Data processing for Multimode Traffic Control (VSS2003/901)

Datenverarbeitung für eine Verkehrsträgerübergreifende Mobilitätssteuerung

Funding: National (Switzerland)
Duration: Apr 2004 - Dec 2008
Status: Complete with results

Background & policy context:

The aim of research is the development of a specific architecture and description of the interfaces for transmission and distribution of traffic data in order to control multimode traffic. These traffic data are used in traffic telematics services with consideration of the legal-institutional, economic and technical conditions in Switzerland. The planning has to take place in multi-mode with consideration of the private and public traffic on the road. Existing standards are to be considered.

Objectives:

For the transport telematics information about traffic and operating conditions must be provided, which go in their accuracy and completeness far beyond today via radio widespread traffic information. Today there are when procuring such information still big obstacles, which applies it to out of the way: Various ground control of the public transport and traffic control centers of road traffic, which complicate data acquisition, regional differences in the information density and quality, unclear responsibilities, lack of coordination between individual transport and public transport. The aim of the research is to identify a solution, as the information required by the traffic telematics can be efficiently provided and processed with minimal effort.

Methodology:

Following phases were provided during the project:

Phase 1: Basis and Analysis
Methodology: literature analysis, targeted interviews, survey needs of individual traffic telematics services

Phase 2: Possible Solutions
Methodology: Developing Their Own ideas for solutions; Consolidation and Recording of additional ideas in a work shop with EC members and additional experts from federal, cantonal and transport companies; Best solution decision together with experts Commission (proposal by Research Centre)

Phase 3: specification of Best solution
Methodology: System design - proof of compatibility with the set requirements and the technical implementation - to illustrate concrete examples of implementation. Development through Research Centre, consolidation and discussion in the Commission of Experts

Phase 4: Hold the Results
Methodology: creation by research body, cleanup by equity and debt

Parent Programmes:
ARAMIS - ARAMIS information system

Institute type: Public institution
Institute name: Swiss Government: State Secretariat for Education and Research
Funding type: Public (national/regional/local)

Partners:
Switzerland
The approval of the new system of equalization in Switzerland between Confederation and Cantons (NFA), which occurred after the start of this research project, changed the regulatory situation. An early outcome of NFA was the launch of a new traffic management project, NFA Verkehrsmanagement Schweiz (VM-CH).

This has created an extensive traffic management system for roads of national importance in Switzerland and as a result, responsibilities have been redefined. In addition, it was developed a comprehensive system for the operational introduction of traffic management systems. It would be inappropriate, therefore, to pursue an approach that differed from VM-CH and so the VM-CH approach was incorporated into this research project and the project did not consider other options in depth.

In the first stage it was needed to analyse and evaluate the underlying framework, e.g. existing and new standards in both Switzerland and Europe (e.g. draft standard SN 671 951 Functional System Architecture for Road Transport Telematics), the national ITS strategy ITS-CH 2012, MISTRA, the national Road Management Information System, selected projects looking at major urban centrums, for example IVM, the Integrated Transport Management System introduced by the canton of Zurich, CUS, the Customer Information System of Swiss Railways, current EU projects with Swiss participation (the TEMPO Projects Corvette and Serti) together with pilot applications such as TRANS-3, the EU project involving the tri-nation triangle around Basle as well as current infrastructure (the online-counter system of the Swiss Federal Roads Office, traffic management systems, video systems, light signal systems, Viasuisse, the Swiss traffic information system plus current and future data sources, etc.

In order to clarify further the needs and requirements, targeted interviews have been conducted with the Federal Roads Office, Swiss Railways and the highways department of the canton of Zürich.

From this an action plan was derived:

The existing data must be useable for a range of applications. It is essential the data for individual modes of transport, can be networked, i.e. combining data from individual motorised transport and public transport including interchange facilities from road to rail). Existing and potential data must be structured appropriately so that it can be networked. Data must be high quality and legal aspects considered.

The next stage designed the functional arc

**Related Projects:**

Research organisation: Swiss Federal Roads Office; Research Roads-Bridges-Tunnels
Project number VSS2007/902
Project title Utilisation des standards d’échange de données basés modélisation pour la télématique des transports routiers à l’exemple des données de trafic Einsatz modellbasierter Datentransfornormen in der Strassenverkehrstelematik am Beispiel der Verkehrsdaten

Documents: [21197_1192_Inhalt.pdf](21197_1192_Inhalt.pdf) (Final report)

**STRIA Roadmaps:** Network and traffic management systems, Smart mobility and services

**Transport mode:** Road transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Digitalisation

**Geo-spatial type:** Other