INTELLIGENT FLOOD WARNING SYSTEM INFORMS TRAFFIC CONTROL STRATEGIES

Delivery Partners:
SWARCO Traffic Limited,
Warwickshire County Council

BACKGROUND
SWARCO Traffic has designed and installed an intelligent flood warning system to divert drivers away from a ford in Kenilworth that has been causing severe problems during flood events. The ford can be the cause of significant traffic problems during flood conditions; partly because drivers are unsure whether the road is passable and also because smaller cars can get into trouble when a passing larger car causes a bow wave.

FIRST USE
Although not using any ‘new’ technology, this is an example of using new way of thinking to address an old problem: Swarco applied their proven expertise in traffic management technology to redesign a bespoke system that had previously been used to warn of high winds or traffic queues, and adapted the concept to a new ‘flood warning’ environment.

APPLICATION
Working closely with Warwickshire County Council engineers, SWARCO has provided a set of four warning signs; two on surrounding roads and two in close proximity to the ford. The two that are closest warn of low level flooding to alert drivers of the risk of aquaplaning. When the water rises above 100mm, the outer signs are activated to enable drivers to take an alternative route. The trigger levels for water depth can be altered if required.

Water level sensors from OTT Hydrometry are used to detect rising water levels in the Finham Brook where it passes under the A452. Messages from the sensors are sent to Warwickshire’s UTMC system via a count control cabinet. The messages from the sensors are actually sent as car park occupancy messages to the UTMC system which in turn triggers the sign activation.

BENEFITS
Linking the flood warning signs via the UTMC system enables central monitoring of the road’s condition in periods of flood. It also enables other traffic control strategies to be implemented in event of the flooded road becoming impassable. For example, signal timings at junctions in the surrounding area could be changed automatically to cater for a change from the normal traffic flows caused by drivers taking alternative routes.

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