



Speed and Weight Limit Enforcement - Tower Bridge



Overview

Tower Bridge is now successfully operating a unique combined speed and weight enforcement system, supplied and installed by Speed Check Services Ltd. The installation of the only UK Home Office Type Approved digital average speed enforcement system, alongside an ANPR-equipped vehicle classification and weight enforcement system, has resulted in a ground-breaking bridge protection solution on one of Britain's most recognisable landmarks.

Customer

Transport for London - Congestion Charge Complementary Measures Project, City of London Police and Corporation of London

Additional measures required to address the impact of the implementation of the Congestion Charge Scheme on surrounding infrastructure and environments.

Problem

High numbers of vehicles travelling at excess speed across the bridge. Six to eight overweight goods vehicles crossing the bridge per hour.

It was predicted that the introduction of the Congestion Charge Scheme would lead to higher traffic volumes, more overweight vehicles and an increase in speeding vehicles, adding to the load on the structure.

SCS Solution

SPECS was used to create a continuous zone of enforcement by recording vehicles between the two camera locations placed at either end of the bridge. Average speed enforcement ensures that vehicles travel at a constant speed, reducing stress on the bridge structure. The weight enforcement system identifies goods vehicles with a permitted maximum weight in excess of the 18t weight limit. Those identified in breach of the weight limit are photographed and an ANPR system logs their number plate for verification to confirm if a violation has taken place.

Results

The number of high speed and overweight vehicles has been dramatically reduced, lowering the stresses placed on the structure of this iconic landmark. Overweight vehicle detections have dropped from 6 per hour to 6 per day.



SCS

Speed Check Services
Safer, smoother traffic flows



Technology Overview



Speed Enforcement

The SPECS average speed enforcement system is unique in the UK and utilises Automatic Number Plate Recognition (ANPR) technology to identify a vehicle and calculate the average speed taken to travel between two points. ANPR cameras at either end of the speed control zone record the registration number of the vehicle as it passes. Each record is time and date stamped, and the average speed is calculated. If the speed exceeds a preset value, a digital image of the vehicle is taken and stored with the number plate data as a violation record. All violation records are written to disks that are collected by the Police and viewed on an 'Instation'. Bespoke software developed by Speed Check is used to view offence records before being exported to the existing EROS software used by City of London Police.

Weight Limit Enforcement

Induction loop and piezo-electric sensors in the road surface measure the length, number of axles, axle spacing and chassis height of each vehicle. The data is collected by an AVC100 traffic count and classify unit. The classification equipment is used to trigger ANPR and context image cameras which record a sequence of frames to provide proof-of-presence of overweight vehicles. Vehicle classification data and images are written to disk and processed in a similar way to the speed violations using unique software developed by SCS. Transport for London verify the plated weight of each vehicle and, if found to be in breach of the weight limit, a penalty notice is issued to the driver.

Solution Benefits

The number of accidents on the bridge has been reduced. The number of overweight vehicles crossing the bridge has fallen from 6 per hour to 6 per day. Balancing the compromise between optimal engineering solutions, the environmental and aesthetic impact of the systems, and the requirements of the different institutions involved, the project stands as testimony to the application of digital technology, system integration, stakeholder involvement and a desire to use an innovative approach to overcome obstacles.

"The number of overweight vehicles crossing the bridge has reduced considerably and the damage to the roadside furniture caused by accidents has almost disappeared. This will reduce wear and tear on the bridge and will help us reduce the costs of maintaining the bridge in the long run."

Eric Sutherns, Tower Bridge Operations Manager

"This system allows us to process these offences far more effectively and safely than police officers at the side of the road."

Jacqui Adkin, City of London Police Prosecutions 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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