Cerema

Direction territoriale Est

25th World Road Congress Seoul 2015

November 2-6, 2015 / Coex, Seoul, Korea

Roads and Mobility - Creating New Value from Transport

Assessment of multiple travel-times technologies in France

Introduction

DIR-CE, national road operator in the Centre East of France, wishes to appraise in real and known situation different solutions of travel time calculation from various innovative technologies.

The objective is to estimate the metrological and functional performances of systems and services based on these new technologies of traffic data collection, by comparison of travel times developed by each of them to those obtained by the ANPR system (which is the reference) and to those obtained by the existing loops stations.

Experimentation stakes

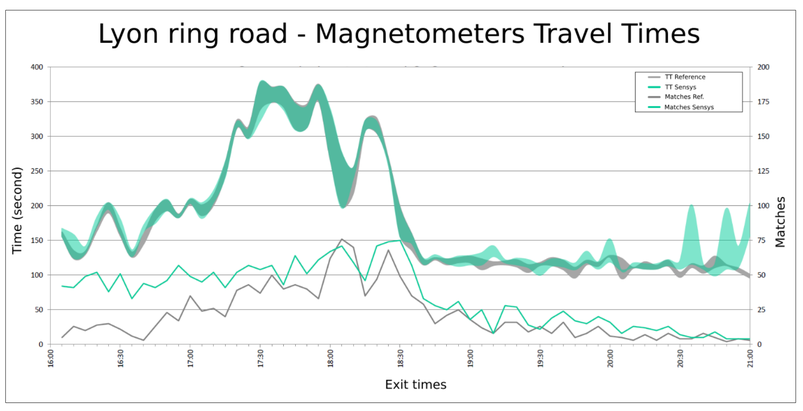
This project deals with three axes :

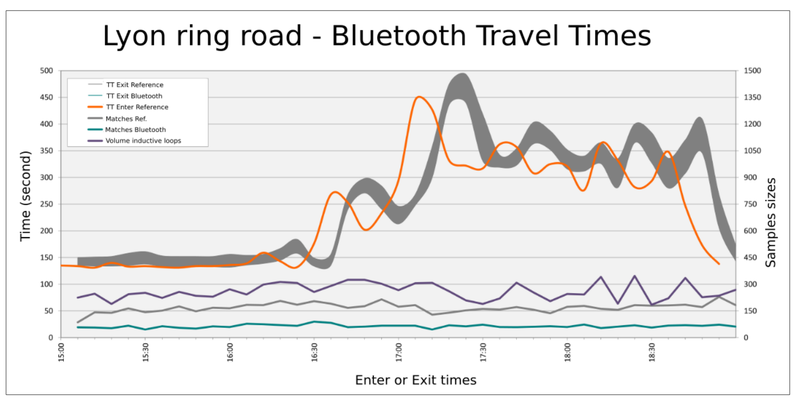
- Metrological and functional assessment of the main travel time production technologies ;
- Knowledge capitalization regarding these technologies and building a database of reusable measures
- Production of robust predictive travel-time.Research for an optimal algorithm of travel time development ;

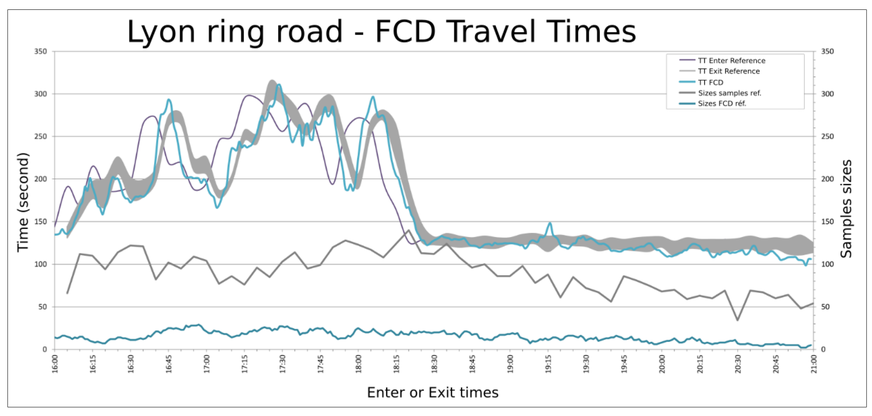
Some results

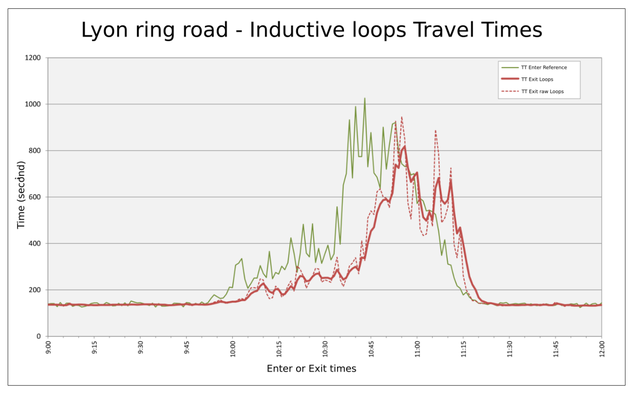
The first results show interesting performances about the distributions of exit travel-time provided by new technologies evaluated. However, significant differences appear with predictive travel-times. The precise and robust estimation of the travel-time by these innovative systems is yet to be demonstrated, the issue is complex.

ANPR Reference system

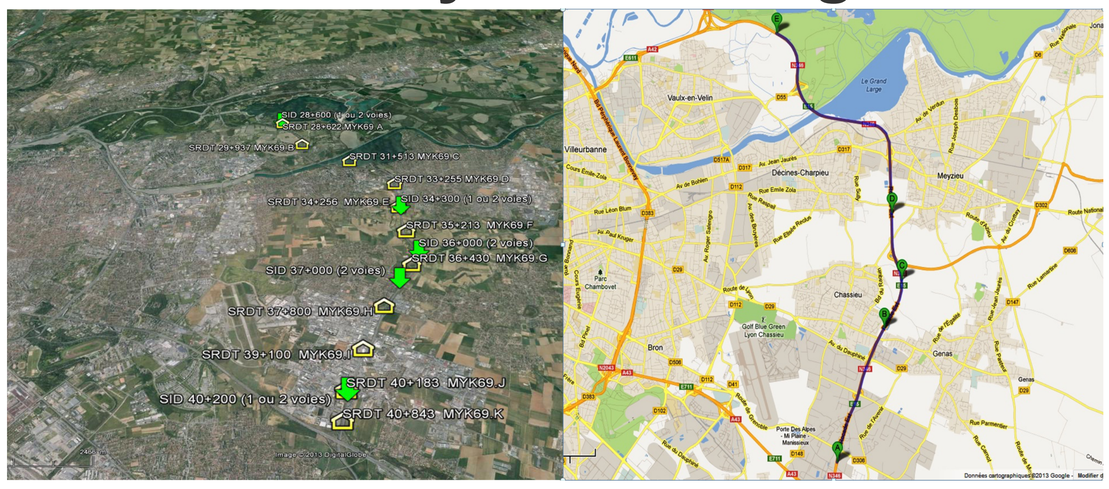








Trial site : Lyon East ring-road



Localisation of measurement points (green arrows) and inductive loops stations (yellow houses)

Industriels partenaires		Technologies
TOMTOM	**TomTom**	Floating Car Data (FCD)
AUTOROUTES TRAFIC	**Autoroute Trafic**	Floating Car Data (FCD)
INRIX TRAFFIC	**INRIX**	Floating Car Data (FCD)
BLIP systems	**BLIP Systems**	Bluetooth / WiFi
sterela	**Sterela**	Bluetooth
neavia technologies	**Neavia**	Bluetooth / WiFi
karrus traffic organizer / SENSYS networks	**Karrus ITS Sensys Networks**	Bluetooth WiFi / Magnétomètres - data fusion
SIREDO	**Stations SIREDO**	**Inductive loops**

Conclusions

This experiment allows to build a large travel time data base developed by various innovative technologies. The results of these evaluations will help road operators to have a better view among the numerous existing and emerging solutions to get travel time, and to make their choice both from the point of view of the required performances as costs to be invested.

Main references

1 Éric Klein, Éric Murugneux, Alexis Bacelar (2012). Accurate travel times in a complex urban context, in Proceedings of 9th ITS European Congress, Dublin, Ireland.

2 CERTU, (2002). Méthodologie d'évaluation des nouveaux capteurs de trafic routier, technical guide, collection « dossiers », 74 p.

3 NFP 99-330, Nature, exactitude des données de trafic routier – Essais, avril 2001, 30 p.

Authors

PURSON, Éric, Cerema, DTer EST, France
BACELAR, Alexis, Cerema, DTecTV, France
LEVILLY, Bruno, DIR-CE, France
KLEIN, Éric, Cerema, DTer EST, France
RECLUS, Fabrice, Cerema, DTer Centre-EST, France