	Rural	N	78.2	46.2[a]	-	-	-	-	5.3 (5.4)
Wrexham County Borough Council									
Victoria Road AURN	Roadside	N	93	93	9.3	10.5	9.3	8	7.8

[a]CM4 was decommissioned in August 2016 *Values shown in brackets represent annualised concentrations

Figure 2.28 shows the trend in annual mean $PM_{2.5}$ concentrations over the past five years. There has been a gradual decline recorded at the AURN site since 2013 with concentrations decreasing from 10.5µg/m^3 in 2013 to 7.8µg/m^3 in 2016. However the decrease in annual mean concentrations appears to level off slightly between 2015 and 2016. Nonetheless, the reported concentrations are well below the 25µg/m^3 target value. Only 2016 data is available for CM1, CM2, CM3 and CM4. At all monitoring locations annual mean $PM_{2.5}$ concentrations are well below the target value.

Figure 2.28 – Trends in Annual Mean $PM_{2.5}$ Concentrations at the AURN Continuous Monitoring Site



2.2.4 Sulphur Dioxide (SO_2)

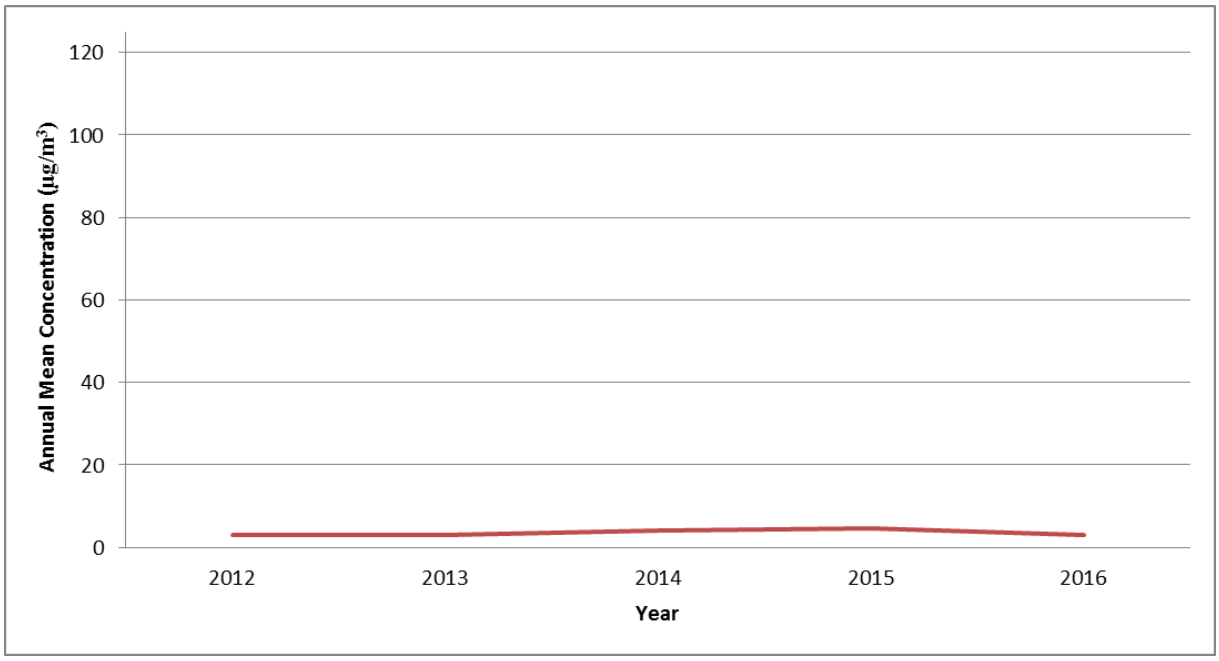
SO_2 monitoring is only carried out in Wrexham County Borough Council, at the AURN Victoria Road automatic monitoring station. The following table shows the results of the SO_2 monitoring.

Table 2.9 – Results of SO_2 Automatic Monitoring

ID	Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2016 %	Number of:		
					15-minute Means > 266µg/m^3	1-hour Means > 350µg/m^3	24-hour Means > 125µg/m^3
Victoria Road AURN	Roadside	N	97	97	0	0	0

Table 2.9 shows the annual mean SO_2 concentrations at the Victoria Road AURN station. There is no annual mean objective in the AQS for SO_2 and therefore the graph is solely to illustrate the trend in SO_2 concentrations over the past 5 years. Since 2012 the annual mean SO_2 concentration has stayed relatively consistent and remained low.

Figure 2.29 – Trends in SO_2 Concentrations



There were no reported exceedances of the objective levels for SO_2 and therefore there is no need to proceed to a detailed assessment.

2.2.5 Benzene (C_6H_6)

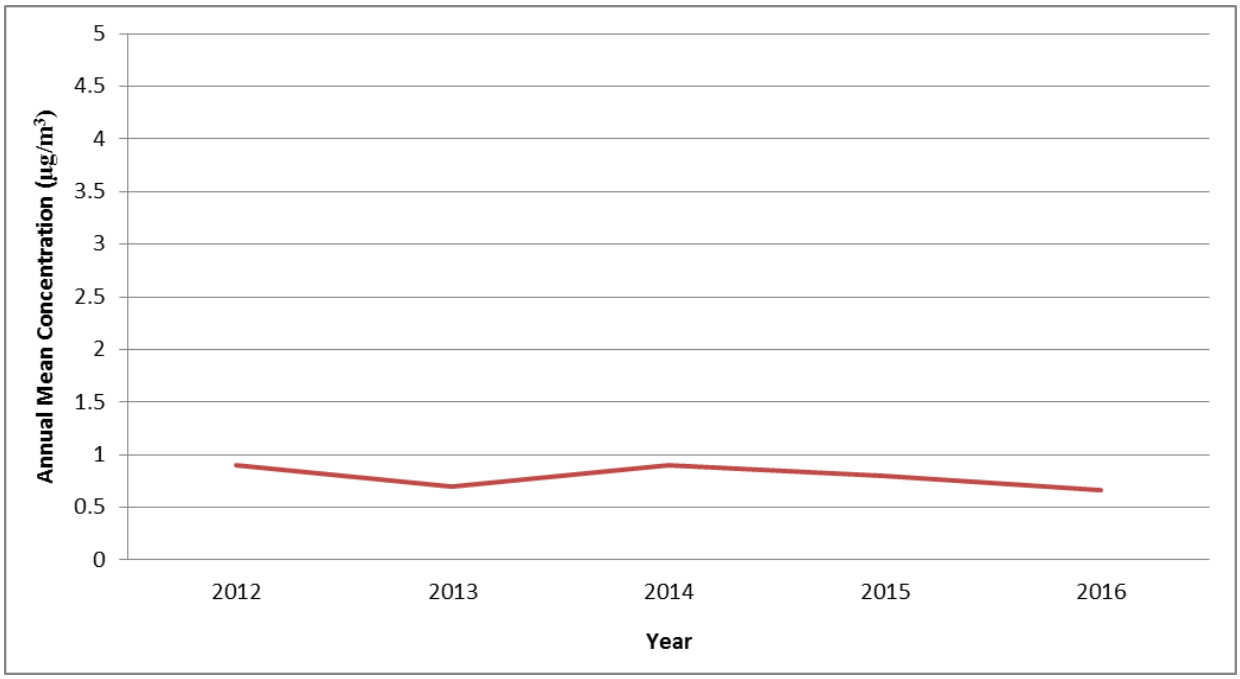
Benzene monitoring is only carried out in Wrexham County Borough Council who maintains one diffusion tube for monitoring benzene near to an acid tar lagoon. It has been sited in this location to monitor for benzene levels that may be released from the lagoon.

Table 2.10 – Results of Benzene Diffusion Tube Monitoring

Site ID	Location	Within AQMA?	Data Capture 2017 (%)	Annual mean concentrations (µg/m^3)				
				2012	2013	2014	2015	2016
WCBC26	Llwyneinion Rd (Rhosllanerchrugog)	N	100	0.9	0.7	0.9	0.8	0.7

The annual mean benzene concentration recorded in 2016 was well below the limit value of 5µg/m3. Figure 2.30 shows the trend in annual mean benzene concentrations for the past 5 years.

Figure 2.30 – Trends in Annual Mean Benzene Concentrations



The graph shows that the level of benzene recorded in Rhosllanerchrugog have remained largely consistent since monitoring began. No exceedances of the objective level have been reported in the last 5 years. As a result, there is no need to proceed to a detailed assessment for Benzene.

2.2.1 Other Pollutants Monitored

No other pollutants listed on the Air Quality Standards are monitored within the North Wales Combined Authority. No new or existing sources of pollution have been identified that may lead to an exceedance of the Air Quality objectives of any other pollutant not covered in this report.

2.2.2 Summary of Compliance with AQS Objectives

The North Wales Combined Authority has examined the results from monitoring in the six local authority areas (Isle of Anglesey County Council, Conwy Borough Council, Denbighshire County Council, Flintshire Council, Gwynedd Council and Wrexham County Borough Council).

Concentrations are all below the objectives or at locations not relevant to exposure, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

3.1 Road Traffic Sources

Table 3.1 shows the newly identified developments which have been approved in 2016. The table includes details on the outcome of the decision with regards to impacts on air quality.

Table 3.1 – Approved Planning Applications: Road Traffic Sources

Local Authority	Source Type	Planning Application	Outcome
Isle of Anglesey County Council	Roads with significantly changed traffic flows. New roads constructed or proposed since the last Updating and Screening Assessment.	Application for a leisure village at Penrhos Coastal Park, London Road, Holyhead. Comprising up to 500 new leisure units, a central hub building with leisure facilities.	Traffic assessed as part of planning application process. No significant air quality impacts predicted.
		Application for the erection of a replacement Alternative Emergency Control Centre and District Survey Laboratory facilities to support the Magnox Power Station. Includes parking and new vehicular access and road widening.	It is deemed unlikely that the changes proposed to the road layout will significantly impact air quality.
		Application for the erection of a science park, creation of a car park and installation of solar panels. New vehicular access on land at Cefn Du, Gaerwen.	Receptors located over 300m from the source of air pollution. No significant impacts on sensitive receptors are predicted.
		A5025 highways improvements between Valley and the Wylfa Newydd Development Area.	Improvements to the A5025 from Valley to Wylfa have been discussed in the 2016 Air Quality Progress Report. A 12 month NO_2 diffusion tube study at various locations along the A5025 commenced in February 2016. See Section 2.2.1 for results of this study.

Local Authority	Source Type	Planning Application	Outcome
Conwy County Borough Council	Roads with significantly changed traffic flows.	Construction and operation of a new superstore and restaurant development including demolition, preparatory earthworks, a new (A1) retail superstore unit, a new (Sui Generis) petrol filling station, 4 new (including 1no. replacement) (A3) restaurant units, a new primary site access road from the A55, hard and soft landscaping and associated new drainage and utility infrastructure at former Brickworks Site, Tremarl Industrial Estate.	An air quality assessment was carried out in support of the application. The existing air quality in the area is significantly below Objective levels and the assessment predicted that annual mean NO_2 and PM_{10} concentrations will have a small/imperceptible impact.
		Demolition of all existing on-site buildings and structures at Land in Colwyn Bay Town Centre. The construction of a new four storey council office building including customer service area, child contact centre, CCTV suite, multi storey car park, landscaping and other associated facilities and works.	Due to the potential increase in traffic associated with the use of the large facility an air quality assessment was carried out. The impact significance was predicted to be negligible for the sensitive receptors identified for both NO_2 and PM_{10}. Diffusion tubes are now located at positions representing worst case scenario receptor points.
Gwynedd Council	New roads constructed or proposed since the last Updating and Screening Assessment.	Bypass from the Goat roundabout on the A499/A487 junction to the Plas Menai roundabout, around Llanwnda, Dinas, Bontnewydd and Caernarfon avoiding the town centres.	An air quality assessment was carried out to assess the air quality impacts from construction and operation on both human and ecological receptors. No significant adverse impacts are anticipated.

Since the previous Local Authority Air Quality Progress Reports, there have been none of the following new or newly identified developments:

- Narrow congested streets with residential properties close to the kerb;
- Busy streets where people may spend one hour or more close to traffic;
- Roads with a high flow of buses and/or HGVs;
- Junctions; or
- Bus or coach stations.

3.2 Other Transport Sources

Since the previous Local Authority Air Quality Progress reports, there have been none of the following new or newly identified developments:

- Airports;

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

3.3 Industrial Sources

Table 3.2 shows the newly identified developments which have been approved in 2016. The table includes details on the outcome of the decision with regards to impacts on air quality.

Table 3.2 – Approved Planning Applications: Industrial Sources

Local Authority	Source Type	Planning Application	Outcome
Isle of Anglesey County Council	New or proposed installations	Application for the erection of a replacement Alternative Emergency Control Centre and District Survey Laboratory facilities to support the Magnox Power Station. Includes installation of emergency generators, which will be tested periodically.	It is considered unlikely that these emergency generators will lead to exceedances of the Air Quality Objectives.
	Petrol Stations	Application for the demolition of a petrol station and the adjacent retail furniture unit, together with the erection of a new petrol filling station, replacement of underground fuel tanks together with the erection of three retail units and three storage units and alterations to the existing access at Herron Serivce, Ffordd Glanhwfa Road, Llangefni.	Impacts associated with the application have been assessed and no significant impacts on air quality are predicted. Stage I and II vapour recovery will be included as part of the development.

Since the previous Local Authority Air Quality Progress Reports, there have been none of the following new or newly identified developments:

- Industrial installations: existing where emissions have increased substantially or relevant exposure introduced;
- Major fuel storage depots;

3.4 Commercial and Domestic Sources

Table 3.3 shows the newly identified developments which have been approved in 2016. The table includes details on the outcome of the decision with regards to impacts on air quality.

Table 3.3 – Approved Planning Applications: Commercial and Domestic Sources

Local Authority	Source Type	Planning Application	Outcome
Isle of Anglesey County Council	Combined Heat and Power (CHP) Plant	Application for a leisure village at Penrhos Coastal Park, London Road, Holyhead. Includes the use of Combined Heat and Power.	Separate chimney height assessments are required as part of the planning application.

Since the previous Local Authority Air Quality Progress Reports, there have been none of the following new or newly identified developments:

- Biomass combustion plant – individual installations;
- Areas where the combined impact of several biomass combustion sources may be relevant; or
- Areas where domestic solid fuel burning may be relevant.

3.5 New Developments with Fugitive or Uncontrolled Sources

Since the previous Local Authority Air Quality Progress Reports, there have been none of the following new developments:

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

The North Wales Combined Authority confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority areas.

The North Wales Combined Authority confirms that all the following have been considered:

- Road traffic sources
- Other transport sources
- Industrial sources
- Commercial and domestic sources
- New developments with fugitive or uncontrolled sources.

4 Air Quality Planning Policies

There are no AQMAs declared in the North Wales Combined Authority. Therefore there are currently no active air quality action plans. As air quality is considered to be good within all six local authority areas, there have been no local policies specifically related to air quality developed. Nonetheless, air quality is considered in the wider context in several local policies including:

- The Isle of Anglesey County Council and Gwynedd Council have adopted a joint Local Development Plan which provides the land use strategy for the next 15 years. The plan addresses the need to maintain good air quality in the area and ensure new development does not cause adverse impacts.
- The Conwy Local Development Plan 2007-2022 includes strategic policies (NTE/1) to ensure natural resources, including air quality, are protected.
- The Denbighshire County Council Local Development Plan 2006-2021 was adopted in 2013 and includes a commitment to avoid reaching critical air quality levels. It acknowledges that assessments of the environmental impact of transport proposals will need to also include air pollution along with noise and ecological impacts.
- Flintshire County Council is currently preparing their Local Development Plan. However, in the interim their Unitary Development Plan for the 15 year period, from 2000 to 2015 remains adopted. The plan identifies sites where new housing, employment and other development can take place, as well as setting out policies to protect important countryside, habitats, resources and heritage. Specific to air quality, Policy STR1 addresses the need to minimise pollution to air, water and land when proposing new developments and STR7 highlights the need to safeguard the natural environment.
- Wrexham County Borough Council is currently preparing the Local Development Plan 2 2013 to 2028 which will replace the adopted Unitary Development Plan 1996 to 2011. The plan is a long-term land use and development strategy focused on achieving sustainable development. It will set out policies that will be used to decide planning applications and safeguard areas of land requiring protection including strategies to ensure the environment is protected from adverse effects of pollution.

5 Local Transport Plans and Strategies

North Wales Joint Local Transport Plan (LTP) (2015-2025) has been jointly produced by the six North Wales Local Authorities in response to the Welsh Government requirement for LTPs to be submitted by the end of January 2015. The plan preparation has been overseen by Taith as a Joint Committee of the local authorities for transport. The Plan is a statutory document for transport in the region.

A review of the Wales Transport Strategy Objectives, the Welsh Government targets for investment and the Regional Transport Plan priorities, together with the review of issues and opportunities led to the drafting of outcomes for the Local Transport Plan. The Local Transport Plan Outcomes that relate to bringing about air quality improvements includes:

- Connections to Key Destinations and Markets: Support for Economic Growth through an improvement in the efficiency, reliability, resilience, and connectivity of movement, including freight, within and between North Wales and other regions and countries (with a particular focus on accessibility to the Enterprise Zones and an improvement in the vitality and viability of towns and other key centres);
- Benefits and Minimised Impacts on the Environment: the potential for transport improvements to positively affect the local and global natural and built environment will have been maximised and negative impacts minimised, including adaptation to the effects of climate change.

A set of higher level interventions have been developed which together aim to deliver the vision and outcomes sought for the LTP:

- Transport network resilience improvements–Improvements to key county corridors to remove/ improve resilience problems
- Integration with strategic public transport services–Schemes to improve access to rail stations including road access and bus services and interchange facilities, support for park and ride, walking and cycling routes and facilities.
- Improved links to Employment–Schemes to provide improved access to Enterprise Zones (EZs), ports, employment sites and town centres.

- Access to services–Range of integrated transport measures to improve access to education, health, community, shopping and other services by public transport, walking and cycling as well as community transport, taxi, car share sites.
- Encouraging sustainable travel–Infrastructure improvements and promotional initiatives to increase levels of walking and cycling both for travel and for leisure as well as public transport. May include road and rail bridges/ crossings, cycle routes, footway/ footpath provision, safe routes to school, travel planning as well as road safety measures to assist vulnerable users

6 Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

Monitoring carried out in 2016 indicated that annual mean and hourly concentrations of NO_2 were below the relevant AQS objective for all but one monitoring location within the North Wales Combined Authority. The one diffusion tube location (DT1 in IACC) was situated at a kerbside site along the A55 and did not represent relevant exposure. Therefore an exceedance at this location was not deemed to be of concern.

The annual mean concentrations of $PM_{10,}$ $PM_{2.5}$ and C_6H_6 and the 24-hour mean concentrations of PM_{10} were below the relevant AQS objectives at all sites where monitoring was undertaken. Furthermore, the 15 minute, 1-hour and 24-hour mean concentrations of SO_2 were all also below the relevant AQS objectives.

6.2 Other Conclusions

There were no local developments approved in 2016, in the North Wales Combined Authority, which are expected to cause an adverse air quality impact on the surrounding area. Therefore no newly identified or previously unconsidered sources of air pollution were introduced in 2016.

No detailed assessments are required as a result of exceedances of pollutant concentrations and no AQMAs need to be declared. As a result there are no air quality action plans in the North Wales Combined Authority. Nonetheless, wider policy documents discussed in Section 4 and 5 address air quality issues to ensure concentrations remain below the AQS objectives.

6.3 Proposed Actions

The recommendations for the coming year are listed below:

- Proceed to the 2018 Updating and Screening Assessment;
- Maintain the air quality monitoring programmes in each local authority and ensure new monitoring sites are added as required.

7 References

- Department for Environment, Food and Rural Affairs (Defra) (2016) Local Air Quality Management Technical Guidance LAQM.TG(16).
- Department for Environment, Food and Rural Affairs (Defra) (2016) *Local Air Quality Management Policy Guidance LAQM.PG(16)*.
- Isle of Anglesey County Council (2016) *Annual Status Report*
- Conwy County Borough Council (2016) *Annual Status Report*
- Denbighshire County Council (2016) *Annual Status Report*
- Gwynedd Council (2016) *Annual Status Report*
- Flintshire County Council (2016) *Annual Status Report*
- Wrexham County Borough Council (2016) *Annual Status Report*
- National Diffusion Tube Bias Adjustment Spreadsheet, version 07/17 published in July 2017.
- https://laqm.defra.gov.uk/assets/airptrounds7to18apr2015feb2017.pdf
- https://www.gwynedd.llyw.cymru/en/Council/Strategies-and-policies/Environment-and-planning/Planning-policy/Joint-Local-Development-Plan/Joint-Local-Development-Plan.aspx
- Flintshire County Council Unitary Development Plan 2000-2015
- http://www.flintshire.gov.uk/en/PDFFiles/Planning/LDP-evidence-base/Local/North-Wales-Joint-Local-Transport-Plan-2015.pdf
- The Conwy Local Development Plan 2007-2022
- The Denbighshire County Council Local Development Plan 2006-2021
- Wrexham County Borough Council Unitary Development Plan 1996 to 2011

Appendices

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

Appendix B: Complete Monitoring Results (2012-2016)

Appendix C: Full Monthly Diffusion Tube Results for 2016

Appendix A: QA/QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tubes for CCBC, DCC, FCC, IACC and WCBC are supplied and analysed by Environmental Scientific Group (ESG) Didcot utilising the 50% triethanolamine (TEA) in acetone preparation method. The bias adjustment factor for 2016 is 0.78 (based on 38 studies, June 2017) as obtained from the national bias adjustment calculator.

The diffusion tubes for GC are supplied and analysed by Gradko utilising 20% TEA in water preparation method. The bias adjustment factor for 2016 is 0.92 (based on 27 studies, June 2017) as obtained from the national bias adjustment calculator.

Factor from Local Co-location Studies

A co-location study was undertaken at one location within the North Wales Combined Authority. Three diffusion tubes were co-located at the Victoria Road AURN continuous monitoring station in WCBC. The data capture in 2016 was above 90% during 9 of the monitoring periods and the precision was good at 11 of the monitoring periods. A factor of 0.93 was produced from the study, which is present in Figure A.1.

Figure A.1 – Factor from Local Co-Location Study

Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µgm⁻³	Tube 2 µgm⁻³	Tube 3 µgm⁻³	Triplicate Mean	Standard Deviation	Coefficient of Variation	95% CI of mean
1	15/01/2016	04/02/2016	21.0	15.5	21.3	19	3.3	17	8.1
2	04/02/2016	04/03/2016	22.2	21.2	22.0	22	0.5	2	1.3
3	04/03/2016	31/03/2016	27.5	26.9	28.7	28	0.9	3	2.3
4	31/03/2016	29/04/2016	20.2	22.3	22.0	22	1.1	5	2.8
5	29/04/2016	26/05/2016	21.4	21.1	22.5	22	0.7	3	1.8
6	26/05/2016	01/07/2016	17.6	16.3	18.5	17	1.1	6	2.7
7	01/07/2016	29/07/2016	11.0	7.7	11.2	10	2.0	20	4.9
8	29/07/2016	26/08/2016	14.1	14.6	14.4	14	0.3	2	0.6
9	26/08/2016	30/09/2016	17.6	16.9	16.9	17	0.4	2	1.0
10	30/09/2016	28/10/2016	25.6	27.4	27.5	27	1.1	4	2.7
11	28/10/2016	02/12/2016	30.4	28.2	31.2	30	1.6	5	3.9
12	02/12/2016	13/01/2017	28.5	29.6	30.8	30	1.2	4	2.9
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
19.57	100	Good	Good
21.44	55.17	Good	or Data Capture
26.09	100	Good	Good
19.85	100	Good	Good
20	96.3	Good	Good
18	100	Good	Good
9	96.43	Poor Precision	Good
10	96.43	Good	Good
14	100	Good	Good
26	100	Good	Good
23.17	68.57	Good	or Data Capture
8.7	0.97	Good	or Data Capture
Overall survey -->		Good precision	Poor Overall

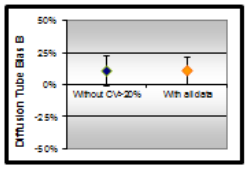
(Check average CV & DC from Accuracy calculations)

Site Name/ ID:

Precision 11 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval)
without periods with CV larger than 20%
Bias calculated using 8 periods of data
Bias factor A 0.93 (0.83 - 1.04)
Bias B 8% (-4% - 20%)
Diffusion Tubes Mean: 21 µgm⁻³
Mean CV (Precision): 5
Automatic Mean: 19 µgm⁻³
Data Capture for periods used: 99%
Adjusted Tubes Mean: 19 (17 - 22) µgm⁻³

Accuracy (with 95% confidence interval)
WITH ALL DATA
Bias calculated using 9 periods of data
Bias factor A 0.92 (0.84 - 1.02)
Bias B 8% (-2% - 19%)
Diffusion Tubes Mean: 20 µgm⁻³
Mean CV (Precision): 7
Automatic Mean: 18 µgm⁻³
Data Capture for periods used: 99%
Adjusted Tubes Mean: 18 (16 - 20) µgm⁻³



Jaume Targa, for AEA
Version 04 - February 2011

Discussion of Choice of Factor to Use

Data have been corrected using a bias adjustment factor, which is an estimate of the difference between diffusion tube concentrations and continuous monitoring, the latter assumed to be a more accurate method of monitoring. The technical guidance LAQM.TG(16) provides guidance with regard to the application of a bias adjustment factor to correct diffusion tubes. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

No co-location studies were carried out in CCBC, DCC, FCC, IACC and GC. Therefore the relevant national bias adjustment factor was used to adjust the diffusion tube data in 2016. The co-location study carried out in WCBC had good precision for 11 months and data capture of more than 90% for 9 months. However it was deemed appropriate to use the national bias adjustment factor, which was based on 38 studies and therefore considered to be more representative, to adjust the diffusion tube data in WCBC in 2016.

For previous year's data 2012 to 2015, the bias adjustment factors have been taken from the Council's previous LAQM annual reports. The factors used are as follows:

- IACC: 0.79 (2012), 0.81 (2013), 0.81 (2014) and 0.79 (2015);
- CCBC: 0.79 (2012), 0.80 (2013), 0.81 (2014) and 0.81 (2015);
- DCC: 0.79 (2012), 0.80 (2013), 0.81 (2014) and 0.79 (2015);
- FCC: 1.05 (2012), 0.81 (2013), 0.76 (2014) and 0.8 (2015);
- GC: 0.97 (2012), 0.95 (2013), 0.92 (2014) and 0.88 (2015); and
- WBCB: 0.8 (2012), 0.8 (2013), 0.81 (2014) and 0.81 (2015).

PM Monitoring Adjustment

The particulate monitoring undertaken in WCBC was via use of daily gravimetric Partisols. These meet the European equivalence testing and therefore are not subject to any correction.

The Osiris instruments run by IACC have not been adjusted. The IACC have previously demonstrated that an adjustment factor of 1.3 would lead to a significant overestimation of the impact of coarse dust (e.g. quarry dust). Therefore it was deemed inappropriate to adjust the data gathered using the Osiris monitors as these instruments are normally monitoring for the coarse fractions e.g. quarry dust.

QA/QC of Automatic Monitoring

The Victoria Road AURN automatic monitoring station in Wrexham County Borough Council is part of the Automatic Urban and Rural Network (AURN). The data ratification and station audit are carried out by Ricardo-AEA under contract with DEFRA and the Devolved Administrations.

The four PM_{10} automatic monitoring stations in the Isle of Anglesey County Council are run by the local authority. Routine filter changes and air flow checks (600ml/min) on the Turnkey Osiris instruments are carried out normally on a quarterly basis. This is in addition to an annual service and calibration undertaken by Turnkey Instruments under the terms of the service contract. The data is downloaded electronically from each of the instruments approximately 2 to 3 times a week using a GSM modem. This enables the performance of the instrument to be monitored and enables problems to be rectified quickly and with minimum loss of data. The data is stored as 15-minute averages and is analysed using a dedicated software system (AirQ32). A visual data ratification process is employed, to safeguard against erroneous peaks etc., before any results are reported.

QA/QC of Diffusion Tube Monitoring

ESG Didcot and Gradko are both UKAS accredited laboratories who participates in the in the new AIR-PT Scheme (a continuation of the Workplace Analysis Scheme for Proficiency (WASP)) for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre. The labs follow the procedures set out in the Harmonisation Practical Guidance In the latest available AIR-PT results, AIR-PT AR 0012 (January to February 2016), AIR-PT AR013 (April to May 2016), AIR-PT AR015 (July to August 2016), AIR-PT AR016 (September to October 2016) and AIR-PT AR01 (October to November 2016).

ESG Didcot has scored 100% except AR013 and AR015 with 75%. The percentage score reflects the results deemed to be satisfactory based upon the z-score of < ± 2. 75% of all local Authority co-location studies in 2016 were rated as ‘good’ (tubes are considered to have "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%).

Gradko has scored 100% on all results. The percentage score reflects the results deemed to be satisfactory based upon the z-score of < ± 2. All local Authority co-location studies in 2016 were rated as ‘good’ (tubes are considered to have "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%).

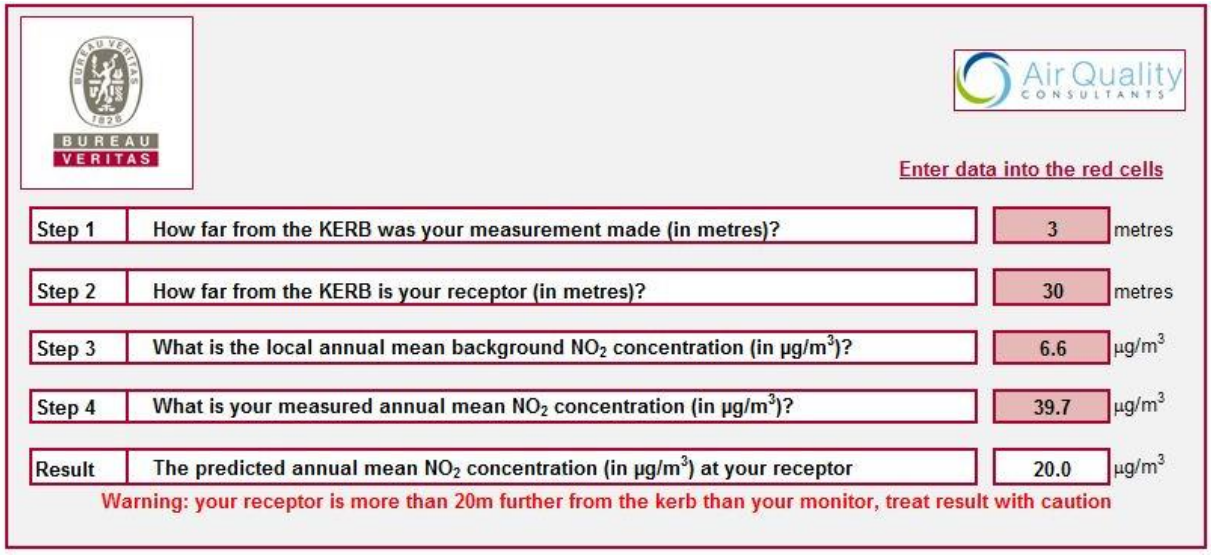
Fall-off with Distance Correction of Sites Exceeding and within 10% of the NO2 Annual Mean Objective

There was one diffusion tube location which exceeded the annual mean AQS objective for NO_2 (DT4 in IACC). There were a further two diffusion tube locations where the reported concentration was within 10% of the annual mean AQS objective for NO_2. The two locations were Site 57 in FCC and DT1 in IACC. DT1 was at a kerbside location which did not represent exposure and therefore no adjustment was required for this site.

The two remaining locations required adjustment using the NO_2 fall-off with distance calculator to calculator to estimate the NO_2 concentration at the nearest location with relevant exposure. The exposure. The calculations are shown in

Figure A.2 and Figure A.3. It should be noted that DT4 was over 20m from a sensitive receptors and therefore the predicted concentration should be treated with caution.

Figure A.2 – Fall-off Distance Correction of DT4: Isle of Anglesey County Council

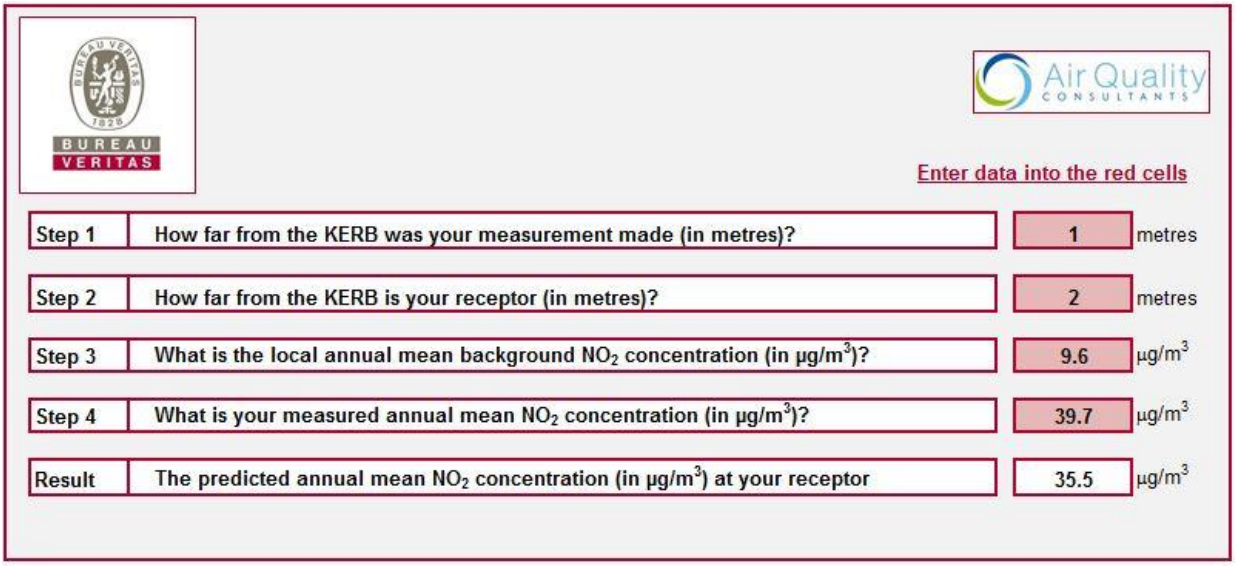


Enter data into the red cells

Step 1	How far from the KERB was your measurement made (in metres)?	3	metres
Step 2	How far from the KERB is your receptor (in metres)?	30	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	6.6	µg/m^3
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	39.7	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	20.0	µg/m^3

Warning: your receptor is more than 20m further from the kerb than your monitor, treat result with caution

Figure A.3 – Fall-off Distance Correction of Site 57: Flintshire Council



Enter data into the red cells

Step 1	How far from the KERB was your measurement made (in metres)?	1	metres
Step 2	How far from the KERB is your receptor (in metres)?	2	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	9.6	µg/m^3
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	39.7	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	35.5	µg/m^3

Short-term to Long-term Data Adjustment

Data capture at all sites which recorded less than 75% data capture during 2016 has been annualised according to the method set out in Boxes 7.9 and 7.10 of LAQM.TG16. The details of the annualisation have been provided in Table A.1 to Table A.3.

It should be noted that the background automatic stations used for annualisation of the PM_{10} and $PM_{2.5}$ data were over 80km from the monitoring locations. Therefore, the annualised results should be treated with caution as the background locations

may not necessarily be representative of the conditions at the monitoring sites in Anglesey.

Table A.1 – Short-Term to Long-Term Monitoring NO_2 Adjustment: Non-Automatic Stations

Site	Uncorrected Diffusion Tube Mean (µg/m3)	Annualisation Factor					Annualised Data Average (µg/m3)	Annualised Bias Adjusted Concentration (µg/m3)
		Glazebury	Stoke-on-Trent	Aston Hill	Wirral Tranmere	Average		
Isle of Anglesey County Council								
DT2	30.1	1.026	1.000	0.909	1.113	1.012	30.5	28.0
DT3	12.2	0.977	1.000	1.103	0.917	0.999	12.2	11.2
Gwynedd Council								
GCC 003	11.9	0.946	0.955	0.853	1.083	0.959	11.4	10.5
GCC 037	26.3	0.976	0.989	1.206	1.042	1.053	27.7	25.5
Flintshire Council								
Site5/ 9/10	39.7	1.094	1.039	1.016	1.144	1.073	42.6	33.2
Site 58	31.5	0.977	1.000	1.103	0.917	0.999	31.4	24.5
Wrexham County Borough Council								
WBC-047	29.4	0.904	0.956	0.984	0.867	0.928	27.2	25.3

Table A.2 – Short-Term to Long-Term Monitoring PM_{10} Adjustment

Site	Uncorrected Mean (µg/m^3)	Annual Mean/Period Mean (µg/m^3)			Average Ratio	Corrected Mean
		Salford Eccles	Sheffield Devonshire Green	Chesterfield Loundsley Green		
Isle of Anglesey County Council						
CM2	8.1	17.3/17.4	17.6/17.2	14.7/14.6	1.01	8.1
CM4	9.0	17.3/16.6	17.6/16.9	14.7/15.1	1.02	9.1

Table A.3 – Short-Term to Long-Term Monitoring $PM_{2.5}$ Adjustment

Site	Uncorrected Mean (µg/m^3)	Annual Mean/Period Mean (µg/m^3)			Average Ratio	Corrected Mean
		Salford Eccles	Wirral Tranmere	Stoke-on-Trent		
Isle of Anglesey County Council						
CM2	3.9	10.5/10.3	7.9/7.5	11.7/11/1	1.04	4.0
CM4	5.3	10.5/10.0	7.9/7.5	11.7/12/2	1.02	5.4

Appendix B: Complete Monitoring Results (2012 – 2016)

Table B.1 – Results of NO_2 Diffusion Tubes (2012 to 2016): Isle of Anglesey

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.81)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.79)	2016 (Bias Adjustment Factor = 0.78)
DT1	Kerbside	N	42.1	44.3	38.7	38.1	39.7
DT2	Kerbside	N	-	-	21.1	21.3	23.5
DT3	Roadside	N	-	-	-	-	9.5
DT4	Roadside	N	-	-	-	-	45.2
DT5	Roadside	N	-	-	-	-	9.8
DT6	Roadside	N	-	-	-	-	11.3
DT7	Kerbside	N	-	-	-	-	15.3
DT8	Roadside	N	-	-	-	-	9.9
DT9	Roadside	N	-	-	-	-	9.5
DT10	Roadside	N	-	-	-	-	7
DT11	Roadside	N	-	-	-	-	10.2
DT12	Roadside	N	-	-	-	-	9
DT13	Roadside	N	-	-	-	-	6.7
DT14	Roadside	N	-	-	-	-	12.7
DT15	Roadside	N	-	-	-	-	11.2

Table B.2 – Results of NO_2 Diffusion Tubes (2012 to 2016): Conwy Borough Council

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.81)	2016 (Bias Adjustment Factor = 0.78)
CBC-001	Roadside	N	19.7	19.4	17.5	17.3	19.3
CBC-034	Roadside	N	-	-	-	-	21.1

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.81)	2016 (Bias Adjustment Factor = 0.78)
CBC-004	Urban Background	N	10.3	10.6	8.8	8.7	10.3
CBC-016	Urban Background	N	9.7	10.3	9	8.6	9.1
CBC-017	Roadside	N	20.3	19.6	18.1	19.1	19.0
CBC-018	Roadside	N	23	21.8	19.4	22.6	20.9
CBC-026	Roadside	N	30.2	28	27.4	25.2	27.8
CBC-025	Roadside	N	17.5	16.9	15.4	16.3	15.6
CBC-031	Roadside	N	-	-	-	20.8	21.0
CBC-032	Roadside	N	-	-	-	17.4	18.9
CBC-021	Roadside	N	17.4	16.2	15.2	16.8	17.7
CBC-022	Roadside	N	19.8	19.9	18.9	19.3	20.7
CBC-033	Roadside	N	18.7	17.1	16.8	15.5	13.8
CBC-027	Roadside	N	15.2	15.6	13.3	14.3	14.7
CBC-029	Roadside	N	-	-	12.7	11.7	11.2

Table B.3 – Results of NO_2 Diffusion Tubes (2012 to 2016): Denbighshire County Council

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.79)	2016 (Bias Adjustment Factor = 0.78)
DBK1	Roadside	N	25.3	25.9	25.8	23.1	23.5
DBR2	Roadside	N	27.9	29.3	29.1	26.7	26.4
DBB3	Suburban	N	10.9	10.4	9.8	9.3	9.8
DBB4	Suburban	N	11.1	11.9	10.5	9.9	10.3
DBR5	Suburban	N	16.1	15.3	14	14.0	15.5
DBR48	Roadside	N	28.8	29.3	25.1	25.7	26.7

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.79)	2016 (Bias Adjustment Factor = 0.78)
DBR23	Roadside	N	18.9	19.5	17.3	17.2	18.6
DBR8	Suburban	N	17.1	16.9	15.1	14.7	15.5
DBR9	Suburban	N	23.6	21.3	21.8	21.2	21.1
DBR10	Suburban	N	16.8	16.2	16.4	14.5	16.1
DBR24	Roadside	N	34.4	34.1	32.6	32.5	33.1
DBR20	Roadside	N	24.4	24	21.3	21.2	19.8
DBR43	Roadside	N	37.7	36.7	31.9	32.8	29.1
DBR44	Roadside	N	28.5	28.8	25.9	24.2	25.0
DBR45	Roadside	N	25.7	24.9	23	21.6	23.3
DBR37	Roadside	N	29.9	29.4	28.5	28.0	26.6
DBR38	Roadside	N	21	19.9	17.9	16.5	16.8
DBR31	Kerbside	N	20.1	19.6	18	17.0	18.9
DBR32	Roadside	N	20.9	20.9	19.1	18.5	18.9
DBR33	Roadside	N	27.3	25.7	22.1	29.0	28.2
DBR34	Kerbside	N	16.9	15.8	14.7	13.6	15.2
DBR49	Roadside	N	-	18.8	16.7	16.0	17.1
DBR50	Roadside	N	-	18.5	16.5	16.4	16.0
DBR52	Roadside	N	-	30.5	30.3	21.7	24.1
DBR53	Roadside	N	-	31.7	30.7	28.2	31.2
DBR54	Roadside	N	-	-	16.1	13.2	13.7

Table B.4 – Results of NO_2 Diffusion Tubes (2012 to 2016): Flintshire Council

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 1.05)	2013 (Bias Adjustment Factor = 0.81)	2014 (Bias Adjustment Factor = 0.76)	2015 (Bias Adjustment Factor = 0.8)	2016 (Bias Adjustment Factor = 0.78)
Site 1	Kerbside	N	37.8	30.3	25.4	21.1	25.6

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 1.05)	2013 (Bias Adjustment Factor = 0.81)	2014 (Bias Adjustment Factor = 0.76)	2015 (Bias Adjustment Factor = 0.8)	2016 (Bias Adjustment Factor = 0.78)
Site 2	Urban	N	25.7	20.4	20.8	17.4	20.6
Site 3	Kerbside	N	**48.3**	32.9	30.2	26.3	33.7
Site 4	Urban Background	N	21.2	16.7	14.1	15.9	18
Site 5/9/10	Kerbside	N	-	33.7	29.8	31.2	33.2
Site 6	Rural Background	N	15.9	11	14.6	9.3	14
Site 7	Kerbside	N	21	16.4	14.7	14.9	15
Site 8	Urban background	N	20.2	16.4	13.8	12.9	14.5
Site 11/47	Kerbside	N	**44.9**	31.8	31.5	32.9	35.6
Site 12/13	Kerbside	N	**45.7**	35.1	33.4	35.4	34
Site 14	Rural Background	N	11.9	10	8.7	8.6	12.7
Site 15	Kerbside	N	-	28.9[a]	27.3	27.9	27.9
Site 16	Urban	N	37.5	28.9	26.8	26.2	26.7
Site 17	Kerbside	N	33.3	27.1	23.9	24.8	29.2
Site 18	Urban Background	N	19.6	15.5	12.1	11.5	14.5
Site 19	Kerbside	N	31.3	23.2	22.1	20.7	25
Site 20	Kerbside	N	31.2	24	21.5	20.7	23.4
Site 21	Urban Background	N	19.9	15.3	13.7	13	15.2
Site 22	Rural Background	N	32.6	20.8	19.4	18.7	18.6
Site 23	Kerbside	N	39.8	28.1	21.8	21.4	24.4
Site 24/51	Kerbside	N	**45.9**	37.4	34.9	34.9	31.4
Site 25	Industrial	N	25.2	19	16.9	18.1	21.3
Site 26	Industrial	N	20.5	16.5	14.5	15	16.3

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 1.05)	2013 (Bias Adjustment Factor = 0.81)	2014 (Bias Adjustment Factor = 0.76)	2015 (Bias Adjustment Factor = 0.8)	2016 (Bias Adjustment Factor = 0.78)
Site 27	Urban Background	N	30.4	24.3	21.8	21.7	21.3
Site 28	Industrial	N	24.6	18.5[a]	15.7	17.4	15.5
Site 29	Industrial	N	23.6	19	17.6	15.8	18
Site 30	Kerbside	N	**40.1**	30.7	25	23.2	24.9
Site 31	Kerbside	N	20.5	23.1	22.2	20.3	23.6
Site 32	Kerbside	N	27.7	22.6	19.9	24.6	20.2
Site 33	Kerbside	N	34.7	27.1	23.1	25.1	26.9
Site 34	Kerbside	N	29.9	23	23.5	24.7	25.3
Site 35	Kerbside	N	26.4	19	17.5	18.3	21
Site 36	Kerbside	N	31.9	23.6	22	21.5	23.2
Site 37	Kerbside	N	34.5	27.4	25.3	26.2	26.3
Site 38	Urban	N	24.2	18.7	16.6	16.8	19.1
Site 39	Kerbside	N	24.6	19.4	16.7	15.9	17.2
Site 40	Kerbside	N	21.5	16.9	14.9	15.7	16.8
Site 41	Kerbside	N	14.5	11.8	10.6	9.9	12
Site 42	Kerbside	N	17	13.4	11.9	10.6	12.3
Site 43	Urban Background	N	11.4	9.9	8.6	9.3	9.2
Site 44	Urban Background	N	32.5	28.1	24.7	25.6	25.5
Site 45	Kerbside	N	23.2	18.3	17.5	16.1	17.8
Site 46	Urban Background	N	18.6	15.1	11.6	12.5	12.7
Site 48	Kerbside	N	28	22	18.1	23	36.6
Site 49	Kerbside	N	25.6	19.4	19.3	17.8	18.8
Site 50	Kerbside	N	21	17.6	14.3	15.1	16.9
Site 52	Kerbside	N	23.2	18.1	17.2	15.1	16.6

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 1.05)	2013 (Bias Adjustment Factor = 0.81)	2014 (Bias Adjustment Factor = 0.76)	2015 (Bias Adjustment Factor = 0.8)	2016 (Bias Adjustment Factor = 0.78)
Site 53	Kerbside	N	34.1	23.6	24.2	25.3	26.7
Site 54	Kerbside	N	-	-	-	10.5	13.2
Site 55	Kerbside	N	-	-	-	10.5	13
Site 56	Kerbside	N	-	-	-	12.7	13.2
Site 57	Kerbside	N	**50.8**	**40**	34.8	35.9	37.8
Site 58		N	-	-	-	-	24.5

Results in bold exceed the annual mean NO_2 AQS objective of 40µg/m³

Table B.5 – Results of NO_2 Diffusion Tubes (2012 to 2016): Gwynedd Council

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.8)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.81)	2016 (Bias Adjustment Factor = 0.78)
GCC 002	Kerbside	N	40.4 (22.9)	33.9	34.3	31.1	31.4
GCC 003	Urban Background	N	12.5	11.6	12.6	11.3	10.5
GCC 005	Kerbside	N	34.2	32.0	33.0	29.6	27.6
GCC 008	Kerbside	N	30.4	26.6	25.6	23.4	22.8
GCC 011	Kerbside	N	25.7	24.4	23.7	21.8	23.8
GCC 012	Kerbside	N	36.2	28.1	27.5	25.3	26.9
GCC 013	Kerbside	N	22.9	20.7	21.0	19.6	21.9
GCC 015	Roadside	N	27.1	24.2	23.9	21.4	24.8
GCC 037	Kerbside	N	31.5	31.1	31.5	27.1	25.5
GCC 038	Roadside	N	38.0	28.3	29.9	27.5	28.6
GCC 039	Roadside	N	36.2	26.5	28.0	27.7	28.4
GCC 040	Kerbside	N	25.8	29.1	19.6	18.9	19.1

*Value in brackets is distance corrected for nearest relevant exposure.

Table B.6 – Results of NO_2 Diffusion Tubes (2012 to 2016): Wrexham County Borough Council

ID	Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias				
			2012 (Bias Adjustment Factor = 0.8)	2013 (Bias Adjustment Factor = 0.8)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.81)	2016 (Bias Adjustment Factor = 0.78)
WBC-001	Roadside	N	29.9	19.8	17.9	18.4	27.8
WBC-010	Suburban	N	15.9	13.6	13.1	12.2	13.2
WBC-015	Roadside	N	18.8	18.7	15.8	15.7	16.4
WBC-018	Roadside	N	19.5	18.5	18.8	17	16.9
WBC-019	Roadside	N	23.7	22.3	21.6	20.1	21.4
WBC-020	Intermediate	N	27.2	26.3	25.6	24.2	25.5
WBC-021	Roadside	N	21.2	19.6	22.3	18.8	19.9
WBC-022	Intermediate	N	16.7	16.8	17.3	16.4	16.3
WBC-030	Roadside	N	29.2	36.5	39.9	36.9	35.8
WBC-031	Roadside	N	**40.9**	33.7	33.9	37.5	35.9
WBC-032	Roadside	N	37.9	28.1	27.6	25.7	29.1
WBC-033	Roadside	N	23	20.9	20.2	17.8	19.2
WBC-034	Roadside	N	13.8	16.5	15.2	14.5	14.6
WBC-036	Roadside	N	24.2	22.5	21.6	19.6	20.0
WBC-037	Roadside	N	24.6	23	21.7	24.3	22.3
WBC-039	Roadside	N	-	-	-	-	19.7
WBC-040	Roadside	N	9.9	14.6	13.3	11.4	11.9
WBC-041	Roadside	N	15.0	15.5	16.5	14.3	15.2
WBC-042	Roadside	N	-	25.9	23	24.6	25.6
WBC-043	Roadside	N	-	-	25.6	19.1	17.9
WBC-044	Roadside	N	-	-	-	22.7	23.6
WBC-045	Roadside	N	-	-	-	18.8	19.8
WBC-046	Roadside	N	-	-	-	22.4	24.1
WBC-047	Roadside	N	-	-	-	-	21.2
AURN	Roadside	N	18.8	22.6	17.2	15.6	16.7

Appendix C: Full Monthly Diffusion Tube Results for 2016

Table C.1- Full Monthly Diffusion Tube Results for 2016: Isle of Anglesey County Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
DT1	53.1	56.9	45.3	54.6	50.1	50	44.7	51.5	41.2	56.8	54.7	52	50.9	39.7
DT2	29.2	36.7	27.6	31.2	31.8	24.1	-	-	-	-	-	-	30.1	23.5
DT3	-	-	-	-	-	-	8.6	7.6	9.6	18.8	17.8	10.7	12.2	9.5
DT4	-	62.9	54.8	52.8	49.8	54.5	56.2	65.5	58.1	56.5	60.6	65.1	57.9	**45.2**
DT5	-	13.3	12.8	13.3	12.0	8.1	-	11.1	12.8	13.3	14.6	13.8	12.5	9.8
DT6	-	15.3	17.4	14.1	12.9	11.6	11.9	13.9	14.2	17.6	14.2	15.7	14.4	11.3
DT7	-	18.2	24.4	22.2	21.9	22.5	17.8	21.7	19.2	19.5	9.3	19.1	19.6	15.3
DT8	-	13.4	15.8	13.5	13.5	11.6	8.0	10.7	10.9	14.7	15.7	11.7	12.7	9.9
DT9	-	10.0	16.4	12.8	11.2	12.0	11.1	12.8	11.2	12.4	13.1	10.5	12.1	9.5
DT10	-	7.4	12.6	9.6	8.6	6.7	7.0	7.4	8.9	11.8	10.7	8.6	9.0	7.0
DT11	-	13.1	16.4	12.7	15.5	12.3	10.0	12.3	12.7	11.00	13.5	14.4	13.1	10.2
DT12	-	11.7	15.6	12.2	11.8	9.7	8.5	9.5	10.2	15.4	12.6	9.4	11.5	9.0
DT13	-	6.0	12.5	8.8	10.1	5.3	5.0	7.3	8.3	13.2	10.4	7.9	8.6	6.7
DT14	-	17.0	18.3	17.3	18.6	13.3	9.6	12.8	14.4	22.1	18.2	17.2	16.3	12.7
DT15	-	15.3	17.5	16.8	15.8	-	8.9	11.7	12.8	16.0	16.0	12.2	14.3	11.2

Results in bold exceed the annual mean NO_2 AQS objective of 40µg/m³

Table C.2- Full Monthly Diffusion Tube Results for 2016: Conwy County Borough Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
CBC-001	22.2	21.7	28.7	25.2	31.1	24.7	11.8	17.2	21.5	30.8	34.3	28.2	24.8	19.3
CBC-034	-	-	27.5	22.3	23.9	26.9	19.4	24.5	29.3	27.3	36.4	32.9	27.0	21.1
CBC-004	11.7	12.3	16	10.9	17.6	10.4	5.8	8.1	9	18.5	20.6	16.8	13.1	10.3
CBC-016	8.4	12.2	14	11.8	11.1	9.4	7.7	7.2	9.2	14	18.2	16.4	11.6	9.1
CBC-017	16.8	21	23.7	23.8	26.7	27.7	12.7	18.5	21.9	35.1	35.1	30	24.4	19.0
CBC-018	23.6	27.7	23.5	26.8	26.2	23	25.1	26.4	30.4	25.5	34.1	29.8	26.8	20.9
CBC-026	29.8	33.9	36.8	36.4	42.4	32.6	24.1	25.4	35.9	46.7	42.4	41.1	35.6	27.8
CBC-025	23.2	19.9	20.3	20.9	20.6	16.5	17	17.6	19.7	21.5	20.9	22.6	20.1	15.6
CBC-031	24.3	19.5	30.8	27.9	27.9	22.7	21.6	21.9	28.3	29.5	35.4	33.5	26.9	21.0
CBC-032	19.4	22.8	28.7	24.4	26.5	24.2	16.3	19	22.1	27.5	32.1	28.5	24.3	18.9
CBC-021	18.5	18.2	24.8	22.7	28.5	25.8	18.1	22.5	22.6	21.9	26.6	22.1	22.7	17.7
CBC-022	22.3	22.4	30.9	25.4	27.6	26.2	20.8	21.3	26.6	25.8	36.6	31.9	26.5	20.7
CBC-033	14.3	14.8	22.1	16.1	21.7	16.1	8.6	11.1	14.1	25.5	26.3	22.2	17.7	13.8
CBC-027	17.7	19.3	21.8	16.2	19.3	16.3	14.9	14.4	17.6	27.6	13.3	28.3	18.9	14.7
CBC-029	11.6	16.8	16.6	11.1	20.5	12.8	10.9	12.4	16.5	-	-	-	14.4	11.2

Table C.3- Full Monthly Diffusion Tube Results for 2016: Denbighshire County Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
DBK1	21.5	29.5	33.4	28.1	24	30.4	21.7	26.8	27.5	41.5	37.2	40	30.1	23.5
DBR2	30.4	35.7	38.2	31.1	32.5	29.2	27.7	29.2	30.7	39.9	41.9	39.3	33.8	26.4
DBB3	12.2	15.1	14.6	12.5	10.5	7.6	6.6	8.1	9.4	16.4	19.4	18.1	12.5	9.8
DBB4	14.4	15.2	14.6	14.8	10.7	8	7.1	8.4	9	19.6	20.9	15.9	13.2	10.3

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
DBR5	15.2	23.3	25	23.2	21.1	20.9	14.1	16.9	14.1	20.7	26.3	18.4	19.9	15.5
DBR48	31.2	42	40.8	44.8	37.3	30.2	19.9	24.2	27.5	-	44.3	34.9	34.3	26.7
DBR23	21	29	25.4	25.9	20.7	19.8	16.2	16.7	18.8	24.7	35	32.7	23.8	18.6
DBR8	19.2	24.2	23.6	21.6	18.9	15.8	14.3	13.5	17	20.7	27.6	21.7	19.8	15.5
DBR9	29.3	32.2	31.9	29.4	25.9	19.5	18.8	19.9	26.1	29.5	34.6	28	27.1	21.1
DBR10	20.3	23.6	23.5	20	18.2	13.6	11.8	15.9	17.4	25.8	27.8	29.9	20.7	16.1
DBR24	42.5	47.2	51.3	46.3	44	39.4	33.6	33	33.3	41	55	-	42.4	33.1
DBR54	17.5	20.4	22.2	19.9	16.2	12.9	16.7	12.2	13.8	18.3	-	23.7	17.6	13.7
DBR20	15.7	27.6	27.5	30.4	30.2	24.4	20.8	20.7	23.7	31.8	18.9	33	25.4	19.8
DBR43	-	11.4	51.2	46.4	42.5	37.9	35.1	33.3	36	37.8	29.9	48.2	37.2	29.1
DBR44	-	39.2	34.5	37.9	35.8	27.3	25.6	24.3	27.6	34.5	24.5	41.2	32.0	25.0
DBR45	27.7	33	34.3	32.5	32	27.7	21.4	23	28.7	36.4	22	39.8	29.9	23.3
DBR37	32.4	42.5	43.4	42.5	37.7	39.8	26.2	28.2	28.6	36	23.1	29.3	34.1	26.6
DBR38	23.6	24.4	24.6	22.2	22.4	18.8	17.7	19.2	20.3	26.3	14.8	23.7	21.5	16.8
DBR52	30.7	31.7	32.8	36	32.3	27.3	21	22.4	26	33.3	38.8	39.2	31.0	24.1
DBR53	41.6	49	46.7	-	35.1	37.2	30.2	29.4	34.9	37.1	51.4	47	40.0	31.2
DBR31	25.1	28.4	28.4	23.3	23.5	17.9	15.2	14.3	18.9	28.6	35.4	32.5	24.3	18.9
DBR32	24.3	30	28	28.7	23.9	21.4	16.6	17.6	19.5	22.9	32.3	25.9	24.3	18.9
DBR33	39.2	40.1	36.5	39	32.4	25.8	24.8	-	32.6	39.4	38.5	49	36.1	28.2
DBR34	20.4	20.6	19.7	20.1	18.9	14.5	10.7	12.5	16.7	22	29	28.3	19.5	15.2
DBR49	19.5	21.9	26.3	24.3	22.6	19.9	14.5	16.2	19.2	27.2	26.4	25.7	22.0	17.1
DBR50	18.6	25	28	6.1	21.8	19.5	12.8	16.5	16.4	25.8	31	25.3	20.6	16.0

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Table C.4- Full Monthly Diffusion Tube Results for 2016: Gwynedd Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
GCC 002	11.8	29.5	37.1	35.9	38.2	31.0	34.0	35.6	38.6	39.2	44.6	33.7	34.1	31.4
GCC 003	9.5	13.7	13.9	10.8	11.5	-	-	-	-	-	-	-	11.9	10.9
GCC 005	11.3	26.9	30.1	25.9	45.4	29.6	29.0	32.0	35.0	-	35.4	29.5	30.0	27.6
GCC 008	11.9	26.7	26.3	24.9	28.9	18.0	18.0	20.1	27.5	28.1	37.0	30.5	24.8	22.8
GCC 011	15.9	-	25.0	21.6	-	25.1	25.3	19.8	35.5	36.0	-	29.2	25.9	23.8
GCC 012	14.5	27.4	29.6	28.6	35.8	25.6	21.9	26.6	32.7	39.9	37.6	30.5	29.2	26.9
GCC 013	11.6	22.4	22.5	21.4	28.0	21.0	20.2	21.9	32.1	28.0	33.3	23.4	23.8	21.9
GCC 015	14.0	22.5	24.4	19.1	28.3	24.5	26.6	28.1	43.4	33.9	31.4	27.1	26.9	24.8
GCC 037	9.7	30.8	-	23.9	-	0.5	27.5	27.6	-	-	38.3	-	26.3	24.2
GCC 038	17.7	30.3	28.1	29.6	36.0	26.4	-	-	31.9	41.5	38.6	-	31.1	28.6
GCC 039	16.1	26.9	31.1	30.0	43.6	26.0	-	30.1	34.2	40.1	-	-	30.9	28.4
GCC 040	10.8	22.3	21.3	21.1	18.9	19.2	21.4	19.7	23.5	20.9	25.8	24.8	20.8	19.1

*Unusually low value assumed to be error/fault with tube. Omitted when calculating mean.

Table C.5- Full Monthly Diffusion Tube Results for 2016: Flintshire Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
Site 1	31.1	28.7	41	30	36	34.5	19	20.7	27.1	40.7	44.1	40.2	32.8	25.6
Site 2	29.7	28.3	27.5	26.1	25.4	18.8	15.1	17.7	-	33.8	33	35.7	26.5	20.6
Site 3	45.6	54.4	-	37.6	38	-	20.9	-	31.3	53	54.1	54.4	43.3	33.7
Site 4	19.4	36.3	26.3	21.9	19.5	19.1	14.8	15.5	16.5	26.9	32.2	27.8	23.0	18.0
Site 5/9/10	38.5	29.0	49.6	41.1	47.6	41.1	30.9	-	-	-	-	-	39.7	31.0
Site 6	13.8	44.1	-	16.3	14.9	13.8	5.9	-	11.5	20.4	19	19.3	17.9	14.0

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
Site 7	19.5	12.8	21.9	18.4	20.6	16.6	11.6	13.3	17.5	26.7	27.8	24.7	19.3	15.0
Site 8	18.6	20.4	21.6	20.1	18.9	14.7	9.1	10.9	13.7	24.8	25.7	23.9	18.5	14.5
Site 11/47	40.3	50.9	55.9	53.7	47.4	45.4	37.2	38.1	36.7	50.7	44.3	47.1	45.6	35.6
Site 12/13	44.7	39.6	50.6	40.2	43.2	35.3	39.4	34.6	38.7	48.3	55.6	53.9	43.7	34.0
Site 14	12.5	48.8	15.8	12	13.3	10.7	-	6.5	6.9	18.4	18	16.8	16.3	12.7
Site 15	33.6	13.4	41.5	38.7	39.4	-	-	-	28.2	36.1	46	44.6	35.7	27.9
Site 16	36.4	44.5	39.6	35.4	32.2	29.7	24.8	24.1	29.2	36	39.9	39.4	34.3	26.7
Site 17	31.7	40.7	33.1	38	38.8	33.9	-	-	-	41.2	44.1	35.5	37.4	29.2
Site 18	19.5	33	20.9	16.5	18.2	10.7	4.9	9.6	-	25.3	20.6	25.2	18.6	14.5
Site 19	25	21.7	81.4	28.8	29.9	27	18.8	17.7	26.1	36.6	38	33.1	32.0	25.0
Site 20	30.8	32.4	37.5	32	31.7	27.9	18.7	23.4	22.9	33.9	36.9	31.6	30.0	23.4
Site 21	18.4	37.2	20.5	16.4	15.8	13.6	9.4	10.3	14.8	23.4	25.1	28.7	19.5	15.2
Site 22	30.7	18.7	26.6	24	24.7	11.8	14.3	17.4	18.6	32.3	33.8	32.9	23.8	18.6
Site 23	-	26.8	35	30.6	33.7	25.4	24	20.8	-	36.4	40.3	39.8	31.3	24.4
Site 24/51	48.9	39.7	45.8	37.4	41.5	38.6	32.3	33.4	39.6	41.3	-	51.1	40.3	31.4
Site 25	26.8	51.6	28.6	24.5	26.3	18.6	13.7	16.1	20.2	29.9	38.3	32.7	27.3	21.3
Site 26	26	30.5	22.4	18.7	18.3	13	8.3	12.1	14	28.7	29.6	29.1	20.9	16.3
Site 27	30.5	24.7	-	23	26.7	24.6	18.4	21.1	26.1	38.9	39.2	27.7	27.4	21.3
Site 28	25.1	19.4	20	17	16.2	12.1	10.6	11.7	18.9	23.2	26.7	37.7	19.9	15.5
Site 29	25.1	22.7	25.3	23.3	21.6	16.6	11.6	15.1	19	27.9	35.3	33.4	23.1	18.0
Site 30	26.3	25.2	37.8	34.7	34.2	29.6	23.7	22.9	27.8	40	43.7	37.3	31.9	24.9
Site 31	29.9	38.7	30	27.3	27	23.7	19.1	22.8	25.8	39.2	42.1	37.2	30.2	23.6
Site 32	19.4	34.2	27.3	25.1	23.9	24.2	18.3	19.6	22.2	31	35	30.7	25.9	20.2
Site 33	38	26.7	39.4	33.7	35.6	28.9	24.5	24.9	29.9	42.2	47.4	42.8	34.5	26.9
Site 34	29.4	43.8	34.2	28.1	36.7	27.8	24.7	23.4	28.4	35.7	39.6	37.1	32.4	25.3
Site 35	25.2	36.7	31.5	27.5	27	22.7	16.6	16.6	23.4	24	38	33.6	26.9	21.0

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
Site 36	29.8	32.7	35.1	32.1	25.3	24.5	19.1	21.4	24.8	38.8	34.8	38.8	29.8	23.2
Site 37	56.3	33.1	37.7	35.3	31.7	29.5	20.2	21.4	26.3	36.9	40.8	35.9	33.8	26.3
Site 38	35.1	37.7	22.2	20.6	22.4	17.3	11.5	13.9	19.8	28.8	32.1	32.3	24.5	19.1
Site 39	25.7	28.2	25	24.9	25.4	21.5	12.2	12.5	15	24.2	28.1	22.2	22.1	17.2
Site 40	19.6	28.8	25.9	23.6	23.1	16.5	11.2	12.5	17.8	-	31.7	26.7	21.6	16.8
Site 41	14.3	26.6	17.3	14.5	15.7	12.1	7.2	8.2	10.9	19.2	23.3	15.2	15.4	12.0
Site 42	14.9	16.5	18.2	20.2	12.6	15.5	6.7	8.3	12.2	20.6	23.9	20.2	15.8	12.3
Site 43	12.5	19	11.9	11.2	9.7	7.9	4.1	6.5	8.3	16.7	17.4	17.1	11.9	9.2
Site 44	-	13.5	34.5	39.1	35.2	33.1	25.5	27.5	28.8	42.2	47.6		32.7	25.5
Site 45	26.1	27.4	24.9	21	23.9	16.9	12.8	15.1	19.1	26.4	31	29.6	22.9	17.8
Site 46	14.7	20.3	23.5	23	2.5	-	0.9	9.8	12.7	24.3	2	45.1	16.3	12.7
Site 48	24.9	33.6	32.6	7.8	-	8.4	-	17.6	19.4	31.4	35.6	29.2	24.1	18.8
Site 49	26	29.1	28.1	18.8	22.2	18	13.9	15.1	17.5	28.3	-	-	21.7	16.9
Site 50	-	22.4	22.9	24.5	25.2	22.3	8.4	12.6	17.2	29.6	29.3	24	21.7	16.9
Site 52	45	51.9	48.1	39.4	36.1	36.6	33.4	33.4	41.4	45.1	-	51.1	42.0	32.7
Site 53	23.1	25	22.5	20.2	20	16.9	14	14.5	15.8	26.4	30.2	26.9	21.3	16.6
Site 54	37	40.6	36.1	34.7	34.5	30.7	25.3	25.9	26.3	33.7	47.2	38	34.2	26.7
Site 55	16.6	19.1	15.1	15.5	13.7	12.1	-	-	11	23	22.5	21.1	17.0	13.2
Site 56	15.4	20.1	18.9	15.3	12.4	-	-	8.1	10.7	19	22.4	24.2	16.7	13.0
Site 57	17.1	23.7	18.5	-	17	17.3	9.2	9.7	16.1	23.3	-	-	16.9	13.2
Site 58	-	-	-	-	-	-	30.9	20.2	25.2	40.0	34.2	38.3	31.5	24.5

Table C.6- Full Monthly Diffusion Tube Results for 2016: Wrexham County Borough Council

ID	NO_2 Mean Concentrations (µg/m^3)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean	
													Raw Data	Bias Adjusted
WBC-001	33.8	41.1	38.6	38.4	38.2	32.7	18.3	25.1	30.1	37.3	50.9	43.6	35.7	27.8
WBC-010	23.0	23.2	2.3	29.2	12.5	12	13.1	14.4	11.1	16.6	23.4	22.3	16.9	13.2
WBC-015	20.1	22.2	26.1	19.6	19.2	17.3	12.4	14.4	14.8	30.0	28.5	28.0	21.1	16.4
WBC-018	22.2	24.1	23.4	17.3	21.9	23.1	13.6	16.3	19.0	23.0	32.8	23.0	21.6	16.9
WBC-019	29.0	26.9	31.0	-	22.8	20.3	25.4	17.4	18.5	31.5	38.6	40.4	27.4	21.4
WBC-020	31.4	33.0	39.6	34.3	33.3	29.4	21.9	23.6	24.6	37.7	47.4	36.4	32.7	25.5
WBC-021	25.6	35.4	29.9	23.1	21.1	20.5	15	16	19.1	27.0	38.1	35.5	25.5	19.9
WBC-022	22.3	21.7	22.4	19.9	19.2	15.3	12.7	15.9	16.7	21.6	37.5	25.0	20.9	16.3
WBC-030	41.4	47.7	45.5	46.1	55.4	53.2	43.3	16.3	38.4	53.4	56.5	53.6	45.9	35.8
WBC-031	54.5	56.5	54.5	55.8	49.7	43.4	38.6	37.8	37.7	21.0	55.7	47.8	46.1	35.9
WBC-032	32.4	43.8	51.0	43.3	39.1	33	21.2	24.7	25.8	42.2	52.1	38.4	37.3	29.1
WBC-033	21.4	26.4	30.8	20.0	24.9	20.5	13.7	15.7	17.7	31.4	38.9	33.6	24.6	19.2
WBC-034	21.7	17.3	18.1	14.7	18.1	21.6	10.9	16.3	14.7	24.8	20.6	25.2	18.7	14.6
WBC-036	20.2	28.2	28.4	29.1	21.6	27.6	13.1	20.6	23.9	27.7	40.5	26.5	25.6	20.0
WBC-037	23.1	32.5	34.8	27.6	30.1	24.8	18.9	18.3	21.3	33.2	44.6	34.3	28.6	22.3
WBC-039	22.5	26.7	32.5	32.9	25.8	17.4	17.5	19.5	20.1	29.3	-	34.0	25.3	19.7
WBC-040	14.1	17.5	19.1	15.8	13.9	13.6	9	10.8	10.4	17.6	23.2	18.2	15.3	11.9
WBC-041	16.4	18.9	28.9	16.8	18.4	23.7	12.4	10.1	7.7	29.7	24.2	26.2	19.5	15.2
WBC-042	28.7	24.1	38.2	38.9	37.1	29	24.6	32.8	27.3	35.1	42.2	35.9	32.8	25.6
WBC-043	23.5	27.6	28.9	25.3	20.1	6.6	14.4	16	18.5	26.4	35.5	32.2	22.9	17.9
WBC-044	29.3	30.3	38.0	29.7	31.7	25.7	18.9	20.8	22.8	34.5	38.7	42.9	30.3	23.6
WBC-045	18.4	29.5	31.0	28.4	30.4	27.8	14.1	18.6	16.9	31.7	30.6	27.6	25.4	19.8
WBC-046	28.2	25.0	35.6	33.9	29.5	1.2	60.3	23.3	22.0	30.9	38.2	42.6	30.9	24.1
WBC-047	-	-	-	-	-	-	-	28.3	30.9	31.0	26.8	29.8	29.4	22.9
AURN	19.3	21.8	27.7	21.5	21.7	17.5	10.0	14.4	17.1	26.8	29.9	29.6	21.4	16.7

Mae'r dudalen hon yn wag yn bwrpasol

FLINTSHIRE **PUBLIC SERVICES** BOARD
BWRDD **GWASANAETHAU CYHOEDDUS** SIR Y FFLINT

A Well-being Plan
For Flintshire
2017 - 2023

Draft (November 2017)

Community Safety

This means:

- Making communities safer
- Identifying the signs and symptoms of domestic abuse and sexual violence and providing an effective response
- Tackling drugs and alcohol
- Reducing re-offending
- Responding to the threat of organised crime groups
- Tackling Modern Day Slavery
- Addressing the threat of Child Sexual Exploitation

Why is this a priority for the partners?

As a Public Services Board we work in partnership to implement strategies that are in line with legislation and wider priorities.[1] Our statutory requirements are to:

- ✓ Address crime and disorder to benefit communities and visitors;
- ✓ Tackle substance misuse to benefit the wider community where drug use can disrupt communities and residents can be victims of crime and anti social behaviour;
- ✓ Reducing reoffending to support community rehabilitation;
- ✓ Increase reporting of incidents of domestic abuse and sexual violence to increase family and individual safety;
- ✓ Combatting modern slavery and Organised Crime Gangs;
- ✓ Reducing the risk of sexual abuse including Child Sexual Exploitation (CSE); and
- ✓ Making our communities safer so that they can thrive

What is the evidence behind this story?

North Wales Police assessed crime and disorder issues affecting communities across Flintshire in April 2017. The areas that were identified as high risk priorities were:

- Domestic Abuse - due to the broad impact to the victim (physical, psychological and financial), the number of recorded crimes and an increasing trend.
- Child Sexual Exploitation (CSE) – the psychological impact of CSE upon the victim can be very high so working with partners is important to both prevent and manage the effects of CSE. Although we assess organised CSE to be rare in North Wales, we know it has occurred and it is probable that further incidents will be identified. There are also an increasing number of children at risk of CSE.

[1] These objectives draw upon Section 6 of the Crime & Disorder Act 1998 (as amended by the Police Reform and Social Responsibility Act 2011) as well as the Police and Crime Commissioner's objectives. These priorities have been adopted by the North Wales Safer Communities Board in their plan, and also locally by the Flintshire Public Services Board.

Community Safety

- Modern Day Slavery – It is likely that a wide range of services will identify increasing numbers of incidents. Victims of Modern Day Slavery do not always recognise themselves as victims so recognising the signs and sharing intelligence will prove to be important in combating this
- Organised Crime Gangs and the supply of illegal drugs - threat, risk and harm in Flintshire has increased over the past few years

What are we committed to doing?

- ✓ Support vulnerable people to prevent them becoming victims of crime
- ✓ Increase confidence in reporting domestic abuse and work with MARAC (Multi Agency Risk Assessment Conference) to manage the levels of repeat domestic abuse
- ✓ Increase confidence in reporting sexual violence / increase awareness amongst young people of domestic abuse, sexual violence and violence against women
- ✓ Improve services and their response for all victims of VAWDASV (violence against women domestic abuse and sexual violence)
- ✓ Tackle and address substance misuse in the county
- ✓ Reduce re-offending
- ✓ Develop a multi-agency approach to awareness raising, victim care, prevention and investigation of Modern Day Slavery, CSE and organised crime
- ✓ Tackle the Organised Crime Gangs that supply Class A drugs

What specific actions will we take to support these commitments?

- ✓ Continue to promote the Online Watch Link (OWL) system as a means of engaging with members of our communities
- ✓ Work with the Police and Crime Commissioner's 'victim hub' to ensure an enhanced service to victims of crime
- ✓ Support partners to tackle 'doorstep crime' in our communities
- ✓ Implement and promote Public Space Protection Order (PSPOs)
- ✓ Maintain the multi-agency intelligence led approach to tackle Anti-Social Behaviour (ASB) through monthly tasking and ad hoc professionals meetings
- ✓ Raise awareness of violence against women by supporting the International White Ribbon Campaign on a local and regional level
- ✓ Continue to monitor the effectiveness of MARAC (Multi Agency Risk Assessment Conference) through the local strategic groups, ensuring they are operating to 'Save Lives' minimum standards
- ✓ Develop a collaborative approach to standardising the work of the Independent Domestics Violence Advisor (IDVA) service across the region
- ✓ Implementation of the Violence against Women, Domestic Abuse and Sexual Violence (Wales) National Training Framework
- ✓ Local gaps in service are fed into regional commissioning and planning cycles

Community Safety

- ✓ Respond effectively to emerging issues with consistent approaches in terms of awareness/treatment and recovery
- ✓ Implementation of recommendations emerging from the Harm Reduction and Drug Poisoning Review Group
- ✓ Target repeat offenders (adults) via an Integrated Offender Management (IOM) process. Identifying those who cause the most harm (prolific offenders) and addressing their re-offending behaviour
- ✓ Targeting young offenders to reduce offending and re-offending by implementing the Flintshire Youth Justice Service Plan
- ✓ Share intelligence amongst partners to understand the risks of Modern Day Slavery; Child Sexual Exploitation (CSE) and organised crime
- ✓ Set up multi agency Organised Crime Gang (OCG) panels and map OCG's in Flintshire
- ✓ Work in partnership to disrupt at a local level – targeting problem people, premises and activities resulting from Organised Crime

Where should we see an impact?

- ✓ People's confidence to report appropriately to partners increased
- ✓ Resilience in communities improved leading to a reduction in demand
- ✓ Rehabilitation and community integration increased
- ✓ Realistic expectations provided to the public
- ✓ Recognition of the signs and symptoms of domestic abuse, sexual violence and modern slavery by public and voluntary sector agencies
- ✓ High risk cases of domestic abuse dealt with effectively and a reduction in the repeat victimisation achieved
- ✓ Awareness of the impacts of adverse childhood experiences amongst partners increased.
- ✓ Vulnerable people prevented from becoming victims of crime
- ✓ Substance misuse tackled collaboratively on a local and regional level
- ✓ Committed regional partnership approach to addressing crime and disorder continued
- ✓ Better sharing of intelligence across partner agencies
- ✓ Increased partnership action to tackle Modern Day Slavery, CSE and organised crime

Links with other priorities:

- ✓ **Well-being and Independent Living** – reduction in substance misuse, reduction in crime, reduction in incidents of domestic abuse, increased likelihood of physical activity outside of the home
- ✓ **Resilient Communities** – people being more able to take responsibility for their own health by accessing outdoor spaces in safety
- ✓ **Environment** – people feeling safer when accessing green spaces in their community
- ✓ **Economy and Skills** – developing skills for employment opportunities, reducing worklessness and the impact of social reform

Economy and Skills

This means:

- Developing and improving strategic sites (employment and housing)
- Modelling transport infrastructure and services to support future economic growth
- Supporting business growth and innovation
- Developing skills for employment opportunities, reducing worklessness and the impact of social reform

Why is this a priority for the partners?

- ✓ The North Wales economy is at risk of lagging behind other regions of the UK. Major investments are needed in the region by Governments - the partners need to help make the case to secure those investments;
- ✓ Flintshire is the highest performing local economy in North Wales. We need to retain our competitive edge for the wider regional economy to grow and develop; and
- ✓ The partners are major employers and buyers of goods and services. We have influence over job creation and local business development.

What is the evidence behind this story?

- The key sub-regional business sectors of advanced manufacturing, automotive, aerospace, food production and energy have proved to be resilient during the past decade but now face an uncertain future with political developments in Europe.
- Flintshire is the highest performing county in the region for Gross Added Value (GVA) - but the region as a whole lags well behind the UK with the GVA per head for North Wales being 86% of that of the UK (2015).
- UK Government investment in regional growth in England could be a threat to securing investment and trade in North Wales, as those regions become more competitive.
- There are skills gaps forecast for the region to grow both our key business sectors and to help employers (including PSB partners) with an aging workforce replace experienced employees over time. There is a replacement demand of at least 30% for skilled trades in each key business sector (energy and environment, advanced manufacturing, construction) across the region, and whilst 17% of employers across the region offered apprenticeships in 2016, this can still be increased.
- There are labour supply shortages in the region, for the needs of employers (including PSB partners), with the challenge to bring as many 'economically active' people into employment as possible.

Economy and Skills

What are we committed to doing?

- ✓ The North Wales Region is about to present a North Wales Economic Growth Deal Bid to the UK and Welsh Governments - we will support this Bid
- ✓ We will take local action to support the Bid in the areas of sites and premises, housing growth, transport infrastructure and services, business growth and innovation, skills and worklessness
- ✓ The Regional Skills Partnership has set out the current and future needs of employers for a skilled and ready regional workforce. We will support this strategy as employers

What specific actions will we take to support these commitments?

- ✓ Assist the development of strategic employment and housing sites in Flintshire
- ✓ Review our land asset strategies to support the release of land for employment or housing development
- ✓ Support the case for investment in local transport services such as the North East Wales Metro
- ✓ Review our own transport policies to encourage employees to use public transport to get to work, and work more agilely, to reduce traffic congestion
- ✓ Review our own procurement policies to secure community benefits for local and sub-regional suppliers of goods and services
- ✓ Implement measures to promote the public and third sectors as positive career choices
- ✓ Work with our existing workforce and partner providers to provide skills and qualifications to enable career progression and development
- ✓ Protect and develop our own apprenticeship programmes as employers
- ✓ Work with the Careers Service, schools, further and higher education, and employers to give young people the widest range of career options to help meet the needs of employers for recruitment

Economy and Skills

Where should we see an impact?

- ✓ Levels of local unemployment reduced
- ✓ Numbers of apprenticeship places maintained or increased
- ✓ Access to employment improved
- ✓ Supporting inactive people to move into employment
- ✓ Access to and quality of careers advice services improved
- ✓ Business growth and new business investments on key employment sites
- ✓ Transport services connecting communities to places of work improved
- ✓ The numbers of people choosing public transport to get to work
- ✓ House building programmes for people to live locally for local jobs
- ✓ In-work poverty reduced
- ✓ Health inequalities reduced

Links with other priorities:

- ✓ **Well-being and Independent Living** – building and strengthening the care sector
- ✓ **Resilient Communities** – further developing community ownership models including Community Asset Transfers (CATS), micro social enterprises and community shares
- ✓ **Environment** – reducing the impacts of climate change
- ✓ **Community Safety** – reducing re-offending

Environment

This means:

- Developing greater access opportunities to the green infrastructure
- Protecting and enhancing the environment
- Improving flood protection
- Reducing the impacts of climate change

Why is this a priority for the partners?

- ✓ Collective action is needed to ensure we value, protect and enhance Flintshire's environment and landscapes to maximise the benefits it can offer to current and future generations;
- ✓ PSB partners understand the crucial link between the natural environment and the well-being of people, both in terms of physical and mental health;
- ✓ Flintshire has many attractive areas that can be used to promote activity and ensure people, especially children, can enjoy and benefit from spending time outdoors;
- ✓ We need to enhance the natural environment beyond already protected sites, especially around our urban areas to realise the full benefits that the environment can offer residents;
- ✓ Several aspects of environmental resilience need addressing, particularly the need to better prepare for climate change, especially the risk of flooding;
- ✓ We want to ensure our air quality is the best it can be by working with partners to monitor and reduce harmful emissions; and
- ✓ PSB partners should lead the way by enhancing the environment on their own land and across Flintshire, and by being as carbon neutral as possible.

What is the evidence behind this story?

- Those living, working and/or visiting Flintshire have said they place a high value on the natural environment and want to use it more for their own well-being.
- The barriers stopping some people from using the environment need to be better understood to provide equal opportunities for everyone.
- Statistics show a long-term increase in the percentage of overweight people in the county. In 2014, over 25% of 4 to 5 year olds and approximately 57.5% of Flintshire adults were found to be obese or overweight. Opportunities to take part in outdoor activity has a significant role to play in reversing this long-term increase.

Environment

- The Dee Estuary, Halkyn Mountain and Deeside and Buckley newt sites are internationally designated as Special Areas of Conservation (SACs). In addition, there are 23 Sites of Special Scientific Interest (SSSIs), nationally important ecological sites. Despite these designations, many species are in decline primarily due to agricultural intensification, urbanisation, invasive species and climate change.
- Significant flooding events have occurred in Flintshire in recent years and some 8,400 properties are at risk of flooding. This issue has a significant effect on people's well-being.
- There is increasing evidence of the serious impact of air pollution on health in parts of Flintshire in urban areas or close to major roads.

What are we committed to doing?

- ✓ Working with communities of all ages and backgrounds to understand and appreciate the benefits of the natural environment and how its use will improve their physical and mental well-being
- ✓ Building resilience in our communities so they understand and can manage flood risks more effectively

What specific actions will we take to support these commitments?

- ✓ Work at a local level to increase the resilience of communities so that they are better adapted to future climatic changes. This will include identifying communities most at risk from extreme weather events (e.g. flooding) and seeking innovative solutions to these challenges
- ✓ Build pride and ownership in communities so they want to protect and enhance where they live and work, helping to build community and family cohesion
- ✓ Promote the benefits of using the natural environment for exercise, volunteering and education
- ✓ Identify and act on issues which are causing environmental and ecological deterioration by working with partners such as the farming, commercial, industrial and transport sectors
- ✓ Identify all existing 'green' assets through an asset mapping exercise, and seek opportunities to enhance and link these in future
- ✓ Improve green transport links across Flintshire and into neighbouring counties
- ✓ Take collaborative actions to reduce the PSB carbon footprint. This will include reductions in greenhouse gas emissions and improvements within their assets to support greater biodiversity
- ✓ Encourage employees to reduce their own environmental impact and inspire them to use the natural environment for their own well-being

Environment

Where should we see an impact?

- ✓ Decline in biodiversity reversed
- ✓ Number of properties at risk from flooding in Flintshire reduced, with those at risk being better prepared and more resilient
- ✓ Number of people using the outdoors for exercising, volunteering or educational purposes increased, resulting in benefits in mental and physical health and stronger community and family cohesion
- ✓ Carbon footprint of public sector organisations reduced
- ✓ Natural resources, including designated sites managed sustainably – both to benefit species and to allow us to showcase what we have in Flintshire
- ✓ Choice and use of green travel opportunities increased resulting in a reduced rate of car usage amongst residents and visitors to Flintshire
- ✓ Delivery of the other priorities within this plan supported, as early engagement work with communities is one of the key elements of: supporting people back into employment; improving an individual's physical and mental health; valuing, protecting and enhancing the natural and built environment within local communities

Links with other priorities:

- ✓ **Well-being and Independent Living** – improving physical and mental health via increased access to the outdoors for exercise
- ✓ **Community Safety** – making communities safer
- ✓ **Economy and Skills** – developing and improving strategic sites (employment and housing)
- ✓ **Resilient Communities** – enabling and inspiring communities to become confident, cohesive and forward thinking

Resilient Communities

This means:

- Enabling and inspiring communities to be confident, cohesive, and forward thinking
- Developing an approach that ensures that when any public service is working in an area that additional skills and capacity are strengthened within that community
- Co-ordinating an approach across public service delivery that maximises the impact of community benefits
- Further developing community ownership models including Community Asset Transfers (CATS), micro social enterprises and community shares

Why is this a priority for the partners?

- ✓ Effective, successful and resilient places have the ability to resolve their own problems, respond to and bounce back from economic, social and environmental issues;
- ✓ Resilient communities are well connected within the area and to other agencies and organisations outside of their community;
- ✓ A well connected community is able to work with the public agencies co-operatively to determine priorities for that community and be a key partner in delivering these priorities; and
- ✓ This approach requires a workforce in the public sector that is skilled in working with communities to support determination of their priorities and enable their delivery.

What is the evidence behind this story?

- Research shows that 'Resilient Communities' have support from all sectors to solve problems, are well connected and able to make decisions.
- Public sector bodies have provided support and capacity to specific communities of need; however this work has not always been sustainable, once the intervention ceases.
- Public services can change the emphasis of their work in communities from direct support and intervention to a more co-operative style of working where local communities determine their own priorities and identify solutions.

Resilient Communities

What are we committed to doing?

- ✓ Learning lessons from previous community based work so that future work has a significant and long term impact
- ✓ Changing our ways of working so that whenever public services work with communities we build on and develop the skill levels within that community
- ✓ Working jointly with communities to understand, develop and implement long term aspirations and plans that build on the strengths of that community

What specific actions will we take to support these commitments?

- ✓ Train and develop key public sector employees in these different ways of working
- ✓ The Public Services Board will agree a set of community benefits[2] that will support local communities and that can be delivered by the community and social organisations, public organisations, and private organisations
- ✓ Develop opportunities for residents to be more active in their communities which leads to improvements in health and well-being
- ✓ Design and develop projects with the community in areas such as Holywell, Flint and Shotton so that the community is able to determine the priorities and have the skills and capacity to continue the work in the long term
- ✓ Establish new tools such as 'Community Shares'[3] and 'Social Prescribing'[4] that enable communities to develop their local assets and improve their health and well-being
- ✓ Support the development of community networks that can be co-ordinated and maintained by local communities
- ✓ Change our long term physical planning for communities so that it enables the development of community buildings and natural and green spaces that better connect people

[2] Delivery of added value through the Community Benefits is linked to the procurement of contractors on capital build programmes. They can also be delivered through grant awards and Community Asset Transfers. They ensure wider social, environmental and economic issues are taken into account during the project life cycle.

[3] Community Shares are non-transferrable, withdrawable share capital unique to Co-op and Community Benefit Society Legislation and can be used as a method to engage the community in becoming shareholders (owners) of community businesses.

[4] Social Prescribing is a means of enabling primary care services to refer patients with social, emotional or practical needs to a range of local, non-clinical services, often provided by the voluntary and community sector.

Resilient Communities

Where should we see an impact?

- ✓ Ways of working changed across all sectors that strengthens communities
- ✓ The strength of community and social organisations that are able to provide support to local people increased
- ✓ Opportunities for people to improve their health and well-being increased
- ✓ Use and appreciation of the natural environment and use of the outdoors increased
- ✓ Take up of economic activity by local people increased
- ✓ Quantity and quality of benefits that support local communities ('community benefits') increased

Links with other priorities:

- ✓ **Economy and Skills** – developing skills for employment opportunities, reducing worklessness and the impact of social reform
- ✓ **Community Safety** – making communities safer
- ✓ **Well-being and Independent Living** – providing information and support for people to take responsibility for their own health and that of their own families
- ✓ **Environment** – developing greater access opportunities to the green infrastructure

Well-being and Independent Living

This means:

- Providing information and support for people to take responsibility for their own health and that of their families
- Targeting interventions where individuals and families have the most to gain
- Delivering more services closer to home
- Building and strengthening the Care Sector

Why is this a priority for the partners?

- ✓ There is a strong evidence base as well as a social responsibility to direct our focus on the prevention of ill health, reduce health inequity and accommodate most people's preference to stay active and independent within their own community;
- ✓ A focus on early years has the potential to bring benefits to the individual and reduced demand on services over the full life course;
- ✓ In order to support residents with more complex needs, we need to maintain and then strengthen the care sector for both care home and domiciliary service[5] provision, both of which are currently fragile;
- ✓ Life expectancy is increasing whereas an increase in healthy life expectancy is not assured. The consequence is that more people are likely to require support in the management of chronic conditions and/or increasing dependency as a result of frailty or dementia for example;
- ✓ There are significant challenges in meeting current and projected workforce demands in both health and social care; and
- ✓ The Social Services and Well-being Act reinforces the need to support residents to maintain good health and reduce reliance on services.

[5] Domiciliary Services are those provided to a person within their own home

Well-being and Independent Living

What is the evidence behind this story?

- Influencing the development of children to maximise their health, social and educational development is most effective when done as early as possible.
- People born in the most deprived areas of Flintshire are, on average, likely to die 7 years earlier than people born in the most affluent areas of the county.
- Life expectancy is predicted to continue to improve, and the population of those aged 65 years is expected to grow from 31,000 in 2015 to 46,100 by 2039.
- The number of people aged 65 years and over who need to be looked after in a care home is expected to almost double by 2035 with the number requiring specialist nursing care expecting to show a significant increase.
- The number of Flintshire residents living with dementia will rise by about 1,350 (66%) by 2030.
- In order for Flintshire to meet the need for care home beds by 2030, a further 554 residential care beds and 304 nursing care beds will be required.

What are we committed to doing?

- ✓ Provide information and support for people to take responsibility for their own health and that of their families and communities
- ✓ Target work and interventions where individuals and families have the most to gain
- ✓ Deliver more health and social care services closer to home
- ✓ Build and strengthen the care sector

What specific actions will we take to support these commitments?

- ✓ Explore and make best use of opportunities to promote mental health and well-being
- ✓ Ensure links with other PSB priority work areas to maximise promotion of health and well-being opportunities, e.g. Get Flintshire Moving (Resilient Communities), combat substance misuse (Community Safety)
- ✓ Introduce the Community Resource Team and multi-agency, co-located Single Point of Access
- ✓ Implement agreed Public Health priorities, with a focus on those with the most to gain
- ✓ Ensure that the health needs of Looked After Children[6] are assessed and met, including through the provision of key health promotion materials being made available to foster carers and residential care staff
- ✓ Fully implement the Early Help Hub[7] to support children, young people and their families

[6] Looked After Children are children under the care of the Local Authority

[7] The Early Help Hub is a multiagency project led by the North Wales Police which aims to improve the 'journey' for families at greater risk of worsening problems with an emphasis on information, advice & assistance

Well-being and Independent Living

- ✓ Develop and implement an "Ageing Well in Flintshire" Plan which will not only support people to age well but also help develop communities for the benefit of people of all ages
- ✓ Develop robust pathways for care home residents requiring hospital admission to help them return home with minimum delay
- ✓ Ensure that the County's approach to regeneration supports and promotes work within the Care Sector
- ✓ Increase current in house provision of bed based capacity for short term care and to support Discharge to Assess[8] in a community setting through the use of pooled budgets
- ✓ Promote and protect the health of our workforce by encouraging them to access opportunities to improve and maintain health (e.g. national screening programmes, Making Every Contact Count (MECC), flu vaccination)

Where should we see an impact?

- ✓ Indicators of health and well-being in the population improved
- ✓ Indicators of health inequalities improved
- ✓ Levels of care home bed and domiciliary support sustained and increased
- ✓ Number of community based or led activities to promote healthy living and "ageing well" increased
- ✓ Number of people supported outside of the acute hospital setting increased
- ✓ Level of information, assistance and support offered through the Single Point of Access and Early Help Hub increased
- ✓ Opportunities for people to move more and reduce sedentary behaviour increased

Links with other priorities:

- ✓ **Resilient Communities** – enabling and inspiring communities to become confident, cohesive and forward thinking
- ✓ **Environment** – developing greater access opportunities to the green infrastructure
- ✓ **Economy and Skills** – developing skills for employment opportunities, reducing worklessness and the impact of social reform
- ✓ **Community Safety** – tackling drugs and alcohol / reducing re-offending

[8] Discharge to Assess takes place when the person is medically fit to leave hospital and requires an assessment to determine the level of support they will need at home.

ENVIRONMENT OVERVIEW & SCRUTINY COMMITTEE

Date of Meeting	Tuesday 17 April 2018
Report Subject	Forward Work Programme
Cabinet Member	Not applicable
Report Author	Environment Overview & Scrutiny Facilitator
Type of Report	Operational

EXECUTIVE SUMMARY

Overview & Scrutiny presents a unique opportunity for Members to determine the Forward Work programme of the Committee of which they are Members. By reviewing and prioritising the Forward Work Programme Members are able to ensure it is Member-led and includes the right issues. A copy of the Forward Work Programme is attached at Appendix 1 for Members' consideration which has been updated following the last meeting.

The Committee is asked to consider, and amend where necessary, the Forward Work Programme for the Environment Overview & Scrutiny Committee.

RECOMMENDATION	
1	That the Committee considers the draft Forward Work Programme and approve/amend as necessary.
2	That the Facilitator, in consultation with the Chair of the Committee be authorised to vary the Forward Work Programme between meetings, as the need arises.

REPORT DETAILS

1.00	EXPLAINING THE FORWARD WORK PROGRAMME
1.01	Items feed into a Committee's Forward Work Programme from a number of sources. Members can suggest topics for review by Overview & Scrutiny Committees, members of the public can suggest topics, items can be referred by the Cabinet for consultation purposes, or by County Council or Chief Officers. Other possible items are identified from the Cabinet Work Programme and the Improvement Plan.
1.02	In identifying topics for future consideration, it is useful for a 'test of significance' to be applied. This can be achieved by asking a range of questions as follows: 1. Will the review contribute to the Council's priorities and/or objectives? 2. Is it an area of major change or risk? 3. Are there issues of concern in performance? 4. Is there new Government guidance of legislation? 5. Is it prompted by the work carried out by Regulators/Internal Audit?

2.00	RESOURCE IMPLICATIONS
2.01	None as a result of this report.

3.00	CONSULTATIONS REQUIRED / CARRIED OUT
3.01	Publication of this report constitutes consultation.

4.00	RISK MANAGEMENT
4.01	None as a result of this report.

5.00	APPENDICES
5.01	Appendix 1 – Draft Forward Work Programme

6.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
6.01	None. **Contact Officer:** Margaret Parry-Jones Overview & Scrutiny Facilitator **Telephone:** 01352 702427 **E-mail:** margaret.parry-jones@flintshire.gov.uk

7.00	**GLOSSARY OF TERMS**
7.01	**Improvement Plan:** the document which sets out the annual priorities of the Council. It is a requirement of the Local Government (Wales) Measure 2009 to set Improvement Objectives and publish an Improvement Plan.

Mae'r dudalen hon yn wag yn bwrpasol

ENVIRONMENT OVERVIEW & SCRUTINY FORWARD WORK PROGRAMME

Draft Forward Work Programme

Date of Meeting	Subject	Purpose of Report/Presentation	Scrutiny Focus	Responsible/Contact Officer	Submission Deadline
Tuesday 12th June 2018 **10.00 am**	Year-end Reporting & Council Plan Monitoring Enforcement and Environmental Care	To enable members to fulfil their scrutiny role in relation to performance monitoring. To receive an update on Enforcement and Environmental Care activity	Performance Monitoring/ Assurance Assurance	Facilitator Chief Officer Streetscene and Transportation	

Items to be scheduled

National Resources Wales
Decriminalised Parking Since 2013
Flintshire Bridge Converter Station (site visit?)

Mae'r dudalen hon yn wag yn bwrpasol