

## **USE OF ITS OPERATIONS DATA FOR TRANSPORT PLANNING**

This study is one of the ten area studies within the ACTIF project. It was carried out between October 2000 and February 2001. The document structure reflects the three following phases: assessment of the current situation, analysis of solutions and variants, conclusions: consequences for the ACTIF architecture and recommendations.

The scope of the study concentrates on access by the transport planners, to the increasingly large amounts of archived data produced by operators who use ITS, in order to meet the growing needs for planning, in particular for inter-modal studies. Clear differences appear between the problems of access to freight transport and people transport data. Based on interviews and an analysis of the literature, the current review shows the great variety of existing data, planners' requirements and operator constraints. The required functions include a directory of information sources (including access rules), access to the data itself according to the (contractually) defined rules, possibly pre-processed, either periodically for "observatory" requirements, or via manual requests for particular studies. The development of systems combining the archived data of several actors implies fundamental work on the definition of information supply "contracts" and the establishment of data definition standards, before proceeding to implementation.

Phase 2 analysed possible variants for the physical architecture; basically, it led to proposed solutions which share access to archived data at appropriate geographical and "business" levels. For the same functional requirement, the technical, organisational, and institutional constraints will allow comparison between possible solutions. Archived data could be made available directly by the ITS operator himself, but should in general be served by a shared intermediate system.

Given all possible transport modes and businesses areas, and the quantity of possible geographical divisions, there are, a priori, a large number of potential combinations. In view of the large number of information sources, and of the great diversity of "special cases", it is difficult to forecast how access to the ITS archives will be organised, and only specific implementations will help specifying "winning" solutions which can be applied generally. However the following main points can be identified:

- standardisation effort by business area (types of activity and mode of transport), at the national or European level: standardisation of data description and data source directory function
- requirement for a service by geographical area: ITS data archive repositories for a Region or a Urban area (in liaison with the local master plans), linked to transport observatory organisation which would contribute to the maintainability of the service.

Phase 3 proposed the following enhancement to the logical architecture of ACTIF:

- create a new functional area named "archive management" (§ 4.4.7 and 4.4.8), comprising the three functions named "search archives", "process archives" and "manage access",
- create a terminator, "archive user" (§ 4.3.2), corresponding to the planner,
- complete and amend the data stores according to the planners requirements (§ 4.2),
- if necessary, add a terminator named "other archives" (§ 4.6.2.1),
- if necessary, widen the notion of electronic payment to include access transactions to archived data (§ 4.2.1).

As ACTIF's physical architecture "version 0" was not completed at the time of the study, it has been difficult to propose changes, but it can be assumed that the impacts of this new functional area on the physical architecture will be limited.

The study concludes with proposals for actions following discussions with the interviewed actors, and the contributions of the High Level Group members which piloted and steered the study.

There are several levers for improving the use of ITS data for planning, at different timescales and fulfil complementary objectives:

- improve access tools to the existing data,
- make access to new data obligatory or contractual (possibly existing, but difficult to obtain),
- in the longer term, improve the ITS operators' data collection systems by taking account of the planners requirements, and possibly use the ITS data instead of other info sources (computerisation of freight forms, ticketing, housekeeping studies, etc.) so as to reduce costs and improve data analysis.

There are four groups of recommendations :

- Promote local experiments, especially at the regional and urban levels.
- Improve meta-data specification, by means of a technical study by "business area", and co-ordinate standardisation actions in the area;
- Bring the "planner community" together, in a study detailing their requirements and goals, and create a structure for discussion and reflection;
- Compare and consolidate several areas in ACTIF which present similar problems, such as access to archived data and to trip planning data.

These recommendations are complementary, although it is too soon to launch a global programme of works such as the American ADUS programme. To make these recommendations effective, a strong and long lasting co-ordination effort will be necessary. Even though this should not be a reason for delaying the first concrete actions, the time horizon for significant deployment is more likely at least 5 or 10 years. In practice, we recommend a fast and action-oriented start, and to elaborate No cost estimation are given for the proposed actions, as their dimension could be adapted depending on the available resources to be spent on these ITS archive area.

It will be the responsibility of the Steering Committee and the ACTIF High Level Group to decide the next steps ...