

Case Study

Route safety with traffic signals and VAS



Reducing accidents by combining traffic signals and Vehicle Activated Signs (VAS), while prioritising ambulances at Borders General Hospital

Background

The junction between Borders General Hospital and the Melrose Bypass (A6091), in Scotland has been an accident hotspot for the past decade. Each day, 11,400 road users travel this route, making this the busiest junction in the Borders.

Hospital patients, staff and visitors have reported feeling that the junction is dangerous for years—and with good reason. In the five years from 2011 to 2016 there were six accidents resulting in injury and numerous minor collisions.

Solution

The location and topography of the junction with its proximity to the village of Darnick, location of the ambulance station serving the hospital and existing infrastructure meant changing the junction to a roundabout was not feasible. It was established that controlling the flow of traffic around the junction using signals would be most effective.

Traffic lights now control the traffic turning into and out of the Borders General Hospital. They include a new hurry call system to allow ambulances to navigate the junction as quickly as possible. Both the ambulance station and hospital have a button, which prioritises the path of ambulances through the junction. The two locations require separate timings to account for the time taken for an ambulance to reach the junction from either the station or the

hospital. The same buttons are used to trigger warning signs that alert other road users to the approaching ambulance.

The speed limit on this section of the A6091 has also been lowered to 50mph and the same warning signs are programmed to display a slow down message to drivers exceeding the set threshold.

Clearview Intelligence delivered the technology behind this installation. This included using our wireless vehicle detection system, which uses magnetometers to provide the vehicle detection that the traffic signals rely on. Compared to loop-based technology, this approach to vehicle detection is much quicker to install and meant the disruption at this very busy junction was kept to a minimum.

Key Benefits

- Faster ambulance response times
- Easier to navigate junction—crucial when drivers are already feeling stressed about needing to visit hospital
- Visible warning system alerting both speeding drivers and those using the junction when ambulances are approaching
- Rapid installation leading to reduced road closures, worker exposure and traffic disruption

Amey and Clearview Intelligence have a close working relationship built on our shared commitment to improving road safety. The A6091 Borders General Hospital Junction Improvement scheme was no different. To enable us to meet a timescale set by the client, Transport Scotland, effective collaboration was required delivering an innovative solution to a dangerous junction. This close collaboration resulted in us producing a scheme, which, not only improves road safety, but reduces driver confusion and therefore danger. Furthermore, it was completed whilst the junction was open, keeping disruption to emergency services to a minimum during the construction works.

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