P_12

A Local Plan for

Lancaster District

2020 – 2031

Plan period 2011 - 2031

Air Quality Position Statement Addendum

[May 2021]

Shaping
a better future

LANCASTER
CITY COUNCIL
Promoting City, Coast & Countryside

1. Introduction

1.1 On 29th July 2020 Lancaster City Council adopted its Local Plan, comprised of the Strategic Policies and Land Allocations DPD and review of the Development Management DPD. These DPD's were submitted to the Secretary of State for examination on 15th May 2018. In the following January (2019), Lancaster City Council declared a Climate Emergency. However, because the Local Plan had already been submitted, and whilst this Plan did address climate change, the declaration came too late to be able to significantly influence the content of the plan to ensure the policies were doing all they could to mitigate and adapt to the impacts of climate change.

1.2 Therefore, Lancaster City Council committed to an immediate review of the Local Plan within the context of this declaration, and so this review is specifically focussed upon changes which address the impacts of climate change. This means that this review is not going to re-consider issues such as housing numbers and development allocations. Given the particular climate change focus of this review, it is considered important to take another look at the air quality position here in the Lancaster District. Subsequently, the purpose of this paper is to provide an update to the *Air Quality Position Statement,* that was produced by *Air Quality Consultants* in January 2019*,* as an evidence base to underpin and justify the approach adopted through the Local Plan. This Position Statement can be viewed on the Council's website here: Evidence, monitoring and information - Lancaster City Council (Under 'Environmental Studies').

2. What is the association between Air Quality and Climate Change?

2.1 Air quality and climate change are intrinsically interconnected, and both have the ability to impact on each other. Atmospheric warming associated with anthropogenic climate change has the potential to negatively impact ground level air quality and lead to increase ground-level ozone. It is recognised that the impact of climate change on other air pollutants, such as particulate matter, is less certain, and so further research into this is ongoing[1]. Conversely, many of the gasses and particulate matter linked to poor air quality also have global warming potential. Ozone in the troposphere (the layer of the atmosphere at the earth's surface) warms the climate, whilst different components of particulate matter (PM) can have either warming or cooling effects on the climate[2]. In particular, nitrogenous gasses and black carbon associated with combustion have significant global warming potential.

2.2 The three major greenhouse gases are: carbon dioxide, methane and nitrous oxide. The main focus of abatement measures has largely been focussed on carbon dioxide. However as set out in a paper produced by Defra in 2007, the encouragement of the use of diesel fuel in road vehicles as a means of fuel efficiency and reducing carbon dioxide emissions has had an overall detrimental effect upon local air quality because of the higher emissions of nitrogen oxides, and also particulate matter from diesel engines[3].

2.3 As set out in the Clean Air Strategy, the Government has statutory obligations to keep concentrations of specified air pollutants below certain levels. The only area in which the UK is

[1] Air Quality and Climate Change Research | Air Research | US EPA
[2] Air Quality and Climate Change Research | Air Research | US EPA
[3] Air Quality and Climate Change: A UK Perspective (defra.gov.uk)

not currently meeting these limits is in relation to roadside nitrogen dioxide concentrations[4]. Whilst it is recognised that outdoor air pollution can originate from both natural and anthropogenic sources, research has shown that the contribution from human activities far exceeds natural sources. Human sources that are major sources of outdoor air pollution include:

- Fuel combustion from motor vehicles;
- Heat and power generation;
- Industrial facilities;
- Municipal and agricultural waste and waste incineration/burning; and
- Residential cooking, heating, and lighting with polluting fuels.

2.3 The World Health Organisation states that "*poor urban planning, which leads to sprawl and over-dependence on private vehicle transport is also a major factor in accelerated pollution emissions*"[5]. Lancaster City Council has declared three Air Quality Management Zones (AQMA's) within the District, all of which have been designated due to exceedances in the annual average objective level for nitrogen dioxide due to road traffic exhaust emissions.

2.4 Furthermore, the report published by Defra entitled 'Air Quality and Climate Change: A UK Perspective' also highlighted that "*whilst there are legislative mechanisms and regulatory standards in place to improve local air quality, actions to regulate emissions of greenhouse gases within the public sector and planning regimes are based purely on voluntary initiatives. It is recognised that regional and local governments have an important role to play in reducing emissions of carbon dioxide, through local transport planning, urban planning and design, and their own procurement and operations. However, in the absence of the appropriate legislation and accompanying technical guidance, climate change mitigation is rarely given the prominence that is needed, and in some cases is ignored*[6]".

2.5 As set out in Section 1, Lancaster City Council has sought to take action on this. In January 2019 the Council declared a Climate Emergency, which subsequently triggered the requirement to undertake a review of the Local Plan with a specific focus on climate change. As has been demonstrated, climate change can impact upon local air quality, and conversely, air quality can impact climate change. Therefore, it was considered important to review the air quality position within the Lancaster District as part of the Local Plan review. Hence the purpose of this Addendum. The plan system has a fundamental role to play in shaping future patterns of development within the District and subsequently how we best adapt and mitigate the impacts of climate change through new development, and from an air quality perspective, with particular respect to transport as the primary cause for the designation of AQMA's .Therefore, working to mitigate District wide emissions, to address the Council's commitment to mitigate and adapt to climate change through the declaration of a Climate Emergency, also supports improving local air quality and providing community benefits.

[4] Clean Air Strategy 2019 (publishing.service.gov.uk)
[5] WHO | Ambient air pollution: Pollutants
[6] Air Quality and Climate Change: A UK Perspective (defra.gov.uk)

3 What does this Addendum cover?

3.3 The structure of this update will mirror that of the original Position Statement, detailing supplementary information and data where required, to provide the most up-to-date position (since January 2019) with regards to air quality in the Lancaster District. This update paper therefore needs to be read in conjunction with the original Air Quality Position Statement that was published in January 2019.

3.4 It is also worthwhile highlighting that during the Local Plan examination that took place in April and May 2019, Air Quality Consultants produced a statement in response to comments received from CLOUD (Citizens of Lancaster Opposed to Unnecessary Development) in relation to the Air Quality Position Statement produced by AQC. This can be viewed on the Council's website here: Local Plan examination - Lancaster City Council (Under 'Section 8 – Documents received after the start of the hearings', reference: HD47). The comments raised by CLOUD included:

- *This document…Concludes that as air quality in 2017 has improved slightly in Galgate due to HGVs using the new expressway, there is currently no issues with air quality in Lancaster and that no further assessment is required.*
- *…a position statement like this could only be potentially adequate if it was in support of a proposed development of 50 residential dwellings or less, not a full scale garden village with well over 1500 residential dwellings…*
- *Often overlooked is the requirement by Natural England for an air quality ecological assessment if a development is likely to impact upon designated habitats.*
- *…a full air quality assessment is undertaken both operational and ecological. The only possible reason why one was not carried out is because the results could potentially illustrate how adverse the ai quality impacts of the BGV could be on local residents.*

3.5 Each point was addressed in turn in the statement provided by AQC in response and concluded that:

- *"It is agreed that significant air quality issues in Lancaster city remain. Monitoring data, however suggest that air quality is improving, and there have been no exceedances of the annual mean nitrogen dioxide objective in Galgate or Carnforth for the last 2 years.*
- *The requirement for an air quality assessment for new development is supported, and is being implemented through the Council's Low Emission and Air Quality Guidance for Development which sets out requirements for both assessment and mitigation".*

4 Context and Relevant Policy

National Air Quality Strategies

Air Quality Strategy (Defra 2007)

4.3 It is understood that the Air Quality Strategy published in 2007 by Defra has been replaced by the Clean Air Strategy that was published in 2019.

25 Year Environment Plan (January 2018)

4.4 The Government published 'A Green Future: Our 25 Year Plan to Improve the Environment' in January 2018. The aim of which is '*to deliver cleaner air and water in our cities and rural*

landscapes, protect threatened species and provide richer wildlife habitats'[7]. The plan highlights that our air is cleaner than it was 50 years ago, but that there is still a long way to go in improving air quality levels.

4.5 The first goal set out in the plan is 'Clean Air. Stating that:
'We will achieve clean air by:

- *Meeting legally binding targets to reduce emissions of five damaging air pollutants. This should halve the effects of air pollution on health by 2030.*
- *Ending the sale of new conventional petrol and diesel cars and vans by 2040.*
- *Maintaining the continuous improvement in industrial emissions by building on existing good practice and the successful regulatory framework'*

4.6 Over the next 25 years, it is stated that the Government seeks to expand the net gain approaches currently being put in place for biodiversity to incorporate other wider natural capital benefits, such as air quality. This plan also set out the intention to publish a Clean Air Strategy (the details of which are set out below).

4.7 The annual progress report for April 2019 to March 2020 was published in June 2020. This stated that the Government continues to implement the Clean Air Strategy of 2019, and that in July 2019 a report was published assessing the progress that will be made towards the WHO guideline annual PM2.5 of 10µg/m3 based upon the commitments outlined in the Clean Air Strategy, showing that significant progress could be made by 2030 but that in specific locations additional action would be required[8]. Furthermore, with regards to reducing transport sector emissions and roadside NO2 concentration, the Government has launched a consultation to bring forward the sale of petrol and diesel vehicles to 2035 and commits to continue working with several local authorities to support the development of around 40 Local Plans to tackle roadside NO2 concentrations, including through the designation of Clean Air Zones where required.

Clean Air Strategy (2019)

4.8 The Government's Clean Air Strategy was published in January 2019, just after Air Quality Consultants published the Lancaster District Air Quality Position Statement in January 2019 to support the adopted Local Plan (July 2020). It sets out the actions that are required across all parts of government and society to improve air quality.

4.9 The Strategy[9] sets out actions for dealing with the 5 major sources of air pollution, and outlines that the aim is to reduce $PM_{2.5}$ emissions by 46% by 2030, when compared against the 2005 baseline. With regards to nitrogen oxides, the aim is 73% by 2030, when assessed against the same baseline year (2005). As stated within the Clean Air Strategy, even small changes can make a big difference. For example, a 1ug/m^3 reduction in $PM_{2.5}$ concentrations this year (2019) could prevent 50,000 new cases of coronary heart disease and 9,000 new cases of asthma by 2035.

[7] 25-year-environment-plan.pdf (publishing.service.gov.uk)
[8] Assessing progress towards WHO guideline levels of PM2.5 in the UK (publishing.service.gov.uk)
[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf)

4.10 In April 2019 a detailed National Air Pollution Control Programme was published by DEFRA which sets out how the UK can meet the legally binding 2020 and 2030 emission reduction commitments (ERC's) for the 5 major pollutants (nitrogen oxides, ammonia, non-methane volatile organic compounds, particulate matter and sulphur dioxide)[10].

4.11 Under the local air quality management (LAQM) regime, Section 82 of Part IV of the Environment Act, Lancaster City Council is required to regularly review air quality levels across the Lancaster District. The results of their annual review are set out within the Annual Air Quality Status Report (ASR), which can be found on the Council's website[11].

4.12 The purpose of publishing an Annual Status Report is also to present progress made on improving local air quality. Identified locations where pollutants levels are likely to exceed air quality objectives are of particular concern and allocated specific attention.

Reducing Emissions from Road Transport: Road to Zero Strategy (July 2018)

4.13 In November 2020, Boris Johnson announced that the phase-out date for the sale of new petrol and diesel cars and vans will be brought forward to 2030 (Step One), then from 2035 all new cars and vans are to be fully zero emission at the tailpipe (Step Two), set out as part of '*The Ten Point Plan for Green Industrial Revolution*' published in November 2020. The Department for Transport (DfT) has said that new cars and vans can be sold between 2030 and 2035 if they have the capability to drive a significant distance with zero emissions (for example: plug-in hybrids or full hybrids), to be defined through consultation.

Environment Bill (emerging)

4.14 The proposed Environment Bill was introduced in January 2020. The purpose of which is to set out new legal frameworks (targets, plans and policies) in relation to air pollution, water quality and nature conservation. As part of which, the Bill also establishes a new environmental watchdog, known as the Officer for Environmental Protection.

4.15 However, it was announced in January 2021 that the Environment Bill is going to be delayed and carried over to the next parliamentary session, as a result of the COVID-19 pandemic and the subsequent impact this has had on the Parliamentary timetable. Whilst still with the House of Commons, it is understood that the Bill must be laid before parliament by 31st October 2022.

4.16 A series of priority areas are identified, and air quality is at the top of the list. In particular, it states that "the Secretary of State must by regulation set a target ("the *$PM_{2.5}$ target") in respect of the annual mean level of $PM_{2.5}$ in ambient air*". However, what specifically this target will be, is not stated in the Bill. The Bill instead states that this target must be laid before Parliament on or before the 31st October 2022.

4.17 The key measures set out in the Environment to improve air quality and deliver health benefits are to:

- *Introduce a duty to set an ambitious, legally-binding target for PM2.5, alongside a further long-term air quality target*

[10] Air Quality: UK National Air Pollution Control Programme - GOV.UK (www.gov.uk)

[11] http://www.lancaster.gov.uk/environmental-health/environmental-protection/air-quality/air-quality-reviews-and-assessments

- *Ensure that local authorities have a clear framework and simple to use powers to address air quality in their areas*
- *Provide government with new powers to enforce environmental standards for vehicles*[12]

Air Quality Action Plans

National Air Quality Plan

4.18 The UK plan to specifically tackle roadside nitrogen dioxide concentrations has not been updated since 2017.

Local Air Quality Strategy and Action Plan

4.19 As set out in the original Air Quality Position Statement of January 2019, the latest Air Quality Strategy adopted by Lancaster City Council was in 2013. The Position Statement set out that a new Air Quality Action Plan was to be produced to replace those existing for Lancaster and Carnforth, and to incorporate Galgate, and that this was to be linked with the Highways and Transport Masterplan for Lancaster.

4.20 However, since then Lancashire County Council has embarked on a Movement Strategy for Lancaster, to deliver major transport improvements. The overall aim of which is to enable Lancaster to grow, and also to promote sustainable travel options to access the city centre. The details of which are set out below. Consultation on 8 potential options took place in February 2021, however due to the interlinkages between transport and air quality in Lancaster, one is very reliant upon the other. Therefore, without a clear understanding as to what the proposal for transport movements around Lancaster are going to be, it is subsequently difficult to prepare an Air Quality Action Plan that sets out a series of specific projects which best address the air quality issues, which in Lancaster City Centre are due to transport movements. Consequently, the preparation of an Air Quality Action Plan has been put on hold until there is more clarity on the direction being taken forward by the Movement Strategy.

Air Quality Standards and Objectives

4.21 The Secretary of State for Environment, Food and Rural Affairs is responsible for ensuring the limit values are met in England, and the Department for Environment, Food and Rural Affairs (Defra) co-ordinates the assessment of air quality levels and the production of air quality plans for the UK as a whole. The UK Government and the devolved administrations are required under the Environment Act 1995 (Part IV) to produce a national air quality strategy. This sets out air quality standards and objectives. **Air Quality Standards** "*are concentrations recorded over a given time period, which are considered to be acceptable in terms of what is scientifically known about the effects of each pollutant on health and on the environment. They can also be used as a benchmark to indicate whether air pollution is getting better or worse*". An **objective** "*is the target date on which exceedances of a Standard must not exceed a specified number*".

4.22 There are also air quality standards set and recommended by other authoritative bodies, particularly the World Health Organisation (WHO). The national Clean Air Strategy 2019[2] clearly

[12] 25 Year Environment Plan Progress Report April 2019 to March 2020 (publishing.service.gov.uk)

sets out aims to reduce existing exceedances of WHO $PM_{2.5}$ annual mean standard (annual mean levels above 10ug/m^3) by 50% by 2025. On this basis, the Council is therefore looking to expect new development to consider their air quality impact in relation to both national and WHO standards and to minimise particulate (PM_{10} and $PM_{2.5}$) and nitrogen dioxide (NO_2) emissions. The local and national air quality objective standards and WHO air quality standards for nitrogen dioxide and particulate matter are set out in Table 1 below.

Pollutant	Time Period	Objective
LAQM OBJECTIVES		
Nitrogen dioxide (NO_2)	1 Hour Mean	200ug/m^3 not to be exceeded more than 18 times a year
	Annual Mean	40ug/m^3
Fine Particulate (PM_{10})	24 hour mean	50ug/m^3 not to be exceeded more than 35 times a year
	Annual Mean	40ug/m^3
NATIONAL OBJECTIVES		
Fine Particulate ($PM_{2.5}$)	Annual Mean	25ug/m^3
WHO AIR QUALITY STANDARDS		
Fine Particulate (PM_{10})	Annual Mean	20ug/m^3
	24 hour mean	50ug/m^3
Fine Particulate ($PM_{2.5}$)	24 hour mean	25ug/m^3
	Annual Mean	10ug/m^3
Nitrogen Dioxide (NO_2)	Annual Mean	40ug/m^3
	1 hour mean	200ug/m^3

Table 1: Objectives and Standards for Air Quality – Nitrogen Oxide (NO_2) and Particulate Matter (PM_{10} and $PM_{2.5}$) (Source: DEFRA and WHO)

Planning Policy

National Policies

4.23 The National Planning Policy Framework, also known as the NPPF, sets out the Government's planning policies for England and how these should be applied, covering a range of topics and issues from the delivery of housing and employment development, supporting strong and healthy communities, to the protection and enhancement of the natural and historic environment. Ultimately the purpose of the planning system is to achieve sustainable development, with minimising air pollution, and mitigating and adapting to climate change being amongst the objectives/ways in which this can be achieved. The current version of the NPPF was published in February 2019, but between this and the July 2018 version that was used to inform

the January 2019 Air Quality Position Statement, there have been no changes with regards to the approach taken towards air quality.

4.24 National Planning Practice Guidance (PPG) in relation to air quality was updated on 1st November 2019. Within which is it outlined that local air quality management (LAQM) regime requires every local authority to regularly review and assess air quality levels in their areas. In the Lancaster District, air quality levels are measured across the year and annual mean figures are recorded (the details of the latest results from 2018, 2019 and 2020 are set out in Appendix A). Consequently, the PPG highlights that Local Plans may need to consider:

1. *"What are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and/or allocations;*
2. *The impact of point sources of air pollution (pollution that originates from one place);*
3. *The potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions;*
4. *Ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan; and*
5. *Opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement."*

4.25 The PPG states that "*whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implantation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species*)". Adding to the latest version; "*air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity*".

4.26 When considering how an impact on air quality can be mitigated, the PPG states that "*mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new development is appropriate for its location and unacceptable risks are prevented. Planning conditions and obligations can be used to secure mitigation where the relevant tests are met*."

4.27 The PPG then goes on to set out a list of possible mitigation measures:

- Maintaining adequate separation distances between sources of air pollution and receptors;
- Using green infrastructure, in particular trees, where this can create a barrier or maintain separation between sources of pollution and receptors;
- Appropriate means of filtration and ventilation;
- Including infrastructure to promote modes of transport with a low impact on air quality (such as electric vehicle charging points);
- Controlling dust and emissions from construction, operation and demolition; and
- Contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development.

Consideration of the implications of the changes to Planning Practice Guidance (PPG) for Air Quality for the Local Plan Review:

The PPG highlights that Local Plans may need to consider:

Revised wording in Planning Practice Guidance	Council comments
What are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and/or allocations	The latest observed trends are set out in Appendix A of this Addendum and have therefore been considered as part of the preparation of this Addendum and consequently the review of the Local Plan. As set out in Section 1 of this Addendum, this is only a partial review of the Local Plan, and so allocations to propose new development are not being put forward because they are not within the scope of this review. With regards to other proposals which come forward, it is for the policy to require and ensure the impact upon these trends is assessed (i.e. impacts upon AQMA's). As the impact will depend upon a number of factors, such as location and scale which are very application specific.
The impact of point sources of air pollution (pollution that originates from one place)	Again, given the specific climate change focus of this review, new allocations/designations have not been made. However, this would need to be assessed as part of application to be in accordance with our air quality policy and supporting Planning Advisory Note on this matter which provides further guidance upon assessing the impacts upon air quality.
The potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions	The requirement to consider the cumulative impact upon air quality levels is already required through DM31. The role of the Local Plan is not to repeat national planning policy and guidance, and so the definition of cumulative impact should be taken from the PPG.

Continued overleaf…

Continued...

Revised wording in Planning Practice Guidance	Council comments
Ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan	Policy DM31 already states that '*Development which is located within an Air Quality Management Area (AQMA), or any development which has the potential to, individually or cumulatively, contribute to increasing levels of air pollution, will be required to demonstrate how either on-site or off-site mitigation measures will be put in place to reduce air quality impact. Any proposal must not significantly worsen any emissions or air pollutants in areas where pollution levels are close to objective/limit value levels'.* It is recognised that the supporting text of policy DM31 would benefit from the principles of ways in which new development could be made appropriate where air quality is or is likely to be a concern being identified. Therefore, it is recognised that possible mitigation measures, as suggested in the PPG, should be set out in the supporting text, like those outlined within the accompanying Planning Advisory Note. However, as set out in the statement from the PPG, it is the role of an Air Quality Action Plan to detail such offsetting measures. An update on which is provided in Section 6 below.
Opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement	Whilst it is agreed that the supporting text of policy DM31 would benefit from the principles of such opportunities being set out, and such mitigation measures are outlined within the accompanying Planning Advisory Note, it is the role of an Air Quality Action Plan to identify and detail specific opportunities. An update on which is provided in Section 6 below.
Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely *impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new development is appropriate for its location and unacceptable risks are prevented. Planning conditions and obligations can be used to secure mitigation where the relevant tests are met.*"	It is recognised that the supporting text for policy DM31 would benefit from clarity being added for the need for mitigation options to be locationally specific, depend on the development being proposed and be proportionate to the likely impacts. As mentioned previously, the mitigation measures recommended through the PPG will then also be listed.

Local Policies

4.28 Within the current, recently adopted Local Plan there are two key policies that specifically relate to air quality that have been identified to be re-considered as part of the Climate Change review. The first of which is policy EN9: Air Quality Management Areas within the Strategic Policies and Land Allocations DPD. The purpose of this policy is to identify the areas within the District that have been identified as Air Quality Management Areas (AQMA's), of which there are three:

- Central Carnforth
- Central Lancaster
- Galgate

4.29 These areas have been designated on the accompanying Local Plan Policies map and can also be seen in Figure 1 below. These are areas where the Council seeks to improve levels of air quality. The exact wording of Policy EN9 is as follows:

POLICY EN9: AIR QUALITY MANAGEMENT AREAS

The Council has designated three Air Quality Management Areas (AQMAs) within the district in order to improve levels of air quality. These AQMAs are identified on the Local Plan Policies Map in the following locations:

POLICY EN9.1	**Central Carnforth**	**POLICY EN9.3**	**Galgate**
POLICY EN9.2	**Central Lancaster**		

Developments that are located within or adjacent to AQMAs will be expected to ensure that they do not contribute to increasing levels of air pollutants within the locality and adequately protect their users from the effects of poor air quality.

Any development proposals will be expected to have regard to all relevant policies contained within the Local Plan, in particular Policy DM31 of the Development Management DPD which relates to development and air quality.

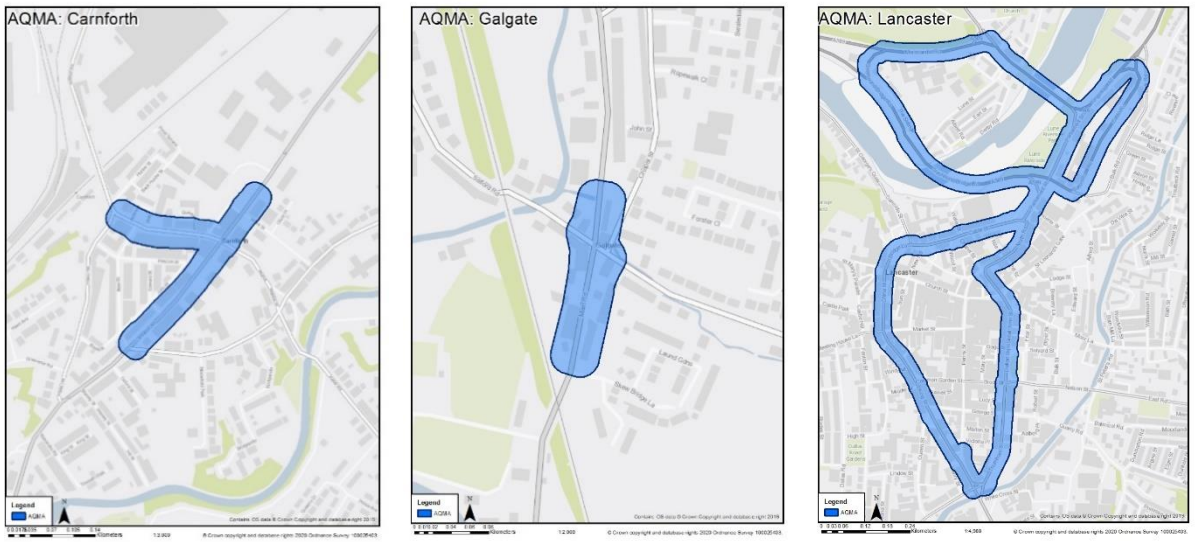

Figure 1: Maps to show the extent of the 3 Air Quality Management Areas (AQMA'S) designated in Lancaster District

4.30 Whilst policies within the Strategic Policies and Land Allocations DPD, as the title suggests, focus upon allocating land for development and establishing policies that provide a strategic direction for future development, the Development Management DPD sets out the generic policies covering a range of issues and topics that need to be assessed when determining a planning application that will be used by both Development Management Officers and the Planning Committee. Within which, policy DM31 is the one which specifically focusses upon air quality.

POLICY DM31: AIR QUALITY MANAGEMENT AND POLLUTION

All development proposals must demonstrate that they have sought to minimise the levels of air polluting emissions generated and adequately protect their new users, and existing users, from the effects of poor air quality.

Development which is located within an Air Quality Management Area (AQMA), or any development which has the potential to, individually or cumulatively, contribute to increasing levels of air pollution, will be required to demonstrate how either on-site or off-site mitigation measures will be put in place to reduce the air quality impact. Any proposal must not significantly worsen any emissions or air pollutants in areas where pollution levels are close to objective / limit value levels.

Proposals should contribute towards delivering the actions detailed within the Lancaster District Air Quality Action Plan, once in place.

Any proposal must not worsen any emissions or air pollutants in areas that could result in a breach of, or worsen site-level critical loads for ecosystems within relevant Internationally designated nature conservation sites during both construction and operational phases. Air Quality Assessments must be submitted for relevant development proposals, as outlined in the Council's Validation Guide.

All development proposals will be expected to take account of the Council's forthcoming SPD on Low Emissions and Air Quality.

4.31 Both of these policies are amongst those being looked at as part of the Local Plan Review being undertaken following the Council's declaration of a Climate Emergency, and the subsequent specific climate change focus of this review.

Local Transport Plans

Local Transport Plan

4.32 Whilst Lancashire's current Local Transport Plan (LTP) (2011-2021) has not been updated in content (LTP4 is in the pipeline but a revised Plan has not yet been published), the Strategy recognises the reliance upon the private car as a mode of travel and so seeks to promote sustainable modes of transport. The Air Quality Position Statement highlighted that one of these options is the provision of charging infrastructure for electric vehicles.

4.33 Since the Air Quality Position Statement was produced, there have been a significant number of electric vehicle charging points installed across the District, both privately as part of new developments and publicly by the City Council and County Council. Further details of which can be found within the Council's 'Provision of Electric Vehicle Charging Infrastructure SPD'.

Lancaster District Highways and Transport Masterplan (2016)

4.34 There have been no new updates. The Lancaster District Highways and Transport Masterplan still remains in place, providing one of the implementation mechanisms for the delivery of an Air Quality Action Plan for the Lancaster District, and ultimately cleaner air.

Lancaster Local Cycling and Walking Infrastructure Plan (LCWIP)

4.35 The LCWIP will provide a district wide plan for the development of walking and cycling networks. The identification and prioritisation of routes follows a prescribed methodology set out by the Department for Transport and will potentially allow access to Government funding. The County Council, as Highways Authority, has produced a draft plan and will begin a formal consultation process, likely to start this summer (2021).

Emerging Movement and Public Realm Strategy

4.36 The aim of this strategy is to deliver the vision set out in the Highways and Transport Masterplan for Lancaster, and to also meet the required set out in the Bay Gateway Development Consent Order (DCO), that an:

'action plan must aim to prevent road traffic growth within the central Lancaster area increasing to predicted 'do minimum' levels between the opening and design years of the link road.'[13]

4.37 Initially 8 options for traffic movements around the city centre were consulted upon in September 2020[14]. Following the comments received in response to the consultation, in February 2021 it was decided that three preferred options were to be taken forward and explored further. These are:

- ***Route 4: Sustainable Travel Corridor East*** *would split the gyratory system in two, with two-way traffic for vehicles allowed on the western arm, and the eastern arm prioritised mainly for sustainable travel.*
- ***Route 6a: No through City Centre traffic*** *would limit through-traffic using the city centre. The eastern arm of the gyratory would be prioritised for sustainable travel with the western arm allowing tow way traffic for access with a section at China Street being fully pedestrianised.*
- ***Route 8a: City Clean Air Zone*** *would see the city centre become a Clean Air Zone (CAZ), with a congestion charge for all vehicles travelling through the city centre with some exemptions. Use of the gyratory would also be split between vehicles subject to the congestion charge, and a sustainable travel corridor*[15].

4.38 These options are now undergoing detailed analysis which includes transport modelling that will take account of the wider measures being implemented and the impacts upon the wider Lancaster highway network and investigate the air quality implications of the options modelled.

[13] Transforming Lancaster Travel - Lancashire County Council
[14] 2517-id-001-08-movement-strategy_compressed.pdf (lancashire.gov.uk)
[15] Transforming Lancaster Travel - Lancashire County Council

4.39 The previous Air Quality Position Statement at the end of the introduction stated that, 'it is expected that at a future date, following the conclusion of detailed transport studies, air quality modelling will be undertaken to quantify these impacts'. However, as set out in this Addendum, the Lancaster Movement Strategy has only recently been consulted upon, and as this Local Plan Review is not making any new development allocations, no transport modelling has yet been undertaken.

Emerging M6 Junction 33 link

4.40 Through the adopted Local Plan, policy SG1 allocates a large area of land, known as the 'Lancaster South Broad Location for Growth (including Bailrigg Garden Village)' which Is identified for at least 3,500 homes alongside a number of employment opportunities (to be further explored through the Lancaster South Area Action Plan). The potential scale of development in South Lancaster will see a significant increase in the number of vehicular journeys. Therefore, to facilitate and support this level of growth major improvements are required to the transport infrastructure that serves South Lancaster. Through the Lancaster Highways and Transport Masterplan changes to reconfigure junction 33 of the M6 were proposed, to facilitate road access and reduce the existing congestion which occurs in the centre of Galgate and to consequently improve air quality in Galgate to enable the AQMA to be removed. The exact details of which, as to what the plans will be and where the access will be located, are currently being explored.

Air Quality Baseline Conditions

4.41 The air quality monitoring data included within the original Air Quality Position Statement is taken from the 2018 Air Quality Annual Status Report (ASR) reporting recordings from 2017. Since then, two more ASR's have been produced for the Lancaster District, for 2019 and 2020 that detail the air quality monitoring data for the years 2018 and 2019. The full results for which are set out in Appendix A of this Addendum. The maps below provide an overview to demonstrate which monitoring locations have seen a decrease in air quality levels (shown in green), an increase (shown in red) or have stayed the same (shown in amber).

4.42 Set out below is a summary of the key findings:

- Of the 59 monitoring locations, **only 3 locations saw an increase in annual mean NO_2 concentration** (from 2018-2019).
- Of the 59 monitoring locations, for **10 of the locations** the annual mean NO_2 concentration **stayed the same** between 2018 and 2019
- Of the 59 monitoring locations, **44 of the monitoring locations saw a decrease** in the annual mean NO_2 concentration
- In 2019, 5 of the 59 monitoring locations experienced exceedances (highlighted in bold in Appendix), compared to 6 locations in 2018 (exceedance of the NO_2 annual mean objective of 40μg/m_3)

4.43 The 3 locations that have seen an increase in annual mean NO_2 concentration from 2018 – 2019 are Rosemary Lane (Lancaster), Lancaster Road (Carnforth) and Newton Terrace, Caton Road (Lancaster). (The details of which are set out in Table 2). For both Rosemary Lane and Newton Terrace in Lancaster the 2019 recording was lower than the levels recorded in 2016 and 2017. Lancaster Road in Carnforth did see a rise in 2019, from a steady previous two years. In these locations where increases were recorded, they weren't exceedances.

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	NO2 Annual Mean Concentration			
					2016	2017	2018	2019
LC8	Rosemary Lane, Lancaster	347792	461858	Roadside	33	30	25	29
CF1	Lancaster Road, Carnforth	349871	470525	Roadside	33	27	27	30
LC28	Newton Terrace, Caton Road, Lancaster	348517	463243	Roadside	36	28	23	26

Table 2: Three air quality monitoring locations that have recorded an increase in annual mean NO_2 concentration from 2018 – 2019

4.44 The 5 locations where exceedances were recorded in 2019 are set out in Table 3 below. The Table also outlines the recordings taken at these locations for the previous 3 years for comparison. All of which have seen a significant decline in levels since 2016. Although it is recognised that levels at Great John Street (Lancaster), Thurnham Street (Lancaster) and North Road (Lancaster) have remained the same for the past two years.

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	NO2 Annual Mean Concentration			
					2016	2017	2018	2019
LC1	Great John Street, Lancaster	347853	461682	Roadside	50	46	43	43
LC10	Dalton Square, Lancaster	347834	461594	Roadside	66	62	55	53
LC11	Thurnham Street, Lancaster	347823	461406	Roadside	61	57	48	48
J	North Road, Lancaster	347852	461791	Roadside	47	42	40	40
LC19	China Street, Lancaster	347502	461841	Roadside	60	60	43	45

Table 3: Three air quality monitoring locations that have recorded an increase in annual mean NO_2 concentration from 2018 – 2019

4.45 Overall, 75% of the monitoring locations have witnessed a decrease in air quality levels between 2018 and 2019 which shows that air quality is improving. Nonetheless it is still recognised that there are three monitored locations where the annual mean concentration of NO2 increased between 2018 and 2019, and five locations where levels are still in exceedance,

and so more still needs to be done to lower the levels of air pollution in these locations, and to seek to continue to do so across the District.

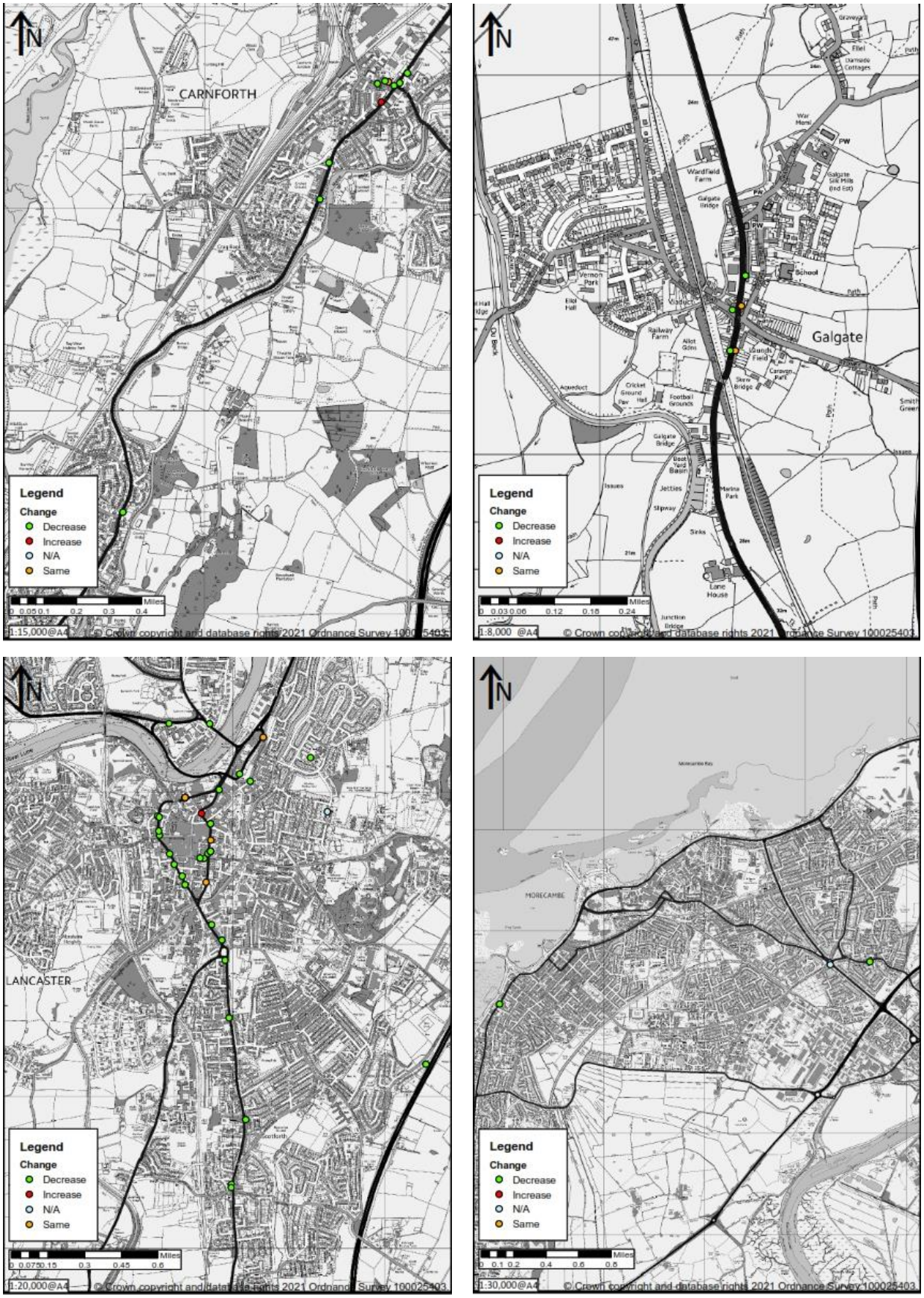

Figure 2: Maps to show the change in air quality levels between 2018 and 2019 at the Council's monitoring locations (from top left to right: Carnforth, Galgate, Lancaster and Morecambe) (Detailed results can be found in Appendix A)

5 Allocations in the Local Plan

5.3 As stated within the Introduction to this paper, the purpose of this Local Plan Review is not to review land allocations that have been made through the Strategic Policies and Land Allocations DPD. Instead, the focus of this review is specifically on matters relating directly to climate change. Therefore, the impacts upon air quality levels arising from specific land allocations made through the Local Plan is not going to be re-addressed as part of this Position Statement update because effectively the position remains the same.

5.4 Despite this, the previous Air Quality Position Statement did focus on the four strategic sites that were allocated within the Plan at the time the statement was produced in January 2019, and since then some changes have taken place. Therefore, an update on the position of each of these allocations has been provided below:

- **Bailrigg Garden Village**: the Council is currently working on preparing an Area Action Plan (AAP) for this area, entitled the 'Lancaster South AAP', which will form a separate DPD containing planning policies tailored specifically to assess development coming forward as part of Bailrigg Garden Village and also wider development in South Lancaster within the broad location for growth area (identified under policy SG1 of the Strategic Policies and Land Allocations DPD). Alongside which, a Master Plan is also in the process of being drawn up by consultants (JTP) who are working with key stakeholders and members of the public to set out the vision, master plan and design guide for the Garden Village. All development proposals for which will still be required to be determined through the planning system and in accordance with the emerging AAP.
- **East Lancaster**: No update. It is understood that access to the site remains a significant issue.
- **North Lancaster**: Pre-application discussions have taken place with the Council and it is believed that the submission of an outline planning application for the first phase of this site (west of the A6) is pending.
- South Carnforth: there were two strategic sites identified in Carnforth, 'Lundsfield Quarry' and 'Land to the South of Windermere Road'. However, following the Examination hearings, the Inspector requested that 'Land to the South of Windermere Road be removed from the Local Plan as an allocation, and so it was. Therefore, this site is no longer a identified for development through the Strategic Policies and Land Allocations DPD.

6 Future Air Quality and Mitigation

6.3 The Position Statement sets out a number of ways in which proposals/projects for the future can help mitigate the impacts of future air quality within the Lancaster District, all of which are transport related. The statement recognised that whilst it is predicted that there will be improvements in air quality, there is also the potential for air quality to worsen. For example, where there is increased traffic along certain routes, increased congestion and stop-start traffic increasing the concentration of emissions. It was also highlighted that care should be taken to ensure that there will be no introduction to exposure in locations which may be exceeding air quality objectives.

6.4 Table 4 sets out the mitigation proposals that were included in the Statement and provides an update on their progress, and Table 5 outlines additional mitigation measures that have bene identified since.

Mitigation Measure	Progress
'Real Driving Emissions' (RDE) vehicle testing, which involves driving on roads whilst measuring exhaust emissions rather than simply testing in a laboratory	Position has stayed the same
Road to Zero Strategy sets out need for an increase in zero tailpipe emission vehicles in years up to and including 2030	Update provided above in paragraph 4.13
Signposting Caton Rad as the principal Gateway into Lancaster from the M6, recognising the presence of the park & ride facility (which has already been implemented)	Position has stayed the same
Creation of the Bay Gateway reducing the number of HGV's that need to travel through Lancaster or Carnforth	Implemented (Position has stayed the same)
A HGV movement Strategy	It was a requirement of the Bay Gateway DCO to consult on a HGV Movement Strategy. A draft Strategy was therefore consulted on in 2017. The role of the Strategy was to highlight key areas where traffic regulation orders could be applied to restrict HGV movements. Whilst the Bay Gateway has been considered successful in moving HGV's away from the city centre (travelling to Morecambe and Heysham), it is recognised by Lancashire County Council that there are still aspects that need to be addressed in relation to deliveries. At the time of the draft Strategy, looking at restricted delivery hours within the city centre was deemed outside the scope of this Strategy, and

	so the intention is to explore this further through the Lancaster City Centre Movement and Public Realm Strategy.
Lancaster bus-rapid transit system	This project is now called 'Better Buses'. It is understood that this project is moving forward again as part of the wider work on the re-configuration of Junction 33. The bus routes proposed as part of this project will be dependent upon the spine roads decisions for the Bailrigg Garden Village.
Altering the gyratory system (Movement strategy)	Update provided above in paragraph 4.36
Reconfiguration of Junction 33 of the M6	Update provided above in paragraph 4.40
Implement a programme of pedestrian and traffic improvements to the centre of Carnforth	The draft Carnforth Neighbourhood Plan proposes to reconfigure the town centre public realm in order to reduce traffic and create more space for pedestrians and cyclists. (Project/Aspiration CNDP AM(b), Carnforth Town Council Neighbourhood Plan 2020-2031 Draft Version)
Lancaster Links LCWIP	Update provided above in paragraph 4.35
Ultra-Low Emission Vehicles & the provision of EV in strategic sites	Position has stayed the same
Junction improvements following findings of Local Plan Transport Assessment	Position has stayed the same – whilst no additional allocations are being added or removed through this review of the Local Plan, due to the specific focus upon climate change, as part of the assessment of any proposal that comes forward the impact upon nearby junctions will be thoroughly analysed in accordance with policy
Air Quality PAN to SPD	Since the publication of the Air Quality Position Statement, the decision has been taken that now is not an appropriate time to convert the 'Low Carbon and Air Quality' PAN into an SPD. For an SPD to be effective in providing further guidance in relation to DM31 it needs to include a suite of projects that would facilitate the delivery of offsite mitigation. Ideally these would have already been outlined, or be in accordance with an emerging, Air Quality Action Plan for the District (the Lancaster Highways and Transport Masterplan set out a requirement to update this). However, until further progress has been made on the Movement Strategy for Lancaster by Lancashire County Council it is difficult to determine the

	most appropriate mitigation in terms of air quality because the transport options, and subsequently their implications for air quality are unknown, and it is nitrogen dioxide levels which have led to designation of the District's 3 AQMA's. This situation will be kept under close review, and when the outcomes of the Movement Strategy are clearer, it is hoped progress can be made on the Air Quality Action Plan, and in due course an SPD. (*DISCUSSION TO BE HAD) In the meantime, as part of this Local Plan Review an Electric Vehicle Charging SPD has been produced to provide further guidance on the requirement for appropriate charging infrastructure as part of a development proposal and thus facilitate the roll-out of charge points by in stilling confidence and encouraging the uptake of electric vehicles as a convenient mode of transport that is more sustainable and better for air quality in comparison to diesel and petrol run vehicles.

Table 4: Update on Mitigation Measures set out in the original Air Quality Position Statement produced by AQC

Mitigation Measure	Position
Increased importance and role of GBI in design of proposals	The Green and Blue (GBI) Strategy that has been prepared as part of the evidence base underpinning this Local Plan Review identifies the multifunctionality of our green and blue spaces, and the multiple values and benefits that such spaces can provide. As highlighted in the revised Planning Practice Guidance, green infrastructure, such as trees, can create a barrier or maintain separation between sources of pollution and receptors. Therefore, the important role that carefully considered GBI can play in the design of a proposal should be highlighted as an additional measure that can help to mitigate the impacts of development upon air quality levels.
Electric Vehicle Charging Infrastructure SPD	As set out in Table 4, instead of an Air Quality SPD, at this stage it was considered more appropriate by the Council to produce an electric vehicle charging infrastructure SPD to provide further guidance for the inclusion of electric vehicle charging infrastructure within a development proposal. In order to facilitate the shift from diesel and petrol run cars, people need to have the confidence that there will be

	adequate provision of electric vehicle charging points to encourage them to make the switch. The planning system has an important role to play in this, particular in terms of onsite provision as part of new development. In some cases where this approach is not appropriate, an offsite contribution may be required to facilitate charging infrastructure nearby, again this would be facilitated through the planning system.
Air Quality Action Plan	An up-to-date Air Quality Action Plan for the Lancaster District is still pending. Further progress on which will be made once the direction of the Lancaster Movement Strategy is clearer.
Cycle Hub Feasibility Study	To support the development of the City Centre Movement Strategy, feasibility work will be carried out to consider the potential of a cycle hub/hubs in the city centre.
A6 Corridor Pedestrian/Cycle Improvements	Lancashire County Council have proposals for cycling/walking improvements around the Pointer Roundabout, and also to implement a Cycle Superhighway to improve cycle links between South Lancaster (including Lancaster University) and Lancaster City Centre. Ultimately these will all become part of the LCWIP.
Canal Towpath Improvements	Improvements are being proposed to extend the canal towpath as an active travel corridor north towards Kendal, and also south into Bailrigg Garden Village towards Galgate.

Table 5: Additional mitigation measures

7 Concluding Comments

7.3 Once again, monitoring since 2017 (i.e. 2018 and 2019) has indicated compliance in the Carnforth and Galgate AQMA's. In the previous Air Quality Statement it was stated that it was too early to say whether this would continue, but an additional 2 years of monitoring has demonstrated that this pattern of compliance has continued. It was stated that this compliance outcome may be in part due to the opening of the Bay Gateway in October 2016, but with only one year of monitoring data at this point it was hard to say, but further evidence further strengthens this justification.

7.4 Whilst the air quality levels in Carnforth and Galgate may have been compliant for the last 3 years, Defra state that the decision to revoke an AQMA should only be taken once a Detailed Assessment or Further Assessment has been carried out. "*Before revoking an AQMA on the basis of measured pollutant concentrations, the authority therefore needs to be reasonably certain that any future exceedances (that might occur in more adverse meteorological conditions) are unlikely. For this reason, it is expected that authorities will need to consider measurements carried out over several years or more, national trends in emissions, as well as local factors that may affect the AQMA, including measures introduced as part of the Action Plan, together with information from national monitoring on high and low pollution years*"[16].

7.5 Data collated in 2018 and 2019, has confirmed that exceedances do still exist within the Lancaster AQMA, but year on year air quality levels have on the whole gradually declined, with no increase in exceedances experienced. This demonstrates that air quality levels are improving in Lancaster, although it is still recognised that more needs to be done to bring these areas into compliance, especially at Dalton Square whereby in 2019 levels were still measured as being at 53. As set out within the previous Air Quality Position Statement, transport measures are fundamental to the required reductions in emissions to a level that would achieve the objectives in Lancaster. As set out above, the Movement Strategy for Lancaster is underway, and as progress on the Lancaster South AAP begins to pick up pace, compliance with objectives is becoming ever closer.

7.6 The downward trend in air quality levels highlighted in the Position Statement has been echoed in the years since this was produced. This therefore adds further credibility to justify this conclusion. Measures implemented through the Local Plan, such as requirements for EV charging infrastructure, combined with Government's revised target to remove petrol and diesel cars from the market, all contribute towards the overall reduction in emissions, helping to make the air in our District cleaner.

7.7 The air quality monitoring results for 2020 have recently been collated, and again show a further decrease in air quality levels (in relation to nitrogen dioxide). Whilst this is likely to have been cause by the reduction in the number of vehicles on the road due to the COVID-19 global pandemic which saw national lock downs and 'stay at home' messages enforced, there is no specific evidence for a direct causal link due to the absence of transport monitoring. Therefore, the results in Appendix A for 2020 have been included more for interest, as opposed to being able to be used for analysis and conclusion purposes. Understandably, the impacts of the COVID-

[16] Revoking an AQMA. Declare or revoke AQMAs. Local Air Quality Management Support - Defra, UK

19 pandemic have also had a knock-on effect upon the ability to undertake, and reliability, of any transport modelling/data collation during this period.

7.8 As stated in the conclusion of the previous statement, the policies and proposals of the Local Plan, Transport Masterplan and subsequent strategies, are actively seeking more sustainable means of transport and promoting innovation. So, whilst the adopted Local Plan contains allocations for significant housing numbers, the policies also specifically state how proposals that come forward on these sites will be required to be in accordance with a series of criteria that ensures development is as sustainable as possible, and thus facilitate some of the transport measures outlined in this Addendum.

7.9 Through the Local Plan review, these policies are being refined further to ensure climate change is at the heart of the Local Plan to ensure that through the planning system, new development that comes forward mitigates and adapts to the impacts of climate change in the best way possible. It is therefore anticipated that this will also have positive benefits for air quality within the Lancaster District, for example, from the prioritisation of sustainable/active modes of travel (cycling and walking), to the requirement for electric vehicle charging infrastructure, through to the requirement for the onsite delivery of green and blue infrastructure that is multifunctional in nature, considering the climate change adaptation and mitigation value such assets can provide. For example, the draft policies DM33 and DM34 promote the use of above ground Sustainable Drainage Systems (SuDS) to provide multi-functional benefits. Above ground multi-functional SuDS have the potential to provide areas of planting which will contribute to a positive impact on air quality. Draft policy DM49 places a requirement for a electric vehicle charging point to be delivered for each new dwelling with an associated car parking space, and 20% of communal spaces, which is to be further supported by detailed guidance within an SPD. Increasing measures to increase the use of electric vehicles will reduce carbon dioxide production to mitigate the impacts of climate changes, whilst also having a local consequential benefit for air quality with fewer fuel-burning cars on the roads, reducing the levels of nitrogen dioxide which causes air quality issues.

7.10 Therefore, placing planning requirements upon new development to deliver measures that facilitate the adaptation and mitigation to the impacts on climate change has consequential positive impacts on air quality.

APPENDIX A: Results for 2018 and 2019 from Lancaster District's Air Quality Monitors

**Please note that the data recorded for 2020 should be used with caution and has been included in the below table for interest rather to carryout assessments/draw conclusions.*

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	NO2 Annual Mean Concentration			Change between 2018 and 2019
						2018	2019	2020*	
AN1	Cable Street, Lancaster	347684	461963	Roadside	Automatic	34	34	28	Same
AN2	Dalton Square, Lancaster	347852	461610	Roadside	Automatic	34	29	21	Decrease
LC1	Great John Street, Lancaster	347853	461682	Roadside	Diffusion Tube	**43**	**43**	34	**Same**
LC4	Brunton Road, Lancaster	347517	461714	Urban Background	Diffusion Tube	14	13	10	Decrease
LC5	Owen Road, Lancaster	347847	462448	Roadside	Diffusion Tube	30	29	23	Decrease
LC8	Rosemary Lane, Lancaster	347792	461858	Roadside	Diffusion Tube	25	29	20	Increase
LC9	Brock Street 1, Lancaster	347808	461563	Roadside	Diffusion Tube	32	30	22	Decrease
LC10	Dalton Square, Lancaster	347834	461594	Roadside	Diffusion Tube	**55**	**53**	42	**Decrease**
LC11	Thurnham Street, Lancaster	347823	461406	Roadside	Diffusion Tube	**48**	**48**	**37**	**Same**
LC13	King Street, Lancaster	347582	461593	Roadside	Diffusion Tube	34	32	26	Decrease
LC14	King Street, Lancaster	347684	461389	Roadside	Diffusion Tube	28	27	25	Decrease
A	High School, Morecambe Road, Lancaster	347579	462450	Roadside	Diffusion Tube	26	23	19	Decrease

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	NO2 Annual Mean Concentration			Change between 2018 and 2019
						2018	2019	2020*	
B1	Dalton Square, Lancaster	347852	461610	Roadside	Diffusion Tube	28	27	21	Decrease
B2	Dalton Square, Lancaster	347852	461610	Roadside	Diffusion Tube	28	27	21	Decrease
B3	Dalton Square, Lancaster	347852	461610	Roadside	Diffusion Tube	28	27	21	Decrease
C1	Cable Street, Lancaster	347684	461963	Roadside	Diffusion Tube	35	35	27	Same
D1	Cable Street, Lancaster	347684	461963	Roadside	Diffusion Tube	36	36	28	Same
E1	Cable Street, Lancaster	347684	461963	Roadside	Diffusion Tube	38	38	27	Same
H	South Road 1, Lancaster	347860	461127	Roadside	Diffusion Tube	27	26	21	Decrease
I	Parliament Street, Lancaster	347909	462015	Roadside	Diffusion Tube	33	32	23	Decrease
J	North Road, Lancaster	347852	461791	Roadside	Diffusion Tube	**40**	**40**	**28**	**Same**
K	Stonewell, Lancaster	347852	461791	Roadside	Diffusion Tube	35	34	27	Decrease
L	King Street, Lancaster	347612	461523	Roadside	Diffusion Tube	37	34	22	Decrease
O	Market Street, Carnforth	349906	470624	Roadside	Diffusion Tube	34	34	26	Same
Q	King Street, Lancaster	347665	461447	Roadside	Diffusion Tube	28	26	21	Decrease
V	Main Road, Galgate	348359	455273	Roadside	Diffusion Tube	33	33	24	Same
Z	Main Road, Galgate	348345	455273	Roadside	Diffusion Tube	33	32	23	Decrease
ZA	Salford Road, Galgate	348351	455381	Roadside	Diffusion Tube	26	24	18	Decrease

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	NO2 Annual Mean Concentration			Change between 2018 and 2019
						2018	2019	2020*	
ZB	Main Road, Galgate	348386	455471	Roadside	Diffusion Tube	24	22	16	Decrease
ZC	Main Road, Galgate	348375	455391	Roadside	Diffusion Tube	31	31	22	Same
CF1	Lancaster Road, Carnforth	349871	470525	Roadside	Diffusion Tube	27	30	25	Increase
CF2	Lancaster Road/Market Street, Carnforth	349934	470605	Roadside	Diffusion Tube	33	25	17	Decrease
CF3	Market Street, Carnforth	349853	470615	Roadside	Diffusion Tube	28	25	20	Decrease
CF4	Market Street, Carnforth	349890	470628	Roadside	Diffusion Tube	33	31	24	Decrease
CF5	Scotland Road, Carnforth	349963	470618	Roadside	Diffusion Tube	32	29	22	Decrease
CF6	Scotland Road, Carnforth	350000	470667	Roadside	Diffusion Tube	28	25	18	Decrease
CF7	Fernbank, Carnforth	349613	470225	Roadside	Diffusion Tube	25	22	17	Decrease
T1	Lancaster Road	345631	463693	Roadside	Diffusion Tube	28	24	21	Decrease
LC15	Caton Road, Lancaster	348199	462361	Roadside	Diffusion Tube	27	27	20	Same
LC18	Brock Street, Lancaster	347784	461565	Roadside	Diffusion Tube	29	25	19	Decrease
LC19	China Street, Lancaster	347502	461841	Roadside	Diffusion Tube	**43**	**45**	**40**	**Decrease**
LC20	China Street, Lancaster	347515	461835	Roadside	Diffusion Tube	39	38	29	Decrease
LC22	South Road, Lancaster	347928	461025	Roadside	Diffusion Tube	25	22	17	Decrease

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	NO2 Annual Mean Concentration			Change between 2018 and 2019
						2018	2019	2020*	
LC23	Greaves Road, Lancaster	347948	460893	Roadside	Diffusion Tube	27	26	20	Decrease
LC24	Greaves Road, Lancaster	347974	460514	Roadside	Diffusion Tube	25	24	18	Decrease
LC25	Scotforth Road, Lancaster	348084	459844	Roadside	Diffusion Tube	21	19	14	Decrease
LC26	Scotforth Road, Lancaster	347990	459418	Roadside	Diffusion Tube	29	27	20	Decrease
LC27	Scotforth Road, Lancaster	347989	459396	Roadside	Diffusion Tube	26	25	18	Decrease
BLS1	Main Road, Bolton-le-Sands	348594	468500	Roadside	Diffusion Tube	26	24	18	Decrease
H1	Heysham Road, Heysham	341964	463273	Roadside	Diffusion Tube	22	20	15	Decrease
CF8	Lancaster Road, Carnforth	349568	470044	Roadside	Diffusion Tube	27	26	20	Decrease
LC28	Newton Terrace, Caton Road, Lancaster	348517	463243	Roadside	Diffusion Tube	23	26	19	Increase
LC29	Newton Terrace, Caton Road, Lancaster	348527	463270	Roadside	Diffusion Tube	26	24	17	Decrease
LC30	Newton Terrace, Caton Road, Lancaster	348511	462226	Roadside	Diffusion Tube	28	22	16	Decrease
LC31	St Leonards Gate, Lancaster	348114	462071	Roadside	Diffusion Tube	33	31	22	Decrease
LC32	China Street, Lancaster	347511	461744	Roadside	Diffusion Tube	**44**	37		Decrease
LC33	Caton Road, Lancaster	348043	462118	Roadside	Diffusion Tube	35	34	23	Decrease
M6	Newlands Road, Lancaster	349271	460208	Roadside	Diffusion Tube	24	21	16	Decrease
MC4	Shrimp Roundabout, Morecambe	345240	463663	Roadside	Diffusion Tube		26	22	N/A

Site ID	Location	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	NO2 Annual Mean Concentration			Change between 2018 and 2019
						2018	2019	2020*	
LC34	Derwent Road, Lancaster	348623	461870	Roadside	Diffusion Tube		19	10	N/A