

CASE STUDY: Achieving greater benefits from a multi-tasking digital video platform



The City of Bath is a UNESCO World Heritage Site and one of the UK's leading tourist destinations with attractions including unique Georgian architecture and the Roman Baths drawing over 4.8 million visitors every day. This results in a high volume of traffic which struggles to navigate the narrow streets seven days a week.

The Challenge

Bath and North East Somerset Council wanted to replace the existing bus lane ANPR cameras which had reached their end of life and were no longer being supported. The procurement process, developed in partnership with the overall parking strategy, challenged suppliers to show how their proposed solutions would help the council update the technology, maximise enforcement effectiveness and deliver added value. With a £300K budget, the council wanted a robust, future-proofed platform that would allow far more to be achieved than the current single point solutions.

The Solution

Videalert was selected as it offered a highly configurable digital video platform that integrated with Bath's city-wide fibre network allowing captured images to be efficiently transmitted from ONVIF-compliant HD IP cameras. Being hosted, it minimised the need for hardware to be installed on council premises and transferred the responsibility for ensuring cameras were always operational to Videalert which, as a software company, was focused more on meeting the council's specific objectives.

The Installation

Cameras were installed in seven bus lanes and are keeping public transport flowing and encouraging people to leave their cars in park and rides, reducing both congestion and pollution. Multiple cameras have been deployed in single long bus lanes, such as London Road, enabling contraventions to be captured through the entire length to increase coverage and achieve greater compliance. Cameras have also been installed in a major city centre car park as well as Park & Ride locations to assess demand, occupancy and duration of stays, data that feeds into the council's UTMC to help guide drivers to the most appropriate parking locations.

The Benefits

The Videalert platform enables multiple contraventions to be handled in a fairer way. Instead of penalising drivers for multiple offences committed on the same journey, only a single PCN is issued, supporting the council's philosophy of educating rather than punishing motorists that fail to heed TROs. The system generates statistics showing how many valid contraventions, relating to multiple offences committed within one hour, are discarded ensuring up to 2800 PCNs are not issued which would otherwise be cancelled on further customer contact.

The hosted platform provides both data gathering and enforcement and is complemented by a new Mobile Enforcement Vehicle that can be used tactically for a wide range of



traffic management, monitoring and enforcement applications. Linked to the council's virtual permit database, the vehicle operates across residential parking zones to detect parked vehicles that do not have valid permits. However the vehicle is equipped to carry out a number of activities which delivers greater flexibility and ROI.

"The ONVIF compliant HD IP cameras have been a revelation, capturing high quality images in all light conditions resulting in greater accuracy of evidence packs and increased productivity by enabling enforcement to take place around the clock," commented Chris Major, Group Manager Transport & Parking. "This has also had a significant impact on reducing the number of appeals that are actively pursued, delivering further time and cost savings. In addition, detection rates for contraventions have increased on average by 13%."

Multiple Applications

Videalert's hosted digital video platform allows multiple traffic management, monitoring and enforcement applications to run simultaneously without requiring separate standalone systems. With a single interface for all applications and a smart review suite, it automates evidence pack creation and minimises manual processes for greater productivity.

The system now enables the council to demonstrate that its original objectives are being achieved and generates reports showing changing habits, behaviour and compliance levels. It also provides a data feed into the council's case management system which will allow the identification of congestion and contravention hotspots and the analysis of traffic flows. The Videalert platform

will help improve the management of coach parking after losing facilities for up to 45 vehicles to a major regeneration project. An advance booking system will ensure the availability of suitable parking spaces on a timed basis. Integration with the Videalert Digital Video Platform will direct coaches to booked bays and make visiting Bath a better experience for tourists and coach drivers alike as well as reducing the level of congestion on busy city streets.

Clean Air Zones

Clean Air Zones (CAZ) are high on the agenda of most cities as part of government initiatives to reduce air pollution. Bath's geographical position leads to a build-up of air pollution and hotspots have been identified where concentrations of toxic gases such as nitrogen dioxide generated by road traffic exceed the acceptable national and European limit of 40 µg/m³. As part of the plan, the council is considering implementing a CAZ where higher-emission vehicles may be charged. The final decision will be made in December 2018 with the CAZ in force by 2020 and delivering improvements by 2021.

The hosted Videalert platform provides real-time intelligence on the extent of contraventions by 'high' polluting vehicles to determine potential charging rates/bands prior to a CAZ being established, helping to achieve the optimum impact for improving air quality. It can automate the management and enforcement of CAZs, providing real-time identification of vehicles including make, model, colour, vehicle class emissions rating where appropriate and can determine whether an offence has been committed.

Conclusion

The system has met objectives to achieve greater productivity and maximised operational effectiveness. It allows different officers to review evidence packs across a range of locations allowing the service to operate more flexibly and freeing up resources so the business support team can focus on more productive activities. Self-healing and rebooting routines minimise manual interventions and ensures maximum availability of all cameras with issues quickly resolved before they become a problem. Detailed metrics highlight areas where performance may have dipped enabling any necessary reconfiguration to be quickly done to optimise productivity.

Looking back, what started out as a simple plan to replace existing bus lane cameras has been the trigger for a revolution. Whilst the council is currently focused on smarter travel management for cars, buses and coaches, the Videalert platform integrates with other applications, including the council's UTMC, and enables the sharing of data to a broad range of stakeholders and will play a central role in the ongoing development of Bath as a smart city and supporting future strategy development.

In conclusion, Chris Major added: "This upgrade helps reduce the journey times for public transport and improve air quality in the centre of Bath through smarter and more effective enforcement. Our goal is to integrate with other platforms to improve our understanding of changing driver behaviours and influence this to the benefit of residents, local businesses and visitors to Bath"