

Evaluating traffic sign performance for optimized safety

Safe traffic flow is highly dependent on properly performing traffic signs and road markings. At nighttime on dark roads, the retroreflection of traffic signs and road markings are essential in guiding drivers to keep vehicles safely positioned on the roads, thus avoiding or at least reducing the number of traffic accidents. During wet and rainy weather even high-performing traffic signs and road markings present a challenge, as water often covers the reflective surfaces of the elements partly or fully and reduces or eliminates retroreflectivity.

According to the US Federal Highways Administration, "Inadequate and poorly maintained signs and markings are often cited as the contributing factor to accidents. While only 25% of travel occurs at night, about 55% of fatal accidents occur in the night."

Road owners are responsible for ensuring that traffic signs and road markings perform according to standards. In the EU, for example, the minimum retroreflection requirements are laid out in EN 12899 for traffic signs and EN 1436 for road markings. A third standard, EN 20471, provides the minimum retroreflection level for high-visibility clothing.

A vital tool

Retroreflectometers are a vital tool for road owners to ensure that traffic signs and road markings meet the minimum requirements. Such instruments come primarily as handheld devices for spot measurements. However, mobile units for ensuring a full performance overview at traffic speed are a small but growing segment. Retroreflectometers usually come with software that



(Above and left) The new RetroSign GRX can capture seven observation angles in a single measurement

Need to know

An advanced tool provides road owners with the data required to make informed decisions

- Measuring the performance of traffic signs is important for ensuring compliance with standards and to improve safe traffic flow
- New technology used with RetroSign GRX enables road owners to capture more information on each measured sign as well as provide better data processing and presentation tools

facilitates basic data processing and storage. In addition, modern tools offer the use of a tablet for advanced post-processing of data, including comparing results with previous measurements, sign library function with pass/fail options and a database search function, acting partly as an asset management tool.

A modern approach

In the second quarter of 2016 Delta will launch a new traffic sign retroreflectometer: RetroSign GRX. This camera-based tool offers a number of new functions not found in the company's current models GR1 and GR3. For example, it can capture seven observation angles in a single measurement. In addition the RetroSign GRX

will provide color recognition, sign contrast assessment, a pass/fail function and the ability to identify sign orientation and instrument rotation.

A vital new function is image acquisition – capturing pictures of the measured sign with the option of marking and noting comments.

RetroSign GRX is not just a retroreflectometer. The instrument provides easy capture of all relevant data for performance evaluation of traffic signs. Furthermore, an optional app features an asset management solution for advanced data processing and presentations including visual overview using Google Earth or other software mapping tools. ○



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