



2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management, as amended by the
Environment Act 2021

Date: June, 2023

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Executive Summary: Air Quality in Our Area

Air Quality in Tunbridge Wells Borough

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas^{1,2}.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 343,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

Tunbridge Wells is a borough in the county of Kent. Kent is the most populous County Council area in the South East Region. There are currently estimated to be 1,578,500 people living within the Kent County Council area. The population of Kent increased from 1,466,500 in 2011 to 1,578,500 in 2021, which was an increase of 7.64%.

The borough of Tunbridge Wells consists of the main town of Royal Tunbridge Wells and a number of small towns and villages including Paddock Wood, Cranbrook and Hawkhurst. The borough is largely rural in character.

The mid-year population of the borough in 2021 was 115,700, which represents 7.3% of the population of Kent, based on figures from Kent County Council¹. This was up from 115,200 in 2011 and is expected to rise to 128,700 by 2030. The main roads which serve the borough include the A26, A264, A267 and the A21.

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Air quality appraisal: damage cost guidance, January 2023

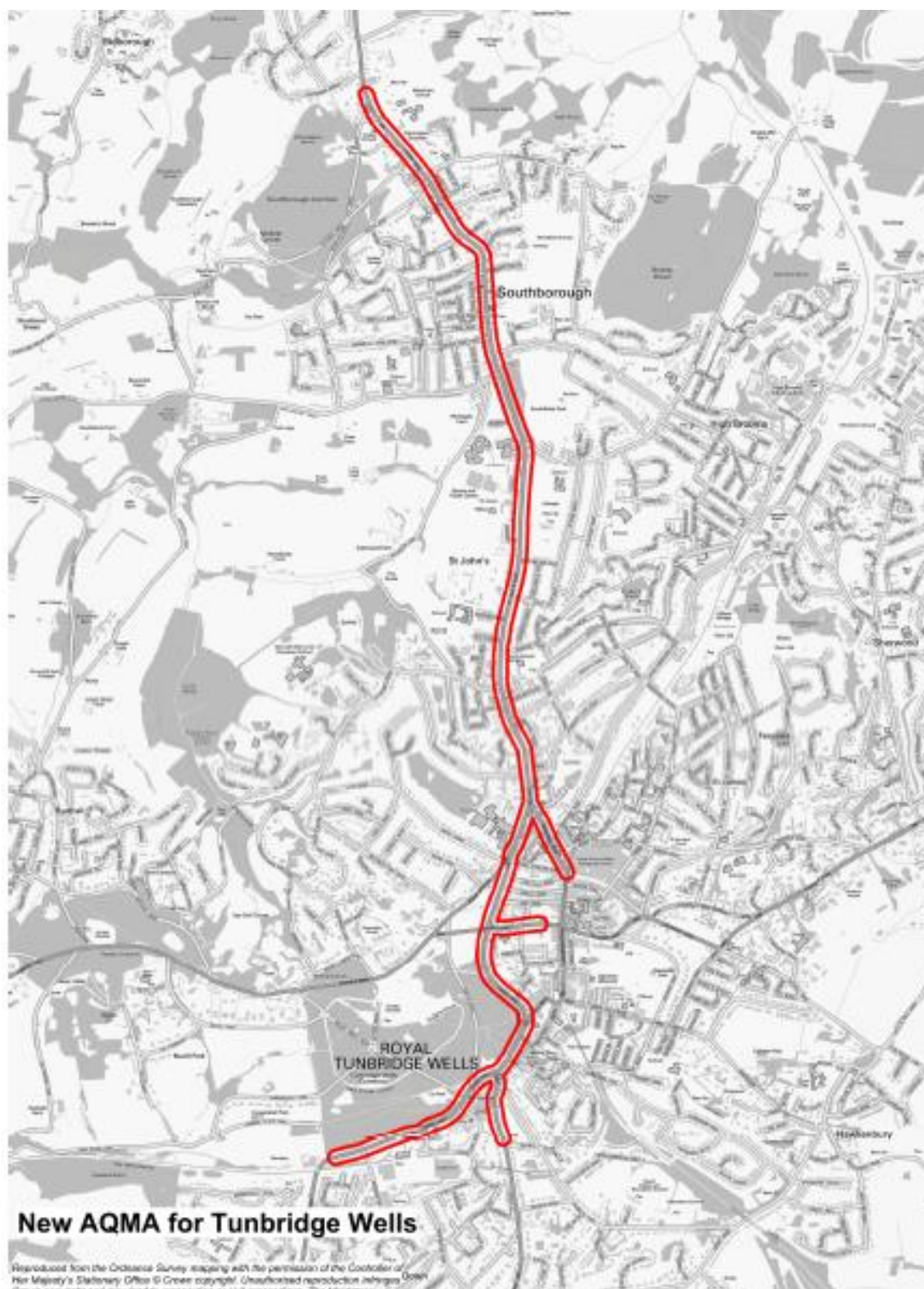
⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

Royal Tunbridge Wells suffers from congestion, particularly on the approach roads to the town centre. Other pollution sources, including commercial, industrial and domestic sources, also contribute to the background pollution concentrations.

There are two Air Quality Management Areas (AQMA) declared in the Borough due to exceedances of the annual mean Air Quality Strategy (AQS) objective for nitrogen dioxide (NO₂).

The A26 (Town Centre) AQMA

The main A26 (Town Centre) AQMA ([A26 AQMA](#)) was originally declared in 2005 and extended in 2011 due to exceedances outside of the original AQMA boundaries. At the end of 2016, Tunbridge Wells BC commissioned Air Quality Consultants Ltd to review the boundaries of its AQMA again. The review concluded that the northern and southern ends of the AQMA could be extended, but that the width of the AQMA could be reduced. This process was formally completed in 2018, with the new AQMA taking effect from 1st September 2018.

Figure 1 Map of Tunbridge Wells AQMA.

The Air Quality Action Plan adopted by the Council in 2010 was largely completed by 2017, therefore a new action plan was produced during 2018 to cover the period 2018 to 2023. The new plan was adopted by the council in early 2019 and actions are currently

being implemented, although progress in 2020 and 2021 was hampered by the COVID pandemic, and progress since 2021 has been a lower priority since we discovered exceedances of the NO₂ annual mean objective in Hawkhurst, and because we think that compliance with all objectives in the main A26 AQMA has already been achieved.

The 2022 annual mean NO₂ level, measured at the A26 St John's Roadside automatic monitoring location decreased to 25µgm⁻³ from 26µgm⁻³ in 2021. Out of 42 diffusion tube monitoring sites, 21 sites showed an increased level, 14 sites were unchanged, which we define as the 2022 level being within ±1µgm⁻³ of the 2021 level, and seven tube sites indicated a lower level in 2022 compared to 2021.

The 1-hour objective for NO₂ was met yet again at the automatic monitoring station, with no instances of the hourly mean exceeding 200µgm⁻³. No exceedances of the hourly mean have been recorded in the last five years. We believe there has probably been a continuing trend of reductions in underlying NO₂ levels across the borough in the last 6 or 7 years, but the pandemic rather masked this trend in 2020 and 2021.

Nevertheless, we have seen a steady decline in NO₂ levels at the automatic monitoring station over the past eight years, during which annual mean NO₂ levels have dropped from 48ugm³ in 2014 to 25 ugm³ in 2022. This reflects a national downward trend in pollution levels which is occurring as a result of the introduction of Euro VI engines, increased uptake of electric and hybrid vehicles, and the natural disappearance of some of the oldest and most polluting vehicles from the roads as they reach the end of their service lives. Since 2016, there have been no exceedances of the annual mean objective at relevant receptors.in the main AQMA.

In 2022, two diffusion tube locations recorded annual mean NO₂ levels above the annual mean objective. The two locations were TW63 and TW82. These sites also both exceeded in 2021

TW63 is a triplicate site in the new Hawkhurst AQMA, and the annual mean recorded there was 44.1µgm⁻³. The site was not distance corrected by the diffusion tube data processing tool since it is on the façade of a building, but there is no residential property in that part of the building at ground floor level. The nearest relevant residential exposure is at first floor level and is a little further down the hill, so it is less affected by queuing traffic. Therefore it is almost certain to be below the objective. This is confirmed by the original Detailed Assessment on which the Hawkhurst AQMA was declared, where this receptor was modelled at 35.8µgm⁻³ at first floor level in 2019, when the level at TW63 was 52.7µgm⁻³.

TW82 was a new site in 2021 by Dorin Court on the Pembury Road. Pembury Road is one of the busier roads in Tunbridge Wells, and is prone to congestion at peak times, so high NO₂ levels would be expected by the roadside, however, the road is very wide, with few obstacles to the dispersion of NO₂, and the residential properties are well spaced and set well back from the road. Tube TW82 recorded an annual mean NO₂ level in 2022 of 42.5µgm⁻³. This was distance corrected to 27.9µgm⁻³ at the nearest relevant receptor.

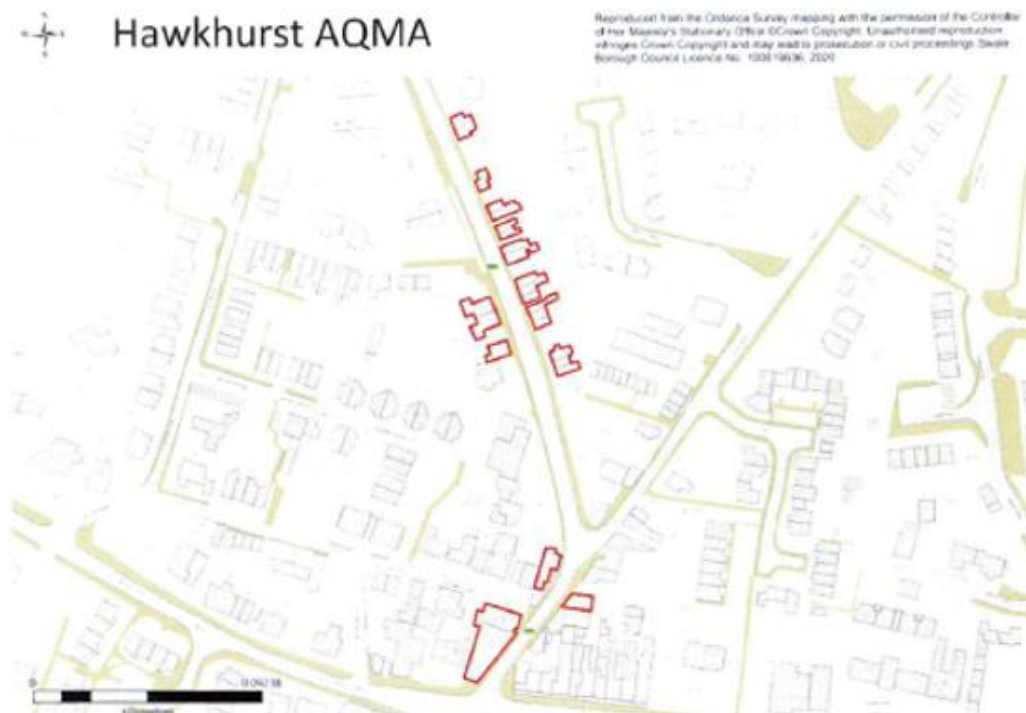
Two other sites recorded levels within 10% of annual mean objective for NO₂ in 2022, namely TW41 and TW69. TW41 is in the Pantiles, in the main Tunbridge Wells AQMA, and recorded an NO₂ level of 38.3µgm⁻³, which was distance corrected down to 29.5µgm⁻³ at the nearest residential receptor. TW69 is in Cranbrook Road, in the new Hawkhurst AQMA and recorded an NO₂ annual mean of 36.1µgm⁻³ which was distance corrected down to 30.7µgm⁻³

The Hawkhurst AQMA

A new AQMA was declared in Hawkhurst ([Hawkhurst AQMA](#)) at the end of 2021. This was based on a detailed assessment carried out in 2020 by Air Quality Consultants Ltd (AQC) based on data from 2019, and reported in the 2021 ASR.

There are 8 diffusion tube sites in and around the Hawkhurst AQMA, of which TW63 (not representative of residential exposure) was the only site to record an NO₂ level in excess of the annual mean objective (44.1µgm⁻³). TW69, also in the Hawkhurst AQMA, recorded an NO₂ level with 10% of the objective at 36.1µgm⁻³. This was distance corrected to 30.7µgm⁻³ at the nearest relevant receptor.

Figure 2 Map of Hawkhurst AQMA



Whilst a full AQAP is yet to be completed, as an interim measure, TWBC has developed a planning position statement which describes how air quality considerations will be addressed for planning applications in the vicinity of Hawkhurst. The planning position statement can be found here:-

[Hawkhurst Planning Position Statement](#)

TWBC also held a public consultation on proposed measures to be included in the Hawkhurst Air Quality Action Plan. The consultation ran between 29th September and 27th November 2022. A report summarising the consultation responses can be found at Appendix F. Following the consultation, a draft AQAP was produced and approved by TWBC Cabinet. It was subsequently approved by DEFRA but requires some amendments, so is yet to be published.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan⁵ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM_{2.5} targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce PM_{2.5} in their areas. The Road to Zero⁶ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMA) are designated due to elevated concentrations heavily influenced by transport emissions.

The priorities for our effort and resources in 2022 were:-

- ☐ To begin developing an Air Quality Action Plan for the newly declared AQMA in Hawkhurst

⁵ Defra. Environmental Improvement Plan 2023, January 2023

⁶ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

- ☐ To continue the roll out of the DEFRA funded digital schools air quality resource which we now call 'Pollution Patrol,' This was launched in April 2022 and we are actively trying to encourage more schools to sign up to it.
- ☐ To commence PM_{2.5} monitoring in Tunbridge Wells

These priorities precluded a lot of progress on the main Air Quality Action Plan, but it is now clear that the A26 AQMA has been in compliance with the AQS objectives for some time, and we expect to begin the process of revoking it in 2023. Therefore, further expenditure of effort on the current A26 Air Quality Action Plan is likely to be minimal.

For ease of reference, the summary of progress on the action plan given below is largely reproduced from the 2022 ASR with minor updates where appropriate.

The new Air Quality Action Plan (AQAP) for the A26 AQMA was adopted by the council in early 2019. The aims of the action plan were as follows:

1. To ensure that TWBC is complying with relevant air quality legislation.
2. To achieve a higher standard of air quality across the Tunbridge Wells borough.
3. To engage with partners and colleagues including those representing Highways and Transportation, Public Health, Economic Development, local bus companies and other relevant stakeholders, to improve air quality across the borough.
4. To build on previous work in this area in order to drive further improvements in air quality with the ultimate aim of being able to revoke the Air Quality Management Area.

The proposed general borough-wide measures to improve air quality include:-

- ☐ Support for measures to increase the use of sustainable transport modes such as walking and cycling.
- ☐ Investigation of a Low Emission Standard for buses.
- ☐ Incorporation of an SPD into the emerging Local Plan
- ☐ Improve the vehicle emissions for taxis.
- ☐ Reduce the idling of engines whilst stationary.
- ☐ Engaging with schools to reduce the impact of school traffic.
- ☐ Incorporate initiatives into planning policy and the local plan

In addition, a few of the existing policies and strategies also in place to help improve air quality within the borough include:

- ☐ Kent and Medway Air Quality Partnership Air Quality and Planning Technical Guidance (Updated 2016)
- ☐ Kent County Council Local Transport Plan (2016-2031)
- ☐ Tunbridge Wells Borough Local Plan (2006) (currently being updated). The draft Local Plan went out for public consultation in Autumn 2019.
- ☐ Tunbridge Wells Borough Development Plan – Transport strategy (2015 – 2026)

Details of all measures completed, in progress or planned are set out in **Error! Reference source not found.** More detail on these measures can be found in their respective Action Plans including the Tunbridge Wells Borough Council Air Quality Action Plan (2018-2023), Tunbridge Wells Borough Development Plan Transport Strategy 2015 – 2026 (July 2015), Kent County Council Local Transport Plan (2016-2031), Tunbridge Wells Borough Council Draft Local Plan relating to the Council's proposed strategy for the future development in the borough (public consultation carried out in September to November 2019) with the aim for adoption in early 2022.

Actions from the AQAP are included in this report at Appendix 2.2. The actions fall into three themes, namely Transport, Planning and Public Health. Examples of actions included in the Action Plan are:-

- ☐ Support for measures to increase the use of sustainable transport modes such as walking and cycling.
- ☐ Consider the establishment of an Air Quality Protection zone to replace the AQMA, when we are confident that the AQMA can be revoked.
- ☐ Expansion of the Car Club scheme.
- ☐ Investigation of a Low Emission Standard for buses.
- ☐ Incorporation of an air quality SPD into the emerging Local Plan
- ☐ Use S106 funding to introduce a bike share scheme.
- ☐ Engaging with schools to reduce the impact of school traffic.

AQAP progress summary

Cycling, walking and alternative transport schemes

- ☐ **TR 1 - Support the development of cycling and walking infrastructure to increase the use of sustainable transport modes such as walking and cycling**
- The Local cycling and walking infrastructure plan that focuses on Tunbridge Wells Town Centre has been prepared in draft and due to go out to consultation. **Ongoing.**
- ☐ **TR 4 - Review opportunities to facilitate the implementation of a Bike Share Scheme. With possible options to provide initial support funding using S106 or grant funding, including. private investor funding. Including as appropriate docking stations and electric bicycle facilities** - Funding has been identified by Kent County Council to investigate the potential of implementing an electric bike share scheme in Tunbridge Wells and are currently at the very early stages of a scoping report. **Stalled through lack of resources for the time being.**
- ☐ **PH1 - Infrastructure developments in parks to support cycling and walking links to and through parks to enable sustainable access and support commuting routes.** Improvements to the 21st Century Way cycle route have been delivered which links to Grosvenor & Hilbert Park and Colebrook Recreation Ground. The draft LCWIP analyses several walking and cycling routes through parks and across the Commons in Tunbridge Wells and Rusthall. **Partially completed**

Buses, public transport and taxis

- ☐ **TR 2 - Securing Grant funding for buses** – KCC was successful in get some grant funding for the Better Bus Strategy in 2021, however the award was much less than hoped for and we don't yet know whether or not TWBC will benefit from it.
- ☐ **TR 3 - Investigate Low Emission Standard for Buses and/or HGV's. Either a graduated scheme of improvement "Low Emissions Zone" or a Euro VI "Clean Air Zone"** - Quarterly Quality Bus Partnership meetings are held with Arriva (the largest operator) and KCC. Arriva currently reports on progress towards

improving emission standards at these meetings. Work to review the Borough Transport Strategy is underway and will consider this issue further. Support freight routing as set out in the KCC Freight Action Plan. This action has not progressed, partly because of the pandemic, which has placed additional pressures on both TWBC and the local bus companies. The decline in pollution levels, particularly along the A26 AQMA has reduced the impetus for a Clean Air Zone in TWBC.

- ☐ **TR8 - Reduce idling of engines whilst stationary with focus on Taxi's, coaches/ buses and HGV's.** - Wider anti idling campaign started in TWBC targeting schools and other key locations for banners and signage. Social media and TWBC residents' magazine used to publicise the campaign and raise awareness. Two designs of anti-idling signage have now been produced and deployed around the Borough, one of which is based on Pollution Patrol artwork and is therefore particularly appropriate for use around schools (see Figure 3) installed in about 20 locations so far across the Borough. Parking Services have been investigating possible enforcement options, but the current policy is one of providing advice to motorists, rather than formal enforcement, in the first instance. The anti-idling campaign outside schools located near the AQMA is expected to continue through our CAFS project. Our Parking Services team have been particularly active in the areas around schools, in installing anti-idling signage and providing advice to motorists.
- ☐ **TR9 - Emissions Standard for Taxis (Euro 6 standard)** – Ongoing through vehicle checks and licensing of taxi vehicles to encourage drivers to replace vehicles to meet current licensing standards. The taxi policy is currently being updated to ensure that any new or replacement vehicles will be required to be Euro 6 standard.
- ☐ **TR10 - The Council will support KCC in their delivery of a 'Demand Response Transport service as part of Kent Connected and Kent Connected** – KCC are currently working on this, but it is not yet clear whether it will be introduced in TWBC

Electrical vehicle charging improvements

- ☐ **PI4 - An effective Electric Vehicle charging network is available for use within the Borough** - Discussions with KCC Highways to further the network to include on street charging and other schemes, currently dependent on local funding and other KCC schemes. Parking Services have worked with KCC to secure funding for the

installation of EV in all of TWBC's car parks. Other funding opportunities for additional EV charging are also being explored. A new EV charging point has been installed in Mount Pleasant Road.

- ☐ **TR7 - Explore ways in which the Parking Strategy can contribute to improving air quality, by the review of parking restrictions/enforcement** - encourage EV use through parking promotion, currently awaiting the outcome of the borough transport strategy. Parking Services have been involved with the introduction of new restrictions in part of Mount Pleasant Road and Monson Road. From 2023 this area will only be open to buses and taxis, as well as cyclists and pedestrians. Parking Services are also engaging with motorists over engine idling issues.

Emissions from delivery vehicles

- ☐ **TR 5 - Review opportunities to reduce emissions from delivery vehicles** - Guidance prepared for developers of this type of scheme to be provided at the planning stage. Issue will be included in review of the Borough Transport Strategy (currently in draft). **Await outcome and progress of strategy.**

Reduction in vehicle ownership

- ☐ **TR 6 - Direct the ongoing expansion of the Tunbridge Wells Car club** – Progress on this was limited because of COVID but we still intend to expand the car club when possible. Despite slow progress, it is still our intention to add three additional vehicles to the TWBC CoWheels car club scheme. The scheme continues to be popular and well supported.

Action through planning and future development

- ☐ **PI2 - Incorporate a requirement for sustainable travel choices and car club schemes into the emerging Local Plan to support ongoing air quality improvements and maintaining good air quality. The Local Plan to introduce, as appropriate, a requirement for air quality impacts to be considered as part of Transport Assessments and Transport Statements; and for air quality impacts arising from transport to be a consideration in determining the appropriateness of transport mitigation and the overall transport impacts arising from the development. The Local Plan to introduce a requirement for ongoing monitoring of the impacts of development on air quality as appropriate in those locations within the Borough most at risk of poor air**

quality, transport mitigation and the overall transport impacts arising from the development. Sustainable travel is a common theme running through the Pre Submission Local Plan. It is particularly relevant to development management policy TP2 (transport design and accessibility) which ensures provision is made for car club schemes and prioritises active travel. This theme is also covered by Strategic Policy 6 (STR6) Transport and Parking. Appendix 3 of the Pre Submission Local Plan details the monitoring that would take place within the plan period to ensure a continued reduction in air pollution occurs at key locations in the borough. The Local Plan Review process is ongoing.

- ☐ **PI3 - Incorporate the development of a future 'Air Quality Protection Area' into the emerging Local Plan to support ongoing air quality improvements and maintaining good air quality** - The borough wide local plan consultation took place during September to November 2019. The comments were being collated and finalised in 2020. The Local Plan Review process is ongoing. This action has been superseded to some extent by the new requirement in TG22 for an Air Quality Strategy to be introduced where an AQMA is to be revoked.
- ☐ **PI5 - Support the protection of existing and development of new Green Infrastructure (GI) as part of the Green Infrastructure Policy** - Progressed by Planning Policy and Development Management, although increasingly part of the climate change agenda rather than air quality management. The Council has negotiated a number of GI improvements as part of new developments in the borough (most new developments have some form of GI). Also maintain GI via the Kent High Weald Partnership. No further update available for 2022.

Promotion of air quality

- ☐ **PH2 - Engage with schools to reduce impact of school traffic. Work with KM Charity Team to increase the number of schools using green travel** - Very positive engagement through the Clean Air for Schools Project is growing. Successfully working with and engaging with schools through assemblies, competitions, activities and teaching material. Promoted through social media and publications from TWBC and schools. Very little engagement with schools was possible during 2021 because of the pandemic, however, we have made excellent progress in developing the DEFRA funded 'Pollution Patrol' resource, which has been rolled out to schools from April 2022.

- **PH4 - Improved Air Quality/sustainability web pages** – project for 2020 as part of the TWBC review and update of their website. **Completed in 2020**; not only have our in house web pages been updated, but we also have a new and informative website for the Kent and Medway Air Quality Partnership. The new web pages can be found here:-

[Tunbridge Wells Air Quality Pages](#)

Review of air quality monitoring in TWBC

- **PH 5 - Annual progress report to Cabinet timed with annual reporting (of the Annual Status Report, ASR), to DEFRA** - Annual report (ASR) submitted to DEFRA published on the KentAir website. **Ongoing annual requirement.**
- **PH 6 - Review of air quality monitoring provision in TW Area** – This is also now done annually. In 2022 we kept the same number of diffusion tube sites as we had in 2021, but added PM2.5 monitoring to the automatic monitoring station on the A26.

Conclusions and Priorities

The main conclusions of the 2023 ASR are these:-

We regard 2022 as the first ‘normal’ or ‘new normal’ year since 2019, before the start of the COVID pandemic. Therefore 2022 data is of particular interest to us, as unlike the previous two years, it has not been affected by any COVID restrictions.

The vast majority of monitoring locations in the Borough have recorded levels in 2022 significantly lower than they were in 2019. Levels in 2022 are broadly similar to those recorded in 2021, with some sites showing a slightly increased level and some showing a slightly decreased level. Two sites, namely TW63 and TW82 recorded exceedances of the NO₂ annual mean objective, TW63 recorded the highest level of anywhere in the Borough in 2022 at 44.1µgm⁻³. This site is in Cranbrook Road in Hawkhurst, in the new Hawkhurst AQMA. It is near the traffic lights and is affected by queuing traffic. However, it is not directly representative of residential receptors. The nearest residential receptor is further away from the traffic lights, thus less affected by the queuing traffic, and is at first floor level. The other site where an exceedance of the NO₂ annual mean objective was recorded was TW82 which is a roadside site on the Pembury Road in Tunbridge Wells.

The nearest residential receptors are set well back from the road at this location, and the result was distance corrected down to $27.9\mu\text{g m}^{-3}$.

Two other sites recorded levels within 10% of annual mean objective for NO_2 , namely TW41 and TW69. TW41 is in the Pantiles, in the main Tunbridge Wells AQMA, and recorded an NO_2 level of $38.3\mu\text{g m}^{-3}$, which was distance corrected down to $29.5\mu\text{g m}^{-3}$ at the nearest residential receptor. TW69 is in Cranbrook Road, in the new Hawkhurst AQMA and recorded an NO_2 annual mean of $36.1\mu\text{g m}^{-3}$ which was distance corrected down to $30.7\mu\text{g m}^{-3}$.

Previous monitoring has suggested that all AQS objectives were also met at all locations in the Borough in 2020 and 2021. Although the objectives appear to have been met in the A26 AQMA for a number of years, there were exceedances in 2019 in Hawkhurst which have led to the declaration of the new Hawkhurst AQMA.

The NO_2 annual mean level recorded at our automatic monitoring station in the A26 AQMA was lower than that recorded in 2020 and 2021. Conversely many of the diffusion tube sites recorded a slight increase in 2021 compared to 2020, and most, but by no means all of the tube sites showed a further slight increase in 2022, compared to 2021. Part of this increase may be accounted for the choice of the local bias correction factor for 2022, which was rather higher than usual at 0.79. The national bias correction factor was 0.76, but we chose not to use this because our local data capture for the year was good. Clearly, both 2020 and 2021 were affected by COVID restrictions, and were lower than they would otherwise have been, but we are of the view that some decreases would have been seen, even without the impact of COVID, in continuation of the trend of reducing NO_2 levels which we have seen for a number of years.

Measurements of particulate matter of less than 10 micrometres in diameter (PM_{10}) measured at the air quality station remain well below the objective. The level recorded for 2022 was $21\mu\text{g m}^{-3}$ which was up slightly from $19\mu\text{g m}^{-3}$ in 2021. PM_{10} levels in Tunbridge Wells have been consistently below the objective level of $40\mu\text{g m}^{-3}$ for many years.

$\text{PM}_{2.5}$ was measured in the Borough for the first time in 2022 but the instrument was not installed until the end of May 2022, therefore we only achieved a data capture of 56%. The level of $\text{PM}_{2.5}$ recorded in this period was $8\mu\text{g m}^{-3}$. We were not able to find suitable data with which to annualise this result (data capture at Canterbury and Thurrock, which we normally use, was poor) but we note that it included a roughly equal number of summer

and winter months and therefore may already be reasonably representative of a full year's result. We expect to be able to measure the level for a full year in 2023.

Our Priorities for 2023 are as follows:-

To complete an Air Quality Action Plan for the new Hawkhurst AQMA. We completed a consultation on proposed actions between 29th September 2022 and 27th November 2022 which informed a draft AQAP submitted to DEFRA in early 2023. The final AQAP will be published in the second half of 2023

Continue rolling out the Pollution Patrol resource, and encouraging its take up by schools.

Begin the process of revoking the A26 AQMA

Local Engagement and How to get Involved

As the main source of air pollution within Tunbridge Wells Borough Council is transport, the easiest way for the public to get involved with helping improving air quality within the area would be to look at alternatives to the way they usually travel.

The following are suggested alternatives to private travel that would contribute to improving the air quality within the Borough:

- ☐ Use public transport where available – This reduces the number of private vehicles on the roads thus helping to reduce congestion and air pollution levels;
- ☐ Walk or cycle if your journey allows – Choosing to walk or cycle your journey reduces the number of vehicles on the road and regular exercise helps keep people fit and healthy;
- ☐ Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work or to school, car sharing reduces the number of vehicles on the road and therefore the amount of emissions being released. This is being promoted via travel plans through the workplace and within schools; and
- ☐ Alternative fuel / more efficient vehicles – Choosing a vehicle that meets the specific needs of the owner, fully electric, hybrid fuel and more fuel efficient cars are available and all have different levels of benefits in reducing the amount of emissions being released. The installation of Electric Vehicle charging points is being promoted through the use of conditions attached to relevant planning permissions.

During 2022, we resumed engagement with schools, via our Clean Air For Schools project, following something of a lull in 2020 and 2021, as a consequence of COVID.

We have engaged with some 100 primary schools since 2018 across the three Mid Kent boroughs, by delivering interactive assemblies, creating a CAFS information section on each local authority website and creating additional teaching material.

In 2021, in partnership with Canterbury City Council, we were pleased to receive a grant from DEFRA for a project to develop and interactive educational air quality resource aimed at primary schools. We received £104,000 from DEFRA, out of a total project cost of £117,000, with the balance being contributed by the other local authorities across Kent. Throughout 2021 we were developing the resource with our partners TMC Strategic Communications Ltd, and we launched it in April 2022. It has now become known as 'Pollution Patrol'. It is designed to help primary school children learn about air quality in a fun and interactive way. Tunbridge Wells Borough Council, Maidstone Borough Council and Swale Borough Council are all part of the Mid Kent Environmental Health Service, so they all play a significant part in the development of the resource, and the finished product will be available to schools across the whole of Kent.

Figure 3 Anti-idling signage deployed in Tunbridge Wells



The Pollution Patrol is a group of animated cartoon characters and the school children are able to watch them explore their fictional home town of Sooting, looking for pollution sources. Some still images from the resource are presented below.

Figure 4 Logo of Clean Air for Schools Project (from school assembly material)



Figure 5 Still frame of Pollution Patrol interactive digital learning resource.



Figure 6 Still frame of Pollution Patrol interactive digital learning resource.

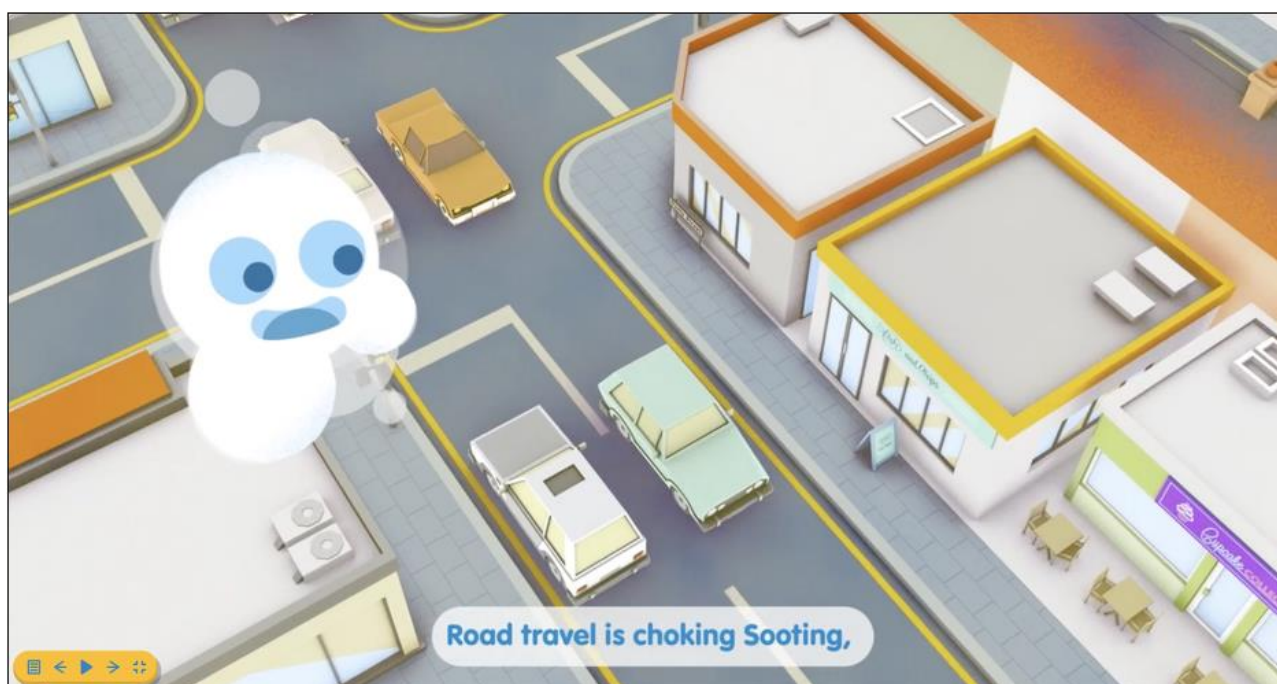
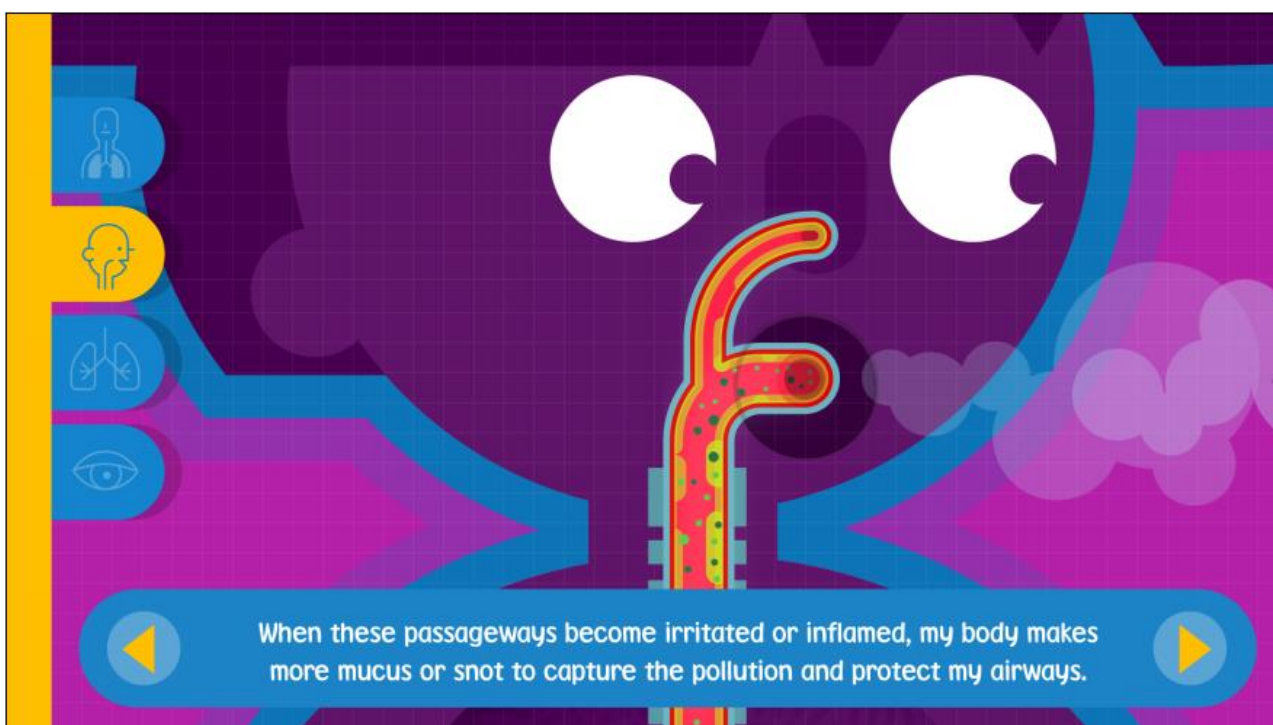


Figure 7 Still frame of Pollution Patrol interactive digital learning resource.



Figure 8 Still frame of interactive activity within Pollution Patrol digital learning resource.



The Pollution Patrol resource also offers interactive stories, games and ideas for lessons, and provides educational information to schools and parents as well as children.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Tunbridge Wells Borough Council with the support and agreement of the following officers and departments:

Dr Stuart Maxwell – Mid Kent Environmental Services

Delaineey Curry – Mid Kent Environmental Services

Kelly Shew – Mid Kent GIS Team

Timings preclude our ASRs being approved by Councillors prior to submission to DEFRA.

This ASR has not been signed off by a Director of Public Health.

If you have any comments on this ASR please send them to Dr Stuart Maxwell at:

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1 Local Air Quality Management

This report provides an overview of air quality in Tunbridge Wells Borough during 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Tunbridge Wells Borough Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

2 Actions to Improve Air Quality

Air Quality Management Areas

Air Quality Management Areas (AQMAS) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

A summary of AQMAS declared by Tunbridge Wells Borough Council can be found in Table 2.1. The table presents a description of the two AQMAS that are currently designated within Tunbridge Wells Borough. Appendix D: Map(s) of Monitoring Locations and AQMAS, provides maps of AQMAS and also the air quality monitoring locations in relation to the AQMAS. The air quality objectives pertinent to the current AQMA designations are as follows:

- ☐ NO₂ annual mean

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
A26 AQMA	Declared <2005>, Amended <2011> Amended 2018	NO2 Annual Mean	The A26 between Park Road and Neville Terrace also including Grosvenor Road, at 0-30m from the road (centre line)	NO	41.8	16.8	4	TWBC AQAP 2018	https://laqm.defra.gov.uk/1rsw2/submit/progress.php?z&reviewId=7360
Hawkhurst AQMA	Declared <Date>, Amended <Date>	NO2 Annual Mean	Residential properties in the southern part of Cranbrook Road in the centre of Hawkhurst	NO	56.7	44.1	N/A	Has been produced but not published yet	N/A

☒ **<Local Authority>** confirm the information on UK-Air regarding their AQMA(s) is up to date **(confirm by selecting in box)**.

☒ **<Local Authority>** confirm that all current AQAPs have been submitted to Defra **(confirm by selecting in box)**.

Progress and Impact of Measures to address Air Quality in Tunbridge Wells Borough

Defra's appraisal of last year's ASR concluded 'The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. Reference to the Public Health Outcomes Framework has been made and this practice should continue going forward.
2. Trends have been presented with a robust comparison to the Air Quality Objectives.
3. QA/QC procedures are robust, with sufficient supporting evidence provided.'

Tunbridge Wells Borough Council has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 24 measures are included within Table 2.2, with the type of measure and the progress Tunbridge Wells Borough Council have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

Between September and November 2022, Tunbridge Wells Borough Council held a public consultation on a suite of potential measures to be included in an Air Quality Action Plan for the new Hawkhurst AQMA. A report, detailing the consultation responses is included at Appendix F.

These actions were then developed into a draft Action Plan document which will require Approval by TWBC Cabinet and DEFRA. It is anticipated that the final AQAP for Hawkhurst will be published in 2023.

One action to which Tunbridge Wells Borough Council has given particular priority has been the development of the Pollution Patrol digital resource, which was funded by a grant from DEFRA awarded in 2021.

The project continues to progress well, and the resource was launched on April 25th. In readiness for the launch, a 'toolkit' document was developed that can be used to allow us to communicate about the resource to colleagues and to the wider audiences on social media and in the press.

The toolkit includes:

- ☐ A document containing target audiences, key messaging, 3x finalised posts, editorial content, suggested platforms, and national days to promote the resource throughout the year.
- ☐ A separate communication plan outlining all suggested platforms to promote the resource on.
- ☐ A Box folder containing supporting visuals.

The toolkit has been created using a 'pick and mix' format, allowing the individual Air Quality Officer or Comms team to choose which elements from the toolkit they feel work best together. The toolkit is presented as Appendix G.

Following the official launch of [Pollution Patrol](#) on 25th April 2022, a social media campaign was used to promote the resource during KentAir week from 25th to 29th April 2022 and the resource was also promoted to education professionals on Kent County Council's schools website [KELSI](#). All schools were sent hard copy information packs at the beginning of June 2022.

Unfortunately, the rate at which schools have signed up to use the resource has been disappointingly slow. Towards the end of the year, TMC started to develop additional marketing and communications materials, including an anti-idling poster, which we also had made up into signs for use around the Mid Kent Boroughs. The sign is shown in Figure 3.

To assist with evaluation of the project, an evaluation survey has been added to the website. Evaluation of the project by the University of Kent is expected to start in 2023.

Tunbridge Wells Borough Council expects the following measures to be completed over the course of the next reporting year:

- 1** To publish the new Air Quality Action Plan for the Hawkhurst AQMA. A draft has already been produced and approved by DEFRA subject to certain amendments. This work will be carried out as soon as possible.
- 2** To continue with the Clean Air For Schools programme – **PH2**. It is anticipated that the 'Pollution Patrol' DEFRA funded digital schools resource will be the main vehicle for engaging with schools in future.
- 3** To continue with the incorporation of air quality measures into the new local plan - **PL1**.

4 Review the main A26 AQMA, with a view to starting the process of its revocation. This will probably require a further assessment followed by approval from Councillors in the first instance, followed by the development and implementation of an Air Quality Strategy.

5 In 2022 TWBC applied to DEFRA's air quality grant fund for an award of £175,675 to develop a digital air quality resource aimed at health care professionals which will inform them about air quality, with a particular emphasis on enabling to help their vulnerable patients to protect themselves. We hope that the award will be successful and that we will begin working on this project in 2023.

Tunbridge Wells Borough Council worked to implement these measures in partnership with the following stakeholders during 2022:

- ☐ Kent County Council;
- ☐ TMC Strategic Communications Ltd;
- ☐ UK Health Security Agency
- ☐ Air Quality Consultants Ltd

The principal challenges and barriers to implementation that Tunbridge Wells Borough Council anticipates facing are as follows:-

Progress on the A26 AQAP has been slower than expected, primarily because we believe that compliance with all air quality objectives has already been achieved in the majority of the Borough including in all of the existing A26 AQMA. The AQAP has therefore become a lower priority. In addition, having relatively recently identified exceedances of the NO₂ Annual Mean Objective in Hawkhurst, we were focussed on formally declaring the new AQMA which came into force on 1st December 2021, and subsequently starting work on developing the associated air quality action plan, which is where most of our effort is now focussed.

TWBC believes that compliance with all relevant air quality objectives has now been achieved in the A26 AQMA, and we will begin the process of revoking the AQMA in 2023.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
Tr1	Support the development of cycling and walking infrastructure to increase the use of sustainable transport modes such as walking and cycling.	Promoting Travel Alternatives	Promotion of cycling	2018	2019	TWBC Economic Development Team and KCC Transport	Developers & highway infrastructure funding	NO	Fully funded	£100k - £500k	Planning	unquantifiable		Phase 1 LCWIP (Local Cycling and Walking Infrastructure Plan) prepared in Draft that focuses on RTW town centre. Consultation on the draft will start early 2020. Phase 2 LCWIP to be commissioned and will cover low traffic neighbourhoods and inter-urban routes.	Lengthy Timescale
Tr2	Securing Grant funding for buses	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2018	2021	Local Authority Environmental Health, Local Authority Transport Dept.	Defra and LA	NO	Not Funded	< £10k	Planning	unquantifiable		On-going, KCC did receive an allocation from the Government's Better Bus Strategy in 2021, but this was much smaller than the amount that they applied for and it is not clear at present whether TWBC will benefit from this.	
Tr3	Investigate Low Emission Standard for Buses and/or HGV's. Either a graduated scheme of improvement "Low Emissions Zone" or a Euro VI "Clean Air Zone" Support freight routing as set out in the KCC Freight Action Plan	Vehicle Fleet Efficiency	Other	2018	2024	Environmental Protection Team in conjunction with QPB and Economic Development Team	Local Authority, Funding: Defra Air Quality Grant will be sought if opportunity arises	NO	Partially Funded	< £10k	Planning	Reduced vehicle emissions		Bus companies have been badly impacted by the COVID pandemic, so there seems to be very little scope for progressing this action at the present time. Not progressed at this time. Currently no budget allocation. However experience of completed project in neighbouring authority with much higher levels of pollution demonstrated very little gain for cost.	Unlikely to go ahead at this time as a result of the impact of COVID on local bus companies.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
Tr4	Review opportunities to facilitate the implementation of a Bike Share Scheme. With possible options to provide initial support funding using S106 or grant funding, inc. private investor funding. Including as appropriate docking stations and electric bicycle facilities	Promoting Travel Alternatives	Promotion of cycling	2018	2024	Sustainability, Economic Development, and Healthy Lifestyles Team, with support from Parking Services and Environmental Health.	Funding to implement project awarded by KCC. Very early stages of scoping in progress	NO	Partially Funded		Planning	unquantifiable		Funding has been identified by Kent County Council to investigate the potential of implementing an electric bike share scheme in Tunbridge Wells. The bike share scheme is not going to go ahead at this stage due to lack of capacity	
Tr5	Review opportunities to reduce emissions from delivery vehicles	Freight and Delivery Management	Other	2018	2023	Environmental Protection and Economic Development	Within existing budgets	NO	Not Funded	< £10k	Planning	unquantifiable		Guidance prepared for developers of this type of scheme to be provided at the planning stage. Issue will be included in review of the Borough Transport Strategy.	
Tr6	Direct the ongoing expansion of the Tunbridge Wells Car club.	Alternatives to private vehicle use	Car Clubs	2018	2022	With Planning Policy, Parking and KCC	s106	NO	Partially Funded	£10k - 50k	Implementation	unquantifiable		Expansion of the car club could not go ahead in 2021 due to the Covid situation, however, the car club did remain operational, albeit at a reduced level. Nevertheless, funding has been secured from S106 agreements for three additional cars and a new location for an EV charging point will be sought. The car club continues to be well supported and popular and we are still in the process of adding the 3 new cars.	Delayed by COVID but now resumed
Tr7	Explore ways in which the Parking Strategy can contribute to improving air quality, by the review of parking restrictions/enforcement	Promoting Low Emission Transport	Priority parking for LEV's		2022	TWBC Parking Services	Within existing budgets	NO	Funded	< £10k	Planning	unquantifiable		Issue to be covered in emerging Borough Transport Strategy. Parking Services have been involved with the introduction of new restrictions in part of Mount Pleasant Road and Monson Road, with this area now being only open to buses and taxis, as well as cyclists and pedestrians.	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
Tr8	Reduce idling of engines whilst stationary with focus on Taxi's, coaches/ buses and HGV's. With an option to extend to anti-idling campaigns outside schools located near the AQMA.	Traffic Management	Anti-idling enforcement	2018	2022	Environmental Protection Team and Parking Services	Within existing budgets	NO	Partially Funded	< £10k	Implementation	unquantifiable		The DEFRA funded Pollution Patrol resource, will be a novel way to help to tackle idling. Wider anti idling campaign started in TWBC targeting schools and other key locations for banners and signage. Social media and TWBC residents magazine used to publicise the campaign and raise awareness. Parking Services are speaking to drivers found idling their engines in order to discourage idling, but are not issuing FPNs at this stage.	
Tr9	Emissions Standard for Taxis (Euro 6 standard)	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport		2024	TWBC Licensing Team	Within existing budgets	NO	Funded	< £10k	Planning	unquantifiable		Ongoing through vehicle checks and licensing of taxi vehicles	
Tr10	The Council will support KCC in their delivery of a 'Demand Response Transport service as part of Kent Connected and Kent Connected +	Promoting Travel Alternatives	Other		2024	KCC Public Transport Team	Within existing budgets	NO			Implementation	unquantifiable		KCC's Public Transport Team currently working on an Enhanced Bus Partnership Scheme and DRT but it is not yet clear whether it will be introduced in TWBC.	
Tr11	To revise and update the Councils own 2011 Travel Plan.	Promoting Travel Alternatives	Workplace Travel Planning		2022	Sustainability	Within existing budgets	NO	Funded	< £10k	Planning	unquantifiable		To be progressed	
Tr12	To deliver an adaptive traffic management control system	Traffic Management	UTC, Congestion management, traffic reduction		2024	KCC Highways		NO			Planning	unquantifiable		To be progressed	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PI1	Good air quality is appropriately recognised in the Local Plan - Development Plan Document/SPD in emerging local plan.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2017	2024	TWBC Planning Policy	Within existing budgets	NO	Funded	< £10k	Implementation	unquantifiable			SPD has been prepared and provided to planning policy for adoption. In line with the local plan, The Pre-Submission Local Plan is currently undergoing Reg 19 consultation and includes three air quality themes development management policies. These are entitled Air Quality, Air Quality Management Areas, and Biomass Technology. They are designed to prevent unacceptable air quality impacts, ensure air quality neutral development and strongly encourage air quality positive proposal in planning applications.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PI2	Incorporate a requirement for sustainable travel choices and car club schemes into the emerging Local Plan to support ongoing air quality improvements and maintaining good air quality. The Local Plan to introduce as appropriate a requirement for air quality impacts to be considered as part of Transport Assessments and Transport Statements, and for air quality impacts arising from transport to be a consideration in determining the appropriateness of transport mitigation and the overall transport impacts arising from the development. The Local Plan to introduce a requirement for ongoing monitoring of the impacts of development on air quality as appropriate in those locations within the Borough most at risk of poor air quality.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2024	TWBC Development Control and Planning Policy	Within existing budgets	NO		< £10k	Implementation	unquantifiable		SPD had been written and provided to planning policy for adoption in line with the local plan. Sustainable travel is a common theme running through the Pre Submission Local Plan. It is particularly relevant to development management policy TP2 (transport design and accessibility) which ensures provision is made for car club schemes and prioritises active travel. This theme is also covered by Strategic Policy 6 (STR6) Transport and Parking. Development management policy TP1 – Transport Assessments/Statements, Travel Plans and Mitigation, does not mention air quality specifically. However, the previously mentioned policies above would ensure this process takes place. Appendix 3 of the Pre Submission Local Plan details the monitoring that would take place within the plan period to ensure a continued reduction in air pollution occurs at key locations in the borough.	
PI3	Incorporate the development of a future 'Air Quality Protection Area' into the emerging Local Plan to support ongoing air quality improvements and maintaining good air quality.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	2024	TWBC Planning Policy, Sustainability and Environmental Health	Within existing budgets		Funded	< £10k				SPD has been written and provided to planning policy for adoption.	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PI4	An effective Electric Vehicle charging network is available for use within the Borough	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging		2021	Sustainability, Development Control, Parking Services. KCC Highways		NO			Planning	unquantifiable		Discussions with KCC Highways regarding on street charging and other schemes. Parking Services have worked with KCC to secure funding for the installation of EV in all of TWBC's car parks. Other funding opportunities for additional EV charging are also being explored. A new EV charging point has been installed in Mount Pleasant Road.	
PI5	Support the protection of existing and development of new Green Infrastructure(GI) as part of the Green Infrastructure Policy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2024	TWBC landscape and biodiversity	TWBC and KCC	NO	Funded	< £10k	Implementation	unquantifiable		Progressed by Planning Policy and Development Management, although increasingly part of the climate change agenda rather than air quality management. The Council has negotiated a number of GI improvements as part of new developments in the borough (most new developments have some form of GI) Also maintain GI via the Kent High Weald Partnership	
PH1	Infrastructure developments in parks to support cycling and walking links to and through parks to enable sustainable access and support commuting routes.	Promoting Travel Alternatives	Other	2018	2022	TWBC Parks and Economic Development	TWBC and KCC	NO	Partially Funded		Implementation	unquantifiable		Improvements to the 21st Century Way cycle route have been delivered which links to Grosvenor & Hilbert Park and Colebrook Recreation Ground. The draft LCWIP analyses several walking and cycling routes through parks and across the Commons in Tunbridge Wells and Rusthall.	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PH2	Engage with schools to reduce impact of school traffic Work with KM Charity Team to increase the number of schools using green travel	Promoting Travel Alternatives	School Travel Plans	2018	2022	TWBC Environmental Protection Team	Within existing budgets	NO	Funded	< £10k	Implementation	unquantifiable		Project was successfully rolled out and is now in second year. Officers are delivering assemblies to schools taking part in the scheme and providing anti idling banners to put outside. Schools are being asked to design and implement an anti idling campaign and tell TWBC what they have done with a prize to the winner. Schools also provided with a Plumeflow portable monitoring device to look map levels or polluting around the school and on different routes to school to raise awareness and promote walking, cycling etc as well using less trafficked routes to walk to school. Have applied to DEFRA for funding to develop a digital educational resource aimed at primary schools, to educate and inform about air quality in fun an interactive way.	Engagement with schools has resumed following a lull due to COVID
PH3	Raising Awareness of Air Quality and health issues	Public Information	Other	2018	2024	KCC Public Health TWBC Environmental Protection	Within existing budgets	NO	Funded	< £10k	Implementation	unquantifiable		Working on articles for residents magazines etc and promoting our Clean Air For Schools promotion.. AQ remains a lower priority for overall public comms attention. New Kent and Medway Air Quality Partnership website includes more health information	Much was achieved via the Clean Air for Schools Project which involved working with and engaging with schools through assemblies, competitions, activities and teaching material. Promoted through social media and publications from TWBC and schools

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PH4	Improved Air Quality/sustainability web pages.	Public Information	Via the Internet	2019	2020	TWBC Environmental Protection Team	Within existing budgets	NO	Funded	< £10k	Completed	unquantifiable		Websites have been updated and Clean Air for Schools promotion with additional material. Kent and Medway Air Quality Partnership website has undergone additional improvements in 2021	
PH5	Annual progress report to Cabinet timed with annual reporting (of the Annual Status Report, ASR), to DEFRA.	Public Information	Other	2018		TWBC Environmental Protection Team	Within existing budgets	NO	Funded	< £10k	Implementation	unquantifiable		This report will be included on our Intranet and submitted for noting.	
PH6	Review of air quality monitoring provision in TW Area	Public Information	Other	2014		TWBC Environmental Protection Team	Within existing budgets	NO	Funded	< £10k	Implementation	unquantifiable		The continuous monitoring station was upgraded in 2019 following equipment failure.. Results indicate that NO2 is not in excess of the annual mean objective and that no objectives are being exceeded for particulates. The diffusion tube network is reviewed annually and the updated round was started in January 2020. More extensive monitoring of a potential hotspot in Hawkhurst has been implemented to address anomalous results and gain a more detailed data set. Additonal tubes were added in Rusthall, Langton Green, and in Camden Road. We have established additional diffusion tube sites in Hawkhurst, following the declaration of the new AQMA. The results of the new tubes in 2021, as expected, have been low, tending to confirm the boundaries of the AQAP. We are seeking member approval for the use of some S106 funding to set up some PM2.5 monitoring, which is expected to be done in 2022	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
PH7	Review the opportunity to identify the 'cost of illness' by using the newly developed Public Health England tool in the: 'Estimations of costs to the NHS and social care due to the health impacts of air quality.'	Public Information	Other	2018	2022	TWBC and KCC		NO	Funded		Aborted	unquantifiable		Owing to the additional demands on Officer's time as a result of the COVID situation, staff have not had sufficient time to familiarise themselves with the tools in 2020. Too complicated - national data will be used.	Unlikely to go ahead as originally envisaged

PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

New (2021) data from the Public Outcomes Framework (indicator D01) indicates that for the fraction of deaths, attributable to PM_{2.5}, in Tunbridge Wells is 4.8%. This is slightly lower than the national average of 5.5%.

We note that in the neighbouring Borough of Maidstone, in Upper Stone Street, which has considerably higher levels of pollution than anywhere in Tunbridge Wells Borough, the annual mean level of PM_{2.5} was 14µgm⁻³, which is comfortably below the objective of 25µgm⁻³. The PM₁₀ annual mean in Upper Stone Street was 22µgm⁻³. Using the method for estimating PM_{2.5} levels, given in LAQM TG16 Chapter 7, we can calculate a PM_{2.5}/PM₁₀ ratio for Upper Stone Street of $14/22 = 0.6363$. Applying this to the PM₁₀ annual mean level measured in Tunbridge Wells gives $21 \times 0.696 = 14.6$. Therefore, the PM_{2.5} level in Tunbridge Wells during 2021, as estimated by this method would be 14.6µgm⁻³.

As mentioned in the 2022 ASR, during 2021, TWBC was investigating the possibility of establishing some PM_{2.5} monitoring in the Borough, paid for by S106 funding. In late 2021, Members approved the purchase of a reconditioned BAM to be installed in the St Johns Road Air Quality Station. The purchase and installation of the instrument was undertaken in the early part of 2022, and it became operational during May 2022. We therefore have just over six month's worth of data (56% data capture) for which the measured PM_{2.5} level was 8µgm⁻³.

LAQM.TG22 Table A1 Action Toolbox provides a list of measures that can be implemented to tackle PM_{2.5}, and some of these measures are included in our AQAP including anti idling campaigns, encouraging behavioural change (CAFS and via the development of the Pollution Patrol which includes an element on domestic burning) and promotion of cycling and walking. However, it is recognised that any measures employed to reduce NO₂ and PM₁₀ will also have a beneficial effect on PM_{2.5}.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2022 by Tunbridge Wells Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Tunbridge Wells Borough Council undertook automatic (continuous) monitoring at 1 site during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites. NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. The <https://kentair.org.uk/data/data-selector> page presents automatic monitoring results for Tunbridge Wells Borough Council, with automatic monitoring results also available through the UK-Air website .

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

3.1.2 Non-Automatic Monitoring Sites

Tunbridge Wells Borough Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 42 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.1.3 Nitrogen Dioxide (NO₂)

Table A.3 and

Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

The vast majority of monitoring locations in the Borough have recorded levels in 2022 significantly lower than they were in 2019. Levels in 2022 are broadly similar to those recorded in 2021, with some sites showing a slightly increased level and some showing a slightly decreased level. Two sites, namely TW63 and TW82 recorded exceedances of the NO₂ annual mean objective, TW63 recorded the highest level of anywhere in the Borough in 2022 at 44.1µg/m³. This site is in Cranbrook Road in Hawkhurst, in the new Hawkhurst AQMA. It is near the traffic lights and is affected by queuing traffic. However, it is not directly representative of residential receptors. The nearest residential receptor is further away from the traffic lights, thus less affected by the queuing traffic, and is at first floor level. This receptor was modelled at 35.8µg/m³ in 2019 when TW63 was reading 56.7µg/m³. The other site where an exceedance of the NO₂ annual mean objective was recorded was TW82 which is a roadside site on the Pembury Road in Tunbridge Wells. The nearest residential receptors are set well back from the road at this location, and the result was distance corrected down to 27.9µg/m³.

Two other sites recorded levels within 10% of annual mean objective for NO₂, namely TW41 and TW69. TW41 is in the Pantiles, in the main Tunbridge Wells AQMA, and recorded an NO₂ level of 38.3µg/m³, which was distance corrected down to 29.5µg/m³ at the nearest residential receptor. TW69 is in Cranbrook Road, in the new Hawkhurst AQMA and recorded an NO₂ annual mean of 36.1µg/m³ which was distance corrected down to 30.7µg/m³.

3.1.4 Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.7 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

There have been no exceedances of any of the LAQM objectives for PM₁₀ in the last 5 years in Tunbridge Wells Borough.

3.1.5 Particulate Matter (PM_{2.5})

Table A.8 in Appendix A presents the ratified and adjusted monitored PM_{2.5} annual mean concentrations measured in Tunbridge Wells in 2022, which was the first year that PM_{2.5} has been measured in the Borough.

The PM_{2.5} concentration measured in Tunbridge Wells from the end of May from the end of December 2022 was 8µgm⁻³, which is low. We were unable to find suitable data from relevant background sites in order to allow us to annualise the data; data capture for PM_{2.5} at the Thurrock and Canterbury sites that we would normal use was poor. However, since the monitoring period included a roughly equal number of summer and winter months, we would expect it to be reasonably representative of a full year's data and we anticipate achieving a full year of monitoring in 2023.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
CM1	A26 St Johns Road, Southborough	Roadside	558260	141599	NO2; PM10	YES (St Johns Tunbridge Wells)	Chemiluminescent; TEOM	18	4	3

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW01	62 LONDON ROAD, SOUTHBOROUGH , TUNBRIDGE WELLS	Roadside	558100	142200	NO2	Yes	4.2	2.0	No	2.4
TW02	11 THE HURST, TUNBRIDGE WELLS	Urban Background	560000	141300	NO2	No	6.0	1.6	No	2.4
TW19	Maidstone Road, Paddock Wood	Roadside	566800	144800	NO2	No	2.5	1.8	No	2.5
TW20	Mount Ephraim, T. Wells	Roadside	558300	139800	NO2	No	2.8	2.0	No	2.3
TW22	Pembury Road, T. Wells	Roadside	559400	139500	NO2	No	16.0	1.0	No	2.3
TW23	Neville Gate, T. Wells	Urban Background	558800	138300	NO2	No	16.0	0.7	No	2.4
TW25	Flying Dutchman	Roadside	558136	142017	NO2	Yes	1.8	2.6	No	2.9
TW31	London Road Mt Epraim junction	Roadside	558227	139757	NO2	Yes	3.1	1.0	No	2.7
TW34.1, TW34.2	The Cutout St John Road TW AQ	Roadside	558250	141750	NO2	Yes	14.0	4.0	Yes	3.0
TW34.3	The Cutout St John Road TW AQ	Roadside	558250	141750	NO2	Yes	14.0	4.0	Yes	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW41	by 38 The Pantiles, London Rd/Pantiles, Tunbridge Wells	Roadside	558076	138762	NO2	Yes	4.8	1.8	No	2.3
TW43	Junction Church Rd/Clarence Rd, Tunbridge Wells	Roadside	558271	139451	NO2	Yes	2.6	1.3	No	2.6
TW53	Warrington Road, Paddock Wood	Roadside	567638	144732	NO2	No	9.0	1.8	No	2.0
TW55	Badsell Road opposite Macalls park., Paddock Wood	Roadside	566746	144112	NO2	No	11.0	1.8	No	2.5
TW58	Union House, Tunbridge Wells	Roadside	557927	138609	NO2	Yes	7.4	1.3	No	2.5
TW60	12 Goarse Road	Urban Background	560230	140150	NO2	No	10.0	30.0	No	2.4
TW61	5 Warwick Park TN2 5TA	Roadside	558242	138715	NO2	No	18.0	1.5	No	2.2
TW62	Pembury High Street	Roadside	562284	140746	NO2	No	3.9	1.0	No	2.0
TW63.1 HH, TW63.2 HH, TW63.3 HH	Cranbrook Road, Hawkhurst Smugglers Rest triplicate (new January 2020)	Roadside	576065	130604	NO2	Yes	0.0	1.0	No	1.4
TW66 HH	8 The Colonade, Rye Road,	Roadside	576103	130566	NO2	No	2.0	2.0	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Hawkhurst re-opened site									
TW67 HH	Happy Garden Chinese, Highgate Hill, Hawkhurst	Roadside	575998	130528	NO2	No	7.5	1.8	No	1.8
TW68 HH	Old Infant School, Cranbrook Road, Hawkhurst	Roadside	576051	130602	NO2	Yes	0.2	3.0	No	1.6
TW69 HH	Near Substation, Cranbrook Road, Hawkhurst	Roadside	576062	135116	NO2	Yes	3.0	2.5	No	1.6
TW70 HH	Outside 8/9 Cranbrook Road, Hawkhurst	Roadside	576051	130734	NO2	Yes	0.2	1.2	No	1.8
TW71	Tube on post just besides of entrance next to Seven Springs Home	Roadside	560838	140389	NO2	No	7.0	1.5	No	2.6
TW72	Southborough new flats	Roadside	558140	142080	NO2	Yes	2.0	3.0	No	2.0
TW73	Summervale Road	Roadside	558137	142215	NO2	Yes	15.0	4.5	No	1.8
TW74	Papa Johns	Roadside	557354	138128	NO2	Yes	0.0	5.0	No	1.6
TW75	6 Bayhall Road (prev HH9 tube in 2020)	Roadside	559208	139317	NO2	No	3.0	3.0	No	1.8
TW76	107 Forest Road by Lyle Pub	Roadside	559537	138500	NO2	No	9.0	2.8	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW77	Liptraps lane (opp Robin Hood Pub) New Jan 21	Roadside	559813	140829	NO2	No	24.0	3.0	No	2.8
TW78 HH	By Café and Opp Post Office Road HH 9 New Feb 21	Roadside	575993	130594	NO2	No	2.3	1.0	No	2.6
TW79 HH	on drainpipe of 1 Hurstlea High St HH HH10 New Feb 21	Other	575967	130575	NO2	No	0.0	5.8	No	1.4
TW80 HH	Cranbrook Stone Street HH11 new Feb 21	Kerbside	577758	136010	NO2	No	1.0	0.5	No	1.8
TW81HH	Goudhurst Chemist on the High St HH12 New Feb 21	Kerbside	572277	137785	NO2	No	0.0	0.0	No	1.2
TW82	Pembury Road - By Dorin Court Pembury Rd TN2 3RH New Feb 21	Roadside	559166	139398	NO2	No	7.5	1.0	No	2.6
TW83	Carrs Corner Roundabout Crescent Road TN1 2UN New Feb 21	Roadside	558778	139491	NO2	No	0.0	2.6	No	2.6
TW84	50 Camden Road TW TN1 2QD Alisha Barbers new Feb 21	Roadside	558789	139777	NO2	No	0.6	1.0	No	2.0
TW85	68 Camden road TW TN1 2QP Rosie Baylis New Feb 21	Roadside	558825	139824	NO2	No	0.4	1.4	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW86	By TW free school Mount Ephraim TN4 8FA New Feb 21	Roadside	558276	139876	NO2	Yes	17.2	1.3	No	1.8
TW87	Langton Green Road/ Third Street LG TN3 0ER New Feb 21	Roadside	554552	139178	NO2	No	11.6	1.1	No	2.0
TW88	Rusthall High Street - Laudrette TN4 8RW New Feb 21	Kerbside	556128	139700	NO2	No	3.1	0.7	No	1.8
TW89 HH	Lamppost opp the Colonade (by all Saints Lodge) New May 21 HH13	Roadside	576088	130553	NO2	No	12.6	2.9	No	2.6

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	558260	141599	Roadside	98	98	37	34	31	26	25

X Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 **(confirm by selecting in box)**.

X Reported concentrations are those at the location of the monitoring site (annualised, as required), i.e. prior to any fall-off with distance correction **(confirm by selecting in box)**.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

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

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

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

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

Figure A.1 – Trends in Annual Mean NO₂ Concentrations (µg/m³)

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TW01	558100	142200	Roadside	73.1	73.1	35.9	32.2	22.3	25.7	29.0
TW02	560000	141300	Urban Background	100	100.0	12.1	11.9	9.3	9.3	9.5
TW19	566800	144800	Roadside	100	100.0	23.6	16.9	18.0	19.2	17.0
TW20	558300	139800	Roadside	92.3	92.3	37.6	34.8	24.7	27.9	29.5
TW22	559400	139500	Roadside	100	100.0	36.2	30.5	23.7	24.6	24.2
TW23	558800	138300	Urban Background	90.4	90.4	11.0	11.0	7.6	8.1	8.7
TW25	558136	142017	Roadside	92.3	92.3	32.9	30.7	22.2	22.6	26.3
TW31	558227	139757	Roadside	73.1	73.1	36.2	37.5	27.6	31.0	25.8
TW34.1, TW34.2	558250	141750	Roadside	100	100.0	37.4	31.3	24.7	25.6	24.8
TW34.3	558250	141750	Roadside	92.3	92.3	25.6	25.6	25.6	25.6	24.8
TW41	558076	138762	Roadside	84.6	84.6	45.1	48.7	34.5	35.9	38.3
TW43	558271	139451	Roadside	92.3	92.3	29.7	27.8	20.9	20.8	23.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TW53	567638	144732	Roadside	92.3	92.3	15.2	16.7	10.5	11.8	11.4
TW55	566746	144112	Roadside	82.7	82.7	18.8	16.3	13.7	16.7	19.6
TW58	557927	138609	Roadside	92.3	92.3	48.0	42.9	31.3	27.5	29.5
TW60	560230	140150	Urban Background	84.6	84.6	16.9	16.3	11.3	12.7	11.9
TW61	558242	138715	Roadside	100	100.0	16.1	13.7	11.7	12.4	12.6
TW62	562284	140746	Roadside	90.4	90.4	26.2	22.0	16.5	15.5	17.3
TW63.1 HH, TW63.2 HH, TW63.3 HH	576065	130604	Roadside	100	100.0	56.7	52.7	34.8	40.4	44.1
TW66 HH	576103	130566	Roadside	100	100.0		24.8	17.8	21.6	21.4
TW67 HH	575998	130528	Roadside	92.3	92.3		34.4	24.9	30.5	30.4
TW68 HH	576051	130602	Roadside	100	100.0		35.8	28.9	29.7	27.5
TW69 HH	576062	135116	Roadside	92.3	92.3		41.4	32.6	34.7	36.1
TW70 HH	576051	130734	Roadside	100	100.0		37.0	26.8	28.6	29.7
TW71	560838	140389	Roadside	92.3	92.3		31.3	27.2	28.0	29.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TW72	558140	142080	Roadside	84.6	84.6			29.0	20.3	21.3
TW73	558137	142215	Roadside	100	100.0			13.9	14.6	17.0
TW74	557354	138128	Roadside	92.3	92.3			18.0	19.7	18.6
TW75	559208	139317	Roadside	82.7	82.7			17.3	15.2	15.3
TW76	559537	138500	Roadside	76.9	76.9			18.1	24.5	22.1
TW77	559813	140829	Roadside	92.3	92.3				23.9	24.7
TW78 HH	575993	130594	Roadside	100	100.0				23.9	27.0
TW79 HH	575967	130575	Other	92.3	92.3				11.3	12.8
TW80 HH	577758	136010	Kerbside	92.3	92.3				20.0	21.1
TW81HH	572277	137785	Kerbside	92.3	92.3				25.5	27.7
TW82	559166	139398	Roadside	100	100.0				41.7	42.5
TW83	558778	139491	Roadside	92.3	92.3				24.5	26.4
TW84	558789	139777	Roadside	73.1	73.1				23.2	29.5
TW85	558825	139824	Roadside	100	100.0				19.0	19.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TW86	558276	139876	Roadside	100	100.0				15.9	14.6
TW87	554552	139178	Roadside	100	100.0				19.0	18.8
TW88	556128	139700	Kerbside	92.3	92.3				14.3	13.9
TW89 HH	576088	130553	Roadside	73.1	73.1				21.1	23.1

X Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 (confirm by selecting in box).

X Diffusion tube data has been bias adjusted (confirm by selecting in box).

X Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction (confirm by selecting in box).

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

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

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

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

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

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

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

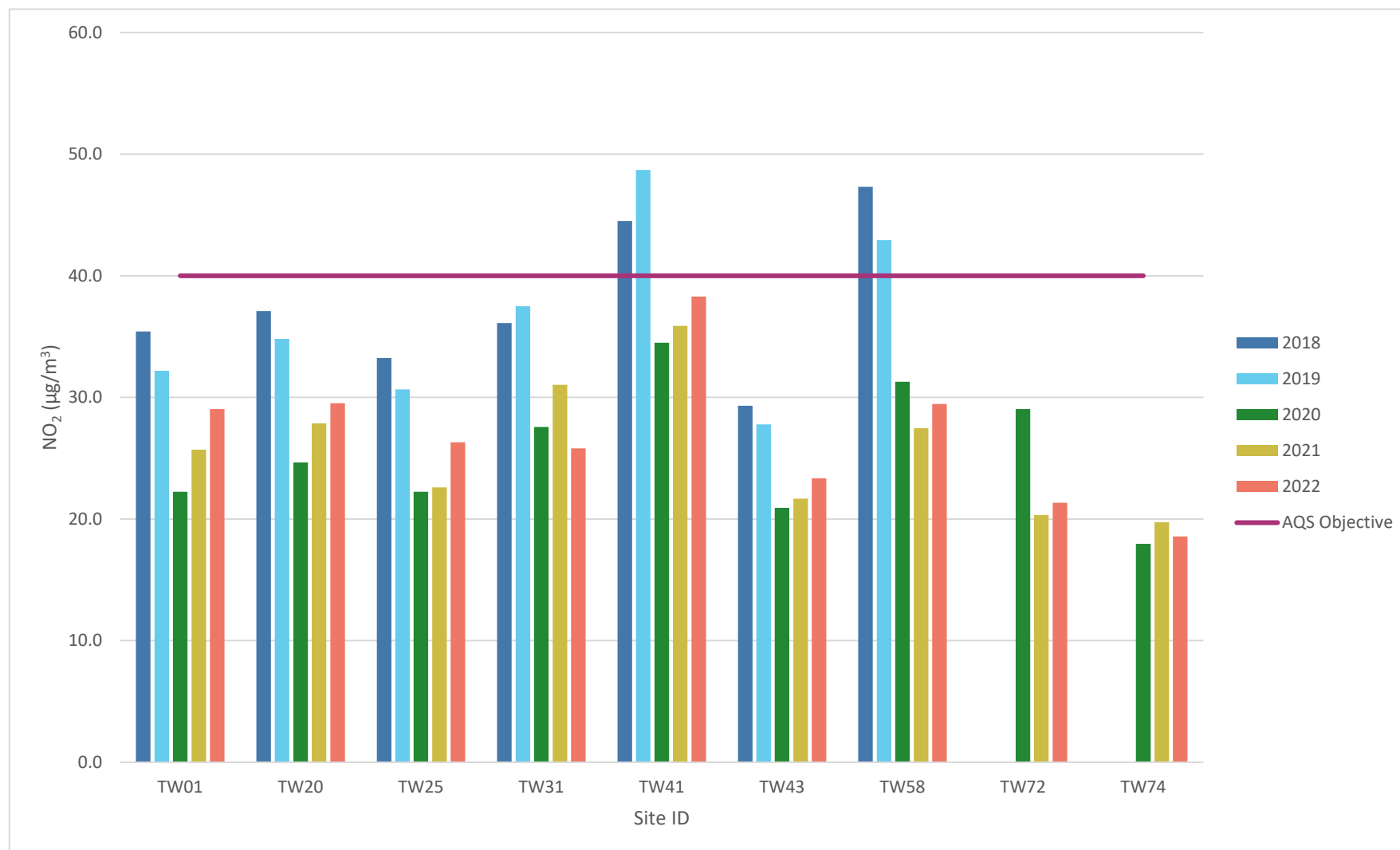
Figure A.4.2 – Trends in Annual Mean NO₂ Concentrations Within the Tunbridge Wells AQMA

Figure A.4.23 – Trends in Annual Mean NO₂ Concentrations at Co-Located Site 34 At St John's Automatic Monitoring Station Within the Tunbridge Wells AQMA

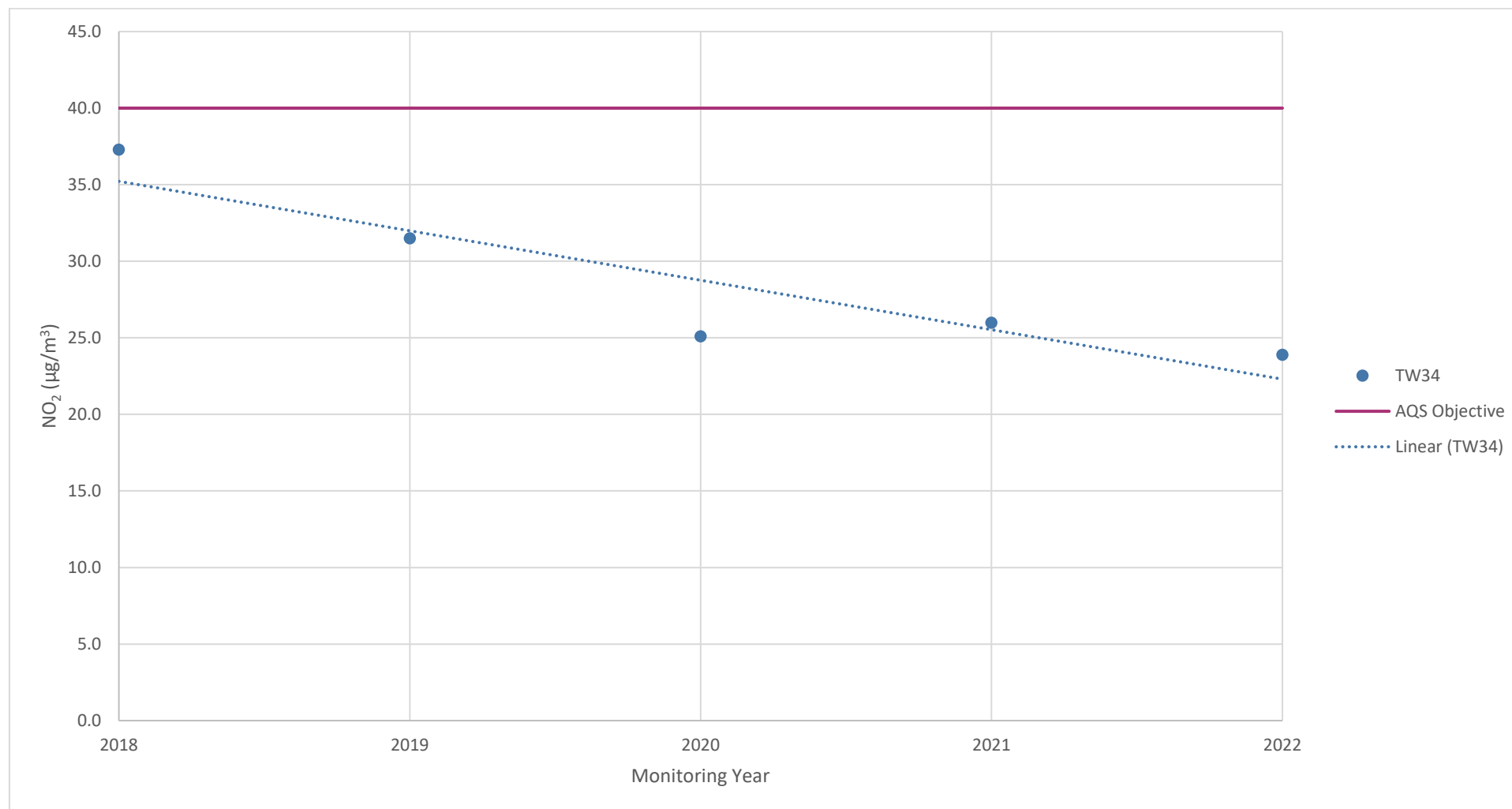


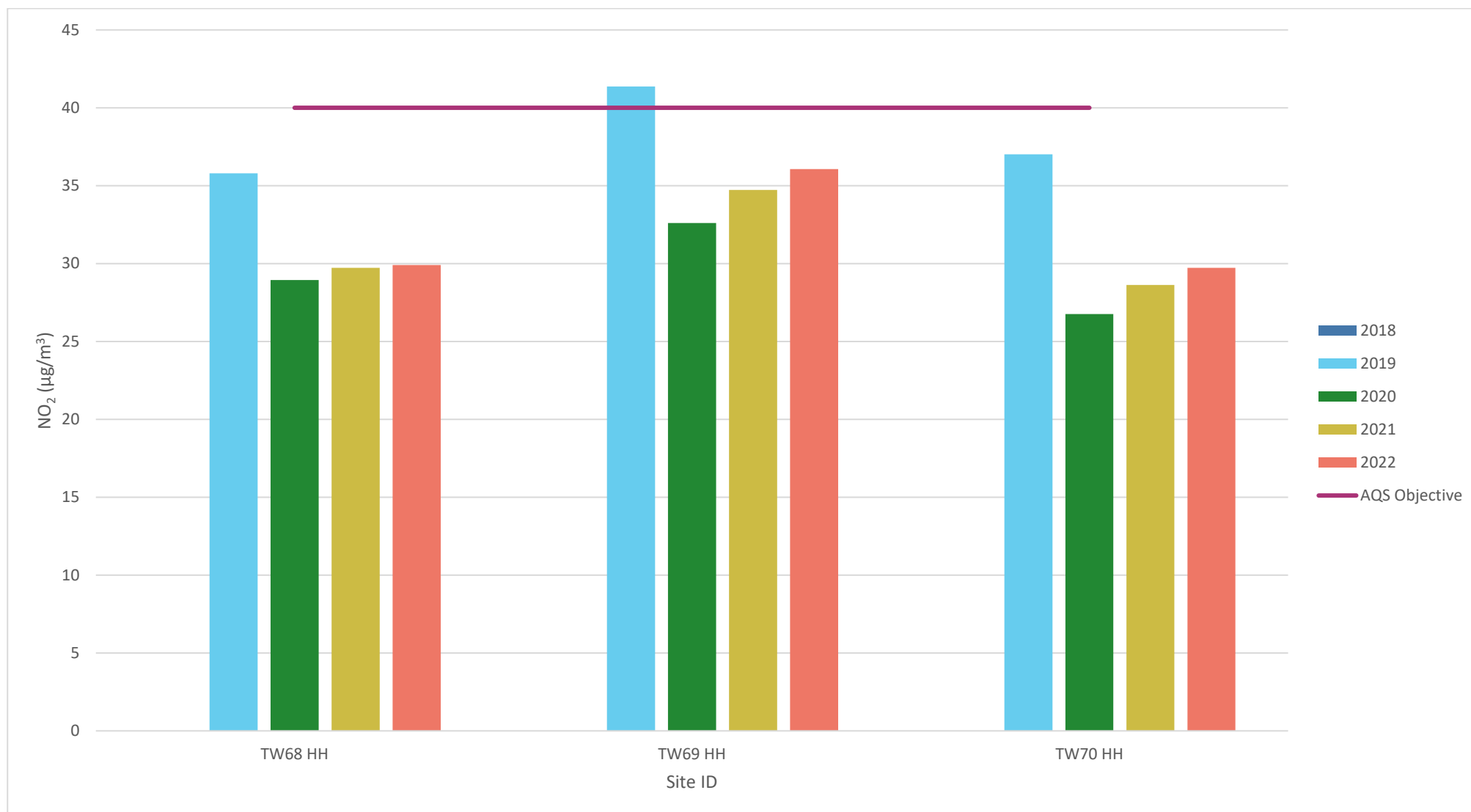
Figure A.4.34 – Trends in Annual Mean NO₂ Concentrations Within the Hawkhurst AQMA

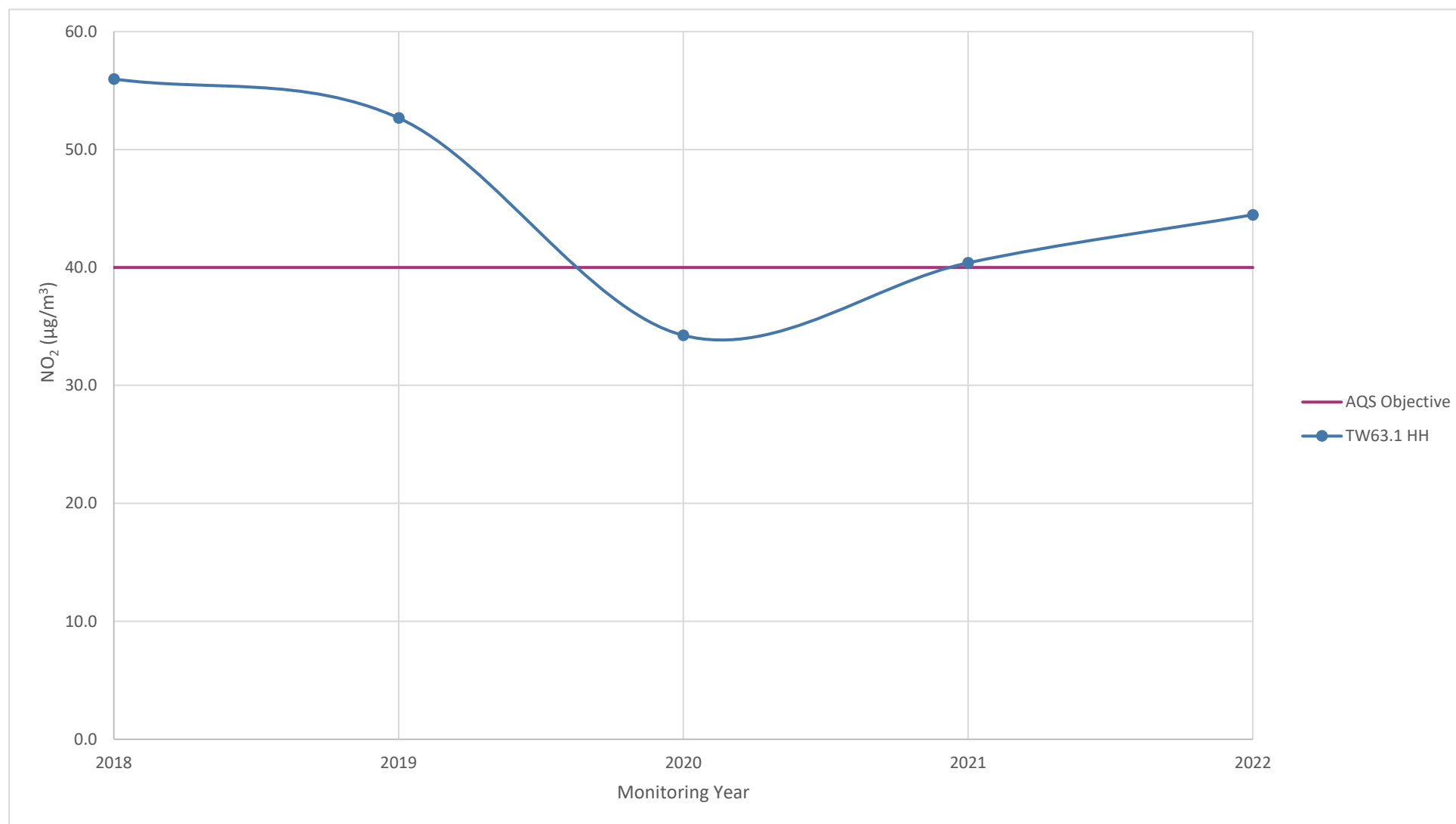
Figure A.4.45 – Trends in Annual Mean NO₂ Concentrations at Co-Located Site 63 Within the Hawkhurst AQMA

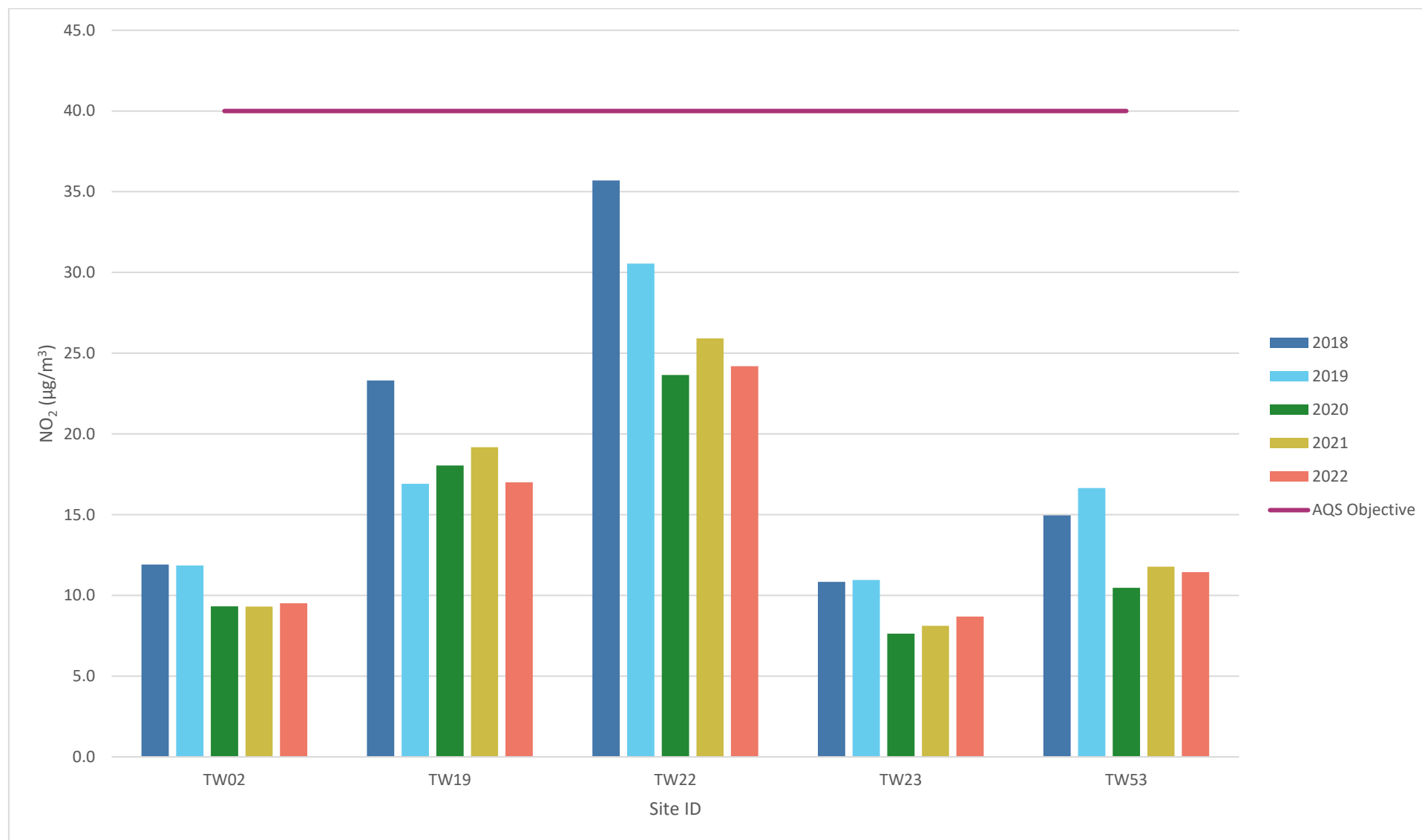
Figure A.4.56 – Trends in Annual Mean NO₂ Concentrations Outside both AQMAs

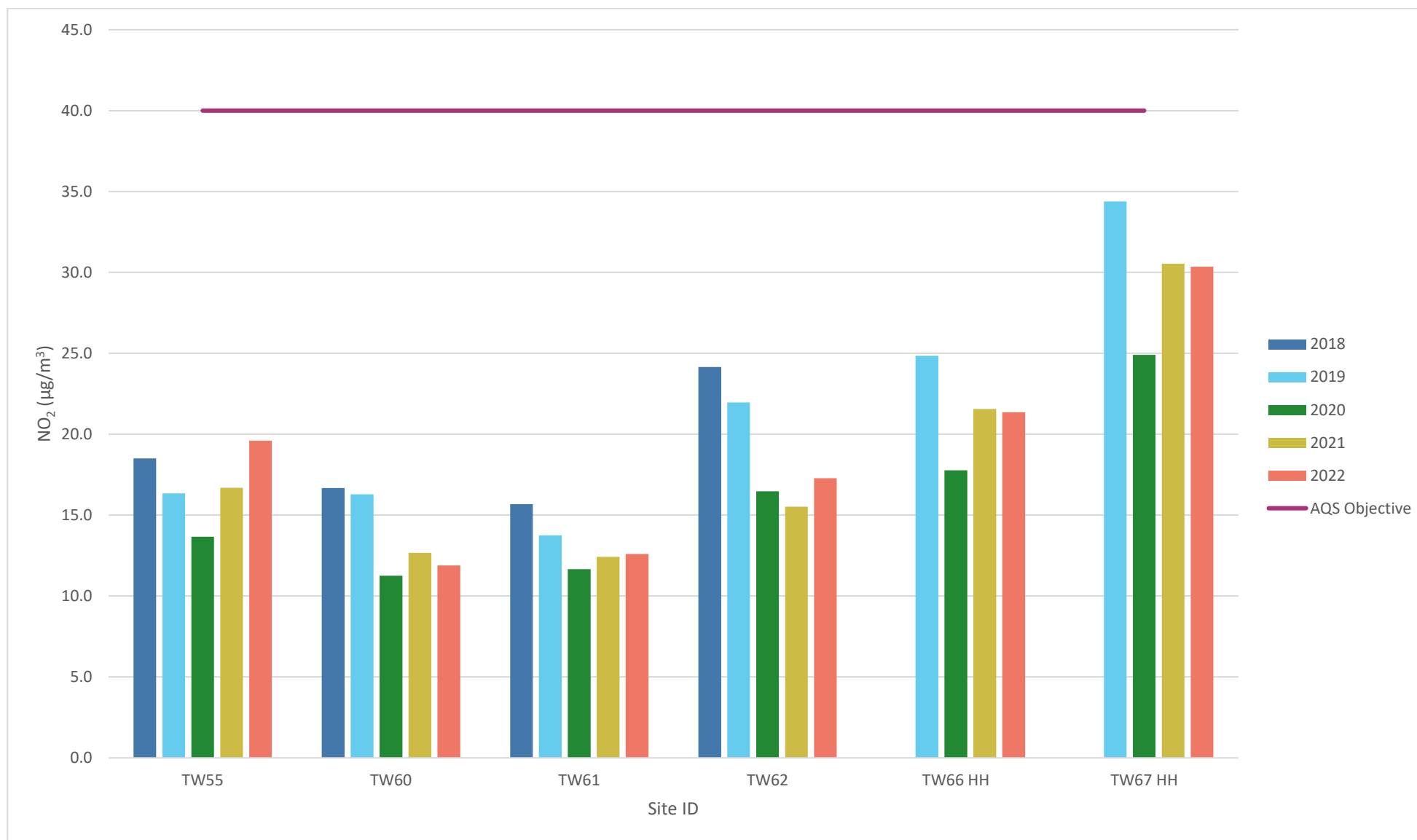
Figure A.4.67 – Trends in Annual Mean NO₂ Concentrations Outside both AQMAs

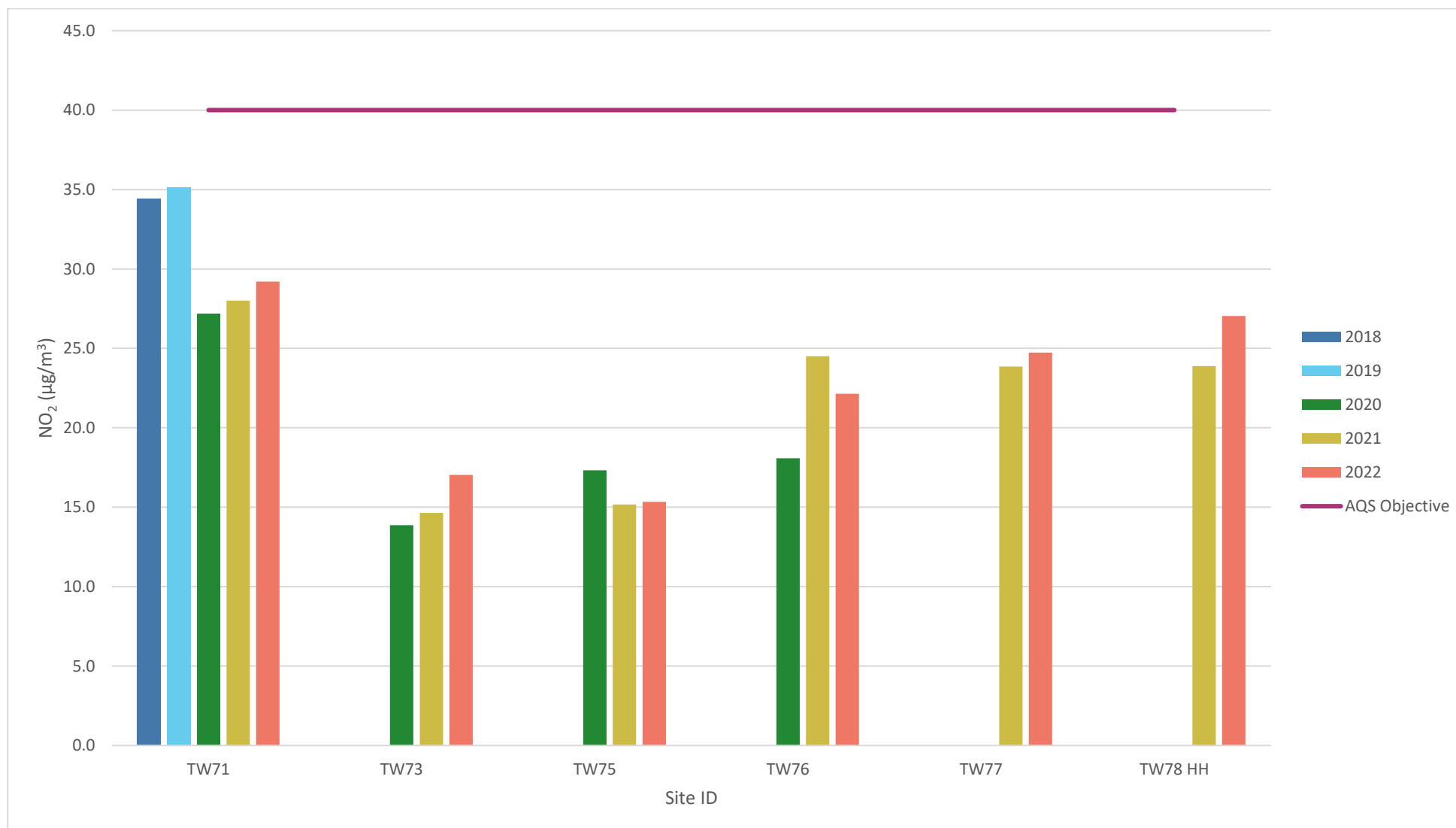
Figure A.4.78 – Trends in Annual Mean NO₂ Concentrations Outside both AQMAs

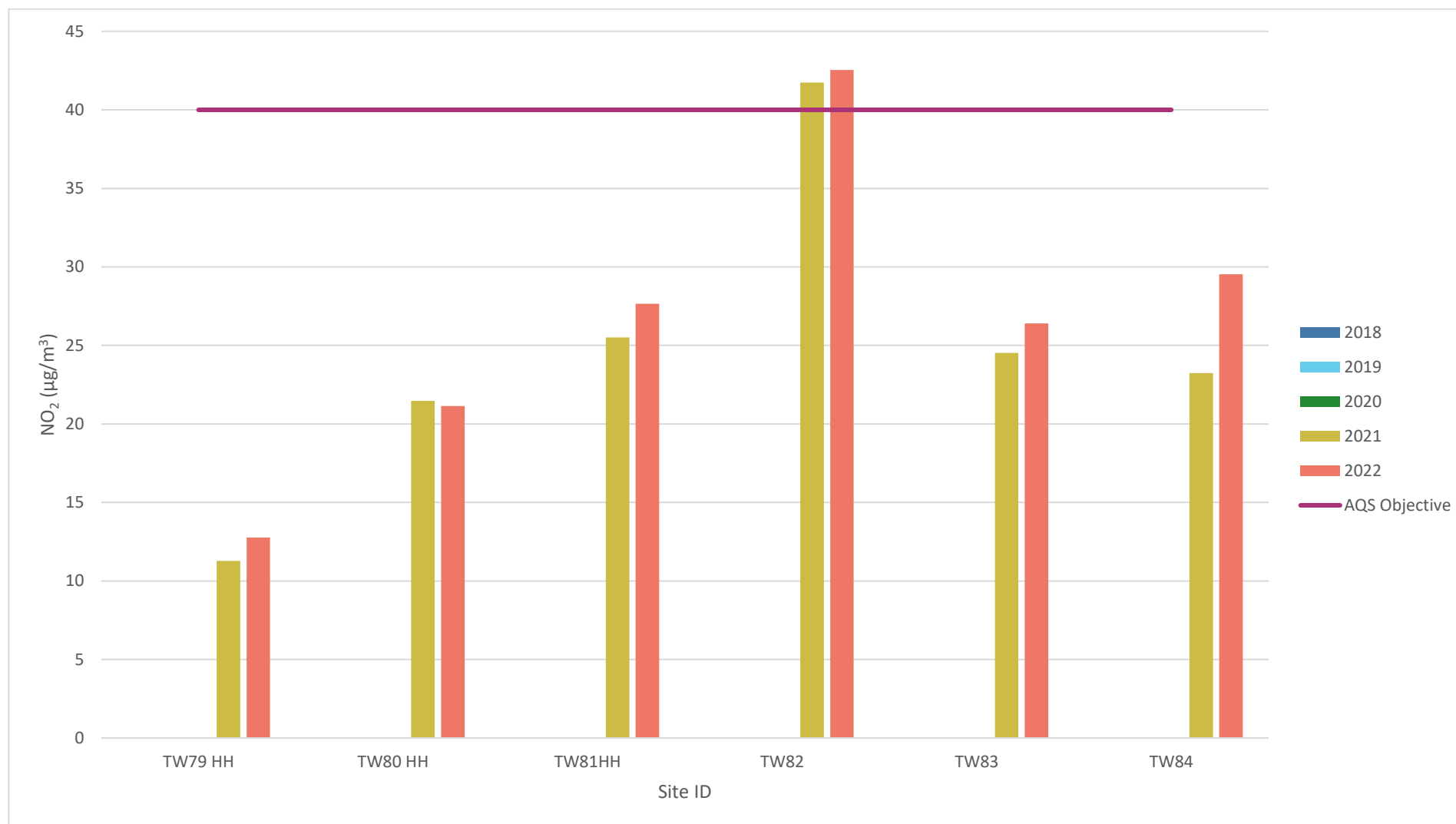
Figure A.4.89 – Trends in Annual Mean NO₂ Concentrations Outside both AQMAs

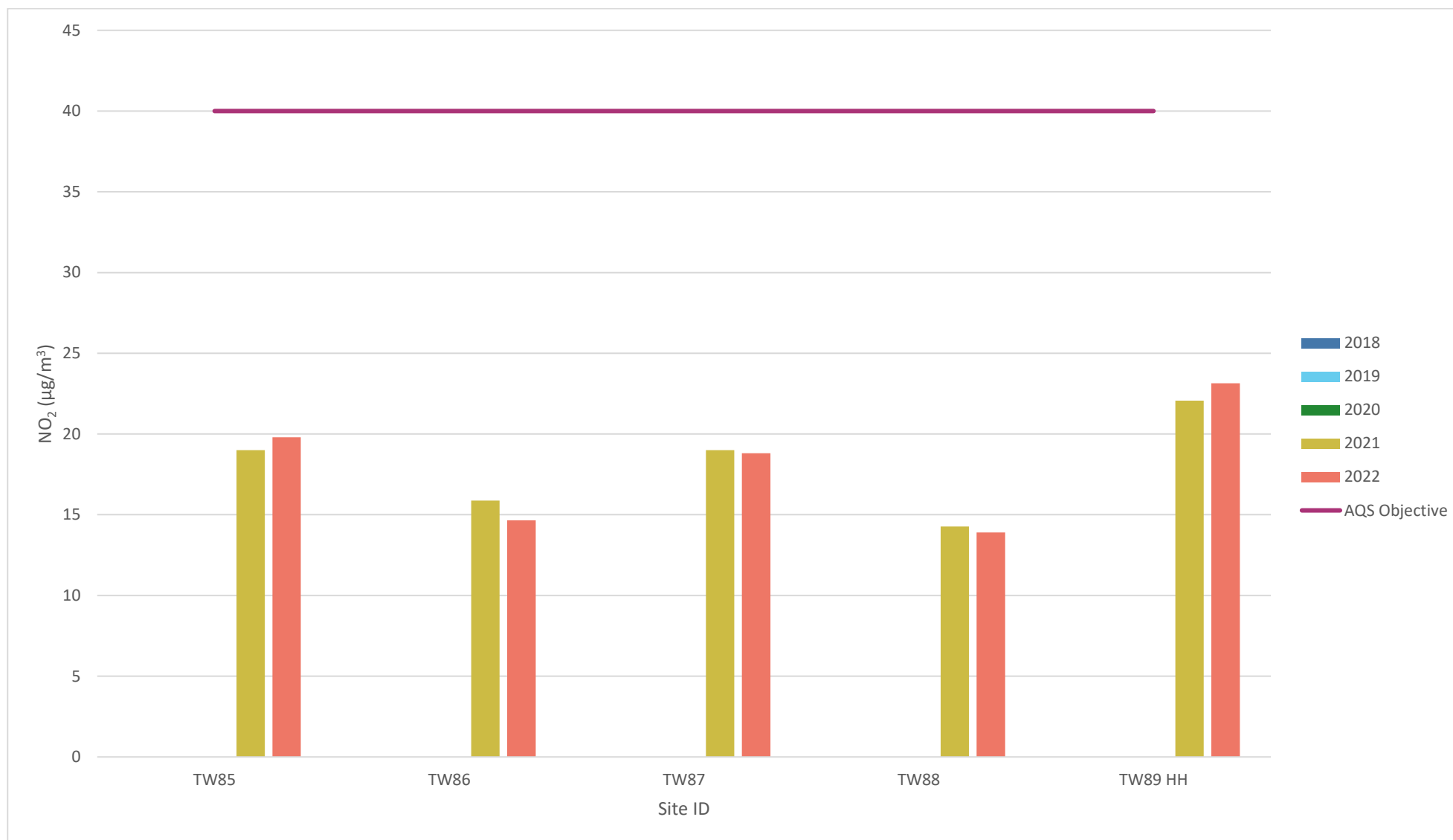
Figure A.4.910 – Trends in Annual Mean NO₂ Concentrations Outside both AQMAs

Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	558250	141750	Roadside	98	98	0	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

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

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

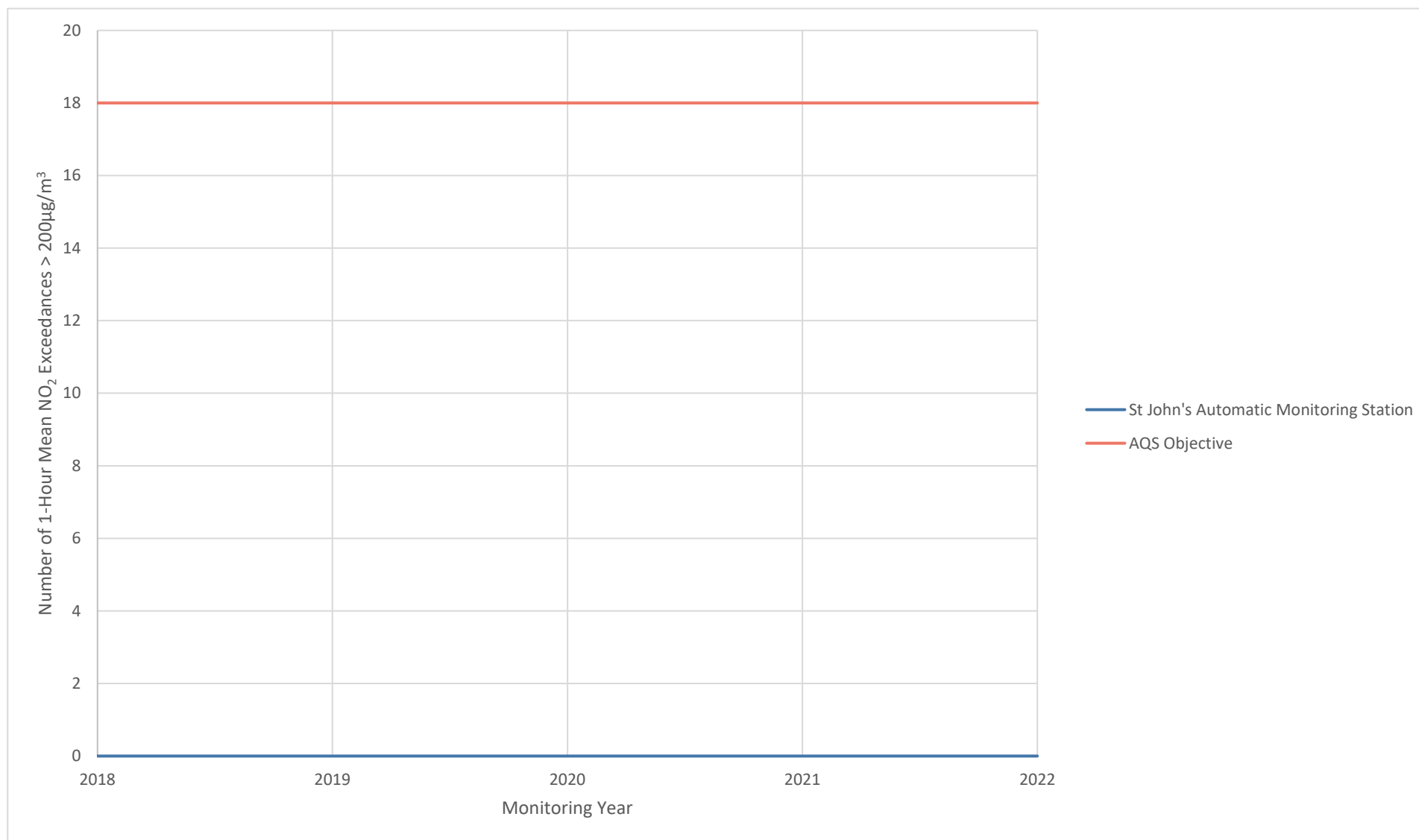
Figure A.5 – Trends in Number of NO₂ 1-Hour Means > 200µg/m³

Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	558250	141750	Roadside	98	98	27	21	18	19	21

X Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 **(confirm by selecting in box)**.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

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

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

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

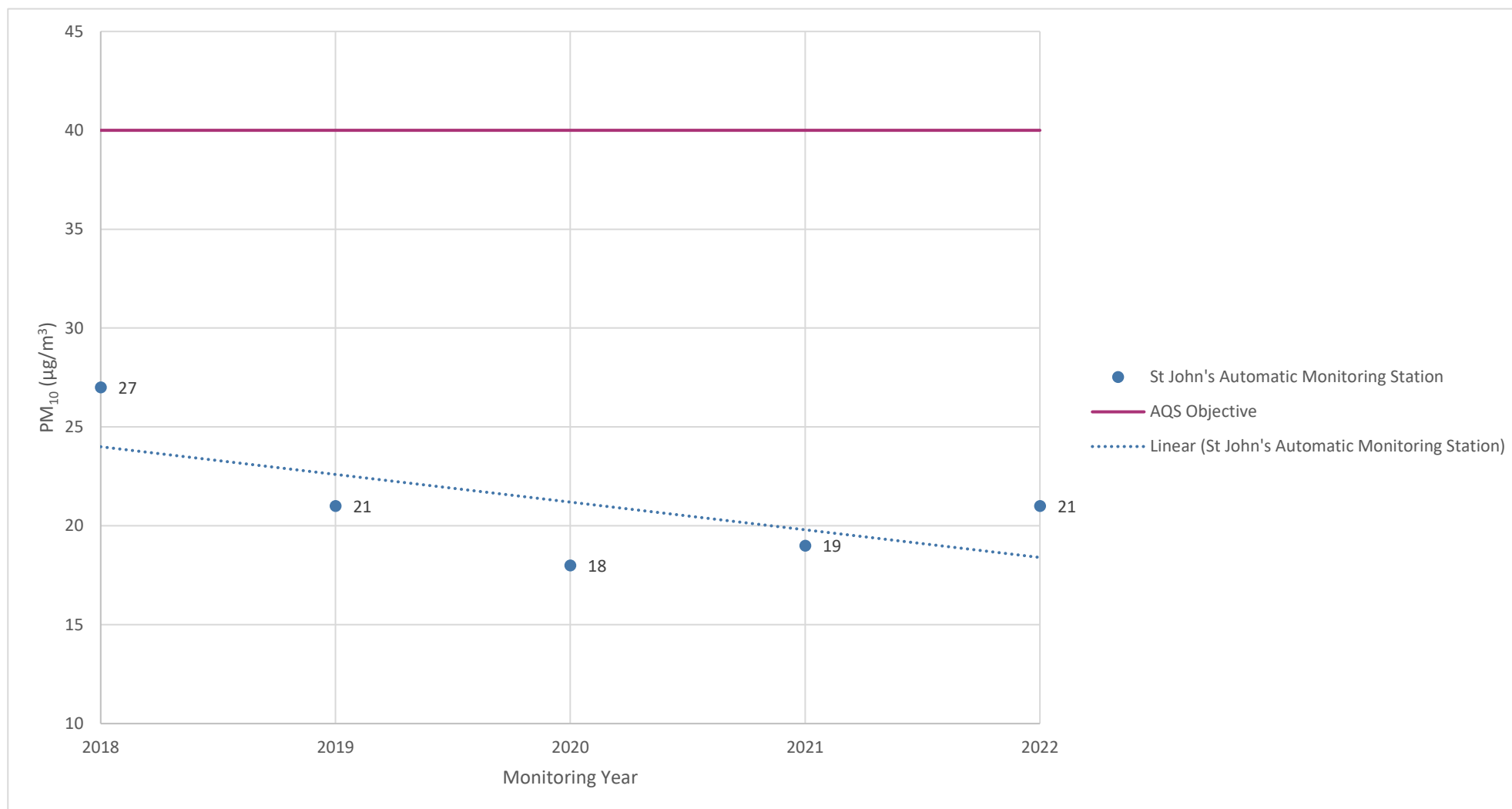
Figure A.6 – Trends in Annual Mean PM₁₀ Concentrations

Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	558250	141750	Roadside	98	98	13	13	10	1	2

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

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

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

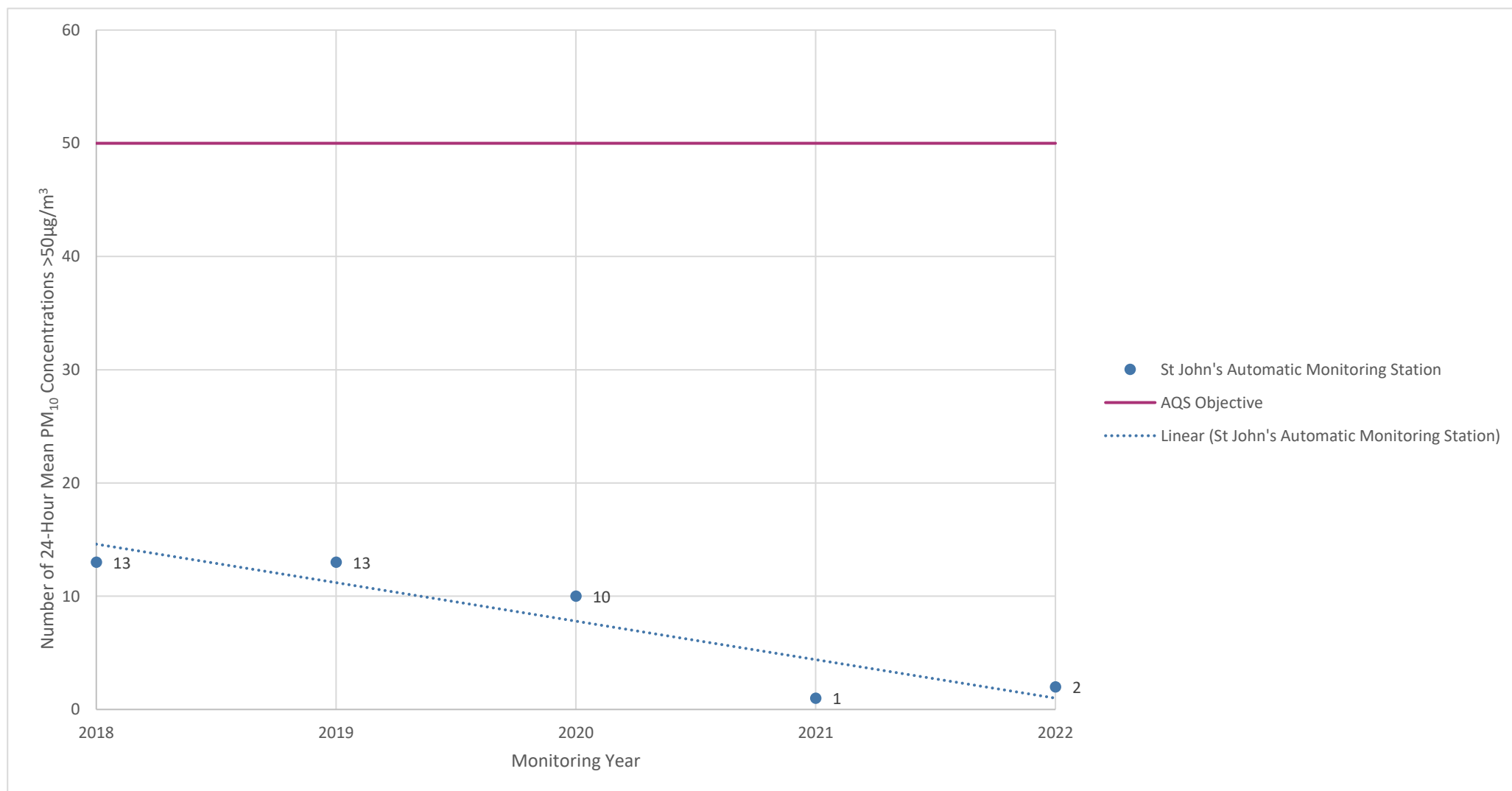
Figure A.7 – Trends in Number of 24-Hour Mean PM₁₀ Results > 50µg/m³

Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	558250	141750	Roadside	99	56					8

☐ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 (confirm by selecting in box).

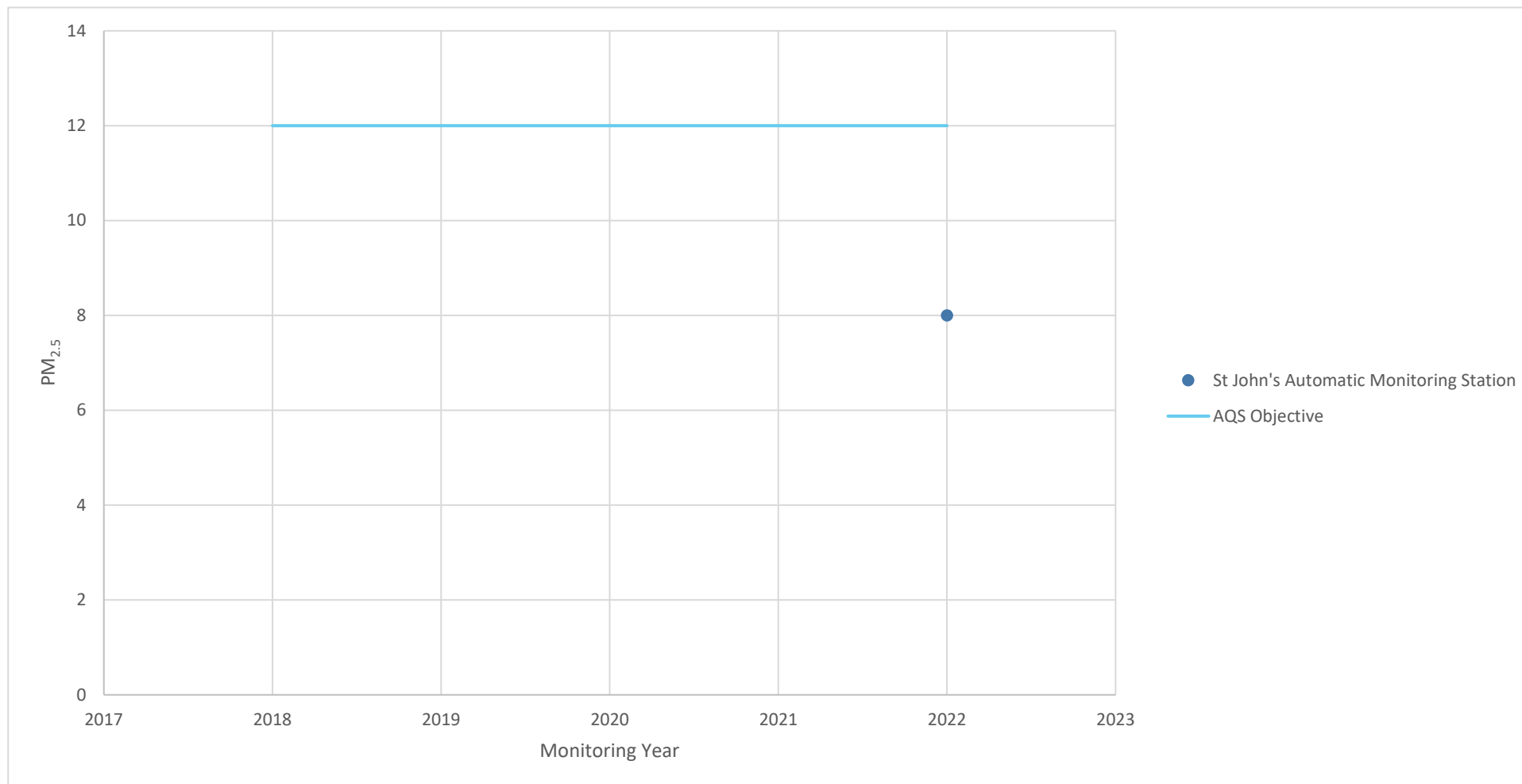
Notes:

The annual mean concentrations are presented as µg/m³.

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

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

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

Figure A.8 – Trends in Annual Mean PM_{2.5} Concentrations

2022 was the first year that we were able to measure PM_{2.5} concentrations in Tunbridge Wells, so we are unable to report any trends as yet.

Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW01	558100	142200	49.9	33.9	71.3	x	missin g		28.7	29.3	30.8	28.2	33.2	25.5	36.8	29.0	-	
TW02	560000	141300	28.1	13.2	11.6	10.1	9.4	5.4	8.8	10.5	11.4	9.8	13.2	13.1	12.1	9.5	-	
TW19	566800	144800	34.4	21.4	30.7	20.2	21.2	12.9	20.7	22.7	24.5	22.8	24.4	2.3	21.5	17.0	-	
TW20	558300	139800	51.0	19.6	39.0	32.0	49.5	missin g	30.5	39.8	40.1	34.8	40.0	34.7	37.4	29.5	-	
TW22	559400	139500	56.1	31.7	35.9	33.9	30.3	14.7	25.3	35.0	32.6	21.9	28.7	21.4	30.6	24.2	-	
TW23	558800	138300	18.7	10.9	14.4	9.5	missin g	4.9	7.9	9.4	10.1	8.5	10.0	16.8	11.0	8.7	-	
TW25	558136	142017	49.3	29.0	32.7	25.7	39.0		27.1	28.3	32.8	30.4	34.4	37.8	33.3	26.3	-	
TW31	558227	139757	46.4	28.1	1.0	34.8	33.7	30.5	36.6	41.9	40.9	missin g	missin g	missin g	32.7	25.8	-	
TW34. 1	558250	141750	42.1	34.2	38.8	34.6	28.9	25.1	30.1	33.7	33.8	23.4	27.7	25.6	-	-	-	Duplicate Site with TW34.1 and TW34.2 - Annual data provided for TW34.2 only
TW34. 2	558250	141750	44.6	x	x	33.9	28.2	22.1	32.6	32.1	33.3	24.1	20.1	31.1	31.4	24.8	-	Duplicate Site with TW34.1 and TW34.2 - Annual data provided for TW34.2 only
TW34. 3	558250	141750	44.6	35.2	41.4	31.2	28.8	missin g	32.5	35.1	33.9	23.6	27.7	12.0	31.5	24.8	-	
TW41	558076	138762	55.7	x	x	51.2	46.2	37.8	46.8	55.4	45.5	51.0	52.7	42.3	48.5	38.3	29.5	
TW43	558271	139451	42.3	x	31.6	25.6	24.7	18.4	25.3	25.2	29.6	29.8	33.5	39.1	29.6	23.3	-	
TW53	567638	144732	23.9	12.6	x	15.0	12.1	6.7	11.8	15.1	14.9	13.7	15.5	18.0	14.5	11.4	-	
TW55	566746	144112	35.1	18.0	33.3	23.7	29.4	missin g	23.7	25.4	22.4	16.0	21.2	missin g	24.8	19.6	-	
TW58	557927	138609	38.3	x	40.8	37.6	37.2	29.0	37.6	47.5	39.7	35.9	35.9	30.8	37.3	29.5	-	
TW60	560230	140150	missin g	x	18.6	10.3	12.5	10.0	12.6	14.2	16.0	16.6	18.1	21.7	15.1	11.9	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW61	558242	138715	26.1	17.2	19.9	13.7	12.0	9.0	12.0	13.2	15.9	12.5	16.3	23.5	15.9	12.6	-	
TW62	562284	140746	35.6	22.5	23.2	17.9	missin g	12.3	18.9	19.5	22.0	21.4	21.0	26.3	21.9	17.3	-	
TW63.1 HH	576065	130604	64.0	48.9	68.9	47.9	48.7	45.2	62.5	57.8	55.6	66.3	58.4	51.2	-	-	-	Triplicate Site with TW63.1 HH, TW63.2 HH and TW63.3 HH - Annual data provided for TW63.3 HH only
TW63.2 HH	576065	130604	64.3	51.3	67.9	43.4	49.2	43.3	63.1	60.7	56.1	66.2	63.8	42.0	-	-	-	Triplicate Site with TW63.1 HH, TW63.2 HH and TW63.3 HH - Annual data provided for TW63.3 HH only
TW63.3 HH	576065	130604	70.0	47.4	65.0	39.1	43.5	45.0	61.2	57.5	52.2	62.6	63.8	54.0	55.8	44.1	-	Triplicate Site with TW63.1 HH, TW63.2 HH and TW63.3 HH - Annual data provided for TW63.3 HH only
TW66 HH	576103	130566	42.4	28.0	24.0	21.8	23.4	20.0	22.5	28.8	30.4	24.4	28.6	30.1	27.0	21.4	-	
TW67 HH	575998	130528	57.8	x	37.0	34.9	34.8	29.4	35.8	42.8	42.4	35.3	35.2	37.3	38.4	30.4	-	
TW68 HH	576051	130602	54.7	38.7	40.9	32.7	34.6	30.9	41.6	40.2	37.6	36.8	28.0	0.6	34.8	27.5	-	
TW69 HH	576062	135116	60.5	x	47.0	37.1	41.4	37.6	46.5	45.4	45.7	45.9	47.2	47.8	45.6	36.1	30.7	
TW70 HH	576051	130734	45.2	31.6	44.2	30.7	35.9	33.3	41.6	36.3	35.2	43.9	40.2	33.4	37.6	29.7	-	
TW71	560838	140389	57.3	38.7		23.3	41.4	26.7	37.4	35.2	34.4	37.5	32.8	41.9	37.0	29.2	-	
TW72	558140	142080	missin g	x	22.5	22.5	26.2	20.6	24.1	24.9	30.2	29.3	34.1	35.6	27.0	21.3	-	
TW73	558137	142215	28.4	17.9	20.0	20.0	20.5	13.1	18.3	23.7	21.9	27.3	22.1	25.6	21.6	17.0	-	
TW74	557354	138128	34.3	x	22.9	22.9	17.2	17.1	21.5	26.9	23.9	19.7	24.2	28.0	23.5	18.6	-	
TW75	559208	139317	33.5	x	17.7	17.7	16.7	11.6	16.3	17.6	20.0	18.6	24.5	missin g	19.4	15.3	-	
TW76	559537	138500	missin g	x	30.2	30.2	28.4	19.8	27.6	missin g	29.8	24.9	28.4	32.9	28.0	22.1	-	
TW77	559813	140829	42.3	x	27.8	27.8	30.6	25.6	29.8	27.3	33.9	31.7	35.4	32.3	31.3	24.7	-	
TW78 HH	575993	130594	41.3	31.3	43.4	30.1	23.8	25.3	35.7	35.9	31.5	42.2	37.2	33.1	34.2	27.0	-	
TW79 HH	575967	130575	22.8	x	18.8	11.4	27.8	9.4	15.3	11.5	12.9	13.2	14.3	20.3	16.2	12.8	-	
TW80 HH	577758	136010	38.7	x	36.1	16.9	25.1	19.6	24.7	23.5	27.4	23.8	28.7	29.8	26.8	21.1	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW81 HH	572277	137785	43.9	x	58.9	35.4	27.8	26.5	35.7	39.0	32.7	26.7	26.6	31.9	35.0	27.7	-	
TW82	559166	139398	70.0	42.1	54.0	54.0	53.2	42.8	55.4	64.5	62.2	48.6	51.7	47.6	53.8	42.5	27.9	
TW83	558778	139491	50.2	33.8	33.0	33.0	27.3	23.5	30.4	32.6		30.5	39.5	33.7	33.4	26.4	-	
TW84	558789	139777	39.3	31.8	x	x	missin g	29.2	40.8	30.5	34.1	44.9	42.0	43.8	37.4	29.5	-	
TW85	558825	139824	36.1	26.3	24.6	24.6	22.9	16.9	20.5	21.2	23.3	25.0	28.9	30.4	25.1	19.8	-	
TW86	558276	139876	24.8	9.6	21.9	21.9	15.1	11.7	13.3	20.6	20.3	16.5	22.0	24.8	18.5	14.6	-	
TW87	554552	139178	26.8	22.5	23.3	23.3	21.3	20.4	23.6	23.3	26.6	22.7	26.1	25.8	23.8	18.8	-	
TW88	556128	139700	27.1	x	18.1	18.1	13.4	10.1	15.4	18.4	18.7	14.7	14.8	24.7	17.6	13.9	-	
TW89 HH	576088	130553	43.5	30.6	32.7	27.6		18.4	25.5		26.3		27.5	31.5	29.3	23.1	-	

X All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1 (confirm by selecting in box).

X Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 (confirm by selecting in box).

X Local bias adjustment factor used (confirm by selecting in box).

☐ National bias adjustment factor used (confirm by selecting in box).

X Where applicable, data has been distance corrected for relevant exposure in the final column (confirm by selecting in box).

X Tunbridge Wells Borough Council confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System (confirm by selecting in box).

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Tunbridge Wells Borough Council During 2022

Tunbridge Wells has not identified any new sources relating to air quality within the reporting year of 2022.

Additional Air Quality Works Undertaken by Tunbridge Wells Borough Council During 2022

Tunbridge Wells Borough Council has not completed any additional works within the reporting year of 2022.

QA/QC of Diffusion Tube Monitoring

Diffusion Tube Annualisation

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

No diffusion tube sites required annualisation in 2022. Our automatic monitoring data for NO_2 and PM_{10} also did not require annualisation in 2022. Our new $\text{PM}_{2.5}$ monitor went live at the end of May 2022, and achieved an overall 56% data capture for the year as a whole, and 99% data capture for the active monitoring period. We have not attempted to annualise this as the two reasonably local background sites that we would normally use for annualisation, Canterbury and Thurrock, both had poor data capture for the relevant period. Since the $\text{PM}_{2.5}$ data recorded in Tunbridge Wells included a similar number of winter and summer months, we would anticipate that it would provide a reasonable estimate of a full year's $\text{PM}_{2.5}$ annual mean, even without annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Tunbridge Wells Borough Council has applied a local bias adjustment factor of 0.79 to the 2022 monitoring data. A summary of bias adjustment factors used by Tunbridge Wells over the past five years is presented in Table C.2.

It is usually the case that if our data capture is good, we will choose a local bias correction factor in preference to a national one. In 2022, we had good tube precision for 11 months, with December being eliminated from the bias correction calculation because of poor tube precision. For 11 months used in the calculation, there was 100% data capture from the automatic monitor. On this basis, we elected to use the local bias correction factor.

We do note, however, that 2022's local bias correction factor of 0.79 is somewhat higher than the local bias correction factors used in recent years. The last three local bias correction factors used were 0.76 in 2021, 0.76 in 2020, and 0.74 in 2018. It is also somewhat higher than the national bias correction factor of 0.76, which would have been more in line with the local factors of recent years. We further note that in the neighbouring authority of Maidstone Borough, where the same laboratory and tube preparation method are used, the local bias correction factor was 0.73.

Overall, based on the good data capture, we chose the higher and more conservative bias correction, and still only had two diffusion tubes site measure an exceedance of the NO₂ annual mean, neither of which was directly representative of residential exposure. We can therefore be very confident of the good air quality in Tunbridge Wells Borough

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	Local	-	0.79
2021	Local	-	0.76
2020	Local	-	0.76
2019	National	04/20	0.75
2018	Local		0.74

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	11				
Bias Factor A	0.79				
Bias Factor B					
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	32				
Mean CV (Precision)	5				
Automatic Mean ($\mu\text{g}/\text{m}^3$)	25.2				
Data Capture	100%				
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)					

Notes:

A single local bias adjustment factor has been used to bias adjust the 2022 diffusion tube results.

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

Table C.4 – NO₂ Fall off With Distance Calculations (concentrations presented in µg/m³)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
TW41	1.8	6.6	38.3	8.7	29.5	
TW69 HH	2.5	5.5	36.1	8.7	30.7	
TW82	1.0	8.5	42.5	8.7	27.9	

QA/QC of Automatic Monitoring

Calibration of the Upper Stone Street monitoring station is undertaken fortnightly by MBC's Environmental Protection Team. Owing to its rural nature, the station at Detling is calibrated less frequently; usually 4 weekly. Matts Monitors undertake 6 monthly servicing, and the QA/QC is part of the K&MAQMN which includes daily data checks and annual audits. The K&MAQMN contract is run by Ricardo Energy and Environment who ratify the data. Data is available via the KentAir website www.kentair.org.uk All of MBC's previous ASRs are available via the KentAir website.

QA/QC of Automatic Air Quality Instruments

Data ratification in Tunbridge Wells Borough was undertaken by Ricardo Energy and Environment

RICARDO ENERGY AND ENVIRONMENT

QA/QC of Automatic Air Quality Instruments

Air quality measurements from automatic instruments are validated and ratified to the standards of the AURN and those described in the Local Air Quality Management – Technical Guidance LAQM (TG22) <https://laqm.defra.gov.uk/technical-guidance>

Validation

This process operates on data during the data collection stage. All data are continually screened algorithmically and manually for anomalies. There are several techniques designed to discover spurious and unusual measurements within a very large dataset. These anomalies may be due to equipment failure, human error, power failures, interference or other disturbances. Automatic screening can only safely identify spurious results that need further manual investigation.

Raw data from the gaseous instruments (e.g. NO_x, O₃, SO₂ and CO) are scaled into concentrations using the latest values derived from the manual and automatic calibrations. These instruments are not absolute and suffer drifts. Both the zero baseline (background) and the sensitivity may change over time. Regular calibrations with certified gas standards are used to measure the zero and sensitivity. However, these are only valid for the moment of the calibration since the instrument will continue to drift. Raw measurements from particulate instruments (e.g. PM₁₀ and PM_{2.5}) generally do not require scaling into concentrations. The original raw data are always preserved intact while the processed data are dynamically scaled and edited.

Ratification

This is the process that finalises the data to produce the measurements suitable for reporting. All available information is critically assessed so that the best data scaling is applied and all anomalies are appropriately edited. Generally this operates at three, six or twelve month intervals. However, unexpected faults can be identified during the instrument routine services or independent audits which are often at 6-monthly intervals. In practice, therefore, the data can only be fully ratified in 12-month or annual periods. The data processing performed during the three and six monthly cycles helps build a reliable dataset that is finalised at the end of the year.

There is a diverse range of additional information that can be essential to the correct understanding and editing of data anomalies. These may include

- ☐ the correct scaling of data
- ☐ ignoring calibrations that were poor e.g. a spent zero scrubber
- ☐ closely tracking rapid drifts or eliminating the data
- ☐ comparing the measurements with other pollutants and nearby sites
- ☐ corrections due to span cylinder drift
- ☐ corrections due to flow drifts for the particulate instruments
- ☐ corrections for ozone instrument sensitivity drifts
- ☐ eliminating measurements for NO₂ conversion inefficiencies
- ☐ eliminating periods where calibration gas is in the ambient dataset
- ☐ identifying periods where instruments are warming-up after a powercut
- ☐ identification of anomalies due to mains power spikes
- ☐ correcting problems with the date and time stamp
- ☐ observations made during the sites visits and services

The identification of data anomalies, the proper understanding of the effects and the application of appropriate corrections requires expertise gained over many years of operational experience. Instruments and infrastructure can fail in numerous ways that significantly and visually affect the quality of the measurements. There are rarely simple faults that can be discovered by computer algorithms or can be understood without previous experience.

The PM₁₀ concentrations require scaling into Gravimetric Equivalent concentration units by use of the Volatile Correction Model (VCM) <http://www.volatile-correction-model.info> or by corrections published by Defra <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme> depending on the measurement technique.

QC Audits

Ricardo Energy & Environment carry out annual audits to rigorously evaluate analysers to obtain an assessment of performance level. This information, in conjunction with the full analyser data set and calibration and service records, help ensure data quality specifications have been met during the preceding period. Additionally, an assessment of

the station calibration cylinder concentrations provides an indication that the cylinder concentrations remain stable and therefore suitable for data scaling purposes.

The following describes the audit process:-

1 Oxides of Nitrogen

1.1 Analyser Response Factors

A stable "intercalibration standard", validated against transfer standards, is transported to each site and is sampled by the analyser.

The analyser also samples from a cylinder containing certified metrology grade zero air, or catalytic scrubbers of known efficiency.

The analyser factor quoted is the response to the intercalibration standard, expressed in $\text{nmol.mol}^{-1}.\text{logged unit}^{-1}$, with the zero point being the response to zero air.

For oxides of nitrogen analysers, the NO_x and NO channel response factors are derived from an NO in nitrogen cylinder.

1.2 Analyser Linearity

To determine analyser linearity, a series of amount fractions are produced (using dynamic dilution techniques) covering the analyser range. The analyser output is noted for each of these amount fractions. A linear regression is then carried out, relating analyser output to the dilution factor at each point. The linearity error is defined as the maximum residual of the regression slope.

1.3 Analyser noise levels.

This is defined here as the standard error of ten successive spot readings of analyser output when fully stabilised on zero (zero noise) or span (span noise) amount fraction.

1.4 NO_x analyser Converter Efficiency

NO_2 to NO Converter efficiency is determined using gas point titration as follows:

A stable amount fraction of NO is produced, (by two stage dynamic dilution) and the analyser outputs, NO_x and NO, are noted after a suitable stabilisation period.

Ozone is added to the sample, converting some NO to NO₂, note however, the total NO_x in the sample remains constant. Again, following appropriate stabilisation times, the NO_x and NO outputs are noted.

Converter (in)efficiency is defined as the change in scaled NO_x signal as a percentage ratio of the change in the scaled NO signal.

1.5 Estimation of Site Cylinder Amount fractions

The site cylinder amount fractions are evaluated by sampling from the site cylinder and using the analyser response factors, to derive their amount fraction.

2 Particle Analysers.

2.1 Analyser Flow Rates

Flow rates are measured by calibrated flow audit measurement systems. A leak check is also carried out.

2.2 Analyser Calibration Constants

TEOM Analyser calibration constants are measured by consideration of the change in frequency induced by placing pre-weighed masses on the analyser sensors.

PM₁₀ and PM_{2.5} Monitoring Adjustment

Data from the TEOM used in TWBC is corrected using the Volatile Correction Model (VCM)

Automatic Monitoring Annualisation

The automatic monitoring of PM₁₀ and NO₂ within Tunbridge Wells Borough recorded data capture of greater than 75% therefore annualisation of the monitoring data was not required. The newly installed PM_{2.5} analyser in Tunbridge Wells went live at the end of May 2022, and achieved an overall 56% data capture for the year as a whole, and 99% data capture for the active monitoring period. We have not attempted to annualise this as the two reasonably local background sites that we would normally use for annualisation, Canterbury and Thurrock, both had poor data capture for the relevant period. Since the PM_{2.5} data recorded in Tunbridge Wells included a similar number of winter and summer months, we would anticipate that it would provide a reasonable estimate of a full year's

PM_{2.5} annual mean, even without annualisation. Sites with a data capture below 25% do not require annualisation.

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No automatic NO₂ monitoring locations within Tunbridge Wells Borough required distance correction during 2021

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1.1 – Map of Non-Automatic Monitoring Site

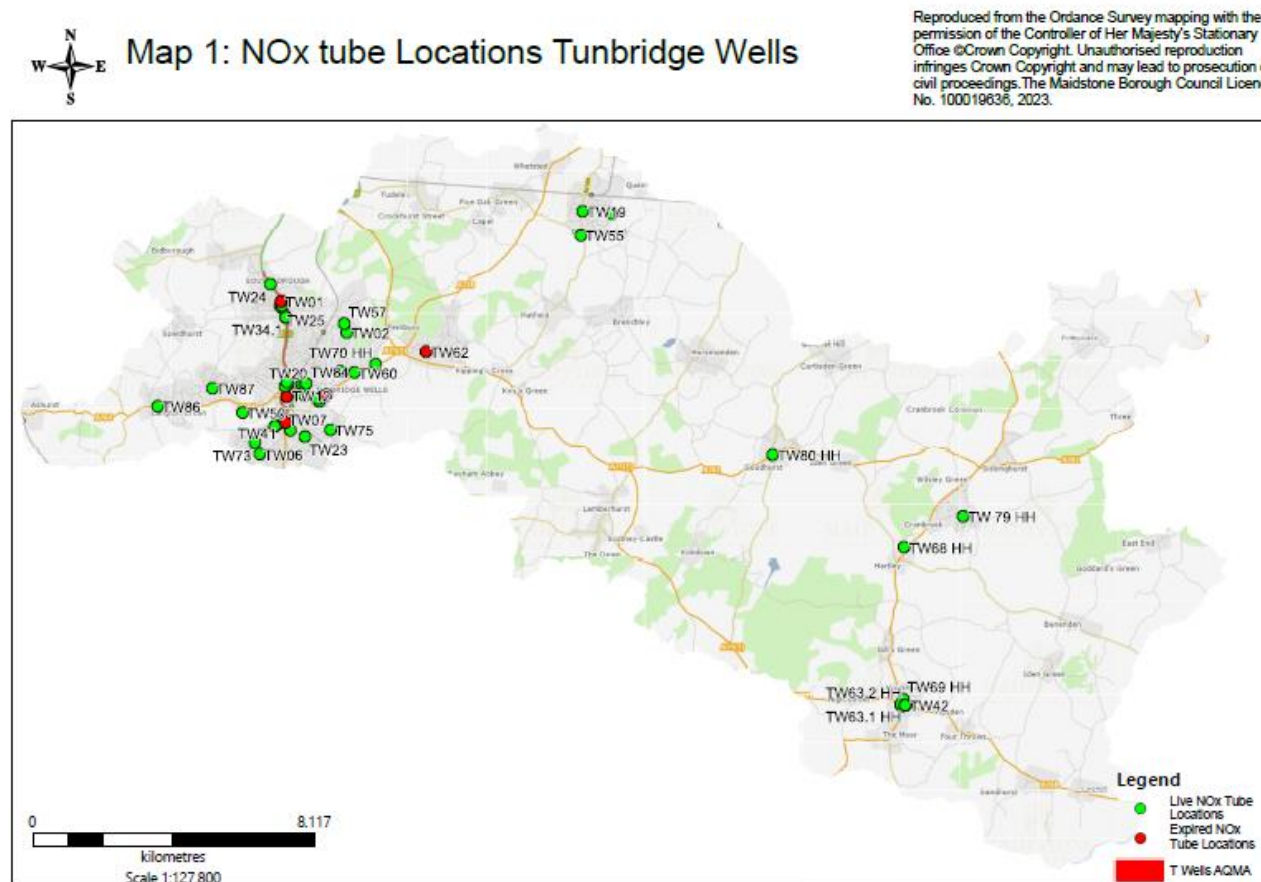


Figure D.2.2 – Map of Non-Automatic Monitoring Site

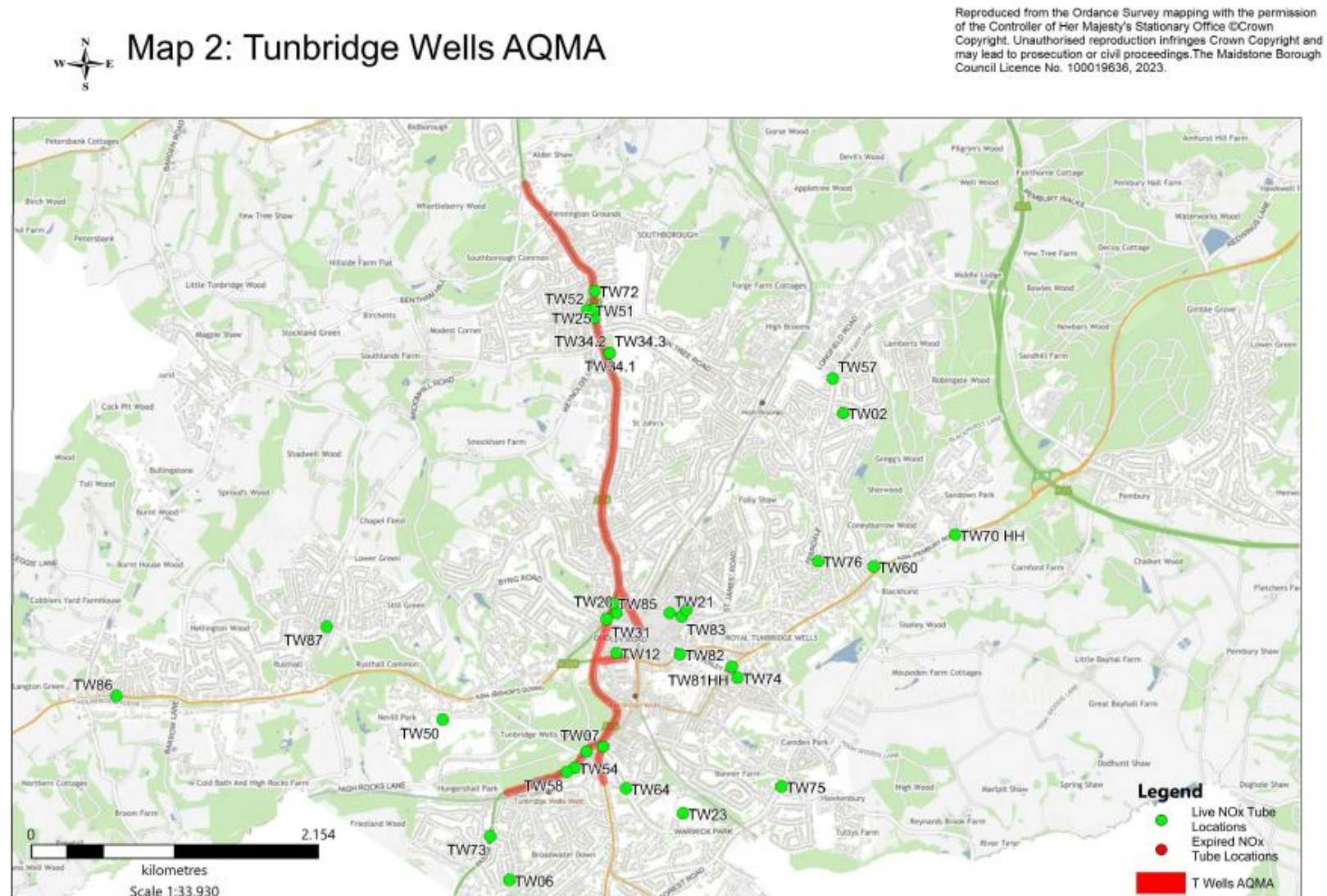


Figure D.3.3 – Map of Non-Automatic Monitoring Site

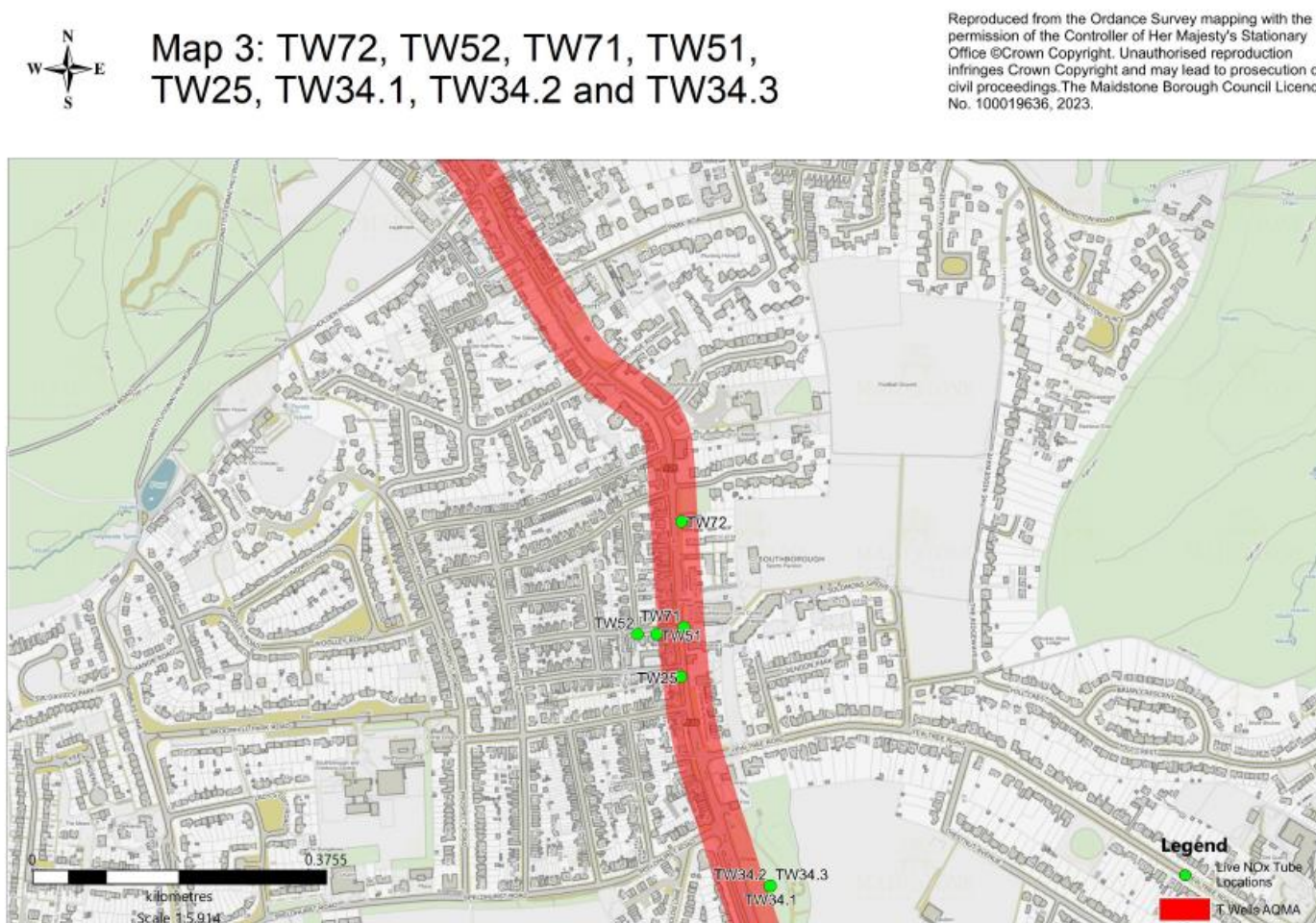


Figure D.1.4 – Map of Non-Automatic Monitoring Site

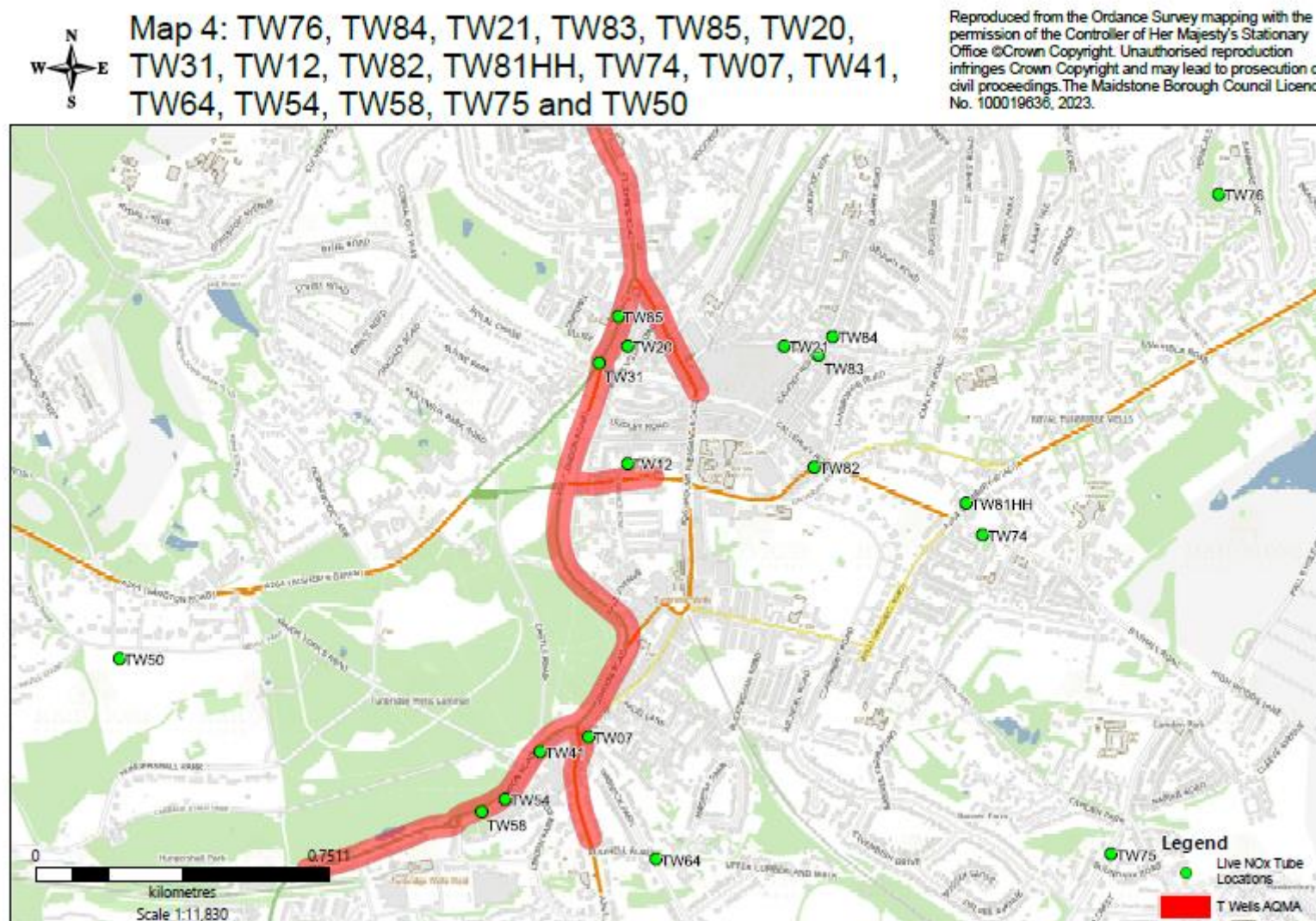


Figure D.4.5 – Map of Non-Automatic Monitoring Site

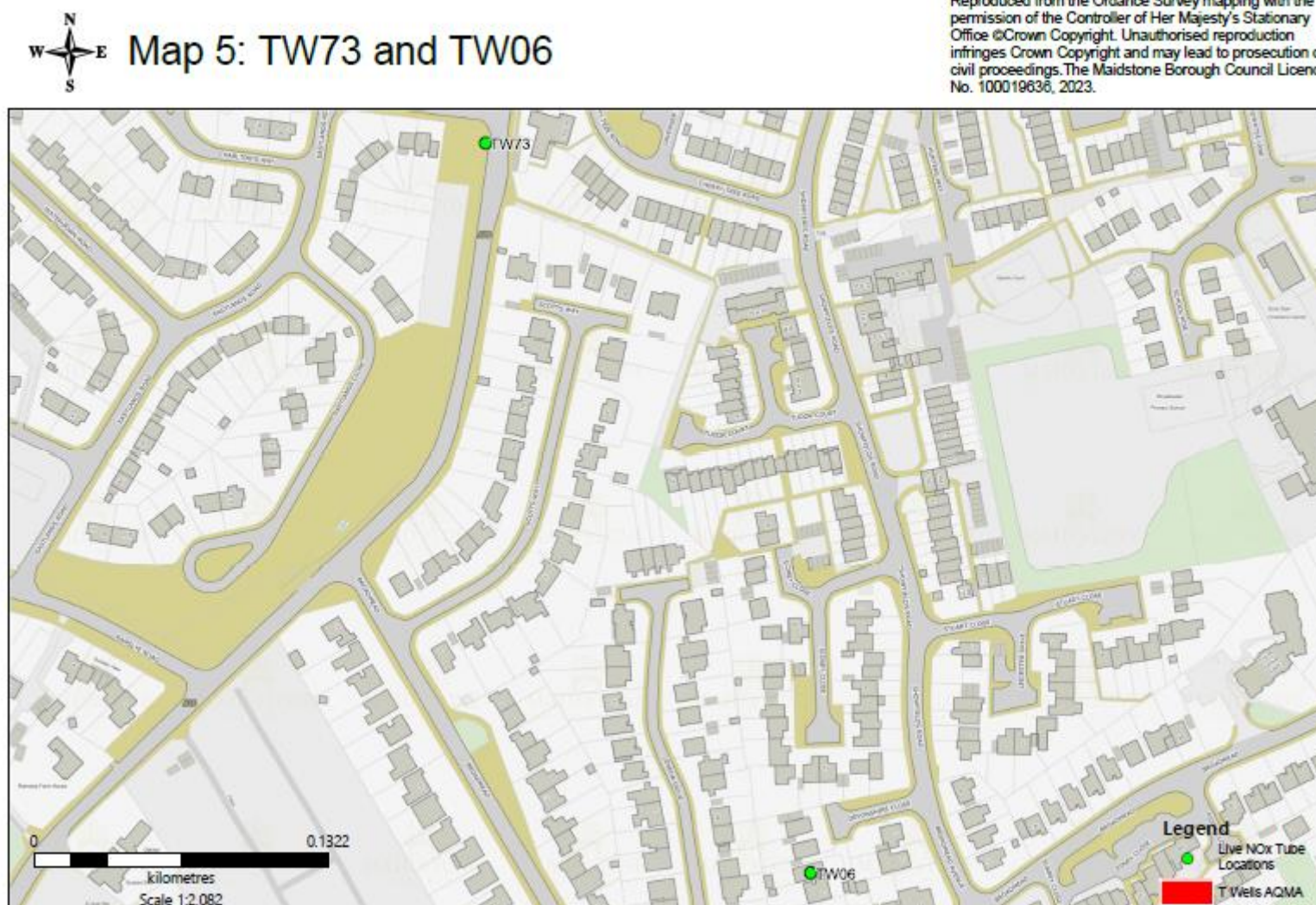


Figure D.5.6 – Map of Non-Automatic Monitoring Site

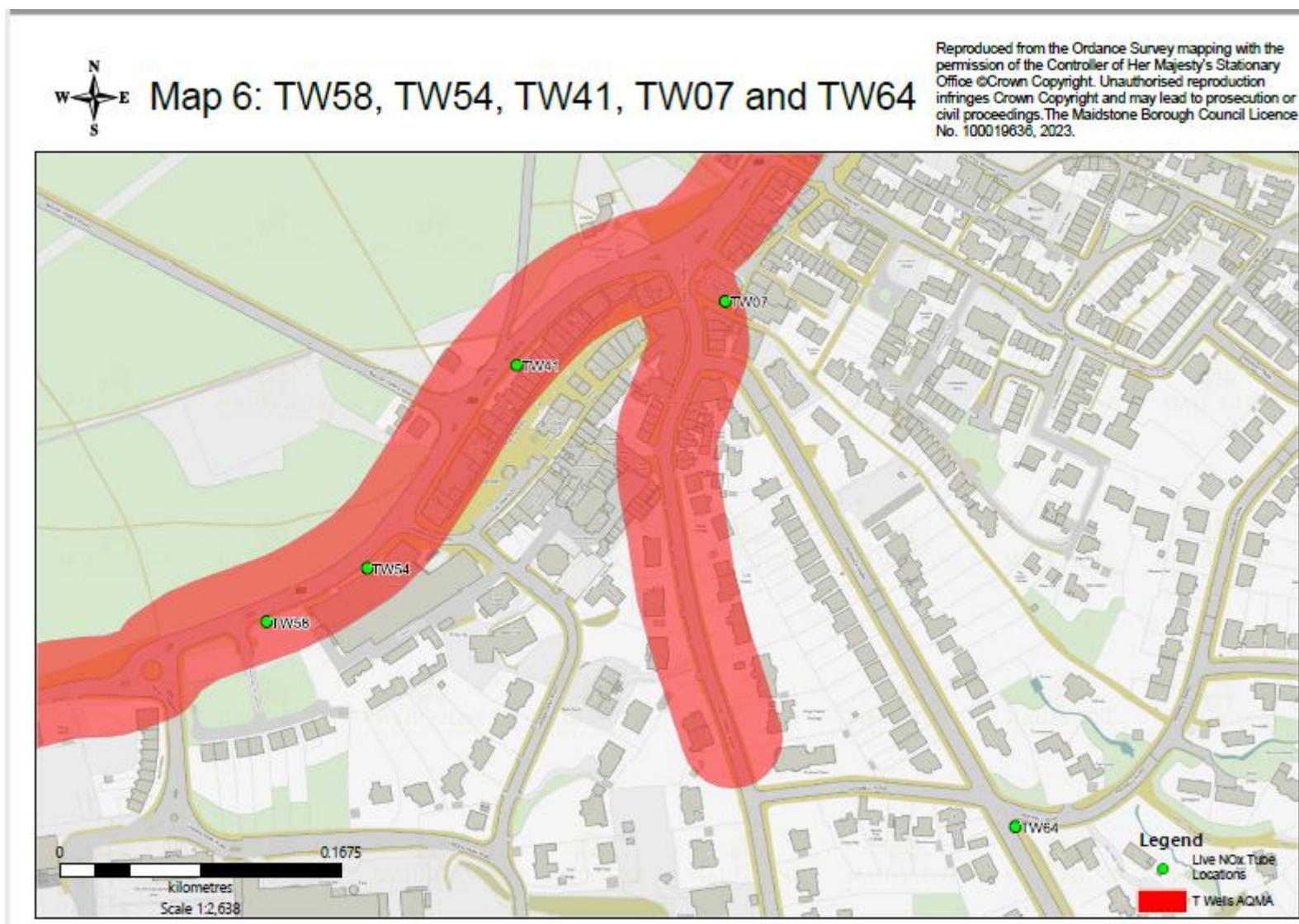


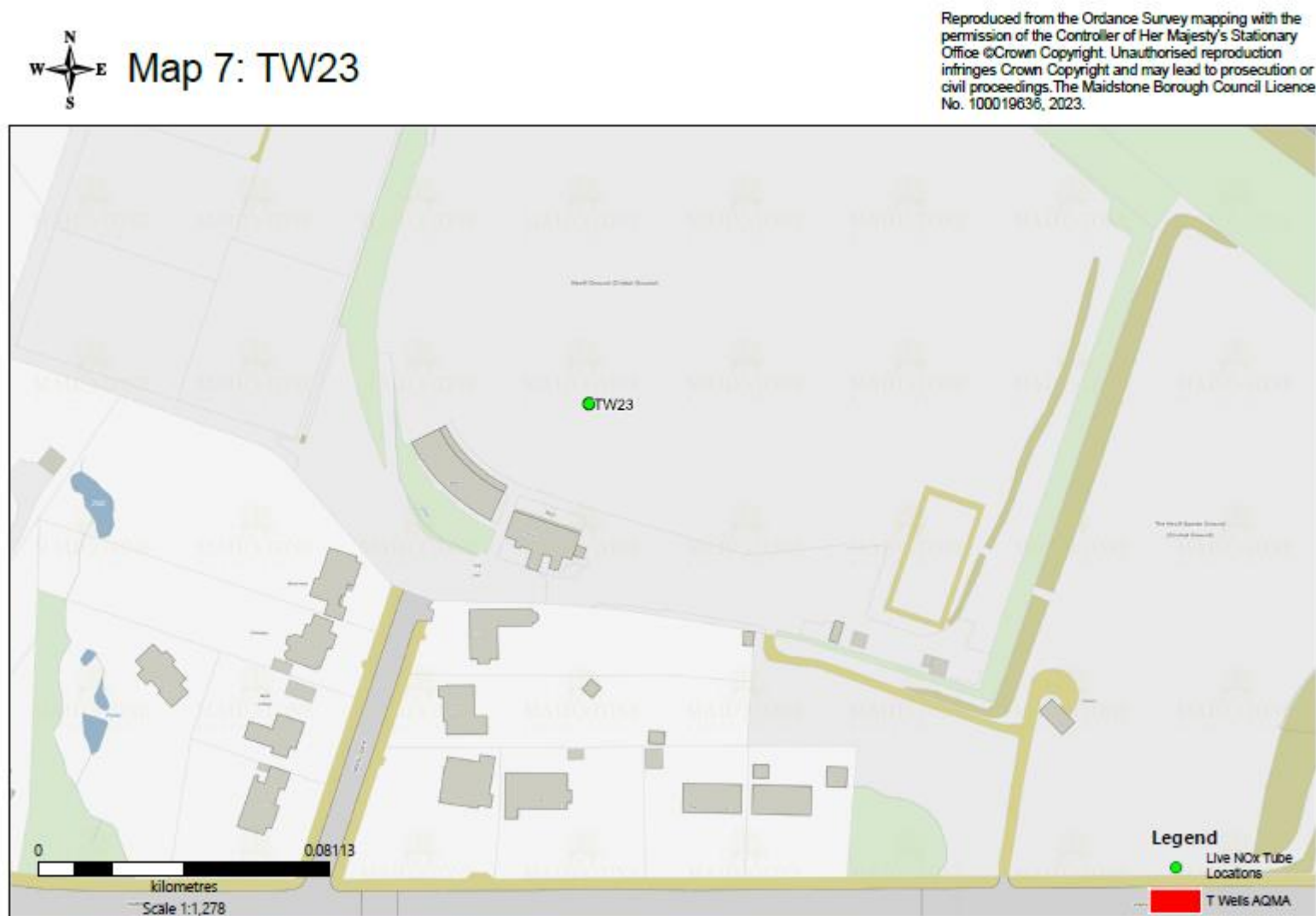
Figure D.6.7 – Map of Non-Automatic Monitoring Site

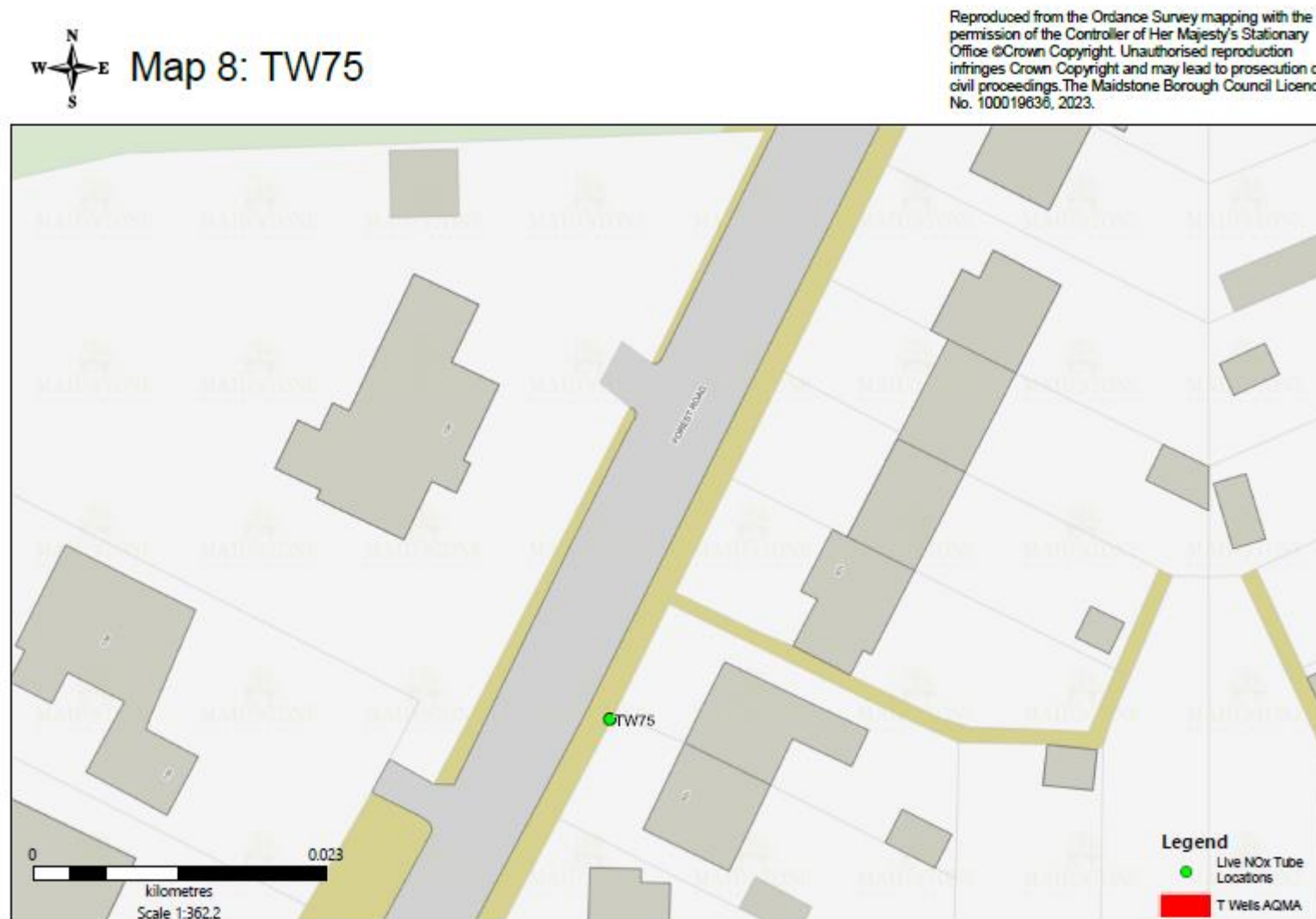
Figure D.7.8 – Map of Non-Automatic Monitoring Site

Figure D.8.9 – Map of Non-Automatic Monitoring Site



Figure D.9.10 – Map of Non-Automatic Monitoring Site

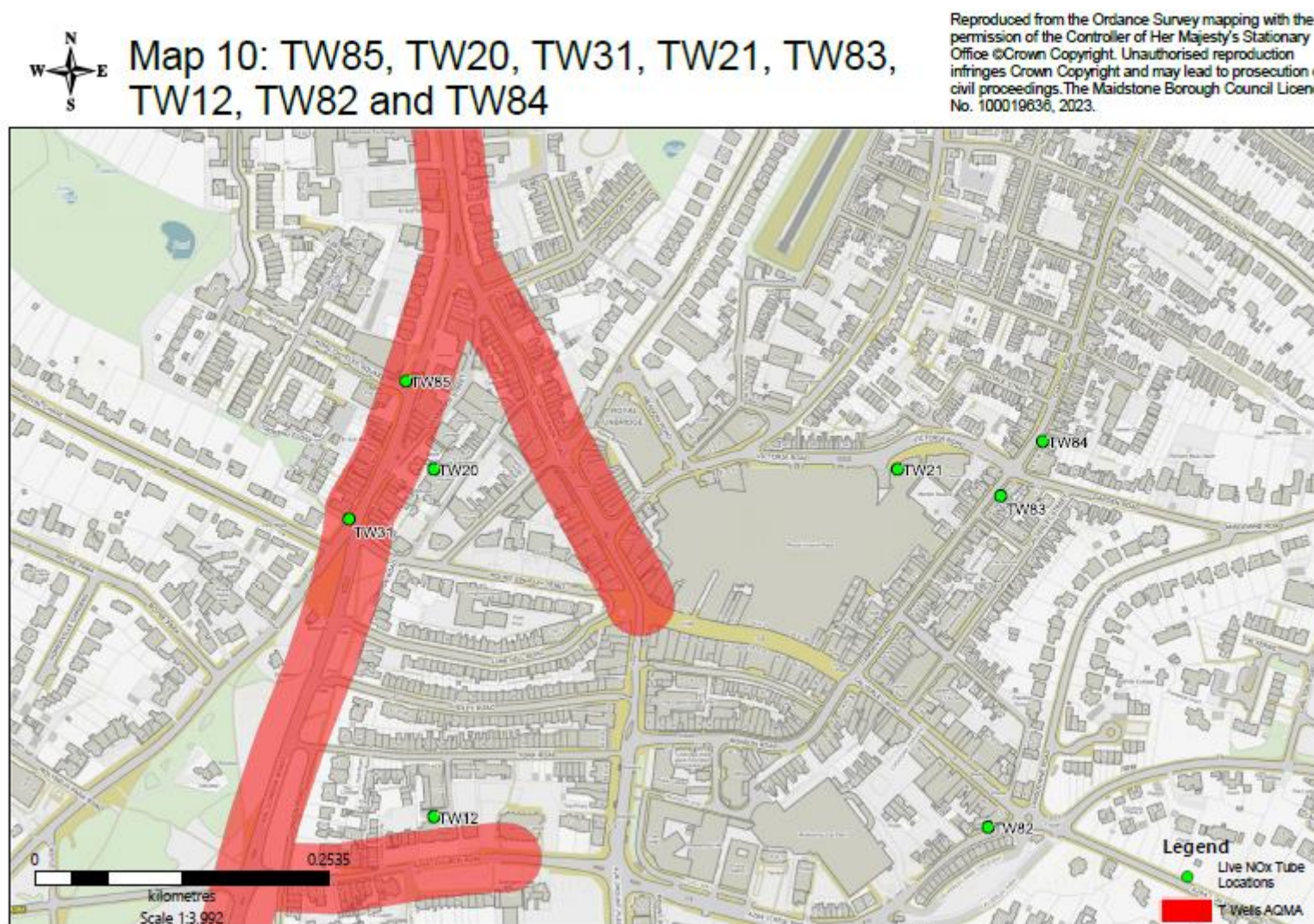


Figure D.10.11 – Map of Non-Automatic Monitoring Site

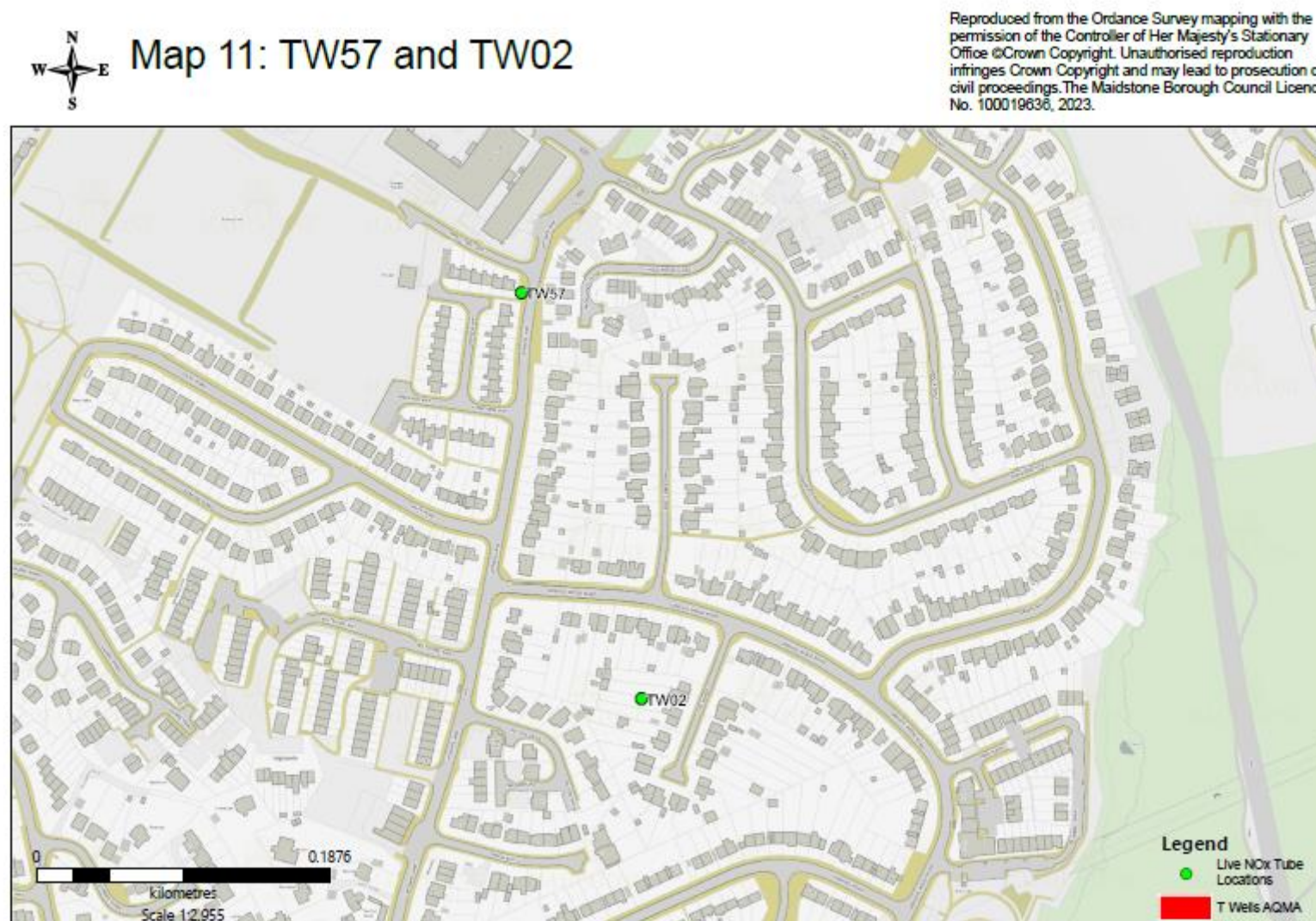


Figure D.11.12 – Map of Non-Automatic Monitoring Site

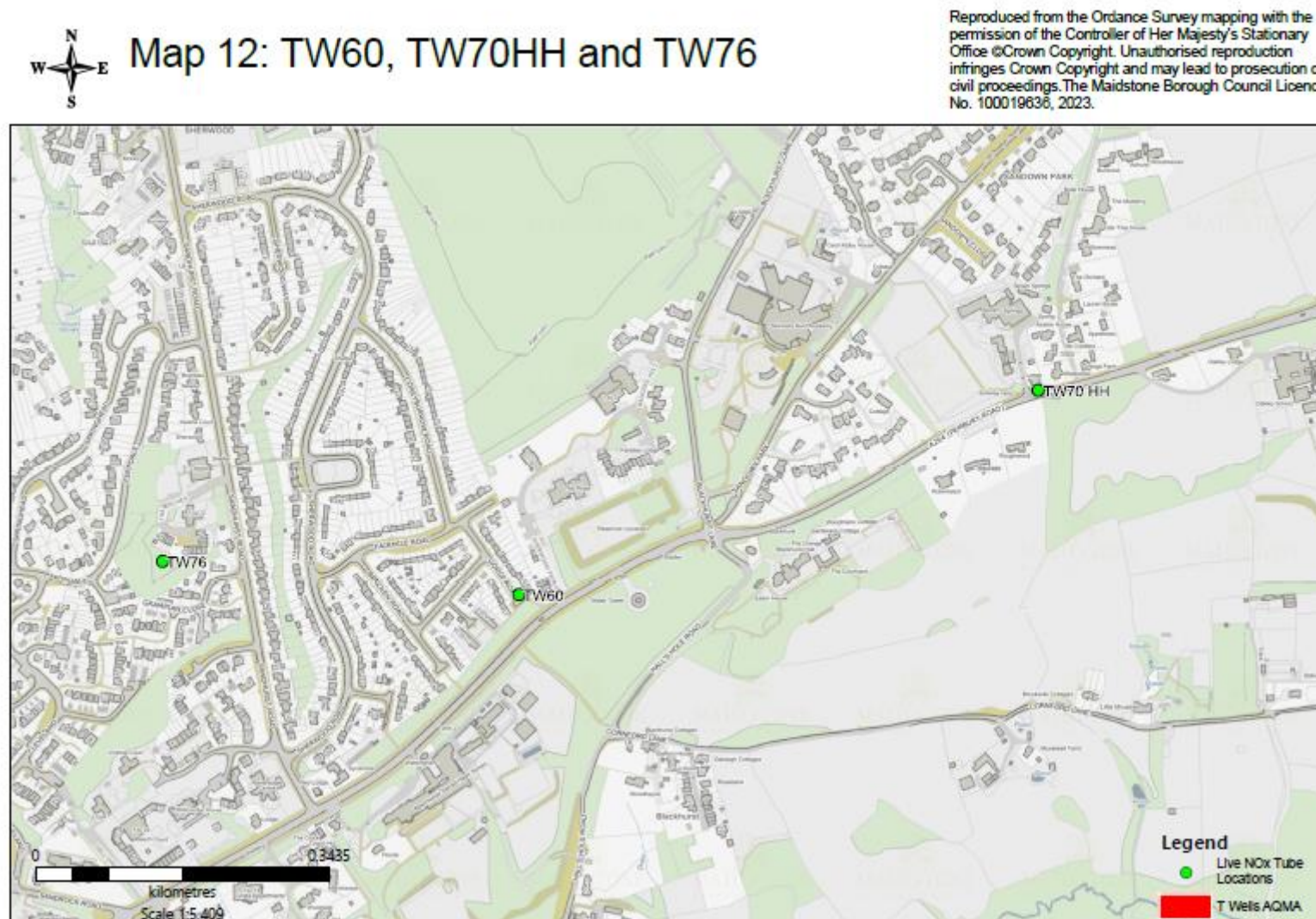


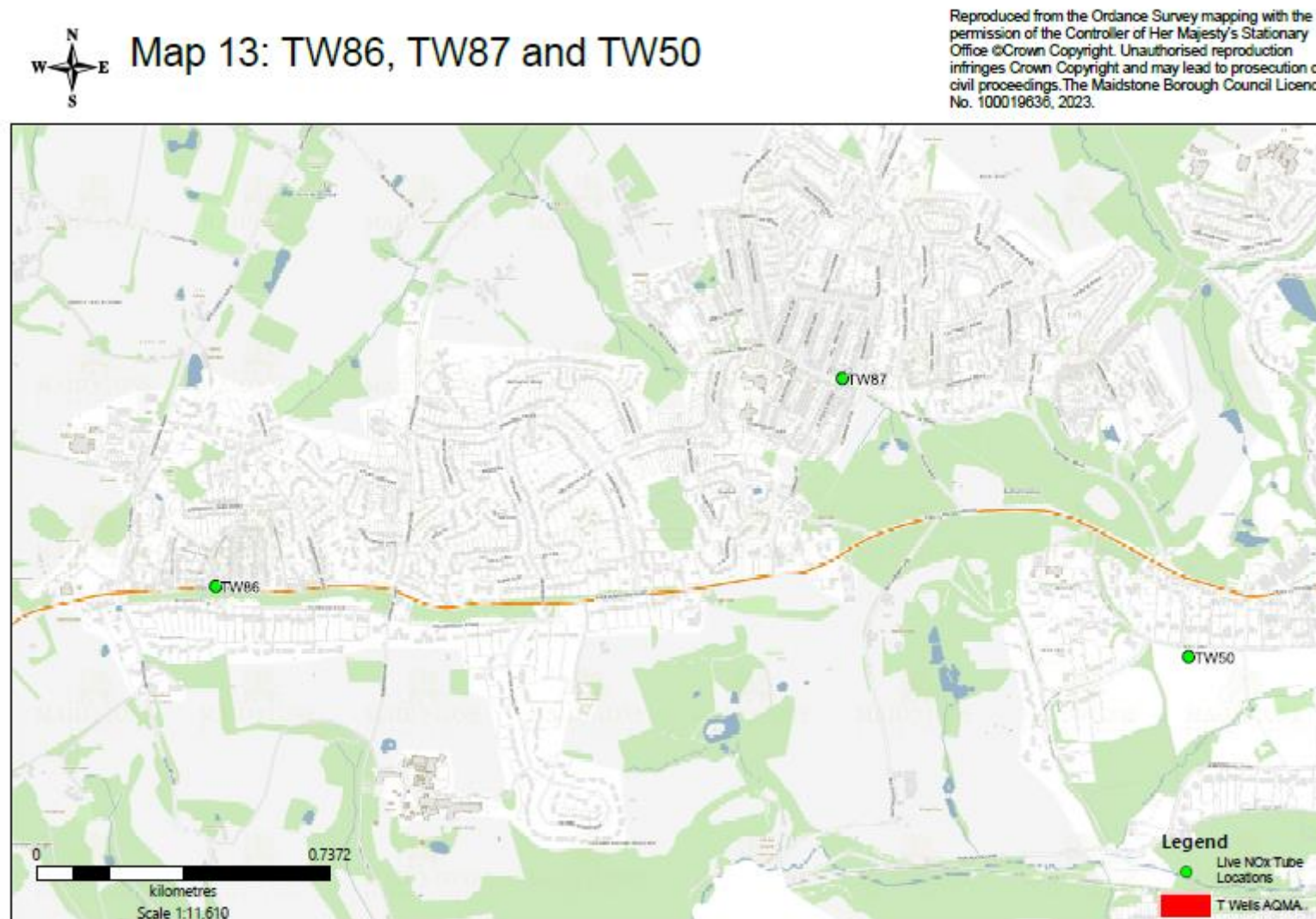
Figure D.12.13 – Map of Non-Automatic Monitoring Site

Figure D.13.14 – Map of Non-Automatic Monitoring Site

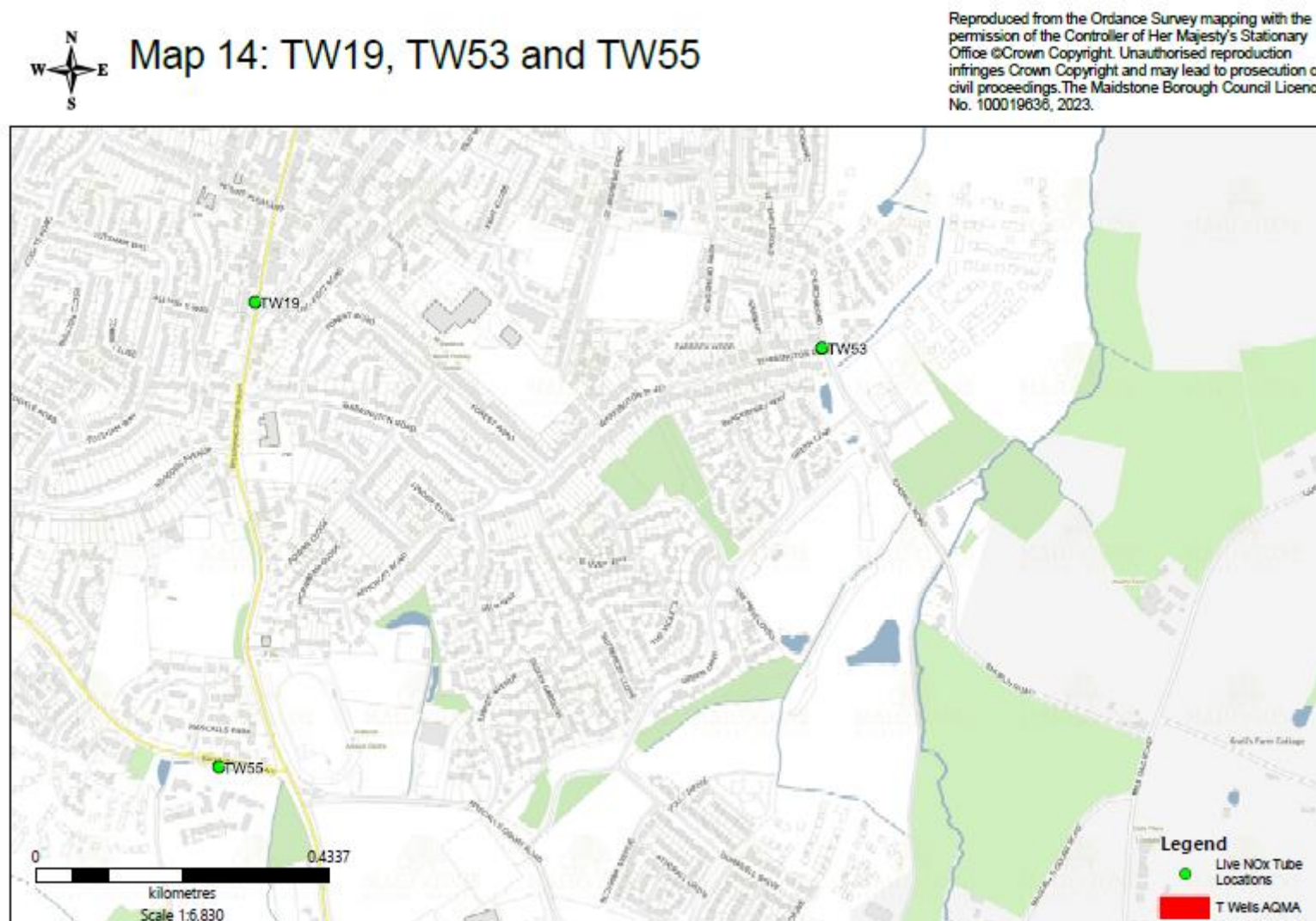


Figure D.14.15 – Map of Non-Automatic Monitoring Site

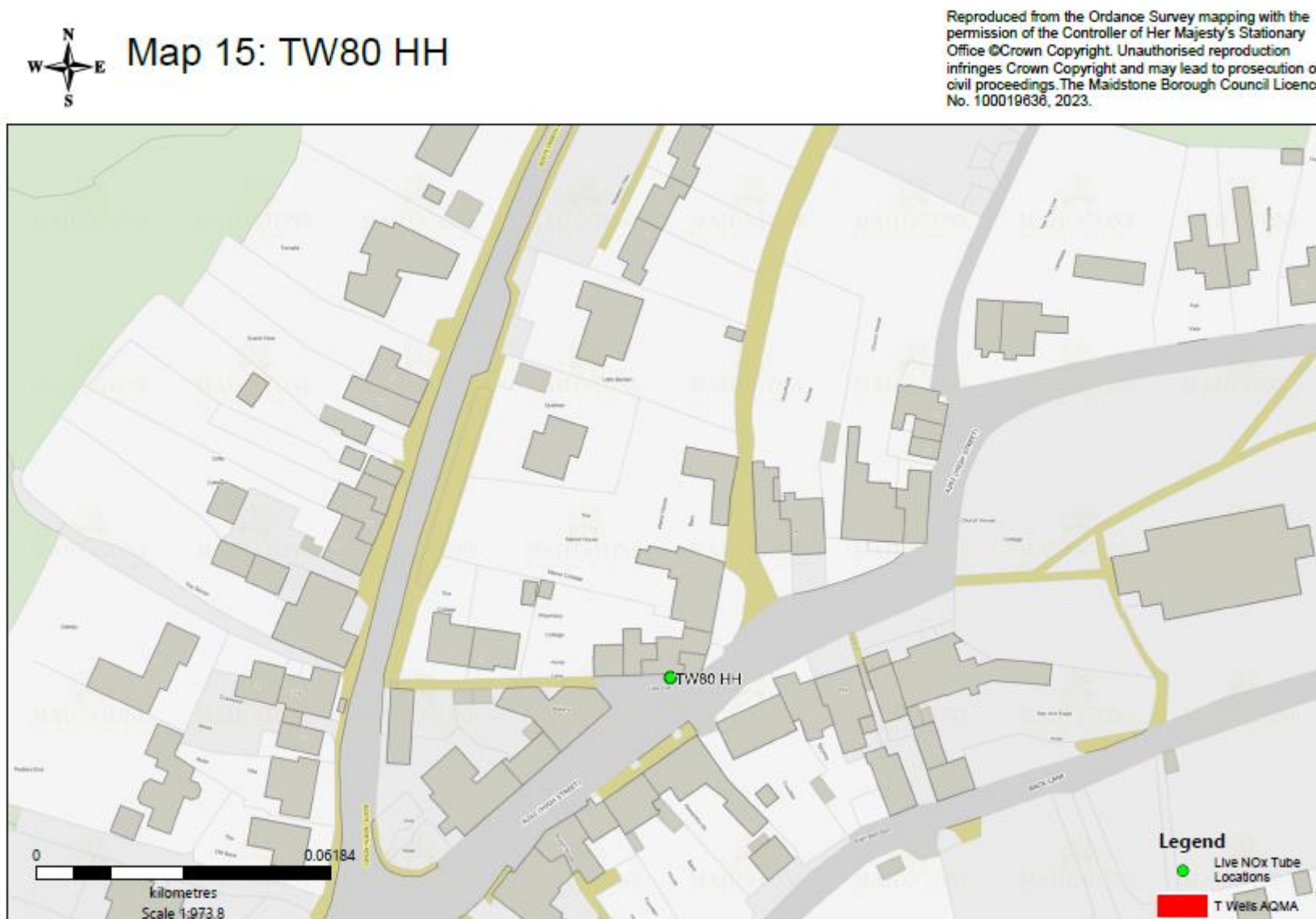


Figure D.15.16 – Map of Non-Automatic Monitoring Site

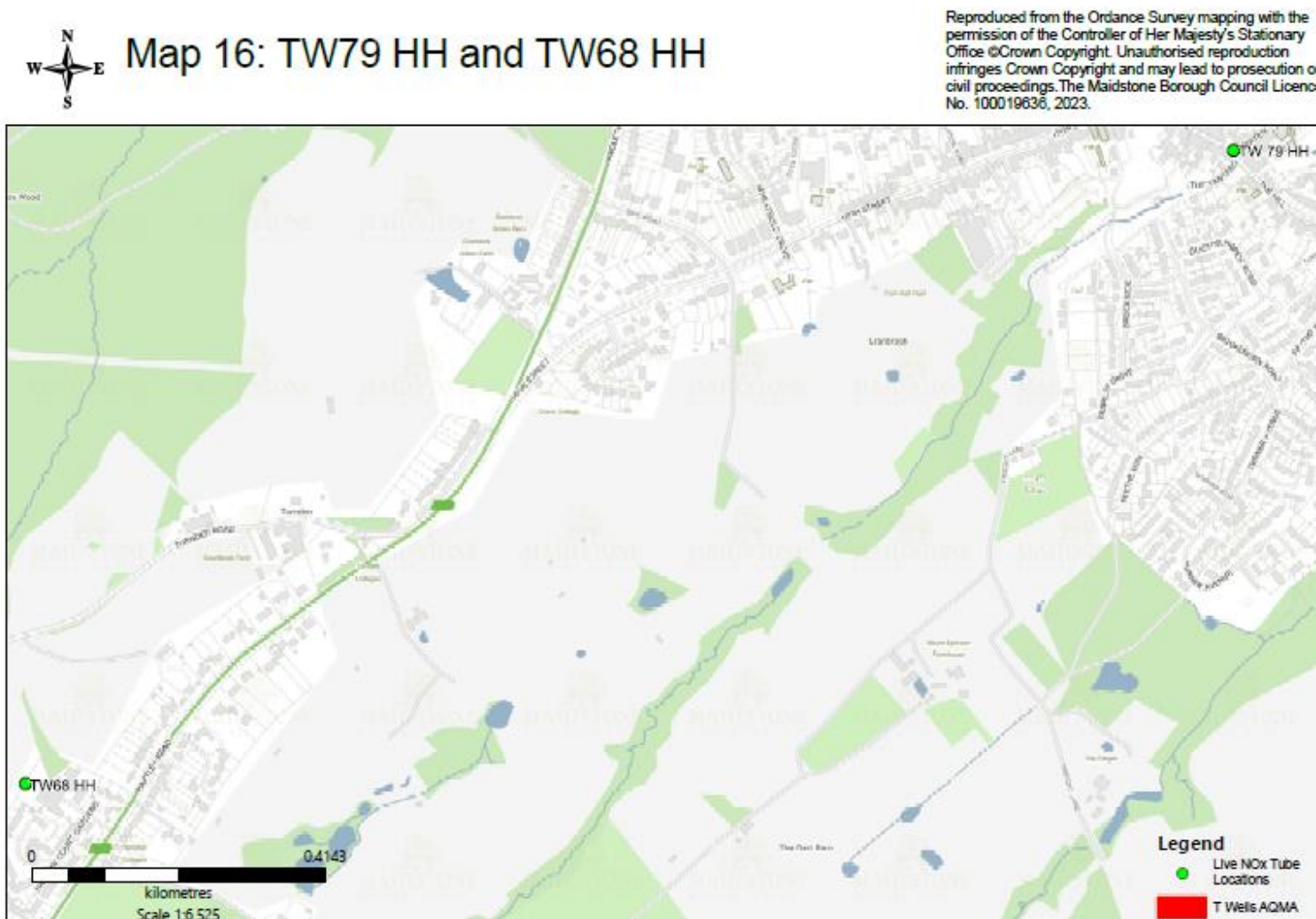
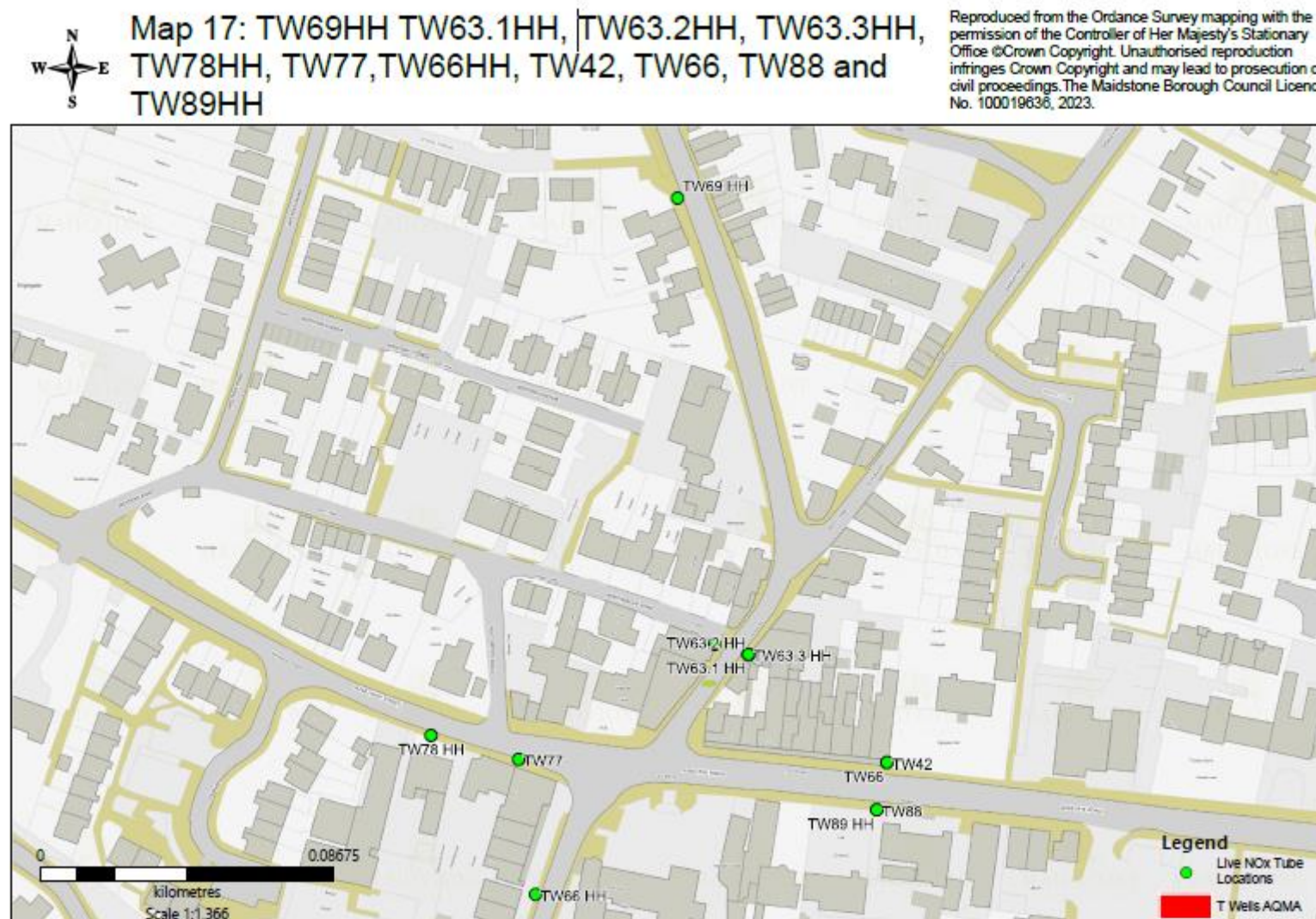


Figure D.16.17 – Map of Non-Automatic Monitoring Site



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁷

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO ₂)	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO ₂)	40µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM ₁₀)	40µg/m ³	Annual mean
Sulphur Dioxide (SO ₂)	350µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO ₂)	125µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO ₂)	266µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean

⁷ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Hawkhurst Air Quality Action Plan Consultation

Tunbridge Wells Borough Council

Air Quality Action Plan Consultation

December 2022

Consultation undertaken by Maidstone Borough Council,
Corporate Insight, Communities and Governance Team on
behalf of Tunbridge Wells Borough Council

Contents

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□ **Background**

On 1 December 2021 Tunbridge Wells Borough Council declared a small Air Quality Management Area (AQMA) in Cranbrook Road, Hawkhurst.

The Council has been measuring air quality in Hawkhurst for a number of years, and whilst they found it to be generally good, there were some 27 properties in Cranbrook Road where the air quality objective, or limit, for nitrogen dioxide was exceeded in 2019. The cause of the exceedance was identified as a combination of the traffic queues at the crossroads, the uphill gradient at the approach to the crossroads in Cranbrook Road and the narrowness of the street in that location.

When the Council measures an exceedance of an air quality objective they are legally required to declare an AQMA, as Tunbridge Wells Council have done. They are then required to produce an Air Quality Action Plan (AQAP) which includes the measures to tackle the exceedance.

There has already been a significant improvement in air quality since 2019, partly due to a long-term trend of improvement, and partly because of how many people have changed their working and driving routines in recent years. The AQAP is intended to build on the improvement which has already occurred.

□ **Methodology**

Tunbridge Wells Borough Council undertook a consultation between 29 September and 27 November 2022

The survey was carried out online. Those living in the affected area were notified directly by letter. Paper copies of the survey and alternative formats were also available on request. The survey was open to all Tunbridge Wells Borough residents aged 18 years and over as well as visitors to the borough.

The Consultation asked respondents their opinions about the proposed actions for the Air Quality Management Plan. There was an opportunity throughout to provide additional comments.

There were a total of 62 responses to the survey. In addition, a letter commenting on the proposed actions was received from KCC (attached at Appendix A).

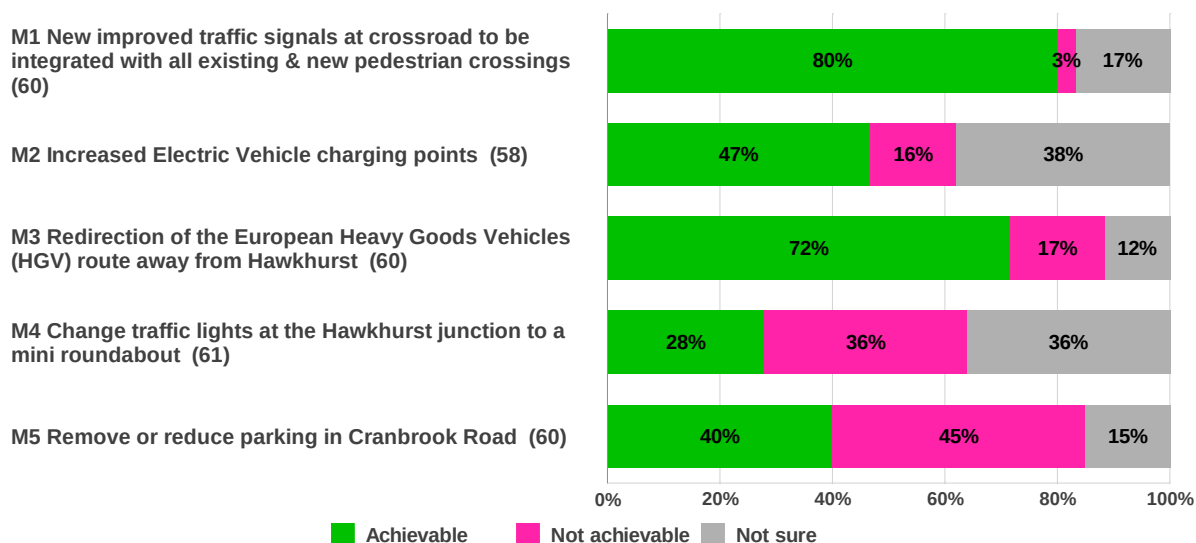
The data has not been weighted; however, the bottom two age brackets were combined to give the 18 to 34 years group. Please note not every respondent answered every question; therefore, the total number of respondents, refers to the number of respondents for that question, not to the survey overall. Comments have been categorised according to content with some covering more than one category. All suggestions identified have been passed to the Environmental Health Team for response in the committee papers.

☐ Transport Measures

Achievement

Respondents were asked to review the proposed transport measures and were asked if they were achievable or not.

A total of 61 answered this question. Overall, Measure 1, 'new improved traffic signals at crossroad to be integrated with all existing and new pedestrian crossings' was considered the most achievable with 80% responding this way. Measure 5, 'remove or reduce parking in Cranbrook Road' was considered the least achievable with the greatest proportion answering 'not achievable' across the transport measures with 45% answering this way. Measure 4, 'change traffic lights at the Hawkhurst junction to a mini roundabout' had the lowest proportion stating it was achievable at 28%, here respondents were split with 36% responding 'not sure' and 36% responding 'not achievable'.



Demographic Differences

- ☐ The data show that respondents with a disability were more likely to respond that Measure 5, 'remove or reduce parking in Cranbrook Road' was achievable with 83% answering this way compared to 34% of respondents without a disability.

Respondents that said that a measure was unachievable, were prompted to explain why they felt this way.

Measure 1 – Unachievable Comments (2) – Shown in full

It's a crossroad so how can changing the signals improve it!
There are queues at every entrance to the junction and changing the sequence will not make the slightest difference

Measure 2 – Unachievable Comments (9) – shown in full

Lake of space for charging points
Hardly any houses have the proximity for electric charging points for vehicles on Cranbrook Road.
only achievable with total cooperation with supermarkets. The one charge point next to the BP fuel station is hardly uses anyway. Electric cars are NOT eco and Biofuels are coming on stream which are far more eco and more than 40% of coal fired power stations are required to make all this electricity, utter madness.
Electric vehicles are not green and there is insufficient space in Hawkhurst to accommodate charging points

Complete waste of public money, nobody will use them
Depends on location, would have no discernible impact on air quality on Cranbrook Road, indeed if installed along Cranbrook Road could worsen air quality due to increased congestion.
there are no public points to install
I don't think it will impact the traffic using the junction. They come from far away and just transit through the junction between Hastings and Maidstone.
Will not make any difference to traffic flow in any way. There is nowhere to put EV charging points.

Measure 3 – Unachievable Comments (10) – shown in full

Its a major road there is no practical alternative
Main thoroughfare from Maidstone and the Medway towns to the south coast. Not another good route to Hastings.
Foreign HGV drivers will ignore any signage as they do with Goudhurst
Redirect to where? The non-existent A21 trunk road?
It's the most direct route for HGVs, they would probably just take it anyway. And it would just move the traffic elsewhere
Because they will not take any notice of any restriction, as do the excessive speeds we witness every day by drivers who do not observe the 30 or 40 speed restrictions. 50/60mph speeds are witnessed every day in 30 mph zones and continued jumping of red traffic lights.
It hasn't worked in Cranbrook or other villages...more importantly its unenforceable.
Measure 3 will simply displace HGV traffic onto other unsuitable roads causing/exacerbating congestion and air pollution in other villages, such as Goudhurst, where I live, which is gridlocked by HGVs on a daily basis. European HGV traffic should be required to use the motorway network, using other roads for access only
This will only be achievable by providing an alternate road. This is possible but years off, it would be viable at all. The "European" aspect of this, cannot be easily policed. European bound traffic has no benefit coming through Hawkhurst and should/will still follow A20/M20.
There are many units/businesses within the area that use HGV so it would not reduce the amount of HGV that use the Hawkhurst Route also there is not any other suitable routes that HGV can use IE A 21 generally very narrow from Lamberhurst and over capacity already would only work if A21 was made into a dual carriageway all the way to Hastings but even then, HGV would still need to get to areas from Hastings around to Rye

Measure 4 – Unachievable Comments (22)

☐ Theme	☐ No.	☐ Nature
☐ No space/ room	☐ 8	☐ Not enough room for a mini roundabout. The need to move the war memorial and demolish buildings were mentioned.
☐ Investigated	☐ 6	☐ This measure had already been investigated by KCC and deemed unfeasible.
☐ Too much traffic	☐ 6	☐ This would not have any impact due to the amount of traffic. With idling mentioned as remaining an issue due to the need for pedestrian crossings.
☐ Other	☐ 4	☐ 1 - no impact on air quality. ☐ 1 - too expensive. ☐ 1 -the current junction works well.

		☐ 1 - would cause safety issues particularly for pedestrians.
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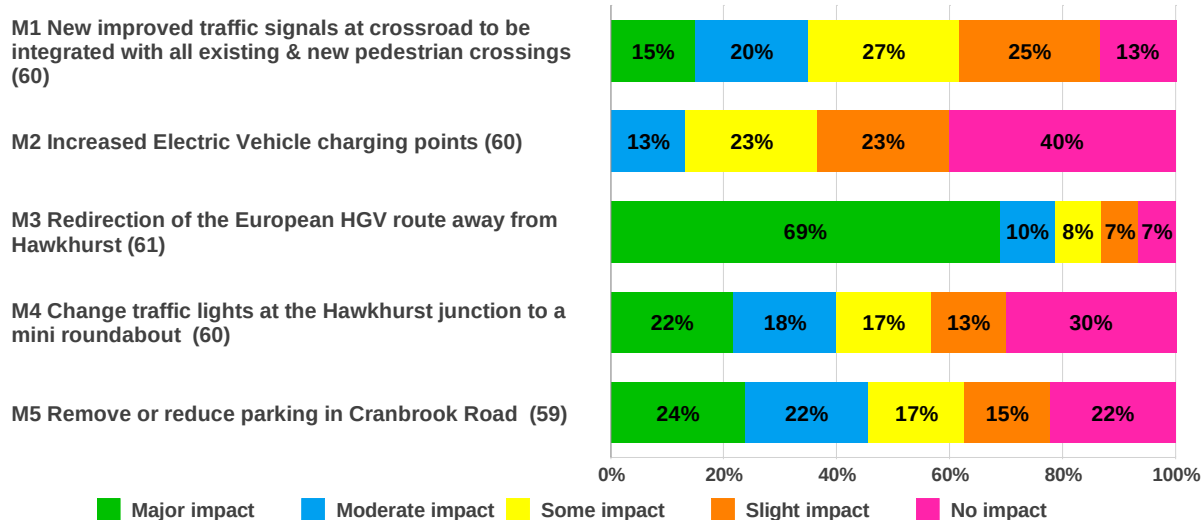
Measure 5 – Unachievable Comments (27)

☐ Theme	☐ No.	☐ Nature
☐ Resident Parking	☐ 27	☐ All expressed concern about where residents would park if this measure enacted. Many said it was unfair on the residents living on Cranbrook Road and that there was insufficient parking locally.

Impact

Respondents were asked to indicate what impact they thought each of the measures would have on air quality locally.

A total of 60 respondents answered these questions. Overall, respondents felt that Measure 3 (redirect of the European HGV route away from Hawkhurst) would have the greatest impact with 79% responding Major or Moderate impact. Respondents felt that Measure 2 (increase electric vehicle charging points) would have the least impact with 63% responding that this measure would have a slight impact or no impact.



Demographic Differences

No demographic differences were identified.

Comments on Transport Measures (35)

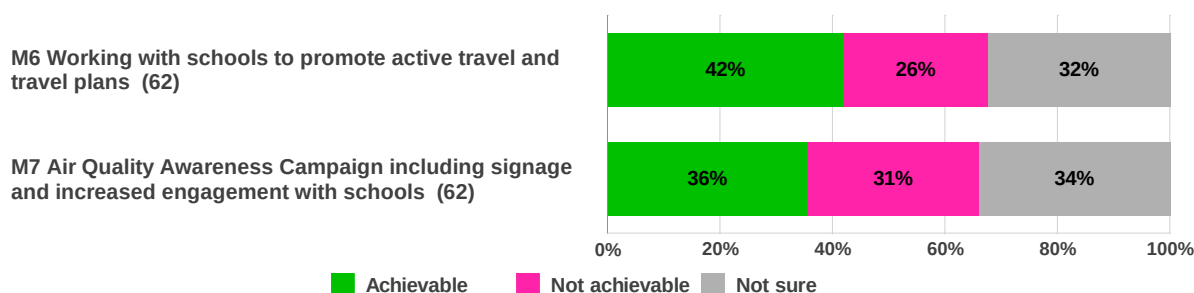
☐ Theme	☐ No.	☐ Nature
☐ HGVs	☐ 16	☐ HGVs are the cause of the congestion and pollution. ☐ Roads are unsuitable for HGVs. ☐ Redirection of HGV traffic would positively

		impact air quality locally.
☐ Traffic Management	☐ 14	☐ Better junction management requested including pedestrian crossings. ☐ Concerns that a mini roundabout would cause more issues such as HGVs getting stuck. ☐ Suggestions for a bypass/relief road.
☐ Parking	☐ 7	☐ There would be more room for free-flowing traffic if parking on Cranbrook Road was removed but a solution would need to be found for residents parking.
☐ Congestion	☐ 7	☐ HGVs and idling cars considered main source of congestion
☐ Electric Vehicles/Chargers	☐ 4	☐ EV charger will not impact air quality. ☐ EV chargers would encourage more electric vehicle ownership. ☐ EV chargers are a good idea.
☐ Development	☐ 3	☐ Additional housing creates more traffic and congestion.
☐ Other	☐ 3	☐ Enforcement of one-way system at Water Lane required. ☐ Queries on feasibility and impact of proposed actions.

Information & Education Measures

Respondents were asked to review the proposed Information & Education measures and were asked if they were achievable or not. A total of 62 respondents answered this question.

Overall, Measure 6 was considered slightly more achievable with 42% responding this way.



Demographic Differences

100% of respondents aged 18 to 34 years said that measures 6 and 7 were achievable this result was significantly greater than the proportion responding the same for the other age groups.

Respondents that said that a measure was unachievable were prompted to explain why they felt this way.

Measure 6 Unachievable Comments (16)

Theme	No.	Nature
Little to no impact	6	- The majority of traffic is through traffic. - School traffic is not the issue.
Driving to School	6	- Parents make this choice rather than children and are unlikely to change habits. - Those who can walk already do so.
Active travel options	2	No dedicated school bus or appropriate public transport available that could be used by school children.
Other	3	- Measure 6 already exists. - No public transport available. - Safety issue walking due to narrow lanes and no footpaths.

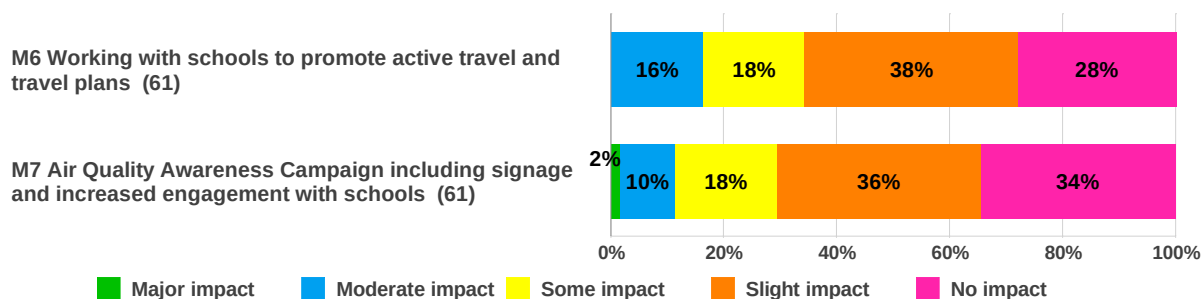
Measure 7 Unachievable comments (18)

Theme	No.	Nature
Little to no impact	13	- People will not take any notice and therefore it will not impact air quality. - School traffic not a problem, the problem is the amount of HGVs and through traffic.
Other	5	- One said there is already an awareness campaign. - Two mentions a lack of viable alternative i.e., no public transport. - One said it was not the schools place to get involved with such a campaign. - One said this would just highlight the issue and make the local residents unhappy.

Impact

Respondents were next asked to indicate what impact they thought each of the measures would have on air quality locally.

A total of 61 respondents answered these questions. Overall, respondents felt that Measure 6 would have a greatest impact than measure 7 with 34% responding 'major or moderate impact'.



Demographic Differences

- ☐ The data show that respondents with a disability were more likely to agree that that Measure 6, 'working with schools to promote active travel and travel plans would have a major or moderate impact on air quality with 43% answering this way compared to 13% of respondents without a disability.

☐

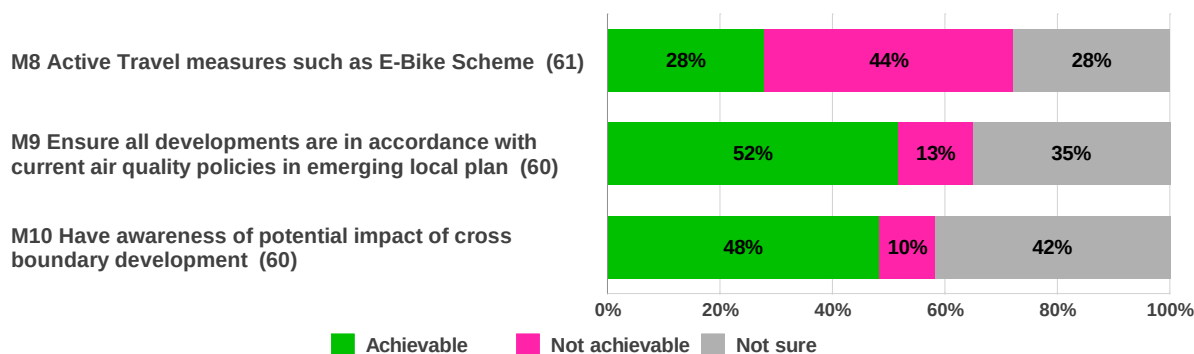
Comments on Information & Education Measures (23)

Theme	No.	Nature
No impact	12	- Measures proposed will not work. - People will not take any notice. - More radical solutions required to improve air quality.
HGV	6	- HGV through traffic main cause of the problem. - Suggestion to ban HGVs from passing through the village.
Idling engines	3	- Education required to avoid idling. - Suggestion of introducing fines for idling vehicles.
School transport	3	- Introduce school buses. - Restrictions on streets with schools for pick up and drop off. - More children could walk.
Other	2	- Road infrastructure poor with no regular public transport or cycle lanes. - People need to know how to reduce their pollution.

❑ Miscellaneous Measures

Respondents were asked to review the proposed 'miscellaneous measures' and were asked if they were achievable or not

A total of 61 answered these questions. Overall, measure 9 was considered the most achievable with 52% responding this way. Measure 8 was considered the least achievable with the 44% responding that this measure was unachievable.



Demographic Differences

- ❑ 100% of respondents aged 18 to 34 years said that Measure 8 was achievable. This result was significantly greater than the proportion responding the same for the age groups 45 years and over.

Respondents that said a measure was unachievable were prompted to explain why they felt this way.

Measure 8 - Unachievable Comments (25)

❑ Theme	❑ No.	❑ Nature
❑ Safety	❑ 10	❑ Heavy traffic makes it unsafe to cycle. ❑ Roads need to be safer for this to be viable.
❑ Terrain/Fitness	❑ 8	❑ Local area is hilly. ❑ Local population is aging and cycling therefor less attractive an option.
❑ Won't be used/No impact	❑ 6	❑ Unlikely children will cycle to school. ❑ Little to no impact in Hawkhurst.
❑ Expensive	❑ 3	❑ E-bikes are expensive. ❑ A hire scheme would be expensive in terms of maintenance.
❑ Journey distances	❑ 3	❑ Schools too far away to cycle to. ❑ Cycling unsuitable for long journeys.
❑ Other	❑ 1	❑ The narrow roads and lanes prohibit cycle lanes being installed.

Measure 9 – Unachievable comments (8)

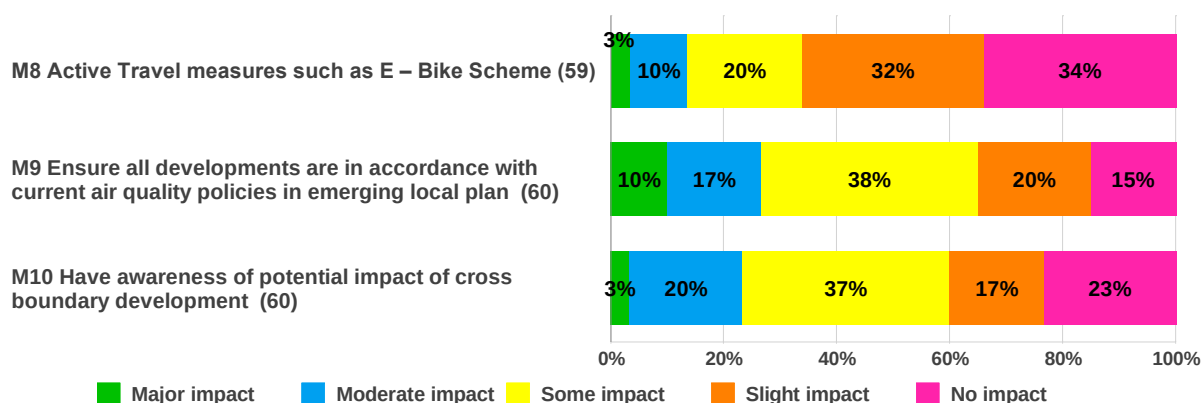
Hawkhurst has suffered and still suffering major development - this will result in extra traffic and more pollution
Because developers ignore them. More development =more cars & pollution

I'm an architect and it infuriates me that developers and councils believe adding a charging point (now a building reg btw, so its compulsory) and providing 1 parking space per new house when the reality is 2 or more cars per house. You just create parking issues. The reality is, there are no local jobs that can pay for the bills and a mortgage of a house in this borough. 80% of people need to commute. So, I don't see how the council can do much about developments other than demanding more parking for houses. This will obviously mean more cars and more pollution. So it's silly to address that yet. They infrastructure and economy of the local towns need to provide better jobs; this comes with a better local infrastructure and roads first.
It's not the developments at the design or building stage. You can build a new house with an EV charger and reduce parking spaces BUT people may not buy a electric car and you may have several people in one residence all with cars they have to park somewhere
Build a bypass
House building with any measures will be minimal an have no impact of air quality
with all developments will come cars and other vehicles> We must have more development to keep Hawkhurst alive and to prosper so we will get reduced air quality but as we change over to electric Cars this will reduce any way to a time that air quality is not affected by vehicles. if anything, we should promote the use of electric vehicles and all buses and council vehicles should be Electric
The overdevelopment of Hawkhurst has led to many of the issues we are seeing now. Developers produce vague plans in line with air quality policies which are simply fiction. Any house that is built, increases the local traffic by 1-2 vehicles. Also, conditions put on developments are not enforced, evidenced by the fact that the junction with Cranbrook Road and Hearten oak Road remains unchanged despite it being a condition of the Hawkhurst House development.

Impact

Respondents were next asked to indicate what impact they thought each of the measures would have on air quality locally.

A total of 60 respondents answered these questions. Overall, it was felt that Measure 9 would have the greatest impact with 27% responding major or moderate impact. Respondents felt that Measure 8 would have the least impact with 66% responding that this measure would have a slight impact or no impact.



Demographic Differences

Respondents aged 75 years and over had a significantly greater proportion responding that measure 10 would have slight or no impact with 70% answering this way compared to the over result of 41%.

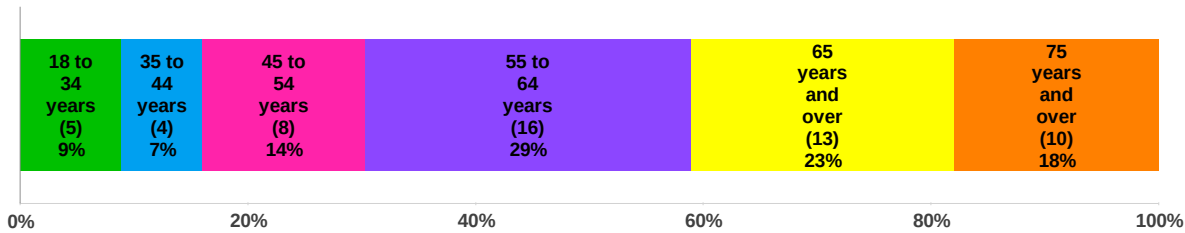
Comments on Miscellaneous Measures (22)

☐ Theme	☐ No.	☐ Nature
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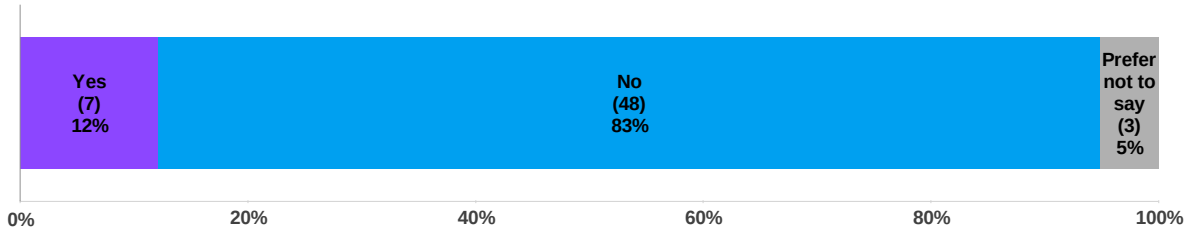
☐ Development	☐ 8	☐ New housing will increase pollution. ☐ There is too much housing development. ☐ Developments cross district border but on boundaries impacts on local roads.
☐ Little to no impact	☐ 5	☐ Proposals will not address the problem. ☐ Active travel schemes are a waste of time. ☐ Proposals will not improve air quality in Tunbridge Wells.
☐ Cycling	☐ 4	☐ Roads are unsuitable for cycling. ☐ Suggestion of bike hire scheme at rural train stations.
☐ Traffic	☐ 3	☐ HGVs are the main issue. ☐ Cycling is unsafe due to traffic volume. ☐ Most traffic is not local.
☐ Other	☐ 4	☐ Idling should be discouraged ☐ Concern expressed over time period of data used for measurement. ☐ Query about action definition.

Demographics

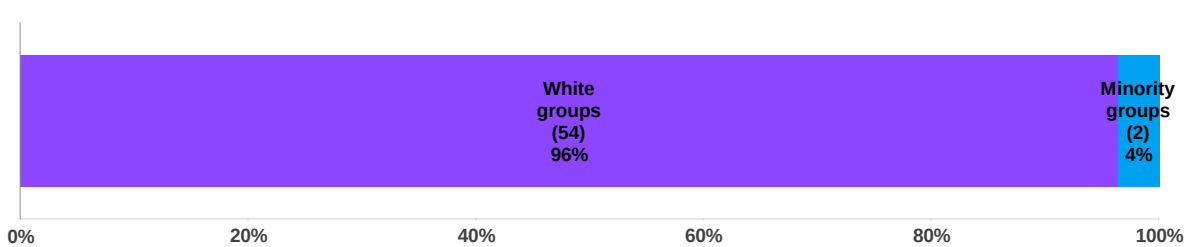
Age



Are your day-to-day activities limited because of a health problem or disability which has lasted, or is expected to last, at least 12 months?



Ethnicity



□ **Appendix A – Response from KCC Highways**

By email:

Duncan.Haynes@MidKent.gov.uk

Kent County Council
Ashford Highway Depot
Javelin Way
Henwood Industrial Estate
Ashford
Kent
TN24 8AD

Dear Sir/Madam

RE: Hawkhurst Air Quality Action Plan Consultation

KCC recognises the UK environment and climate emergency and stated in the KCC Low Emissions Strategy that we must “*continue to tackle poor air quality hotspots, through the implementation of Air Quality Management Plans*”. KCC therefore welcomes the continued opportunity to comment on the Tunbridge Wells Borough Council Air Quality Action Plan, and by working together, ensure the proposals maximise the benefits that can be achieved.

Comments

I refer to the ‘Tunbridge Wells Actions’ document. There are five measures in the ‘Transport Related’ category, two in the ‘Information and Education’ category and three miscellaneous. Any comments are provided as follows.

Measure 1

Measure 1 addresses the highway works delivered via s278 agreement at the signalised crossroads. It will see the method of control upgraded from Vehicle Actuated to MOVA, the replacement of existing signal equipment to allow the addition of Puffin pedestrian technology with on-crossing detection, and provision of linking to the adjacent pedestrian crossing upon first occupation of any dwelling of the approved development at Highgate Hill. The proposals had been raised to reduce delays for all traffic and pedestrians. The development at Turnden in Cranbrook, which is currently at an appeal stage, has proposed for the same mitigation.

As covered by condition 12 of planning application 20/02788/FULL at Highgate Hill, full details of off-site works to the highway are to be submitted for consultation with the highway authority prior to the commencement of the development.

It is to be noted that an additional signalised crossing point On Rye Road (close to the junction with All Saints Road) and improvements to cycle parking along Rye Road are covered by condition 12 of the Highgate Hill development. Of which, the specific details must also be consulted with the highway authority.

These mitigations are therefore dependent on the development(s) coming forward.

Measure 2

Measure 2 would see the increase in EV points. Tunbridge Wells Borough Council can provide the details of any plans to provide charging points at the car park in Hawkhurst.

Kent County Council does not currently allow private EVCPs to be installed on the highway or charging cables to be brought from a private property onto the highway. Generally it will be more cost effective, with fewer design barriers, to place charging infrastructure in hub locations within car parks. This will also better accommodate future demand levels. Kent County Council are updating the on-street Electric Vehicle Charging guidance note for districts with the intention to provide guidance for district councils (including borough councils) wishing to install electric vehicle charging points (EVCP)s on highway land.

In the past, a local Electric Vehicle Charge-point scheme was opened by Kent County Council with the aim of providing funding to parish councils to install points on public land. For the purposes of the Hawkhurst AQAP, this cannot be relied upon for the scheme to be opened again in future, however if it does open again, it would be recommended for Hawkhurst Parish Council to apply to if suitable land can be identified. It can also be noted that Parish Councils can apply to on street residential charge point scheme (ORCS) but they would need 40% match funding.

For developments or new units, a minimum provision of Electric Vehicle Charging Infrastructure is now required under the Building Regulations and is reflected in Kent Design Guide: Parking Standards. For the offices (non-residential use), 10% of parking spaces should be active and 100% passive. For residential units, charge points are expected to be provided on the ratio of one per unit, with the rest as passive charging spaces for future use (involving installation of the network of cables and power supply necessary so that at a future date a socket can be added easily). The minimum specification is Mode 3, AC with a minimum output rating of 7kW.

Measure 3

This measure proposes for redirection of the European HGV route away from Hawkhurst. The crossroads are at a junction of 2 'A' roads, which are suitable for most traffic. Furthermore, we cannot distinguish between British and foreign vehicles using any routes.

In summary, it is highly unlikely that this measure will be able to be implemented at this location.

Measure 4

From a high-level perspective, this proposal would depend on the design and layout and whether it could fit within this. It further depends on safety, for example the gradient of the arms could impact on the ability of a driver approaching the junction to see the mini roundabout in advance. Slower moving vehicles may not be able to get moving in the gap they have. In addition, there may be doubt as to who is going at a mini roundabout. This could lead to conflicts and queues on some arms.

It is also important to remember that these crossroads are at the intersection of two A-roads, which are on the Strategic Road Network (SRN).

Pedestrian crossings are not used with a mini roundabout and would have to be moved back on the approach arm, possibly 20 metres from the junction.

This proposal would need to be consulted further with teams within KCC if it was to be considered any further in detail.

Measure 6

Measure 6 is in relation to working with schools to promote active travel and travel plans.

Measures and programs to encourage behavioural change and working to increase the level of active travel journeys are vital to directly improve local air quality. As such, this measure is of high priority.

Measure 7

For promotional signage on highway furniture or structures, planning permission would need to be gained.

Measure 8

Measure 8 covers active travel measures such as an E-bike scheme.

Working to increase the level of active travel journeys by residents and visitors through improvements in walking and cycling infrastructure have a direct impact on local air quality. Therefore, this measure regarding active travel should be given a high priority.

KCC is supportive in developing the Air Quality Action Plan and welcomes the positive contribution that it could have in improving the air quality in Tunbridge Wells Borough.

I trust that you will find the above information useful, and should you require any further information or clarification on any matter, please do not hesitate to contact me.

Yours sincerely,

Director of Highways and Transportation
Kent County Council Highways

Appendix G: Pollution Patrol Communications Plan



Promotion of The KentAir Air Pollution Digital Schools Resource

Prepared for: KentAir Date: 22.03.2022

4 Introduction & Background

This document has been produced to support communications teams and non-communication professionals, to develop opportunities for consistent promotion and awareness of KentAir’s new Air Pollution Digital Schools Resource - Pollution Patrol - to a range of target audiences across local authority areas in Kent and Medway.

The KentAir Air Pollution Digital Schools Resource; Pollution Patrol, has been funded from DEFRA’s Air Quality Grants, allowing local authorities to benefit communities and reduce the impact of polluted air on people’s health.

The campaign will run for a 5-year period, concluding in 2026.

This document, the separate communication plan and the supporting visuals all form part of the overall Pollution Patrol Communications Toolkit, which has been prepared in [this Box folder](#).

For members of the Air Quality Teams and other internal stakeholders:

The Pollution Patrol is a new interactive learning resource developed for primary schools. The resource educates children on air pollution, its damages and encourages children and the wider community to take steps to improve the air quality. As this is a free resource available to all schools, we recommend you get in touch with the stakeholders and schools that you work with and encourage them to join the Pollution Patrol. This document can be used to communicate about the resource to the people you work with.

The document includes: 1.

Resource messaging

2. Key messaging for:

- Teachers
- Parents/carers
- External stakeholders/professionals
- Key days

3. Three finalised social posts

4. Editorial content

5. Important national days/weeks

6. Hints and tips for posting on social media

7. Relevant hashtags

Further to this, a spreadsheet with an outline of the suggested communication plan is included in a separate Excel document.

6 2. Key Messaging

The following content includes general messaging that can be published on a regular basis (see communication plan in the Excel spreadsheet), plus a few examples of how to use key dates to

For people who are unfamiliar with posting content on social media, a range of tutorials can be found on [Google/YouTube](#). It is often easiest to type your query/ question/theme into the search bar on either Google or YouTube, and from this, locate relevant responses.

5 1. Resource Messaging

The messaging has been developed to promote the interactive learning resource; the Pollution Patrol, with the following key communication points in mind:

- What is air pollution (different pollutants)?
- Where does air pollution come from?
- Why is air pollution bad for your health?
- How can we avoid air pollution?
- What are the benefits of air pollution reductions?

The messaging and visuals have been created using a ‘pick and mix’ format, so that the user can choose which elements from the toolkit they feel work best together.

Finally, the content has been developed based around three distinct target audiences; teachers, parents/carers, and other stakeholders. **Campaign Audiences & Channels**

- Teachers are best targeted on Twitter (and occasionally Facebook).
 - Twitter is a popular platform for teachers to identify new resources and join relevant debates.
- Parents/carers are best targeted on Facebook.
 - Facebook is popular for this audience as it functions as a great community space. Furthermore, it was identified that local authorities in Kent and Medway already use this platform as their primary social channel to reach relevant stakeholders.
- External stakeholders and professionals are best targeted on LinkedIn.
 - LinkedIn is a professional network, so by sharing the interactive learning resource on here, it can reach other relevant stakeholders in the local community and within the networks of KentAir and DEFRA.

New free #interactive primary school #learningresource, educating children on air pollution, its damages and how we can reduce it. Register your school to join the Pollution Patrol today (URL) (include extra hashtags for Twitter).

align your messaging and gain maximum exposure. We have provided a list of key national days that will be relevant alongside term start/end dates towards the end of this document.

How do you teach children about air pollution?

joined the Pollution Patrol yet? If not, remember to register on (URL) (include hashtags for Twitter)

Air pollution can irritate the eyes and throat, and damage the lungs; especially those of children, senior citizens, and people who work or exercise outdoors. Learn more about why #airpollution is bad for your health and how we can reduce it (URL) (include hashtags for Twitter).

to make different choices about transportation. When you can; walk, ride a bike, or take public transportation. Learn more about the benefits of air pollution reductions and join the Pollution Patrol (URL) (include hashtags for Twitter).

Stay away from heavily congested roads when exercising outside; and if walking/cycling to school, take the less congested roads to avoid poor quality air. For more info and to sign up to the Pollution Patrol (URL) (include hashtags for Twitter)

#Teachers! How do you teach #children (and #parents) about #airpollution? KentAir has recently launched this free #LearningResource, teaching children about air pollution and how to reduce it. Register your school to join the Pollution Patrol (URL)

Why is air pollution bad for your health and how can we avoid it? Learn more on this new free #learningresource developed for #primaryschools (URL). Register your school to join the Pollution Patrol on the website (include hashtags for Twitter).

#Traffic around schools causes bad #airquality. This new interactive resource educates #children (and the wider community) in the challenges that #airpollution poses and how we can reduce it. Register your school to join the Pollution Patrol on (URL)

Teachers: Twitter and Facebook

Air pollution refers to the release of pollutants into the air—pollutants which are harmful to human health and the planet as a whole. Learn more about #airpollution and register your school to join the Pollution Patrol on (URL) (include hashtags for Twitter).

We care about our air and want to have #cleanair around our local #communities. We’ve therefore developed this digital learning resource for primary schools #educating children about #airpollution and how to reduce it (URL).

Children often have a strong sense of urgency when learning about climate change. Support them in becoming advocates for air pollution reductions by joining the Pollution Patrol on (URL) (include hashtags for Twitter).

#AirPollution can be reduced! Teaching your #pupils about air pollution and ways to reduce it is a great way to get them involved in #community discussions. Take the first steps by registering your school to join the Pollution Patrol on (URL) (include extra hashtags for Twitter)

#Teachers! Take a look at this curriculum-linked toolkit to help #educate your #pupils in less polluting travel behaviours (URL) (include extra hashtags for Twitter).

Most #airpollution comes from transport, factories, and farms, but even inside our homes, the #airquality can be reduced. Learn more about where air pollution comes from and sign up to the Pollution Patrol on (URL) (include

Air pollution is bad for your health, but why is that and how can we avoid it? Find the answers on this free interactive game and learning resource, developed for children in primary schools (URL).

Traffic around schools produce bad air quality. KentAir’s Pollution Patrol is a new interactive resource that seeks to educate children (and the wider community) in the challenges that air pollution poses and how we can reduce it. Encourage your children to join the Pollution Patrol today on (URL).

KentAir’s Pollution Patrol is a free learning resource for #primaryschools encouraging #SustainableChange amongst #children and their #parents by educating them on the causes and impact of #airpollution (URL)

Did you know that taking alternative routes to school can drastically minimise air pollution? Register your school to join the Pollution Patrol and help educate #children and #parents on the impact of #airpollution on (URL) (include extra hashtags for Twitter)

hashtags for Twitter).

COMMUNICATIONS PLAN					KentAir's Pollution Patrol is a series of free games and interactive learning tools for children in primary schools that encourage sustainable change by educating them about the causes and impact of air pollution and encourages them to reduce their own negative impacts (URL).		School and work can drastically improve our air quality? Help educate your children on the impacts of air pollution by encouraging them to join the Pollution Patrol on (URL).		The air quality in Kent and Medway is sometimes poor, especially around summertime. Luckily, we can all take steps to reduce our pollution. Find tips on https://kentair.org.uk/aboutair-quality/what-can-we-do. Which steps will you take to improve the local air quality?	
In [local community, e.g., Medway], we sometimes experience high levels of air pollution. Air pollution refers to the release of pollutants into the air—pollutants which are harmful to human health and the planet as a whole. But how can we reduce air pollution? Visit (URL) to learn more. Sign up to the Kent and Medway Air Quality Alert to stay updated on current air pollution levels near you (URL).										
We care about our air and want to have clean air around our local communities. We’ve therefore developed this interactive game and learning resource for primary schools educating children about air pollution and how to reduce it (URL).			Most air pollution comes from transport, factories, and farms, but even inside our homes, the air quality can be reduced. Learn more about where air pollution comes from and sign up to the Pollution Patrol on (URL).							
Air pollution can irritate the eyes and throat, and damage the lungs, especially those of children, senior citizens, and people who work or exercise outdoors. Learn more about why air pollution is bad for your health and how we can reduce it (URL).		How can we reduce air pollution? One way is to make different choices about transportation. When you can; walk, ride a bike, or take public transportation. Learn more about the benefits of air pollution reductions and sign up to the Pollution Patrol on (URL).		Stay away from heavily congested roads when exercising outside; and if walking/cycling to school, take the less congested roads to avoid poor quality air. For more information about ways to reduce air pollution and to sign up to the Pollution Patrol (URL).						
Children often have a strong sense of urgency when learning about climate change. Support them in becoming advocates for air pollution reductions by encouraging them to join the Pollution Patrol on (URL).			Air pollution can be reduced! Teaching your children about air pollution and ways to reduce it is a great way to get them involved in community discussions. Take the first steps by encouraging them to join the Pollution Patrol on (URL).							
						Looking for tips to drive greener? It is always better to leave the car at home, but if you do need to drive, there are many ways you can reduce your emission and start driving greener, for example:				
						• Drive smoothly. • Shifting to a higher gear at the right time. • Switch your engine off if you know you won’t be moving for a minute or so and making sure the auto stop system is in use for newer vehicles. • Stick to the speed limits – at 70mph you could be using up to 30% more fuel than at 50mph. • Air conditioning and other on-board electrical devices (like mobile phone chargers) increase fuel use, so only use them when necessary. • Check your tyres regularly and keep them at the correct pressures. Under-inflated tyres can increase your fuel use. • Remove roof boxes and bike racks when they aren’t needed, they increase the weight and air resistance, so your car uses more fuel. • Remove unnecessary items from the boot, these add to the weight and reduce fuel efficiency. For more tips on sustainable travel: https://kentair.org.uk/sustainable-travel				
						Looking for a sustainable way to get your children to school whilst saving time in the morning? Many schools have Walking Bus schemes, where children follow a supervised group that ‘pick up’ and ‘drop off’ children at specific points along the route. It is a fun, healthy and sustainable way to get to school. Learn more on https://www.kent.gov.uk/environment-waste-and-planning/climatechange/reducing-emissions/sustainabletravel/set-up-a-walking-bus		Have you noticed that the air in the local community isn’t always clean and fresh? It might be the air pollution that affects your nose, eyes, throat, or lungs. Sign up to Kent and Medway’s Air Quality Alert, to know when the air pollution is at its highest (URL). And if you have children, encourage them to join the Pollution Patrol to learn about air pollution, its damages and how we can reduce it (URL).		

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KentAir’s Pollution Patrol offers interactive content that allows children to journey through the townscape of Sooting, where they will meet Aerial and the Pollution Patrol who together explores the causes of air pollution and what can be done to improve air quality. Encourage your children to join the Pollution Patrol to start learning about air pollution and how they can reduce their own negative impacts on (URL).

The air quality at schools is often polluted with higher levels of toxins during pick-up times, which has been linked to increases in asthma, allergies, and heart and lung diseases. The pollution comes from the exhaust from idling vehicles, something which can easily be mitigated. Do your part in keeping your children and their classmates healthy by turning off your car if you are waiting for more than 10 seconds around the school area.

Learn more about air pollution and encourage your children to join the Pollution Patrol on (URL).

External Stakeholders (including, Kent and Medway businesses and professional networks of KentAir and DEFRA); LinkedIn



Traffic around schools produce bad air quality. KentAir’s Pollution Patrol is a new interactive resource, aiming to educate children (and the wider community) in the challenges that air pollution poses and how we can reduce it. Learn more and join the Pollution Patrol on (URL).

Air pollution refers to the release of pollutants into the air—pollutants which are harmful to human health and the planet as a whole. Learn more about air pollution and join the Pollution Patrol on (URL).

We care about our air and want to have clean air around our local communities. We’ve therefore developed this series of free games and interactive learning tools for primary schools, educating children about air pollution and how to reduce it. Take a look and join the Pollution Patrol on (URL).

Most air pollution comes from transport, factories, and farms, but even inside our homes, the air quality can be reduced. Learn more about where air pollution comes from and sign up to the Pollution Patrol on (URL).

Air pollution can irritate the eyes and throat, and damage the lungs, especially those of children, senior citizens, and people who work or exercise outdoors. Learn more about why air pollution is bad for your health and how we can reduce it (URL).

Have you noticed that the air in the local community isn’t always clean and fresh? It might be the air pollution that affects your nose, eyes, throat, or lungs. Sign up to Kent and Medway’s Air Quality Alert, to know when the air pollution is at its highest (URL). And if you have children, encourage them to join the Pollution Patrol to learn about air pollution, its damages and how we can reduce it (URL).

The COVID-19 pandemic has changed working, commuting and travel practices for many people. During lockdowns, there were a significant drop in air pollution levels. If we can continue to utilise these new ways of working and travelling, we can make a difference for the air quality in Kent and Medway. Learn more on <https://kentair.org.uk/sustainable-travel>

Stay away from heavily congested roads when exercising outside; and if walking/cycling to school, take the less congested roads to avoid poor quality air. For more information and to sign up to the Pollution Patrol (URL).

Children often have a strong sense of urgency when learning about climate change. Support them in becoming advocates for air pollution reductions by joining the Pollution Patrol on (URL).

Air pollution can be reduced! Teaching your children about air pollution and ways to reduce it is a great way to get them involved in community discussions. Take the first steps by encouraging them to join the Pollution Patrol on (URL).

How can we all help to reduce air pollution? One way is to make different choices about transportation. When you can; walk, ride a bike, or take public transport. Learn more about the benefits of air pollution reductions and have your children sign up to the Pollution Patrol on (URL).

The air quality in Kent and Medway is sometimes poor, especially around summertime. Luckily, we can all take steps to reduce our pollution. Find tips on <https://kentair.org.uk/about-air-quality/what-can-we-do>. Which steps will you take to improve the local air quality?

What can you do to help improve the air quality in Kent and Medway? Learn more and have your children join the Pollution Patrol on (URL).

How do you travel to work? There are many ways to make travel more sustainable which can help reduce your carbon footprint, improve your health, and you could even save time and money. Learn more about sustainable travel on: <https://kentair.org.uk/sustainable-travel>

Looking for tips to drive greener? It is always better to leave the car at home, but if you do need to drive, there are many ways you can reduce your emission and start driving greener, for example:

- Drive smoothly.
- Shifting to a higher gear at the right time.
- Switch your engine off if you know you won't be moving for a minute or so and making sure the auto stop system is in use for newer vehicles.
- Stick to the speed limits – at 70mph you could be using up to 30% more fuel than at 50mph.
- Air conditioning and other on-board electrical devices (like mobile phone chargers) increase fuel use, so only use them when necessary.
- Check your tyres regularly and keep them at the correct pressures. Under-inflated tyres can increase your fuel use.
- Remove roof boxes and bike racks when they aren't needed, they increase the weight and air resistance, so your car uses more fuel.
- Remove unnecessary items from the boot, these add to the weight and reduce fuel efficiency. For more tips on sustainable travel: <https://kentair.org.uk/sustainable-travel>

Looking for a sustainable way to get your children to school whilst saving time in the morning? Many schools have Walking Bus schemes, where children follow a supervised group that 'pick up' and 'drop off' children at specific points along the route. It is a fun, healthy and sustainable way to get to school. Learn more on <https://www.kent.gov.uk/environment-waste-and-planning/climatechange/reducing-emissions/sustainable-travel/set-up-a-walking-bus>

The air quality at schools is often polluted with higher levels of toxins during pick-up times, which has been linked to increases in asthma, allergies, and heart and lung diseases. The pollution comes from the exhaust from idling vehicles, something which can easily be mitigated. Do your part in keeping your children and their classmates healthy by turning off your car if you are waiting for more than 10 seconds around the school area. Learn more about air pollution and encourage your children to join the Pollution Patrol on (URL).

Are you tired of traffic? Why sit in traffic when there are smarter ways to get to work? Find your smartest way around Kent and your local area on <https://kentconnected.org/>

National day/ term date	Date	Message Example	Audience
		Ready to take your children back to school? You probably haven't missed the long queues in the car and the exhaust fumes, but this term can be different! By walking or biking you can help reduce air pollution in the local area. Have your children sign up to the Pollution Patrol to encourage their education on air pollution on (URL).	Parents/ carer
Start of term	See page 15 for term dates.	Ready to go back to school? You probably haven't missed the long queues in the car and the exhaust fumes, but this term can be different! By walking, biking, or taking public transport you can improve the local air quality. Learn more on (URL).	Teachers
		Back from holiday? You probably haven't missed the long queues in the car and the exhaust fumes on your way to work, but this time it can be different! By walking, biking, or taking public transport you can help reduce air pollution in the local community. Learn more on (URL).	External stakeholders/ professionals
		Identifying resources for next term? Kent Air's Pollution Patrol is a free #interactive primary school #learningresource, educating #children on #airpollution, its damages and how we can reduce it. Register your school to join the Pollution Patrol (URL).	Teachers
End of term	See page 15 for term dates.		
Walk to School Week	16th – 20th	Did you know that walking to school can help improve our air quality? Besides the great health benefits of walking, making good choices about transportation has significant benefits for air pollution reductions. Learn more and have your children join the Pollution Patrol on (URL).	Parents/ carer External stakeholders/ professionals
	May 2022	Did you know that walking to school can help reduce #airpollution? Besides the great health benefits of walking, making good choices about transportation has significant benefits for our #airquality. Learn more and join the Pollution Patrol (URL).	Teachers

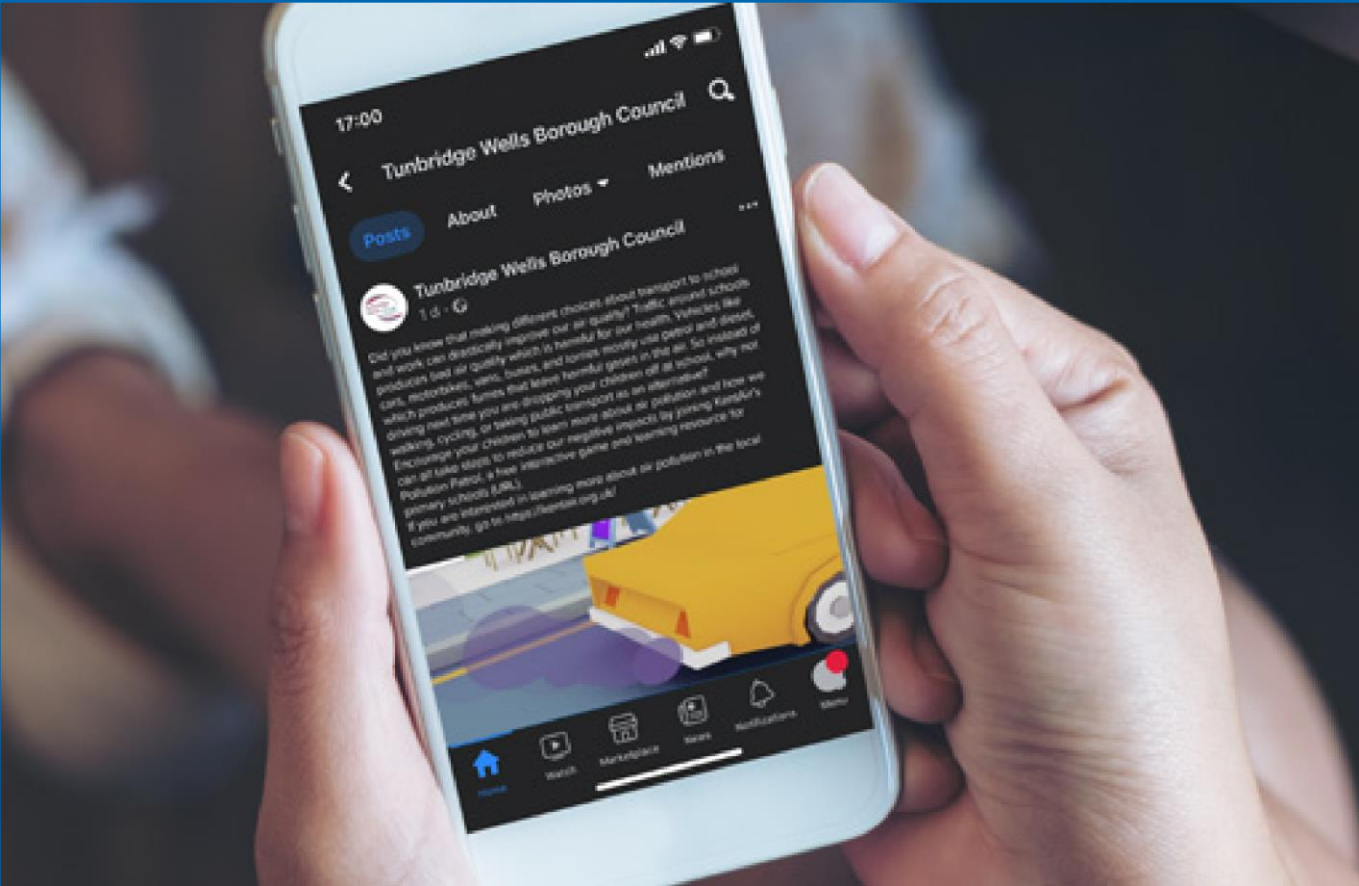
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International Day of Friendship	30th June 2022	Today is International Day of Friendships, so call up your friend or colleague and walk to work rather than driving! Combining a catch up with walking is a win-win for your mental health and our air quality.	Parents/ carer External stakeholders/ professionals	harmful for our health. Vehicles like cars, motorbike s, vans, buses, and lorries mostly use petrol and
		Today is International Day of Friendships, so call up your friend or colleague and walk to school or work rather than driving! Combining a catch up with walking is a winwin for your #mentalhealth and our #airquality.	Teachers	

diesel, which produces fumes that leave harmful gases in the air. So instead of driving next time you are dropping your children off at school, why not walking, cycling, or taking public transport as an alternative?

Encourage your children to learn more about air pollution and how we can all take steps to reduce our negative impacts by joining KentAir’s Pollution Patrol, a free interactive game and learning resource for primary schools (URL).

If you are interested in learning more about air pollution in the local community, go to <https://kentair.org.uk/>



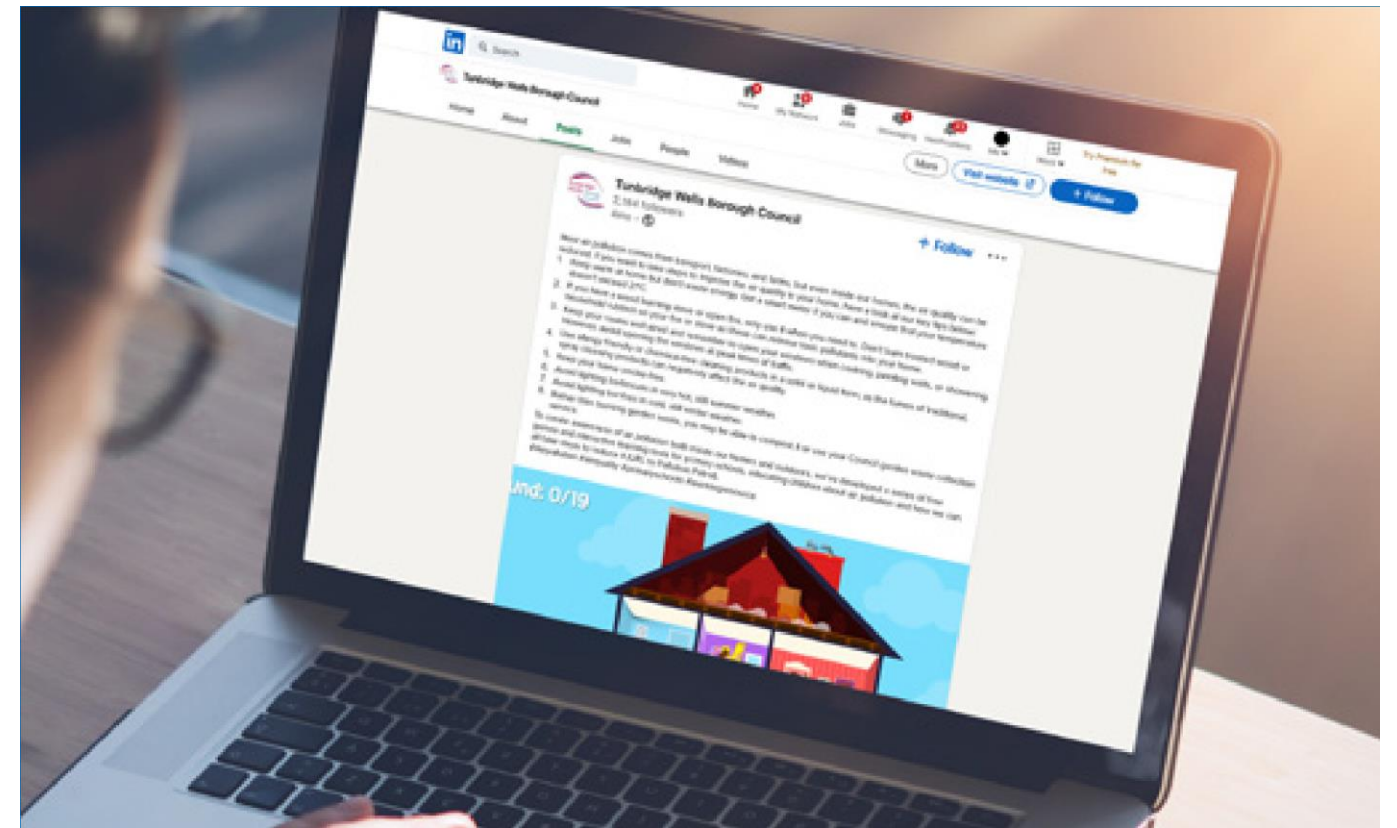
Did you know that making different choices about transport to school and work can drastically improve our air quality? Traffic around schools produces bad air quality which is

COMMUNICATIONS PLAN

Twitter (for teachers)



LinkedIn (for external stakeholders/professionals)



Why is #airpollution bad for your #health and how can we avoid it? Find the answers on this Most air pollution comes from transport, factories, and farms, but even inside our homes, the air new free #learningresource developed for #primaryschools. Register your school to join the quality can be reduced. If you want to take steps to improve the air quality in your home, have a look

Pollution Patrol (URL) #Edchat #elearning #teachers #airquality

at our key tips below:

1. Keep warm at home but don't waste energy. Get a smart meter if you can and ensure that your temperature doesn't exceed 21°C.
2. If you have a wood burning stove or open fire, only use it when you need to. Don't burn treated wood or household rubbish on your fire or stove as these can release toxic pollutants into your home.
3. Keep your rooms well aired and remember to open your windows when cooking, painting walls, or showering. However, avoid opening the windows at peak times of traffic.
4. Use allergy friendly or chemical-free cleaning products in a solid or liquid form, as the fumes of traditional, spray cleaning products can negatively affect the air quality.
5. Keep your home smoke-free.
6. Avoid lighting barbecues in very hot, still summer weather.
7. Avoid lighting bonfires in cold, still winter weather.
8. Rather than burning garden waste, you may be able to compost it or use your Council garden waste collection service.

To create awareness of air pollution both inside our homes and outdoors, we've developed a series of free games and interactive learning tools for primary schools, educating children about air pollution and how we can all take steps to reduce it (URL to Pollution Patrol).

#Airpollution #airquality #primaryschools #learningresource

8 4. Editorial Content; Kent Messenger

Children Encouraged to Become Pollution Patrol Advocates

Air pollution is a problem that can affect everyone, with children being particularly at risk as their bodies are still developing. To encourage children and their parents to act as advocates for improving air quality, Tunbridge Wells Borough Council has received funding from DEFRA’s Air Quality Grants to produce the KentAir Air Pollution Digital Resource for primary schools in Kent and Medway.

Immersive resource to reduce air pollution around schools

The free digital learning resource, the Pollution Patrol, includes an immersive 360o story where children can adventure through the fictional town of Sooting; and interactive games that educate and inform children about what air and air pollution is. The Pollution Patrol provides practical and curriculum-linked solutions for in school lessons, and fun at home learning for children, and their parents to reduce their impact on air pollution, firstly in relation to travel to school and around the wider community.

Air pollution in Kent and Medway with the Pollution Patrol

Air pollution has many sources with some of the most significant being traffic, factories, domestic use of fuels for heating, and farming activities. Though the air quality in Kent and Medway is generally better than at any time since before the Industrial Revolution, it can still affect everyone’s health. Government statistics estimate that air pollution in the UK reduces life expectancy with 7-8 months on average and comes with an associated cost of up to £20 billion each year.

While legislation and policies aim to minimise the impact of air pollution on health and the environment, the wider community in Kent and Medway are encouraged to take their own steps in improving the local air quality. Have a look at the Pollution Patrol on (URL) to learn more about air pollution and to gain practical resources to reduce your own impacts.

9 5. Raise Awareness Days

Day	Date
International Day of Forests	21st March 2022
Earth Hour	26th March 2022
World Health Day	7th April 2022
World Heritage Day	18th April 2022
World Creativity and Innovation Day	21st April 2022
Earth Day	22nd April 2022
Every Kid Healthy Week	25-29th April 2022
Mother’s Day	8th May 2022

International Day of Families	16th May 2022
Walk to School Week	16-20th May 2022
World Environment Day	5th June 2022
Clean Air Day	16th June 2022
International Day of Friendship	30th June 2022
International Youth Day	12th August 2022
International Day of Clean Air for Blue Skies	7th September 2022
International Day for the Preservation of the Ozone Layer	16th September 2022
World Clean-up Day	17th September 2022
National Walk and Bike to School Day	5th October 2022

School term dates 2022/23:

	Kent		Medway	
Term	Start	End	Start	End
Term 5	19th April 2022	27th May 2022	19th April 2022	28nd May 2022
Holiday	30th May 2022	3rd June 2022	30th May 2022	3rd June 2022
Term 6	6th June 2022	21st July 2022	6th June 2022	22nd July 2022
Holiday	22nd July 2022	31st August 2022	23rd July 2022	4th September 2022
Term 1	1st September 2022	21st October 2022	5th September 2022	21st October 2022
Holiday	24th October 2022	28th October 2022	22nd October 2022	30th October 2022
Term 2	31st October 2022	16th December 2022	31st October 2022	20th December 2022
Holiday	19th December 2022	2nd January 2023	21st December 2022	2nd January 2023
Term 3	3rd January 2023	10th February 2023	3rd January 2023	10th February 2023
Holiday	13th February 2023	17th February 2023	11th February 2023	19th February 2023
Term 4	20th February 2023	31st March 2023	20th February 2023	31st March 2023
Holiday	3rd April 2023	14th April 2023	1st April 2023	16th April 2023
Term 5	17th April 2023	26th May 2023	17th April 2023	26th May 2023
Holiday	29th May 2023	2nd June 2023	27th May 2023	4th June 2023
Term 6	5th June 2023	21st July 2023	5th June 2023	21st July 2023

6. Hints and Tips for Posting on Social Media

When posting on Twitter, we recommend the use of relevant hashtags (some of which have already been incorporated into the messaging). Posting on Facebook and LinkedIn requires fewer hashtags and so we recommend adapting their usage according to the platform. A list of relevant hashtags has been included on page 17 of this document.

When posting on Twitter, it should be noted that only 280 characters are available to use (a URL takes up 23 of these characters).

On some platforms the use of emojis work better than on others. For Twitter, emojis are included in the character count, so we don’t recommend using emojis here, whereas the use of emojis on Facebook can be more engaging. Emojis we would recommend to use when promoting the Pollution Patrol includes: cars, bikes, clouds, sun; however, remember that less is more. it can still affect everyone’s health. Government statistics estimate that air pollution in the UK reduces life expectancy with 7-8 months on average and comes with an associated cost of up to £20 billion each year.

7. Hashtags

#Edchat

#parentpower

#eduleaders

#education

#blendedlearning

#elearning

#primaryschools

#Blendchat

#science

#KentAir

#scichat

#edutwitter (only for Twitter)

#teachers

#parents

#educationalvideos

#health

#airquality

#airpollution

#cleanair

#environment

#kent

#medway

#PollutionPatrol

#curriculum

#deeperlearning

#learningresource

#KS1

#KS2

If you require further information or additional help please contact:



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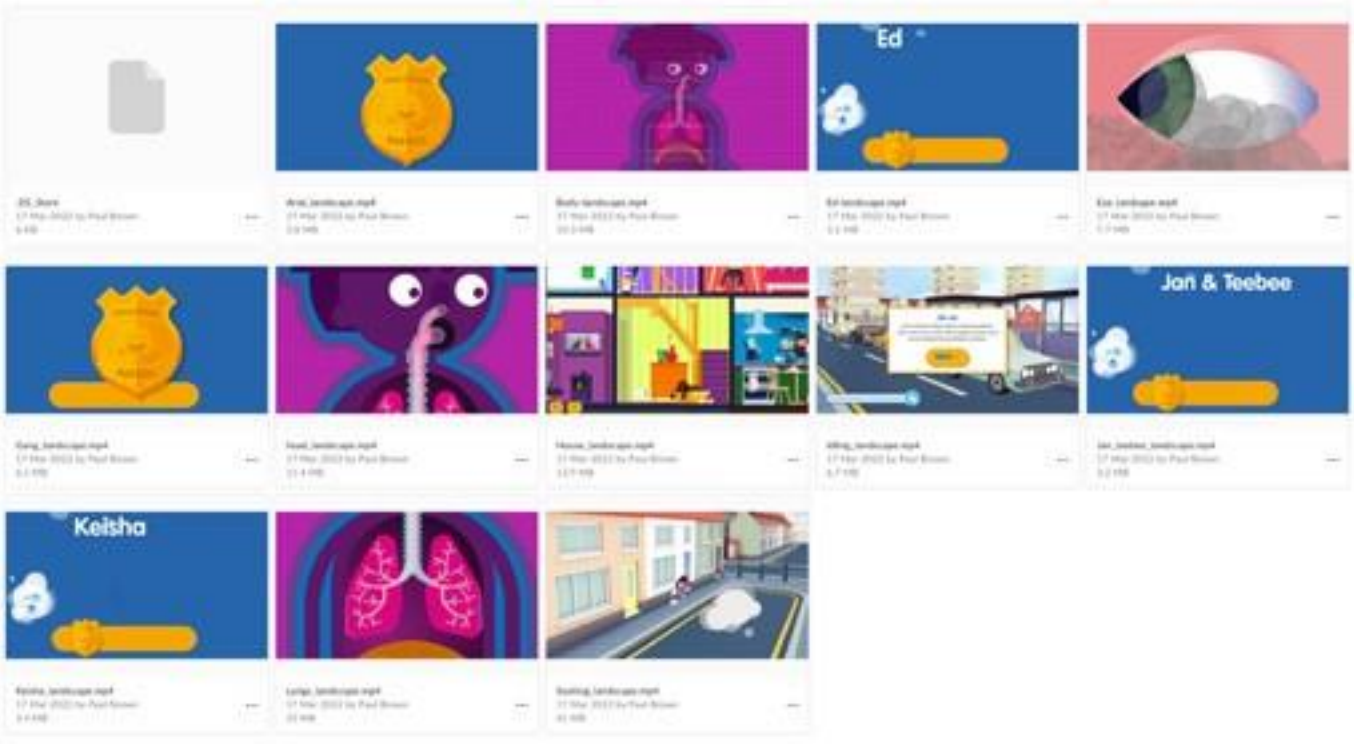


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8. Contacts 9. Video Assets

Short videos_Landscape format



Long videos_Landscape format



Short videos_Square format







Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

- ☐ Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- ☐ Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- ☐ Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- ☐ Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- ☐ Kent and Medway Air Quality Partnership (2011) *Air Quality and Planning Technical Guidance (updated 2016)*
- ☐ Tunbridge Wells Borough Council (2015) *Updating and Screening Assessment*.
- ☐ National Diffusion Tube Bias Adjustment Spreadsheet, version 03/19 published in March 2019.
- ☐ Tunbridge Wells Borough Council Air Quality Action Plan – November 2009
- ☐ Tunbridge Wells Borough Transport Strategy – July 2015
http://www.tunbridgewells.gov.uk/__data/assets/pdf_file/0019/132256/Transport-Strategy-2015-26-low-res.pdf
- ☐ <http://www.phoutcomes.info/public-health-outcomes-framework#page/0/gid/1000043/pat/6/par/E12000008/ati/101/are/E07000114>
- ☐ https://laqm.defra.gov.uk/documents/LAQM%20NO2%20Performance%20data_Up%20to%20March%202021_v2.pdf