



Mid Devon District Council Air Quality Action Plan

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

November 2021

Mid Devon District Council AQAP

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Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the actions we will take to improve air quality in Mid Devon between 2021 – 2025.

This AQAP replaces the previous Plan which ran from 2017 – 2021. Projects delivered through the past AQAP include:

- Implementation of taxi licensing conditions
- Air quality assessment of Crediton traffic management schemes
- Development of a Low Emission Strategy for Cullompton
- Completion of a Cullompton / Wellington rail link feasibility study
- Review of the current monitoring in the region
- Review of MDDC planning policies
- Exploration of alternative parking and traffic flow measures

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 and older people, and those with heart and lung conditions. The impact of poor air quality on less affluent areas is also a concern as studies have shown these communities can be disproportionately impacted by pollution emissions.^{1,2}

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion.³ Mid Devon District Council is committed to reducing the exposure of people in Mid Devon to poor air quality in order to improve health.

We have developed actions that can be considered under nine broad topics:

- Alternatives to private vehicle use
- Freight and delivery management
- Policy guidance and development control
- Promoting low emission transport

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

Our priorities are to protect our citizens from the harmful impacts of poor air quality by reducing concentrations of NO₂ to within legal limits and beyond, in all areas of the district where the population is at risk to exposure. Alongside this objective, MDDC are also committing to reducing levels of all pollutants in ambient air, with a focus on PM_{2.5}.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Mid Devon District Council's direct influence.

Responsibilities and Commitment

This AQAP was prepared by the Environmental Protection Department of Mid Devon District Council with the support and agreement of the following officers and departments:

- Simon Newcombe (Corporate Manager for Public Health and Regulatory Services)
- Cllr Dennis Knowles (Cabinet Member for Community Wellbeing, Tiverton)
- Joy Norris (Town Clerk, Cullompton Town Council)
- Poie Li (Principal Forward Planning Officer, MDDC)
- Rachel Avery (Town Clerk, Crediton Town Council)
- Stuart Jarvis (Principal Transport Planning Officer, Devon County Council)
- Tanya Wenham (Operations Manager, MDDC)
- Tom Keating (Lead Licensing Officer, MDDC)

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- Cllr John Downes (Crediton Town Council, Environment Policy Development Group, Waste Management Efficiency Committee, Planning Committee, MDDC)
- Jason Ball (Climate and Sustainability Specialist, MDDC)

This AQAP has been approved by Cabinet.

This AQAP will be subject to an annual review, appraisal of progress and reporting. Progress each year will be reported in the Annual Status Reports (ASRs) produced by Mid Devon District Council, as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to Tanya Wenham at:

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Introduction

This report outlines the actions that Mid Devon District Council (MDDC) will deliver between 2021 – 2025 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the Mid Devon area.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Mid Devon's air quality ASR.

Summary of Current Air Quality in Mid Devon

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 and older people, and those with heart and lung conditions. The impact of poor air quality on less affluent areas is also a concern as studies have shown these communities can be disproportionately impacted by pollution emissions^{4,5}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion⁶. Mid Devon District Council (MDDC) is committed to reducing the exposure of people in Mid Devon to poor air quality in order to improve health.

Mid Devon has undertaken regular reviews of ambient air quality, fulfilling its obligations set by Part IV of the Environment Act (1995). The act sets out the Local Air Quality Management (LAQM) process; which requires authorities to regularly review and assess ambient air quality and work towards a target limit value for concentrations of six pollutants in areas where the population is regularly exposed⁷. Following the enactment of the Environment Act, MDDC began a monitoring campaign to identify areas within the city that are in exceedance of the NAQS target limit values.

Table 1 provides details of the current National Air Quality Objectives (NAQO) for Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀ & PM_{2.5}).

Table 1 – National Air Quality Objectives (NAQO) for NO₂, PM₁₀ and PM_{2.5}

Pollutant	Concentration	Objective
Nitrogen Dioxide (NO₂)	200 µg.m ⁻³ not to be exceeded more than 18 times a year	1 hour mean
	40 µg.m ⁻³	Annual mean
Particulate matter, ≤ 10 µm (PM₁₀)	50 µg.m ⁻³ not to be exceeded more than 35 times a year	24 hour mean
	40 µg.m ⁻³	Annual mean
Particulate matter, ≤ 2.5 µm	25 µg.m ⁻³	Annual mean

⁴ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

⁵ Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

⁶ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

⁷ <https://uk-air.defra.gov.uk/air-pollution/uk-eu-limits>

Pollutant	Concentration	Objective
(PM _{2.5})	Target of 15% reduction in concentrations in urban background areas	

The main source of air pollution in Mid Devon is road traffic emissions from major roads, notably the M5, A373, A361, A377, A396 and A3126. Traffic emissions are a major source of nitrogen dioxide (NO₂) and particulate matter of different size fractions (PM₁₀ and PM_{2.5}). Other pollution sources, such as commercial, industrial and domestic, also contribute to pollutant concentrations.

In accordance with the LAQM process, MDDC declared two Air Quality Management Areas (AQMA) as a result of areas where the population is exposed to concentrations of pollutants in exceedance of NAQOs. The two AQMA are described in the declaration as the following⁸:

- **Cullompton AQMA** – An area encompassing the entire built-up area of the town of Cullompton was declared in December 2006. This AQMA is the result of exceedances of the annual mean NO₂ concentration NAQO.
- **Crediton AQMA** – An AQMA encompassing the majority of the built-up area of Crediton was declared in November 2004. This AQMA is the result of exceedances of the annual mean NO₂ concentration NAQO, as well as exceedances of the 24 hour mean PM₁₀ NAQO. However, Crediton AQMA has had no exceedances of the 24 hour mean PM₁₀ NAQO in the five years prior to 2018, leading to the Council planning on revoking the AQMA for PM₁₀ and have decommissioned the automatic monitoring site.

The most recent AQAP (2017) set out a number of actions which aimed to tackle air quality issues across Mid Devon, including those within the Council’s control, and those beyond the direct influence of MDDC. Actions in the most recent Plan include:

- Alternatives to private vehicle use
- Freight and delivery management
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives

⁸Mapped location and further details can be found from: [Local Authority Details - Defra, UK](#)

- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

This AQAP builds on Ricardo's previous work in reviewing the current MDDC Air Quality Action Plan.⁹ It details Mid Devon's new plan to reduce NO₂ concentrations in the two AQMA's and across the city, and also details further measures to reduce the level of PM_{2.5}.

Impacts of COVID-19 on Air Quality within Mid Devon

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrogen oxides (NO_x), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG) has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO₂ annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which represents an absolute reduction of between 10 to 20µg/m³ if expressed relative to annual mean averages. During this period, changes in PM_{2.5} concentrations were less marked than those of NO₂. PM_{2.5} concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that PM_{2.5} concentrations during the initial lockdown period are of the order 2 to 5µg/m³ lower relative to those that would be expected under business-as-usual conditions.

⁹ Review of Mid Devon District Council Air Quality Action Plan, Ricardo Energy & Environment, June 2020

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In Mid-Devon, monitored concentrations of NO₂ in 2020 decreased across the district compared to 2019. There were no exceedances of the AQS Objective in 2020 across all locations. There were no sites that reported within 10% of the NO₂ AQS objective in 2020. Data from the new indicative monitoring network was analysed for the first time in 2020. There were no exceedances annual mean NO₂, 1-hour mean NO₂, annual mean PM₁₀ or 24-hour mean PM₁₀ objectives in 2020

The impacts of COVID-19 on Air Quality within Mid Devon District Council include:

- Reductions of NO₂ concentrations of between 17 % and 26 % were experienced at roadside diffusion tube monitoring sites within the Crediton AQMA in 2020 compared to 2019. This equated to an overall 23% reduction in annual mean concentration relative to 2019.
- Reductions of NO₂ concentrations of between 24 % and 36 % were experienced at roadside diffusion tube monitoring sites within the Cullompton AQMA in 2020 compared to 2019. This equated to an overall 29 % reduction in annual mean concentration relative to 2019.
- The reduction in NO₂ experienced within 2020 has allowed the Council to provide an evidence base in relation to the annual mean objective being achievable.

It is also acknowledged that 2021 monitoring results may also be artificially low due to the national lockdown that was in place from January to March 2021.

Mid Devon District Council's Air Quality Priorities

Public Health Context

There is increasing scientific evidence demonstrating the impact of poor ambient air quality on human health. In 2016, the Royal College of Physicians reported that exposure to poor air quality contributed to the equivalent of 40,000 deaths per year.¹⁰ In 2018, the Committee on the Medical Effects of Air Pollutants (COMEAP) provided an updated report on the association between long-term exposure to increased levels of NO₂ and mortality, which estimated that between 28,000 and 36,000 premature

¹⁰ <https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>

deaths in the UK could be linked to air pollution every year¹¹. The impact on the economy is estimated to be approximately £20 billion every year, through healthcare related costs and the loss of workplace productivity.

There are several air pollutants that may contribute to poorer health. In Mid Devon the primary pollutant of concern is NO₂. Although there have been no exceedances reported in the 2020 Annual Status Report,¹² it does however highlight two diffusion tubes within 10% of the objective in Crediton (DT20) and Cullompton (DT12) AQMAs. At present, ambient concentrations of particulate matter in Mid Devon comply with air quality standards, hence the plans for the Crediton PM₁₀ AQMA to be revoked. However, this Plan will still consider measures to reduce exposure to PM.

The UK Government has responded to the latest research on the effects of PM_{2.5}, which indicates there is no real safe threshold for the pollutant, by outlining aims to reduce concentrations below the World Health Organisation's (WHO) recommended limit values by 2030. At present, Mid Devon is under no statutory obligation to monitor PM_{2.5} concentrations but is required to consider options for addressing emissions of PM_{2.5} at a local level. Many of the measures implemented within this action plan, designed to target reductions in NO₂, will also have co-benefits for reducing concentrations of particulate matter.

Planning and Policy Context

Regional planning and policy context

Devon and Torbay Local Transport Plan 3

The Devon and Torbay Local Transport Plan 3 (LTP3)¹³ is a 15-year plan, covering the period 2011 – 2026. The plan aims to deliver a transport system that can meet economic, environmental and social challenges. The five key objectives of the plan, which aim to develop a low carbon transport system that offers choice and encourages sustainable travel behaviour, are:

- Deliver and support new development and economic growth.
- Make best use of the transport network and protect the existing transport asset by prioritising maintenance.

¹¹ <https://www.gov.uk/government/publications/nitrogen-dioxide-effects-on-mortality>

¹² Mid Devon District Council 2020 Annual Status Report: https://www.middevon.gov.uk/media/351850/mid-devon_asr_2020_final_i1.pdf

¹³ Devon and Torbay Local Transport Plan 5, 2011 – 2026. Available from: <https://www.devon.gov.uk/roadsandtransport/traffic-information/transport-planning/devon-and-torbay-local-transport-plan-3-2011-2026/>

- Work with communities to provide safe, sustainable and low carbon transport choices.
- Strengthen and improve the public transport network.
- Make Devon the 'place to be naturally active'.

The Strategic Connections Strategy aims to:

1. Manage maintenance of the transport network.
2. Proactively address congestion and increased demand.
3. Support low carbon measures.
4. Promote sustainable communities.

Devon Climate Emergency

On 26th June 2019 our elected Members voted unanimously to support the ambitious cut in carbon emissions by signing the Devon Climate Declaration. The declaration acknowledges our need to understand the near-term and future risks for Mid Devon and beyond, and sets out the joint ambition with our partners to plan for how our infrastructure, public services and communities will have to adapt to a 1.5°C rise in global average temperature.

It was agreed that the Policy Development Group (PDG) for Environment would act as the initial owner of policy activity regarding Climate Change Emergency within the Council.¹⁴

Local planning and policy context

Current MDDC AQAP

The current MDDC AQAP¹⁵ outlines the actions that the Council will take to improve air quality in Mid Devon 2017 – 2021. This plan aims to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the Mid Devon District area. Some AQAP priorities to be considered in the planning of future developments are:

- To work with Devon County Council and the key bus service providers to maximise patronage and link the bus routes more effectively.

¹⁴ Devon Climate Emergency. Available from: <https://www.middevon.gov.uk/residents/devon-climate-emergency/>

¹⁵ Mid Devon District Council Air Quality Action Plan (2017). Available from: <https://www.middevon.gov.uk/media/345645/aqap-mid-devon-district-council-2017.pdf>

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- To improve the Electric Vehicle Charging Network through the installation of units at Council Parks or other appropriate locations and within design specifications for future housing developments (home charging).
- To support alternative forms of transport such as local car sharing schemes, e-bikes, cycles and local bus services that minimise personal car use.
- To adopt Local Plan Policies (Low emission strategies) and monitor their implementation in all future development applications.
- To expand and improve the local network of foot and cycle paths to facilitate a move towards walking or cycling as an alternative to car use for short to medium length journeys.
- To pro-actively engage all stakeholders with responsibility and or/interest in the development of roads, transport and infrastructure to ensure air quality is central to planning and delivery.
- To acknowledge that the car will remain the only alternative for some rural locations and to take this into consideration when making policy or undertaking measures that may directly or indirectly affect rural communities.
- To continue to monitor Mid Devon's two AQMAs and carry out mitigation strategies that will result in their removal from the register.

Mid Devon Local Plan 2013 – 2033

The Mid Devon Local Plan 2013 – 2033¹⁶ which was adopted in July 2020 supersedes the previous Local Plan which was adopted in three parts: The Core Strategy 2026 (Local Plan Part 1) adopted in 2007, the Allocations and Infrastructure Development Plan Document (AIDPD) (Local Plan Part 2) adopted in 2010 and the Local Plan Part 3: Development Management Policies, adopted in 2013.

As part of the spatial strategy, developments will be targeted to *“Protect and enhance the key environmental assets including heritage, biodiversity and air quality”* within Cullompton and other market towns.

A number of key strategies have been updated since the previous Local Plan, the following list provides information on the original policy and the more recently

¹⁶ MDDC Adopted Local Plan. Available from: <https://www.middevon.gov.uk/residents/planning-policy/adopted-local-plan/>

adopted policy. Where a policy has been replaced this document will explore the details of that specific policy.

- **AL/TIV/5** Eastern Urban Extension Carbon Reduction & Air Quality, deleted as covered by Development Management policies on renewable energy, air quality and transport and pollution (2013).
- **AL/CU/5** North West Cullompton Carbon Reduction & Air Quality, replaced by CU5 North West Cullompton Carbon Reduction and Air Quality.
- **AL/CU/15** Cullompton Air Quality, replaced in part by S11 Cullompton; also, each site allocation within Cullompton is required in their policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.
- **AL/CRE/8** Crediton Air Quality, replaced in part by S12 Crediton CRE11 Crediton Infrastructure.
- **DM6** (LP part 3) Transport and Air Quality, replaced by DM3 Transport and air quality.

The new Local Plan includes key policies which are related to air quality. An exhaustive list of the key policies can be found in Appendix B: MDDC Local Plan Key Policies. A summary of the key policies addressed in Appendix C can be found below. The policies identified within the Local Plan explore the relationship between the Local Plan and air quality impacts and mitigation. The policies can be split up into strategic policies, specific site allocation policies and sustainable development principles.

Strategic policies

There are five strategic policies within the MDDC Local Plan which relate to air quality. They are the S1 Sustainable Development Priorities, S2 Amount and Distribution of Development, S8 Infrastructure, S11 Cullompton and S12 Crediton. The key message from this set of policies is to prevent and improve air quality issues within the area, specifically at Crediton and Cullompton. This is planned to be achieved by including new road linkages to relieve traffic congestion in town centres, improve infrastructure for new developments, to offer co-benefits for air quality and

other planning objectives, and to implement monitoring to assess if pollutants have been reduced to a level where AQMAs can be withdrawn.

Site allocation policies

There are three areas within Mid Devon which have been identified to include site allocation policies referencing air quality, they are Cullompton, Crediton and Tiverton. All three areas highlight policies to implement proposed developments accounting for the effects they will have on traffic congestion and subsequently air quality impacts. The developments include policies relating to transport provisions, such as a travel plans and non-traditional transport measures. Developments will also include carbon reduction and air quality impact assessments to help minimise the impacts of the development on the environment. As Cullompton and Crediton both have AQMAs there is a policy for both areas relating to infrastructure to help deliver air quality improvements within and adjacent to the AQMAs.

Sustainable development principles

There are two sustainable development principles which relate to air quality in the Local Plan; DM3 Transport and Air Quality and DM4 Pollution. DM3 encompasses developments which give rise to vehicular movement. If this is the case, the following documents are required to be submitted: Integrated Transport Assessment, Travel Plan, Traffic Pollution Assessment, and a Low Emissions Assessment. DM4 stipulates that any proposals that may negatively impact the environment must be accompanied by a Pollution Impact Assessment and implement mitigation schemes where necessary.

Mid Devon Supplementary Planning Document on Air Quality and Development

Mid Devon Supplementary Planning Document (SPD)¹⁷ was developed using the following key local policies:

- Policy **AQ1**: Outlines the criteria for when an AQ Assessment will be require
- Policy **AQ2**: States that the effect of development upon air quality is a material consideration – impacts on AQ will help determine if development is approved
- Policy **AQ3**: Specific to Crediton (AQMA)

¹⁷ Supplementary Planning Document on Air Quality and Development (2008), Mid Devon District Council. Available from: https://laqm.defra.gov.uk/documents/Mid_Devon_SPD.pdf

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- Policy **AQ4**: Specific to Cullompton (AQMA)
- Policy **AQ5**: Covers any new AQMAs that may be declared in Mid Devon – new development in these areas must conform to the same rules as in Policy AQ1 and AQ2

The SPD sets out the policy framework for air quality management, highlights the importance of including air quality as a material planning consideration, sets out when an air quality assessment will be required and outlines the process for completing these assessments, outlines the Council's approach to using planning conditions and S106 agreements for air quality and sets out location specific measures.

The criteria for when an AQ assessment would be required in support of a proposed development takes account of the following characteristics:

- The development type (i.e. retail, office, industry, residential);
- The site area (ha);
- The gross floor area (m²) or number of units;
- Whether the facility would require an environmental permit;
- The requirement for an increase in the number of parking places;
- Whether the proposal would significantly alter the composition of traffic, increase congestion or lower vehicle speeds;
- Whether the proposed development is in an area of exceedance / AQMA, or if members of the public are likely to be exposed for long periods; and
- If a development is likely to impact upon the measures set out in the AQAP.

The SPD also provides a detailed checklist of what elements would be expected in an AQIA and describes MDDC's expectations regarding consultation with the Council throughout the application process. Regarding the assessment of significance of air quality impacts, the SPD refers to guidance provided by the NSCA (Development Control: Planning for Air Quality 2006) and presents a decision tree used by the Council. This decision tree identifies four potential outcomes when assessing significance: 'AQ an overriding consideration'; 'AQ a high priority consideration'; 'AQ a medium priority consideration'; and 'AQ a low priority consideration'. These

outcomes will influence the likelihood of a proposal being refused and indicate the mitigation measures to be applied.

Policy AQ3 requires “New development in or adjoining Crediton and other settlements identified in policy COR 17 of the LDF Core Strategy that would lead to an increase in traffic that will have a worsening effect on air quality will be required to provide for mitigation through contribution to implement the Air Quality Action Plan”. The SPD goes on to present the recommended contributions to the AQAP, depending on the nature of the development, which should be adjusted according to inflation.

The SPD demonstrates a good example of the types of guidance that should be made available to developers to ensure air quality impacts are managed appropriately. The SPD also adopts a strategic approach to encourage the adoption of mitigation measures, on the basis of the scale and type of development. However, many of the reference documents have been superseded, and several authorities have released examples of SPD since its publication in 2009. Potential improvements to MDDC’s air quality developer guidance were identified in the review of MDDC’s Air Quality Planning Policies conducted by Ricardo Energy & Environment in 2019.¹⁸

Crediton Traffic Management Schemes

The primary source of air pollution in Crediton is vehicles using the A377, for this reason an AQMA was designated. There were concerns that new development in the region would lead to further air quality issues in the High Street area. In response to this, a study was commissioned by Crediton Town Council to define traffic management improvements for key roads in this area along with wider public realm improvements. Air quality modelling was conducted for annual and hourly NO₂ means for a 2019 baseline and a future scenario to assess the impacts of the proposed improvements. There were two key outcomes from this exercise:

1. The annual mean model results showed a significant decrease in NO₂ concentrations along the High Street.
2. All hourly mean NO₂ concentrations were well below the one hour mean NO₂ AQO of 200 µg.m⁻³, not to be exceeded more than 18 times a year.

¹⁸ Review of Mid Devon District Council’s Air Quality Planning Policies, Ricardo Energy & Environment, June 2020

Cullompton Low Emission Strategy

A significant new development has been proposed for Cullompton, including an extension to the north and west of the town and a completely new 'Garden City' to the east of the M5. This new development has the potential to increase the risk of further air quality exceedance issues in and around the town, which is already designated as an AQMA for NO₂. MDDC wished to explore the potential impact of these new developments on air quality in Cullompton and assess potential mitigation measures.

The LES presented a package of measures designed to achieve a long-term, sustainable transition to a low emission future for the District, reflecting the priority emission sources and key sensitivities, resulting in benefits for air quality and climate change. These strategies were designed to focus on transport related emissions, although also incorporate broader policy areas.

In summary, the LES found:

- The largest reductions in annual NO_x emissions across all the measures resulted from the upgrade of the Council's vehicle fleet across the Low, Medium and High scenarios.
- A freight recognition scheme and an electric vehicle strategy resulted in the smallest NO_x reductions.
- Economic analysis eluded to all five measures demonstrating net present values (NPVs) when emissions assessments was included.
- The most positive NPVs were seen for the Council fleet improvements and low emission taxi scheme.
- The most promising scenario for the LES was the Medium scenario for the measure "Improvements to the Council fleet and Staff Travel Strategy". The upgrades to the Council fleet under the Medium scenario would be relatively ambitious to complete in a short timescale, but doable as the vehicles identified are all due for replacement by the year 2022. In addition, the emissions savings for this measure were the greatest compared to the other measures.

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- The ECO Stars® scheme was also considered to be a promising measure despite the emissions savings being relatively small compared to the other measures. This measure is projected to result in a decrease in NO₂ concentrations at diffusion tube locations in Cullompton.
- The low emission taxi programme would provide a chance for the Council to regulate taxis, but also to encourage transition to lower emission alternatives with incentives. This measure was projected to result in the second greatest reduction in emissions of NO_x, after the upgrade of the Council fleet. Details are provided in Appendix F Low Emission Taxi Programme.
- The electric vehicle strategy showed relatively low reductions in emissions of all pollutants, despite the High scenario being very ambitious. Despite a seemingly low reduction in emissions of NO_x, the associated impact on air quality was very positive; projected to achieve a reduction in NO₂ concentrations of approximately 5% at diffusion tubes in Cullompton under the Medium scenario.
- Finally, the clean air campaign was considered to be implementable under the Low scenario for Cullompton alone, although as a county-wide campaign could achieve greater levels of funding. Even under the Low scenario, the reduction in NO_x emissions is greater than for most other measures. This measure is likely to complement a number of the other proposed actions, for example the EV strategy and ECO Stars® scheme. Therefore, the clean air campaign should also be a priority for the Council.

Source Apportionment

Source apportionment allows us to gain a better understanding of the different sources of emissions in Mid Devon. Source apportionment calculations have been completed for 2019 using a combination of local modelling outputs and Defra background concentration maps at 15 monitoring locations across Crediton and Cullompton. For the nine monitoring locations (DT1, DT2, DT3, DT4, DT5, DT6, DT15, DT16 and DT17) where local modelling data was not available, a simplified source apportionment was performed based solely on the Defra background maps.

In place of automatic monitoring sites, MDDC installed four indicative monitoring stations (AQMesh) in September/October 2019. Two of these sites are located in Cullompton, and a further two in Crediton. Each monitoring site measures NO₂, PM₁₀ and PM_{2.5}. This low-cost monitors were used to indicate short term heightened concentrations, rather than to determine compliance with air quality monitoring objectives.

The following sections cover in detail, any locations where either modelled or measured pollutant concentrations either exceed or fall within +/- 10% of the national objective. Figure 1 shows the locations where the detailed (local modelling and background map) and simple (background map) source apportionment was completed; these include the locations of the four AQMesh monitors deployed in the Crediton and Cullompton AQMAs.

Figure 1 – Monitoring locations across MDDC, including the Crediton and Cullompton AQMAs



© OpenStreetMap contributors

Required Reduction in Emissions

The source apportionment identified three locations where the NO₂ national objective was either exceeded or at risk of being exceeded, these locations were DT12 (8 Fore Street, Cullompton), DT20 (Duke of York, High Street, Crediton) and the AQMesh Little Bakery site in Cullompton.

The measured NO₂ concentration reported in the 2020 ASR (37.8 µg.m⁻³) was within 10% of the NAQO at DT12. NO₂ concentrations at DT20 were also within 10% of the NO₂ objective for both the modelled (38.2 µg.m⁻³) and measured (37.9 µg.m⁻³) data.

The AQMesh Little Bakery site has been chosen due to a measured period mean NO₂ concentration of 65.7 µg.m⁻³. In the case of the Little Bakery site, it is important to note that the period mean is representative of October 2019 and March 2020 and not a full year. This is because the AQMesh monitoring sites were installed in October 2019 and the national lockdown caused by the COVID-19 pandemic resulted in an abnormal reduction in travel from March 2020. The period mean at the Little Bakery site should not be used to assess air quality compliance, rather provides an indicative assessment of short-term concentrations in an area not covered by reference method monitoring. Complete results for 2020 demonstrated that at the indicative monitoring site locations, there were no exceedances of the annual mean NO₂, 1-hour mean NO₂, annual mean PM₁₀ or 24-hour mean PM₁₀ objectives in 2020¹⁹. However, these results were not yet available at the time of the source apportionment study.

It is important to note that the uncertainties of air quality measurements using sensor technology is not to the same standard as conventional measurement systems. At this moment, there are no accepted standard methods or technical specifications to quantify the performance or measurement uncertainty of these sensor systems. Ricardo Energy & Environment was commissioned to install these monitors. Ricardo is heavily involved in the development of these standards in a European Working Group and uses the agreed best practices from the Group in the operation of its sensor systems in the UK. With these quality control procedures in place, we

¹⁹ Mid Devon 2021 Air Quality Annual Status report, Page ii, Available at: <https://www.middevon.gov.uk/media/353265/2021-air-quality-annual-status-report.pdf>, Accessed November 2022.

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estimate measurement uncertainty to be in the region of $\pm 30\%$ for NO_2 and PM. Limits of detection are in the region of 10 ppbv for NO_2 and $10 \mu\text{g.m}^{-3}$ for PM.

All three locations have been used to determine the required NO_x emissions reductions from road transport. The reductions in NO_x concentrations required to meet the NO_2 objective of $40 \mu\text{g.m}^{-3}$ have been calculated using monitoring data from the three locations, in accordance with Section 7.86 (and Box 7.6) of the Technical Guidance LAQM (TG16). The required NO_x reductions from road traffic to achieve compliance at these three locations are presented in Table 2. Table 3 presents the required NO_x reductions from road traffic to achieve 10% below compliance at the same locations.

The same methodology has been applied as a result of the PM_{10} national objective being exceeded at the AQMesh Church site in Crediton. Again, this is representative of a precautionary approach as monitoring data was restricted to between October 2019 and March 2020.

Table 2 – Nitrogen dioxide concentrations measured at locations with exceedances and the required reduction in NO_x emissions from road traffic to achieve compliance

Site name	NO_2 measured at sampling site, 2019, $\mu\text{g.m}^{-3}$	NO_x background, $\mu\text{g.m}^{-3}$	Roadside NO_x from NO_2 calculator, $\mu\text{g.m}^{-3}$	Road NO_x to achieve compliance, $\mu\text{g.m}^{-3}$	Road NO_x reduction required, $\mu\text{g.m}^{-3}$	Percentage road NO_x reduction, %
DT12	37.8	6.1	66.5	71.6	N/A	N/A
DT20	37.9	6.0	66.9	71.8	N/A	N/A
AQMesh Little Bakery	65.7	6.3	138.9	71.4	67.5	48.6

Table 3 – Nitrogen dioxide concentrations measured at locations with exceedances and the required reduction in NO_x emissions from road traffic to achieve 10% below compliance

Site name	NO_2 measured at sampling site, 2019, $\mu\text{g.m}^{-3}$	NO_x background, $\mu\text{g.m}^{-3}$	Roadside NO_x from NO_2 calculator, $\mu\text{g.m}^{-3}$	Road NO_x to achieve 10% below compliance, $\mu\text{g.m}^{-3}$	Road NO_x reduction required, $\mu\text{g.m}^{-3}$	Percentage road NO_x reduction, %
DT12	37.8	6.1	66.5	62.4	4.1	6.2
DT20	37.9	6.0	66.9	62.5	4.4	6.6
AQMesh Little Bakery	65.7	6.3	138.9	62.1	76.8	55.3

Table C. 1, Table C. 2 and Table C. 3 in Appendix C: Source Apportionment present the source apportionment in terms of percentage contribution of the major vehicle types to the total NO_x, PM₁₀ and PM_{2.5} emissions respectively. These tables can be visualised in Figure 2 to 4. Similarly, Table 6, Table 7 and Table 8 show the source apportionment in terms of the absolute modelled concentrations (in µg.m⁻³) originating from these sources. It is important to note that there are expected differences between the road NO_x absolute concentrations calculated through modelling and the road NO_x absolute values calculated using the monitored values and the NO_x to NO₂ calculator in Table 2 and Table 3. In order to determine the absolute NO_x concentration values based on the measured data Table 4 applies the percentage breakdown of major vehicle types given in Appendix C to the measured road NO_x.

Table 4 – NO_x concentrations for major vehicle types, calculated using measured road NO_x concentrations (derived from NO_x to NO₂ calculator)

Site name	Roadside NO _x from NO ₂ calculator	Petrol car	Diesel car	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles
DT12	66.5	3.5	29.5	4.4	18.6	7.5	2.9	0.1
DT20	66.9	2.4	32.4	8.3	17.3	4.9	1.5	0.1
AQMesh Little Bakery	138.9	7.4	61.6	9.1	38.9	15.6	6.3	0.2

At the road adjacent to AQMesh Little Bakery, diesel cars and LGVs represent the largest contribution of NO_x emissions representing 39.4% and 24.9% of all NO_x emissions respectively. Applying these percentages to the measured road NO_x concentrations, these two vehicle types would account for 100.5 µg.m⁻³ of NO_x emissions. In order for NO₂ concentrations to be reduced to be in line with the national objective, a 67.5 µg.m⁻³ reduction in road NO_x is needed. Implementing a blend of measures which focus on a reduction of emissions in these two vehicle types will lead to the national objectives being met. Similarly, to reduce NO₂ concentrations to be 10% below the national objective a reduction of 76.8 µg.m⁻³ road NO_x would be needed, again this can be achieved by reducing emissions in these two vehicle categories.

The road adjacent to DT12 contributes 66.5 µg.m⁻³ of road NO_x, 44.4% of this is assigned to diesel cars, whilst a further 30.0% comes from LGVs. Applying these percentages to the measured NO_x concentrations, these two vehicle types account

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for 29.5 $\mu\text{g.m}^{-3}$ and 18.6 $\mu\text{g.m}^{-3}$. Since the NO_2 concentrations at DT12 are below the NO_2 national objective, we have calculated the reduction needed to be below the national objective by more than 10% ($> 36 \mu\text{g.m}^{-3}$). In this case a reduction of 4.1 $\mu\text{g.m}^{-3}$ of road NO_x concentrations would be needed and both Diesel and LGV vehicle types provide ample opportunity to reduce the necessary NO_x concentrations.

Finally, the NO_2 concentration at DT20 is below the NO_2 national objective and therefore the necessary reduction in road NO_x to achieve a NO_2 concentration below 36 $\mu\text{g.m}^{-3}$ will be identified. Similar to DT12, the largest contribution to road NO_x was assigned as diesel cars and LGVs, contributing 48.4% and 25.8% respectively. Through application of these percentage contributions to the measured road NO_x , an absolute NO_x concentration value of 32.4 $\mu\text{g.m}^{-3}$ for diesel cars and 17.3 $\mu\text{g.m}^{-3}$ for LGVs was calculated. Therefore, a reduction in road NO_x of 4.4 $\mu\text{g.m}^{-3}$ is required to achieve the required reduction to bring NO_2 concentrations below the national objective. As diesel cars represent almost 50% of the road NO_x contributions, this vehicle type provides the best opportunity to reduce concentrations at this receptor.

Table 5 presents the measured PM_{10} concentrations apportioned into the major road transport types using the percentage breakdown of these road transport types in Table C. 2. To achieve concentrations that comply with the PM_{10} national objective, a reduction of 3.2 $\mu\text{g.m}^{-3}$ would be required. The largest PM_{10} road contributions come from diesel cars (32.2%), petrol cars (24.9%) and LGVs (21.5%), representing PM_{10} concentrations of 2.9 $\mu\text{g.m}^{-3}$ and 2.2 $\mu\text{g.m}^{-3}$ and 1.9 $\mu\text{g.m}^{-3}$ respectively. Measures for reducing PM_{10} concentrations should therefore be focused on these three categories. To achieve PM_{10} concentrations which fall below 10% of the national objective a reduction of 7.2 $\mu\text{g.m}^{-3}$ is required. In this case measures may also have to be extended to include buses.

Table 5 – Contribution of PM_{10} concentrations from major vehicle types, calculated using measured road PM_{10} concentrations

Site name	Measured roadside PM_{10} ($\mu\text{g.m}^{-3}$)	Contribution to measured roadside PM_{10} ($\mu\text{g.m}^{-3}$)						
		Petrol car	Diesel car	Buses	LGVs	rHGVs	aHGVs	Motorcycles
AQMesh Church	43.2	2.2	2.9	0.9	1.9	0.6	0.3	< 0.1

Figure 2 – Stacked bar chart showing NOx source apportionment for all road transport and background for monitoring locations within MDDC (%), for the baseline fleet, 2019

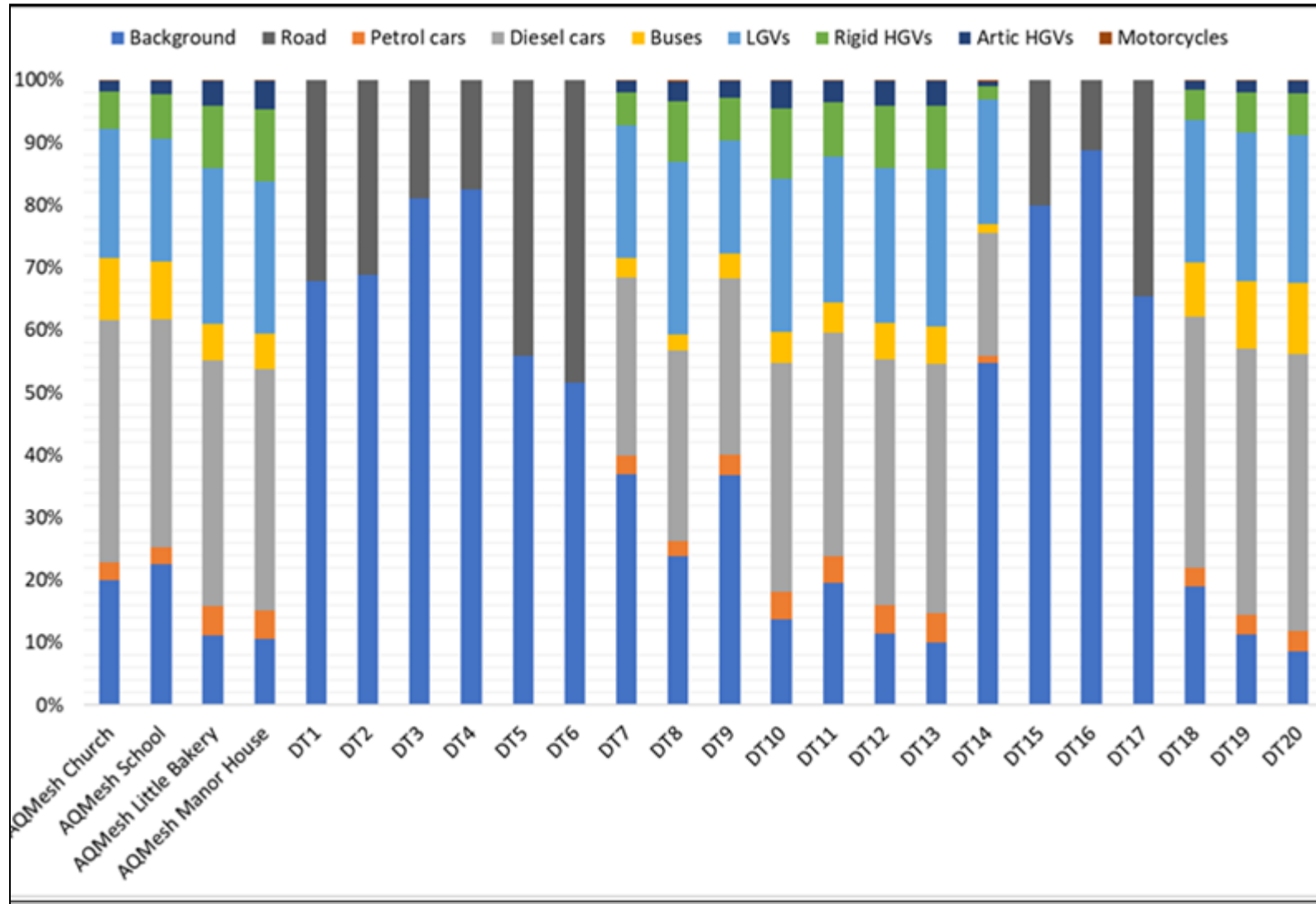


Table 6 – NOx source apportionment by background and vehicle type (road transport emissions from major roads) at monitoring locations within MDDC ($\mu\text{g.m}^{-3}$) for the baseline fleet, 2019 (NO₂ concentrations derived from the NOx to NO₂ calculator)

Site name	Modelled background NOx concentration ($\mu\text{g.m}^{-3}$)	Modelled road transport NOx concentration ($\mu\text{g.m}^{-3}$) broken down by vehicle type							Total modelled NOx concentration ($\mu\text{g.m}^{-3}$)	Total modelled NO ₂ concentration ($\mu\text{g.m}^{-3}$)	Total measured NO ₂ concentration ($\mu\text{g.m}^{-3}$)
		Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles			
AQMesh Church ²⁰	6.6	0.9	12.7	3.3	6.8	1.9	0.6	< 0.1	32.9	19.2	35.3
AQMesh School	6.8	0.8	11.0	2.8	6.0	2.1	0.7	< 0.1	30.3	17.9	24.7
AQMesh Little Bakery	6.0	2.5	21.2	3.1	13.4	5.4	2.1	0.1	53.8	31.21	65.7
AQMesh Manor House	6.1	2.6	22.3	3.3	14.1	6.7	2.6	0.1	57.8	29.37	34.3
DT1	5.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.4	N/A	9.9
DT2	6.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	N/A	8.7
DT3	7.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	N/A	17.2
DT4	11.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.5	N/A	27.0
DT5	8.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15.2	N/A	22.6
DT6	6.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.8	N/A	20.3
DT7	5.7	0.5	4.4	0.5	3.3	0.8	0.3	< 0.1	15.4	9.91	12.9
DT8	6.3	0.6	8.0	0.7	7.3	2.5	0.8	0.1	26.3	15.77	15.6
DT9	6.1	0.6	4.7	0.7	3.0	1.1	0.4	< 0.1	16.6	10.56	9.9
DT10	6.3	2.0	16.7	2.2	11.2	5.1	2.0	0.1	45.5	25.46	24.8
DT11	6.1	1.3	11.1	1.5	7.3	2.7	1.0	< 0.1	31.0	18.23	32.4
DT12	6.1	2.5	20.9	3.1	13.2	5.3	2.1	0.1	53.2	29.08	37.8
DT13	6.0	2.9	24.1	3.6	15.2	6.1	2.4	0.1	60.4	32.42	33.9
DT14	5.6	0.1	2.0	0.2	2.0	0.2	0.1	< 0.1	10.3	7.1	15.9
DT15	5.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.4	N/A	28.9
DT16	5.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.3	N/A	34.8
DT17	6.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.9	N/A	32.7
DT18	6.7	1.0	14.1	3.0	8.0	1.7	0.5	< 0.1	35.1	20.3	27.7
DT19	6.9	1.9	25.9	6.6	14.5	3.9	1.2	0.1	61.0	32.7	33.1
DT20	6.3	2.4	32.5	8.4	17.3	4.9	1.5	0.1	73.4	38.2	37.9

²⁰ Total measured NO₂ for both the AQMesh sites are based on the average from October 2019 to March 2020. This is because the AQMesh sites were only installed in October 2019 and the COVID-19 pandemic starting in March causing travel to be restricted to atypical levels.

Figure 3 – Stacked bar chart showing PM₁₀ source apportionment by background and vehicle type (road transport emissions from major roads) for monitoring locations within MDDC (%), for the baseline fleet, 2019

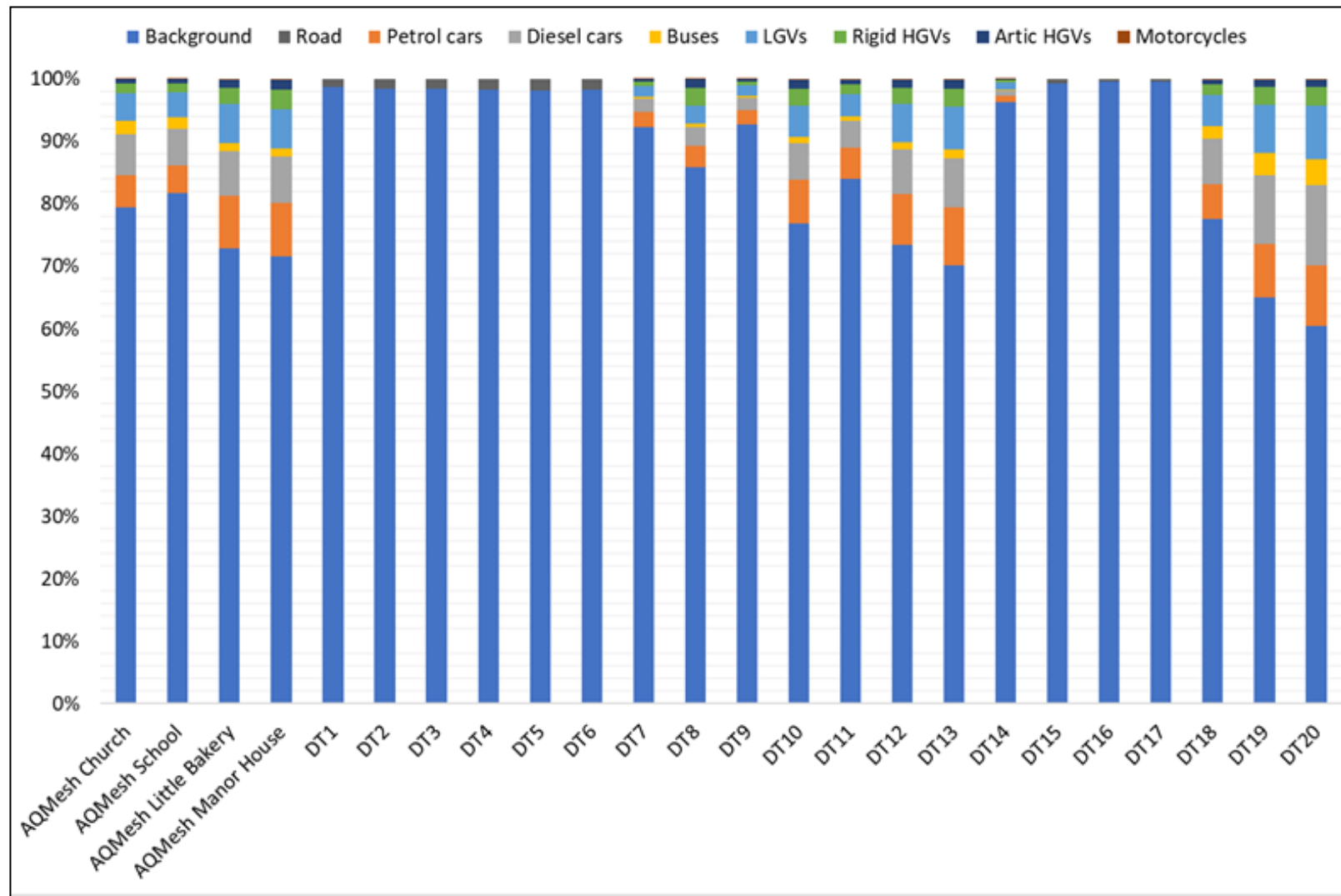


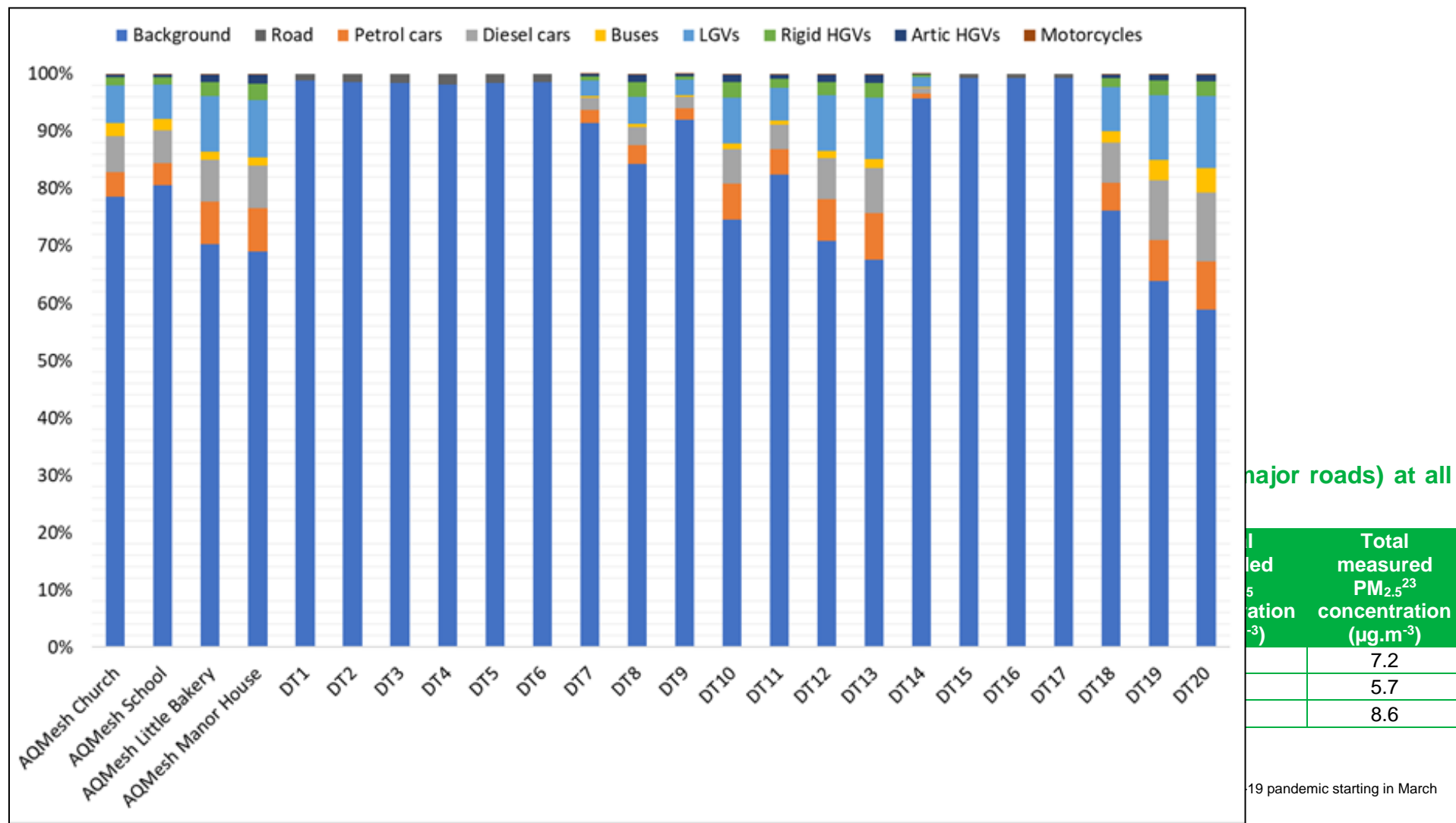
Table 7 – PM₁₀ source apportionment by background and vehicle type (road transport emissions from major roads) at monitoring locations within MDDC (µg.m⁻³) for the baseline fleet, 2019

Site name	Modelled background PM ₁₀ concentration (µg.m ⁻³)	Modelled road transport PM ₁₀ concentration (µg.m ⁻³) broken down by vehicle type							Total modelled PM ₁₀ concentration (µg.m ⁻³)	Total measured PM ₁₀ ²¹ concentration (µg.m ⁻³)
		Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles		
AQMesh Church ²²	9.9	0.6	0.8	0.3	0.6	0.2	0.1	< 0.1	12.5	43.2
AQMesh School	9.9	0.5	0.7	0.2	0.5	0.2	0.1	< 0.1	12.1	24.2
AQMesh Little Bakery	12.1	1.4	1.2	0.2	1.0	0.4	0.2	< 0.1	16.6	26.3
AQMesh Manor House	12.2	1.5	1.3	0.2	1.1	0.5	0.3	< 0.1	17.1	29.0
DT1	10.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.3	N/A
DT2	10.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.5	N/A
DT3	10.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.5	N/A
DT4	10.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.9	N/A
DT5	12.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.5	N/A
DT6	11.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.1	N/A
DT7	12.0	0.3	0.3	< 0.1	0.2	0.1	< 0.1	< 0.1	13.0	N/A
DT8	11.4	0.5	0.4	0.1	0.4	0.4	0.2	< 0.1	13.3	N/A
DT9	11.2	0.3	0.2	< 0.1	0.2	0.1	< 0.1	< 0.1	12.0	N/A
DT10	12.6	1.2	1.0	0.2	0.8	0.5	0.2	< 0.1	16.4	N/A
DT11	12.3	0.7	0.6	0.1	0.5	0.2	0.1	< 0.1	14.6	N/A
DT12	12.2	1.4	1.2	0.2	1.0	0.4	0.2	< 0.1	16.6	N/A
DT13	12.1	1.6	1.4	0.2	1.2	0.5	0.2	< 0.1	17.2	N/A
DT14	11.6	0.1	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	12.1	N/A
DT15	9.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.9	N/A
DT16	9.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.5	N/A
DT17	10.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.2	N/A
DT18	9.9	0.7	0.9	0.3	0.6	0.2	0.1	< 0.1	12.7	N/A
DT19	9.9	1.3	1.7	0.5	1.2	0.4	0.2	< 0.1	15.3	N/A
DT20	9.9	1.6	2.1	0.7	1.4	0.5	0.2	< 0.1	16.4	N/A

²¹ Only the AQMesh sites monitor PM

²² Total measured NO₂ for both the AQMesh sites are based on the average from October 2019 to March 2020. This is because the AQMesh sites were only installed in October 2019 and the Covid-19 pandemic starting in March meant travel was restricted to non-normal levels.

Figure 4 – Stacked bar chart showing PM_{2.5} source apportionment by background and vehicle type (road transport emissions from major roads) for each monitoring location within MDDC (%), for the baseline fleet, 2019



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Site name	Modelled background PM _{2.5} concentration (µg.m ⁻³)	Modelled road transport PM _{2.5} concentration (µg.m ⁻³) broken down by vehicle type							Total modelled PM _{2.5} concentration (µg.m ⁻³)	Total measured PM _{2.5} ²³ concentration (µg.m ⁻³)
		Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles		
AQMesh Manor House	7.1	0.8	0.8	0.1	1.0	0.3	0.2	< 0.1	10.3	10.4
DT1	6.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.3	N/A
DT2	6.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.5	N/A
DT3	6.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.8	N/A
DT4	7.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.1	N/A
DT7	7.0	0.2	0.2	< 0.1	0.2	0.1	< 0.1	< 0.1	7.7	N/A
DT8	6.7	0.3	0.3	< 0.1	0.4	0.2	0.1	< 0.1	8.0	N/A
DT9	6.6	0.1	0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	7.2	N/A
DT10	7.3	0.6	0.6	0.1	0.8	0.3	0.1	< 0.1	9.8	N/A
DT11	7.2	0.4	0.4	0.1	0.5	0.1	0.1	< 0.1	8.7	N/A
DT12	7.1	0.7	0.7	0.1	1.0	0.2	0.1	< 0.1	10.1	N/A
DT13	7.1	0.8	0.8	0.2	1.1	0.3	0.1	< 0.1	10.5	N/A
DT14	6.8	0.1	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	7.1	N/A
DT15	5.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.8	N/A
DT16	5.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.9	N/A
DT17	5.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.9	N/A
DT18	6.1	0.4	0.6	0.2	0.6	0.1	0.1	< 0.1	8.0	N/A
DT19	6.3	0.7	1.0	0.4	1.1	0.2	0.1	< 0.1	9.8	N/A
DT20	6.2	0.9	1.3	0.4	1.3	0.3	0.1	< 0.1	10.5	N/A

Modelling Caveats/Uncertainties

When attempting to interpret modelling results, it is important to understand and appreciate the model's limitations. Firstly, the AQ model relies heavily on traffic data, which itself has been produced by a model with inherent limitations and uncertainties. In terms of the traffic data used in the above modelling, this was based on data available at a fixed point in time and therefore it does not consider changes in circumstances which have taken place since that time. For example, whilst it considers confirmed or planned development (highlighted under Local Plans) for the time the modelling was completed, there will inevitably have been new development proposed or conversely, that will no longer go ahead, since that time.

In addition, there are a number of factors that can create differences between real-world conditions and the assumptions that have to be made when choosing modelling input data. These include variable meteorological conditions (especially wind speed/direction), assumed vehicle speeds, the predicted uptake of low emission vehicles in the future and the effects of surfaces and buildings on the way pollutants are dispersed, amongst other factors.

Consequently, the results of the above modelling should only be seen as a 'best guess' or 'guide' to the main sources of air pollution within Mid Devon whilst acknowledging that this is still considered the best available technique for designing air quality improvement measures.

Information on the model verifications were provided in the Crediton Traffic Management Schemes Air Quality Impact Assessment²⁵ and Cullompton Low Emission Strategy reports for Mid Devon District Council²⁶.

Key Priorities

MDDC's key priority is to protect its citizens from the harmful impacts of poor air quality and the Council is therefore committed to reducing concentrations of NO₂ to within legal limits and beyond, in all areas of the district where the population is at risk to exposure. Alongside this objective, MDDC are also committing to reducing levels of all pollutants in ambient air, with a particular focus on PM_{2.5}.

As discussed in the Source Apportionment section, the primary cause of air pollution in the city is vehicle emissions. A closer look at the vehicle mix tells us that diesel

²⁵ Crediton Traffic Management Schemes Air Quality Impact Assessment, 2020

²⁶ Cullompton Low Emission Strategy, June 2020

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cars and LGVs are responsible for the greatest proportion of emissions along most roads where exceedances of the air quality objective are occurring, or are likely to occur. MDDC have shown progress in developing measures to tackle these sources. The Crediton Traffic Management Schemes aims to define traffic management improvements for key roads within Crediton. Whilst the Cullompton Low Emission Strategy presents a study of the potential impacts of a new development and possible mitigation measures to reduce the air quality impact.

Despite compliance in all NO₂ diffusion tube monitoring locations, it is imperative that MDDC continue to address air pollution within the city to ensure that locations within 10% of compliance do not exceed in the following years. Continued progress throughout MDDC is recommended alongside the following key priorities for the AQAP:

- **Priority 1 – Tackling NO₂ hotspots**

The measures under Priority 1 have been designed to address specific areas of NO₂ exceedance across Mid Devon. The modelling conducted along with the measured monitoring data confirms the presence of NO₂ hotspots within MDDC. Source apportionment modelling shows the cause of this is road transport, specifically diesel cars and LGVs.

- **Priority 2 – Improving the overall air quality across Mid Devon**

MDDC recognise that the AQAP needs to both introduce measures that reduce pollution levels in specific areas to ensure national objectives are met and provide a broader strategy which aims to achieve continued improvement in air quality beyond the objectives. Priority 2 will introduce a broader range of measures designed to achieve emission reductions across the region, which both supplement the measures under Priority 1 and widen the coverage of the air quality benefits.

- **Priority 3 – Managing PM_{2.5} exposure**

Recent scientific research has shown that prolonged exposure to particulate matter smaller than 2.5 µm in diameter can lead to cardiopulmonary related diseases. The World Health Organisation (WHO) has recommended that national governments work towards achieving concentrations of 10 µg.m⁻³ for PM_{2.5} in ambient air. The UK government has stated in its recent Clean Air Strategy that it

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intends to “*examine what action will be needed to meet this limit*” and halve the number of UK residents currently exposed to levels above this threshold by 2025.

MDDC has made it a priority to be proactive in its role to protect its citizens from the effects of poor air quality and recognises the long-term cost-benefits of taking action now. MDDC are therefore looking at steps that can reduce levels of PM_{2.5} and will consider revising both the cities wood burning and urban planning policy to reduce the contribution of major PM_{2.5} pollutant sources.

Development and Implementation of Mid Devon District Council's AQAP

Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 9.

On 2nd June 2021, a Stakeholder Engagement Workshop was held to discuss the measures included in the draft AQAP, online via Microsoft Teams. Prior to the workshop, participants were asked to complete a multi-criteria analysis (MCA) exercise – the findings of which are presented in Appendix A.

Table 9 – Consultation Undertaken

Yes/No	Consultee
Yes	the Secretary of State
Yes	the Environment Agency
Yes	the highways authority
No	all neighbouring local authorities
No	other public authorities as appropriate, such as Public Health officials
Yes	bodies representing local business interests and other organisations as appropriate

Steering Group

An Action Plan Steering Group was established in early 2021 (chaired by Simon Newcombe, Corporate Manager for Public Health and Regulatory Services). Members of the Steering Group included:

- Cllr Dennis Knowles (Cabinet Member for Community Wellbeing, Tiverton)
- Joy Norris (Town Clerk, Cullompton Town Council)
- Poie Li (Principal Forward Planning Officer, MDDC)
- Rachel Avery (Town Clerk, Crediton Town Council)
- Stuart Jarvis (Principal Transport Planning Officer, Devon County Council)
- Tanya Wenham (Operations Manager, MDDC)

- Tom Keating (Lead Licensing Officer, MDDC)
- Cllr John Downes (Crediton Town Council, Environment Policy Development Group, Waste Management Efficiency Committee, Planning Committee, MDDC)
- Jason Ball (Climate and Sustainability Specialist, MDDC)

MDDC AQAP Steering Group workshop – Wednesday 2nd June 2021

The purpose of the Steering Group workshop held in June 2021 was to present an overview of air quality issues in the UK and in Mid Devon specifically, set out source apportionment and air quality modelling results and use this context to discuss the draft longlist of measures to reduce emissions. Meetings from the meeting are provided in Appendix E.

Future Steering Group activities

The next steps for the Steering Group following the adoption of this AQAP are as follows:

- On-going assessment and reporting of progress of measures, including status of implementation, KPIs and monitoring data. Progress on individual measures will be reported by the relevant teams responsible in the lead authority for each measure. The member of Steering Group responsible for coordinating this is Tanya Wenham.
- Maintain the AQAP as a “live” strategy, where necessary, updating measures list where new actions are decided, and updating source apportionment where necessary to ensure measure remain targeted and focused. The member of Steering Group responsible for this is Tanya Wenham.
- Meeting at least on an annual basis as a Steering Group to discuss progress and agree on any additional actions which may need to be taken. The member of Steering Group responsible for coordinating this is Tanya Wenham.

AQAP Measures

Table 10 shows the Mid Devon District Council's AQAP measures, which were agreed through consultation with the Steering Group. A preliminary longlist of measures was developed for discussion with the Steering Group, as presented in Appendix D. A prioritised list of actions was identified through a process of Multi-Criteria Analysis (MCA), which considered the impact on emissions, the potential for wider benefits, the burden on residents and local businesses, and the costs and risks associated with implementation.

The finalised list of actions is presented below, and contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver this action
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction
 - “Low” – measures with a low target pollution reduction in the AQMAs are considered “soft” actions which may not directly cause reductions of pollutants but may indirectly result have a positive impact on air quality. Effectiveness of the measures may be constrained by engagement and/or enforcement.
 - “Medium” – measures with a medium target pollution reduction in the AQMAs include “technical” measures which will directly cause reductions of pollution, but the effectiveness of the measures may be constrained by engagement and/or enforcement.
 - “High” – measures with high target pollution reduction in the AQMAs include “technical” actions over which the lead authority has control and are unlikely to be constrained by engagement and/or enforcement.
- the timescale for implementation
- how progress will be monitored

These measures focus on achieving ongoing wider-scale air quality improvements, given that AQMAs are demonstrating ongoing compliance with air quality objectives. Additionally, it is worth noting that because the district is in compliance, no detailed modelling has been conducted in order to quantify the reduction in pollutant emissions or concentrations for the individual measures. Rather, the expected benefit of each measure has been assessed as “Low”, “Medium” or “High” (as above).

However, the AQAP does include an action to complete an air quality actions feasibility study, to support the development of a business case for priority actions.

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Updates on the implementation and progress of these measures will be presented in Mid Devon's Annual Status Reports.

Table 10 – Air Quality Action Plan Measures

Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
1	Mid Devon Clean Air Campaign	Public Information, Promoting Travel Alternatives, Vehicle Fleet Efficiency, Traffic Management, Alternatives to private vehicle use	Via other mechanisms, Intensive active travel campaign & infrastructure, Promotion of cycling, Promotion of walking, School Travel Plans, Driver training and ECO driving aids, Fleet efficiency and recognition schemes, Anti-idling enforcement, Car & lift sharing schemes	MDDC	2021/2022	1-5 years	Uptake in community action and air quality awareness. Possibility of using surveys to measure awareness and knowledge base.	Medium	A number of themes were identified during stakeholder consultation for the AQAP that would fit well into an overarching clean air campaign for Mid Devon.	Will be an ongoing campaign.	Clean air campaign to cover themes including: <ul style="list-style-type: none"> Local air quality data Open burning – domestic, solid fuel & bonfires Electric vehicles and other low emission vehicles Active travel – cycling facilities, footpath network, cycle routes, green travel routes Fleet management / recognition schemes – for businesses and especially freight businesses Anti-idling – targeting areas including schools, health centres and hospitals Mode shift – car sharing, public transport, active travel School engagement – school streets, air quality projects and data
2	Develop a priority matrix of low emission vehicle options for MDDC's vehicle fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles, Public Vehicle Procurement - Prioritising	MDDC	2021/22	2021/22	Completion of matrix.	Low	An example matrix was prepared in order to complete modelling for the Cullompton LES.	2021/22, but will be updated as fleet is upgraded.	The example matrix used for air quality and emissions modelling as part of the Cullompton LES could be used as a basis for this measure.

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
			uptake of low emission vehicles								
3	Upgrade MDDC vehicle fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles, Public Vehicle Procurement - Prioritising uptake of low emission vehicles	MDDC	2021/22	1-5 years	Replacement of vehicles in MDDC fleet.	Medium	The oldest / most polluting vehicles were identified during modelling for the Cullompton LES.	2027, but ongoing as the fleet is upgraded.	
4	MDDC Environmental Workplace & Travel Strategy	Promoting Travel Alternatives	Encourage / Facilitate home-working, Workplace travel planning	MDDC	2021/22	2021/22	Change in staff journeys made by private vehicle – this could be assessed via surveys.	Medium	Work has begun on a revised workplace strategy.	2021/22, but ongoing.	Environmental Workplace & Travel Strategy to reflect the change in working patterns post-Covid, and link in to MDDC Climate Strategy ²⁷ / carbon neutral target. Could include, for example: <ul style="list-style-type: none"> • Smart offices • Hybrid working • E-bikes • EV charging • Travel vouchers / discounts • Staff car share scheme
5	Low Emission Taxi Programme	Promoting Low Emission Transport	Taxi emission incentives	MDDC	2021/22	1-5 years	Number / proportion of EV vehicles in taxi fleet.	Medium		2021/22, but ongoing.	Incentives for low emission taxis might include: <ul style="list-style-type: none"> • Tax incentives • Support to upgrade vehicles • Priority taxi ranks

²⁷ Mid Devon District Council's Climate strategy & handbook 2020-2024, MDDC, 2020

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
											<ul style="list-style-type: none"> Discounted / free EV charging
6	Upgrade / retrofit buses	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	MDDC to partner with bus companies	2021/22	1-5 years	Number / proportion of upgraded / retrofitted vehicles in bus fleet.	Medium		2025	
7	Develop a domestic solid fuel policy	Policy Guidance and Development Control	Other policy	MDDC	2021/22	2021/22	Publication of the policy. Enforcement of the policy.	Medium		2021/22	
8	Develop a bonfire policy	Policy Guidance and Development Control	Other policy	MDDC	2021/22	2021/22	Publication of the policy. Enforcement of the policy. Reduction in nuisance reports.	Medium		2021/22	
9	Electric Vehicle Strategy	Promoting Low Emission Transport, Traffic Management	Priority parking for LEV's, Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging, Emission based parking or permit charges, Strategic highway improvements, Re-prioritising road space away from cars, inc Access	MDDC & DCC	2021/22	1-5 years	Number of new EV charging points installed across the district.	High	Options for the procurement of electric car charging units have been identified in a report, including approx. 15 locations, and three types of chargers.	2025	It is important to continue to work with neighbouring authorities to facilitate additional electric car charging points across the District. A delegated authority may be set up to enable capital funding opportunities to be secured.

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
			management, Selective vehicle priority, bus priority, high vehicle occupancy lane								
10	Consider implementation of smoke control areas	Policy Guidance and Development Control	Other Policy	MDDC	2021/22	2022/23	Implementation of smoke control area(s)	High	Feasibility is under consideration.	2022/23	Needs careful consideration, as SCAs are managed at a national government level.
11	Real time sensor AQ monitoring at new locations in Crediton & Cullompton	Public information	Via other mechanisms	MDDC	2018/19	2019/20	Installation of real time AQ monitoring	Low	Four real-time air quality (AQMesh) sensors were installed by Ricardo at locations across the district.	Completed	The sensor outputs are: NO ₂ (hourly mean), PM ₁₀ (24 Hour mean), PM _{2.5} (24 Hour mean), NO (hourly mean) and NO _x as NO ₂ (hourly mean). Data is available to download from Air Quality England (AQE).
12	Updating the Supplementary Planning Document (SPD) on Air Quality and Development	Policy guidance and development control	Air Quality Planning and Policy Guidance	MDDC	2019/20	2021	Publication of an updated SPD	Low	The update to the SPD is underway and is expected to be completed by Summer 2020.	2021	The SPD on Air Quality and Development was extensively reviewed as part of the Ricardo report "Review of Mid Devon District Council's Air Quality Planning Policies" and a number of improvements were suggested.
13	Planning conditions on Tiverton Eastern Urban extension	Policy guidance and development control	Air Quality Planning and Policy Guidance	MDDC	2017/2018		Air Quality Noise Emissions	NA	Update requested from Area Planning officer.	Ongoing	Masterplan for a large urban development was accepted in June 2018. MDC now needs to ensure that all phased planning applications are considered with respect to the Mid Devon Core Strategy and SPDs.

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
14	Eastern Relief Road Cullompton and additional M5 junction	Traffic Management	Strategic highway improvements	MDDC / DCC / Highways	2017/2018		% reduction in traffic flows through Cullompton Reduction in congestion on minor roads	High	Local Plan submission. Land allocated, and preliminary design work undertaken. Major infrastructure funding required.	Pending funding and adoption of Local Plan	Major infrastructure funding required
15	Kings Mill Industrial site traffic management Cullompton Junction 28	Traffic Management	Anti-idling enforcement and illegal parking	MDDC / DCC / Highways	2017/2018		Improved traffic flows to/from industrial site	Low	Local Plan submission proposes a number of solutions	Ongoing	The new Local Plan proposes upgrades to the existing road network to support growth of industrial estate and reduce congestion. As the site will increase in size, thus increasing volumes trying to leave/enter the M5, a range of initiatives are proposed to deal with the problem.
16	Culm Valley Garden Village development and major infrastructure projects	Policy guidance and development control	Air Quality Planning and Policy Guidance	MDDC / DCC / Highways	2017-21		Public Health considerations incorporated in Master planning cycle	High	Culm Village funding awarded by Central Government Steering group formed. Site and land secured.	Ongoing	The 500 home 'garden village' aims to support housing demand in the region with high quality design. This includes planning policies which support improvements to local air quality levels including technical guidance on emissions assessment work and low emission strategies.
17	Secure cycle parking facilities in town Centres	Promoting Travel Alternatives	Promotion of cycling	MDDC, Network Rail, DCC	2018/2019		Initial facility installed in Crediton	Low	s106 allocated for Crediton	Pending release of s106 funds	Locations and s106 funding have been identified in Crediton, and Cullompton. Locations in Tiverton are

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
	and at key transport hubs								railway station and Town centre. Included in Cullompton Master planning.		under consideration to join the town centre with Tiverton parkway railway station.
18	Bus stop infrastructure	Transport Planning and Infrastructure	Vehicle	MDDC / DCC	2017/2018		Change to mode of transport Increase in patronage	Medium	S105a and S106 contribution allocated.	Pending full release of funds	Plans are already in place to use S105a contributions to improve bus stop infrastructure. S106 allocations are in place for Copplestone bus infrastructure improvements that affect Crediton AQMA.
19	Review of bus stop locations and routes	Transport Planning and Infrastructure	Public transport improvements- interchanges- stations and services	MDDC / DCC	2017/2018	2020/21	Improved traffic flow through centre of towns	Low	Town Council consultation. Pending agreement with DCC and Bus operators.	2021	Pending agreement with DCC and Bus operators District wide. Review of Cullompton and Crediton services will include frequency, location of bus stops, routes.
20	Improving footpath and cycling paths in major towns	Transport Planning and Infrastructure	Cycle and walking network	Town Councils / MDDC / DCC	2017/2018		Connected pathway network Improved accessibility Reduction in short car journeys	Low	Initial network improvements identified in Neighbourhood plans and s106 projects.	Ongoing	Some areas that have been identified are: improved footpath and cycleway links between Cullompton town centre and Kingsmill Industrial Estate, and Cromwells Meadow to Leisure centre in Crediton.
21	Road resurfacing	Transport Planning and Infrastructure	Other	DCC / Highways	2018/2019		Areas of existing or new road network resurfaced	Low	Review phase.	Ongoing	Consideration given to lower polluting road surfacing within AQMA areas as opportunities arise. There is potential for this to be managed on a contract by contract basis.

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Measure no.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMAs	Progress to Date	Estimated Completion Date	Comments
22	Community car sharing schemes	Alternatives to private vehicle use	Car and lift sharing schemes	MDDC	2017/2018		Number of car share schemes delivered in new developments Usage rate	Low	s106 contribution allocated and included in new housing travel plans.	Pending full release of funds and commencement of development	Lengthy Timescale
23	Taxi Licensing conditions	Promoting Low Emission Transport	Taxi Licensing conditions	MDDC	2017/2018	1-5 years	Policy review undertaken to develop ULEV taxi fleet and infrastructure	Low	Current policy updated 2017.	Ongoing	
24	Explore alternative parking and traffic flow measures	Traffic Management	Congestion management	MDDC / DCC	2017/2018	1-5 years	Improved traffic flows Decrease in main street parking Increase use of Mid Devon car parks	Medium	Measures identified by Town Councils and MDDC. Introduces resident car parking rates which is often unfavourable.	Ongoing	Introduces resident car parking rates which is often unfavourable
25	Cullompton/Wellington Rail link feasibility study	Traffic Management	Congestion management	MDDC and Somerset West and Taunton	2017/2018	1-5 years	Feasibility study completed	Medium	Joint project, £100K committed to study. Local Plan submission.	Ongoing	

Appendix A: Response to Consultation

On 2nd June 2021, a Stakeholder Engagement Workshop was held to discuss the measures included in the draft AQAP. Prior to the workshop, participants were asked to complete an MCA exercise. The findings of the MCA were discussed during the workshop, including the scores and comments. The MCA comments and key points from the workshop discussion are summarised in the tables below.

Table A. 1 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Develop a priority matrix of low emission vehicle options for MDDC’s vehicle fleet

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Good to know which are the worst performing vehicles. • Would have a good public facing message. • Simple solution with immediate but small benefits. • Removes some of the worst offending vehicles from the road. • It's important the Council are seen to be 'leading' the way and this kind of matrix is a step in the right direction. • Positive impact for noise (early mornings). • Lower energy use and costs for MDDC. • All costs are for the council, so no financial impact on residents or businesses. • Funding available in MDDC budget. • Relatively easy to roll out, low risk, effective where there are lots of vehicles. 	<ul style="list-style-type: none"> • MDDC’s vehicle fleet is not that large – approx. 100 vehicles, so limited scope. • MDDC's vehicle fleet contributes small amounts in comparison to wider vehicle use in District. • Expensive to convert or purchase new vehicles. • The worst polluting vehicles cost the most to replace. • Upfront costs potentially high with newest models likely to provide best reduction in emissions. 	<ul style="list-style-type: none"> • Uncertain if the cost of more expensive vehicles would pass to the households through council tax or other charges. • Relatively simple in terms of procurement but long term maintenance of fleet needs to be accounted for battery life etc.

Table A. 2 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Upgrade MDDC’s vehicle fleet

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> Removes some of the worst offending vehicles from the road. Good for the council to set the right example. Positive impact for noise (early mornings). Lower energy use and costs for MDDC. All costs are for the council, so no financial impact on residents or businesses. Very important in terms of community leadership. Less early morning noise. Excellent although localised benefits. Already in budget. Assume simple through procurement. 	<ul style="list-style-type: none"> MDDC’s vehicle fleet is not that large – approx. 100 vehicles, so limited scope. MDDC's vehicle fleet contributes small amounts in comparison to wider vehicle use in District. Expensive to convert or purchase new vehicles. The worst polluting vehicles cost the most to replace. Upfront costs potentially high with newest models likely to provide best reduction in emissions. 	<ul style="list-style-type: none"> Larger vehicles, especially when idle, cause higher emissions. Bigger impact on emissions with these types. Unknown how costs could transfer to households and/or businesses – would council tax increase? Unknowns on long term efficiency of the vehicles.

Table A. 3 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: MDDC staff travel strategy

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> If staff return to the office, this will be high impact. Co-benefits for staff health and wellbeing. Massive opportunity to change our climate (pollution) impact as an organisation, and our community influence. Massive opportunity for community influence. Scope of influence much wider than just fleet. No requirement to increase tax burden to implement. This should lower costs, or have a minimal 	<ul style="list-style-type: none"> Limited take up for those living within and around Tiverton. Needs careful management to succeed. Simple but take up will be limited. Greater barriers to be resolved e.g. times and frequency of public transport. Depends on how far the plan goes. Simple commitment to 'car share' easy to implement but not very effective. 	<ul style="list-style-type: none"> Would be important to understand how many staff will be returning as before Covid. A better approach would be to look at the need for travel at all, e.g. working from home more. Adjusting working and travel practices should not have an impact on households or businesses, but may impact on staff available to make visits. Management will be difficult to start with, but should normalise rapidly, enabled by

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Strengths	Weaknesses	Other comments
<p>change to costs – within remit of council already.</p> <ul style="list-style-type: none"> • Low risk. 		<p>e.g. shared technology and apps.</p> <ul style="list-style-type: none"> • Communication and consultation with staff integral. • Take it back a step further, consider how MDDC want to work post-Covid and have a wider workplace strategy. • Revised workplace strategy to include smart offices, hybrid working, join in the travel strategy alongside that. Link with other strategies – e.g. low-carbon and the target to become carbon neutral by 2030.

Table A. 4 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Low emission taxi programme

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Visible and sets a positive example. • Taxis typically travel further in a day than most other types of vehicle, including private vehicles. • Impact of vehicles – they will spend 99% of their time in mid Devon, there will be an impact on local emissions. • Impact is disproportionate compared to other vehicle types. 	<ul style="list-style-type: none"> • No taxi rank in Crediton. • Taxis make up small amount of vehicles in district. • Doesn't address the number of cars on the roads. • Potential for costs to be passed on to residents through taxi fares. • Vehicles can be expensive and the timeline for implementation is important. • Investment in charging points depending on numbers required could be high cost. 	<ul style="list-style-type: none"> • Unnecessary infrastructure for taxis only, should be for all use. • Limited scope, but important to address the journey types that taxis serve. • Benefit if taxis are shared, and private taxis usually aren't. • The infrastructure is vital, and we are a rural district with relatively small ranks etc. • Uncertain of risk due to need to identify suitable locations, number etc and encouraging taxis to be involved. • Taxi licensing is something MDDC can control more.

Table A. 5 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Upgrade / retrofit buses

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> Public perception. Effect on health. Noise reduction and lower carbon emissions especially on High Street. Encourage travel on public transport, reduces number of private vehicles. Costs should be low as companies privately owned; buses don't fall within District responsibilities. Low risk, bus companies should be on board. 	<ul style="list-style-type: none"> Buses make up a small number of vehicles in Mid Devon. MDDC don't seem to have as much influence on the buses as e.g. in other parts of the country. 	<ul style="list-style-type: none"> Retrofit depends on properly-informed and well-funded decisions. Upgrade to EV is lower risk. Unknown how easy to change buses, also would need cross border collaboration as many buses.

Table A. 6 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Electric vehicle strategy including development of EV charging network

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> Health benefits. Reduction in noise pollution. National level funding. Private and community investment opportunities. Simple to install, likely increased take up in general population with Govt aspirations. Existing S106 funding within the council. Plenty of scope to build on this measure. Lots of appetite / enthusiasm for these sorts of measures. With new builds it might be easier to put something into planning documents to require charging points. There is a policy requiring EV charging points for residential and non-residential new builds in Tiverton, Cullompton and Crediton. 	<ul style="list-style-type: none"> Limited scope; but demand is growing. Does not remove all emissions (tailpipe only = localised impact). Does not reduce road traffic. High costs to households for the vehicles. Poorly understood implications of demand and contract agreements. Depends on clear objectives and a continued good funding terms. Risk of costs to put network in but not used. Pressure on the grid to cope with additional EV charging points. Concerns about residents parking, encouraging residents to take on EVs, and business parking. Concerns about where to have public EV parking due to cables etc. 	<ul style="list-style-type: none"> Given Government aspiration to move to electric vehicles long term take up of electric could increase over time. If it is easier for people to make a low emission choice then the impact could be high. Should be lower costs if high roll out. Uncertain if costs of providing the network is passed on e.g. Council tax. Low cost but with some risk of hidden costs. Over time, reduced risk as more people purchase EV cars. Need to carefully choose locations and have prioritisation about where to install first. Need to consider: EV chargers on

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Strengths	Weaknesses	Other comments
		<p>council-owned land, business and commercial land, policies with respect to new builds. Have mainly been considering on-street parking but domestic off-street is important too.</p> <ul style="list-style-type: none"> • Need to consider types of charging and ensuring the charging is appropriate for the location (e.g. not slow chargers for somewhere people park for a short period of time, like a shopping centre).

Table A. 7 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Fleet recognition scheme

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Low costs for all involved. 	<ul style="list-style-type: none"> • Low impact on emissions, high on perception. • Probably needs cross boundary approach to work. • High cost per tCO2e if hardly any businesses volunteer to join a local scheme. • Bigger companies likely to look to a national scheme as things like ECOStars aren't large enough for them. • Schemes like this often fizzle out after a while. 	<ul style="list-style-type: none"> • Steer businesses to a national scheme. • Local taxation would be better financially. • Does not seem to fit the role of MDDC. • Think MDDC was the first local authority to broaden out ECOStars outside of the original scheme. • Overarching communications strategy should be considered. A lot of these measures could be put together as a communications strategy. • Fleet Operator Recognition Scheme seems to be more focused on safety and legislation, but maybe move more onto air quality going forward.

Table A. 8 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Clean air campaign

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Huge benefit to health, noise and congestion (especially on High Street). • Potential for massive change. • Can reach general population which will have a greater effect than anything only done for our individual organisation. • Community engagement and partnership can be highly efficient. • Possibility to link to Clean Air Day. • Momentum from a lot of temporary measures during Covid (e.g. school streets, temporary bicycle lanes, etc.). • Potential to link to active travel – options through S106 to improve walking and cycling links. • There's a real desire for people to have more and better access to non-traffic areas where they can move about in town centres. 	<ul style="list-style-type: none"> • Could have direct effects on some businesses e.g. cycle store or indirect through events. • Risk of showing AQ means that people may not want to wait at bus stops or even visit our High Street. 	<ul style="list-style-type: none"> • Reduction in emissions depends how coherently we enable change. Bad example: create cycle lanes but fail to reduce vehicle density or exclude polluters. • Will require some marketing expertise and strategy to measure effectiveness and impact. • Impact depends on how engaged the public are in the campaign. • Need to ensure the messages resonate with different audiences to have an impact and encourage personal change that may have a cost. • Depends on coherence of support (e.g. broadband) vs limitations (e.g. lack of safe cycle routes, lack of AQ enforcement). • Would need ongoing costs, one event won't provide message - will need to be continual. • Cost will vary based on how sophisticated the campaign is. • Risks depend on scheme, could be successful but could also be unsuccessful. Depends on promotion material and events etc. • Low risk approach if the campaign is basic but more sophisticated could lead to greater rewards. • School streets should be considered (making it more difficult to drop off at school by cars).

Table A. 9 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Solid fuel burning public information campaign

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Good educational opportunity. • Could have a localised impact on air quality of e.g. neighbours. • Likely to reduce complaints about bonfires/smoke. 	<ul style="list-style-type: none"> • Highly rural district. Majority of fuel use is not solid fuel. • Use of solid fuels is likely to be limited or not easily changed for those using them. • High costs to residents / businesses if paying to dispose of items which may have been burned. • Risk of if people don't take notice, dumping waste in countryside. • Could get push back from those undertaking this currently. • Legislation can be difficult to enforce. 	<ul style="list-style-type: none"> • Broader education campaign preferred, especially relating to bonfires. Information on alternative means of disposal. • Encourage green waste collections, more trips to the tip having to source alternative fuels. • Policy introduction limited cost. Campaign some cost. • Opportunity here to do joint campaign and communications with trading standards. Sharing intelligence, sharing information between organisations. Link with air quality nuisances and understanding the impact beyond the immediate nuisance. • Overarching communications strategy should be considered. A lot of these measures could be put together as a communications strategy. Lots of different audiences, so could be a good idea to join them up. People might take notice of one subject and then find info on another.

Table A. 10 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Anti-idling campaign

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Idle vehicles in the High Street create high emissions – impact here could be high. • Could have a wide reach and simple to do. • Reduction in emissions, especially in areas with high pedestrian footfall with children / toddlers etc. • Costs shouldn't be too high – education / signage base. 	<ul style="list-style-type: none"> • Limited powers of MDDC. 	<ul style="list-style-type: none"> • New cars stop engine. Simpler to impose Clean Air zones e.g. ban fossil fuel vehicles in town centres. • MDDC limited powers on highways? Best for County level action? • Costs and campaign should be continual.

Table A. 11 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Promote data captured from the AQ monitoring network

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • Relatively low cost – administration and accumulating information. • There is always an appetite to see the air quality data. • One of the real time sensors recently installed is near a school in Crediton – potential to link to data promotion in schools. 	<ul style="list-style-type: none"> • Telling people what the air quality is in their area won't necessarily change what they will do, it needs to be coupled to education about what they can do. • Easily neglected or underfunded after an initial supportive launch. • On its own won't make much difference. If coupled with other options could be part of wider messaging. 	<ul style="list-style-type: none"> • Public information is important. • Can we automate it all to minimise costs? • Impact will depend on how data is communicated. • Data needs to be accessible to everyone.

Table A. 12 – Summary of Responses to Stakeholder Engagement on the ‘New Thinking’ AQAP measures: Promotion of Car Share Devon scheme

Strengths	Weaknesses	Other comments
<ul style="list-style-type: none"> • This is one of the few ways we have to influence car use. • Reduces emissions. • Element of wellbeing, meeting new people. • Broad scope, legacy effect. • Lifestyle changes. • Greener tourism influence. • Greener travel planning. • Benefit of reduced car running costs for households. Reduced need to buy and maintain private cars. • Opportunity for partnerships, community support, funding and scheme revenue. 	<ul style="list-style-type: none"> • Difficult to organise through communities, better suited within workplaces. • Car sharing only works if everything lines up between 2 or more people. • With Covid-19 people are more cautious in doing this. • Uptake is likely to be small. • Safeguarding, safety concerns. 	<ul style="list-style-type: none"> • Impact depends on clear objectives, well-informed commercial venture decisions, coherent long-term investment commitments.

Appendix B: MDDC Local Plan Key Policies

Table B. 1 – Strategic policies

Policy	Description
S1 Sustainable development priorities	<ul style="list-style-type: none"> Preventing significant harm to air, in particular air quality as a local issue at Crediton and Cullompton.
S2 Amount and distribution of development	<ul style="list-style-type: none"> New road linkages to relieve traffic congestion in town centres, and investment in infrastructure to address long-standing air quality issues. Air quality expected to improve following opening of Crediton Link Road to draw a proportion of HGV and other traffic away from Exeter Road.
S8 Infrastructure	<ul style="list-style-type: none"> It is expected that new development will utilise infrastructure which will co-benefit wider planning objectives such as air quality improvements. Developments which are likely to generate significant levels of traffic must be supported by a robust transport evidence base.
S11 Cullompton	<ul style="list-style-type: none"> Measures to support implementation of Cullompton AQAP through inclusion of construction of new highway links to relieve town centre and to enhance walking and cycling routes across the town. The concurrent development of the North West Cullompton Urban Extension will act to relieve traffic congestion in the town centre. A new relief road towards the east of the town centre will further improve air quality by diverting north and south-bound traffic away from Fore Street. Investment in infrastructure can address long-standing air quality issues associated with the significant growth in Cullompton.
S12 Crediton	<ul style="list-style-type: none"> Measures to support implementation of Crediton AQAP through inclusion of construction of new highway links to relieve town centre and to enhance walking and cycling routes across the town. A key action from the AQAP has been provided through the Crediton Link Road which is expected to have a significant impact on improving local air quality. It will act to reduce the proportion of HGVs and other traffic entering the town centre. Air quality monitoring to be conducted to determine if pollutants have reduced significantly for the AQMA to be withdrawn

Table B. 2 – Site allocation policies

Policy	Description
CU1 North West Cullompton	<ul style="list-style-type: none"> 100 ha site to the North West of Cullompton is allocated for mixed used development subject to carbon reduction and air quality improvements. Cullompton High Street is subject to severe traffic congestion due to its junction with Tiverton Road which has led to adverse effects on local air quality. Development will require a new road link between Tiverton Road and Willand Road to divert traffic from the new development. Introduction of traffic management measures on Tiverton and Willand Road. Implementation of Cullompton Town Centre Relief Road to mitigate morning congestion at junction 28 on the M5 motorway.
CU2 North West Cullompton Transport Provision	<ul style="list-style-type: none"> Transport infrastructure will be provided and funded by all new developments within the North West Cullompton site. This will be done through Implementation of travel plans and other non-traditional transport measures to minimise carbon footprint and air quality impacts.
CU5 North West Cullompton Carbon Reduction and Air Quality	<ul style="list-style-type: none"> Implement measures to ensure that impacts of the site on air quality are acceptable. An assessment of the air quality impact of the potential development proposed in the Local Plan was undertaken in 2014, it found no significant cumulative air quality effects are anticipated.
CU7 East Cullompton	<ul style="list-style-type: none"> A 160 ha site to the East of Cullompton is allocated for mixed use development which is subject to carbon reduction and air quality improvements. It is accepted that development within Cullompton is constrained by the limited capacity of junction 28 of the motorway, as well as traffic congestion and poor air quality in the town centre. It is believed that this development along with the urban extension towards the northwest of Cullompton will help relieve town centre traffic problems, hence improve air quality.
CU8 East Cullompton Transport Provision	<ul style="list-style-type: none"> Part of the East Cullompton development requires contributions towards the delivery of implementing travel plans and other non-traditional transport measures to minimise carbon footprint and air quality impacts
CU11 East Cullompton Carbon Reduction and Air Quality	<ul style="list-style-type: none"> Implement measures to ensure that impacts of the site on air quality are acceptable. During the 2014 assessment of air quality impacts it was found that the development of East Cullompton would not have a significant effect on the Cullompton AQMA. During the masterplan design of the new development the potential for air quality effects should be considered. Particular consideration should be taken with the distances between residential properties and the M5.
CU13 Knowle Lane	<ul style="list-style-type: none"> A 9.8 ha site at Knowle Lane is allocated for residential development which is subject to implementation of a Travel Plan and other measures to minimise carbon footprint and air quality impacts
CU14 Ware Park and Footlands	<ul style="list-style-type: none"> A 2.1 ha site at Ware Park and Footlands is allocate for residential developments which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.

Policy	Description
	<ul style="list-style-type: none"> It has been acknowledged that development within this location will impact the Cullompton AQMA and will require mitigation.
CU15 Land at Exeter Road	<ul style="list-style-type: none"> A 1.4 ha site at Exeter road is allocated for residential development which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.
CU16 Cummings Nursery	<ul style="list-style-type: none"> A 2.78 ha site at Exeter road is allocated for residential development which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.
CU17 Cummings Nursery	<ul style="list-style-type: none"> A 10.7 ha site at Cummings Nursery is allocated for employment development which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.
CU18 Venn Farm	<ul style="list-style-type: none"> A 4.4 ha site at Venn Farm is allocated for employment development which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts.
CU19 Town Centre Relief Road	<ul style="list-style-type: none"> A relief road, providing traffic relief to the town centre. Previously the relief road was known as the Eastern Relief Road. Evidence suggests that a further road to the east of the town centre is paramount to achieve the objectives of traffic relief and air quality improvements to be met.
CU20 Cullompton Infrastructure	<ul style="list-style-type: none"> Implementation of CU19 and other measures in the Cullompton AQAP.
CU21 Land at Cole Brook	<ul style="list-style-type: none"> A 4.8 ha site at Cole Brook is allocated for residential development which requires in the policy to have a transport assessment and implement a travel plan to minimise the carbon footprint and air quality impacts
CRE4 Woods Group, Exeter Road	<ul style="list-style-type: none"> A 0.17 ha site at Venn Farm is allocated for employment development. Mitigation for potential onsite air quality issues with specific design to prevent worsening of air quality on Exeter Road and to avoid potential air quality issues for occupants.
CRE11 Crediton Infrastructure	<ul style="list-style-type: none"> The council will use the Community Infrastructure Levy and planning obligations to deliver air quality improvements for Crediton.
TIV2 Eastern Urban Extension Transport Provision	<ul style="list-style-type: none"> Implement Travel Plans and other non-traditional transport measures to minimise carbon footprint and air quality impacts.
TIV6 Farleigh Meadows	<ul style="list-style-type: none"> A site of 11.2 ha has been allocated for residential development which is subject to measures to mitigate air quality impacts at Leat Street. Poor air quality exists at Leat Street and is expected to worsen as traffic generation increases. Any significant changes to the already consented scheme will require updated studies of potential impacts along with funded measures to mitigate any air quality impacts.
TIV16 Blundell's School	<ul style="list-style-type: none"> A site of 14 ha north of Blundell's School is allocated for residential development. Implement Travel Plans and other non-traditional transport measures to minimise carbon footprint and air quality impacts.

Policy	Description
	<ul style="list-style-type: none"> Western end of Blundell's Road has been within 15% of the NAQO's, additional road traffic is likely to bring this above NAQO limits. In light of the above site access will be located at Heathcoat Way via a new junction which in the future may form part of the access to the Eastern Urban Extension. Air quality assessments will be required with any applications.

Table B. 3 – Sustainable development principles

Policy	Description
DM3 Transport and air quality	<ul style="list-style-type: none"> Development proposals which give rise to vehicular movement require the following documents to be accompanied: <ul style="list-style-type: none"> Integrated Transport Assessment – must identify the boundaries for the Low Emissions Assessment Travel Plan Traffic Pollution Assessment – must assess impact of traffic-generate nitrogen oxides on environmental assets Low Emissions Assessment evaluates the effect of the development on local air quality. It must assess impacts on existing AQMAs, or an impact likely to result in the declaration of an additional AQMA. They should also include onsite mitigation measures to reduce negative impacts on local air quality. Air quality exposure modelling should be undertaken at specified residential properties and other sensitive properties within or adjoining an AQMA. Tiverton is at risk of being designated an AQMA Annex 2 contains Low Emissions Assessment Procedural Guidance
DM4 Pollution	<ul style="list-style-type: none"> Development proposals that negatively risk impacting the quality of the environment must be accompanied by a Pollution Impact Assessment and mitigation schemes where necessary. A development will only be permitted where the cumulative effects of pollution will not have a detrimental effect on health and the natural environment.

Appendix C: Source Apportionment

Table C. 1 – NOx source apportionment for all road transport and background at all monitoring locations within MDDC (%) for the baseline fleet, 2019

Site name	% contribution to total modelled NOx (background + road transport = 100%)								Total road transport
	Background	Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles	
AQMesh Church	19.9	2.9	38.7	10.0	20.7	5.9	1.8	0.1	80.1
AQMesh School	22.5	2.7	36.5	9.2	19.8	7.1	2.2	0.1	77.5
AQMesh Little Bakery	11.2	4.7	39.4	5.8	24.9	10.0	4.0	0.1	88.8
AQMesh Manor House	10.5	4.6	38.6	5.7	24.4	11.5	4.6	0.1	89.5
DT1	67.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32.2
DT2	68.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31.3
DT3	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.0
DT4	82.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17.5
DT5	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	44.1
DT6	51.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	48.5
DT7	36.8	3.1	28.4	3.1	21.2	5.3	1.9	0.2	63.2
DT8	23.9	2.4	30.5	2.5	27.7	9.7	3.0	0.4	76.1
DT9	36.7	3.3	28.1	4.0	18.1	6.9	2.7	0.1	63.3
DT10	13.8	4.3	36.7	4.9	24.5	11.3	4.4	0.2	86.2
DT11	19.6	4.2	35.7	4.8	23.4	8.7	3.4	0.1	80.4
DT12	11.4	4.7	39.3	5.8	24.8	10.0	3.9	0.1	88.6
DT13	9.9	4.7	39.9	5.9	25.2	10.1	4.0	0.2	90.1
DT14	54.7	1.2	19.6	1.5	19.9	2.2	0.7	0.3	45.3
DT15 ²⁸	79.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.1
DT16 ²⁸	88.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.3
DT17 ²⁸	65.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34.6
DT18	19.0	3.0	40.1	8.7	22.8	4.9	1.4	0.1	81.0
DT19	11.3	3.2	42.5	10.9	23.7	6.4	1.9	0.1	88.7
DT20	8.6	3.3	44.2	11.4	23.6	6.7	2.0	0.1	91.4

²⁸ DT15, DT16 and D17 do not have any modelled roads nearby so source apportionment has only been completed using background maps.

Table C. 2 – PM₁₀ source apportionment for all road transport and background at all monitoring locations within MDDC (%) for the baseline fleet, 2019

Site name	% contribution to total modelled PM ₁₀ (background + road transport = 100%)								Total road transport
	Background	Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles	
AQMesh Church	79.5	5.1	6.6	2.1	4.4	1.5	0.6	0.1	20.5
AQMesh School	81.6	4.5	5.9	1.9	4.0	1.5	0.6	0.1	18.4
AQMesh Little Bakery	72.8	8.4	7.2	1.2	6.3	2.6	1.3	0.1	27.2
AQMesh Manor House	71.6	8.6	7.3	1.3	6.4	3.1	1.6	0.2	28.4
DT1	98.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.3
DT2	98.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6
DT3	98.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5
DT4	98.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7
DT5	98.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.8
DT6	98.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.8
DT7	92.3	2.5	2.0	0.3	1.7	0.7	0.4	< 0.1	7.7
DT8	85.8	3.5	3.0	0.5	3.0	2.8	1.4	0.1	14.2
DT9	92.8	2.3	1.9	0.3	1.7	0.7	0.4	< 0.1	7.2
DT10	76.8	7.0	5.9	1.0	5.0	2.8	1.4	0.1	23.2
DT11	84.1	5.0	4.2	0.7	3.6	1.6	0.8	0.1	15.9
DT12	73.4	8.3	7.0	1.2	6.2	2.5	1.3	0.1	26.6
DT13	70.2	9.2	7.9	1.3	6.9	2.8	1.4	0.2	29.8
DT14	96.2	1.0	0.9	0.2	1.1	0.4	0.2	< 0.1	3.8
DT15 ²⁹	99.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7
DT16 ²⁹	99.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5
DT17 ²⁹	99.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5
DT18	77.6	5.5	7.2	2.0	5.1	1.7	0.7	0.1	22.4
DT19	65.1	8.5	11.1	3.6	7.7	2.9	1.2	0.1	34.9
DT20	60.4	9.8	12.8	4.1	8.6	3.0	1.2	0.2	39.6

²⁹ DT15, DT16 and D17 do not have any modelled roads nearby so source apportionment has only been completed using background maps.

Table C. 3 – PM_{2.5} source apportionment for all road transport and background at all monitoring locations within MDDC (%) for the baseline fleet, 2019

Site name	% contribution to total modelled PM _{2.5} (background + road transport = 100%)								Total road transport
	Background	Petrol cars	Diesel cars	Buses	LGVs	Rigid HGVs	Artic HGVs	Motorcycles	
AQMesh Church	78.6	4.3	6.3	2.2	6.6	1.3	0.5	0.1	21.4
AQMesh School	80.6	3.9	5.7	2.0	6.0	1.3	0.5	0.1	19.4
AQMesh Little Bakery	70.3	7.4	7.2	1.4	9.8	2.4	1.2	0.2	29.7
AQMesh Manor House	69.0	7.6	7.4	1.4	10	2.9	1.5	0.2	31.0
DT1	98.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1
DT2	98.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4
DT3	98.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6
DT4	98.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.9
DT5	98.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5
DT6	98.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5
DT7	91.5	2.2	2.1	0.3	2.8	0.7	0.4	0.1	8.5
DT8	84.3	3.3	3.2	0.5	4.7	2.6	1.3	0.1	15.7
DT9	92.0	2.0	2.0	0.4	2.6	0.7	0.3	< 0.1	8.0
DT10	74.6	6.3	6.0	1.1	8.0	2.6	1.3	0.1	25.4
DT11	82.4	4.5	4.3	0.8	5.7	1.5	0.8	0.1	17.6
DT12	70.9	7.3	7.1	1.4	9.6	2.4	1.2	0.2	29.1
DT13	67.6	8.1	7.9	1.5	10.7	2.6	1.4	0.2	32.4
DT14	95.6	1.0	1.0	0.2	1.7	0.4	0.2	< 0.1	4.4
DT15 ³⁰	99.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7
DT16 ³⁰	99.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7
DT17 ³⁰	99.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7
DT18	76.2	4.8	6.9	2.1	7.6	1.6	0.6	0.1	23.8
DT19	63.9	7.1	10.4	3.7	11.3	2.5	1.0	0.2	36.1
DT20	58.9	8.3	12.1	4.2	12.7	2.6	1.0	0.2	41.1

³⁰ DT15, DT16 and D17 do not have any modelled roads nearby so source apportionment has only been completed using background maps.

Appendix D: Longlist of actions

Table D. 4 – Longlist of actions considered for AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
Improving technologies	AQAP1	Develop a priority matrix of low emission vehicle options for MDDC's vehicle fleet	This could take the form of a simple Excel-based model, to provide an assessment of the current performance of fleet vehicles, in comparison with the latest available models and retrofit technologies. Assessment criteria to include emissions performance, and fuel, maintenance and capital costs. Fleet to be reviewed on an annual basis, to ensure continuing improvement.	New thinking	Yes
	AQAP2	Upgrade MDDC vehicle fleet	This measure will involve improvements to MDDC's fleet, including HGVs and LGVs, with a focus on replacing vehicles with ULEV alternatives. The Council's vehicle fleet incorporates a large number of diesel vehicles, and although improvements are continuously being considered and applied, there may be opportunities to fast-track this process to improve air quality. Consideration will be given to the existing procurement agreement and how this will affect potential vehicle upgrades. The direct impact of changes to the Council's own activities will be relatively small in terms of air quality and emissions overall, but as a figurehead and major employer in the district, their actions will set an example for others to follow.	New thinking	Yes
Mode shift	AQAP3	MDDC staff travel strategy	The preparation of an MDDC Environmental Travel Strategy might include incentives for public transport use and bicycle schemes, preferential parking, car share etc.	New thinking	Yes
Monitoring and data	AQAP4	Real time sensor AQ monitoring at new locations in Crediton & Cullompton	Four real-time air quality (AQMesh) sensors were installed by Ricardo at locations across the district. Two were deployed along the each of the main routes through the Crediton and Cullompton AQMAs, the A377 and B3181 respectively. The sensor outputs are: NO ₂ (hourly mean), PM ₁₀ (24 Hour mean), PM _{2.5} (24 Hour mean), NO (hourly mean) and NO _x as NO ₂ (hourly mean). Data is available to download from Air Quality England (AQE).	Under implementation	Yes

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Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
	AQAP5	Review of current monitoring in region	<p>MDDC commissioned a comprehensive review of the Council's air quality monitoring, reporting, assessments and planning documents to ensure that all current monitoring requirements are identified. Feedback from Defra on the council's 2018 Annual Status Report noted the requirement to review current monitoring locations given the extent of new infrastructure developments proposed. The review, completed in 2019, proposed the following recommendations:</p> <ul style="list-style-type: none"> • Revoking the Crediton AQMA based on particulates. Particulate sensors may offer an alternative measurement methodology and provide better value for particulate measurements going forward. • Retention of the AQMA declarations for annual mean NO₂ concentrations at Cullompton and Crediton. • The establishment of a low-cost monitoring network using AQ Mesh Sensors across the district. 	Operational	No
	AQAP6	Air quality assessment of Crediton traffic management schemes	<p>Crediton Town Council commissioned a study to define traffic management improvements for key roads in the town. The scheme was developed in response to the further development planned in Crediton (as well as other edge of settlement land uses) and its implications for potential air quality issues in the High Street area. MDDC commissioned an Air Quality Impact Assessment (AQIA) to analyse the air quality impacts of the proposed scheme. The AQIA was performed in conjunction with the installation of the deployment of two real-time sensors at locations along the A377. The study aimed to determine the impact of proposed traffic management improvements on the air quality within the Crediton AQMA. Modelled concentrations of NO₂ annual and hourly means were presented for the current 2019 Baseline and a 2019 Proposed scenario and used to assess the impact of the proposed traffic management schemes. The findings of the assessment, which was completed during 2020, were as follows:</p> <ul style="list-style-type: none"> • Analysis of the change in annual concentration at roadside modelled receptor points showed the largest changes in NO₂ annual mean concentrations around the High Street area, 	Operational	No

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Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
			<p>where the current air quality issues have been identified.</p> <ul style="list-style-type: none"> The traffic management measures were predicted to decrease the annual mean NO₂ concentration at the monitoring site that currently shows an exceedance on Crediton High Street to 37.54 µg.m⁻³. All modelled hourly mean NO₂ concentrations were well below the one hour mean NO₂ AQO of 200 µg.m⁻³ not to be exceeded more than 18 times a year. Some receptors towards the Eastern Gateway showed an increase in the NO₂ annual mean of between 0.25 and 2.10 µg.m⁻³ and resulted in one new exceedance of the AQO which increased from 39.91 µg.m⁻³ to 40.89 µg.m⁻³. 		
Public transport and taxis	AQAP7	Low emission taxi programme	Like the Council fleet, taxis will not have a major impact across the whole district, but they have a greater impact per vehicle than other cars due to the way they are operated and could be a highly visible part of the district's transport system. It is therefore important that they work towards being a clean and efficient fleet. Investment in taxi charging hubs and related infrastructure, or priority taxi ranks could be potential options to encourage change.	New thinking	Yes
	AQAP8	Upgrade / retrofit buses	Buses are a key alternative to car traffic and making sure these are clean and efficient will be an important part of their role in improving air quality in the district.	New thinking	Yes
	AQAP9	Taxi licensing conditions	Including environmental considerations in the requirements for taxi permits will lead to a reduction of air pollution from the use of Taxis. The taxi licensing policy was updated most recently in 2018, and became effective on 1 st January 2019. ³¹	Operational	Yes
Plans and policies	AQAP10	Develop a domestic solid fuel policy	The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 are to be enforced by the relevant Local Authority. How these regulations are enforced at a Local Authority level needs to be considered. A domestic solid fuel policy for Mid Devon could make enforcement of these Regulations easier. Guidance will be made available for local authorities so that their enforcement officers have a clear understanding of the certification schemes and their ability to	New thinking	Yes

³¹ Mid Devon District Council Hackney Carriage & Private Hire Licensing Policy, 2018, <https://www.middevon.gov.uk/media/346606/final-hackney-carriage-and-private-hire-policy.pdf>

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
			enforce the legislation.		
	AQAP11	Develop a bonfire policy	<p>There are laws about burning certain types of waste and to prevent bonfires causing a nuisance. The Council has a responsibility to investigate complaints of smoke and fumes that could be classed as a 'statutory nuisance'. A bonfire policy could enable residents to make better decisions around when, where, and how to have their bonfires, by providing guidance. It could also inform residents about the human and environmental health impacts of bonfires, and reduce the occurrence of bonfires.</p> <p>Options for greater restrictions on open burning and bonfires must be considered.</p> <p>Examples in other local authorities largely relate to guidelines and public information as there are legal limitations in place, particularly regarding domestic bonfires.</p> <p>Guidelines - https://www.threerivers.gov.uk/download?id=46788 , https://www.lewes-eastbourne.gov.uk/environmental-problems/bonfires/</p> <p>Public information leaflet - https://www.adur-worthing.gov.uk/media/Media,96840,smxx.pdf</p>	New thinking	Yes

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
	AQAP12	Electric vehicle strategy including development of EV charging network	<p>Policy DM8 of the Local Plan Part 3 identifies a minimum standard for the provision of EV infrastructure as recommended by the Low Emissions Strategic Partnership for 3-phase or accelerated electricity supply. Individual properties within new housing developments will have their own charging points. Currently there are s106 allocations for improving the EV charging network in Crediton (£100K) and Cullompton (£150K).</p> <p>This measure will aim to promote the development of a broader electric vehicle strategy across Mid Devon, with the objective of creating long-term infrastructure which supports the use of low emission vehicles for local residents and businesses. The strategy will underpin several of the other measures, including improvements to the Council's vehicles and the Low Emission Taxi Programme. This will look to mirror other similar strategies adopted by local authorities across the UK.</p> <p>Specific actions may include (subject to successful funding bids):</p> <ul style="list-style-type: none"> • Additional electric vehicle charging facilities at main traffic generator sites (including employment sites, shopping centres and leisure facilities); • Preferential parking policies to reduce costs for electric vehicles (also in association with EV chargers & associated costs); and • Priority traffic management measures for ULEV's (e.g. bus lane use). <p>The strategy will promote the use of EVs and likely to reduce travel times if EVs are not having to wait for the use of a charging station.</p>	New thinking	Yes
	AQAP13	Updating the Supplementary Planning Document (SPD) on Air Quality and Development	The SPD on Air Quality and Development was extensively reviewed as part of the Ricardo report "Review of Mid Devon District Council's Air Quality Planning Policies" and a number of improvements were suggested. The update to the SPD is underway and is expected to be completed by Summer 2020.	Under implementation	Yes
	AQAP14	Planning conditions on Tiverton Eastern Urban extension	<p>Masterplan for a large urban development was accepted in June 2018. MDC now needs to ensure that all phased planning applications are considered with respect to the Mid Devon Core Strategy (2007) and supplementary planning documents (2008).</p> <p>This major extension to the east of Tiverton requires detailed Low</p>	Under implementation	Yes

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
			Emission Strategies from developers.		
	AQAP15	Review of planning policies	<p>A significant amount of development, which has the potential to impact ambient air quality, has been proposed for Mid Devon. In recognition of this, MDDC commissioned a review of how air quality is being considered in its planning policies and guidance and how this can be strengthened. The review was conducted in 2019.</p> <p>The outcome of this provided a review of current MDDC planning policies and guidance, and other LA guidance and approaches, and offers recommendations on potential areas of improvement, including:</p> <ul style="list-style-type: none"> Ensuring all relevant plans and policies developed by MDDC reflect the importance of addressing air quality issues in the district. Introducing a new system for classifying developments, which offers a user-friendly resource for developers and ensures risks to air quality are appropriately addressed. Ensuring developers are required to apply the latest technical guidance for air quality assessments. The development of a new emissions mitigation assessment based on the latest IGCB Air Quality Damage Costs and Emission Factor Toolkit. Ensuring a consistent approach to the determination of significance of air quality impacts, that requires the application of professional judgement in the interpretation air quality assessments 	Operational	No
	AQAP16	Development of a Low Emission Strategy (LES) for Cullompton	Emissions and economic assessments were completed in 2019 and report has been submitted by Ricardo.	Operational	No

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
Targeting particulates	AQAP17	Consider implementation of smoke control areas	Under the Clean Air Act, a Local Authority may declare the whole or part of the district of the authority to be a smoke control area (SCA). It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated SCA. It is an offence to acquire an unauthorised fuel for use within a SCA unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the SCA). The current maximum level of fine is £1,000 for each offence. Defra has published the rules for SCAs, available here: https://uk-air.defra.gov.uk/assets/documents/reports/cat07/1901291328_Smoke_Control_Web.pdf	New thinking	Yes
Infrastructure	AQAP18	Eastern Relief Road Cullompton and additional M5 junction	This is an existing project that intends to support the predicted population growth of Cullompton. Major infrastructure will be required to mitigate current high levels in the town centre and accommodate the increased traffic volumes arising from Cullompton's proposed growth. Consideration could be given to pedestrianizing the High Street.	Under implementation	Yes
	AQAP19	Kings Mill Industrial site traffic management Cullompton Junction 28	The new Local Plan proposes upgrades to the existing road network to support growth of industrial estate and reduce congestion. As the site will increase in size, thus increasing volumes trying to leave/enter the M5, a range of initiatives are proposed to deal with the problem.	Under implementation	Yes
	AQAP20	Culm Valley Garden Village development and major infrastructure projects	The 500 home 'garden village' aims to support housing demand in the region with high quality design. This includes planning policies which support improvements to local air quality levels including technical guidance on emissions assessment work and low emission strategies.	Under implementation	Yes
	AQAP21	Secure cycle parking facilities in town centres and at key transport hubs	Secure and reliable locations to park bikes and other alternatives transport equipment to private vehicles are vital to help citizens overcome any concerns in the up-take of an active travel option. Locations and s106 funding have been identified in Crediton (£8K), and Cullompton (£30K). Locations in Tiverton are under consideration to join the town centre with Tiverton parkway railway station.	Under implementation	Yes

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
	AQAP22	Bus stop infrastructure	Plans are already in place to use S105a contributions to improve bus stop infrastructure. This should lead to an increase in bus service use. S106 allocations are in place for Copplestone bus infrastructure improvements that affect Crediton AQMA (£177K).	Under implementation	Yes
	AQAP23	Review of bus stop locations and routes	Regular review of the bus routes, capacity and service usage should be undertaken to ensure that each service is as efficient as possible without impacting those most reliant on it. Review of Cullompton and Crediton services will include frequency, location of bus stops, routes.	Under implementation	Yes
	AQAP24	Improving footpath and cycling paths in major towns	Improvement of public infrastructure (safety, number of routes, location of routes and capacity) will help to dissuade citizens from the use of a private vehicle. Some areas that have been identified are: improved footpath and cycleway links between Cullompton town centre and Kingsmill Industrial Estate, and Cromwells Meadow to Leisure centre in Crediton.	Under implementation	Yes
	AQAP25	Road resurfacing	Ensure that road surfaces are maintained to an acceptable standard so that vehicles are able to run efficiently and therefore reduce unnecessary air pollution. Smooth road conditions also encourage cyclists. This measure comprises design considerations for relevant road links within both the Cullompton and Crediton AQMAs. There is potential for this to be managed on a contract by contract basis.	Under implementation	Yes
	AQAP26	Explore alternative parking and traffic flow measures	Consultation with Town councils has identified a number of smaller measures that could alleviate congestion at Both Crediton and Cullompton. Further consultation with DCC/Highways will be required to look at feasibility.	Operational	Yes
	AQAP27	Cullompton / Wellington rail link feasibility study	Land has been identified that will accommodate this infrastructure. A 'bus' hub built next to the Rail Station that links with new developments is proposed.	Operational	Yes
	Freight	AQAP28	Fleet recognition scheme	As well as ECO Stars, other fleet recognition schemes such as the Fleet Operator Recognition Scheme (FORS) exist, or the Council may wish to undertake actions to recognise and promote clean vehicle fleets themselves. Such examples could include tying fleet recognition to preferential parking or other benefits.	New thinking
AQAP29		ECO Stars fleet management and	This free scheme aims to assist haulage and bus operators reduce their operations impact on the environment whilst also saving money in	Operational	No

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
		recognition scheme	the process. The scheme is ongoing and is therefore retained in the new AQAP. The program has good membership in Mid Devon, but does require further expansion to all the districts within Devon.		
Engagement and public awareness	AQAP30	Clean air campaign	This measure combines the encouragement of active travel through marketing campaigns and the provision of cycle infrastructure and incentive schemes. Specific actions could include (subject to successful funding bids): <ul style="list-style-type: none"> Mid Devon cycling strategy; Events and promotions (e.g. Clean Air Day, or European Mobility Week); Live air quality data from the low cost sensor network at bus stops. 	New thinking	Yes
	AQAP31	Solid fuel burning public information campaign	The challenge with solid fuels is how to regulate them, as it is difficult to know which stoves and/or fuels are used, and unless there is a smoke control area or a nuisance issue, the actions that can be taken by a local authority are limited. A LA that we collaborated with recently were planning to introduce a policy on open burning and bonfires, so this could be an option. Another option would be a broader education campaign on solid fuels and air quality. There was a presentation on solid fuel burning at the recent IAPSC conference which included some recommendations for the types of measures LAs could introduce: http://www.iapsc.org.uk/assets/document/1220_Session5_IAPSC_Clar_e_Beattie.pdf Defra have also produced a practical guide to 'Open fires and wood-burning stoves': https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1901291307_Ready_to_Burn_Web.pdf Brighton & Hove City Council also have some information available online: https://www.brighton-hove.gov.uk/sites/default/files/migrated/article/inline/downloads/airquality/Using_Solid_Fuels_Safely_and_Legally_(pdf_0.2_mb).pdf	New thinking	No – see Table A.9

Mid Devon District Council AQAP

Theme	Ref.	Action	Description	Status	Carried forward to AQAP?
	AQAP32	Anti-idling campaign	This will protect and raise awareness of the unnecessary risk to vulnerable people's health caused by idling. Buses, school and hospital vehicles could be prioritised as they are normally operating in locations where the most vulnerable are (i.e. children, the elderly, and people needing medical care).	New thinking	No – see Table A.10
	AQAP33	Promote data captured from the AQ monitoring network	Promotion and public understanding of the data captured might help the public to become consciously aware of their own impact on local AQ. This may lead to change in routine behaviour, leading to improved local AQ. Evidence of public interest may also help to secure future funding for additional monitoring stations.	New thinking	No – see Table A.11
	AQAP34	Promotion of car share Devon scheme	Local Plan Part 3; Development management Policies – Policy DM6 identifies car club and car sharing schemes as a mitigation measure. Locations and s106 funds have been identified: Crediton (£30K), Cullompton (£30K). This will help residents recognise opportunities to share travel costs and reduce the number of vehicles on the road. Promotion of the scheme will help to reduce the reliance of private vehicles. Current information is available at: https://liftshare.com/uk/community/devon	New thinking	No – see Table A.12
	AQAP35	Review and continued support of Community Car sharing schemes	It is important that MDDC continue to review the success of the scheme, and support the scheme to overcome any existing or future challenges.	Under implementation	Yes

Appendix E MDDC AQAP Steering Group workshop minutes

Wednesday 2nd June 10:00 – 12:00

Attendees:

Guy Hitchcock (GH) – Technical Director, Ricardo.
Tom Adams (TA) – Senior Air Quality Consultant, Ricardo.
Charlotte Day (CD) – Air Quality Consultant, Ricardo.
Simon Newcombe (SN) – Corporate Manager for Public Health and Regulatory Services, MDDC.
Cllr Dennis Knowles (DK) – Cabinet Member for Community Wellbeing, Tiverton.
Joy Norris (JN) – Town Clerk, Cullompton Town Council.
Poie Li (PL) – Principal Forward Planning Officer, MDDC.
Rachel Avery (RA) – Town Clerk, Crediton Town Council.
Stuart Jarvis (SJ) – Principal Transport Planning Officer, Devon County Council.
Tanya Wenham (TW) – Operations Manager, MDDC.
Tom Keating (TK) – Lead Licensing Officer, MDDC.
Cllr John Downes (JD) – Crediton Town Council, Environment Policy Development Group, Waste Management Efficiency Committee, Planning Committee, MDDC.
Jason Ball (JB) – Climate and Sustainability Specialist, MDDC.

Agenda:

- Welcome and background to the project
- AQ and emissions in Mid Devon
- Measures to reduce emissions including MCA results
- Next steps in the project
- Closing remarks

Welcome and background to the project / AQ and emissions in Mid Devon:

- TA presented an overview of air quality in the UK as a whole, including health impacts, before moving on to the air quality issues of Mid Devon more specifically.
- The presentation set out what an Air Quality Action Plan is and the background to this project, updating the AQAP for Mid Devon.
- Recent air quality studies in the Mid Devon area include: a review of monitoring locations in 2019, installation of four real-time AQ mesh sensors in Cullompton and Crediton, Cullompton LES, Crediton Traffic Management Scheme (hourly AQ modelling). These studies have fed into the evidence base for the long list of measures proposed for the AQAP.
- A source apportionment study was completed as part of the AQAP. AQ modelling (of road traffic emissions) from the Crediton and Cullompton studies meant a more detailed breakdown could be completed for diffusion tubes within the AQMAs; for the rest of Mid Devon, source apportionment was completed using the Defra pollutant background maps.
- GH raised that the PM limit values will be revised, so revoking the AQMA for PM may not happen.
- SN added that PM is still a priority going forward. There is no safe value and the WHO limit is lower than the statutory limit value.
- JD – Question on PM2.5 and increases in emissions from log burners in recent years. Difficult to control, but have we dropped the ball in terms of not stopping this at the beginning? We're getting better and better at identifying sources etc. but the money

to fix these things isn't coming in. Expressed frustration and hope that this meeting provides some actions to make change.

- SN – Obligation has been on LAs to identify the sources etc and work out the problems, but funding to do the measures doesn't follow. We need to consider implementation and funding in this AQAP and make sure it's deliverable. 2019 Clean Air Strategy raised woodburning, so the Government is recognising it's an issue.
- JD – Misunderstanding where people believe that wood burning is sustainable and renewable, without knowing the PM issue. Quality of the fuel etc. is really important.

Measures to reduce emissions including MCA results:

- Other suggestions of measures:
 - JN – Residents have raised that the Neighbourhood Plan for Cullompton needs to be embedded and linked into strategies.
 - PL – Interesting that car sharing was identified to have the biggest impact (by total score etc.) in the MCA results. From a new build home survey, car sharing came bottom of the list, improving pedestrian and cycle routes came top.
 - JD – Statistically there's nothing significant about the difference between the scores, they're not much difference at all.
 - SN – Want to highlight the combined benefit of measures.
- Improving technologies:
 - SN – From a corporate perspective, looked at a vehicle replacement programme and the contracts with providers. If we want to do more measures then taxi licensing is something MDDC can control more. Impact of vehicles – they will spend 99% of their time in mid Devon, there will be an impact on local emissions. It's a disproportionate impact compared to other vehicles. Very visible too.
- Mode shift and public transport:
 - TK – considering taxis and low emission alternatives, has anything been done around the weight of the vehicle and the PM coming from tyres etc? Are there tyres that give off less than this, is there any point looking at the weight?
 - GH – As we move forward, the PM coming from tyres, brake-wear, road etc. sources of PM become more dominant than the exhaust emissions. Could be more important to look at these factors.
 - TW – MDDC staff travel strategy. Commented about taking it back a step further, considering how we want to work post-Covid and have a wider strategy.
 - GH – Refine this measure to reflect change in working patterns post-Covid.
 - SN – Corporately working on a revised workplace strategy. Smart offices, hybrid working, need to join in the travel strategy alongside that. Want to be clearer in the AQAP about the link with other strategies – e.g. carbon. Target to become carbon neutral by 2030 – tough. Buses – what can or can't we do with buses, could do with feedback from County? Never have been able to crack buses. Don't seem to have as much influence as other parts of the country.
 - GH – Has Ricardo seen the developing carbon plan?
 - SN – Have provided, but will share the latest version, as it's changing weekly.
- Plans and policies – EV strategy:
 - SN – As part of carbon reduction plan, EV procurement strategy recently went through cabinet. Looking at EV chargers on council-owned land, business and commercial land. Also policies with respect to new builds. Have mainly been

considering on-street parking but domestic off-street is important too. Existing S106 funding within the council. Carrot and stick approach for taxis being considered. Plenty of scope to build on this measure.

- GH – If we can see the EV procurement strategy that would be really useful.
- JN – One council has discussed this and were very interested. Lots of appetite. Comments to pass on though. Charging points – information in front of them was very vague, need some sort of prioritisation of where these would be provided etc. Spaces set aside in car parks? Also concerned about residents parking, encouraging residents to take on EVs, and also businesses. With new builds it might be easier to put something into planning documents to require charging points. In Cullompton, the streets are already narrow for on street parking. Also concerns about where to have public EV parking due to cables etc.
- GH – also need to consider type of charging – no point in having slow chargers in shopping centres as you'll get no charging done in the time people are parked there. But the faster chargers are obviously more expensive.
- PL – There is a policy requiring EV charging points for residential and non-residential, for new builds in Tiverton, Cullompton and Crediton. Can look into this as reviewing the local plan.
- GH – Also can consider with refurbishments, if somewhere is refurbished getting benefits of more EV charging.
- JD – If you can afford an EV often you can afford a nice vehicle, off-street parking, etc. However, if you're living in a flat you need on street parking. Additionally, how can the electricity grid cope with all the new chargers?
- TK – Regarding trailing cables as a hazard, in Nottingham trialled charging pads.
- GH – But vehicles need to be equipped to use this.
- SN – Need to reflect again on where the council has this influence. MDDC can build social housing, and consider carbon of this housing, maybe EV infrastructure needs to be more clearly considered. EV procurement strategy – 35 locations being directly assessed for off street for high, medium and low potential for easiness to introduce. Combination of MDDC-owned sites and some commercial.
- Targeting particulates – solid fuel public burning information campaign:
 - SN – Opportunity here to do joint campaign and communications with trading standards. Sharing intelligence, sharing information between organisations. Link with AQ nuisance. Understanding the impact beyond the immediate nuisance. See how effective the legislation is – difficult to enforce.
 - TW – Overarching communications strategy should be considered. A lot of these measures could be put together as a communications strategy. Lots of different audiences, so could be a good idea to join them up. People might take notice of one subject and then find info on another.
- Freight:
 - GH – Key takeaway is one clean air campaign to cover many topics. Mid Devon has a long history with ECOSTars?
 - SN – Think MDDC was the first LA to broaden out ECOSTars outside of the original scheme. Things fizzle out after a while, it only goes so far. Bigger companies like Gregory's look to a national scheme as ECOSTars isn't large enough for them. Organisations will sign up to these types of scheme for the benefits to them, so it's not a stick to beat them with.
 - GH – FORS seems to be more focused on safety and legislation, but maybe move more onto AQ going forward.

Mid Devon District Council AQAP

- Engagement and public awareness – Clean Air Campaign, Anti-idling Campaign, Promoting AQ data and Promoting Car Share:
 - SN – Promoting AQ monitoring. Always been some appetite to see data but needs to be accessible. Also now have 4 continuous monitors instead of 2.
 - RA – Making the information accessible is really important.
 - SN – When talking about schools, school streets should be considered. School streets = making it more difficult to drop off at school by cars. Link to Clean Air Day.
 - RA – Expressed support for School Streets idea. Currently in discussion with Devon county council about a specific school, think Crediton Town Council would be on board with working on that initiative.
 - TA – One of the real time sensors is near a school in Crediton.
- Other ideas:
 - PL – Recent study that walking and cycling routes would reduce the car usage, would it be worth trying to identify hotspots and if additional routes could reduce emissions? Understand that these were in the previous AQAP so weren't discussed today, but want to be retained and maybe revived. Focus areas, priority areas to be added into the new AQAP?
 - SN – Already in the AQAP but definitely something to retain. Options through S106 to improve walking and cycling links. There's a real desire for people to have more and better access to non-traffic areas where they can move about in town centres.
 - JD – Cycle routes, not cycle paths. Move away from tourism and recreation to routes for commuting / travelling – also consider more direct.
 - JB – Agree with "Cycle Route" or "Green Travel Routes" to emphasise the idea of a joined up network.

Next steps:

- Ricardo will distribute minutes and copy of slides, please provide feedback over the next week or so.
- Draft AQAP will be developed, including refined measures following the workshop discussion.
- Consultation on draft AQAP. As soon as ready, SN will organise the internal and external channels for consultation.
- Finalisation of AQAP following consultation. SPD also needs consultation, but has different requirements.

Final remarks:

- SN – Thanks to all attendees for contributions.
- GH – Contact details at the end of the presentation, can submit feedback to us via these / in response to email with minutes.

Appendix F Low Emission Taxi Programme

The introduction of mandatory emission standards for taxis is likely to be met with opposition, therefore it may be necessary to consider alternative ways of encouraging a transition to a low emission taxi fleet, whilst also offering the added incentives of priority taxi ranks and access to bus lanes. This may include:

- Raising awareness regarding the cost and emission benefits of low emission / electric taxis;
- Dedicated taxi charge points;
- Recognition scheme for clean taxis;
- Procurement of low emission taxi services to raise emissions standards; and
- Support for taxi industry to transfer to low emission alternatives.

This measure assumes that support for the taxi industry to transfer to low emission alternatives, including awareness campaigns and dedicated charging points, will result in a change in the taxi fleet split. Information provided by MDDC was used to generate the following modelled scenarios, incorporating changes to the current taxi fleet by 2022:

- 'Baseline' scenario – Current taxi fleet comprising of 124 vehicles, including:
 - One Euro 1 diesel taxi;
 - One Euro 2 diesel taxi;
 - Two Euro 3 petrol taxis, seven Euro 3 diesel taxis;
 - Twenty-one Euro 4 diesel taxis;
 - Fifty-nine Euro 5 diesel taxis;
 - One Euro 6 petrol taxi, twenty-seven Euro 6 diesel taxis; and
 - Two hybrid electric taxis and three EV taxis.
- 'Low' scenario – Upgrading Euro 1 and 2 vehicles only. The upgrades would see:
 - Two diesel taxis upgraded to hybrid electric taxis.
 - In total, two vehicles are upgraded, representing 1.6% of the taxi fleet.
- 'Medium' scenario – Upgrading Euro 1, 2 and 3 vehicles only. The upgrades would see:
 - Two petrol taxis upgraded to one hybrid electric taxi and one EV taxi; and
 - Nine diesel taxis upgraded to six hybrid electric taxis and three EV taxis.
 - In total, 12 vehicles are upgraded, representing 7.3% of the taxi fleet.
- 'High' scenario – Upgrading Euro 1, 2, 3 and 4 vehicles only. The upgrades would see:
 - Two petrol taxis upgraded to one hybrid electric taxi and one EV taxi; and
 - 30 diesel taxis upgraded to 21 hybrid electric taxis and nine EV taxis.
 - In total, 32 vehicles are upgraded, representing 25.8% of the taxi fleet.

MDDC provided local taxi fleet data which details vehicle make/model, date of registration and fuel type. It was assumed the oldest vehicles would be replaced first (Euro 1 is the first replacement, followed by Euro 2, etc.). No vehicles of Euro 5 or above were considered for upgrade. Emission reductions were calculated using the EfT (v.9).

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
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
CO ₂	Carbon Dioxide
DCC	Devon County Council
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
LAQM	Local Air Quality Management
MDDC	Mid Devon District Council
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less