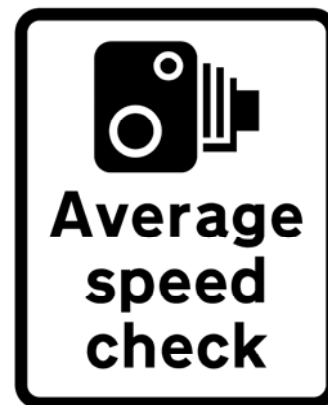


# traffic safety

## TEMPORARY ROADWORKS SPEED ENFORCEMENT M6 JN 12-13



### Overview

The M6 Penkrudge project in Staffordshire consisted of works from just south of junction 12 through to junction 13. The project was split into 3 phases and involved carriageway reproofing and resurfacing, starting in March 2006 and finishing in May 2007. Traffic Management was deployed, and SPECS average speed enforcement was recommended in order to effectively control the 40mph speed restriction. The result was a reduction in traffic speeds throughout the entire works area, not just at the camera locations, thus improving safety for site operatives and the motorists. Maintaining reliable journey times for the public was also a major consideration.

Customer	Problem
<p>Client: Highways Agency Contractor: TARMAC &amp; Bardon/Aggregate Police: Staffordshire Consultant: Optima</p> <p>The SPECS system was installed for all 3 phases of the works, totalling 9 months of speed control.</p>	<p>The three phases of works were designed to maintain three lanes of traffic in both directions, limiting the delay on motorists' journeys. In order to achieve this, narrow lanes and contraflow arrangements were utilised. A reduced speed limit was needed in these conditions to protect both the motorist and workforce.</p>

### SCS Solution

SPECS cameras were installed on distinctive blue columns in the verge, in conjunction with the new 'Average Speed Check' signs, approved in January 2006. The result was a high level of speed compliance.

### Results

**"To enable roadworks to be completed with minimal disruption to the road user, we must look at ways to provide maximum carriageway availability whenever safely possible. In conjunction with the Highways Agency in Area 11, we have employed average speed cameras together with a 40 mph temporary speed limit on three major contracts on the M6 in Staffordshire, one of the busiest routes in England. Use of these cameras, in conjunction with the newly approved average speed check signage, has resulted in a very significant reduction in the speed of vehicles as they pass through the works. This has enabled us to provide a 3 x 3 contraflow system thus maximising carriageway availability during daytime periods whilst also enabling construction works to progress safely and efficiently. A further major advantage of using these cameras is that it results in compliance for the complete length of the roadworks, and not just small sections of it, as would be the case if conventional speed cameras were to be employed."**

Chris Jones - Construction Team Leader, Optima Infrastructure Management.

## Technology Overview



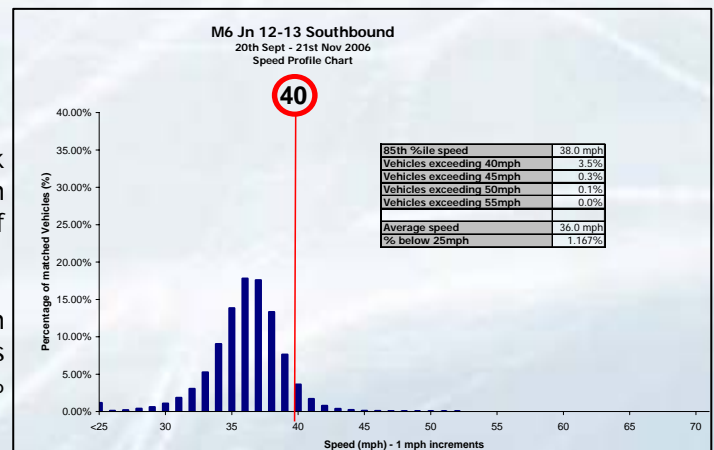
SPECS is an average speed enforcement system, using pairs of cameras that cover a length of road. Each SPECS pair consists of two video cameras, linked by fibre optic cable to a remote enforcement cabinet. The video cameras continuously capture images of vehicles as they pass through the field of view 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 through the works, promoting flow breakdown and congestion. In contrast to this average speed enforcement leads to a low standard speed deviation, creating a smooth, uniform flow.

## Solution Benefits

The M6 is a strategic route with the morning peak hour flows being around 3,800 vehicles in both directions, so it was important that the flow of traffic was not significantly affected by the works.

Compliance during all 3 phases was very high, with typical speed profiles showing 85th %ile speeds below the posted 40mph speed limit (i.e. over 85% of vehicles were below this speed).



One of the Highways Agency targets is to limit congestion, and average speed cameras can help to create smoother traffic flows, in turn improving throughput of traffic. The compliance with the speed limit was excellent, resulting in a steady uniform flow of traffic and less congestion. The percentage of vehicles travelling below 25mph was very low, indicating reliable journey times through the works.

**“Moderation in driver behaviour and compliance to the signed speed limit through the scheme has been extremely encouraging. In this type of operation it is vital for safety reasons that we maintain a constant stream of vehicles all travelling at or around the same speed”.**

Roger Whittle – Operations Manager for Staffordshire Casualty Reduction Partnership

## SCS Overview

Speed Check Services provides a range of Intelligent Transport Systems (ITS) to the UK's road network. Three operating divisions target key market sectors:

**traffic operations:** traffic flow solutions for the road network

**traffic information:** using technology to keep the public informed about road conditions

**traffic safety:** protecting road users and enforcing traffic law

Drawing on considerable experience and a diverse technology toolkit, Speed Check Services can consult, design, install and maintain a broad range of ITS solutions.