Dudley MBC Campaign to Reduce School Gate Idling Vehicle Emissions

*Dudley MBC*

Defra Local Authority Air Quality Grant 2012/2013

March 2014

Final Issue
| Local Authority Officers | G. Hodgkiss  
D. Edwards  
L. Fawthrop |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>Environmental Protection Team</td>
</tr>
<tr>
<td>Address</td>
<td>4 Ednam Road, Dudley, DY1 1HL</td>
</tr>
<tr>
<td>Telephone</td>
<td>01384 812345</td>
</tr>
<tr>
<td>e-mail</td>
<td><a href="mailto:Enviroprotect.due@dudley.gov.uk">Enviroprotect.due@dudley.gov.uk</a></td>
</tr>
<tr>
<td>Report Reference number</td>
<td>DMBC/EP/1/2014/2</td>
</tr>
<tr>
<td>Date</td>
<td>31 March 2014</td>
</tr>
</tbody>
</table>
Executive Summary

Dudley MBC has carried out a two year Defra-funded project aimed at raising awareness of air quality issues in schools with a particular focus on reducing school gate vehicle idling and improving general air quality.

The project has involved carrying out a number of educational visits linked to existing initiatives carried out by the Traffic & Road Safety team including road safety and encouraging greater levels of walking and cycling via the Safe Routes to School campaign. The anti-idling initiative has been supported by the development of an informational web-page, promotional materials including campaign leaflets and posters and the development of anti-idling signage, some of it designed by students for use in their own schools. Educational initiatives have been linked to these activities and other relevant to the school curriculum, e.g. climate change agenda.

Execution of the project has delivered small reductions in numbers of vehicles involved in school gate idling which will have small but beneficial impacts on local air quality. Additionally, the project has delivered a number of useful outcomes including the development of promotional support materials and educational templates which can be used in future campaigns.

The council will need to consider further where future activities are targeted and whether these would benefit from additional support, e.g. promotion via the school travel planning process.
Table of contents

1 Introduction ............................................................................................................................................. 4
2 Project Synopsis ....................................................................................................................................... 5
3 Conclusions............................................................................................................................................ 18

List of Tables

Table 1 Summary of Schools Participating In Project Interventions .......................................................... 15

List of Figures

| Figure 1     | Examples of Posters Designed For School Circulation | 6 |
| Figure 2     | Examples of Posters for General Circulation        | 7 |
| Figure 3     | School Campaign Leaflet                            | 8 |
| Figure 4     | Examples of Campaign Support Materials             | 9 |
| Figure 5     | Examples of Anti-idling Signage Installed At Dudley Schools | 11 |
| Figure 6     | Examples of School Activity Events                 | 14 |
| Figure 7     | Examples of Anti-idling Signage Designed By Students of Holly Hall Academy | 15 |
1 Introduction

In 2007, Dudley MBC declared the whole borough as an air quality management area due to multiple exceedences of the national air quality objective for nitrogen dioxide.

Dudley’s action plan for improving air quality (AQAP) considered a number of actions, including *Information and Awareness Raising* and *Reducing Vehicle Emissions* and so discouraging stationary vehicle idling. Coincidentally, a number of complaints received from schools concerning idling of stationary vehicles whilst parents and carers waited to collect children at home time prompted further activity in this area and this in turn led to the development of a school based anti-idling campaign.

The Council has previously established good working relationships with all schools in the borough as part of the ongoing Safer Routes to School and Traffic & Road Safety programmes. These encourage greater levels of walking and cycling to school by carrying out road safety and cycling training and promoting the adoption of school based travel plans. The school based anti-idling project was designed to supplement the activities of the Traffic and Road Safety Team who already undertake regular school visits, and this project offered opportunities for team members to widen the agenda during their scheduled school visits, thereby improving efficiency.

Recognising that the anti-idling project would require production of new publicity leaflets, promotional material and other consumables to assist with the school based campaigns, the council applied for Defra grant funding to provide financial support in this area. The initial project proposals involved working with a small number of schools with specific vehicle idling problems to develop educational templates and other initiatives which could be rolled out to other schools in the borough.
2 Project Synopsis

The first phase of the project involved contacting over one hundred schools in the borough to identify those where school gate vehicle idling was considered to be a specific problem. Approximately 10% of schools responded to the initial survey and eight of the ten schools who replied offered to collaborate in more specialised activities in an attempt to reduce idling levels.

Establishing a suitable contact within each school to champion the project was an essential pre-cursor to developing a productive working relationship; initial contact was made with school heads, who either took on the role themselves or delegated to selected members of staff, usually with environmental or administrative responsibilities.

It was important to manage expectation levels during initial discussions with the schools; many of the schools had experienced long-standing school gate congestion and illegal parking issues, and it was essential to explain at this stage that the project would focus on education and awareness raising as the key drivers for change rather than the use of enforcement action or issue of fixed penalty notices.

The project team liaised with the council’s marketing team to produce a range of leaflets, posters and other promotional materials to support the campaign.

The council website was modified to include an informational web page explaining more about the legislative, economic and polluting aspects of stationary vehicle idling and links to download the promotional leaflets and posters, please see:

http://www.dudley.gov.uk/business/environmental-health/pollution-control/air-quality/vehicle-air-pollution/
The web page was promoted via the council’s Twitter and Facebook accounts and was cited as an example of best practice in a letter published by the Islington Tribune Newspaper. The posters were distributed for display in all schools. The leaflets and other promotional materials were distributed within 55 schools during visits by the council’s traffic and road safety team including the 8 schools participating in further interventions and specialised activity days. The schools were requested to display 2 slightly different posters, one containing a health-related message and the second containing a financial message (Figure 1). Feedback requests solicited replies from approximately 10% of the schools approached, a similar response rate to the one from the initial survey. Feedback from participating schools was somewhat mixed. Some found the posters of great value; others felt that displaying within the school was missing the real target audience (i.e. parents and carers). Suggested improvements included displaying laminated versions at the school gate and distributing educational leaflets to offending vehicles. The blue poster containing the health related message received the most positive endorsements with respect to colour, design and relevance to the school audience.

A third poster designed for raising general awareness of stationary idling issues was distributed to a number of council buildings and prominent display areas across the borough in order to generate further publicity for the initiative (Figure 2).

Figure 1 Examples of Posters Designed For School Circulation

Figure 2 Examples of Posters for General Circulation
General visits made by the Traffic & Road Safety Team covered the school journey in general, emphasising road safety, opportunities for cycling, walking and ‘park and stride’ as a strategy for keeping vehicles away from the school environment and encouraging active travel. All children were made aware of the negative aspects of air pollution with particular focus on school gate idling and asked to relay messages to parents and carers to switch off their engines if waiting for more than a minute or two at collection time. The initiatives were supported by the distribution of activity packs containing campaign leaflets and other promotional material, e.g. messaged vehicle tax disc holders and ice scrapers (Figure 3 - 4).

**Figure 3** School Campaign Leaflet
Air quality in our borough is generally good and we have a well-used road network that serves thousands of people who drive, cycle, walk and use public transport on it everyday.

But we are always working with the local community to make the borough even cleaner and greener while looking at ways of further reducing congestion on our roads.

As the parent or carer of a Dudley school child you can help us to make a difference. It’s thinking about the way you take and collect your child to and from their school you can play a big part in reducing congestion.

The best way for your child to travel to school is walking or cycling because it is carbon neutral and helps you and your child to take on more physical activity. However, we know this isn’t always possible and this leaflet contains tips and information for parents who do need to drive their child some or all of the way to school.

Use tips in this leaflet to help your child be more active, make the road around their school safer and improve the air quality in your local area.

Park and stride
Park your car further from the school than you normally would and walk the rest of the journey together.

Doing this helps to reduce the congestion around the school gates, helping to keep everyone safer.

Park and stride helps to reduce emissions of carbon and other traffic pollutants and is a fun and positive opportunity for you and your child to exercise together. You can also use this time to help your child improve their road safety awareness and skills.

Road markings
Remember to never park or wait on the zigzag or yellow road markings outside your child’s school. The road markings are there for the safety of the school children.

Please be considerate when parking near to the school and ensure that you don’t park on or obstruct the driveways of local residents.

Slow down and watch out
We all know children aren’t always aware of the dangers around them.

When you’re driving near to schools remember to slow down and look out for children who could be in the road when you don’t expect them to be.

Figure 4 Examples of Campaign Support Materials

Vehicle Tax Disc Holder

Ice Scraper

School crossing patrol
The school crossing patrol works to keep you and your child safe when crossing the road.

If there is a school crossing patrol near your school make sure your child looks them and never attempt to cross the road until they are told it is safe to do so.

When you are driving past a school crossing patrol they are expected to stop if instructed to do so and remain stationary whilst the patrol is in the road.

Remember if you ignore the paternal stop sign you are breaking the law and putting people’s lives at risk.

Dudley MBC Campaign To Reduce School Gate Idling Vehicle Emissions
The eight schools wishing to participate in more detailed activities were interested in evaluating the potential impacts of installing anti-idling signage, carrying out educational visits or using a combination of the two initiatives. Potential impacts of the project were accessed via feedback questionnaires and school gate vehicle idling counts carried out before and after the respective interventions had been completed.

Anti-idling signage containing the ‘Switch Off Engines Reduce Emissions’ message was designed and prepared in conjunction with a council approved sub contractor. Installation of signage at participating schools was progressed once appropriate authorisation had been received. Signs could only be installed within school perimeters and not within restricted parking zones. Consequently signs could not always be positioned for maximum impact for motorists. Some examples of Anti-idling Signs Displayed on school premises are provided in Figure 5.

A range of educational initiatives and activities were delivered to children and young adults covering primary and secondary schools and Dudley 6th Form College, i.e. age range 5 to 18. These were linked to curriculum activities including the climate change and scientific/mathematic agenda and supplemented with practical activities wherever appropriate. The educational initiatives were normally undertaken in support of wider activities, e.g. Climate Change Week, Duke of Edinburgh award scheme.
Figure 5  Examples of Anti-idling Signage Installed at Dudley Schools

- e. Brier School
- d. Dingle Community Primary School
- c. Milking Bank Primary School
- b. Pedmore Technology College
- a. Roberts School
Practical sessions were introduced to supplement the educational presentations and provided an opportunity to test and compare emissions from petrol, diesel and zero tailpipe emission (i.e. electric) vehicles. For the benefit of younger children, detection was carried out using short term gas detection tubes, which provided a visually striking colour change in the presence of pollutant gases plus the opportunity to estimate concentrations by applying simple multiplication factors. Older students were invited to log data from instrumental detectors and construct graphs and tables to evaluate results. For the secondary school and sixth form students, it was possible to extend beyond a consideration of climate change gases and provide some education/discussion of nitrogen dioxide and particulate based pollution. The provision of an electric vehicle supplied by a local Nissan car showroom provided an opportunity to discuss the merits of low emission vehicles and future potential air quality benefits. Some examples of School Activity Days are provided in Figure 6.

Feedback from each activity was generated using appropriate questionnaires and used to refine and improve subsequent educational initiatives. For example, presentations for some of the younger children were refined to include references to the Disney film ‘Cars’ which included examples of particularly polluting vehicles and provided an excellent pathway for engaging the children. Initiatives were linked to curricular activities of each particular year group to make them as educationally relevant as possible.

Having successfully demonstrated the pollution potential of conventional vehicle, it was then relatively simple to link this to the negative aspects of stationary vehicle idling.

Experience gained during the project indicated that for Primary Schools, training delivered to Years 5 and 6 appeared to be most effective in reducing School Gate vehicle idling; between the ages of 9 and 11, pupils were able to understand the links between vehicle pollution and climate change and were able to participate in relatively higher levels of discussion. At this age, parents
and carers were more likely to be waiting in stationary vehicles outside the school to collect their children.

During the initial planning stages with one of the participating secondary schools, Holly Hall Academy, the council were approached by the schools Design and Technology department. The syllabus provided an opportunity for students to design their own no idling signage. It was decided that this would both benefit the students and the intervention. Students were guided via teaching staff to design appropriate no idling signage for use within the school grounds. Their remit included the following – design a graphics based sign that would encourage drivers to consider switching off their engines whilst waiting outside school; wording restricted to “switch off engines”, or “reduce emissions”; signage. Out of 7 designs produced by students, 3 were chosen by a panel to be professionally made and installed within the school grounds; the names of the student responsible for the design where also printed on the signs. Final presentations of the winning signs were undertaken as part of a school award ceremony and a feature was published in the school magazine. Some examples of signs designed by school pupils are provided in Figure 7.
Figure 6 Examples of School Activity Events

Checking car pollution levels for Climate Week with school governor Cllr. David Stanley are year 3&4 pupils Troy, Ethan, Chloe and Gemma. The Nissan Leaf makes no pollution but too many parents are sitting in idling cars making Robert St, a pollution black spot! Please turn your engine OFF while you wait!

Year 9 2D and 3D design groups worked closely with Dudley Council Air Quality Improvement Team on learning about emissions from different types of vehicles - petrol, diesel and electric. Students looked at practical ways in which drivers can help to reduce their emissions, save money and improve the environment. The 2D design group then used a specification provided by the air quality team to design signs that Dudley Council will produce and site around the Academy grounds to encourage parents to turn off their engine when waiting to pick up students at the end of the day.

Cars and Air Pollution
- What types other activities can cause air pollution?

Do you need to leave your car engine running?
During climate week, the year 6 children conducted a survey to count the ‘idling’ cars at the end of the school day. These were the cars which were parked, but their engines were left running.

The best result of the week was on Deepdale Lane where there were 33 cars parked and 1 was idling.

However, the worst result of the week was on Robert Street, where one day there were 30 cars parked, 7 of which had their engines running.

This creates a huge amount of pollution outside of our school and is also wasting your fuel!

Depending on your vehicle, every 10 minutes of idling is costing you between 1/10 and 4/10s of a litre of fuel.

SWITCH OFF!

Dudley MBC Campaign To Reduce School Gate Idling Vehicle Emissions
A summary of schools participating in the activity days and signage projects is given in Table 1.

**Table 1** Summary of Schools Participating In Project Interventions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre Intervention %</td>
</tr>
<tr>
<td>Brier</td>
<td>No</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Dingle Community Primary</td>
<td>Yes</td>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td>Dudley 6th Form College</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Holly Hall</td>
<td>Yes</td>
<td>Yes</td>
<td>61</td>
</tr>
<tr>
<td>Lutley Primary</td>
<td>Yes</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Milking Bank Primary</td>
<td>No</td>
<td>Yes</td>
<td>18</td>
</tr>
<tr>
<td>Pedmore TC</td>
<td>No</td>
<td>Yes</td>
<td>56</td>
</tr>
<tr>
<td>Roberts Primary</td>
<td>Yes</td>
<td>Yes</td>
<td>15</td>
</tr>
</tbody>
</table>

Wherever possible, pre and post-intervention idling counts were conducted on dry, mild days as close as possible to the activity date in order to minimise...
variations due to weather etc. There will also be some inconsistencies due to the methods in which the data were recorded and the people who undertook the work, e.g. staff, students, council staff etc.

From the limited amount of work undertaken, analysis of results showed that both the activity days and installation of signage had a positive impact on reducing numbers of idling vehicles at the school gate. It was possible to demonstrate that the targeted reduction of 10% had been achieved in all cases where pre and post-intervention counts had been completed.

There was no evidence to suggest that a combination of activity days and installation of signage was more effective than carrying out just one or the other initiative. This tended to suggest that awareness-raising in some form or other was having a beneficial impact in reducing numbers of idling vehicles. However, observation of drivers’ behaviour at school collection times suggested that active traffic enforcement would probably be required to deliver further significant improvements.

The limited amount of data collected showed that levels of school gate idling tended to be higher in secondary school environments; this is because the children were of an age where they were able to walk out to meet the awaiting cars. At primary schools, the practise was for parents and carers of very small children in the 5-8 year old bracket to park up prior to collection of children on foot, therefore idling rates tended to be much lower. Idling rates began to increase for parents/carers of children in the 9-11 year old age bracket, then increased again as children progressed on to secondary school.

Discussions with staff and children undertaken during the activity days were used to explore reasons why parents/carers would leave their engines running outside school. Some of the suggestions are outlined below:
• Habit
• Lack of awareness of detrimental effects of air pollution
• Weather conditions, i.e. running vehicle heating to keep warm in winter, aircon to keep cool in summer
• Demisting/defrosting screens in wet/cold weather
• Vehicles not fitted with start / stop technology
• Negative perceptions of ‘state interference’
• Wishing to move onwards quickly due to parking restrictions
• Money saving not a priority
• Inadequate enforcement
• Inadequate signage

Feedback from this exercise was used to develop the scope and content of the awareness raising activities and wording of posters used in the advertising campaign.
3 Conclusions

1. The project has contributed towards a number of strands of Dudley’s Air Quality Action Plan including reducing vehicle emissions, information and awareness raising, encouraging changes in travel behaviour and leading by example.

2. The project has enabled the council to work hand in hand with 8 schools to tackle specific school gate idling problems, piloting initiatives that can be rolled out to other schools in the borough. A further 47 schools have participated in educational visits and other awareness raising activities.

3. A 10% response rate to the original invitation to participate suggests that the problem is possibly not as widespread as first perceived, or there may be a general reluctance amongst schools to participate in what could be perceived as non-core curriculum activities. However, the schools who did engage were extremely proactive and gave generally positive feedback. One of the major factors in developing successful engagement is identifying a suitable contact within the school that can champion the initiative and facilitate the various interventions.

4. One possible route for increasing participation in future activities would be to consider the inclusion of air quality and vehicle idling issues as part of the school travel planning process. This issue will be progressed with the council’s travel planning advisor.

5. A range of promotional materials including posters, leaflets, signage and a council web page have been developed to support the campaign and can be readily adapted to support future initiatives.
6. The pilot schools and colleges have assisted in the development and refinement of educational material which can be used as templates for future school-based activities. Training material can be readily refined to complement traffic & road safety training, initiatives to encourage walking and cycling and the climate change agenda; air quality considerations can be introduced into discussions with children in the 16+ age group.

7. Optimum positioning of anti-idling signage varies on a school to school basis but must be considered carefully in order to maximise impact, comply with legislation and avoid any compromise with existing parking restrictions.

8. School gate idling vehicle rates are highly variable and appear to be influenced by a range of factors including ambient weather conditions, geographical location, school culture and personal considerations. The limited data collected during the project suggested that vehicle idling rates tend to increase with age of the children, as parents/carers of very young children tend to park up and collect; highest idling rates were observed outside the secondary schools and colleges who participated in the project.

9. The project has delivered some reductions in idling rates in all schools who participated in the pilot scheme. It is highly probable that rates could be reduced even further with additional support from traffic enforcement.

10. No work has been conducted to monitor how quickly any improvements will deteriorate after interventions have been carried out. It is anticipated that follow up training would be required on an annual basis to maintain effectiveness.
11. The Council will need to decide where and how future initiatives will be targeted and whether further consideration should be given to the traffic enforcement issue in the light of information generated by the project.