

TrafficZen



Realtime traffic information

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The partnership and the project



Traffic information today : growing needs... and solutions to improve

For road operators, strategic needs ...

- Contend with the spectacular increase in road traffic (4% growth in traffic over 10 years)
- To optimize infrastructure usage and travel
- To avoid congestion, the cost of which is estimated at 2% of European GDP
- To lower the impact of road traffic on the environment, given that one quarter of CO2 emissions and one half of NO2 emissions are caused by man



... Solutions exist but only partially meet needs

- Data collection systems are costly and complex to implement and offer little upgradeability (sensors, surveys, etc.)
- Restricted geographical coverage of information (little traffic information outside the trunk roads)
- Few solutions for new media (mobile phones, navigators, GPS, Web, etc.)



The partnership : to provide a new traffic information data source for multiple usages

A new source of innovative, rich and effective traffic information that combines data from the mobile network and traditional road sensors.

- **An extended geographical coverage for traffic information (secondary networks and peri-urban areas)**
- **A real-time high value-added data feed**
 - More efficient traffic jams detection
 - Better road operations management
 - More powerful and adapted services for the end-user (route planning, GPS navigation...)
- **A fully scalable solution with no additional investments**
 - Low operating costs and no maintenance
 - No investment in dedicated data collection systems

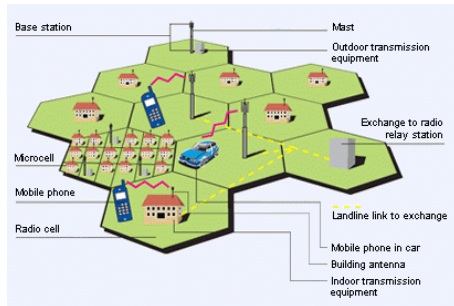


The project : to innovate in the field of real-time traffic information

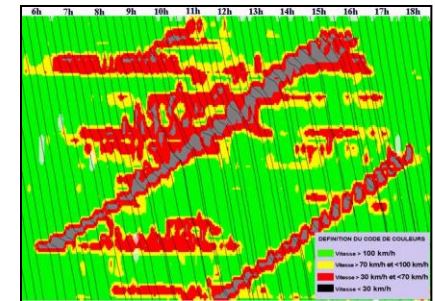
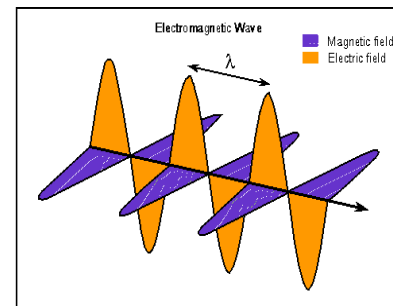
- ASF brings its unrivalled know-how in road operations and traffic engineering
- Orange brings the quality and robustness of its mobile network and its strengths in innovation and R&D



The networks



The technologies



To bring a better answer to challenges faced by road operators and local authorities

To inform citizens and decision-makers

- To provide an up-to-date and personalized information
- To optimize travel time
- To centralize the production of traffic indicators

To enhance information broadcast

- To integrate the most advanced technologies : web, mobile widgets
- To enrich existing channels: radio, VMS

To reduce CO2 emissions

- To reduce traffic congestion
- To help anticipating mobility
- To promote eco-responsible behaviors

To optimize cash-out and infrastructure usage

- To lower deployment costs
- To access to a cost efficient service for the end-user
- To generate adequate KPIs for decision-makers



The project

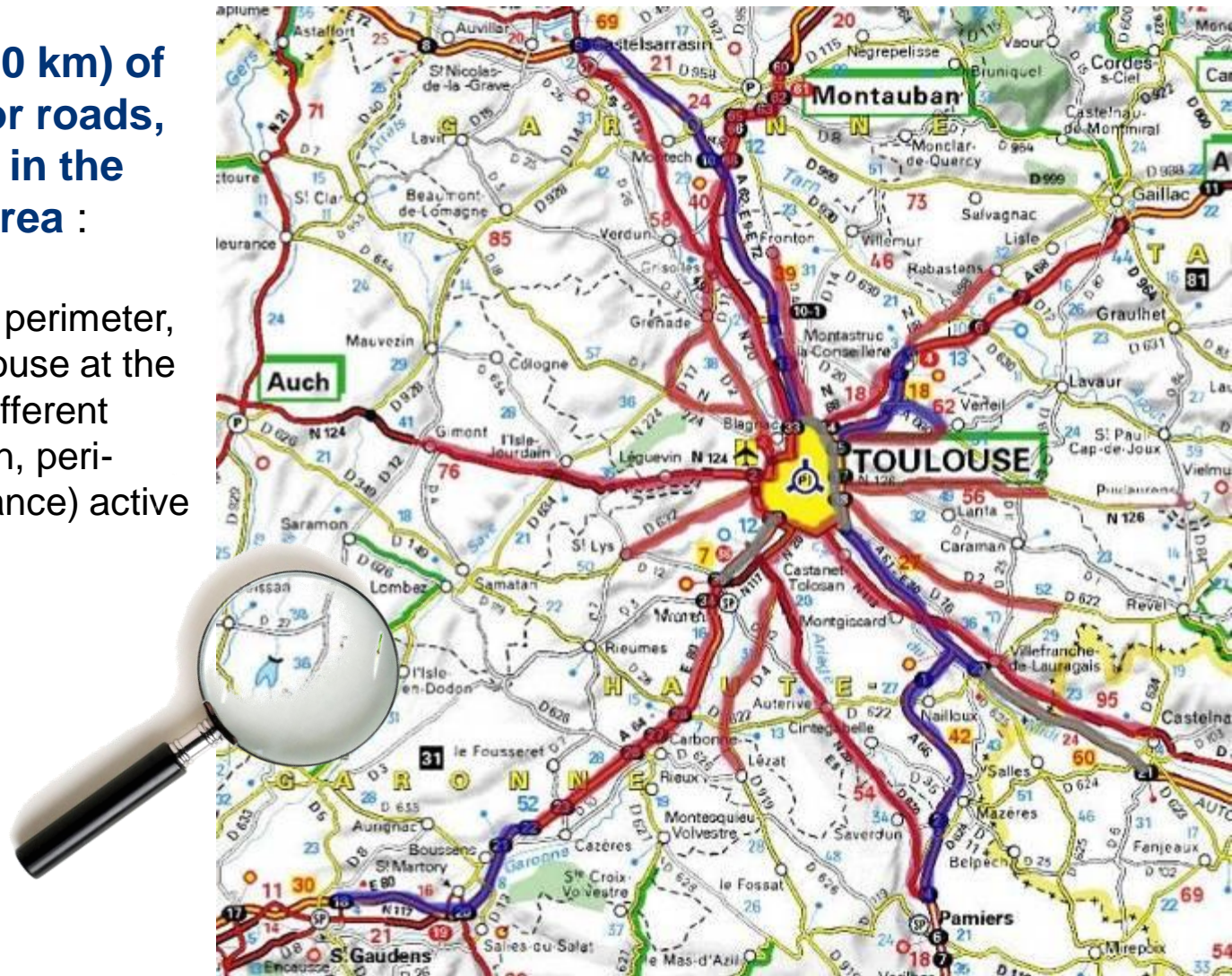
A pilot in Midi-Pyrénées region



Covered network

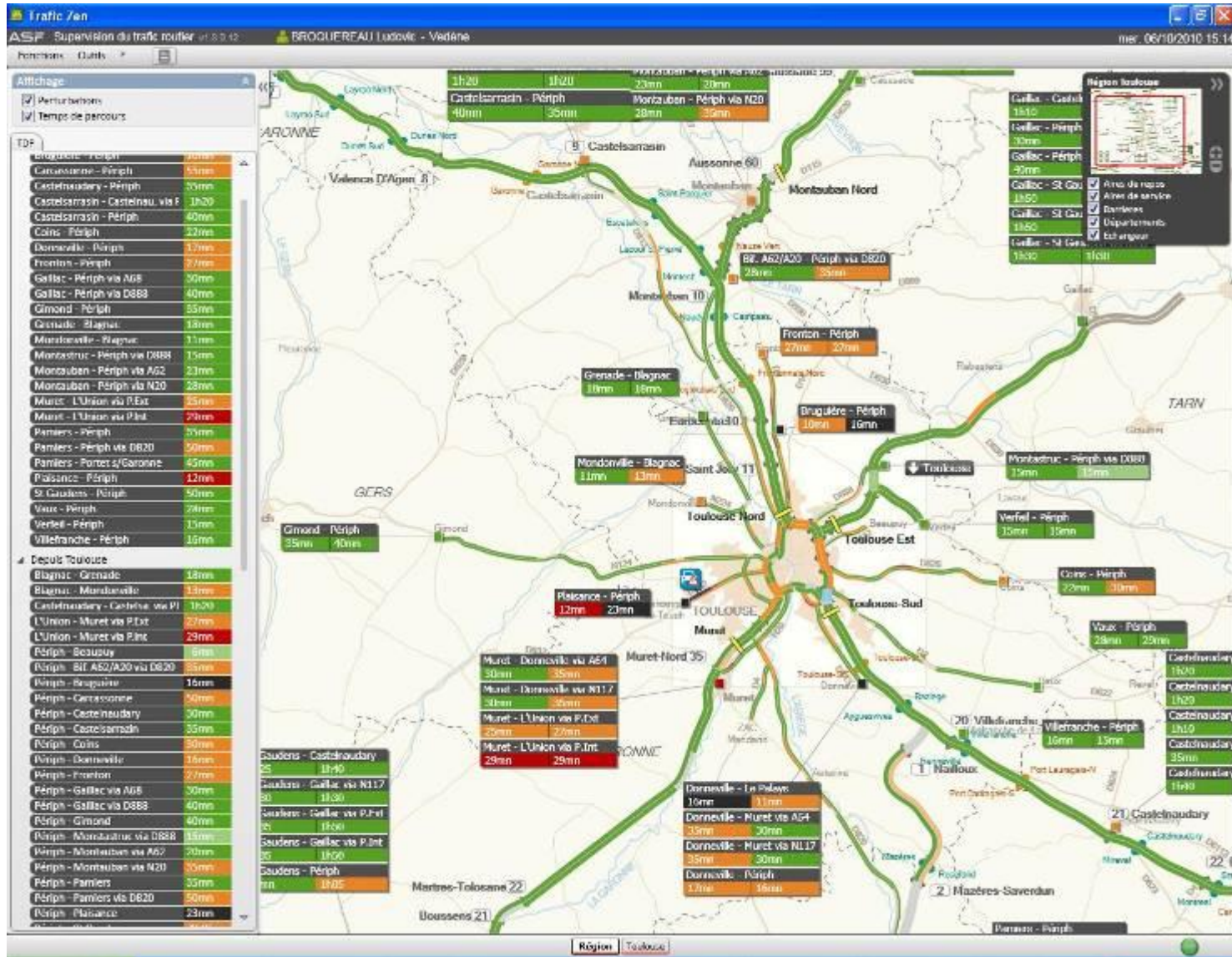
+1200 km (2 X 600 km) of motorways, major roads, peri-urban roads in the Haute Garonne area :

The starfish-shaped perimeter, with the City of Toulouse at the centre, covers the different types of traffic (urban, peri-urban and long-distance) active in this region



TrafficZen Pro: the road operator view

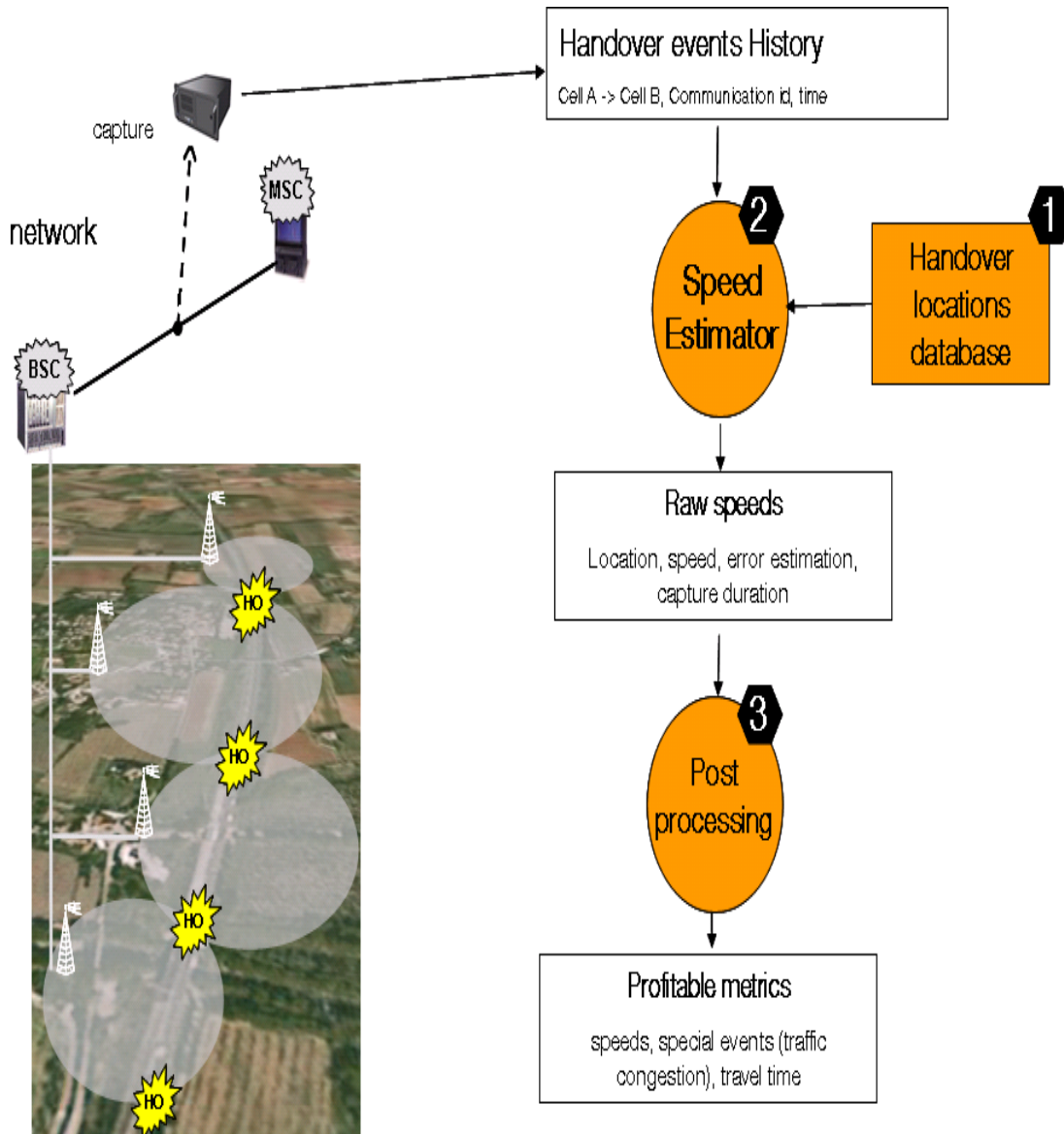
ASF



The technology



Floating Mobile Data : general principles

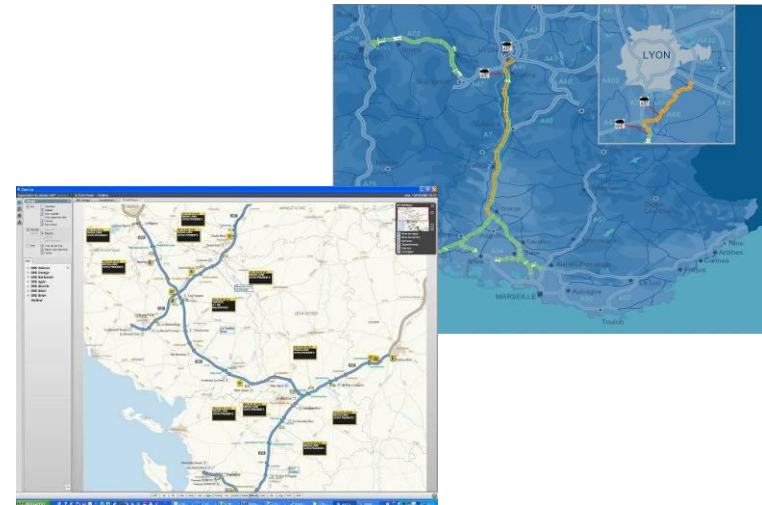
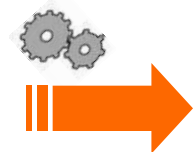
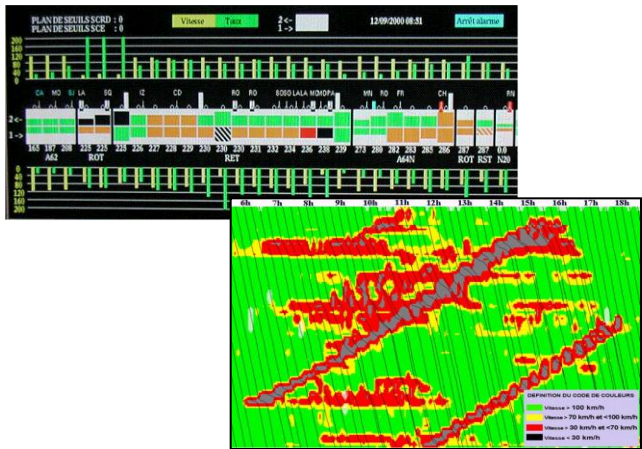


- Computing anonymized* signaling data to convert it in road traffic information
**Validated by French ICT information commission*
- Able to handle large data feeds in real-time: +To/day
- Powerful and advanced algorithms to extract road traffic information with time and space continuity



The ASF platform to compute road traffic information valued added indicators

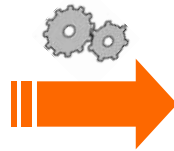
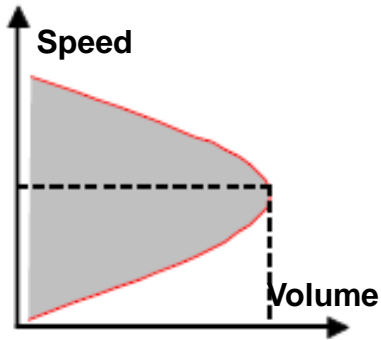
- A proven know-how in traffic engineering:
Computing raw data on spot speeds to produce road traffic information indicators for road operators day-to-day tasks or to be broadcasted to a car driver
 - Travel times
 - Congestion indicators
 - Traffic jams location including journey time forecast



Exploiting FMD data: a challenge

- New approach to calculate road traffic indicators
- Fusion/aggregation of two data sources
- Road network with different configurations

Traditional sensors : volume / occupation / speed

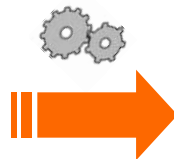


Proven algorithms
Reliable results
>> A basis for evaluation



- Traffic conditions
- Traffic jams
- Travel times

FMD virtual sensors : average speed / confidence indicator



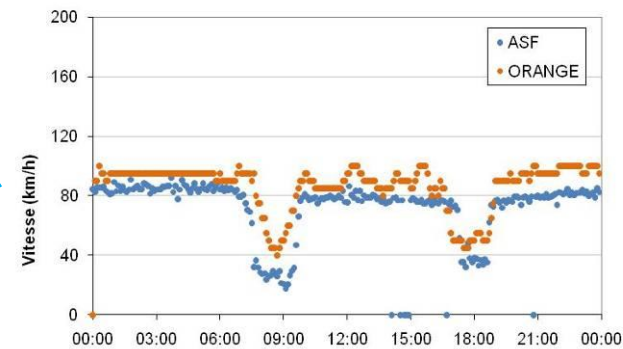
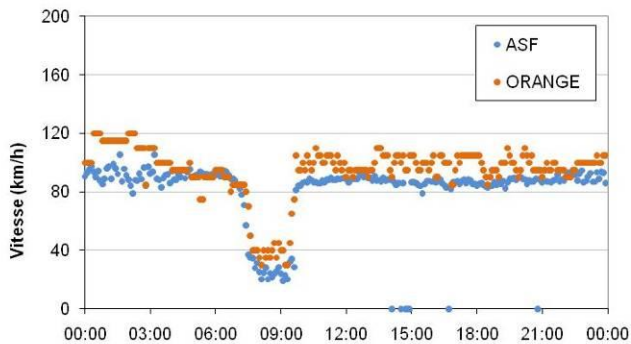
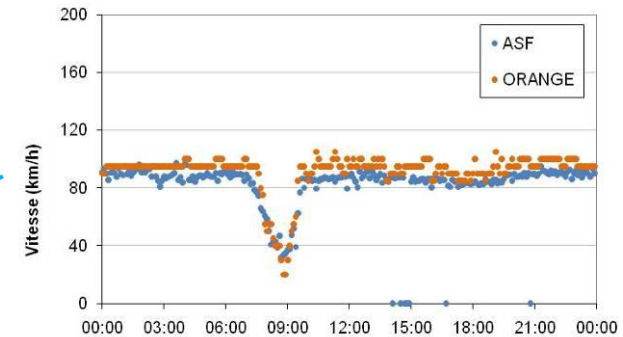
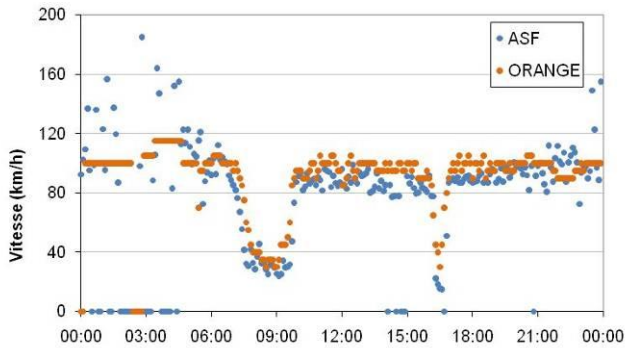
Models to adapt
Extrapolations to calibrate



- Traffic conditions
- Traffic jams
- Travel times



Very promising evaluation results



But not to forget

- Less data to ensure reliability of samples to produce information at night (but less congestion during these periods)
- No information on traffic volumes
- Not possible to distinguish lanes (but not required for traffic information services)



Thanks for your attention !
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