

## Case Study

## Traffic Monitoring System

## M8 Jct 3&4

## and Kincardine Bridge, Scotland

### Background

In February 2015 two major roadwork projects, at prime locations were undertaken by Amey Highways Ltd, on behalf of Transport Scotland. The works were carried out on the busy M8 motorway network between Junctions 3 & 4 and on the A985 road on the Kincardine Bridge, Fife where it crosses the Forth River.

Bridge works were essential for the re-waterproofing of the central swing spans to maintain and prevent bridge deterioration and ensure continued long-term use by all vehicle types at this busy crossing. The M8 is the busiest part of Scotland's motorway network linking Glasgow and Edinburgh. This work was essential as part of a continuous upgrade to the core of Scotland's motorway links between these two commercial cities and beyond.

Whilst this maintenance work had been scheduled for some time prior to the start date, the requirement to monitor traffic flow was requested only one month before work commenced.

Transport Scotland sought to monitor journey times in real-time at both locations for the duration of the works, so they could ensure that traffic flow was not unduly affected and respond accordingly to avert excessive congestion. Key to this was the ability to share this journey time information in real-time with road users via mobile VMS signs to keep the general public advised of any potential delays, reducing road user frustration and enabling them to make informed decisions about their onward journey.

### Solution

Clearview Intelligence worked closely with the team at Amey and installed a total of 6 M830 journey time detection units—3 located on the M8 between Junctions 3 & 4 and a further 3 units at Kincardine Bridge. Clearview also provided the VMS signs through a sub-contractor.

The M830 journey time monitoring system with access to the cloud in-station provided the necessary data to the GSM enabled Mobile VMS signs. The M830 units were installed one week prior to commencement of the roadworks, enabling Amey to gather the baseline data required to appropriately advise Transport Scotland when a delay had occurred once in situ during the period of roadworks disruption.

The system provided the necessary evidence and data back-up for Amey to present to Transport Scotland if journey time exceeded a set threshold and demonstrated (with supporting evidence) any traffic issues that were created outside the agreed roadwork parameters. By providing timely, accurate traffic information at both sites during the roadworks period, the public were able to make informed decisions about taking alternative routes if long delays were being communicated.

### Key Benefits

- Averted serious congestion by providing Transport Scotland with real-time visibility to changes in journey times
- Minimised road user complaints and frustration by constantly advising of current journey times through the roadworks
- Deployed in a very short time frame with minimal disruption as no dedicated structures were required
- Produced accurate journey time to validate the initial traffic model and to strengthen planning and traffic modelling on future schemes
- Enables both road operators and users to react quickly to any disruption and make choices about route options

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#### **Kincardine Bridge**

*"Clearview's M830 journey time monitoring system was used to great success on phase one of the Kincardine Bridge deck waterproofing scheme (a four week construction programme in April 2015 with a value of £350k) carried out by Amey on behalf of Transport Scotland. The Bluetooth receivers and Cloud In-station allowed us to constantly monitor the length of traffic delays travelling through our temporary traffic management, flagged up any sudden changes to traffic flows and prompted us to intervene where necessary. The real-time journey information was also provided to Traffic Scotland who further distributed to the general public (through strategic variable message signs and social media), all of which helped to keep traffic queues to a minimum. Finally, post completion the accurate journey time information was used to validate the initial traffic model and more importantly assist with planning and traffic modelling for future schemes in this area."*

#### **Craig Steel**

Civil Engineer (Structures) Consulting & Strategic Infrastructure  
Amey Highways Ltd



#### **M8 Junction 3 & 4**

*"The endeavour and knowledge of Clearview Intelligence staff was pivotal to the success of the project. At short notice they were able to advise on and arrange the installation of 3 Bluetooth detectors, 2 Variable Message Signs and the associated cloud in-station. This provided key information to Transport Scotland, Traffic Scotland and ultimately the road users throughout the works. This information undoubtedly resulted in very few public complaints which is a worthy achievement as it was such a key part of the motorway network. Going forward we would be happy to engage with Clearview Intelligence in future works and develop / trial their new technologies that will benefit our client Transport Scotland."*

#### **Michael Patton**

Civil Engineer, Consulting & Strategic Infrastructure  
Amey Highways Ltd