PRIVATE SECTOR TRAVEL INFORMATION SERVICES[1]
Creating the business framework

WHAT IS IT ALL ABOUT?

This note desribes how advanced travel information services can be organised to exploit the full potential of transport telematics. It is principally about the organisational and institutional issues: how to create the business framework so that private sector services can take off, and the part the authorities should play.

Benefits of the communications revolution

The communications revolution has brought with it a great variety of electronic devices for delivering information to the end user. These include interactive and automatic telephone inquiry lines, fax-based information services, personal paging devices, in-vehicle navigation systems, voice and text-based services using mobile phones, Internet-based systems for desk-top computers, and even talking bus stops!

The new technology means that, in theory, travel information services can be highly tuned to the needs of the individual user. Interactive systems are capable of focusing in on what the user has specified, filtering out information that is not relevant. When combined with the improved methods of monitoring the current state of the transport system there are substantial benefits to be secured for journey planning, better transport logistics, etc. Examples are when the user needs only information for a specific route, for a particular locality,or at certain times of day.

Telematics systems have potential to be finely tuned to user needs, for example by alerting the user to new information as soon as it becomes available, thereby increasing its value. Examples are when there are transport service disruptions or traffic incidents along the chosen route. When combined with other advances in telematics, for example on-line payment and booking for services like sports and entertainment, parking and hotels, the possibilities are immense.

But these modern conveniences require a degree of sophistication in the organisation of travel information services, drawing on the expertise of a number of different actors. Often cities and regions can only exploit these possibilities with the help of the private sector.

FACING THE CHALLENGE

Authorities face the challenge of how to maximise the opportunities for the implementation of new services, whilst safe-guarding basic public service requirements. For example, most city authorities would not wish to see dynamic navigation systems (those that can vary the route in real-time in response to the prevailing traffic conditions) divert heavy vehicles down unsuitable residential roads. There may also be conflicting requirements between the economic logic of the private sector and the public sector goals of equity and the provision of universal service for all citizens.
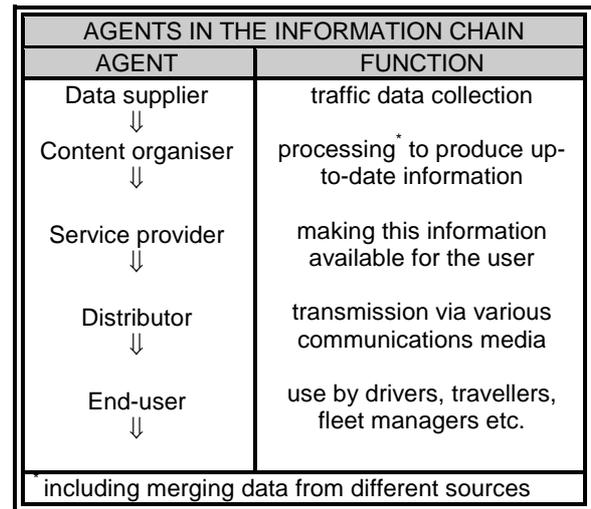

Some basic issues

Organisational and institutional issues are one of the main obstacles to the implementation of telematics-based services and their complexity increases as the scale of implementation extends across cities, regions or even national borders.

Definition of a policy framework for the deployment of transport telematics will provide an overall structure for the provision of services. Among the questions for consideration are:

⇒ Will public information be provided to all private sector service providers equally?
⇒ What public sector obligations, if any, will be placed on private sector providers?
⇒ Will service quality and user charges be monitored and regulated?
⇒ What liability and disclaimers will be allowed?
⇒ How can organisations along the service chain be compensated for adding value to the basic public data?

THE INFORMATION CHAIN

A useful concept is to consider a transport information service as a series of processes linked together to form an "information chain". It follows that the service will only be effective if there is strong continuity throughout the chain and if all of the elements are working together to achieve the same objectives.

AGENTS IN THE INFORMATION CHAIN	
AGENT	FUNCTION
Data supplier ⇓	traffic data collection
Content organiser ⇓	processing* to produce up-to-date information
Service provider ⇓	making this information available for the user
Distributor ⇓	transmission via various communications media
End-user ⇓	use by drivers, travellers, fleet managers etc.
* including merging data from different sources	

The dependencies between organizations are critically important, since the final service quality will be determined by the weakest link in the chain. This process involves:
⇒ defining the service's goals and objectives clearly;
⇒ identifying all of the stakeholders;
⇒ allocating the roles and responsibilities of partners;
⇒ understanding and respecting the objectives of each partner (e.g. public versus private sector);
⇒ promoting good communications; and
⇒ a flexible approach

Who are the actors?

Many organisations and agencies, drawn from both the public and private sectors, are likely to be involved in the chain – often through public-private partnerships – and securing the co-operation of partners is likely to be a critical success factor.

By way of example, in Paris (see diagram, next page) information is provided by public bodies including the Ministry of Transport (DDE) and the police. In the next stage the data is converted into a form which the public can use. This is handled at the national road information centre (CNIR) and in regional road information and co-ordination centres (CRICRs). Subsequent distribution and marketing of the data can

be handled by the infrastructure operators themselves, or through private operators offering personalised services. Finally the information is conveyed to the end-user by a variety of media – for example by standard or GSM phone, RDS-TMC radio, or the Internet.

For inter-regional journeys the chain may involve several transport authorities and many other actors in order to deliver the final service to end-users.

Good data is important

The lack of good quality data for all modes presents a major challenge in the provision of integrated information services. There is a growing need for co-ordination between the organisations who supply the basic data – tranpsort network managers (road, rail, ports and airports) and the transport operators. Co-operation between the different actors could play a key role in the provision of both quality and quantity data, but it will be important to define specific partner's responsibilities at each stage of the information chain – validation, ownership, etc. – and find ways to pay for the added-value services.
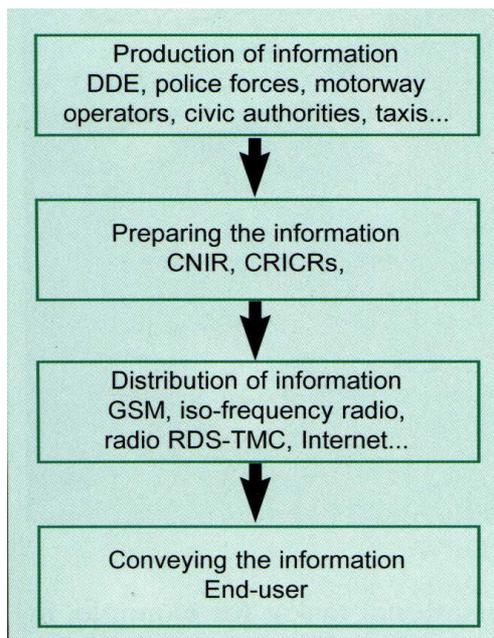
The Information Chain as applied in Paris.

ADDING VALUE: 5 KEY STEPS

1. Data collection and supply

The provision of reliable, accurate, and up-to-date base data is an essential prerequisite for an information service. Advanced travel information services may require input from a number of content owners, for example to cover traffic and weather conditions or the timetables for collective services.

In some countries (e.g. France, Netherlands) the public sector shoulders responsibility for the collection and processing of data, at the start of the information chain, in order to stimulate services and to retain responsibility for matters relating to road safety, traffic flow and road management.

Many transport telematics services require information which road traffic management can offer. Appropriate organisation of the collection, processing and dissemination of traffic management data can offer a platform for the development of a wide range of services. In these cases the public sector is in a strong position to offer quality data to private sector providers. In practice, the different political and commercial objectives need to be harmonised and this can be done in different ways.

⇒ Authorities in the *Paris* region have formed an "Agence de presse" which acts as a wholesaler of traffic information to private sector service providers. The contracts for data supply have a three year term and a scale of fees is in place, comprising a lump sum and a variable amount according to usage. Under the contract for the supply of road traffic information, the service operator guarantees the public authority against any condemnation of the authority for matters arising out of their commercial activities.

⇒ In *Germany*, public data, where it provides automatic detection of incidents, heavy traffic, etc. is available free of charge. Fees apply to data collected automatically on other traffic conditions, based on the cost of installation of interfaces. The Federal Economic Forum on Transport Telematics has been instrumental in developing the legal framework and model contracts for private traffic telematics services through discussion and consensus.

⇒ In the *Netherlands* the objective is to have only one source of traffic information which will be provided free of charge via the National Traffic Information Centre (TIC). Distributors of information will be bound by an agreement with the National Traffic Information Centre to safeguard the quality, consistency and objectivity of the information they provide.

⇒ In the *UK* private firms operating in the information field collect their own data and thus control all stages of the information chain.

2. Organising information content

Processing raw traffic data to produce useful and marketable information is the first step in the information chain. Value is added by interpreting all of the data inputs to yield information which is relevant to users' needs.

Location referencing is an important issue for travel data, given that errors are potentially serious from the end-user's point of view. An ERTICO task force is addressing this problem at the European level.

In France and the Netherlands the business of processing high quality up-to-date information content from public data sources is retained under public sector control. However, the separation between data collection and information processing may not be clear cut because of the option for independent traffic monitoring to augment official sources. Thus Mediamobile in Paris collects and processes floating car data for its Visionaute product, in addition to receiving public authority data.

In Germany, the joint venture company DDG supplies raw data to both T-Mobil's joint operation with Mercedes-Benz (TEGARON) and to Mannesmann Autocom which operates the PASSO service. The two partners in the joint venture collaborate on data collection but compete on their information service supply and product ranges.

3   Managing the information service

Organising content is not the same as providing a service to users, although the two functions may be combined. The content organisers make travel information available to the various agencies who provide information services. This separation between information processing and distribution is seen most clearly when the authorities operate a Traffic Information Centre or warehouse, as with the Netherlands TIC or in Ile de France.

Travel information services are increasingly being packaged in with other services and marketed to the public as a bundle: for example mobile telephone enquiry lines, and pager services. Quite separately, niche markets are developing which a finely tuned to the needs of certain classes of user, like commercial travellers, or delivery and distribution operations. Addressing these different market requirements is the job of the information service provider.

Given this diversity in the target market, the supply of travel information to the users is being managed by growing number of organisations, each one an information service provider, although

they may all depend on one or two central information suppliers. This is unlike the situation a few years ago, when travel information was supplied mainly by motoring organisations and public tansport operators.

Consistency in information provision between different service providers is therefore becoming an important issue for authorities, especially when information can impact traffic patterns and road safety. Public-private partnerships are one way of overcoming a potential conflict of interest, as with the City of Cologne which has entered into an agreement with the local city carrier NetCologne, to act as the exclusive provider of dynamic traffic-related data to third parties and to jointly market traffic data with the urban authority.

4. Transmission to users

Distribution and transmission to end-users is the vital link in the information chain. With the aid of telematics, manufacturers have come up with numerous innovative systems for the distribution of traveller information, for example, the Internet, RDS-TMC, Digital Audio Broadcasting (DAB), interactive television and teletext, dynamic information panels, mobile phones, PCs, and pagers.

The value of information services can be greatly affected by delays in transmission. A common criticism of broadcast information is that it often arrives to late to be useful to the end-user.

Performance of the transmission stage of the information chain is therefore critical to the delivery of high quality services.

5. End-user support

The users of transport information systems encompass a broad spectrum, for example, infrastructure operators, transport operators, the police, service providers and travellers in various forms. Final acceptance by the user implies a well-organised, high quality, reliable and useful service.

THE PRIVATE SECTOR ROLE

Public-private partnerships

The development and integration of information applications covering publicly and privately operated services calls for new models of co-operation between public departments and private undertakings. Third parties may become involved in the investment where there is a role for value-added services. For example J.C.Decaux S.A. provides public transport shelters free of charge to the Public Transport Authority in exchange for the concession for a given period of the advertising spaces of the shelter. The development of J.C. Decaux S.A. in the field of real time public transport information is linked to the necessity for the company to innovate and to provide new kinds of added value services. Thus a line of products has been developed using the standard "DECAUX" shelters to which a display providing bus waiting times has been incorporated.

Commercial services

The development of a market for innovative products and services for traffic and travel information involves a high risk for industry and operators because the market potential for these services is, as yet, unproven. Market deployment will start with a core product, preferably looking at cost-effective solutions. Experience in countries where private services already exist all points to the need for a clear legal framework for

the new services to justify the large scale investments involved.

Opportunities for private sector participation in transport telematics implementation may also be hampered by a number of factors including:

⇒ *commercial viability* – new and complex telematics-based services often require high initial investment and can involve potential risks;
⇒ *difficulties in identifying responsibilities* – the organisational split of responsibility for road traffic management can be a major complication and burden for the private sector operators who need to establish interfaces with all the key players. The emergence of a lead agency which can be the wholesaler of traffic information simplifies arrangements;
⇒ *lack of cross-sector support* – inevitably there are different priorities between transport policy objectives and trade and industry objectives;
⇒ *legal liability* – at present the liability risks of providing information services are unknown;
⇒ *risk sharing* – the terms of public/private partnerships, the allocation of risks and the scope for generating revenue streams needs to be determined;
⇒ *intellectual property rules* – the rules for sharing proprietary information with others must be placed on a proper commercial basis.

Business security depends on minimising all of these risks. Important issues are:

⇒ whether the service provider is permitted to carry out independent traffic monitoring to add value to the basic information;
⇒ whether publicly owned real-time traffic data is available and sufficiently accurate; and
⇒ whether there is any regulatory constraint on dissemination of traffic

information via the new telecommunications media.

THE BUSINESS FRAMEWORK

The EU telecommunications market has been open to full competition since 1 January 1998. A crucial factor in achieving this was the recognition that competition, in the presence of the necessary regulatory safeguards will enhance the provision of universal service. In practice this implies the encouragement of open competition of technologies and services; standardisation of technologies and interoperability of applications; and the lowest possible number of services operated by the government.

Independent traffic monitoring

Underpinning the information chain there is heavy investment needed for basic traffic monitoring infrastructure and in collecting and processing raw data to achieve information content. Pressure for independent monitoring is likely to grow as new information systems take off. Germany has developed a model licence for the installation of private roadside equipment. In the UK this is dealt with through the service licensing system, supported by a detailed methodology for installing and maintaining equipment.

Data exchange

The combination of public sector and private sector data collection seems to be a crucial point for the achievement of win-win situations. But although both parties might be willing to exchange data, they will possibly face difficulties due to economies and techniques involved.

Traffic data which is collected by private companies is proprietary to that organisation, and should be made available to others on a proper commercial basis. But, should public data be freely available? The provision of public data, such as data available at

traffic information centres, at low or no costs will initially help to develop the market.

Safety and product liability

Safety and product liability is another point of importance to achieve a stable business environment. Concerns regarding the safety of equipment in use have centred on the design of the human-machine interface for in-vehicle equipment. Germany has agreed guidelines on the design and installation of information and communication systems in vehicles and the UK has a Code of Practice for in-vehicle displays. Standardisation bodies like CEN or ISO are tackling this issue.

Regulation

The regulatory framework for telematics services needs to strike a balance between giving commercial freedom to the service providers to develop services as they wish, and the need in some cases for controls, especially over road safety and orderly traffic management. Safety, traffic management, consumer protection and fair competition are the four principal reasons for regulation. Regulation and controls could operate on various players in the information chain:

⇒ the telematics service carrier (e.g. the broadcaster, telecommunications provider, or Internet operator in relation to the use of the radio spectrum or continuity of service coverage);
⇒ the service provider (e.g. in relation to the safety of the provider's traffic monitoring operations) ;
⇒ the data suppliers and content organisers (e.g. rules on the content of the information service, for example for traffic management reasons).

Normally it should be the service provider that will be the subject of a regulation, with a view to influencing some aspect of the service itself. There are examples of regulation by the private sector based on

consensus forming in Germany, by legal and contractual arrangements in France, Netherlands and UK, and by MoU in Germany and at EU-level for RDS-TMC and Data Exchange (DATEX).

Ideally regulation should wherever possible be "enabling" rather than restrictive and should avoid over regulation. Opportunities for self-regulation and the use of voluntary codes of practice should be adopted wherever possible. Regulations should separate what is necessary to influence the service and service content from rules which may apply to the service carrier.

Public service obligations

In most countries it is accepted that essential data on emergencies and major incidents should be made available to all road users as a universal service available free of charge.

To ensure that relevant information of this kind is passed on promptly to the appropriate agents, an agreement between service providers and the major actors is necessary to establish good procedures, consistent information and universal coverage. Any regulation of service providers should incorporate these requirements.

Further information

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