

Enforcement of traffic contraventions to improve urban air quality

Ensuring that roads in our cities are used in the most efficient way is a key part of the process to improve air quality. While changing road layouts and timings of traffic signals can help reduce congestion, it is clear that much more can be done to keep traffic moving and minimise pollution caused by idling engines in stationary traffic.

CCTV enforcement cameras can play an important role in improving air quality for local authorities that have assumed responsibility from the police for tackling moving traffic contraventions such as box junctions, banned turns, restricted access, weight limits and bus gates. While the ability to enforce moving traffic contraventions under the Transport Management Act 2004 is only available to councils in London and Wales, the government has recently signalled its intention to extend these powers to all regions.

This is significant as it has been widely reported that the police are no longer carrying out this enforcement in many areas due to budget cuts and manpower shortages. This means drivers can flout these regulations as the likelihood of them being caught is so small. The effectiveness of the government's Clear Air Zone strategy will be impacted greatly if most councils continue to be prevented from enforcing moving traffic contraventions within these urban areas.

Bath example

The key to cost-effective enforcement is to deploy a multi-tasking digital video platform that can support multiple applications simultaneously. Such a platform is used by the City of Bath, one



Above: School areas can benefit from enforcement
Left: Blocking box junctions leads to congestion

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Videalert software can automatically analyse CCTV footage to enforce moving traffic offences such as...

- > Stopping on box junctions
- > Making banned turns
- > Entering restricted access areas
- > Exceeding weight limits
- > Using bus gates

of the UK's leading tourist destinations and a UNESCO World Heritage Site, which draws over 3.3 million visitors and 70,000 vehicles every day.

Bath uses CCTV to enforce bus gates that reduce cross city movements during peak hours as well as monitoring bus lanes on key routes into the city. The hosted platform also integrates with other applications, such as permit parking, to drive further efficiencies.

Linking mobile ANPR vehicles, including the latest ULEV (ultra-low emission vehicle) mopeds, to the online

permit database allows real-time checks of permits issued reducing the time taken to patrol resident parking zones.

The Videalert platform being used in Bath will also support additional cameras being installed to automate the management and enforcement of Bath's recently approved class C clean air zone. The cameras will provide real-time images of every vehicle entering the zone, data which is then assessed based on vehicle class/classification, engine type and Euro standard rating to determine whether the vehicle has paid correctly. Those vehicles that are either below the required Euro rating standard or have not paid the valid charge will then be issued with a penalty charge notice.

Measuring success

To assess the effectiveness of traffic enforcement on air quality, authorities can, for the first time, measure the impact of improved driver compliance using the latest generation of air quality monitors. These hyper local devices use the same infrastructure deployed for CCTV enforcement cameras for real-time data capture on

the level of airborne particulates, including nitrogen dioxide and carbon dioxide.

Sensor data can reveal the levels of gas and particulate matter at different times throughout the day and night to illustrate trends in pollution levels. It can also be combined with data from installed CCTV cameras to strengthen and validate the business case for the adoption of moving traffic offence enforcement, to improve the effectiveness of clean air and low emission zones.

Videalert's system can also enforce parking restrictions on school 'keep clear' zones, thereby further reducing traffic and emissions in urban areas.

One thing is certain – congestion in our cities is a major cause of poor air pollution and the government needs to take a holistic approach if the full benefits of deploying clean air zones are realised. ○

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