

Vehicle Idling – Technical discussions

1. Background

The issue

West Suffolk councils have a statutory duty to monitor local air quality as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents. Where nationally set Air Quality Objectives are breached, or are likely to be breached, the local authority are required to declare an Air Quality Management Area (AQMA). Where an AQMA exists the local authority are required to produce an action plan that demonstrates that they are working towards compliance, although there are no statutory duties to undertake work to improve air quality outside of AQMAs. The results of this monitoring and any actions that have been undertaken to try and improve air quality are published in a yearly report, known as an Annual Status Report (ASR)¹.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. The annual mortality burden in the UK from exposure to outdoor air pollution is equivalent to around 40,000 early deaths². Children living in highly polluted areas are four times more likely to have reduced lung function in adulthood and Improving air quality for children has been shown to halt and reverse this effect².

Current position

In general, air quality in West Suffolk is at acceptable levels when compared to the Air Quality Objectives, however, there are a small number of AQMAs. Although West Suffolk councils do not have a statutory duty to take action to improve air quality outside of AQMAs, a number of West Suffolk wide initiatives have been undertaken, such as the promotion of electric vehicles.

There is increasing evidence that levels of pollution below the air quality objectives still have some health impact. Therefore, despite the acceptable levels in statutory terms recorded in West Suffolk, there would still be benefit from further lowering levels of pollution.

Suffolk local authorities have a well established and effective working group consisting of air quality officers from districts and boroughs together with

¹ www.westsuffolk.gov.uk/airquality

² Royal College of Physicians. Every breath we take: the lifelong impact of air pollution. Report of a working party. London: RCP, 2016

representatives from Suffolk County Council highways, sustainable transport and public health departments.

Additionally, there has been increasing public interest in combatting air quality issues which has prompted new guidance reports and policy development. The recent draft Clean Air Strategy details the Government's proposed actions to improve air quality. We responded to the consultation asking for more clarity on the calls for action on air quality and whether this should be led at a national level.

Summary: What is vehicle idling?

Vehicle Idling is the act of leaving a vehicle engine on whilst the vehicle is not moving. This can cause unnecessary additional air pollution. Considering an average idling speed of 800 rpm in a 2 litre, 4 cylinder engine, the average car will produce 800 litres or 0.8 cubic metres of exhaust fumes per minute of idling. These exhaust fumes will contain numerous potentially harmful pollutants such as nitrogen dioxide (NO₂), particulate matter (PM), carbon monoxide, sulphur dioxide and benzene.

Enforcement to issue Fixed Penalty Notices for vehicle idling offences using powers under the Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 is open to all local authorities. In these regulations, a "stationary idling offence" means a contravention of, or failure to comply with so much of regulation 98 (stopping of engine when stationary) of the 1986 Road Vehicles (Construction and Use) Regulations as relates to the prevention of exhaust emissions.

Call to action for local authorities

Councils across the country are already playing an important role in tackling air pollution. These measures include encouraging the use of electric vehicles with recharging points, promoting cycling, investing in cleaner buses, managing air pollution monitoring networks, pioneering the concept of low-emission zones, planning for new places in ways that improve air quality, and engaging with businesses to increase awareness and reduce their environmental impact.

Alongside the above, NICE guidelines³ published in 2017 recommend bylaws and other action to support 'no vehicle idling' areas, particularly where vulnerable groups congregate (such as outside schools, hospitals and care homes) and in areas where exposure to road-traffic-related air pollution is high. There is consensus among local authorities that Councils should be able to switch their focus from monitoring air quality to also devising solutions to tackling poor air quality. However, this needs to be supported by government policy at a national level. Local impact of poor air quality varies from place to place, therefore each

³ National Institute for Health and Care Excellence. Air Pollution: outdoor air quality and health. June 2017

area will require their own unique mix of solutions, of which reducing engine idling could be one.

Vehicle Idling Technical Detail

Vehicle idling in its simplest form is the act of leaving a vehicle engine running whilst a vehicle is not moving. Many newer cars have stop-start technology that automatically switches an engine off when a car becomes stationary to prevent this, however, this technology can be switched off.

When considering idling, it is worth making the distinction between idling when parked at a destination, such as a car park or outside a school, and idling whilst stationary at traffic lights.

The length of time that a car may be idling at traffic lights or other obstructions in the active carriageway is not necessarily fixed and is not always in the control of the driver (i.e. the driver needs to restart their engine and move when the lights change to green or the car in front begins to move again). It is important to understand, therefore, how long a vehicle needs to be stationary and idling before the benefits of turning off the engine outweigh the potential negative impacts from restarting the car.

The RAC⁴ give the following advice;

"For vehicles without 'stop-start' it's fine to turn off your engine, but you should try to avoid doing this repeatedly in a short space of time. In addition, older vehicles (around eight years old) and vehicles with older batteries (around five years old) may struggle if they are started too often in a short space of time.

Switching off your engine in traffic should not adversely affect your fuel economy. However, fuel usage from starting does vary from model to model. Generally, older vehicles – 10 years or older – will use more fuel when starting and may require some accelerator use which will inevitably use some fuel."

As noted above, in some cases restarting the engine can use more fuel and cause more pollution than idling. Our research has shown that the use of fuel when starting a vehicle engine can vary depending on numerous factors. These factors include but are not necessarily limited to:

- Age of vehicle
- Condition of vehicle
- Type of fuel
- Size of engine
- Warmth of engine (and therefore time since starting the car previously)

⁴ <https://www.rac.co.uk/drive/advice/emissions/idling/> - accessed 17 July 2018

- Driving style

It is therefore difficult to give precise guidance on the time frame where turning off an engine is beneficial. This is reflected in the varying advice given by a number of different sources as follows

- RAC⁴ - recommends that motorists turn off their engines if they think they are not going to move for around two minutes.
- Metropolitan Borough of Dudley⁵ - Turning off an engine and restarting it after a minute or two (or longer) causes less pollution than keeping the engine idling and uses less fuel.
- The London Vehicle Idling Action Campaign⁶ - If you're going to be stationary for a minute or longer, it's better to switch your engine off and then back on again.
- South Lanarkshire Council⁷ - idling for more than 10 seconds uses more fuel than restarting your car.

The lack of a standard time threshold could cause difficulties in relation to vehicles stopping at a junction as there is not a standard stationary time and some junctions have varying phases depending on the time of day or during the week / weekend.

The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 refer to section 98 of The Road Vehicles (Construction and Use) Regulations 1986, which specifically excludes "when the vehicle is stationary owing to the necessities of traffic" as an offence. Therefore the powers available to officers would be different at destinations and traffic lights.

There is evidence that signage at traffic lights can cause an increase in the number of people turning their engines off. A study undertaken by the University of East Anglia (UEA), suggested that the number of people switching off engines when signs were placed at the junction increased from 9.6% to 17%⁸. However, the study has not proven a link to a decrease in pollution levels and the report does not include key data such as the waiting time for traffic. The length of time that vehicles are typically stationary would directly link to the improvements in air quality.

In conclusion, we recommend that, in general, when referring to vehicle idling we restrict this to vehicles idling at a destination whilst safely parked. We do not have a strong evidence base that a vehicle anti-idling campaign at junctions would be beneficial to air quality due to the unknowns regarding the length of

⁵ <http://www.dudley.gov.uk/business/environmental-health/pollution-control/air-quality/vehicle-air-pollution/>

⁶ The London Vehicle Idling Action Campaign, volunteer pack, 2018

⁷ https://www.southlanarkshire.gov.uk/press/article/1836/engine_idling_campaign

⁸ University of East Anglia, Press release, 14th March 2018 <https://www.uea.ac.uk/about/-/uea-researchers-work-with-local-councils-to-tackle-air-pollution-from-idling-engin-1>

time that vehicles need to be stationary to guarantee air quality benefits and the variable time that vehicles are held at red lights. There are also possible concerns were older engines may fail to restart if repeatedly switched off in busy traffic (as highlighted by the RAC), which could lead to unintended congestion or safety implications.

Whether to stop your engine or not whilst waiting in traffic should be at the discretion of the driver with their individual knowledge of their vehicle. However, we could promote the nationally funded eco-driving schemes to help educate individual drivers to make the most economical driving choices. This scheme is currently run periodically for West Suffolk employees.

If there are known locations (junctions or level crossings) with sensitive receptors where vehicles are regularly held for greater than 2 minutes, these could be specifically investigated for anti-idling campaigns, but it would have to be made clear that these are an exception to the normal rule.

Options

From reviewing the evidence base, we understand there are three main options for tackling vehicle idling:

Option A: Undertake targeted campaign to effect behavioural change.

Option B: Adopt delegated powers to use Fixed Penalty Notices (under the Traffic Regulations 2002)

Option C: Road signage around sensitive areas

We have not considered 'no idling areas' in further detail as campaigns or signage would replicate the nature of the no idling area without the need for a formal designation or consultation. It is also considered that formal no idling areas would provide a mixed message, in that it would suggest that vehicle idling was acceptable outside of these areas.

Evidence base - Other Local Authority Work

The local and national initiatives set out in Appendix 3 show there are varied approaches to combating vehicle idling, right the way through from educational campaigns to Traffic Management Orders that can be enforced by traffic officers. Although this analysis is not extensive, it represents a cross section of anti-idling activities undertaken by local authorities across the UK. Initiatives have been analysed accordingly to the type of regulatory measures used (if any) and ranges from enforceable idling zones to preventative measures such as educational campaigns.

In general, it can be assumed that air quality is worse in more urban areas and we have highlighted in the below table the general geographical make up of the Local Authority. We also specifically looked at local authorities identified as

being similar to FHDC or SEBC by CIPFA⁹ (Nearest Neighbours) and have highlighted these in the below table where actions are noted, however, it is worth noting that only 5 of our 30 nearest neighbours are involved in any action against vehicle idling.

Themes and suggestions based on other Local Authority work:

Officers have noted the following from this research:

- The existence or absence of any anti-idling activity seems to reflect the air quality in that area, and therefore the level of air quality management required. Most areas with significant activity are urban in nature, or have significant urban centres, with known significant air quality issues. Rural authorities and 'nearest neighbours' tend to be less active in this area.
- Multiple authorities or public bodies are involved where there are significant engagement campaigns (Idling action London, Sussex, Surrey, Staffordshire), although lower key, website based, campaigns tend to be run by single authorities.
- No authorities have adopted the 'no idling zones' in line with the recommendations of the NICE guidelines¹⁰. Action is either taken district/borough wide or campaigns target particular areas, but without formal 'zones' being designated. Signage at junctions or
- Where formal enforcement is used, this is used infrequently and as a last resort, with education being an effective method of behavioural change in most cases.
- This is a dynamic area of research and political focus so we imagine there are other authorities currently discussing their approach

Options appraisal

As reflected in appendix C, the three options have been reviewed with regards to strategic fit, cost, and simplicity in terms of implementation, impact and public perception.

Option A: Undertake targeted campaign

It is clear that lots of local authorities run anti idling campaigns. There have been a number of different studies focusing on the impact of campaigns around schools. These show positive effects of educating parents and children to the action they can take, whilst significant reductions in particulate matter were seen in schools with a large number of buses. Defra have identified best practice examples in Surrey and Sussex, with another high profile campaign being that of the Idling Action London. These three high quality examples are all

⁹ <https://data.gov.uk/dataset/c5d825ad-44b9-443c-a435-39c31e98edc7/cipfa-nearest-neighbours>

¹⁰ National Institute for Health and Care Excellence. Air Pollution: outdoor air quality and health. June 2017

partnerships, working across a number of local authorities. In the case of Sussex the campaign is also supported by colleagues in Public Health (based in the upper tier of local authority), Sustrans and Living Streets.

Involvement of Suffolk County Council Public Health would be key to delivering a successful health related message and Suffolk County Council sustainable transport teams already have links with schools and assist in travel planning and other transport related activities.

Evidence shows that targeted and well organised campaigns with community champions involving on street engagement can be very successful. As previously noted, Idling Action London report an 80% success rate when engaging with members of the public that are idling and many pledge to give up the idling habit for good.

There is evidence that a well structured and resourced campaign can return significant local outcomes, which may spread to other localities as residents move around West Suffolk. A campaign engaging with schools and other communities is recommended as a suitable way forward. However, where this is successfully delivered elsewhere, this is through a partnership of local authorities, including the upper tier authority where relevant.

Option B: Adopt delegated powers to use Fixed Penalty Notices

We have found only limited local authorities where the use of FPN is commonplace. This is intended to be used in Norwich City, where it is only going to be used in targeted areas specifically used by commercial vehicles (buses and taxis) and is just commencing in Tower Hamlets, where the whole Borough is an AQMA. Evidence from Idling Action London demonstrates that the "over 80% of drivers switch off when asked by our volunteers, and many pledge to give up the idling habit for good¹¹". This is further evidenced by Glasgow Council.

The value of the Fixed Penalty Notice is £20 (rising to £40 if not paid within 28 days). This is relatively small fine and, given that over 80% of drivers are likely to turn off the vehicle engines when requested (which is necessary as part of the FPN process), it is unlikely to be issued on a regular basis.

To issue FPN would require training staff whose job is not normally issuing notices and taking these staff away from their normal activities. Alternatively, it would be necessary to take traffic officers away from their normal duties. Finally, we could employ new staff specifically for this role. All of these options would have financial and/or operational implications, which are unlikely to be recouped from the FPN income.

¹¹ <https://idlingaction.london/>

Both Westminster and Southwark have introduced local Traffic Management Orders (TMO), which allow for a £80 penalty charge notice. These are generally issued by officers dealing with parking issues. Enquiries to Westminster confirmed that they have found enforcement using the TMO completely unworkable in reality due to the information that needs to be gathered to demonstrate that an offence has been committed. Their approach is very much based on education and prevention. Southwark confirmed that they have issued 4 PCNs in the first 6 months of activity, but this is backed up by significant promotional and educational activities.

If powers were authorised for use, this would be largely redundant as the majority of drivers will react positively to an educational message.

Where enforcement is used by other authorities, this is always backed up by a well structured and wide reaching campaign. If enforcement powers were adopted, a campaign would have to be developed prior to any powers being used.

Our research has also confirmed that where the potential for using fixed penalty notices has been advertised or highlighted in the press, the public response has shown negativity.

Option C: Road Signage at sensitive locations

Road signage is used, or is suggested for use in limited locations, and may be adopted by Norwich City Council following the trial with UEA as noted above. However, the trial has not proven a link to improvements in air quality and has shown only a small reduction in the number of people switching engines off.

We have also noted in Annual Status Reports of other local authorities involved in wider campaigns the potential for placing signs at specific junctions or railway crossings, however, these are at locations with known air quality problems and where the wait time is known to be significant (i.e. greater than 2 minutes).

As stated in the technical detail above, signage to tackle idling in traffic is out of scope for this report. However, the evidence base is limited around the impact of signage to tackle vehicle idling so we have based this on research around signage at busy junctions where drivers are can be stationary in traffic for long periods of time.

Any signage on the highway would have to be linked to a wider campaign and would have to be sanctioned by the highway authority (Suffolk County Council).

2. Recommended Option

The options appraisal (Appendix 2) reflects our expectation, based on the evidence, that option A would have the most positive impact if we were to undertake this with the Suffolk partnership of Local Air Quality Management (LQAM) officers. It is therefore recommended that officers continue to explore

opportunities for public vehicle anti-idling campaigns, working closely with our partners from the Suffolk Air Quality Partnership.

Members of the partnership are currently testing the idea within their authorities and will be reporting back by late October. An update can be provided by officers at the committee meeting.