



## ITS in Bristol – VIVALDI

This leaflet is one of a series of documents from the ITS Assist Project. ITS Assist is a Department for Transport (DfT) initiative that aims to encourage and promote across the UK the use of Intelligent Transport Systems (ITS) as tools to implement local transport policy objectives.

The project provides advice, guidance and information to local authorities on development and deployment of ITS solutions. As part of this process, a series of Advisory Leaflets and Notes as well as Technical Papers have been produced. These documents are available via the Internet, and on request from the DfT or the ITS Assist Team.

This leaflet provides an overview of ITS schemes using a variety of integrated applications to address the problem of traffic congestion and related issues in Bristol. The measures are being introduced with co-funding from the European Commission supported VIVALDI project.

**CiViTAS**  
Cleaner and better transport in cities



## THE VIVALDI PROJECT

Bristol City Council, along with four other European cities, submitted a proposal for funds under the CIVITAS (City VITALity Sustainability) initiative. The submission was successful and resulted in the VIVALDI project, (Visionary and Vibrant Actions through Local transport Demonstration Initiatives).

The objective of VIVALDI is to demonstrate integrated packages of transport strategies and to determine their effectiveness in promoting sustainable urban transport in the 5 partner cities of Bristol, Bremen (Germany), Nantes (France), Aalborg (Denmark) and Kaunas (Lithuania). Bristol City Council has responsibility for project coordination and evaluation at the European level.

## BACKGROUND

Traffic congestion in Bristol costs the city over £50 million annually<sup>(1)</sup>. The problem is worsening and in the last ten years the average traffic speed during peak times has decreased from 16 mph to 11 mph<sup>(1)</sup>. Increasing volumes of traffic in Bristol are also creating an air pollution problem.

Traffic congestion and pollution, combined with broader issues such as social exclusion and urban vitality have resulted in the Council proposing a range of activities through VIVALDI within targeted demonstration areas.

These include:

- Clean vehicles
- Pricing strategies
- Access control and management
- Stimulation of public transport
- Urban freight measures including e-commerce
- Measures to promote changes in car ownership and use
- Travel plans and travel awareness
- Intelligent transport services including journey planning and traffic and travel information services

## FOUNDATIONS OF THE PROJECT

Bristol City Council manages VIVALDI in Bristol in partnership with Bristol Dial-a-Ride, First Bristol Buses, Sustrans and the University of the West of England (UWE).

Bristol Dial-a-Ride operates door-to-door transport for mobility-impaired travellers. Through VIVALDI their service has been extended and clean fuel minibuses have been introduced.

First Bristol buses have cleaned up 34 diesel vehicles using exhaust treatment equipment and are investigating the introduction of clean fuel buses.

Sustrans are leading on works to develop a Home Zone in the city, managing the community involvement elements of the project and undertaking a personalised travel marketing campaign.

UWE provides research and evaluation of the project impacts.

## SYSTEM COMPONENTS

ITS measures implemented or planned through the VIVALDI project include:

- A new Dial-a-Ride demand responsive transport service was launched in August 2002. A new fleet-wide booking and scheduling system, linked with Global Positioning System (GPS) location equipment, is currently being introduced to increase the responsiveness of the service. The GPS equipment located on the vehicle receives signals from satellites orbiting the earth and calculates a precise geographic location using the signals
  - An internet intermodal trip planner allowing travellers to plan journeys by public transport, walking and cycling was launched in July 2003. This sits on a Bristol mobility homepage which seeks to provide a single point of access to a range of existing and new travel information sources
  - A detailed smart card specification has been produced for an interoperable Council Park & Ride and parking scheme
- and the implementation process is underway. It is hoped that this first phase will pave the way to a broader scheme involving commercial services operated by First Bristol Buses and the Council's concessionary fares scheme
  - A real time bus passenger information system has been introduced on the Portway Park & Ride service and 76/77 showcase bus route. The launch of real time bus information via web is planned for December 2003
  - An existing electronic vehicle is being converting into the TravelBristol info bus. This will provide mobile transport information and services relevant to any given location throughout Bristol. The vehicle will be launched in December 2003 and will provide information through a combination of staff, displays and electronic systems.
  - Ten transport information points (*i+* points) have been introduced, focusing on interchange sites

PHOTO COURTESY OF BRISTOL CITY



*i+* Transport Information Point

New transport information content is being developed specifically for use on the ten new *i+* point kiosks and 19 existing kiosks throughout the city.

The 7 information channels include:

- A multi-modal journey planner
- Bus and rail timetable information
- Planned roadworks and dynamic network management information
- Public transport information
- Transport events, activities, campaigns and major projects
- Walking and cycling information
- Community and accessible transport information

The first phase of the new *i+* services was launched in July 2003 and it is planned to add journey planning and timetable information early in 2004.

Previous work in Bristol had included the procurement and systems integration of a high quality travel information screen.

The first Travel Advice Screen (TAS) was installed at the Clifton Down shopping centre. This site was chosen as it is both a major traffic generator and interchange point.

*Travel Advice Screen at Clifton Down Shopping Centre*



PHOTO COURTESY OF BRISTOL CITY COUNCIL

The Travel Advice Screen provides a range of information including:

- Real time rail arrivals/departures
- Real time bus arrivals (rail link services)
- Scheduled arrival for all bus services
- Air quality information
- Highway Network Management Information
- Multimedia presentations
- Shopping centre information
- Community event promotion

## BENEFITS

While the benefits of the VIVALDI applications are still being evaluated, initial findings are available for the Travel Advice Screen.

Early project results indicate that 10% of people surveyed said they made new journeys by bus or rail as a result of the TAS.

## FUNDING

The EU has allocated €50 million to support the CIVITAS initiative, which seeks to encourage sustainable urban transport strategies. The CIVITAS initiative is co-financing 4 demonstration projects involving

19 European cities. Of this total €5.4 million (£3.24 million) was granted to Bristol, to support a £9 million package of measures over the four-year project duration. Bristol City Council has managed to secure £1.5m supplementary funding to date through the Annual Progress Report process as part of its LTP.

## FUTURE PLANS

Planned VIVALDI project works with an ITS element include:

- Access control measures
- Schemes to support a city centre Clear Zone
- Integration of Intelligent Transport Systems
- A City Logistics scheme
- Community delivery points
- Systems to provide better integration between transport modes

As part of the integration of Intelligent Transport Systems task above, an Integrated Travel Information Centre (ITIC) is planned. This ITIC will integrate data from several ITS applications and present this information to members of the public via a staffed office, Travel Advice Screens (TAS), Information Kiosks and the Internet.



Prototype Congestion Schematic

## REFERENCES

- (1) Bristol Local Transport Plan,  
Appendix 5 Road Traffic Reduction  
Report, Bristol City Council 2000.

### Further Information

For more information about VIVALDI visit  
<http://www.bristol-city.gov.uk/europeantransport>

<http://www.travelbristol.org>

Email: [transport\\_initiatives@bristol-city.gov.uk](mailto:transport_initiatives@bristol-city.gov.uk)

## CONTACTS

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<http://www.its-assist.org.uk>

To find out more about the wide range of ITS-related initiatives and projects supported by the DfT, and the development of ITS policies to encourage and promote greater deployment of ITS, please contact Transport Technology and Telematics Division at the Department for Transport at: [its@dft.gsi.gov.uk](mailto:its@dft.gsi.gov.uk)

### DfT WEBSITE [www.dft.gov.uk](http://www.dft.gov.uk)

Details of Traffic Advisory Leaflets available on the DfT website can be accessed as follows:

From the DfT homepage, click on the Local Transport icon and then on Traffic Advisory Leaflets.  
Lastly, click on one of the themes to view material.

The Department for Transport sponsors a wide range of research into traffic management issues. The results published in Traffic Advisory Leaflets are applicable to England, Wales and Scotland. Attention is drawn to variations in statutory provisions or administrative practices between the countries.

The Traffic Advisory Unit (TAU) is a multi-disciplinary group working within the Department for Transport. The TAU seeks to promote the most effective traffic management and parking techniques for the benefit, safety and convenience of all road users.

### Department for Transport

### Scottish Executive

### Llywodrath Cynulliad Cymru Welsh Assembly Government

Requests for unpriced TAU publications to:  
Charging and Local Transport Division,  
Zone 3/23, Great Minster House  
76 Marsham Street, London, SW1P 4DR.  
Telephone 020 7944 2478  
e-mail: [tal@dft.gsi.gov.uk](mailto:tal@dft.gsi.gov.uk)

Within Scotland enquiries should be made to:  
Neil Weston, Scottish Executive, Development  
Department, Transport Division 3, Zone 2-F,  
Victoria Quay, Edinburgh, EH6 6QQ,  
Telephone 0131 244 0847  
e-mail: [neil.weston@scotland.gsi.gov.uk](mailto:neil.weston@scotland.gsi.gov.uk)

Within Wales, enquiries should be made to:  
Welsh Assembly Government,  
Transport Directorate, 2nd Floor, Cathays Park,  
Cardiff, CF10 3NQ  
Telephone 029 2082 5111  
e-mail: [cone@wales.gsi.gov.uk](mailto:cone@wales.gsi.gov.uk)



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