

Case Study

M100 Mova traffic signal detection

Erskine Bridge

MOVA Traffic Signal Detection keeps busy bridge moving and improves safety

Background

The Erskine Bridge was due to undergo some long term maintenance work and a series of safety improvements which included phased road works which would inevitably result in severe congestion, driver frustration and compromised road safety during this period. Contractors Amey were appointed to deploy a solution to deliver long term safety improvements to this busy route on both the north side of the Clyde River at the junction of the A82 and the A898 Erskine Bridge itself whilst these road works were being undertaken. This led to the specification of a queue detection solution that could warn approaching drivers of stationary vehicles ahead, whilst offering ease of installation and minimal damage to the infrastructure.

Solution

The Clearview M100 wireless vehicle detection system was installed on the north side of the Clyde River at the junction of the A82 and the A898 Erskine Bridge. The M100 system is used in conjunction with traffic signals operating MOVA with additional North bound queue detection to provide both a 'hurry call' to the traffic signal controller, to provide an extended green phase to reduce queues back on to the bridge, and also to provide a further output to trigger a 'Queue Ahead' warning message on a VMS sign provided by Coval Limited. A particular challenge at this location was ensuring good line of sight from the M100 sensors to the M110 Access Point requiring careful siting of Back to Back M115 Repeater units communicating through a short road tunnel.

On the long slip road from the A82 to the A898 Erskine Bridge, M100 detection was installed and linked to three Coval Limited Variable Message signs 150m apart to warn drivers of queues ahead.

An M110 Access Point was mounted to each sign with detection at 60 to 70 metres ahead of each sign being replayed to the M110 Access Point by M115 Repeater Units.

The M100 detection system in this instance utilises an output delay function that provides an output on the basis of the detector having been occupied for a set period of time indicating slow moving or stationary traffic.

This deployment ensured on-going, up-to-date information to motorists using the bridge during the duration of the road works, improving awareness and reducing the risk of accidents by providing notifications on the VMS signage of queuing or stationary traffic ahead. The M100 system offered a cost effective solution providing full vehicle and queue detection, ultimately improving safety conditions and reduced vehicle speed. This deployment minimised further disruption due to the ease of installation and alleviating further civil works as no ducting or loop tails were required, ultimately easing the pain of long term temporary road works to drivers using the bridge.

Key Benefits

- Improved safety for all road users
- Reduced installation costs
- Increased reliability compared to traditional inductive loops
- Portable solution that could be used on other long-term temporary schemes
- Ease of system installation, no loop cutting or trenching required
- Opportunity to convey temporary traffic awareness updates on VMS signage to keep drivers informed and appraised whilst road works are being undertaken