



# The Urban Valet Lille metropolitan area France



**Project:** creation of a platform to share and provide information on road traffic, car parks and public transport conditions on a regionwide scale

**Stakes:** to help occasional travelers all along their car journey (both on roads and car park) and to propose public transport alternatives, if possible

**ACTIF contribution:** to provide a trade data repository for analysis and modeling of interactions between stakeholders

## General context

Many information systems dealing with mobility coexist in the Lille metropolitan area, and on a larger scale in the Nord-Pas de Calais Region. They propose many kind of information, such as:

- ◆ Information on public transport supply in all major towns, intercity trains and bus transport, ...
- ◆ Information on traffic conditions on Lille major urban road and motorway networks,
- ◆ Dynamic information on public car parks capacity.

Information sources related to those various kinds of information are provided by numerous operators and located in numerous places: public transport station (bus, metro, train, ...), variable message signs on motorway and urban network, radio, internet, ... Therefore global information collecting is difficult for users, especially for occasional travelers.

INRETS, as a member of the I-TRANS competitiveness cluster, is supporting the concept of VIATIC. VIATIC aims at making the creation of innovating services related to the daily mobility easier by:

- ◆ Making the use of local, regional, national, and European intermodality easier,

- ◆ Designing a portal devoted to services, combining daily way of life and mobility thanks to partnership between economic and institutional stakeholders,
- ◆ Developing tools making possible a customized and easy-to-access use of information.



Services are focused on residents and occasional visitors in their daily life. Therefore they must be based both on mobility information data and on services linked on urban way of life.

The Urban Valet\* project, as a cooperation between CETE Nord-Picardie and INRETS, is one of VIATIC projects. It aims at contributing to an easier accessibility to town by providing to potential car drivers information on traffic and car park conditions, in parallel with public transports informations in a comodality perspective.

## ACTIF intervention

INRETS and CETE Nord-Picardie have both decided to use the ACTIF method that proposes a sound trade data repository enabling:

- ◆ To conduct a diagnostic on stakeholder practices and existing systems, based on a field study,
- ◆ To propose a modeling of the Urban Valet system,
- ◆ To help with the project specification.

\* The expression Urban Valet initially referred to the valet parking service in restaurant and other public places helping you with your car parking, and by extension to this new and more global service assisting you in your trip.

**A project?**

ACTIF team may help you to build your project or your pilot study:

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# The Urban Valet

## Lille metropolitan area

### France



## Scope of the project

The project is centered on the Lille metropolitan area. Its geographical perimeter is then based on a wider area in terms of mobility, including the Lille metropolis and the Lens–Liévin–Hénin–Carvin metropolis. Because of regional train (TER) and, to a larger extent, to the train network, this area can be extended to regional train stations and to some Belgian train stations (especially Brussels).

- ◆ SNCF (French national train company), especially with its regional TER network.

Identified stakeholders are then:

- ◆ Lille Métropole Communauté Urbaine, with its CAROSSE traffic management center, dealing both with the urban road network and with the dynamic car parks information system (VMS),
- ◆ ALLEGRO traffic management system, responsible for the Lille urban motorway network,
- ◆ TRANSPOLE, the Lille public transport company (metros, trams, bus and coaches),
- ◆ TADEO, the public transport company on Lens–Liévin–Hénin–Carvin metropolis,



Area of the multimodal information interactive sign project

## Diagnostic of the present situation

### Dispersed and isolated information sources

The first observation on mobility information in the Lille metropolitan area is that information sources are organized in a stakeholder logic. Therefore, they are very dispersed and isolated: each network has its own information system designed for its own internal operational constraints and objectives, but there is no system proposing a simple and efficient synthesis of all these information sources. Besides, the various stakeholder websites, information are indeed proposed on:

- ◆ VMS on urban motorway network, managed by ALLEGRO and providing information on traffic conditions (travel times, accidents, ...) on this network,
- ◆ VMS in Lille, managed by CAROSSE and providing information on traffic conditions on the urban network,
- ◆ VMS in Lille, managed by CAROSSE and providing information on car parks dynamic capacities on the urban network,
- ◆ Bus, metro and train stations (theoretical public transports supply)
- ◆ Some bus stations for dynamic public transport supply.

### Miscoordinated management systems

The dispersion of information sources results from the lack of formalized coordination between the various management systems. Each stakeholder has its own point of view on mobility and on information to be disseminated. As a result, each system has its own internal functioning, adapted to its specific context.

### Toward collaborative data exchange

On the other hand, two mid-term projects based on data exchange between management systems moderate this observation of a lack of coordination:

- ◆ The multimodal information interactive sign, located in the Lille-Flandres train station, provides information on TRANSPOLE, TADEO and SNCF-TER networks (cf map).
- ◆ Traffic data exchange between CAROSSE (urban network) and ALLEGRO (urban motorway network) is now in progress.

## Stakeholders needs and expectations

The realization of the urban valet project implies the disposal of complete, simple, efficient and reliable information. This information must also be accessible at every moment of the trip (before and during the trip, and potentially after) and adapted to each of these times.

As the management systems are isolated, the design of such a federating system must take into account technical, technological, legal and organizational aspects. The system

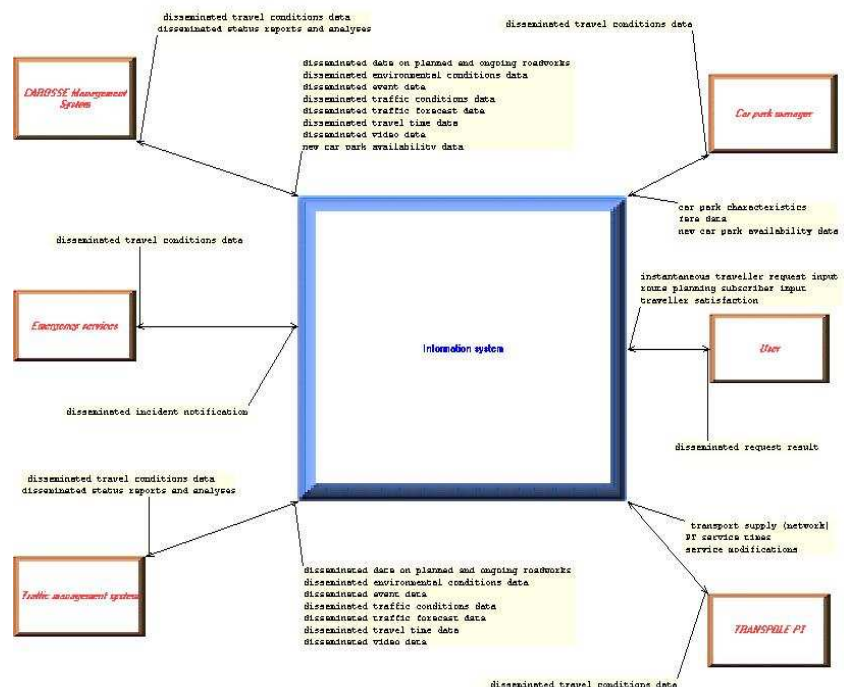
interoperability is also a major key to allowing future evolutions, due to technological novelties, new data sources integration or new partnerships with new stakeholders.

Stakeholders' expectations then essentially consist of the system organizational clarification in order to define (1) the responsibilities and the duties of every stakeholder, and (2) the compatibility constraints due to data stream inside the system and between the various stakeholders.

## Functional modeling of the target system

The ACTIF answer to this clarification need is based on a functional modeling of the target system, in order to propose an architecture structuring the project. Three major functions have been identified based on the field diagnostic and analysis:

- ◆ Treatment of traffic condition data (including car parks) in connection with network management systems,
- ◆ Information dissemination to user, based on a voluntary request,
- ◆ and historization of travel data and user requests to enable a later analysis of the system functioning.



ACTIF modeling of the target system

Data treatment in connection with network management systems (developed in further detail in the following part) consists both of data collection and data dissemination to the various stakeholders.

At the present stage, information dissemination is limited to voluntary requests, in the scope of an application in a web-site or a multimodal information interactive sign. However perspectives of other media (e.g. VMS) are still open.

Some other potential functions are still to be studied in further detail. The data collection function, linked with the data historization function could be the first step towards more cooperation between stakeholders, especially to the development of common strategies, if a common data repository is indeed shared. This possibility has not been studied at the present stage.

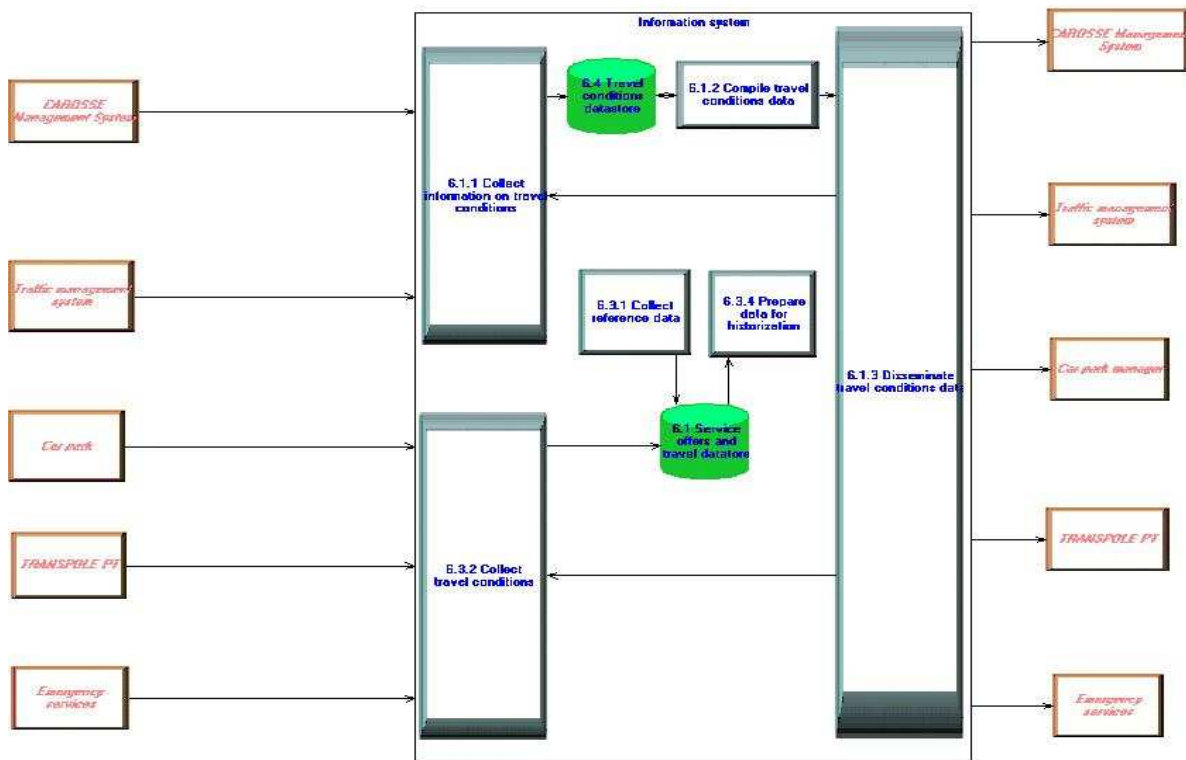
## Sub-systems modeling

Only the data treatment function is presented here. It is based on two major functions:

- ◆ Data collection, thanks to data provided by each stakeholder,
- ◆ Data dissemination to stakeholders, in exchange, to provide stakeholders with a global description of the current situation.

Data collection will feed both travel conditions datastore and service offers and travel datastore. Those datastores will then be used for information dissemination to users on request and for backward information dissemination to stakeholders.

This backward information dissemination has appeared to be an incentive lever for stakeholders: due to their implication, stakeholders have access to more global information that could potentially be used for their own network management.



Traveling conditions – Data collection and dissemination to stakeholders

## ACTIF' contribution

CETE Nord-Picardie worked on this project from May to November, 2008.

In the context of this pilot study concerning the creation of a urban valet service, the CETE Nord-Picardie team has referred to the ACTIF method and its OSCAR tool to have at its disposal an adapted modeling framework and tools both

for the diagnostic analysis and for the proposition of a target system.

This study has also shown that the specification of the system constraints and requirements, and the clarification of the responsibilities and duties of the involved stakeholders, must be conducted very soon in the project's life. This has been made possible by the use of ACTIF.

PUBLICATION : MARCH 2009  
 1<sup>ST</sup> PUBLICATION : FEBRUARY 2009