

CASE STUDY: Bristol City Council



Bristol is the tenth largest city in the UK and is situated off the busy M4/M5 corridors. It experiences a high volume of traffic movements every day.

The Challenge

Bristol City Council wanted to install a journey time monitoring system that would enable faster detection and reaction to incidents and changing traffic conditions. It also wanted to gain a greater understanding of the impact that planned business developments would have on traffic flows. An innovative partnership was formed with Avon and Somerset Police (ASP) and the Safer Bristol Partnership (SBP) to provide additional funding for a fixed site ANPR network that would enable data to be shared between all stakeholders.

The proposed system would have to handle and process video from an initial 125 analogue cameras with scope for future expansion. The vehicle registration mark (VRM) data generated would provide:

- real-time data to Urban Traffic Management Control (UTMC) database
- near real-time aggregate data to UTMC
- real-time police ANPR data to BOFII
- CSV data to SCOOT/Paramics traffic modelling systems
- CSV data to car park operators
- online data access and review

The Solution

After undertaking an extensive review and procurement exercise, Videalert's intelligent Digital Video Platform was selected as it provided a more cost effective solution than traditional single point CCTV systems. This multipoint solution would seamlessly integrate with the existing CCTV infrastructure and the city-wide B-Net, a fibre optic network used for running traffic signals and other traffic management applications.

This network would enable video feeds to be transmitted to a centrally located image processing and data management platform that could handle both analogue and digital cameras as required. It would also facilitate the simultaneous sharing of ANPR data with the council's traffic management team and ASP. In the case of the Police data, a reply from the Police National Computer (PNC) at Hendon would be feasible within the ACPO four-second recommended maximum time.

The Installation

A Working Group comprising Bristol City Council, ASP and SBP was formed to develop pragmatic and straightforward ways of evaluating performance and ensure that value for money was achieved. It also identified key sites where ANPR cameras could be located based on traffic flows, crime hotspots and access to the fibre network to minimise installation costs. Further assistance was provided by Videalert and an external project management specialist with extensive traffic management experience to ensure that the system would meet all current and future requirements.

The first phase of the project went live in March 2014 within eight weeks of Bristol City Council placing the order. The Videalert platform was integrated with 48 ANPR and context view cameras at 14 sites, with real-time data transmitted to the council's CCTV control room and ASP's police database, over the B-Net optical fibre network.

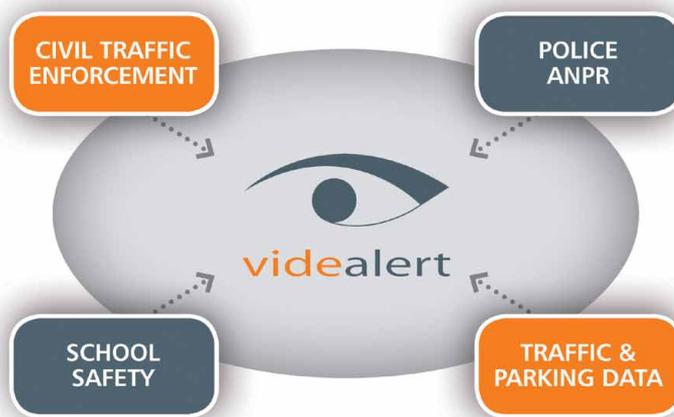


The Benefits

The system delivers real-time VRM data to Bristol's central UTM system, providing essential "intelligence" to optimise the design of transport schemes and model the impact that business or retail developments will have on future congestion levels. It also provides environmental benefits by helping to design better road infrastructures to improve traffic flows and enable motorists to better plan their journeys to reduce congestion and pollution. The data also supplies the Travel West website with real-time mapping updates on congestion hotspots, helping drivers to avoid unnecessary delays to their journeys.

ASP now monitors all ANPR sites around the clock. Real-time VRM data transmitted by the Videalert digital video platform, with fast links to PNC and intelligence systems, enables a maximum 2 second response to be achieved from a subject vehicle passing a camera to a read/hit back to the police database at the local level. This has improved response capability by enabling crime investigations and offender targeting to be more accurate, calculated and immediate.

The Videalert system runs 24/7 and has proved to be highly stable, handling any occasional network outages to Bristol City Council's and ASP's target systems, with automated recovery and data delivery once systems come back on-line. Over 700,000 VRM reads are generated each day and stored for a statutory two-year period. The analytical functions of the new system increase police effectiveness by enabling intelligence to be shared with 14 other



forces in major cities across England. If vehicles have been 'marked' as being of particular interest, the data is stored for a further 3-5 years.

System Development

The ANPR network has subsequently been extended to the North West of the city including metro bus routes. An outer ring of ANPR cameras has also been installed on key routes into the city. The system now supports over 140 cameras with further expansion planned.

The Videalert platform provides significant cost savings and high levels of future proofing by allowing additional traffic and data applications to be added as required. It supports multiple ANPR, civil traffic enforcement, traffic management, community safety and crime prevention applications from a single CCTV infrastructure simultaneously without requiring specific equipment for every point solution.

Conclusion

The Bristol ANPR network demonstrates how 'joined up' thinking can deliver an improved service at lower cost. It enables the council to improve traffic flows by monitoring and reporting on traffic conditions and journey times throughout the day. The system also provides significant operational benefits to ASP and Safer Bristol, who now have a highly developed business relationship with shared common goals and daily briefings which regularly lead to positive tactical outcomes.

This partnership approach has also enabled the project to be scaled up to deliver more effective results for all stakeholders. They include the delivery of a more pro-active policing service to reduce crime and the provision of increased intelligence to make Bristol a safer place to live and work.



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