



Llywodraeth Cymru
Welsh Government

Clean Air Zone Framework for Wales



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1. Introduction

- 1.1** The Clean Air Zone Framework for Wales guides and facilitates the establishment of Clean Air Zones (CAZs) by Local Authorities as a means of accelerating compliance where it is needed, helping to reduce pollution more widely, and embedding a level of consistency.
- 1.2** Any Local Authority in Wales may introduce a CAZ. This document is aimed at Authorities who intend to introduce a CAZ in order to address air quality issues locally, whether as a result of identified legal exceedences or as part of a health improvement programme to address poor air.
- 1.3** In simple terms, a CAZ, as applying in Wales, shall be:
“A geographical target area where a range of co-ordinated actions are applied with the purpose of ensuring, in the soonest time possible, a significant reduction in public and environmental exposure to harmful airborne pollutants from all sources.”
- 1.4** The designation of a CAZ is seen as a much stronger commitment to achieve real improvements in air quality in an area than the designation of an Air Quality Management Area (AQMA) under the Environment Act 1995, which Local Authorities are required to do wherever they find non-compliance with one of the national air quality objectives. Declaring an AQMA (of which there are around 40 in Wales at the time of writing) triggers a requirement to produce a local air quality action plan “in pursuit of the achievement of air quality standards and objectives in the designated area”. Whereas in an AQMA the principal requirement is to pursue compliance with the national air quality objectives, in a CAZ it is to ensure air quality improvements in the soonest time possible.
- 1.5** Although no specific legal requirement exists to introduce a CAZ¹, modelling undertaken by Department for Environment, Food and Rural Affairs (defra)² has identified areas across the UK that may need to introduce a charging CAZ to achieve urgently needed compliance with air quality limit values stipulated in legislation in the soonest possible time (see list of relevant legislation at annex 1). Modelling has suggested that, if Local Authorities adopt a (CAZ) charging scheme, statutory nitrogen dioxide (NO₂) limit values could be achieved in most cases by 2021.³
- 1.6** This Framework describes what a CAZ is, under what circumstances it may be applied, and also the key considerations for Local Authorities who wish to establish one either with a charging scheme or in the form of a complete ban on vehicles that do not meet the stipulated emissions standards.
- 1.7** Road traffic has been identified as a significant source of a number of air pollutants.⁴ Therefore, at its core, a CAZ will be built around traffic access restrictions, either by the imposition of a complete ban on older, dirtier, vehicles or by still allowing all vehicles to enter a CAZ but charging the drivers of all but the cleanest vehicles.

¹ There are powers under the Environment Act 1995 to require local authorities to take steps to bring about compliance with air quality standards or objectives.

² uk-air.defra.gov.uk/library/no2ten

³ ‘UK plan for tackling roadside nitrogen dioxide concentrations’, defra & DfT, 2017

⁴ ‘What are the causes of air pollution?’, defra

- 1.8** As the air quality challenges will vary across different locations, CAZs will not be a generic, one size fits all, solution. However a CAZ should:
- consider the full range of sources of air pollution and environmental noise (not restricted to road use)
 - apply targeted action in a specific area to improve air quality and soundscapes and thereby improve the health and well-being of the population
 - aim to reduce all types of airborne pollution, including, but not restricted to, NO₂⁵, particulate matter (PM) and environmental noise, as well as greenhouse gases such as carbon dioxide (CO₂)
 - ensure that the environmental improvements which are achieved are long-lasting
 - act against potential increases in pollution arising through population growth, new development, or changes in land or building use.
- 1.9** Although compliance with air quality legislation may be a key driver for Local Authorities considering introducing a CAZ, the health benefits generally of reduced public exposure to airborne pollution that should arise from the operation of a CAZ will also be a significant consideration.
- 1.10** Cardiff has been identified as an area where a CAZ could potentially be implemented to achieve compliance in the soonest possible time. However, this doesn't preclude other Local Authorities from considering a CAZ where evidence of air quality issues may change in future or new areas of exceedance arise, or where an Authority may determine that such action should be taken in order to achieve reduced pollution levels and an improvement in public health.
- 1.11** Major sources of air pollution include construction, domestic wood and coal burning, industry, and energy generation⁶. Vehicles with an internal combustion engine (ICE) fuelled by petrol, diesel, or some biofuels, are responsible for emissions of PM, nitrogen oxides (NO_x), noise and a mixture of other pollutants. Even electric vehicles emit PM and noise through braking and tyre contact with the road surface. Evidence indicates that there is a strong causal link between all these pollutants and adverse human health and environmental impacts.
- 1.12** It is widely accepted that air pollution can lead to ill health and is responsible for thousands of hospital admissions in the UK each year, and increased mortality⁷. The World Health Organisation believe that 7 million premature deaths occur globally each year due to air pollution exposure⁸ and that over a million healthy life-years are lost in Western Europe each year due to the public's exposure to traffic-related noise.⁹
- 1.13** Taking action to improve the air quality for everyone in Wales is one of the key challenges we face in meeting our objectives under current environmental legislation and our aspirations for the well-being of future generations.

⁵ For detailed information on NO₂ see "UK plan for tackling roadside nitrogen dioxide concentrations", Defra, 2017

⁶ Emissions factors for key pollutants may be found on the National Atmospheric Emissions Inventory website at naei.beis.gov.uk/data/ef-all

⁷ For more information see www.gov.uk/government/publications/estimating-local-mortality-burdens-associated-with-particulate-air-pollution and www.gov.uk/government/publications/comeap-long-term-exposure-to-air-pollution-effect-on-mortality and www.gov.uk/government/uploads/system/uploads/attachment_data/file/460401/air-quality-econanalysis-nitrogen-interim-guidance.pdf

⁸ www.who.int/mediacentre/news/releases/2014/air-pollution/en

⁹ www.who.int/quantifying_ehimpacts/publications/e94888/en

- 1.14** The Well-being of Future Generations (Wales) Act 2015 (WFG) requires public bodies to think more about the long-term, work better with people and communities and each other, look to prevent problems occurring, and take a more joined-up approach. Our objectives for future generations include the promotion of good health and well-being for everyone, and to build healthier communities and better environments.
- 1.15** The Environment (Wales) Act 2016 sets a statutory target for reducing greenhouse gas emissions from Wales by 80% by 2050, against the 1990 baseline. Action to meet this goal, particularly in the transport and industry sectors, will significantly contribute to improving air quality. The Act requires Welsh Government to publish a report – The Low Carbon Delivery Plan – for each budgetary period setting out the policies and proposals which will permit Wales to meet the assigned carbon budget. In March 2019 we will publish our first Plan outlining how we intend to meet our first carbon budget (2016-20) and looking forward to how we might decarbonise further during the 2020s. We will consult on our long-term decarbonisation plans in summer 2018.
- 1.16** Air pollution has been described as the largest environmental risk to public health in the UK¹⁰.
- 1.17** Transport is often the major contributor to air pollution in urban areas, and a focus on emissions from this source can deliver significant gains in the soonest possible time. Most breaches of EU limits within the UK are a result of roadside NO₂, 80% of which comes from road vehicles.¹¹ The average level of NO₂ pollution in the air where people live is a national indicator under WFG and is published alongside equivalent indicators for PM.¹²
- 1.18** Improving air quality is a key priority in our *National Strategy: Prosperity for All*¹³ and contributes significantly to the majority of the well-being goals in WFG. *Healthy and Active* is a key theme in the Strategy, and sets out the ambition for a shift in approach from treatment to prevention.
- 1.19** In *Prosperity for all: The Economic Action Plan*¹⁴ we recognise the contribution made by the environment to our health, and commit to reducing emissions and delivering vital improvements in air quality. Measures include decarbonising our transport networks and improving the air quality of the communities they serve. The Plan has been developed to help communities and businesses rise to the challenges and opportunities of tomorrow.
- 1.20** The CAZ Framework is intended to ensure the consistent and effective implementation of CAZs by Local Authorities in Wales, wherever they are introduced.
- 1.21** CAZs provide a range of responses to meet the challenge of improving air quality in areas where evidence shows that urgent and concerted action is required to meet legislative requirements on pollutant limits and our wider aspirations for sustainable development and the well-being of future generations.

¹⁰ “Air Quality: A briefing for Directors of public health”, Defra and Public Health England, 2017

¹¹ “UK plan for tackling roadside nitrogen dioxide concentrations”, Defra, 2017

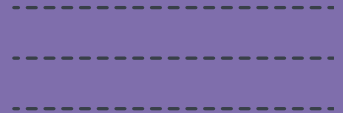
¹² <https://statswales.gov.wales/catalogue/environment-and-countryside/air-quality>

¹³ gov.wales/about/programme-for-government/?lang=en

¹⁴ gov.wales/topics/businessandconomy/welsh-economy/economic-action-plan/?lang=en

- 1.22** A CAZ should bring about reductions in all types of airborne pollution. As a significant source of local air pollution emanates from road vehicles, CAZs will need to encompass traffic management strategies, including the promotion of sustainable and active transport alternatives. This will include action to reduce the overall volume of traffic, and also to reduce the pollution emitted by the remaining vehicles entering Clean Air Zones by restricting access to only the cleanest vehicles. Improving infrastructure to support the introduction of cleaner vehicles, such as electric charging facilities, will also be an important component.
- 1.23** Ever growing traffic levels on our roads are increasingly difficult to manage, and are out of step with our increased focus on sustainable development. A successful CAZ would be expected to promote a reduction in overall traffic levels, and to limit the harm produced to health and the environment by remaining vehicles. This would be achieved by making a significant contribution to shifting travel from private motor vehicles to public transport and active travel alternatives, thereby greatly reducing emissions and road congestion not just within the CAZ, but in neighbouring roads also.
- 1.24** Although CAZs make provision for action to mitigate high vehicle emissions in specific target areas, unless applied carefully it is possible that polluting traffic could simply be diverted to neighbouring areas. Furthermore, achieving an emissions reduction to legal levels within the boundaries of the target area does not remove the risks to health presented by motor vehicles, either within the CAZ, or along roads outside of the CAZ.
- 1.25** Other sources of air pollution within a proposed CAZ boundary will also need to be fully considered, and a robust strategy must consider emissions from all sources, not just road traffic.
- 1.26** This Framework sets out the key issues that Local Authorities in Wales are expected to consider when devising a CAZ.

Planning a Clean Air Zone



2. Requirement to introduce a Clean Air Zone

- 2.1** Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe imposes various obligations on the United Kingdom in relation to air quality. The Directive is implemented in Wales through the Air Quality Standards (Wales) Regulations 2010, which sets limits for sulphur dioxide (SO₂), NO₂ and oxides of nitrogen, PM₁₀, PM_{2.5}, lead (Pb), benzene (C₆H₆) and carbon monoxide (CO). Wales currently meets the limits for almost all pollutants, but faces significant challenges in reducing levels of NO₂.
- 2.2** The Directive and the Wales Regulations provide for an hourly and an annual limit value for NO₂, as follows:
- an hourly limit value of an average of 200 micrograms per cubic metre (which must not be exceeded more than 18 times in a calendar year)
 - an annual limit value of an average of 40 micrograms per cubic metre.
- 2.3** Local Authorities have legal duties for Local Air Quality Management (LAQM) under the Environment Act 1995. They must assess air quality in their area, and, where standards and objectives are unlikely to be met, they must designate Air Quality Management Areas (AQMAs) and produce remedial air quality action plans. Guidance on LAQM has been made available on the Welsh Government website.¹⁵
- 2.4** There are currently around 40 AQMAs in Wales, all in South Wales, and all due to NO₂ associated with roads, with the single exception of Port Talbot.¹⁶ It is important to note that the way that air quality is assessed under LAQM is different from the way that it is assessed under the Directive, so AQMAs do not necessarily correspond to areas of non-compliance with the EU-derived limit value.
- 2.5** In order to address the specific air quality issues within an area, including any non-compliance with EU-derived limit values or national air quality objectives, a Local Authority may decide that the introduction of a CAZ would be the most beneficial strategy to meet the unique range of challenges in the area, and to ensure compliance with legal limits for NO₂ within the soonest possible time.
- 2.6** A feasibility study should be undertaken to assess whether a CAZ is likely to be the most efficient and effective way to reduce emissions below legal limits, or whether other, potentially less restrictive, measures may be at least equally as effective in achieving emissions requirements within the soonest possible time. Welsh Government funding may be available to support the costs of the study.
- 2.7** Options should be identified, explored, analysed and developed, and a full business case should be produced for the chosen option, setting out value for money considerations, implementation arrangements and timings. Sufficient timescales would be required to implement a CAZ, especially where infrastructure changes are required.
- 2.8** The HM Treasury's Green Book/Five Case Business Model¹⁷ approach should be used to ensure that the chosen option is proportionate and likely to be the most suitable solution.

¹⁵ gov.wales/topics/environmentcountryside/epq/airqualitypollution/airquality/guidance/?lang=en

¹⁶ "Research briefing: Air quality", Robert Abernethy, 2018

¹⁷ www.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf

- 2.9** The study should include an assessment of all emissions present within the area, and how this is apportioned across the various sources.
- 2.10** Consideration should be given to the levels of pollutants over time in order to develop a picture of peaks at particular parts of the day/week/month, which will help to direct any activity to address high emissions.
- 2.11** Modelling should be undertaken to analyse the potential impacts that may be derived from different clean air strategies, including CAZs. Transport modelling must be undertaken to assess vehicle flows and characteristics within the defined study area.
- 2.12** In identifying solutions to air quality problems, Local Authorities should frame their decision-making in the context of long-term sustainability, as required under WFG, and the five ways of working:
- Long term – The importance of balancing short-term needs with the need to safeguard the ability to also meet long-term needs.
 - Prevention – How acting to prevent problems occurring or getting worse may help public bodies meet their objectives.
 - Integration – Considering how the public body’s well-being objectives may impact upon each of the well-being goals, on their other objectives, or on the objectives of other public bodies.
 - Collaboration – Acting in collaboration with any other person (or different parts of the body itself) that could help the body to meet its well-being objectives.
 - Involvement – The importance of involving people with an interest in achieving the well-being goals, and ensuring that those people reflect the diversity of the area which the body serves.

What the five ways of working means for LAQM in Wales is explored in detail in statutory policy guidance issued by the Welsh Government in 2017.¹⁸

- 2.13** Where action is being taken as a result of non-compliance with legal air pollution limits, the chosen option must be that which is most likely to deliver compliance in the soonest time possible, by a route which reduces exposure as quickly as possible, and ensures that meeting limits is not just possible but likely.
- 2.14** Where it has been decided that a CAZ should be introduced, the range of potential CAZ measures included in this framework should be considered in order of relative merit, as applicable to specific local needs, and potential to at the very least meet legal air pollution limits.
- 2.15** Effective air quality management will require collaboration both within Local Authorities and also with other bodies and organisations. Improvements cannot be achieved in isolation but will require effective partnership working. The development of a CAZ will not be the sole responsibility of Local Authority Environmental Health/Pollution Control functions, but will require co-operation across departments such as Planning, Highways and Transport Management, etc.

¹⁸ gov.wales/topics/environmentcountryside/epq/airqualitypollution/airquality/guidance/policy-guidance/?lang=en

- 2.16** Bringing airborne pollution down below legal exposure levels should not be seen as the end goal, but as an important step in moving towards a healthier society and a low carbon and low emissions economy.
- 2.17** Action taken to reduce pollution should be proportionate to the scale of the problem. It may be decided that a CAZ is not likely to be the most efficient solution to air quality issues locally. Decision making should be based on robust evidence to justify the chosen course of action.
- 2.18** The Welsh Government will work with Local Authorities in the development of their CAZ plans.
- 2.19** Where it is deemed that sufficient action has not been taken to reduce air pollution to acceptable levels, the Welsh Government may exercise its functions under Part IV of the Environment Act 1995 to direct a Local Authority to undertake a feasibility study preparatory to the introduction of a CAZ.

3. Defining the boundaries

- 3.1** As part of the process of developing an action plan to address air quality concerns in an AQMA, Local Authorities will have already considered the range of contributory factors.
- 3.2** In terms of road traffic, Local Authorities should, where possible, develop an understanding of the starting point and destination of motor vehicles passing through the area.
- 3.3** An understanding of the different types of vehicle, the reasons why they are entering the area, and their journey start and destination points, will help inform how this traffic can be better managed.
- 3.4** Close working with neighbouring authorities will be required where significant traffic has its source outside of the Local Authority area.
- 3.5** Careful thought will need to be given to the geographical coverage of a CAZ which should directly address identified air quality problems whilst avoiding the potential for simply moving polluting traffic into neighbouring areas. The size and layout of the CAZ should be such that the potential for this is limited. A wider area of coverage can limit opportunities for drivers of dirtier vehicles to avoid compliance by taking an alternative route.
- 3.6** The exact boundaries will be affected by a range of factors including proximity of the main pollution sources, the nature of the road infrastructure and topography in the area, and may also consider the location of any sensitive receptor locations such as schools and health clinics.
- 3.7** The boundaries must be established through a thorough assessment of all the issues and evidence must show that the proposed geographical area of the CAZ has been designed to maximise air quality gains where they are most needed. Avoiding disproportionate impacts that may result from an unnecessarily large area of coverage should also be a factor when determining the boundaries.
- 3.8** Consideration should be given to potential impacts on residents and businesses within the proposed CAZ, and how any negative impacts may be ameliorated (without compromising air quality targets), whether in terms of health and well-being, or potential financial effects.

4. Initial engagement and awareness

- 4.1** The importance of early public engagement cannot be overstated, both in terms of raising awareness of a proposed CAZ, and also in terms of involving the community in the development of the proposals. The more time allowed for this activity, the better prepared people and businesses will be for the introduction of a CAZ.
- 4.2** As soon as the potential for a CAZ is being explored by a Local Authority, planning should commence on a strategy for engagement with the public and businesses.
- 4.3** It is essential that the public and businesses are clearly informed of both the intention to introduce a CAZ, and also of the implications of doing so and what this means for those likely to be affected.
- 4.4** Engagement opportunities should be provided for all parties likely to be affected, such as residents, local businesses, public transport providers, and haulage companies, so that they may contribute to the ultimate design of the CAZ.
- 4.5** Where a Local Authority undertakes formal consultation on their proposals, it is recommended that this be undertaken in line with the Consultation Institute's '7 Best Practice Principles'.¹⁹
- 4.6** When undertaking engagement activity, the health and environmental benefits of improved air and soundscape quality should be made clear, and the reasons for the proposed CAZ explained in this context. Public Health Wales can provide advice on the issues. Raising awareness of the health problems associated with poor air quality and environmental noise is important in ensuring that the public are informed, and understand the imperative for action.
- 4.7** Reducing congestion on our roads and making our streets safer, cleaner, and more pleasant places to be, is a generally positive aspiration that the public can be expected to engage with. Utilising these messages in public engagement activity can help influence public behaviour to support the move towards cleaner modes of travel. The Cabinet Office document, *Mindspace*, provides helpful advice on behaviour change strategies in policy making.²⁰
- 4.8** A communications campaign should encompass a range of media, including social and print media, and advertising. Clear notice should be given of timescales and the boundaries of a proposed CAZ, and what restrictions will be applied, and at what times.
- 4.9** Advice should be provided to the public to illustrate all the alternative ways of accessing a CAZ without reliance on cars for the journey.
- 4.10** A strategy to communicate the health issues associated with traffic emissions, and to advise of the options for cleaner travel, can support public engagement. Advice should be made available to the public on how they can improve their health, and that of others, by incorporating an element of active travel in their journeys and by utilising the public transport options available to them.

¹⁹ www.consultationinstitute.org/consultation-charter-7-best-practice-principles

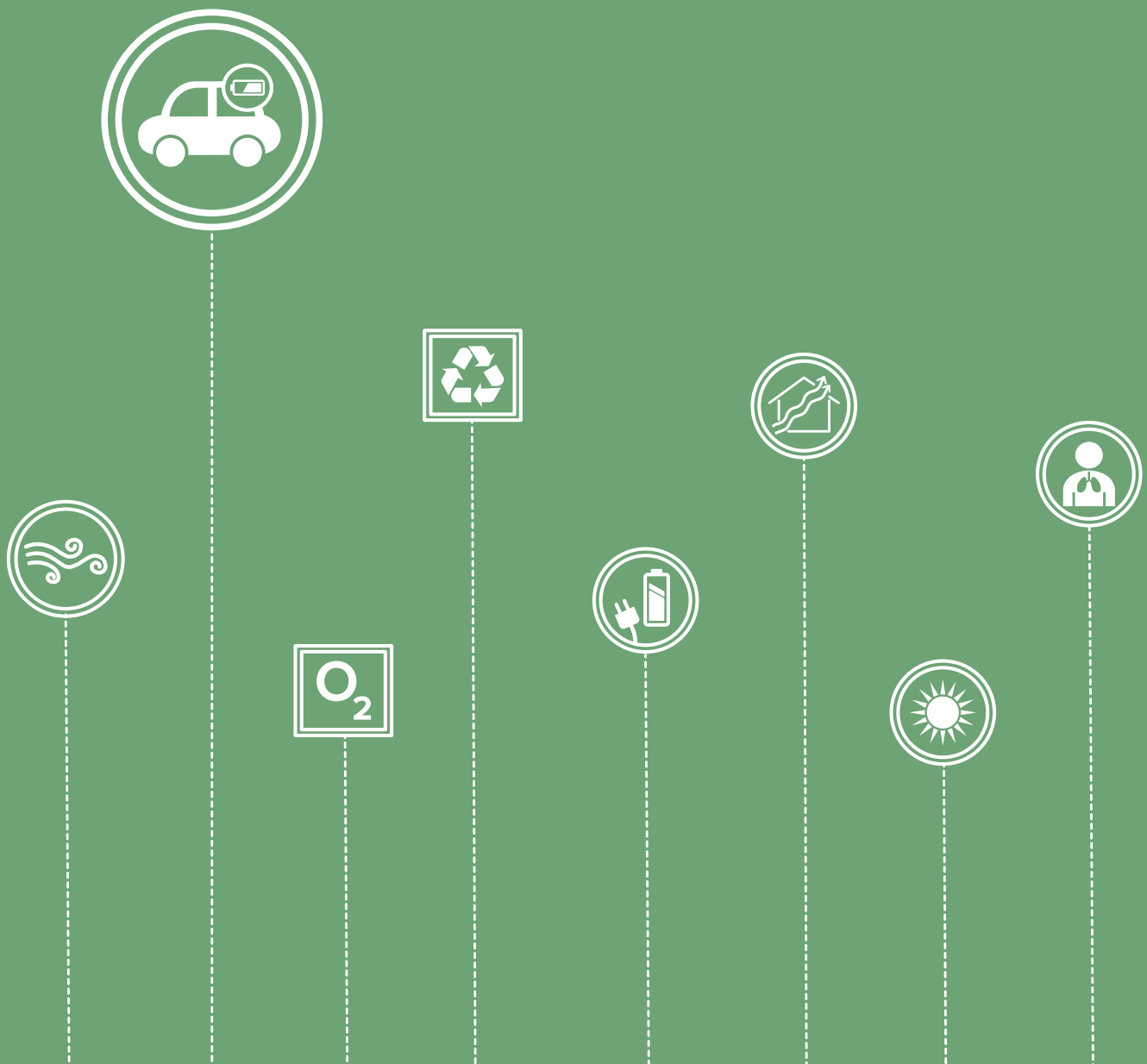
²⁰ *Mindspace: Influencing behaviour through public policy*, Cabinet Office, 2010

- 4.11** Any advice concerning the health implications of poor air quality should be produced in line with the six basic principles set out in Working together to reduce outdoor air pollution, risks and inequalities: Guidance to support policy and practice development across the NHS in Wales (Public Health Wales, 2018).²¹
- 4.12** A CAZ plan should be a collective/shared proposal, informed and influenced by all relevant stakeholders. All partners should be involved in these discussions from the outset to influence CAZ development so that opportunities to collaborate to reduce air pollution and protect and promote health (in line with WFG ways of working²²) are maximised. From a public health perspective, this is the only way that health and environmental benefits can be properly proposed, communicated and achieved.
- 4.13** Sufficient and adequate notice of the arrangements for introduction should be provided. The period between the launch of a CAZ proposal, and its subsequent introduction, should be of sufficient duration to allow a reasonable time for road users to adjust. The introduction of a CAZ may, where there is a strong case to do so, be phased to apply to individual classes of vehicle initially, before being extended to other vehicle classes. Any unnecessary delay in the introduction of a CAZ should be avoided, and the primary objective shall be to introduce measures in the soonest time possible.
- 4.14** Consideration must be given to the potential impacts on businesses in and around the proposed CAZ, and how any negative outcomes may be best mitigated.
- 4.15** Preparation for those likely to be affected by a proposed CAZ may include retro-fitting of abatement technologies to enable a vehicle to be compliant with emissions requirements. Alternatively, some vehicle operators/motorists may require time to seek replacement of their vehicles with less polluting models, such as EVs, or to plan for alternative routes or modes of transport. The cost to businesses to making any necessary adaptations, and any potential mitigations, must be considered.

²¹ To be published Spring 2018

²² gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en

Defining a Clean Air Zone



5. Options for reducing emissions

- 5.1** Although, for consistency, there should be a level of uniformity between CAZs in Wales, including branding/signage, and the uniform application of emissions standards to limit access to non-compliant vehicles, there will be flexibility for Local Authorities to tailor approaches to meet local needs.
- 5.2** The following list, which is not exhaustive, contains some of the key elements that should be considered in the development of a local/regional clean air strategy, and prioritised in a CAZ. Not all interventions, in themselves, will have the potential to lead to large/quantifiable reductions in air and noise pollution, but can act cumulatively to produce more significant change.
- 5.3** In designing a CAZ, Local Authorities should consider the potential impacts on vulnerable groups and those with protected characteristics. There may be a need for mitigation measures to ensure that any negative consequences are reduced as far as possible.

Traffic management

Good traffic management derives from the study of interactions between all travellers and their vehicles, and fixed infrastructure, in order to develop optimal efficiency of movement with minimal congestion.

The careful application of traffic management systems within a CAZ can help to ease congestion and reduce harmful emissions arising from stop/start driving in low gear.

Ensuring a smooth flow of traffic can be aided in a number of ways, including designing road layouts to improve traffic flow such as the introduction on one-way streets, the removal of speed bumps or replacement with road cushions (where it is safe to do so), changes to junctions, and encouraging the use of real-time information so that travellers may better manage their journeys. In some instances, roads may be blocked or turned into cycle priority streets to reduce through traffic in sensitive areas in a CAZ. Traffic calming measures should be designed in a way that promotes a steady speed.

Schemes should prioritise those areas where the public may be most at risk, including locations where vulnerable groups may gather.

Design solutions aimed at improving traffic flow, such as conventional roundabouts and one way systems can be dangerous or inconvenient for walkers and cyclists, and should only be introduced where this does not discourage walking and cycling journeys, or where alternatives are provided for these groups. For example, multi-lane one way systems can be traffic-heavy and problematic for cyclists and pedestrians to negotiate, whereas a cycling contra-flow system on a lesser, single-lane system, can create a much more attractive and safer environment.

Arrangements should prioritise a reduction in overall levels of air and noise pollution in those areas where the most vulnerable are likely to be exposed, such as schools and health services.

Authorities must consider the wider impact that any changes may have, particularly, on measures in place to improve road safety, and should consider potential effects on vulnerable groups.

The Welsh Transport Appraisal Guidance (WelTAG) 2017²³ should be used in the development of all transport measures. The Guidance provides a framework for thinking about proposed changes to the transport system. It contains best practice for the development, appraisal and evaluation of proposed transport interventions in Wales. It has been developed by the Welsh Government to ensure that public funds are invested in a way that ensures they maximise contribution to the well-being of Wales.

Staggered work hours can also help to reduce traffic congestion by reducing the number of vehicles on the roads at any given time during peak hours, spreading traffic across a greater portion of the day. Local Authorities should consider flexible working day options to support their employees at locations where they would likely to be travelling to and from work via a designated CAZ in order to get there. Authorities may also work with businesses to encourage them to develop travel plans that may reduce employee travel impacts.

Intelligent traffic management systems include a range of technologies from GPS-enabled vehicles through to advanced systems monitoring live traffic flow and adjusting road speeds and traffic signalling accordingly to optimise traffic flow through an area.

Real-time air quality alerts can alert the public to incidents of high pollution levels and enable them to make choices to avoid particular roads on their journeys.

Traffic light sequencing can be intelligently adjusted to reflect real-time demands, maximising the number of vehicles that can move through a junction at all times of the day, reducing unnecessary queues and associated emissions.

Supporting active travel

Support for active travel initiatives should link directly to wider public health policy and practice to reduce physical inactivity and promote better health and well-being. It should be rooted in the public health policy that drives work on improving physical activity.

Active travel can directly reduce road congestion and traffic emissions and also improve health and well-being. In turn, this has the potential to reduce individual and population susceptibility to adverse health effects of air and noise pollution exposure and could reduce health inequalities.

In densely populated areas, where air and noise pollution are often most concentrated, average journey distances are shorter and active travel offers a viable alternative to motorised transport.

Where surplus revenue may be generated by a charging CAZ, directing funds to support walking, cycling and public transport initiatives can secure public buy-in.

The Active Travel (Wales) Act 2013 is intended to make it easier for people to walk and cycle, making these the modes of choice for short to medium journeys. Local Authorities must map and plan suitable active travel routes in the largest 142 settlements in Wales, and publish their Integrated Network Maps. They need to build and improve walking and cycling infrastructure every year.

The Active Travel Act is supported by Statutory Guidance:

- Statutory guidance for the delivery of the Active Travel (Wales) Act 2013
- Design Guidance – Active Travel (Wales) Act 2013

²³ beta.gov.wales/welsh-transport-appraisal-guidance-weltag

The provision of high quality walking and cycling infrastructure is a key component in encouraging people to switch journeys from motorised private transport to active travel modes. The availability of public bicycle hire schemes at key journey start/destination points can support uptake.

All walking and cycling infrastructure should be planned in a consistent and comprehensive manner that enables convenient and safe active travel journeys, as set out in the Design Guidance. Routes and facilities should comply with the published standards, which are regularly updated.

The duties also include promotion of active travel. Local Authorities should provide information on active travel options so that the public are informed of healthier and environmentally-friendlier ways to travel within a CAZ. This should include information about public transport options, cycling and walking routes and associated facilities such as cycle parking.

Research has shown that concerns regarding potentially higher exposure to harmful air pollutants for people who are cycling or walking are unfounded in the vast majority of cases and that the health benefits of active travel far outweigh the exposure to pollutants, except in the most extreme pollution scenarios.²⁴ It is nonetheless preferable to identify and prioritise walking and cycling routes with lower pollution levels and this will be reflected in the forthcoming update to the statutory design guidance.

Supporting public transport providers to meet emissions standards

There are a range of opportunities available to Local Authorities to influence public transport providers to utilise cleaner vehicles. These include licensing requirements, franchise arrangements, and by working in partnership to support providers to meet CAZ emissions standards (see annex 2).

Close working with public transport operators in the area will be essential to ensure a smooth transition to new arrangements.

The Welsh Government is working with a number of Local Authorities to target future public funding of bus services and their supporting infrastructure on reducing harmful emissions in areas facing particular emission challenges.

The Low Emission Bus Scheme provides funding, via a competitive bidding process, to help increase the uptake of low/ultra low emission buses.

Potential for the phasing-in of a new CAZ can allow operators essential time to prepare for increased demand and to ensure that their vehicles are compliant. Any lead-in times should be reasonable and should avoid any unnecessary continuance of the use of non-compliant vehicles over a lengthy time-period after the introduction of a CAZ. Local Authorities may also work with bus operators to consider the potential for switching their fleet around to ensure that the cleanest vehicles are used within the CAZ.

²⁴ "Do the health benefits of cycling outweigh the risks?", Johan de Hartog, Boogaard H, Nijland H, Hoek G, 2011

Incentivisation

The provision of incentives can be a powerful way of influencing behaviour, and can be a valuable element of a CAZ. Incentives can reward greener behaviours and discourage or prevent more polluting behaviours.

Incentivisation can include the provision of a direct financial benefit and/or increased convenience.

Some incentives that Local Authorities could consider include:

- Reduced or free parking for Ultra Low Emission Vehicles (ULEVs) and increased charges for non-compliant vehicles (if a charging CAZ is introduced)
- Schemes to reward businesses for helping to meet air quality objectives
- Preferential parking bays for ULEVs
- Strategic charging points for EVs
- Restricted traffic lanes for ULEVs
- Preferential delivery bays for ULEVs
- Low emission taxi preference at ranks
- Accreditation schemes for businesses who actively engage in initiatives that help reduce the air quality impact of travel by their staff or suppliers.

Any proposed incentives should consider potential negative consequences, such as a potential increase in PM and the impact of this on people's health.

Any incentive initiatives should be developed with reference to *MindSpace: Influencing Behaviour through public policy*.

Planning policy

Planning decisions have an important part to play in reducing the potential of communities being exposed to poor air quality. All planning decisions for new development must be taken within the context of the land use planning policy for Wales guidance, *Planning Policy Wales (PPW)*.²⁵

PPW has been reviewed to take account of WFG (revised policy out for public consultation²⁶ at the time of writing). The role of placemaking is a key focus of the new consultation draft, which requires those engaged in the planning system to think about places and well-being in a joined-up way rather than addressing single issues in isolation. The purpose of this strong focus on recognising, understanding and valuing the different characteristics of places is part of maximising the contribution of the system towards the well-being goals. This includes those characteristics relating to environmental quality as well as social, cultural and economic aspirations.

The consultation draft PPW contains a greater emphasis on prioritising the location and design of development in the first instance for walking and cycling, then by public transport, and finally by private motor vehicles and sets out a minimum threshold (relating to new non-residential car parking spaces) for the installation of EV charging facilities. Air and soundscape quality is addressed as a key component of the natural and built environment, placing the issues on an equal footing with other objectives such as housing, transport

²⁵ Out to consultation at time of writing; beta.gov.wales/planning-policy-wales-edition-10

²⁶ beta.gov.wales/planning-policy-wales-edition-10

and economic development. It is the expectation that it will ensure long-term approaches are taken to prevent the creation of new, or worsening of existing, problems and seek to encourage integrated solutions which aim to reduce average levels of airborne pollution.

The policy will work with and complement the designation of a CAZ, and all those participating in the planning process will need to consider the effects which proposed developments have on air and soundscape quality and the effects which existing air and soundscape quality may have on proposed development. This includes addressing the relationship between pollution sources and receptors, identifying the choices available in existing problematic areas and securing appropriate mitigation measures, including green infrastructure, as well as more generally seeking the incorporation of measures to reduce overall exposure to airborne pollution.

Park and Ride facilities

The potential for new or expanded park and ride facilities should be explored as part of the strategy for reducing the number of vehicles entering a CAZ.

Park and Ride provision enables drivers to leave their cars outside busy town and city centres, whilst still being able to conveniently access them. Also, they bring public transport within reach of those not otherwise within reach of a bus or train service.

These facilities, which may be located at bus stops or train stations, generally charge a reasonable fee for combined parking and return travel.

Use of Park and Ride reduces congestion on busy roads within town and city centres, and also the polluting emissions associated with it. Drivers also benefit from the reduced stress of negotiating roads that they may not always be familiar with, in the pursuit of scarce, and often expensive, parking.

Other benefits of Park and Ride can be as a location to meet for car-sharing purposes, and also as a potential location for clustering EV charging infrastructure. Charging facilities at such locations may help to increase the attractiveness of EVs, particularly for drivers who may be concerned about vehicle range.

The impact of new facilities on communities in the area should be considered and the potential for diverting polluting vehicles into these communities should be minimised.

Vehicle idling

Vehicle engine idling can be a cause of noise nuisance as well as an unnecessary contributor to poor air quality. Sometimes engines are left idling in order that car heating/cooling systems can still operate, or in order to continue to power an entertainment system. Buses also tend to idle unnecessarily during lengthy waits at bus stops.

Local Authorities have the powers to issue fixed penalties for stationary idling under The Road Traffic (Vehicle Emissions) (Fixed Penalty) (Wales) Regulations 2003.

Reducing instances of unnecessary vehicle idling should be a standard element of a CAZ strategy, and public communications activity around CAZs should include advice on this offence and the potential consequences.

Local Authorities should work with bus operators to encourage them to introduce non-idling policies.

Sensitive receptor locations, such as schools and hospitals, are areas where the public are more susceptible to the adverse effects of exposure to pollutants. Monitoring of potential engine idling hotspots should be undertaken, including, in particular, these locations, and other areas where drivers will tend to be waiting in their vehicles.

An awareness campaign to alert drivers at such hotspots can increase understanding of this problem, and compliance with anti-idling requirements. Engagement should make clear the potential harm arising from this practice, and the potential for fixed penalty fines to be issued.

Promoting public transport take-up

Increasing the take up of public transport will be a significant focus of a CAZ. Good quality, inexpensive, efficient and convenient public transport will provide an attractive alternative mode of travel to the private motor car.

Switching from a private motor vehicle to public transport can significantly reduce the pollution associated with a journey. A high number of passengers can be transported in a single vehicle, helping to lower traffic congestion and airborne pollution, as well as the stress of driving.

Some of the key factors to consider in any strategy to encourage take up of public transport will include:

- Advertising the availability of services as widely as possible.
- Making sure that vehicles are comfortable, clean, safe and look appealing.
- Ensuring that vehicles are given a level of road priority to ensure that they can travel at reasonable speeds thereby achieving shorter journey times.
- Addressing overcrowding by ensuring a sufficient number of vehicles.
- Ensuring that public transport locations are in the most suitable and convenient places.
- Providing a full range of clear payment options, including cash, and ensuring that change is available so that travellers are not inconvenienced if they do not have the exact denomination of coins to pay for their journey.
- Through ticketing systems enabling travellers to get to their destinations more efficiently.
- Promoting services as an environmentally friendlier option, particularly where alternative fuels such as LPG are being used in place of diesel engines.
- Encouraging health and active travel utilising public transport for part of a journey.
- Advising people that travel by public transport is safer, and there is no need to have to search for parking at the destination.
- Ensure accessible for wheel chairs, push chair and bicycles, and that buses include Audio Visual equipment.
- Ensure good customer service on public transport.
- Highlighting the continuing improvements in the quality of bus services.
- Enhanced bus driver training in disability, equality and customer service.

Adjusting speed limits

Vehicle emissions are not solely determined by the relative efficiency of the vehicle, but also by the way in which it is driven, including speed.

Consideration should be given to lowering speed limits in a CAZ from 30mph to 20mph, which some research suggests would deliver overall benefits²⁷. Safety benefits from reduced road speed can also encourage modal shift from private cars.

Robust, up-to-date, data should always be considered when reviewing speed limits to ensure that any changes do not have undesirable consequences for vehicle emissions, including noise pollution, or for potential road casualties.

Encouraging better driver behaviour

Fleet managers in particular will be aware of the importance to efficiency of better driver behaviour on the roads. Improved driving habits can also contribute to a lowering of emissions (air and noise pollution and greenhouse gases) and should therefore be encouraged generally, but particularly within a CAZ.

Communications about a CAZ may promote good driving habits.

The following suggestions can help to ensure that unnecessary vehicle emissions are kept to a minimum:

- Journeys should be carefully planned to ensure that the most efficient and direct route is taken (use of GPS technology can be helpful, when used carefully).
- Observe speed limits and avoid rapid acceleration, pulling away carefully from a stop position.
- Avoid heavy braking by keeping to a sensible speed for driving conditions and maintaining a suitable distance from the vehicle in front.
- Avoid harsh steering.
- Allow plenty of time for the journey.
- Never allow a vehicle engine to idle unnecessarily, and turn the engine off when parked.
- Do not rev the engine when the vehicle is stopped.

Careful management of Heavy Goods Vehicle (HGV) access

HGVs are usually powered by large diesel engines, producing a markedly high level of air pollution where not to Euro VI standard.²⁸ Alternatives are becoming more available, including gas-powered options and EVs, and these can offer some advantages to hauliers particularly where it can provide them with an edge when tendering for contracts. Local Authorities may encourage the use of non-diesel powered vehicles by including specific requirements in tender specifications, supporting grid infrastructure, EV charging points, Autogas (automotive liquid petroleum gas/LPG) and hydrogen refuelling infrastructure.

Locating transshipment areas outside of CAZs can provide a means of re-directing more polluting lorries and vans away from roads within a CAZ. Goods can then be carried into a CAZ within vehicles that are compliant.

Public transport infrastructure

Whilst integrated transport planning must encompass all transport modes, making public transport more attractive is crucial for encouraging people to give up their own vehicles.

²⁷ Twenty miles per hour speed limits: a sustainable solution to public health problems in Wales', Sarah J Jones & Huw Brunt, 2017

²⁸ www.theicct.org/publications/nox-emissions-heavy-duty-and-light-duty-diesel-vehicles-eu-comparison-real-world

Dedicated bus lanes have a value in reducing journey times, making bus travel more efficient and more appealing to users. They can also help to reduce pollution (including on the buses themselves) as buses are not affected by road congestion in the neighbouring traffic lanes.

Other strategies for increasing take-up include publicising clear illustrated guides to the local public transport infrastructure showing links and arrival/departure times, and clarity around charging and payment methods.

Transport for Wales has been established to work towards a high quality, safe, integrated, affordable and accessible bus and rail network, and are able to advise on infrastructure matters.

Travel to school

School children are particularly at risk from exposure to vehicle emissions where the school is sited near a busy road, or where routes between school and home involve travel along busy roads.

Additionally, the school run can often lead to significant additional traffic on the roads as many children are driven to school instead of walking, cycling, scooting or utilising public transport.

Local Authorities should engage with schools within, or neighbouring, CAZs in order to support education around pollution and active travel and public transport options, as well as enforcing messages around anti-idling and other ways of reducing emissions from private motor vehicles.

Welsh Government programmes to fund the creation of safe walking and cycling routes to schools and to promote walking and cycling in schools are available to support Local Authorities' efforts to increase the number of children who travel to school actively.

Cleaner transport fleet

Vehicle fleet operators will need to ensure that they are compliant with CAZ requirements alongside all other road users.

The Cabinet Secretary for Energy, Planning and Rural Affairs, Lesley Griffiths, has stated her ambition for the Welsh public sector to be carbon neutral by 2030. Improvements to Local Authority fleets would certainly contribute to this agenda and provide a positive example for others to follow.

The costs of renewing bus fleets and private hire vehicles/taxis to meet the latest standards can be very high. Smaller fleet operators, who have longer vehicle replacement cycles, and owners of more expensive specialised vehicles, may be disproportionately affected. Operators with larger fleets may choose to redirect their cleanest vehicles to operate within a CAZ, and utilise older vehicles elsewhere.

Retro-fitting of abatement technology to older vehicles can provide a cost-effective solution to meet emissions standards.

Early engagement with the local public transport sector is essential to ensure that providers have the time, and the understanding of the new requirements, to be able to adapt their fleets as economically and efficiently as possible, and without any unnecessary disruption to services.

Taxis and private hire vehicles

Addressing the emissions of taxis and private hire vehicles will form an essential part of a CAZ, and will need to meet the required emissions standards alongside other vehicles.

Prosperity For All: economic action plan notes the aim that; “all taxis and buses in Wales will have a zero carbon footprint within 10 years.”

Local Authorities may consider using their Licensing powers to ensure that taxis and private hire vehicles registered in their Authority areas are only the very cleanest. Work may also be undertaken with neighbouring Authorities to agree common standards.

Licensed drivers should be informed about what a CAZ will mean for them, and what their options are to ensure that they are able to make the best-informed choices when upgrading or replacing their vehicles. Awareness campaigns should consider how messages will be communicated to taxi and PHV drivers operating out of area, and not licensed by the Authority responsible for the CAZ.

Construction/Non-Road Mobile Machinery (NRMM)

Construction sites are notable potential sources of airborne pollution, which may arise from noise, emissions from NRMM, and dust particles.

NRMM covers all portable combustion engine driven equipment not designed as road transport. This can include vehicles that may be driven on the roads such as diggers, tractors and bulldozers through to generators and small items of hand-held equipment such as chainsaws and garden strimmers.

NRMM engines can make a significant contribution to air pollution, and it is appropriate that emissions from such machinery are controlled, where possible, within a CAZ.

Construction companies working within a CAZ should be encouraged to use equipment meeting Stage IV of the EU Directive 97/68/EC. Where there are compelling reasons why this cannot be achieved, such as the specialist nature of certain equipment, then Local Authorities may work with developers/construction companies to agree a satisfactory alternative solution.

This should apply to all new construction developments not yet commenced, and should be included as a requirement in planning conditions. For developments already under way, an exemption waiver may be considered.

Autogas (automotive LPG)

Autogas vehicles have some advantages over diesel and petrol vehicles, including lower emissions, whilst also being widely available in filling stations. Biogas fuel, or Biopropane, offers renewable alternatives to the standard ‘fossil’ LPG, further increasing its attractiveness as an alternative to traditional vehicle fuels.

Euro emissions standards, however, do not currently accommodate LPG powered vehicles, and so they are measured against the standard for the vehicle type pre-conversion.

However, due to the advantages of reduced emissions, LPG powered vehicles are considered to meet the requirements of a CAZ under this Framework.

Take up of ULEVs

The UK Government has set out that sales of new conventional petrol and diesel cars and vans will end by 2040²⁹, setting a target for all new cars and vans to be zero emission by this date. CAZs provide an opportunity to encourage the take up of ULEV alternatives.

ULEVs are the generic name for a range of vehicle types that produce less than 75g/km of CO₂, including fuel cell and electric vehicles (EVs). They support requirements of CAZs around emissions reductions, and owners can benefit from the ability to avoid restrictions placed on drivers of standard vehicles with higher emissions. Drivers can, therefore, enjoy the confidence that they will be able to access the road network around the UK without having to worry about whether or not they may contravene access restrictions in pollution hotspots.

Use of ULEVs is now also attracting some tax benefits, making them an attractive option for owners, and also for use as company cars. Grants have also been made available to reduce the cost of new ULEV vehicles, and to support the cost of installing charging points.

As part of a wider communications strategy around CAZs, the take-up of ULEVs should be encouraged. Road users may be advised that, whilst the vehicle emissions groups that meet CAZ restrictions may potentially change over time as standards are tightened, owners of ULEVs should be unaffected.

Opportunities may be taken, also, to showcase ULEV vehicles, explaining their benefits, and the financial incentives that are available.

Local Authorities should ensure that drivers of EVs are able to access charging points within a CAZ, and that hydrogen refuelling stations are in close proximity, to further encourage their use.

Local Authorities should work with local businesses, and the public, to publicise the benefits of ULEV and the incentives available, and to encourage take up.

Consideration may also be given to opening up some pedestrianised roads to ULEV vehicles where there could be a case to return them to an earlier standard road/pavement layout, and where it would be safe to do so.

Improvements to the natural environment/green infrastructure

Making CAZs attractive is important, both as a concept, thereby encouraging buy-in from the public, but also a physical entity which the public can see by making the most of tree/shrub and flower planting.

Careful planting arrangements can be used, alongside formal signage, to denote the entry points to CAZs, helping to delineate their boundaries whilst, at the same time, supporting the concept of CAZs as clean and pleasant locations.

Sensitive placement of trees, hedgerows and green infrastructure more broadly can contribute to reducing the harmful effects of airborne pollution in a number of ways, depending on factors such as species, size, age, and planting location/density.

These include, but are not limited to:

- removing pollution from the air and aiding its dispersion
- putting a buffer between sources of pollution and the people exposed to them
- acting as a traffic calming measure.

²⁹ "The clean growth strategy: Leading the way to a low carbon future", H M Government, 2017

Care should be taken to avoid the potential of planting having the effect of restricting the dispersion of pollutants such as where tree cover may be too dense within a built-up area.

Car club provision and public bicycle hire

Car clubs provide vehicles that can be booked for short periods of time, as and when needed, enabling non vehicle owners to have access to a vehicle when required. This can save people the high costs of owning and maintaining their own vehicle, and encourage the use of vehicles only when needed.

The clubs are operated by a range of different providers who make vehicles available in different locations for booking by members. Providers include; Blue City, BVRLA, Carplus, Co-wheels, DriveNow, E-car club, Enterprise car club, GoDrive, Hertz 24/7, Ubeeqo Car Club, and Zipcar.

Local Authorities are encouraged to undertake a survey of car club provision in their areas, and work with providers to fill any potential gaps.

Car clubs should also be promoted by Local Authorities as a way of enjoying the use of a vehicle without the inconvenience and cost of keeping one on the road, including purchase and loan costs, maintenance and other ongoing costs, fuel charges, as well as the cost and inconvenience of parking.

Public bike hire schemes offer an affordable and flexible solution aimed at people who either do not own a bike or are longer distance commuters and other visitors. They enable these groups to make inner urban journeys by bike.

Car sharing

According to figures recorded by Department for Transport (DfT), the majority of journeys in cars and vans in England are undertaken by the driver alone, with no passengers, and for the typical commute most motorists will be on their own.³⁰

Car sharing schemes reduce the number of individual journeys on the roads, reducing traffic congestion and resultant emissions. They also reduce costs for individuals in terms of fuel and also potential parking charges.

Local Authorities, and other public bodies located in the neighbourhood of a CAZ should actively promote the take-up of car sharing for staff.

Schemes to encourage take-up can include organising car sharing on behalf of staff, and the provision of reserved parking spaces for those taking up the initiative.

Car sharing best practice should be promoted also to businesses located within the neighbourhood of a CAZ. Local Authorities should consider strategies for promoting schemes, including encouraging the use of online services such as *Liftshare*, and *Blablacar*. Welsh Government funds a car sharing website called *Share Cymru*³¹ which enables users to list planned journeys to find someone to share with.

Consideration may be given to allowing car sharers to access road lanes otherwise restricted to traffic generally. Where two or more lanes are available to traffic without existing restrictions, there may be potential to designate a lane for the use of car sharers and public transport vehicles only.

³⁰ www.statista.com/statistics/314733/single-occupant-car-journeys-in-england/

³¹ sharecymru.carbonheroes.com/share-cymru-faq.aspx

Engagement with businesses to consider how they can support emissions reductions

Local Authorities are well placed to provide a lead to local businesses on transport matters. This includes the promotion to staff of cleaner transport options, and ensuring that vehicles utilised by Local Authorities themselves meet, or go beyond, CAZ requirements.

Local businesses should be encouraged to consider flexible working patterns for their employees, including different start/finish times and home-working, all of which can help to reduce congestion on the roads at peak times.

Where businesses provide car parking for their staff, opportunities exist for restricting access to such parking to those who have the greenest travel modes (those car-sharing, or those with ULEV vehicles, for example). Consideration may also be given to charging for provision in order to make it less attractive for staff to use, thereby encouraging car-sharing to share costs, or use of public transport.

Deliveries to and from local businesses may be timed to take place during off-peak hours.

Commercial fleet vehicles may need to be upgraded or replaced to meet the emissions requirements of a CAZ, and Local Authorities should liaise with local businesses to help them to work towards compliance deadlines.

Home heating and electric power installations

Home heating equipment/boilers can adversely affect air quality through the burning of gas or solid fuel, resulting in emissions such as NO_x and PM.

Having an efficient heating installation fitted can help reduce energy bills for home owners and businesses, as well as reducing polluting emissions.

Helping individuals and businesses understand the savings that can be made, and any funding that may be available to support energy efficiency building improvements, will help to reduce the impact on the environment of heating buildings.

Small-scale generation, or microgeneration, is the individual production of heat and electricity in homes or small businesses. A range of technologies are available and the energy produced can either supplement or replace that provided by the national grid.

Small-scale generation of heat and electric power can be both lower carbon and provide long term certainty on energy costs for individuals and businesses. Wind turbine and solar power are two of the more common methods of generating power in this way.

Small-scale generation may be considered as part of any new development with a CAZ, or as a retro-fit by existing property owners. This should also consider the impact on local grid infrastructure.

Fireplaces/stoves/wood burners

The burning, in stoves and open fireplaces, of solid fuel for heating has become increasingly popular once more, despite the widespread use of central heating systems. However, the burning process releases PM into the air, thereby contributing to a reduction in air quality. In some instances the contribution made by fuel burning to overall emissions in an area can rival that produced by motor vehicles for some pollutants.³²

³² naei.beis.gov.uk/data/ef-all

Under the Clean Air Act 1993 it is an offence to emit smoke from a chimney of a building or a chimney serving a furnace of a fixed boiler or an industrial plant, if that chimney is within a smoke control area, unless an 'authorised fuel' is being used. The Smoke Control Areas (Authorised Fuels) (Wales) Regulations 2017 set out the fuels that are authorised for the purposes of the Act.

An understanding of the scale of solid fuel burning in a CAZ, and its contribution to air quality reductions, should be developed. Options may be considered to raise awareness about domestic fuel burning and the law and, where necessary, to utilise powers under the Clean Air Act 1993 to declare a smoke control area around a CAZ.

Within a CAZ Local Authorities may encourage the use of improved technology and cleaner fuels in order to encourage reduced emissions where fuel burning is occurring.

A suitable campaign should make clear the pollution issues associated with domestic fuel burning, and should set out ways of reducing harmful emissions from appliances and open fireplaces. Advice should promote the use of modern and more efficient installations, the burning of less harmful fuels (such as dry, properly seasoned timber and some briquettes, chips and pellets), proper maintenance, and how to ensure that installations are correctly fitted by registered specialists and are safe.

Campaign literature may also promote, instead, the use of central heating systems, which may offer a range of options for low carbon heating in the future.

Future proposed developments within or in proximity to a CAZ

The potential impacts from future known developments around or within a CAZ will need to be fully considered. Such developments may include construction projects, infrastructure, or an expansion of business/industrial activity.

A full picture of known developments should be examined, and an understanding developed of how these may impact on air quality. This process should inform decisions on how any negative impacts may be best mitigated.

6. Vehicle access restrictions

6.1 The preferred model for CAZs in Wales is to restrict access to only the least polluting vehicles based on Euro Emissions Standards with allowance for gas-powered vehicles (see annex 2). These standards define acceptable limits for exhaust emissions of all new vehicles sold in the European Union/member states, with respect to four main emissions; CO, hydrocarbons (HC), nitrogen oxides (NOx), and particulate matter (PM).

6.2 A fixed-penalty enforcement regime should be applied to vehicles driven within the boundaries of a CAZ that do not meet access requirements. Automatic Number Plate Recognition (ANPR) technology would be the most efficient way of support enforcement, although there will be costs in installing and operating such a system. There may also be difficulties associated with identifying suitable sites for ANPR infrastructure. Local Authorities would need to carefully consider the optimal locations for ANPR camera equipment to provide the best level of coverage.³³

³³ The Home Office have produced guidance on ANPR Performance Assessment and Optimisation which is available at www.gov.uk/government/uploads/system/uploads/attachment_data/file/295206/cast0814.pdf

- 6.3** Periodically the emissions standards to be applied will be updated in order to apply more rigorous standards as they are introduced, including the addition of tighter access restrictions based on real-world emissions data where available.
- 6.4** The emissions standards at annex 2 should be applied uniformly across CAZs in Wales to ensure consistency.
- 6.5** Restricting access to certain vehicles in a CAZ can help to reduce the attractiveness, generally, of private motor vehicle use, and encourage take up of public transport and active travel options.
- 6.6** Access restrictions will also provide significant and immediate reductions in polluting emissions, ensuring compliance during the times of operations.
- 6.7** For those who still choose to use their own vehicles, access to CAZs will still be available where vehicles are compliant with the CAZ emissions standards.
- 6.8** Consideration should be given to the period of operation of a CAZ, whether that be 24 hours a day, 7 days a week, or during specified days/times in the week.
- 6.9** Decisions about the period of application will need to consider the particular traffic demands of the area, including the need for access by commercial vehicles meeting business needs. If evidence suggests that compliance with legal emissions limits can be gained by reducing access during certain times of the day, then Local Authorities may wish to apply CAZ access restrictions in line with this evidence.
- 6.10** Modelling should be undertaken to predict the likely reduction in the number of vehicles on the roads as a result of the CAZ, and to what extent alternative modes of access will be utilised. For example, what level of increased demand for public transport is likely to result, and how will services accommodate this?
- 6.11** Access restrictions for non-compliant vehicles could unfairly affect those from lower income groups who may not have the means to upgrade or replace their vehicles, and also for some small businesses operating on low profit margins.
- 6.12** An Economic Impact Assessment and also a Health Impact Assessment should be undertaken to evaluate the potential impacts that may result from any restrictions that will apply within a CAZ, and to determine potential mitigations to limit any negative consequences. Assessment should consider the full potential impact of the proposed CAZ, and the costs and benefits should be carefully weighed. Any action taken to address air quality issues should be proportionate and in line with well-being of future generations requirements.³⁴

7. Charging for access to a CAZ

- 7.1** Potentially, a Local Authority may determine that a total ban on access for vehicles that don't meet the CAZ emissions standards would have significant negative consequences which would outweigh the benefits. Instead, allowing limited access for non-compliant vehicles,

³⁴ gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en

constrained via a charging mechanism, might still achieve air quality requirements whilst limiting potential unintended consequences such as the closure of businesses unable to adapt.

- 7.2** A charging CAZ may be introduced where evidence shows that this will provide an effective means to reduce airborne pollution and deliver compliance with legal limits for NO₂ in the soonest possible time.
- 7.3** Charging the drivers of certain vehicles to access a CAZ can encourage people to consider, instead, public transport or active travel options. For some, it may also encourage the take up of ULEVs.
- 7.4** Although the primary purpose of charging is to encourage behaviour change, it will generate a revenue stream which may (although not necessarily) cover the costs of operating a CAZ, and may also generate additional income. However, charging can have the effect of rationing access to only those who can afford it, effectively enabling people to continue to pollute if they are able to pay the access charge or upgrade their vehicle.
- 7.5** Charging, where considered, should not be viewed as a way of generating income, and any surplus funds arising from charging should be reinvested to support local transport policies.
- 7.6** Decisions on whether or not to introduce fee charging for entering a CAZ will need to consider a range of matters:
- The expected reduction in key pollutants and whether this would address non-compliance with legal limits in the soonest possible time
 - The expected impact on traffic volume
 - The extent to which more polluting vehicles will be discouraged
 - The level of fees and the vehicle types to which they will apply
 - The process for collecting fees
 - An enforcement regime to deal with non-payment
 - Potential detrimental impact on areas neighbouring the CAZ
 - Boundaries
 - How active travel may be accommodated
 - The times during which charging will apply
 - The capital cost of the necessary infrastructure to enable charging
 - The level of fees likely to be generated, whether this will cover operating costs, and any restrictions on how surplus revenue may be utilised³⁵.
- 7.7** Charging could be applied to only the outer part of a CAZ, with a total ban on all but the cleanest vehicles being enforced within the centre of the zone. This may have a number of advantages. It could deliver early compliance with air quality legal requirements whilst still allowing some level of access to drivers of non-compliant vehicles. It would also allow road users more time to adjust and get used to the concept of a CAZ, and would help to push investment in the cleanest vehicles as we move away from vehicles powered by ICEs with the exhaust pipe emissions that they produce.

³⁵ In their report *'Building a low-carbon economy in Wales: Setting Welsh carbon targets'* (December 2017), the Committee on Climate Change suggest; "There is potential to recycle revenue from clean-air zones into cycling infrastructure and public transport, including procurement of ultra-low-emissions buses."

- 7.8** Where a complete ban is applied to the centre of a CAZ only, this may act as an attractive example to all residents, businesses and visitors, who can see and feel the difference between this and the area covered by charging. Over time, the area covered by charging may be reduced, and the area covered by the total ban increased until it covers the entire CAZ.
- 7.9** Charges, where applied, should be high enough to act as a deterrent, but should not be unreasonably punitive.
- 7.10** Charges should be set at a level for each vehicle class based on their air quality impacts, and should discourage drivers from entering the zone or to encourage them to upgrade their vehicles.
- 7.11** Local Authorities should publicise charges and ensure that these are prominently displayed outside the boundaries of a CAZ.
- 7.12** ANPR would be required to enable charging to be applied effectively. The costs of putting in place and operating the necessary infrastructure for charging are likely to be high, and it is possible that the system would not be self-financing. The more effective the charge is as a deterrent to polluting behaviour, the fewer people will opt to pay it.

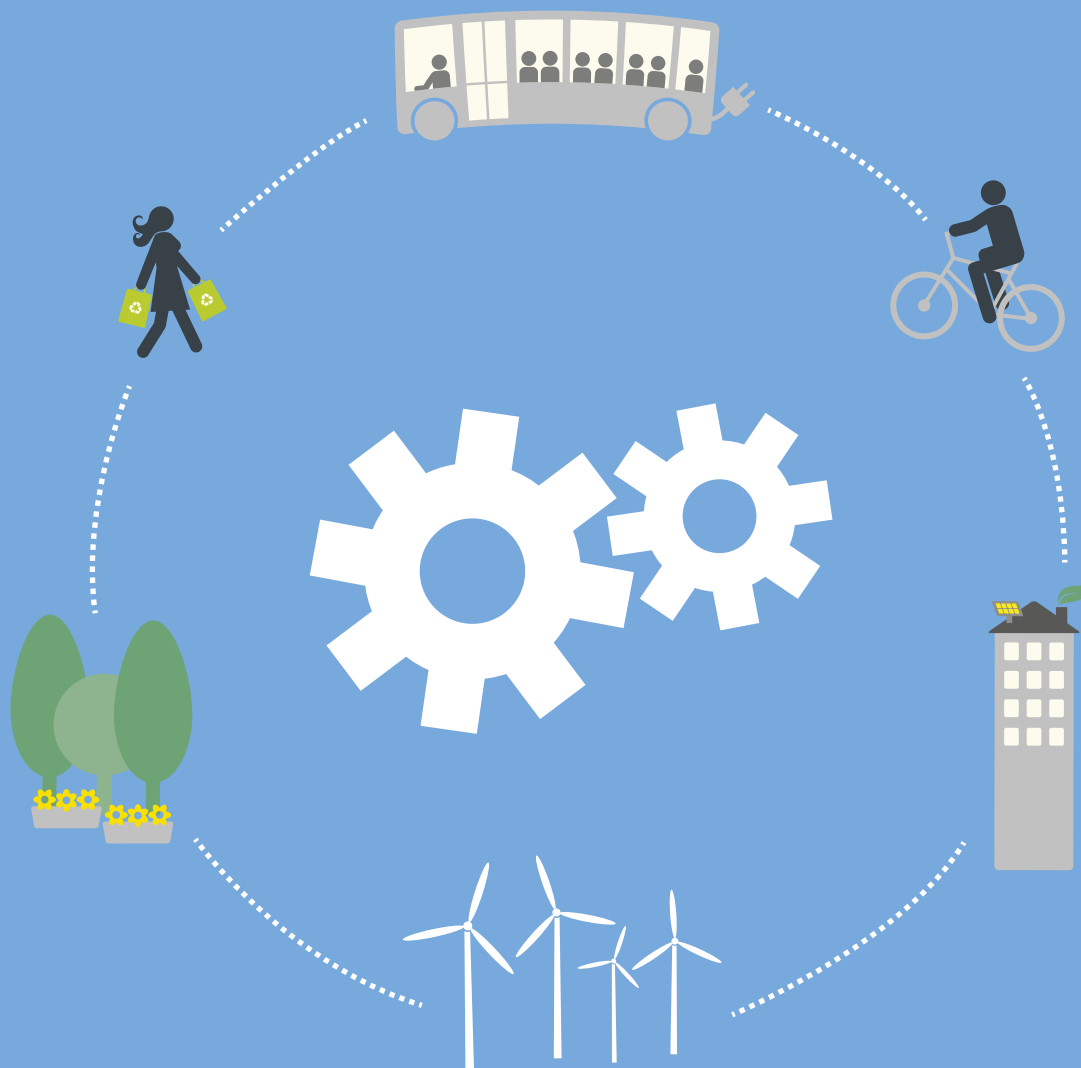
8. Potential traffic displacement

- 8.1** An efficiently operating CAZ should have the effect of reducing overall traffic levels whilst allowing only the cleanest vehicles to access them.
- 8.2** A local CAZ strategy will require great care in order to minimise the potential for a simple displacement of older and more polluting vehicles into neighbouring areas, thereby making air quality worse.
- 8.3** Displacement of vehicles to outlying roads can result in higher overall emissions and additional congestion as journey distances may increase. Accident rates may increase in these roads if not properly managed, and community severance effects may be exacerbated.
- 8.4** In designing a local CAZ, Local Authorities should consider how vehicle numbers on the roads can be reduced generally, and not just within the boundaries of the CAZ.
- 8.5** It is crucial that people can continue to move through a CAZ as before but, instead, in a way which reduces the environmental impact of their journeys.
- 8.6** Simply excluding certain vehicles from entering a CAZ, without a supporting structure to encourage access by cleaner transport modes, will tend to push polluting vehicles to the roads outside the boundaries of the CAZ. This will simply move the problem elsewhere, exacerbating existing congestion problems in neighbouring roads.
- 8.7** A thoroughly considered strategy for a new CAZ should develop realistic and achievable options for reducing the number of single-occupier vehicle journeys through the CAZ with minimal impact on surrounding roads.

9. Exemptions

- 9.1** It is appropriate that an exemption should apply to certain vehicles where the vehicle would automatically be compliant with emissions standards, or where it would be difficult to gain speedy compliance or unreasonable to expect compliance to be met.
- 9.2** Certain groups of people would also be unfairly disadvantaged should restrictions be applied to them.
- 9.3** Exemptions should be applied to the groups of vehicles listed in annex 3.
- 9.4** All vehicles not included in the list of exemptions will be required to comply with the requirements of a CAZ.
- 9.5** However, Local Authorities may wish to consider additional discretionary exemptions where it is decided that there are compelling reasons to do so. This would need to be considered against the potential harm that may arise from allowing non-compliant vehicles to be used in a CAZ.
- 9.6** Exemptions would need to be formally applied for, and granted for a suitable duration.
- 9.7** Exemptions will need to be reviewed at intervals to ensure that the original exemption reasons remain valid.

Operating a Clean Air Zone



10. Residents

- 10.1** The requirement to comply with emissions standards will apply equally to residents within a CAZ, although there may be a case for introducing some measures initially to ensure that residents are not unfairly disadvantaged. This should be considered in the context that they will already be disadvantaged by high airborne pollution levels and therefore will directly benefit from the CAZ when it is implemented.
- 10.2** Residents within a CAZ will not have the same choices available to others who reside outside of the boundaries, and the impact on residents should be carefully managed.
- 10.3** A sufficient lead-in time following the announcement of a CAZ, of around six months prior to launch, will help to give residents time to become compliant.
- 10.4** Exemptions for certain drivers/vehicles may be obtained under a limited range of circumstances (see Exemptions section).
- 10.5** Local Authorities may wish to consider a specific, time-bound, exemption for residents of a CAZ to allow greater time for them to become compliant with requirements, or a reduced fee, initially, should a charging CAZ be introduced.
- 10.6** Any exemption or discount awarded to residents should be time-bound as equal compliance for both residents and non-residents should ultimately be expected.

11. Signage

- 11.1** It is important that a CAZ is a tangible and visible entity that the public is able to clearly recognise and understand.
- 11.2** Clear signage/road markings/advertising/physical infrastructure must be used to denote the boundaries of the CAZ, and the times during which the CAZ restrictions apply.
- 11.3** Signs should be prominently displayed so that drivers are aware and would be unlikely to stray into a CAZ in error and thereby potentially incur a charge or fine.
- 11.4** Alternative routes for traffic must be clearly displayed on signage so that it is clear how the CAZ may be avoided for those driving vehicles that do not meet the requirements.
- 11.5** A standardised, bilingual format for all signage will be provided by Welsh Government, along with logos and style/brand guidance. This will help to avoid any confusion that may arise should individual CAZ schemes apply unique signage arrangements.

12. Enforcement

- 12.1** To aid enforcement, a penalty regime will need to be determined, with penalty values varying across vehicle groups. Penalty rates should be set at a level to ensure that they are sufficient to act as a deterrent to entering a CAZ in a non-compliant vehicle/avoiding any charges that will apply in a charging CAZ.

- 12.2** ANPR technology provides the most efficient way of identifying vehicles on the roads, and has a very high reliability rate in terms of the proportion of vehicles that cameras can capture. However, installation and ongoing operation costs are high, and authorities will need to consider how this will be funded, especially if a charging structure is not applied.
- 12.3** A mechanism will be required to distinguish between those vehicles that are allowed unrestricted access (either because they meet the required emissions standards, or hold a valid exemption), and those that are not. Welsh Government will work with Local Authorities to develop a means for identifying vehicles and compliance status.

13. Ongoing engagement and awareness

- 13.1** Engagement with the public should not end once a CAZ has been introduced. An ongoing communications plan should continue to raise awareness of the key information that people need to know about a CAZ.
- 13.2** A range of methods should be explored to help reach as broad a range of groups as possible. This may encompass traditional printed media and advertising, as well as the internet and social media platforms.
- 13.3** Activity should adhere to the National Principles for Public Engagement in Wales.³⁶
- 13.4** Drivers will need clarity about the boundaries of a CAZ, and alternative routes to avoid restricted roads so that journeys can be properly planned.
- 13.5** Occasional updates should be provided to keep people and businesses informed about how the CAZ is working, and what benefits it has brought about.
- 13.6** A dedicated page on the Local Authority website should be made available so that people may find out about a CAZ, the times when it is in operation, and the requirements for travelling within it.
- 13.7** Links to individual local authority pages will be made available on the Air Quality in Wales website, providing a central location for information about CAZ's in Wales.

14. Measuring effectiveness

- 14.1** It is important that air quality measurements are taken throughout the proposed CAZ boundaries prior to introduction so that baseline data is available for comparison. If noise benefits are anticipated as an additional benefit arising from the CAZ, baseline noise measurements should be taken so that those improvements can be measured.
- 14.2** Air quality (and where appropriate, noise) readings should continue to be taken over time following the launch of the CAZ in order to monitor changes in target pollutants and to provide a robust evaluation of environmental and health impacts against forecasts.

³⁶ participation.cymru/en/principles/

- 14.3** Data should be used to inform whether any adjustments need to be made to the CAZ strategy in an area to maximise impact.
- 14.4** Careful evaluation should be undertaken when both devising a CAZ strategy and also during the operation of a CAZ to determine ongoing effectiveness of the measures put in place.
- 14.5** Existing monitoring and assessment, prior to the introduction of a CAZ, should continue whilst restrictions are in operation so that resultant reductions in polluting emissions may be measured to ensure that the CAZ is achieving the requirement to, at the very least, deliver compliance with legal air quality limits.
- 14.6** Where potential infringements of CAZ restrictions become evident over time, the range of potential reasons for this should be considered, and suitable measures put in place to reduce the incidences.

Glossary

AQMA	Air Quality Management Area
C₆H₆	Benzene
CAFE	Directive 2008/50/EC on Cleaner Air for Europe
CAZ	Clean Air Zone
CO	Carbon monoxide
CO₂	Carbon dioxide
CVRAS	Clean Vehicle Retrofit Accreditation Scheme
defra	Department for Environment, Food and Rural Affairs
EV	Electric vehicle
HGV	Heavy goods vehicle
HC	Hydrocarbons
ICE	Internal combustion engine
LAQM	Local Air Quality Management
LPG	Liquid petroleum gas
NO₂	Nitrogen dioxide
NO_x	Nitrogen oxides
Pb	Lead
PM	Particulate matter
SO₂	Sulphur dioxide
ULEV	Ultra low emission vehicle
WFG	The Well-being of Future Generations (Wales) Act 2015



Annex 1: Air quality legislation in Wales

The following list details the relevant legislation applying within Wales:

- Ambient Air Quality Directive 2008/50/EC on Cleaner Air for Europe (CAFE) sets legally binding limits for concentrations of major air pollutants that impact public health such as particulate matter (PM) and Nitrogen Dioxide (NO₂).
- Directive 2004/107/EC creates targets for the concentration of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air.
- The Environment Act 1995 establishes the framework for Local Air Quality Management (LAQM).
- The Clean Air Act 1993 aims to protect public health from smoke emissions.
- Air Quality Standards (Wales) Regulations 2010 brings into law in Wales the limits set out in the EU Directives on air quality.
- The Air Quality (Wales) Regulations 2000, as amended by the Air Quality (Wales) Amendment Regulations 2002 brings into law the national air quality objectives applicable to LAQM.
- The Environment (Wales) Act 2016 covers the planning and management of natural resources in a more proactive, sustainable and joined-up way.
- The Well-being of Future Generations (Wales) Act 2015 requires public bodies to act in a sustainable way, looking to the long term, working better with people and communities and each other, looking to prevent problems and take a more joined-up approach.

Annex 2: Emissions standards to apply within a Clean Air Zone in Wales (2018)

This table lists the emissions standards that vehicles will have to meet for unrestricted access to a CAZ in Wales. Restrictions may apply to any of the vehicle categories listed. The table will be updated periodically to tighten the standards as we move towards the target of zero emissions transport.³⁷

Vehicle type	Euro Category	Euro Emission Standard
Bus and Coach	M3 (GVW over 5,000kg and more than 8 seats in addition to the driver) M2 (GVW not exceeding 5,000kg, ref mass exceeding 2,610kg and more than 8 seats in addition to the driver)	Euro VI (with retrofitted diesel engines meeting Euro VI by using the Clean Vehicle Retrofit Accreditation Scheme (CVRAS))
Minibus	M2 (GVW not exceeding 5,000kg, ref. mass not exceeding 2,840kg and more than 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
Taxi and Private Hire	Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
HGV	N2 (GVW over 3,500kg and ref. mass over 2,610kg) N3 (GVW over 5,000kg)	Euro VI (with retrofitted diesel engines meeting Euro VI by using the CVRAS)
Large van	N1 (GVW not exceeding 3,500kg and ref. mass not over 1,305kg but not exceeding 2,840kg) N2 (GVW over 3,500kg and ref. mass not exceeding 2,840kg)	Euro 6 (diesel) Euro 4 (petrol)
Small van and light commercial	N1 (GVW not exceeding 3,500kg and ref. mass not exceeding 1,305kg)	Euro 6 (diesel) Euro 4 (petrol)
Cars	Passenger vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Motorcycles and mopeds*	Not applicable	Euro 4

*Vehicle types include powered cycle, two and three-wheel moped, on-road quad, quadrimobile, two-wheel motorcycle (with and without sidecar), and tricycle.

³⁷ UK Government road to zero emissions strategy due to be published in 2018

Annex 3: Vehicles and categories of drivers exempted from CAZ restrictions (2018)

The following vehicles and categories of driver may access a CAZ without restriction. This list will be updated periodically to ensure that it remains appropriate.

- Emergency response vehicles fitted with audible and visual warning devices
- Military vehicles (by virtue of s.349 Armed Forces Act 2006)
- Construction vehicles/machinery where already in use prior to the commencement of the CAZ
- Social care providers who are required to be on call
- Up to two vehicles nominated by Blue Badge holders
- Residents (with a sunset period)
- Vehicles retro-fitted with an emissions control device approved by the Clean Vehicle Retrofit Accreditation Scheme (CVRAS)
- ULEVs
- Autogas (LPG) vehicles
- Refuse vehicles
- Historic vehicles that cannot be upgraded to meet emissions standards
- Community transport vehicles
- Specialist vehicles that cannot be made compliant.

Annex 4: Future policy to support delivery of clean air for Wales

The Welsh Government is committed to ensuring sustained clean air in Wales. The actions in this Framework will support delivery of this outcome and will contribute to ensuring compliance with NO₂ limit values within the shortest possible time. However, we must go further. We are establishing a cross-Government Clean Air Programme for Wales this spring to reduce the burden of poor air quality on human health and the natural environment. In the nearer term, it will support delivery of actions required to comply with our European and domestic legislative air quality obligations.

A key action for the programme is the development of a Clean Air Plan for Wales, which we intend to publish for consultation in 2018 with a view to publishing in early 2019. The new Clean Air Plan for Wales will include a range of measures to support our aspirations for clean air, including:

- key pollutants and their effects on public health and the natural environment in Wales
- short, medium and long term actions across a range of Welsh Government departments and sectors to achieve clean air in Wales
- details about the establishment of an Air Quality Assessment and Monitoring Centre for Wales, to advise local and national government on the extent of poor air quality and the effectiveness of current and future actions
- proposed communications, engagement and education to encourage behavioural change to support air quality improvements
- proposed improvements to local authority reporting on air quality issues in their areas and their plans to deal with them
- measures to achieve compliance with the European and domestic legislative requirements.

The Welsh Government is establishing an Air Quality Monitoring and Assessment Centre to help provide the evidence needed for timely, coherent and effective decision making on air quality matters in Wales, at both the local and the national government level. The Centre will provide a continuous focus on achieving compliance with legal limits as a minimum benchmark, whilst reducing exposure to poor air quality where it is needed the most. It will help target actions to achieve the greatest benefits in terms of public health and well-being.

Alongside this consultation, the Welsh Government is also issuing a consultation in April 2018 entitled; *'Tackling roadside nitrogen dioxide concentrations in Wales – Welsh Government supplemental plan to the UK plan for tackling roadside nitrogen dioxide concentrations 2017'*. The Plan sets out how we will reduce concentrations of NO₂ where levels are above legal limits in Wales, to achieve statutory limit values as soon as possible.

On 19 September 2017, the Welsh Government First Minister published *Prosperity for All: the national strategy*. The Strategy sets out the aims of this government and provides clarity about the changes we want to make in Wales and how government and delivery partners can work together to be part of a new approach to delivering priorities. A key commitment under this Strategy is to build healthier communities and better environments. It states “the contribution made by the environment to good health cannot be overstated. Air quality, good housing, access to green spaces and energy efficiency schemes each have a part to play in creating the right conditions for better health, well-being and greater physical activity. Through planning, infrastructure, regulation, and health communication measures, we will reduce emissions and deliver vital improvements in air quality.”

The Well-being of Future Generations (Wales) Act 2015 (“the WFG Act”) details the ways in which specified public bodies, including the Welsh Ministers, must set their well-being objectives, and take steps to meet them, in accordance with the sustainable development principle (sections 2, 3 and 5). It encourages public authorities to work together to maximise their contribution to achieving the vision for Wales set out in the national wellbeing goals (section 4). To focus the Welsh public sector’s attention on the problem of poor air quality, the Welsh Government has made average population exposure to nitrogen dioxide one of the national indicators under the Act. National indicators are used to measure progress towards well-being goals (section 10). Reducing levels of air pollution to within legislative limits in the soonest possible time will contribute, directly and through associated impacts, to achieving those well-being goals.

Complementing the WFG Act, the Environment (Wales) Act 2016 sets out the ‘sustainable management of natural resources’ (SMNR). SMNR means using natural resources in a way and at a rate that promotes the achievement of the objective to maintain and enhance the resilience of ecosystems and the benefits they provide, and that, in doing so, meets the needs of present generations without compromising the ability of future generations to meet their needs and contributes to the achievement of the well-being goals set out in the WFG Act. The definition of “natural resources” includes air. The Act sets out a framework for the delivery of SMNR, which includes a statutory evidence base: The State of Natural Resources Report published by Natural Resources Wales in 2016, and a statutory Natural Resources Policy which was published in August 2017. The Natural Resources Policy sets out the challenges and opportunities for managing Wales’ natural resources sustainably, which includes reducing pollution levels in our air and enhancing air quality. The policy also sets out three interconnected national priorities for tackling the challenges and realising the opportunities; delivering nature-based solutions, increasing renewable energy and resource efficiency and taking a place based approach. Policies will be aligned to their delivery. Actions for air quality include taking practical steps to improve air quality across Wales, not just in the most polluted hotspots but across Wales. This will require a mix of action to address pollution from traffic and other sources and to improve the ability of the natural environment to absorb pollutants through tree planting and green infrastructure.

Wales’ national planning policy has been completely rewritten in light of the Well-being of Future Generations Act and the revised text was published for public consultation on 12 February with responses required by 18 May.³⁸

The consultation draft of Planning Policy Wales Edition 10 contains a completely new section on air quality and soundscape, running from paragraph 5.125 to paragraph 5.146. There are other references to air quality, noise and soundscape running throughout in the document.

Reducing the contribution of transport to air pollution and other harmful emissions is a key objective of the Welsh Government’s Transport Strategy – *One Wales Connecting the Nation*. This Strategy is currently under review and will be published in draft for consultation during 2018. The revised Strategy will set out how transport will deliver the four key themes in Taking Wales Forward and deliver against the Priority areas set out in Prosperity for All. The Welsh Government first published a National Transport Finance Plan in July 2015 setting out investment priorities for transport for the next five years and beyond. The plan is a live document; a revised Plan will be published in December 2018.

The Wales Transport Strategy and concomitant National Transport Finance plan set out a number of interventions that will be taken forward in the period which are designed to have

³⁸ Planning Policy Wales Consultation – consultations.gov.wales/consultations/planning-policy-wales-edition-10

a beneficial impact on air quality resulting from reduction in harmful emissions from motor vehicles by promoting a shift to more sustainable methods of transport such as walking and cycling and integrated public transport, and supporting highway schemes that are designed to reduce traffic congestion.

The Welsh Government is currently developing policies and proposals to help Wales meet its carbon budgets and targets provided for within the Environment (Wales) Act 2016, including policies and proposals for transport. We will engage with stakeholders to help develop these policies and proposals, which will encompass all transport modes, and will include measures to help promote the uptake of low emission vehicles in Wales.

We have already committed to providing £2 million to help secure a network of electric vehicle charging points throughout Wales. The funding will be released in 2018/2019 and 2019/2020. A key priority will be the installation of a network of points along/near our trunk road network for longer through journeys as this has been the focus of concern in terms of range anxiety and therefore the promotion of uptake.

We are installing EV charging points in Welsh Government offices and scoping installation in the wider Welsh Government estate, including CADW and the Trading Estate.

We have and will continue to advise local authorities, bus operators and other businesses on bidding for UK Government funding that extends to Wales, including the Low Emission Bus Fund and Workplace Charging Scheme.

We are working in collaboration with the UK Government's Department for Transport following the UK Chancellor's Budget commitment to invest more money in low carbon vehicles and how it will extend to Wales.

In June 2017 the Welsh Government issued new statutory policy guidance to local authorities in Wales which ensures that the ways of working enshrined in the WFG Act³⁹ are applied fully in local authorities' air quality management work. The new guidance stresses the need for transport and planning departments in local authorities to work collaboratively with air quality teams if local air quality management is to succeed. This statutory guidance recognises schools and active travel routes, amongst others, as "sensitive receptor locations".

Addressing air quality in Wales is an urgent issue and local authorities will be crucial to achieving the speedy development of a broad range of solutions. The Welsh Government will therefore invite local authorities to apply for use of Green Infrastructure funding to secure any monitoring equipment they need for assessing, mapping and targeting appropriate solutions which includes the development and/or enhancement of local green infrastructure.

In 2012 the Welsh Government launched a grant scheme for local authority led projects to improve air quality, noise and the provision of tranquil urban green space, with an annual budget of £500,000. This was combined with other grant funding streams in 2015, to form a single revenue grant (SRG) for environment and sustainable development work to local authorities. As part of wider priorities set for the SRG from the financial year 2015/16, local authorities were able to undertake activity relating to tackling excessive poor air quality through the funding provided to them under the grant.

³⁹ gov.wales/topics/environmentcountryside/epq/airqualitypollution/airquality/guidance/policy-guidance/?lang=en