

Getting in the

Low emission zones have been touted as a potential solution to cleaning up the UK's city centres, but why does this country lag behind, compared with the rest of Europe, and will the situation ever change? John Challen investigates

Recent figures suggest that there are 160 pending or operational low emission zones (LEZs) in European cities. With congestion being a major issue for many UK towns and cities, one may expect this country to be leading the way in the introduction of these clean urban areas. However, almost the opposite is true, with the UK having just four LEZs – two operational (London and Norwich) and two more (Oxford and Reading) set to be introduced in the next three-to-five years. In stark contrast, Germany has 45 operational or planned LEZs, the Netherlands 21 and Italy eight.

The list of vehicles that are affected by the UK's LEZs is fairly extensive. The LEZ rules apply to diesel-engined lorries over 3.5 tonnes, buses, coaches, large vans and minibuses. They also apply to other specialist vehicles derived from lorries and vans, including: motorised horseboxes; breakdown and recovery vehicles; refuse collection vehicles; snowploughs; gritters; road sweepers; concrete mixers; tippers; removals lorries; fire engines; extended-cab dual purpose pickups and some light utility vehicles. Even motor caravans, ambulances and large hearses (over 2.5 tonnes) are included.

Quite a task to monitor such a wide range of vehicles then, and one that, it seems, few councils and authorities are keen to take up. But for Reading Borough Council, the sheer volume of HGVs passing through the town has become too much to bear and, in February 2010, a £58.5 million bid was submitted for an LEZ for the town. The business case, supported by Wokingham Borough Council, Oxfordshire County Council, Hampshire County Council and

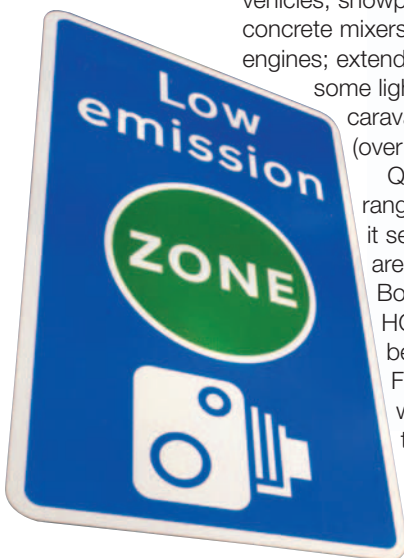


Bracknell Forest Borough Council, was for a Phase 1 LEZ, and will look to charge the qualifying vehicles on a variety of tariffs. Tony Page, the town's lead councillor for planning and transport, says the decision to implement an LEZ was an easy one to make. "Air quality is our major concern in the town," he says. "It is well documented that there are issues; we used to have seven different air quality corridors and they have now merged into one zone that is covering the whole town."

Trouble with trucks

Reading's relationship with vehicle operators has suffered somewhat, due to the town's location on the busy M4 corridor. Page argues that the council had to take a stand against trucks that use the town as a quicker alternative to getting to Oxford than using what he sees as suitable main routes.

He claims that the "overwhelming majority, sometimes as much as 90%, of the traffic along the A4074 from Reading to Oxford" is being used by haulage as a shortcut, without stopping, so not





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Investigation sparks fear over filters

Despite the very small number of LEZs planned for the UK in the coming years, many vehicle operators are nonetheless conscious of the need to reduce emissions, in order to improve air quality, especially in the busy urban areas of a city. One method to achieve this goal is retrofitting diesel particulate filters (DPF). Preventing soot from being released into the atmosphere by retaining particulate emissions in the filters, such traps have become a familiar sight on all forms of vehicle, and are seen as a key way to clean up LCVs and HGVs alike.

However, there may be more to them than meets the eye, if research currently being undertaken by transport consultant group TMC Assist is anything to go by.

The organisation argues that, in London, diesel particulate filters are having little or no effect on air quality, specifically because of the levels of congestion that are keeping average vehicle speeds down.

Graham Doughty is managing director of TMC Assist: "I was asked to complete a study into failure rates of DPFs in the proposed LEZ in London. These filters are failing, because they are not able to reach the desired temperature to burn off the hydrocarbons," he claims. "To reach the optimum temperatures, commercial vehicles need to be sustaining a reasonable speed, ideally over a long period of time."

Doughty explains that the average speed for vehicles in London is between nine and 11mph. As a result, the chances of exhaust filters reaching their optimum temperature (around 300°C) in the packed streets of England's capital are minimal. To achieve even the lowest temperature that could be considered effective – 180°C – average vehicle speeds of around 25mph are required.


VOSA aware

Doughty claims that VOSA is aware of the problem, as are a number of individuals in government organisations, but nothing is yet being done to solve the problem.

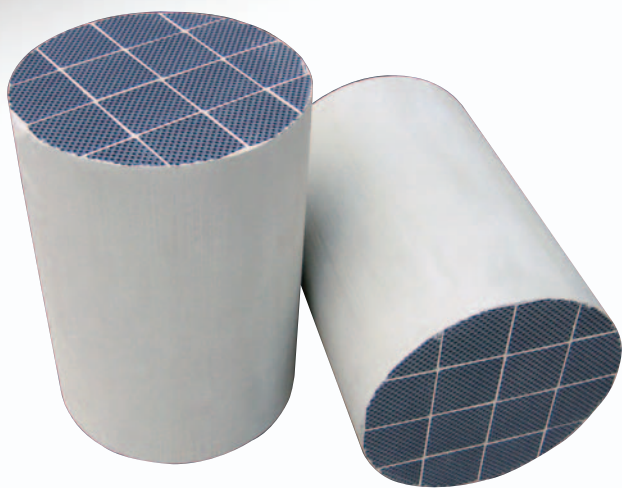
If the desired speeds can't be reached, what's the answer? "Some filters can be fitted with a jacket or blanket to create an artificially high temperature, enabling them to be operated to their full potential," says Doughty. Although he says he knows of someone with a patent for artificial heating, he is not revealing the source.

"The idea [of fitting DPFs on vehicles in London] is something that has been rushed through without consideration of the bigger picture," offers Doughty. "While the filters are able to work perfectly well outside the busy streets of London, in a traffic-dominated environment they have no chance." He is also quick to point out issues that have been caused by certain vehicles' ECUs tripping out, because of interference from their DPFs.

These are early days for Doughty and his quest to find serious solutions to the issues surrounding DPFs in London, but he remains committed to getting there and has approached the Nuneaton proving ground, MIRA, to conduct some tests, alongside Transport for London. His hope is that operators will be made aware of both sides of the story, and, accordingly, be in a better position to monitor their contributions to improving air quality levels.



Diesel particulate filters (DPFs) are seen by many as a solution to meet LEZ standards, but others argue that their performance is affected by congestion, preventing optimal operating temperatures from being reached





only adding to congestion, but depriving the town of potential business. "Not only do the HGVs have no business in the town, they are also contributing to the air quality degradation," he rages.

Although some parts of the media suggest that the Reading zone will be operational by 2011, Page refutes this claim and insists there is a long way to go. "Our LEZ was subject to the approval of a Transport Innovation Fund (TIF) bid and we got very close to having it approved. But as TIF has now been replaced by the new Urban Challenge Fund, we are being encouraged to resubmit under this new measure. We are committed to proceeding with [the LEZ] and hopefully there will be a potential funding mechanism to put forward the new proposal. I think we would be at the front of the queue, whatever deal was proposed."

Page says he can understand why there are not more LEZs operating or planned in the UK. "Our country has extremely fragmented planning

"Our country has extremely fragmented planning procedures with regards transport planning, and we don't have a structure that is conducive" Tony Page

procedures with regards transport planning and we don't have a structure that is conducive [to change]." He says that, while Reading operates a unitary authority, many boroughs in the UK operate a two-tier system, with county and district

departments not always working in harmony. Monitoring of the scheme, however, he says, will be a seamless operation. "The LEZ will be focused on the town centre, with around 10 or 12 cameras located in a variety of locations in the site, which is compact enough still to be effective. Anyone coming into Reading would cross the line at some point," says Page. He explains that the current automatic number plate recognition (ANPR) software, presently used for the town's bus lanes, will be adapted for the new zone.

Clean-up operation

"If HGV operators switch to the cleanest trucks, the numbers won't be reduced as much as if they don't change," observes Page, who also says he will look after those vehicles that need to be in the town. "We are committed to ensuring that people with genuine business needs in the town – who might find it difficult to switch to new HGVs – are looked after to ensure that local businesses are not suddenly confronted with a big rise in their costs."

There is clearly a long way to go in the Reading LEZ story, but Page is estimating a range of tariffs from around £10 to £100 a visit. "A truck that came through Reading as a shortcut would face a high tariff; local users would pay much less," he states. "£100 is an option in the document, but nothing has been fixed so far," he adds. He concludes that a clearer plan will be finalised after the General Election, which, depending on the outcome, could change the approach dramatically. **TE**

The London experience

From its inception on 4 February 2008, the Low Emission Zone around Greater London has had a standard of Euro 3 for particulate matter (PM) for lorries over 12t gvw, and buses and coaches over 5t gvw. From July 2008, the standard was extended to include trucks between 3.5 and 12t.

A standard of Euro 3 for PM for larger vans and minibuses, to be introduced in October 2010, has been suspended. It is unclear how that decision will affect the Euro 4 standard for PM for lorries over 3.5t gvw, and buses and coaches over 5t gvw, set for January 2012.

For those operators needing to enter the LEZ in Greater London, there are several options available to meet the LEZ emissions standards. Some Euro 2 and even a very few Euro 1 truck engines may have sufficiently low particulate matter emissions that they will meet LEZ 2008 standards, without any kind of modification.

However, if modification is needed, options include fitting pollution abatement equipment, such as diesel particulate filters or a cleaner engine. All modifications are subject to an approval process,

confirming that they meet the required standards.

TfL will only accept vehicle modifications that have been certified by an approved body as reducing the particulate matter emissions sufficiently to meet the required LEZ standards. How to obtain certification depends on where a vehicle is registered.

All GB registered vehicles undergoing modification will need to be inspected by VOSA to show they have been fitted with an approved modification.

A daily charge is applicable for each day the vehicle is driven within the zone and does not meet the required emissions standards. The charging day operates from midnight to midnight. Charges apply every day of the year, including weekends and public holidays.

If you drive an affected vehicle in the zone and it does not meet the required emissions standards, you may be liable for a penalty charge. For trucks, buses and coaches, this is £1,000 a day, while, for large vans and minibuses, the cost is £500 a day.