FAMS

Flexible Agency for collective demand-responsive Mobility Services

Funding: European (5th RTD Framework Programme)
Duration: Mar 2002 - Feb 2004
Status: Complete with results

Background & policy context:

Demand Responsive Transport (DRT) services are a flexible approach to the issues regarding the provision of public transport services. They provide various forms of intermediate services which lie on a continuum between taxis and the conventional bus services. They usually operate small size buses on flexible routes and schedules, basing their route choice on the users’ requests.

Given their flexibility, DRT services are suitable to serve niche market customers such as those travelling in off-peak hours, low demand zones and making airport connections; users with mobility impairments (elderly, disabled); and in areas not accessible by conventional bus services. These factors contribute to giving a social role to these kinds of services.

The flexibility in the organisation of DRT services can vary considerably, according to the needs of users and of the service provider.

So far, DRT services have been applied mostly as a single element of a larger intermodal transport chain. Most often the DRT schemes have been - or are - operated as single mode, by a single operator, with little or no integration with the other transport schemes. However, there are large opportunities for improvement of service provision modalities and of the service model itself by strengthening the coordination of different Intermediate Services and their integration within the overall transport service chain.

Objectives:

The objective of the FAMS (Flexible Agency for Collective Demand Responsive Mobility Services) Trial Project was to scale up technology, services and business models currently adopted in DRT and to support the evolution from single DRT applications towards the concept of a Flexible Agency for Collective Demand Responsive Mobility Services.

FAMS aimed to improve DRT by addressing fundamental organisational and technical issues at the heart of this kind of transport model by improving communication, integration and co-operation amongst all the actors involved in the DRT domain, e.g. transport service planners, transport providers and end-users.

By capitalising on the results, experience and practices gained in previous DRT projects on demand responsive transport - both by DRT service providers and IT providers participating to the FAMS consortium - FAMS therefore sought to:

- implement and trial the Flexible Agency concept,
- evaluate the viability and impacts in real business cases,
- gather knowledge and best practice to ensure dissemination and subsequent adoption at the European level.

Methodology:

The FAMS approach was based in terms of the functions, services and Information and Communication Technologies (ICT) underlying the innovation in ICT tools and the FAMS Agency concept.

The main vision was that all actors of the DRT service chain, both the different transport operators and
the different users groups, constitute a Virtual Community. Through an appropriate e-Business infrastructure, the member of the community can obtain several benefits including: knowledge sharing, improved access to information and services, improved travel service offer, enhanced management of the workflow between the customer and the transport service providers.

The project's methodology therefore consisted of 6 steps:

1. Adapting and scaling-up previously demonstrated DRT technologies and methods, and e-Business/e-Work collaboration and team-working tools and methods. These enabled to support operation and co-ordination of a set of Demand Responsive services by a Flexible Mobility Agency.
2. Deploying the Flexible Agency concept in two EU sites and transferring to them the technological, operational and organisational experience gained about application of ITS in DRT.
3. Implementing trials in the sites, including trial and test of the impacts of GPRS technology in supporting DRT operations within the Flexible Agency.
5. Providing assistance to the Users and Suppliers in decision-making, as regards further deployment and use of trialled IT solutions and product consolidation and market penetration strategies.
6. Collecting knowledge and best practice on Flexible Agency implementation and operation and dissemination of these through a "Handbook and Best Practice Guide".

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Key Results:
Broadly speaking, the FAMS project achieved the following main results:

1. The successful development and implementation of innovative transport services
2. The development of innovative organizational platforms
3. The successful use and implementation of ITS systems and platform
4. Demonstration of user and personnel acceptance
5. Demonstration of end-user acceptance of ITS systems and the proposed transport services

The "flexibility" aspect of the FAMS Agency addressed not only the different needs of transport demand but also the different operational models and service provision schemes supported by the technical infrastructure. In particular, FAMS developed a specific architecture based on the three following requirements:

1. A common FAMS Service Centre (TDC) sharing a number of services for planning, managing and monitoring the different type of flexible services (shared route and service planning facilities, shared vehicles management, customer management repository, service information and data repository,....)

2. E-Business services between the Agency's DRT management service components and the different actors involved in the DRT process chain, both operators and users. Specifically, these services were grouped in two different categories:
   - a) Business-to-Business (B2B) services, allowing interaction and teamwork among the different transport service providers co-operating through the Agency.
   - b) Business-to-Consumer (B2C) services, supporting access to information and services among different associations, user groups, communities, etc.

3. A communication network among the TDC and the vehicles operating the services, based on cellular technology - GSM and GPRS.

**Technical Implications**

The FAMS project developed the "FAMS portal" as the main channel of communication between the Agency and the different user categories: the DRT services towards end-users, or transport service providers or transport authorities. In order to organise the information and end-user services on the FAMS portal, the analysis conducted in the two trial sites provided some general lines on the type of information and services to be included in the portal. The FAMS portal was therefore designed and realised to provide access to the following services:

1. B2C Services, e.g. travel inquiry and information, travel booking,....
2. B2B Services, e.g. access to planning and booking information, management of DRT resources, access to statistics and service data,....
3. General services, e.g. user profiling and management, news,....

It should be noted that the implementation of this general structure is largely site dependent, and is based on the needs and requirements of local users (of both B2C and B2B FAMS services).

**Policy implications**

FAMS also has implications in terms of organisational results for the DRT and ITS industry. Indeed, existing DRT management tools were adapted and made interoperable within an e-Business collaborative environment allowing co-operation amongst transport service suppliers and the operation of a new service value chain which allowed:

- Different transport operators to benefit from a shared IT infrastructure.
- Services for the management of the Flexible Services they are individually offering.
- The FAMS service operator to have a global view of travel needs and the service offer, ensuring the best match between users’ demands and available services.
- DRT and Flexible Transport users and users’ groups to benefit from a unique service centre able to serve their travel needs in the most integrated and best possible way.

However, the project also found significant structural barriers in both regulatory and institutional terms for widespread development of FAMS and/or FAZMS related services.

The FAMS Consortium considered that further assessment should be carried out after 12 and 24 months from the start of the service operation (i.e. in mid-2004 and mid-2005) in order to track the patronage and revenue trends. These are very important to understand the future viability of these mobility services.

Documents:
- 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