

## Case Study

## Vehicle Activated

## Dynamic Queue Warning



Improved safety on the A77 Bellfield Interchange through vehicle activated dynamic signage alerting drivers to queueing traffic.

### Background

The A77 Bellfield Interchange south of Glasgow allows traffic from the A77, A71 and A76 to merge and change direction. Being the interchange between these key routes means the junction is prone to congestion, especially during rush hour.

Queues on the exit slip road on the A77 are common and although signs were installed on the approach to the slip road, warning drivers that queues were likely, these static signs showed no effect on driver behaviour.

Near misses were common place, especially when the queuing traffic extended beyond the slip road onto the mainline A77. Police Scotland were concerned over this risk and asked Scotland TranServ to provide a solution that would reduce such incidents.

### Key Benefits

- Advance warning gives drivers time to respond to potential dangers ahead
- Highly visible, dynamic warning to capture driver's attention
- Energy efficient solution as signs only illuminated when needed

### Solution

Through extensive experience designing route safety solutions Clearview Intelligence know that sharing information on what is happening on the road ahead with drivers in real-time is an effective way of influencing their behaviour. Drivers quickly get used to static signage and fail to notice it. In contrast, signage that changes in response to what is happening on the road ahead helps drivers to stay attentive to the warnings. It was therefore agreed that a solution that combined vehicle detection with dynamic signage would help drivers to approach queuing traffic with caution and avoid rear end shunt accidents.

Clearview designed a solution that detects queueing traffic in two locations: one at 50m on the slip road and another where the A77 joins the slip road. Inductive loops provide the vehicle detection information into the Clearview Intelligence Smart Junction Controller, which activates a relevant warning message on the signs. When traffic queues on the slip road and reaches the first detection location the warning sign closest to the slip road is activated to display an "On Slip" message. As traffic builds and reaches the main carriageway, the second sign is also illuminated and both feature the warning message: "Queues Ahead".

Presenting drivers with information on what is happening on the road ahead in this way helps to capture their attention and allows them to respond safely to building traffic.

*Working with Clearview allows us to produce site specific solutions to problems. Having used them on several schemes in the recent past they are part of the team. This scheme will provide a solution to a high risk problem, giving drivers live information of the formation of the queue allowing them to take appropriate action, reducing the risk of any collisions.*

**Vincent Tait**

Road Safety Manager, Scotland TranServ