



SPECS Safety Cameras – M4 10-12 Technology Upgrade



Overview

The M4 10-12 NMIS scheme was a Highways Agency project to upgrade the communications infrastructure between junctions 10 and 12 of the M4. The project was innovative in its use of narrow lanes with a 50mph limit over a long length of traffic management, which moved along the carriageway in three phases. SPECS average speed enforcement cameras were specified because it was believed that safety, traffic flows and vehicle throughput would all be maintained, despite the presence of the Traffic Management. Following the completion of the SPECS controlled period, all of these objectives were satisfactorily achieved.

Customer

- Client:** Highways Agency
- Contractor:** Balfour Beatty
- Police:** Thames Valley
- Consultant:** Mouchel

Problem

Previous works phases had taken place with firstly, hard shoulder closures and no speed limit reduction; and secondly, non-enforced 50mph limits. Vehicles were still travelling close to the work force at high speed, with near misses reported. A safer solution was required to cover a long section of Traffic Management, whilst not introducing congestion.

SCS Solution

The SPECS enforcement cameras were configured in a similar way for all three works phases, with the equipment moving along the carriageway and being reinstalled at each phase. A 50mph speed limit was applied and this was controlled/enforced with the use of SPECS average speed cameras. In each direction, three camera columns were located, with camera columns holding two yellow SPECS cameras (three Westbound columns, three Eastbound columns). Portable column foundations were used to simplify installation and removal.

Results

KSI casualties reduced by 100% (7 – 0, comparing three year baseline to works period). 85th percentile speeds were consistently just below the posted 50mph limit. Typically, only 9.2 offences were processed per day (1 in 10,000 vehicle journeys).



Speed Check Services
Safer, smoother traffic flows



Technology Overview



SPECS is an average speed enforcement system, using linked cameras that cover a length of road. The video cameras continuously capture images of vehicles as they pass through the field of view of the camera. Their number plates are read using Automatic Number Plate Recognition (ANPR) and the average speed of the vehicle is calculated between the two cameras, over a known baseline distance. If this exceeds the Police speed threshold, an offence record is created and violation images and data are logged.

Driver behaviour is noticeably better with average speed cameras as compliance is maintained throughout the whole speed restriction zone. Spot speed cameras often cause 'surfing' or sudden braking at the camera, followed by an increase in speed directly after the camera; this creates a wide distribution of speeds promoting flow breakdown and congestion. In contrast to this, average speed enforcement leads to a low standard deviation in speeds, creating a smooth, uniform flow.

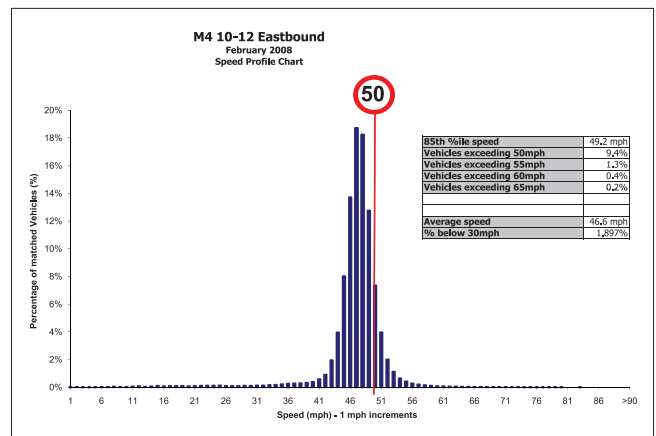
Solution Benefits & Results

The temporary SPECS solution delivered significant benefits that actually improved the safety and traffic flows on the monitored section of motorway. This even led to a member of the public asking if they could be installed permanently to improve his commute to work.

- Fewer injury collisions occurred during the works than in the three year baseline.
- Construction workers felt safe whilst working close to the carriageway.
- Journey reliability was better during the works period.
- Congestion through the works and around junctions was largely eliminated.
- 85th %ile speeds were consistently just below the posted 50mph limit.
- Average speeds were consistently around 46mph in a posted 50mph limit.

"It is the best arrangement for such roadworks that I have experienced in my career to date and I would recommend for deployment elsewhere on the road network in such circumstances."

Bob Pape, Mouchel Divisional Manager



"I would recommend the use of an average speed check with enforceable cameras as a matter of course and make it mandatory purely from the safety of the workforce. Simple as that."

John A.S. Verrill, Balfour Beatty Civil Engineering Limited Project Manager

SCS Overview

SCS was created in 1999 to bring the SPECS safety camera system to the road safety market. Today, SCS is the global leader in average speed enforcement solutions and one of the UK's foremost providers of intelligent transport solutions for the road traffic market sector.

Working in partnership with clients from a range of disciplines, we deliver turnkey projects and provide ongoing support and maintenance throughout the life of a contract.



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