

Case Study

Improving route

safety using VAS

Background

The Crosshands junction is situated between Kilmarnock and Mauchline and is where the A76 and B744 meet. The crossroads is located at the bottom of a hidden dip so motorists travelling along the A76 are unaware of vehicles turning out of the B744 until they reach the brow of the hill, which provides limited reaction time.

Over nearly a five-year period (58 months) between 2012 and 2016, seven accidents were reported at the junction, prompting Scotland TranServ to consider options on how to reduce this number over the coming years. The rural location and lack of mains power presented further challenges in installing an effective safety solution.

Solution

Scotland TranServ consulted with Clearview Intelligence on how best to solve this challenge. The recommendation was to install a vehicle detection system and vehicle activated signs (VAS) to meet two key objectives. The first was to inform drivers travelling above the safe speed for this stretch of the A76 to slow down. The second was to forewarn motorists driving along the main road that a vehicle was preparing to turn out of the B744 and give them longer to adjust their speed by positioning the sign in advance of the hill brow.

"Working with Clearview Intelligence we were able to establish an innovative solution to a long standing accident issue, which on being successful can be used at numerous locations across the trunk road network"

Vincent Tait, Road Safety Manager, Scotland TranServ

To remove the need for mains power, solar powered technology was installed along both stretches of the B744 sideroads to detect when traffic was waiting to turn onto the A76. Clearview's M680 Count and Classify system detects when vehicles are waiting by using inductive loops and transmits this information to the VAS which are positioned in both directions of the A76, in advance of the hill.

The VAS signs, which are also solar powered, then display a 'vehicles turning' alert to forewarn of traffic at the junction below. The same signs also use radar detection to issue 'slow down' warnings to vehicles travelling above a safe speed for that stretch of the A76.

Since its implementation, accidents at the junction have reduced from an average of 1.4 a year to one, with just two collisions in the 22 months following the scheme's completion. The initiative has delivered a 97 percent first year rate of return against the potential cost of an accident.

Key Benefits ▼

- A 97 percent first year rate of return against the potential cost of an accident
- Reduction of an average of 0.4 accidents during the first year
- Solar powered solution is effective in rural locations that have no mains power
- Motorists are both warned of speed and potential traffic by dual purpose vehicle activated signs