Traffic monitoring to generate knowledge

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The system is currently operating under real conditions in Madrid and Seville.

Researchers at UPM have developed an application that generates traffic information for cities and roads by detecting a Bluetooth device boarded on vehicles.

The main goal of this system, developed by three researchers at School of Telecommunications Engineering from Universidad Politécnica de Madrid, is to generate city traffic and road information from the identification of Bluetooth devices on vehicles. This information includes magnitudes such as travel time between two points or the distribution of traffic at intersections that will allow city councils and highway concessionaires to carry out better management of traffic network in order to avoid congestion.

The congestion problem wastes an average of over 30 hours per driver a year worldwide. This waste of time translates to 839 million Euros in the city of Madrid. Thus, it is necessary to implement measures to improve mobility in both roads and urban road infrastructures that help alleviate the current situation.

To this end, researchers have developed BlueTT, a software programme embedded in a complete monitoring system that generates relevant information about congestion on streets and roads. BlueTT unequivocally identifies the Bluetooth device in vehicles and processes this data to forecast the travel time with updates every minute and automatically adapt the specific conditions of the traffic at all times.

BlueTT is able to connect thousands of detectors on a same platform by registering the new sensors that are deployed at different magnifications. This capacity provides the system with the essential scalability in this

type of applications. The captured data is given through a web interface that contains the travel time in real time and a set of query about the storage information on a database.
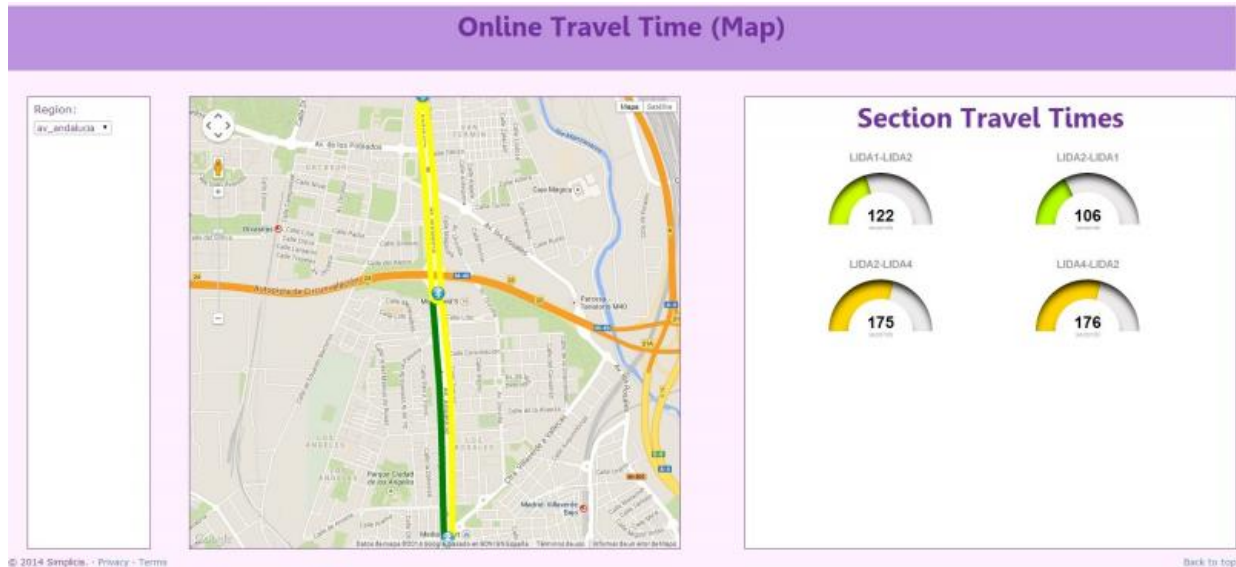
Web interface of the developed system. Credit: UPM

The result is a robust system for generating relevant information about traffic. Now, the system has three networks in Madrid and Seville and running in real conditions since November 2013. UPM is now concluding agreements to use BlueTT with important traffic managers. A spin-off company is to set in order to boost its commercial development.

Provided by Universidad Politécnica de Madrid

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