

Guid'N Grip: secure dangerous bends

by Fabien MAGRIN / 2021-03-25 15:54:23 / France / 5713 / FR



Year of commitment : 2019



150 000 €

GENERAL INFORMATION

Every year, road accidents cause almost 70,000 injuries, 30,000 hospital admissions and 3,500 deaths. Making certain particularly dangerous areas (bends, sharp curves, etc.) safer is a major challenge. Behavioural studies on driving simulators suggest better anticipation of bends when LED bollards are integrated into the roadway.

In response to these findings, Eiffage has designed and developed an innovative process, Guid'N Grip®. The Guid'N Grip® concept is based on the triptych "Alert, Guide, Secure". It is a road that combines technologies that improve the road's grip with a vehicle detection system that triggers a light path. The latter draws the attention of motorists to the imminent arrival of the bend and its curvature.

In addition, thanks to an automatic detection system, it is possible to collect data on driving habits and to adapt the system as well as the upstream infrastructure.

In the last quarter of 2019, Eiffage Route and Eiffage Energie Systèmes delivered their very first Guid & Grip® worksite on the RD 612 at Saint-Germier in the Tarn department - an order placed by the departmental council as part of the "Innovative Public Procurement" experiment. The President of the Departmental Council, Christophe Ramond, inaugurated the worksite on 4 December 2019 in the presence of several local elected officials.

During the work period, the teams worked at night with two pavers to apply the surface course and install the 35 LED signs on the road and the islands. This work, which significantly improves the visibility of the bend for drivers, makes this stretch of road safer and will be the subject of a three-year experimental monitoring period by Cerema in order to assess the benefits of this road innovation.

<https://app.eiffage.com/content/s-curit-routi-re-le-tarn-teste-guid-n-grip>

<https://www.ladepeche.fr/2019/08/06/operation-commando-de-venes-a-saint-germier,8348634.php>

<https://www.ladepeche.fr/2019/12/06/le-tarn-teste-le-virage-qui-sillumine,8585882.php>

<https://www.editions-rgra.com/revue/970/securite-routiere/premier-chantier-de-la-solution-guidn-gripr>

Guid'N Grip® integrates three systems that interact together:

Alert: a Doppler radar is positioned at the entrance to a curve in order to assess the speed of vehicles and to better understand the risk of an inappropriate approach speed. This equipment is coupled with a lighted panel that interacts with the driver according to the measured risk.

Guiding: an illuminated sign is integrated into the ground at the edge of the road. This is triggered when the vehicle approaches, making it easier to read the path to follow, particularly in poor weather conditions (rain, fog, mist) or at night. A specific programming can trigger the lighting of the LED dots either statically or dynamically. The operating mode can be modified during the experimentation.

Safety: Guid'N Grip is unique in that it combines these technologies with the Sécuriprene road surface, which has been specially formulated by Eiffage Route's laboratories in order to offer enhanced grip properties compared to conventional road surfaces. It is made up of aggregates with very good resistance to abrasion and polishing and a high-performance modified bitumen from the Biprene® range. Sécuriprene is NF EN 13108 certified, fully recyclable and compatible with all types of traffic. For more information: <https://www.eiffageroute.com/files/live/sites/route/files/Produits/GUID-N-GRIP-2020.pdf>.

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Public/Private Partnership

Website Enterprise / Infrastructure

<https://app.eiffage.com/content/s-curit-routi-re-le-tarn-teste-guid-n-grip>

Sustainable Development

Resilience :

Capturing and mobilizing the attention of users as they approach critical areas (turns / intersections / pedestrian crossings / level crossings, etc.) is an essential concept of road safety.

Testimony / Feedback

Dominique GUTH - Director of Roads for the Department of Tarn

"The Tarn departmental council is strongly mobilized to strengthen the safety of its road network and to promote a proactive policy of innovation.

On the occasion of a major program to modernize and secure its major axis, the RD 612, linking the two main agglomerations of Tarn, Albi and Castres Mazamet, it appeared necessary to improve the safety of a crossroads located in the tightest curve of the route and the scene of serious accidents. Eiffage's proposal for the implementation of Guid'N Grip appeared particularly relevant and the department initiated the procedures relating to the experiment and contracted with Eiffage for its implementation.

The site went perfectly, the system has been the subject of an evaluation since its inception. To date, it has given complete satisfaction in terms of pavement surfacing and curve markings. In particular, we did not observe any serious accidents, with however certain reservations linked to the impact of the health crisis on traffic.

The follow-up will make it possible to assess any changes in user behavior. "



General review of roads and development

First project for the Guid'N Grip® solution

Securing accident-prone areas

Flavien Geisler, Yann Lalain, François Olard, Fabien Magrin, Dominique Guth

Guid'N Grip® is an innovative road signage solution developed by Eiffage Route and Eiffage Énergie Systèmes, consisting of intelligent and dynamic signage combined with a high-grip road surface, Sécuriprène®. Winner of the 2018 edition of the Roads and Streets Innovation Committee (CIRR), Guid'N Grip was implemented at the end of 2019 on a first site of the RD 612, in Saint-Germier (Tarn), thanks to the will of the Council department of Tarn and technical support from Cerema. It will be monitored over several years.

Governance

Eiffage Route, Eiffage Energy Systems

Holder Type : Private Company

Photo credit

Eiffage Route / Romain Saada / Ludovic Soranzo

Contest

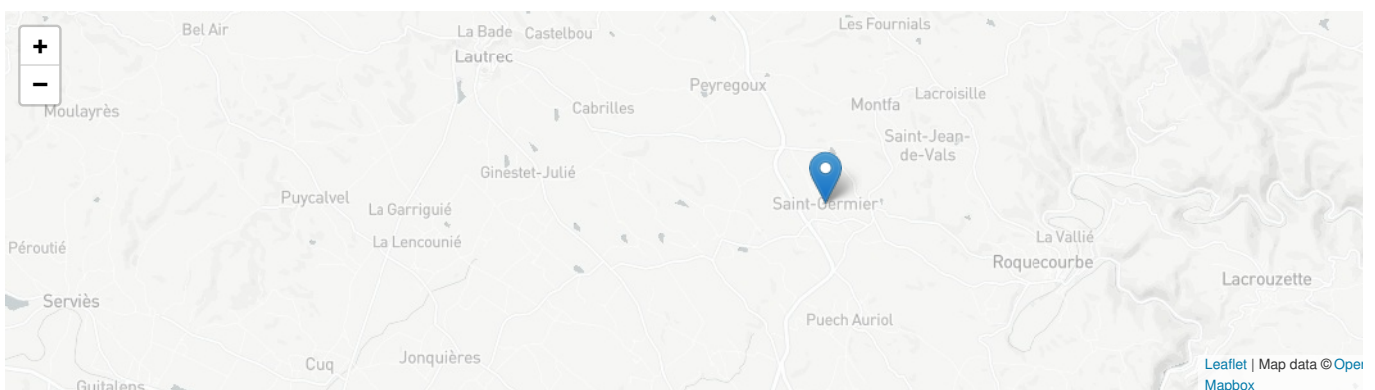
Reasons for participating in the competition(s)

Permettant de sécuriser des courbes existantes, le système permet un gain carbone et économique indéniable en évitant de gros travaux de voirie.

Building candidate in the category



Grand Prix Infrastructure Durable



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