

Case Study

The future is loop-free



Staffordshire County Council wanted to improve the effectiveness of speed discrimination (SD) loops at a busy junction near a major technology park. The authority chose a non-intrusive solution, using the AGD 318 Traffic Control Radar.

Speed detection has traditionally been used on all roads with approach speeds greater than 35mph. The approaching vehicle's speed information is used to reduce the risk of road traffic accidents where drivers see the green light turn to amber and must decide whether it is possible, and safe, to stop before the signals turn red.

Until now, for double extension applications, dual inductive loops in the road at 79m have provided the detection, with the controller calculating vehicle speed based on the time taken for the vehicle to travel between the first and second loops. However, with AGD radars mounted at the stop line, detection is provided with just a single input – a safe, non-intrusive, cost-effective detection of only the vehicles that are travelling faster than 35mph.

Frequently, where existing SD deployments are due for replacement, damaged road surfaces or ducting can add extensive costs before loop replacement work can begin. Meanwhile deploying new sites requires long periods of road occupancy and 79m of ducting along the side of the road, which can be unviable due to cost, verge space or surface material.

Staffordshire County Council had SD loops at the junction of the A0240 Beaconside and Dyson Way, near a busy technology park. While the site had originally worked well, the cost of re-cutting the loops, with the associated traffic management, was estimated at more than £1,500, and the road surface – already in poor condition – would have been further compromised.



AGD's 318 radar is now proven in Staffordshire for SD applications using dual outputs. 1st output provides XYZ detection with 2nd output identifying faster moving targets at 79M (replacing traditional dual loop configuration).

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Ideal detection solution

Martin Fenlon, Principal Signals Engineer at Staffordshire County Council, explains: “Because the road surface was in such poor condition where the loops would have been installed, the AGD 318 radar gave us an ideal, non-intrusive, solution for detection. This option saves us a great deal of time and money because it is pole-mounted, easy to configure and maintenance-free.”

The AGD Traffic Control Radar detects the speed and range of all approaching vehicles, and can be set up quickly and easily using a simple Graphical User Interface (GUI) on a laptop or tablet. Users can set up zones or virtual loops which provide straightforward I/O outputs into controllers both old and new.

With the amount of information the radar can see on approach, users can also make their virtual loops ‘smart’. In addition to setting a zone of basic detection, the zone can be filtered using criteria such as size of vehicle, direction of travel and speed.



The AGD 318 Traffic Control Radar

Loop-free future

The success of the solution has led to Staffordshire County Council’s decision to avoid in-ground detection wherever possible in the future. “We think it is only a matter of time before everyone is loop-free – it certainly seems to be the direction of travel as far as the DfT is concerned,” concludes Martin Fenlon. “Road surfaces are not being maintained as well as they once were, due to budget constraints, which can result in problems for intrusive detection solutions. And of course traffic management costs when you cut loops into the road are huge. Loop-free technology is the only way to go as far as we’re concerned.”

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