

Case Study

Swarkestone Bridge and Causeway

Weight Restriction Monitoring System

To help protect Swarkestone Bridge and Causeway, and enforce a vehicle weight restriction on it, Clearview Intelligence and partners provided a unique solution to monitor use of the bridge.

Background

Swarkestone Bridge and Causeway is located on the A514 just south of the junction of the A514 and A5132. It is the UK's longest (medieval) stone bridge crossing the River Trent between the villages of Swarkestone and Stanton by Bridge, about 6 miles south of Derby. It is listed as an Ancient Monument but is subject to modern day traffic loading and volumes.

Attempts have been made by Derbyshire County Council to protect the bridge by creating a 7.5-tonne weight restriction and 40mph speed limit on this section of the road, as the latest traffic data showed that around 40 Heavy Goods Vehicles (HGV) exceeding this restriction a day were using the bridge.

However, enforcing this weight restriction was proving to be problematic.

"Swarkestone Bridge and Causeway is a Grade 1 listed and scheduled Ancient Monument with a 7.5 tonne weight limit. Overweight vehicles are regularly seen to be crossing the bridge. The newly installed electronic warning signs play a key role in advising these vehicles of the upcoming restriction. I am very pleased with the vehicle classification system Clearview have installed which I'm confident will provide us with an effective and durable solution."

Mark Hewitt, Economy, Transport and Communities, Derby County Council

Solution

Working in partnership with road safety sign and traffic control system supplier, Coeval, Clearview Intelligence came up with a solution that would help Derbyshire County Council with their problem of HGVs ignoring the weight restriction on Swarkestone Bridge.

Clearview developed a solution where a Vehicle Activated Sign (VAS) triggers when a vehicle weighing over 7.5-tonnes approaches the bridge. The solution also monitors the number of transgressions on a daily basis.

In order to alert and remind drivers that they are not allowed to cross the bridge in a HGV, Clearview used its M680 count and classify solution to understand the type of vehicle approaching the bridge, and if over 7.5-tonnes, this triggers the VAS. Giving the oncoming driver a highly visible and immediate reminder that they are not allowed to cross in a HGV vehicle.

Given the rural location, the solution needed to work without access to mains power, so Clearview installed a 30W+ solar panel to power the VAS.

As a result, Derbyshire County Council are now able to discourage overweight vehicles using the bridge and through monitoring of the number of transgressions they can also consider additional enforcement techniques if required.

Key Benefits ▼

- Drivers are now clearly made aware of a weight restriction on the bridge
- Solar powered solution allowed deployment in a location where access to mains power was not available
- Enables client to effectively deter repeat offenders, reducing the risk of further structural damage