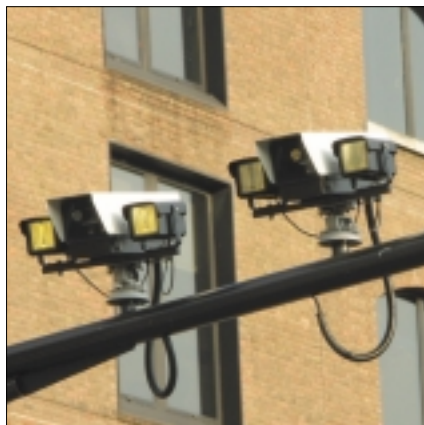


# traffic operations

## BRIDGE ENFORCEMENT – TOWER BRIDGE, LONDON



### 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 Automatic Number Plate Recognition-equipped (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 Complimentary 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.  
6-8 Overweight goods vehicles crossing the bridge per hour.  
Introduction of Congestion Charge scheme predicted to increase problems with an increase in traffic volumes; more over weight vehicles and speeding vehicles.

### 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 was deployed to identify 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

City of London Police prosecute drivers who exceed the 20mph speed limit or 18t weight limit, thus protecting the structure of this iconic landmark.

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

(Jacqui Court, City of London Police Prosecutions Manager)

## TECHNOLOGY OVERVIEW

### Speed Enforcement

The SPECS average speed enforcement system is unique in the UK and utilises Automatic Number Plate Recognition 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 SCS 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, City of London Police verify the maximum weight of the vehicle and, if found to be in breach of the weight limit, penalty notices are issued to the drivers.

## 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)

## 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:** implementing solutions to manage traffic flow on 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.