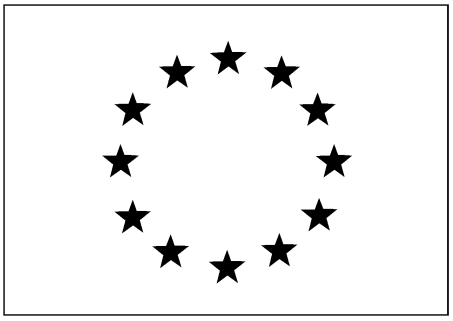
TECHNOLOGICAL IMPLEMENTATION PLAN

A Framework for the further development, dissemination and use of
the results of EC RTD Projects (including also thematic networks and concerted actions)

DATA SHEETS



Preliminary version at mid-term (optional, programme per programme)

Final version before final term (contractual obligation)

Part 1: Overview and description of your project and its results
One form per project **Publishable**

1.1: Executive summary (to be used for an accurate update of the programme synopsis of projects)
1.2: Overview of all results
1.3: Quantified data on the project
1.4.: Assessment of the European interests : This section enables the co-ordinator to explain the interest for the European Union (the competitiveness of its industries, the usefulness for (part of) its population etc) of the achieved results and of their foreseen impacts.
1.5.: Expected project impact

Part 2: Description of each Result - Search for collaboration through Commission services
One form per Result **Publishable**

This section will be used to document your result(s) in CORDIS and to inform any appropriate audience

2.1 : Description of the result(s)
2.2 : Quantified data about the result
2.3 : Further collaboration, dissemination and use of the result: This section enables each partner – individually or as a consortium – to describe its needs in further collaboration in view of the dissemination an use of its results(s).

Part 3: Description of the intentions by each partner
One form per partner **Confidential**

This section enables each partner – individually or as a consortium – to describe its use and dissemination intentions (including a timetable of its future activities).
3.1 : Description of the use and the dissemination of result(s), partner per partner
3.2 : Quantified data for each partner's main result

- The Technological Implementation Plan data sheets are available as a predefined form in Microsoft Word format. The file may be downloaded from the European Commission's CORDIS web site at: http://www.cordis.lu/fp5/tip.htm or may be obtained by e-mail from your EC programme help desk or your Project Officer.
- The form should be completed electronically and returned, preferably by e-mail, to your project officer (Firstname.Lastname@cec.eu.int). Alternatively it can be sent on a diskette to the address provided by your Project Officer :
  - ✓ Part 1, 2 by the project co-ordinator;
  - ✓ Part 3 by the project co-ordinator or by each partner individually, as preferred.

Part 1 Overview and description of your project and its results

EC PROGRAMME :	Competitive and sustainable growth programme (5th framework)
PROJECT TITLE & ACRONYM:	VISIONARY & VIBRANT ACTIONS THROUGH LOCAL TRANSPORT DEMONSTRATION INITIATIVES - VIVALDI
CONTRACT NUMBER :	GRD1 – 2001 - 40060
PROJECT WEB SITE (if any) :	www.VIVALDIproject.org
PARTNERS NAMES :	- Bristol City Council - Freie Hansestadt Bremen Senator fur Bau un Umwelt - Bremen strassenbahn AG - Verkehrsverbund Bremen/ Niedersachsen - Cambio Mobilitäts Service GmbH & Co KG - GVZ-City-Logixtik Bremen GmbH - SWB Enordia GmbH - Kaunas City Municipality - Communauté Urbaine de Nantes - Société d'économie mixte des transports de l'agglomération nantaise - Aalborg Kommune - First City Line Ltd. - Bristol Dial-a-Ride - University of the west of England, Bristol - Sustrans Ltd. - StadtAuto Bremen CarSharing GmbH - Universitât Bremen, Zentrale Wissenschaftliche Einrichtung Arbeit und Region - Agence d'études Urbines de l'Agglomération Nantaise - Transport, Infrastructure & Telematics - Nordjylland Trafikselskab

1.1 Executive summary

Please, synthesise (in 1 or 2 pages) your project original objectives and final outcome.

a) Original research objectives

The VIVALDI project was developed in response to the Growth 2001 call for proposals. It addresses the objectives of KA2.1.3/8 "Increasing the urban transport systems' sustainability and efficiency through radical strategies for Clean Urban Transport" (CIVITAS). It also jointly addresses the objectives of the ENERGIE5-T1 call for proposals, targeted action D "Rational use of Energy-Clean Urban Transport".

Urban transport policy within the VIVALDI project sites is driven by four main policy goals:

- Economic vitality and success of the city – thus the transport strategy for the city needs to ensure the efficient movement of both people and goods to support the economic functioning of the city;
- Social inclusion of all groups in society – it is necessary to ensure that all groups in society have equal access to employment, training facilities, retail outlets and leisure facilities;
- Health and well being of the citizens – the transport system should promote the health and personal security of the citizens;
- Sustainability – the transport activities of the city need to contribute to a more sustainable environment through efficient use of resources and minimal environmental impact.

Within each of these policy areas there are a number of structural problems, both physical and organisational, that need to be addressed. Urban transport policy needs to support the development of solutions to these problems taking a long-term perspective.

Thus each of the cities has developed an integrated transport strategy or plan that seeks to contribute towards these policy goals. Within the context of these strategies, the VIVALDI project aims to demonstrate a package of innovative transport measures relevant to the CIVITAS policy fields and assess their ability to contribute to these urban policy goals. In addition, the structure and size of the VIVALDI cities, and the issues they face, are common to a wide number of medium sized European cities. Therefore, a high level of transferability can be achieved from the demonstrations.

VIVALDI is a major integrated European laboratory in clean urban transport measures involving four primary sites with established reputations in, and commitment to, the European transport and energy policy agendas. Each of the main demonstration sites has implemented and evaluated an integrated package of innovative transport measures addressing each of the CIVITAS policy fields. In addition, a new member state site will carry out demonstration within the field of collective modes and assess the potential transferability of the other demonstration elements to an Eastern European context.

The specific objectives of VIVALDI are:

- Provide effective co-ordination of the laboratory sites and demonstration activities;
- Develop political consensus and acceptance of the innovative strategies being demonstrated;
- Evaluate the demonstrated measures with respect to the four key urban policy goals and provide results for a wider EU-level comparison and policy recommendations;
- Provide effective dissemination and exploitation of project at a local and national level, whilst contributing to wider European transferability needs;
- Provide effective demonstrations of measures covering each of the CIVITAS policy fields across the five laboratory sites.

a) Expected deliverables

D1 Project Handbook, consortium Agreement and MOU - This document confirms the management aspects of the project and the formal relationship between the partners and the accompanying thematic network. This is an internal document.

D2 Inception report - This provides a refinement of the project proposal elements looking at scheme integration, effort, costs and timing. This is an internal document.

D3 Project website - provides a range of public information about the project covering the background to the sites, progress of the demonstration activities, results, news and public deliverables. This is a public document.

D4 Site evaluation plans – these build on the common evaluation framework developed by the accompanying thematic network and detail site-specific evaluation activities. This is an internal document.

D5 Implementation report 1 – This report provides detailed information on the design of the demonstration activities and the progress in implementing them. This is a public deliverable which complements the internal review document that was provided for the Commission.

D6 Mid term review report – This report sets out the progress in each site with respect to each of the demonstration tasks. This is an internal document.

D7 Implementation report 2 – The 'measure templates', which are an annex to the evaluation report, replace this report. This is a public document.

D8 Technology implementation plan – This report considers exploitation across a number of levels: within the cities as future development of their transport strategies, with respect to local businesses and technology suppliers and with respect to training, education and research needs. This is a semi-public document.

D9 Evaluation report – This report provides the final evaluation results available from the work. It covers the results with respect to each CIVITAS area, the results of the integrated package within each site and a comparison of results between the sites and potential for transfer to the other EU cities. The evaluation report is a public document.

D10 Policy recommendations – This report provides policy recommendations and guideline documents for politicians and other decision makers within cities, and regional, national and European government. The document consists of a DVD and a written report. The document is public.

D11 National Conferences- Bristol (September 2005) and Bremen (January 2006) organised a national conference to disseminate and debate a specific result of the project. In addition, three technical workshops were organised in Brussels (April 2004 on Telematics), Aalborg (October 2004 on Cycling measures and Travel Plans) and Bremen (March 2005 on Co-operation and partnerships for clean mobility). The conferences were open to all.

D12 Final Report – This document pulls together the points from D7, D8, D9 and D10 to provide a summary of all the work carried out within the project. This report is public.

b) **Project's actual outcome** *(in terms of technical achievements or if appropriate task per task)*

The VIVALDI project incorporates 5 cities: Aalborg, Bremen, Bristol, Kaunas and Nantes, introducing a range of integrated transport strategies and measures. The measures in the VIVALDI project are implemented and evaluated according to their Integrated Packages. Each of these packages consists of a number of measures which belong together. The Integrated Packages are:

- Implementation of a public private Car Sharing Scheme in Aalborg (Denmark)
- Implementation of bus priority and Real Time Passenger Information (RTPI) in Aalborg (Denmark)
- Promoting a new clean public transport fleet in Nantes (France)
- Improving the use of Public Transport and soft modes in Nantes (France)
- Distribution of goods in Nantes (France)
- Implementation of a large scale sustainable transport strategy for the southeast in Nantes (France)
- New mobility concept for the Tertre Campus site in Nantes (France)
- Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area in Nantes (France)
- Promoting Clean and Efficient Vehicles in Bristol (UK)
- The City Centre Clear Zone in Bristol (UK)
- Access and Safety in an Inner City Area in Bristol (UK)
- Social Inclusion in an Edge of City Community in Bristol (UK)
- Improving Public Transport in Bristol (UK)
- Developing New Travel Services in Bristol (UK)
- Implementing a new ticketing system in Kaunas (Lithuania)
- New public transport services in Kaunas (Lithuania)
- Access and security in Kaunas (Lithuania)
- Microbus integration in Kaunas (Lithuania)
- Integrated transport pricing system in Bremen (Germany)
- (Hybrid) tram in Bremen (Germany)
- PT and Car Sharing in Bremen (Germany)
- Clean fleet vehicles in Bremen (Germany)
- City logistic scheme/freight village in Bremen (Germany)
- Travel information centre in Bremen (Germany)
- Walking and cycling measures in Bremen (Germany)
- Car-Sharing/City car club development in Bremen (Germany)

Recommendations and case studies on all CIVITAS Policy fields are formulated in the D10 Policy Recommendations report. In brief, the principal policy recommendations are summarised as follows:

- The involvement of key stakeholders (including the general public as well as public and private bodies) is very important.
- However, it is also important to maintain strong project management on the part of the local authority.
- A good communication plan is necessary, supporting awareness raising and promotional activity.
- None of the VIVALDI measures can be seen in isolation, they are all part of integrated transport planning strategies in the 5 cities.
- The usefulness of participating in European Commission-supported projects cannot be stated too highly.
- Transferability is another key element of the role played by European projects – using good practice and learning from the challenges that others have faced.
- The importance of strong local government with a clear vision on sustainable transport cannot be underestimated.
- Finally, the role of people: both a political champion and the citizens in each city for whom all the schemes are implemented.

Broad dissemination and exchange of experience between cities happened throughout the duration of the project. A VIVALDI website was built and frequently updated. A newsletter was produced 6-monthly, translated into French and distributed electronically as well as printed. At the beginning and end of the project a brochure was published showing respectively the aim and the results of the project. Fact sheets have been produced for most of the implemented measures with a short and clear description of what the measure is about, who is involved and what the results are. All documents can be downloaded from the VIVALDI website. The exchange of experiences and knowledge was organised in open technical workshops (Telematics, Co-ordination & co-operation, Travel Planning & cycling measures), National Conferences (Delivering Urban Transport Innovations, Clean air for European Cities) and International events such as the CIVITAS Forum.

There has also been cross-CIVITAS cooperation such as involvement and presentation of experiences at workshops of sister projects. The many site visits undertaken during these different meetings supported the exchange of experiences and knowledge for technicians, practitioners, and managers as well as for politicians. In addition to the numerous informal exchanges of experience and knowledge achieved through these events, Bremen and Nantes exchanged specific information on the setting up of a car sharing scheme in a more formal way involving both technicians and politicians.

a) **Broad dissemination and use intentions for the expected outputs** *(such as industrial development, standards, regulations and norms, improvement of environment, health, working conditions, employment, net economic benefits, etc)*

In general the measures implemented during the project are continuing after the end of the project.

A lot of measures will even be up-scaled:

- by implementing the measure in other parts of the city (eg RTPI in Aalborg) or region (eg pre-paid electronic cash card and post-paid BOB-ticket in Bremen);
- depending on demand (eg Car sharing/Club scheme in Aalborg, Bremen and Bristol);
- by further integration of the measures in future projects (eg cycling measures integrated in almost any road works in Bremen, the launch of two new initiatives for Bristol Dial-a-Ride under the Department for Transport's Urban Bus Challenge programme, Kaunas will participate in the BUSTRIP – baltic urban sustainable transport implementation plan - Interreg IIIB project (with partners from Bremen), which will concentrate on continued interaction with major transport and environmental actors in Kaunas. It will help to deliver a final single Sustainable Urban Transport Plan that will bring together a lot of the research and reports that were produced during the VIVALDI years);
- because they were even more successful than originally expected (eg marketing campaign on Clean fleet vehicles in Bremen, purchase of new CNG buses in Nantes);

Only a small number of measures have not been realised within the timeframe of the project. These measures are planned to be implemented/finalised in a later stage (eg Hybrid-tram in Bremen in 2009, remodelling of the RN801 and launch of lane 4 bus way in Nantes in 2006) or have been abandoned (flywheel power tram in Bristol).

All of the cities foresee further research and development of the measures and are willing to exchange information and training to other entities. Dissemination of the project results will continue after the project has ended at a national as well as an international level.

To disseminate the experiences in **Aalborg** there is a local project website, as well as dissemination on key European networks (POLIS, Car Free Cities, UITP etc), national conferences (Trafikdage, Vejforum, TøF etc.) and other local dissemination activities.
Bremen will participate in national and international knowledge exchange to disseminate the results of the project. Bremen also foresees further local and regional promotion of the measures. Continuous advertising is foreseen.
In **Bristol**, the results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.
Nantes will post the results of the project on the website if the Communauté Urbaine de Nantes in French and English. Specific brochures will be produced for some of the measures (eg didactic brochure answering 80% frequently asked questions on CNG buses).
Continuation of dissemination of the results of the project in **Kaunas** will be potentially through the use of the UBC (Union of Baltic Cities) money to share our experiences with other interested cities – and following our UBC award – and later the CIVITAS Award – Kaunas has had quite a few interested cities wishing to know more about the public transport services and the way in which they manage them.

1.2 Overview of all your main project results

No.	Self-descriptive title of the result	Category A, B or C*	Partner(s) owning the result(s) (referring in particular to specific patents, copyrights, etc.) & involved in their further use
1	Implementation of a public private car sharing scheme in Aalborg (Denmark)	A	The City of Aalborg facilitated the creation of a Car-Sharing service that should be economically viable and independent of public funding. Therefore the service had to be operated on a commercial basis. The commercial operator in Aalborg is Hertz Delebilen.
2	Implementation of Bus Priority and Real Time Passenger Information (RTPI) in Aalborg (Denmark)	A	Aalborg Kommune and NT are the main actors of implementing the PT Telematics project in Aalborg. They have defined the system and they operate and maintain it. The private operators that run the different bus routes play a key role as the 'rolling equipment' is installed in their vehicles. The drivers and the passengers are the daily users of the systems.
3	Integrated transport pricing system in Bremen (Germany)	A	These tasks are mainly managed by BSAG as the main public transport operator in the City of Bremen. The design and implementation is co-ordinated by VBN (Verkehrsverbund Bremen-Niedersachsen), which represents 34 public transport operators in the region.

4	(Hybrid) tram in Bremen (Germany)	A	The planned extension of the tram is a joint project of the City of Bremen and its local Public Transport Operator BSAG with the Regional Public Transport Authorities and neighbouring communities – represented by ZVBN and the regional Public Transport Operators, represented by VBN. They all became partners in the VIVALDI project to further develop the plans, to carry out the benefit-costs analyses and to prepare the special legal and technical framework for operating the tram on a rail track. There are specific requirements for the track (e.g. due to different widths of the trains and trams) and for the vehicles (e.g. profile of wheels to operate on the typical tram and also train tracks and switches). As the freight trains operate with Diesel-locomotives, an overhead wire will be installed exclusively for tram operation (750 V DC). Within VIVALDI, the planning was brought intensively consulted upon with local residents, shopkeepers and other stakeholders, including a "Round Table" phase to prepare political decision-making processes.
5	PT and Car Sharing in Bremen (Germany)	A	The main actors are Cambio Mobilitätsservice GmbH & Co KG and cambio StadtAuto GmbH with strong cooperation with the public transport operator BSAG (Bremer Straßenbahn AG), other regional public transport operators and the City of Bremen (Senator for Construction, Environment and Transport)
6	Clean fleet vehicles in Bremen (Germany)	A	The non-profit organisation "Bremer Energie-Konsens GmbH" and the local energy provider "swb Vertrieb GmbH" raised awareness of CNG as an alternative propulsion technology in general.
7	City logistic scheme/freight village in Bremen (Germany)	A	GVZ City Logistics is located at the freight village (Güterverkehrszentrum Bremen) and co-operates with several actors in the business community.
8	Travel information centre in Bremen (Germany)	A	These tasks are mainly managed by BSAG as the main public transport operator in the area. The design and implementation is co-ordinated by VBN, which represents around 35 public transport operators in the region.
9	Walking and cycling measures in Bremen (Germany)	A	The main actor is the technical department of the City of Bremen, which is in charge of transport planning and responsible for the maintenance of the road- and cycling network

10	Car-Sharing/City car club development in Bremen (Germany)	A	The main actors are Cambio Mobilitätsservice GmbH & Co KG and cambio StadtAuto GmbH with strong cooperation with the City of Bremen (Senator for Construction, Environment and Transport).
11	Promoting Clean and Efficient Vehicles in Bristol (UK)	A	The key stakeholders in this work area are local bus operator First and Bristol City Council, although other bus operators are also involved. Also participating in an advisory capacity are the Energy Savings Trust, a non-profit organisation supported by the UK government working to help the take up of cleaner transport.
12	The City Centre Clear Zone in Bristol (UK)	A	The development of these measures required the involvement of a range of stakeholders including those within the Council with responsibility for traffic management, public transport and parking. Other external stakeholders include bus operator First and the range of statutory consultees to any traffic regulation order (the legal process by which alterations to the highway network are made) including the emergency services and the Road Haulage Association, together with the broader business and retailing community.
13	Access and Safety in an Inner City Area in Bristol (UK)	A	The has been developed by Sustrans and Bristol City Council. As the project has progressed, these organisations have consulted and involved other agencies and stakeholders. Sustrans' Community Travel Workers (CTWs) have worked intensively with the community over the duration of the project to introduce Home Zone ideas, involve residents in the design process and galvanise support for the project.
14	Social Inclusion in an Edge of City Community in Bristol (UK)	A	This initiative involves Bristol City Council and Sustrans, together with a number of other parties including travel research company Socialdata being subcontracted to carry out the aspects of the TravelSmart campaign. Bus operator First are also participating through the supply of service timetables, trial bus tickets and by providing home visits to explain bus service provision, ticketing options etc in the campaign area. Other parties involved include Brunel University, Somerfield supermarket and local charity the Dolphin Society.

15	Improving Public Transport in Bristol (UK)	A	The Council has taken the lead role in this work area, working in partnership with First and through contractual arrangements with other operators. There are two main ways in which the Council can influence bus service provision and standards in a deregulated market. The Council tenders for the provision of 11 stand-alone and 47 extended (weekend and evening operation) socially necessary non-commercial bus services and the operation of 4 Park & Ride schemes and therefore had the opportunity to introduce quality criteria through the procurement process. In addition, the Council has entered into a Quality Bus Partnership with First, setting out bus service and on-street improvements to be undertaken by the respective parties. The partnership is jointly advancing Showcase Bus Routes which provide a package of improvements on the key radial bus corridors into the city centre
16	Developing New Travel Services in Bristol (UK)	A	The works under VIVALDI included the expansion of Dial-a-Ride into a previously unserved area, new clean fuel LPG vehicles and the introduction of a new booking and scheduling system. The new operation and vehicles have been introduced and operated by the staff of Bristol Dial-a-Ride, whilst the new scheduling system is being introduced jointly with the City Council. The development of the Car Club scheme was undertaken by Smart Moves under contract to the City Council.
17	Promoting a new clean public transport fleet in Nantes (France)	A	Besides transport operator Semitan, the companies in charge of managing the procurement, commissioning and operation of the fleet, are: • UCN, who own the fleet rolling stock; • bus fleet providers (Heuliez bus who provide the Nantes CNG standard buses market and Volvo for the articulated CNG buses); • and "Avant -première", a designer specialized in transport refurbishing that met SEMITAN's requirements in terms of internal design and worked with Heuliez bus during the manufacturing phase.
18	Improving the use of Public Transport and soft modes in Nantes (France)	A	The main actors are Semitan and UCN

19	Implementation of a large scale sustainable transport strategy for the southeast in Nantes (France)	A	Many actors are involved in the project: • UCN: Public Transport Department, Equipments Department, 2 UCN Local Delegations, and Communication Department; • UCN is in charge of the accessibility of the 3 railway stations and the links with bicycle, public transport networks and park and ride facilities (interchange points); • SNCF (railway public transport operator) and RFF (railway infrastructure owner) are in charge of the railway station buildings and the railway infrastructure adaptations; • French State: financial help (promotion of clean transport); • Conseil Général: financial support. The Conseil Général is the public transport operator in the Loire Atlantique district and aims to extend the Nantes-Vertou link to Clisson (south of Loire Atlantique) in future years. Some of the local bus routes will be connected with the Nantes-Vertou route; • Régional Council: regional railway transport authority; • Communes of Vertou, Saint Sébastien and Nantes: the Nantes-Vertou route is on their territory. • Semitan also contributes through the adaptation of bus routes serving the stations and the leadership of communication action to promote fare integration.
20	New mobility concept for the Tertre Campus site in Nantes (France)	A	• UCN, main actor of the project • Other actors: AURAN, Town of Nantes, University of Nantes, and the Education Ministry Delegation.

21	Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area in Nantes (France)	A	• UCN is leading the work. Technical staff: - Public spaces Department, - 2 UCN Local Delegations, - Public transport Department et Route 3 extension project manager, - Public spaces Department, - Communication Department. A group of UCN representatives conduct the project in steering committee. • Other actors: - Architect (TETRARC) and technical studies companies, - Conseil Général, - Equipment Direction 44 (DDE, French State), - SEMITAN, - Towns of Orvault and Saint Herblain.
22	Implementing a new ticketing system in Kaunas (Lithuania)	A	The main actors are predominantly Kaunas public transport system and within this, the companies AB "Autrolis", UAB "Kauno autobusai" and approximately 60 or so private micro-bus taxi providers
23	New public transport services in Kaunas (Lithuania)	A	Public transport service providers and the municipality.
24	Access and security in Kaunas (Lithuania)	A	Public transport service providers and the municipality.
25	Microbus integration in Kaunas (Lithuania)	A	Public transport service providers, the municipality and and approximately 60 or so private micro-bus taxi providers.

* A: results usable outside the consortium / B: results usable within the consortium / C: non usable results

1.3 Quantified Data on the dissemination and use of the project results

Items about the dissemination and use of the project results (consolidated numbers)	Currently achieved quantity	Estimated future* quantity
# of product innovations (commercial)	❑ Together with HUR had NT and Aalborg Kommune developed the central server Pub Trans, the bus computers and the RTPI signs. ❑ PT information via mobile phone – Mobitrans system in Nantes.	❑ Already one more French city and 3 more to come within the two next years chose Mobitrans
# of process innovations (commercial)	❑ Home shopping trial using the 'Companion' in Bristol ❑ New annual PT fares development of one to one relationship with PT users due to the database of annual fare holders.	
# of new services (commercial)	❑ Public/Private car sharing scheme in Aalborg ❑ Low Carbon Bus in Bristol ❑ Community delivery points in Bristol ❑ City logistics scheme in Bristol ❑ Taxi-Sharing in Bristol ❑ New annual PT fares development of one to one relationship with PT users due to the database of annual fare holders.	❑ Next steps: development of sales on the internet (within 1 year after the end of the project). First steps towards customer loyalty programmes linked with electronic ticketing (within 3 years of the project ending).
# of new services (public)	❑ Travel Information Centre with on-line information and travel plans in Aalborg ❑ BOB-ticket: a post-paid system for public transport ticketing. Technology for prepaid smartcard and cashcard (Geldkarte) have been adapted in Bremen ❑ Single double mode smartcard combining the PT smartcard e-ticketing with the Car-Sharing electronic car-key in Bremen ❑ New freight transport bundling system for traders in Bremen ❑ New car-sharing tariff system for business clients in Bremen	❑ 20 more CNG articulated buses to serve future route 4 "bus way". More effort put into the bus design to make it look more and more like a tramway. More routes certified in Nantes.

	❑ Sustainable Urban Drainage System in the Home Zone in Bristol ❑ City Navigator (InfoBus) in Bristol ❑ Trip Planner providing integrated cycling solutions in an urban context in Bristol ❑ Cycle Resource Centre in Bristol ❑ First articulated CNG buses in Nantes ❑ Certification of bus routes 32 and 25, with Chronobus concepts in Nantes ❑ New shuttle boat service in Nantes ❑ Introduction of fixed-date tickets in Kaunas ❑ Introduction of electronic tickets in Kaunas	
# of new methods (academic)	❑ Intermodal Travel information Centre in Bremen	
# of scientific breakthrough		
# of technical standards to which this project has contributed	❑ The use of open standards in the bus computers has resulted in a cheaper product because of a large number of potential suppliers in Aalborg. ❑ New parking standards for new buildings in Nantes ❑ New quality standards for public transport in Nantes	
# of EU regulations/directives to which this project has contributed		
# of international regulations to which this project has contributed		
# of PhDs generated by the project		
# of grantees/trainees including transnational exchange of personnel	❑ An indirect benefit in Kaunas was that the VIVALDI assistant project manager was successful in his application for a place on the EC DGTREN funded "Training Programme for Urban Transport Professionals" that took place in Brussels in 2005. - RMB	

*# = number of … / * "Future" means expectations within the next 3 years following the end of the project*

1.4. Comment on European Interest

All projects are expected to meet European interests. This section should provide an appraisal of your project in terms of European added value and support to the implementation of European Union policies.

1.4.1. Community added value and contribution to EU policies

a. European dimension of the problem
(The extent to which the project has contributed to solve problems at a European level)

VIVALDI addressed the needs of European citizens for sustainable mobility and efficient intermodal transport systems which utilise economic energy sources to provide clean urban transport systems in the 21st Century. The project centrally addressed the impacts that cleaner, more sustainable, urban transport systems may have on economic growth and vitality, environment quality and social cohesion. The project has provided a European perspective for sustainable development for cities of average size (150.000 to 500.000 population, with a catchment area of at most 1.000.000 population) with a rigorous evaluation across five EU sites that represented complementary cities in terms of regulatory environments and policy approaches. This has provided a high level of European added value.

The VIVALDI cities have demonstrated over several years their commitment to the European sustainable policy agenda and to co-operative working in Europe to disseminate local experiences but also to import good practice. VIVALDI has provided the opportunity to consolidate this experience.

b. Contribution to developing S&T co-operation at international level. European added value.
(Development of critical mass in human and financial terms; combination of complementary expertise and resources available Europe-wide)

The VIVALDI cities, partners and sub-contractors are extremely well linked to existing European city networks in the fields of transport, energy and sustainability, which was fully exploited in the project. VIVALDI also supported the development of new networks, both between the project cities and also between the VIVALDI cities and other (non-) CIVITAS cities. VIVALDI members both benefited and contributed an important input to new and existing networks. By contributing important results and experiences from the VIVALDI project, the networks could grow. Networking was an important part of achieving European added value within the project exploitation strategy. This was developed in three areas:

- with the **CIVITAS horizontal actions**: the consortium and sub-contractors have direct experience of the added value of this relationship, being co-ordinators of both the horizontal project and the demonstration projects on urban transport pricing. The horizontal project provided added value to VIVALDI by maintaining links with relevant research projects and thematic networks, synthesising state of the art and position papers, establishing networks of interested parties, web-based document libraries, events and general European dissemination.
- VIVALDI mobilised its links in the **European city networks and energy networks**, which cover a majority of the project demonstration themes.
- **National networking:** VIVALDI established a group of appropriate national contacts for disseminating the project. In addition, initiatives by national Ministries provided added value by synthesising the cities' interests in CIVITAS.

c. Contribution to policy design or implementation
(Contribution to one or more EU policies; RTD connected with standardisation and regulation at Community and/or national levels)

On the one hand VIVALDI supported the politicians in implementing the measures. A basis for discussion was given, which resulted in the development of a stronger political view on sustainable transport.

On the other hand, the VIVALDI project contains many innovative, radical measures, which required and still require strong political support to ensure successful delivery. Politicians played an important role in the VIVALDI project, not only at a local level but also with their involvement at the wider level. The support provided is indicated through their involvement at project meetings, the Political Advisory Board (PAB) and at the CIVITAS Forums and the Policy Advisory Committee (PAC).

VIVALDI has played an active role in the PAC as this was chaired for a period by Cllr H. Holland from Bristol. This forum has enabled a wider debate regarding clean vehicle procurement, which was originally raised at the VIVALDI PAB.
The first formal PAB meeting was held in Bremen on 17th September 2003, following the second project management meeting. Politicians attended this meeting from Bremen, Bristol and Nantes. Issues discussed included: barriers being faced for the implementation of sustainable and environmentally friendly transport including the issues of procurement of clean vehicles, building consensus, encouraging the use of public transport, reducing car travel, linkages between transport and the environment and building political support for cities at national and European level.

The second PAB meeting was held in Rotterdam on 17 November 2004, alongside the CIVITAS Forum and PAC to which the VIVALDI politicians also contributed.

The third PAB meeting was held in Bristol on 13th September 2005, following the project management meeting. Politicians from the five cities attended this meeting. The D10 Policy recommendations were discussed as well as participation in the CIVITAS Forum (November 2005, Nantes). In parallel with the PAB a political round table was organised during the national conference in Bristol on 12th September. A lively debate made the importance of political support at national as well as European level very clear.

Although only three PAB meetings have been formally scheduled, politicians have been welcomed at all of the project management meetings. In particular, the politicians from Nantes - Vice-president for UCN C. Durand (chair of the PAB) and Bristol - Executive member for Environment, Transport and Leisure and subsequently Executive member for External Affairs and Partnerships H.Holland have attended most project meetings to date. This has provided a political viewpoint to the issues discussed and promoted support for the project. Kaunas managed to secure participatory political involvement, which led to the involvement of the councillor becoming a member of the PAB.

The VIVALDI project also supported the need for fundamental changes in standardisation and regulation. This question is not solved yet even though cities, national authorities and manufacturers are aware of this problem. The harmonisation of the regulations for these types of clean vehicles is intended to create a real European market to promote research and innovation from manufacturers in good economic conditions.

1.4.2. Contribution to Community social objectives

a. Improving the quality of life in the Community :

The integration and added value of VIVALDI measures in city centres, inner city areas, residential and commercial suburbs and the peri-urban fringe has measurable positive impacts on the quality of life of citizens. It promotes best practice models as a stimulus for other European cities, supported by project guidelines explaining how the benefits were achieved.

Quality of life was an integral part of the VIVALDI evaluation process and a number of major criteria for monitoring and measurement in different city areas and among lifestyles and life chances of different social groups. The project also defined criteria that limit different social groups in all areas of life including transport. These two sets of criteria formed the basis of the quality of life evaluation in VIVALDI.

The transport system promotes the health and personal security of the citizens.
New fuelled vehicles procured and implemented in the cities, together with new fuelling stations and complementary measures are improving the environment. The promotion and improvements for soft modes have been implemented through a range of measures in the cities. Measures such as walking and cycling are promoted for improved health and well-being. This includes traffic management measures in Bremen, the Cycle Resource Centre in Bristol and bike parking and investigation of bike rental in Nantes.

b. Provision of appropriate incentives for monitoring and creating jobs in the Community (including use and development of skills):

VIVALDI placed employment, education and training of primary importance to maximise the output of the projects not only for the economic and social well being of the cities but also for all European urban areas. The whole employment life cycle has been considered including:

- job search and transport accessibility to job markets for different social groups – specifically targeting the position of socially excluded groups;
- commuting issues for job choice, job turnover, job satisfaction and implications for transport policy;
- job creation and stability – specifically the prospects for employment for people with different abilities and skills; identifying further education and training needs and special requirements.

One of the project objectives was social inclusion. Social inclusion of all groups in society is promoted through equal access to employment, training facilities, retail outlets and leisure facilities.
The development of the collective modes and new forms of vehicle use has supported greater social inclusion. Examples include car sharing & car club expansion and promotion, integration with new development and interchange improvement (Aalborg, Bremen & Bristol). A car pooling website has been developed in Nantes. New taxi and micro-bus services have been developed in Bristol and Kaunas.
Telematics for access to information has been promoted through new info-kiosks (Aalborg & Bristol) and info-centres. Real-time information for bus users was developed at several sites, both at bus stop locations but also audio transmissions on buses in Bristol and through mobile phones in Nantes.

c. Supporting sustainable development, preserving and/or enhancing the environment (including use/conservation of resources) :

Through the reduction of motorised traffic and a measurable shift to environmentally friendly modes of transport, VIVALDI has led to a substantial reduction of air and noise emissions.

As reduction in the demand for travel is seen as the 'most effective and sustainable solution to reducing the growth in emissions', VIVALDI fully covers that goal in the project. The integration of Car-Sharing into urban and site development for example is an innovative approach and has not only impacts in terms of shift in mobility patterns but also ensures that the urban infrastructure will be used more efficiently.

The transport activities of the city need to contribute to a more sustainable environment through efficient use of resources and minimal environmental impact.

Sustainability embraces a range of environmental objectives as well as linking the requirements for economic, social and health policies for today and for future generations. The strategies and measures developed and

implemented by the cities are promoting the trend of more sustainable policy. Examples include pro-active land use planning (Nantes), the development of Home Zones (Bristol), travel marketing and travel planning in Bristol and Nantes.

One of the biggest areas of implementation has been the introduction of clean fuel vehicles in many of the cities, including CNG cars in Bremen, electric cars and LPG vehicles in Bristol and CNG buses in Nantes.

1.5. Expected project impact (to be filled in by the project coordinator)

Remark: **by replying to the following questions, the coordinator is asked to express his best estimation regarding the impact of the project.**

Overall Policy Impact[1]

EU Policy Goals	I SCALE OF EXPECTED IMPACT OVER THE NEXT 10 YEARS[2] -1 0 1 2 3	II other Not applicable to project	II other Project Impact too difficult to estimate
1. Improved sustainable economic development and growth, competitiveness Θ	2		
a) Improved employment Θ	1		
1. Improved quality of life and health and safety Θ	3		
2. Improved education Θ	1		
3. Improved preservation and enhancement of the environment Θ	3		
4. Improved scientific and technological quality Θ	2		
5. Regulatory and legislative environment Θ	1		
8. Other _____ Θ	/		

[1] Coordinator should respond to section I or, if appropriate, to section II. If the project has had no impact, a "0" should be entered in section I. Scores other than zero in section I will prompt a more detailed subquestion on a separate screen. However, you may access in any case the subquestions by clicking on the symbol" Θ "following each main question.

[2] Indication for scale as follows: -1 represents negative impact, 0 no impact, 1 small positive impact, 2 medium positive impact , 3 is a strong positive impact

Indicate your replies below by putting in each box the number corresponding to the score you chose:

1. Economic development and growth, competitiveness	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Increased Turnover for project participants - national markets	1	1
- international markets	2	2
b) Increased Productivity for project participants	1	1
c) Reduced costs for project participants	1	1
d) Improved output quality/high technology content		

2. Employment	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Safeguarding of jobs	1	1
a) Net employment growth in projects participants staff	1	1
a) Net employment growth in customer and supply chains	1	1
d) Net employment growth in the European economy at large	1	1

3. Quality of Life and health and safety	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Improved health care	0	0
a) Improved food, nutrition	0	0
b) Improved safety (incl. consumers and workers safety)	2	2
a) Improved quality of life for the elderly and disabled	2	2
b) Improved life expectancy	1	1
c) Improved working conditions	1	1
d) Improved child care	0	0
e) Improved mobility of persons	3	3

4. Improved education	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Improved learning processes including lifelong learning	1	1
a) Development of new university curricula	1	1

5. Preservation and enhancement of the environment	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Improved prevention of emissions	3	3
a) Improved treatment of emissions	3	3
a) Improved preservation of natural resources and cultural heritage	2	2
d) Reduced energy consumption	3	3

6. S&T quality	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Production of new knowledge	2	2
a) Safeguarding or development of expertise in a research area	3	3
b) Acceleration of RTD, transfer or uptake	2	2
a) Enhance skills of RTD staff	2	2
b) Transfer expertise/know-how/technology	3	3
c) Improved access to knowledge-based networks	3	3
d) Identifying appropriate partners and expertise	3	3
e) Develop international S&T co-operation	2	2
f) Increased gender equality	2	2

7. Regulatory and legislative environment	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3
a) Contribution to EU policy formulation	3	3
b) Contribution to EU policy implementation	3	3

8. Other (please specify)	Scale of Expected Impacts over the next 10 years (2)	
	By Project End -1 0 1 2 3	After Project End -1 0 1 2 3

I, **project co-ordinator**, confirm the published information contained in this part 1 of the TIP.

Signature: **Name:**

Date: **Organisation:**

Part 2 Description of each result

A separate part 2 must be completed for each result. This may be done by the partner responsible for the result or by the project co-ordinator.

The part 2 must be consolidated at the consortium level and transmitted to the Commission by the co-ordinator.

PARTS 2 WILL BE DISSEMINATED BY THE COMMISSION

2.1 : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
1	Implementation of a public private car sharing scheme in Aalborg (Denmark)

CONTACT PERSON FOR THIS RESULT

Name	Ms. Mette Skamris Holm
Position	Project Manager
Organisation	Aalborg Kommune
Address	City of Aalborg, Technical Department, P.O.Box 462, 9100 Aalborg Denmark
Telephone	+ 45 99 31 23 42
Fax	+ 45 99 31 23 14
E-mail	MSH-teknik@aalborg.dk
URL	www.aalborg.dk
Specific Result URL	http://www.aalborg.dk/Borgerportal/Serviceomraader/Trafik+og+veje/Anlaegsprojekter/VIVALDI.htm

SUMMARY *(200 words maximum)*

Provide an overview of the result that gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non-confidential information on entities potentially involved.

Result description

Before the beginning of the VIVALDI project there were no initiatives in relation to car sharing in Aalborg. All of the car-sharing initiatives in Denmark except in Copenhagen have less than 20 vehicles per site and they only have a marginal impact on transport. As being one of the major cities in Denmark the potential for a car sharing scheme existed that would enable Aalborg to enter the national and European car sharing networks and support intermodality (e.g. replace private car journeys by combinations of non-motorised trips, Public Transport journeys and shared car journeys).

The work undertaken included:

- Creation of a private public partnership for car sharing;
- Introduction of car sharing with on-line booking services;
- Construction of dedicated parking sites for shared cars.

The up-scale of the car sharing scheme has resulted in 7 car sharing sites rather than the 2-3 planned. The numbers of cars for sharing has increased and there are now 11 cars for sharing against 4-6 planned.
In the long run the expectation is that an optimistic target for the scheme in Aalborg will be 10-20 shared cars replacing 40 – 120 private cars. Compared to a total of 4,000 private cars registered in the city centre, this amount is equivalent to 1-3%. The scheme contains now 11 cars, of which each will replace approximately 4.6-6.2 private cars. Therefore, the number of reduced cars are approximately 50-68, which are 1-1.5% of the private cars in the city centre.

Who are the end-users of this result?

The target users of the Car-Sharing scheme are primarily existing users of Public Transport and private and public companies. The members, private as well as companies, are those having limited needs of daily transportation or business people using Public Transport to travel to Aalborg but requiring a car due to the lack of other transport alternatives serving their destination.

Main innovative features/benefits (technical/commercial success factors)

Car sharing is at an early stage in Denmark with only a few car sharing clubs, none of which were in Aalborg. More of the grass root car sharing initiatives are taken over by commercial car rental companies. In order to make it attractive for these companies to introduce car sharing in Aalborg the Technical Department was prepared to transfer part of its annual 450,000 km use of private car for business journeys to a car sharing initiative. So the scheme is a combined private/public scheme. This makes the utilisation of the vehicles over the day as efficient as possible, enabling the scheme to be economically successful.

Market or application sectors & potential applications

The car sharing scheme estimates to be a good measure for other cities with 100,000 citizens or areas with greater nodal points e.g. international airports, railway stations or harbours. The experiences from the scheme is:
The good lessons learned:

- to have the involvement of a private operator who has a clear business concept and focus.
- to keep the scheme as simple as possible for the users; One payment only, which includes petrol, insurance, service etc., online booking system.
- to be careful not to make the project too small scale. If there are too few cars and car sharing facilities it will not be attractive enough to have people joining the scheme. In Aalborg the operator started out with 10 cars and 5 planned dedicated parking facilities. (expanded after 3 months to 6 and after one and a half year to 7)

Lesson to bear in mind:

- it is necessary to have a tight project management to avoid the time schedule slipping.
- the scheme has expanded less quickly than expected. It takes time to arrange such a scheme and create awareness of the scheme among the wider public.

Potential barriers

By creating Car-Sharing on a commercial basis, the cars have to have a fairly high use over the day and week. As private users' main demand for shared cars is at weekends and in the evenings, efforts have to be made to open the Car-Sharing concept to private companies, public institutions etc. for daytime use on weekdays.
The creation of a sustainable Car-Sharing scheme therefore faces the risk of a lack of interest among private as well as commercial users. Overcoming these obstacles requires promotion and a dedicated marketing and information effort.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	X
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Fact sheet	Demonstrator fact sheet: Establishing a car sharing scheme in Aalborg scheme (English)	PU
Evaluation Report	D9 Evaluation Report (English)	PU
Implementation Report 1	D5 Implementation Report (English)	PU
Templates (annex to evaluation report)	Car Sharing (English)	PU
Local project website	http://www.aalborg.dk/Borgerportal/Serviceomraader/Trafik+og+veje/Anlaegsprojekter/VIVALDI.htm (Danish)	PU
Hertz Delebilen homepage	http://www.delebil.dk/ (Danish)	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2	2
of which : number of SMEs :	0	0
of which : number of entities in third countries (outside EU) :	0	0
Targeted user audience: # of reachable people	200 members	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	6	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Mette Holm

Signature: **Name: Mette Skamris Holm**

Date: 27/01/2006 **Organisation: Aalborg**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
2	Implementation of Bus Priority and Real Time Passenger Information (RTPI) in Aalborg (Denmark)

CONTACT PERSON FOR THIS RESULT

Name	Ms. Mette Skamris Holm
Position	Project Manager
Organisation	Aalborg Kommune
Address	City of Aalborg, Technical Department, P.O.Box 462, 9100 Aalborg Denmark
Telephone	+ 45 99 31 23 42
Fax	+ 45 99 31 23 14
E-mail	MSH-teknik@aalborg.dk
URL	www.aalborg.dk
Specific Result URL	http://www.aalborg.dk/Borgerportal/Serviceomraader/Trafik+og+veje/Anlaegsprojekter/VIVALDI.htm

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The central part of the planned measure relating to Bus Priority and RTPI was:
Introduction of advanced ITS in Public Transport including:

- bus computers in 188 vehicles.
- 4 sites with street displays for Real Time Passenger Information.
- Bus Priority at 20 signalized intersections.
- an allocation system for the flexible use of platforms at the compact coach terminal.
- wireless local area network (w-lan) and mobile communication systems.

The measure is now up-scaled to contain:

- bus computers in 209 vehicles – 31 more than planned.
- 32 sites with street displays for Real Time Passenger Information – 28 or 700 % more than planned.
- Bus Priority at 23 signalized intersections – 3 more than planned.

Who are the end-users of this result?

Nordjyllands Trafikselskab – responsible for regional bus services – and the Technical Department of Aalborg Kommune – responsible for urban bus services – are the key stakeholders of the telematics project.
The telematics solutions are mainly targeted at Public Transport users. However, it is also important to use the systems to improve the drivers' working environment as well as the planning and monitoring options for operators.
Efforts have been made to define a system to serve all of these purposes. One example is the use of real time information for Bus Priority at signalised junctions. It provides a better service for the users, enables less stressful driving and is economically more efficient for the operator

Main innovative features/benefits (technical/commercial success factors)

Before the project, no large-scale implementations of AVL, Bus Priority and RTPI had been made in Denmark. The introduction of these measures was combined with the implementation of a new Public Transport plan that included a new local train service, and together these are expected to radically change the image of Public Transport in Aalborg.

Market or application sectors & potential applications

A challenge during this project has been to get the best available technology and make it work satisfactorily. In order to reach this goal and find the best supplier, the project was put out for tender. It has been a challenge to get all of the relevant stakeholders involved so that all ideas and relevant experiences could be collected. The lesson learnt is that it is important to keep control of all aspects of a project.
The revenues from telematics are much higher than the costs. However, it is important to remember that the revenues related to time savings are difficult to convert to economic saving because it is often a periodic time saving and is hard to implement to the timetable to produce savings in driving time.
What probably is more important due to the revenues is that the RTPI makes people feel that there is no delay even if there is and this will probably result in much higher revenues and a better image than the saved hours because of Bus Priority.

A possible market is new groups of users that not are using Public Transport now because they find it too slow and out of date. With the new IT solutions and a better travel speed due to Bus Priority, it is plausible that a part of this group will use Public Transport in the future.

Potential barriers

Barriers:

- The PT organization had to get used to and learn to accept the new telematics. The drivers feared additional tasks aside from their normal job and increased surveillance.
- An extraordinarily rise of the ticket price for Public Transport as a result of reduced subsidy from the Government has worsened the temporary reduction in the number of passengers caused by the reorganization of Public Transport. This situation has strengthened the passengers' opposition to the changes during the process.

Drivers:

- The necessity to improve the image of Public Transport has been focused. In the last few years the number of passengers has reduced by approximately 2 % per year and hence an improvement for PT in Aalborg was required.

The political ownership of the project has been essential in regard to its successful implementation. It became particularly important when delays, technical problems or other challenges necessitated political support.

Please categorise the result using codes from Annex 1

Subject descriptors codes	637: transport Telematics	649: Urban sustainable cities and rational resource management			

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Fact sheet	Demonstrator fact sheet: Use of ITS in Public Transport in Aalborg scheme (English)	PU
Evaluation Report	D9 Evaluation Report (English)	PU
Implementation Report 1	D5 Implementation report (English)	PU
Templates (annex to evaluation report)	Bus priority and RTPI (English)	PU
Local project website	http://www.aalborg.dk/Borgerportal/Serviceomraader/Trafik+og+veje/Anlaegsprojekter/VIVALDI.htm (Danish)	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2	
of which : number of SMEs :	3 bus operators are involved.	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	Public Transport users: No data available	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: Mette Holm **Name: Mette Skamris Holm**

Date: 27/01/2006 **Organisation: Aalborg**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
3	Integrated transport pricing system in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Detlev Teichman
Position	Manager e-ticketing
Organisation	BSAG Bremer Straßenbahn AG (PT operator)
Address	Flughafendamm 12, D-28199 Bremen, Germany
Telephone	+49(0)421-5596-417
Fax	+49(0)421-5596-8633
E-mail	DetlevTeichman@bsag.de
URL	www.bsag.de
Specific Result URL	

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Based on the German standards for the GeldKarte (BankCard) of the German credit services sector, a chip card was launched in 6/2005, which is like a debit card for the user's PT journeys. It was named BoB-ticket which stands for "**B**equem **o**hne **B**argeld" (convenient without cash). The electronic ticket is a post-paid-ticket that allows the customer to easily access public transport without prepaid tickets, prepaid electronic money or cash. The passenger uses public transport now and pays later. The customer registers once at one of the three involved public transport operators in Bremen, Oldenburg, and Bremerhaven. When entering the PT vehicle, the customer electronically books in the destination and (when not travelling alone) the number of passengers for the journey. The information is stored on the registered smartcard and also transferred to a main database to create a monthly bill. The user's bank account is billed at the end of the month. Customers making several journeys a day are charged for the cheaper day ticket rather than several single trip tickets. Integrating regional and peri-urban commuters, the BOB-ticket started in Bremen at *BSAG* and two other public transport operators of the region.

The BOB-ticket was introduced to the public in May 2005. Within one month, more than 5000 citizens were registered as BOB-ticket-holders. At the end of 2005 exactly 12,952 customers are registered as BoB-ticket-holders.

Who are the end-users of this result?

Main target users for the integrated transport pricing system are:

- Citizens who are not frequent PT customers, to provide easy and reliable access to public transport;
- PT operator BSAG and all other regional public transport operators represented by VBN, who can avoid handling change and improve their services for the customer's needs;
- Other transport service providers, such as Carsharing company "Stadtauto", for integrating their services with public transport.

Main innovative features/benefits (technical/commercial success factors)

The combination of the GeldKarte and a post-paid system is unique. In contrast to sophisticated check in - check out systems based on contactless chips, the cost performance ratio of the system is very good. Although the system requires that the card has to be inserted and some information has to be entered on a touch screen (touchMobil, located in vehicle), this system has several advantages: the card is transferable and has the option of calculating the best price per day. As the target group are the non-frequent PT users, only a small share of all PT users have to check in at the "touchMobil". So no hold up will arise when several passengers enter the vehicle at the PT stops.

Market or application sectors & possible applications

A best price option is implemented for one-day: If a day-ticket is cheaper than the journeys registered that day, the day-ticket only is billed to the customer. The system will add to the financially attractive offers of various existing season tickets in the regional PT system.

The bonus system was not implemented because of the results of a product acceptance study showed that the demand for that offer would be too small.

The plan to enable ticket sale via the Internet was abandoned because of security reasons and coordination problems between the involved local and regional PT operators. This is the result of a weak-point analysis carried out by the BSAG in the early stage of preparation.

Potential barriers

- Hardware equipment: Home terminals for loading cards for further e-commerce extensions are not available or are too expensive for common use within the project period. Another solution for e-Ticketing has to be chosen.
- Systems do not function as reliably as expected. A step-by-step implementation strategy avoids heavy losses, disappointed customers and a bad reputation for telematics in public transport customer services and allows adaptations within the implementation process.
- Requirements of data protection and security may adversely affect e-commerce projects. Bremen's data protection officer has been involved at an early stage of developing the system, so that the systems fulfil all requirements.

Heavy pressure of cost saving on public transport spending makes it more difficult for the operators to risk new investments in new technology when the return cannot be easily calculated. Having a step-by-step-strategy in mind, the public transport operators have focussed on those elements of telematics that do not involve high investment but where a reliable level of success in generating new customers or better acceptance can be expected within a reasonable period.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: transport Telematics	188:electronic commerce; electronic Payments	189; electronic data interchange

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report (English)	PU
Implementation Report 1	D5 Implementation report (English)	PU
Templates (annex to evaluation report)	Integrated transport pricing system (English)	PU
Fact Sheet	BOB-ticket: Innovating pricing strategy for non-frequent public transport users (English)	PU
Local project website	http://www.bob-ticket.de/	PU
Fact Sheet	BOB-Ticket – Bequem ohne Bargeld: Innovatives Tarifkonzept für Gelegenheitskunden im ÖPNV (German)	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	34 (VBN, including BSAG)	
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	1,2 Mio. citizens of the region	
# of S&T publications (referenced publications only)	-	
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	6	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

Knowledge transfer on all different aspects of e-ticketing, combined cards, prepaid and post-paid ticketing.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Knowledge transfer on all different aspects of e-ticketing, combined cards, prepaid and post-paid ticketing,
Partners: Working Group on electronic ticketing within the German Association of PT operators (vdv – Verband Deutscher Verkehrsunternehmen) and relevant contacts also within UITP, the International PT association.

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Detlev Teichman**

Date: 27/01/2006 **Organisation: BSAG**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
4	(Hybrid) tram in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Volker Arndt
Position	Director of planning department
Organisation	BSAG
Address	Flughafendamm
Telephone	+49(0)421-5596-153
Fax	+49(0)421-5596-140
E-mail	VolkerArndt@BSAG.de
URL	www.bsag.de
Specific Result URL	

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

This task required the participation and co-operation of several partners with different roles in the planning process for a new border-crossing tram line. The planning and participating process was intensified and is taking longer than expected. The construction phase for the tramlines 1 and 8 is scheduled for 2009. The delay is partly due to the long debate on the appropriate route that the forthcoming tram is to take. The delay may caused to some degree by political obstructionism. The recommendation of the voluntary local planning council "Planungsbeirat" has not been accepted by the social democratic party (SPD), so that the decision on the appropriate route could not have been taken for a long time. Round table (*Planungsbeirat*) and cost benefit analyses (*standardisierte Bewertung*) were important steps to increase the acceptance of residents, experts and politicians.

The experience with the extension of tramline 4 served as a reference for tramline 1 and 8. For tramline 4, no quantifiable targets have been stipulated but it is clear that it should lead to a higher use and acceptance of public transport. The 2nd construction phase of the new tramline 4 was finished in Dec. 2002 and it opened as scheduled. Evaluation shows that the new tramline 4 attracts significantly more passengers (+40 % and higher) than the previous bus services. This means that residents who have never used buses in the before situation now get on the tram.

Who are the end-users of this result?

28,000 residents and public transport passengers will benefit from the tram train concept. There are many different stakeholders involved in the planning process.

Main innovative features/benefits (technical/commercial success factors)

- Renaissance of the tram (set up new tram lines)
- New tram routes that cross the border of the Land Bremen (it is very innovative for this region to include communities of Lower Saxony in tram planning procedures of the City of Bremen.)
- Use of a mixed service of heavy rail and trams - using an existing freight rail track (Bremen-Thedinghauser-Eisenbahn. BTE). The situation of integrating an underused rail track into a tram network is potentially transferable to many European cities as there are many underused rail corridors both with and without freight services.

Market or application sectors & possible applications

In general, the shift from bus to light rail in the suburban region is likely to be an efficient means of improving the public transport system so that it can compete better with private car usage. It also contributes to the development of the area. Despite high investment costs, which are covered mainly by the national state and not by the communities, in the long run a positive effect can be expected, as the operation of PT is getting cheaper. In general terms a tramline extension can be recommended for other cities.

Despite the benefits to the public, such major projects always produce negative effects on some residents. The experiences from the extension of tramline 4 show that the majority of the affected population are in favour of the tram projects. However, the involvement of the locally concerned, the public debate about the tram, and the consideration of informal and formal participation activities are essential. The arguments of opponents have to be taken very seriously and it is the task of the operator and the City to deliver comprehensive information about the process and targets of the project onsite. By no means should these activities and processes be viewed as factors which delay the implementation of the measures. They are likely to be necessary in each European country.

A further lesson refers to the use of old or underused freight rail tracks. There is a strong argument to revitalise those routes by running trams on them, but it is also necessary to plan easy access for passengers by close, convenient and safe access to tram stops for residents for the routes to be successful.

Finally, the tram extension projects could teach Bremen a specific lesson. The extensions of the tramlines across the administrative borders of Bremen are a step towards the construction of a metropolitan area including Bremen and surrounding municipal areas. Bremen is both a city and a state (Land). Barriers between the communities for a common region are much higher than for other German cities, like Hanover or Stuttgart. Public Transport is fundamental for the building of such a region. When Bremen and its surrounding municipalities agree on a common tram network, it is a big step forward.

Potential barriers

The extensions of tramlines into peri-urban areas share some common characteristics, which are important to consider for the understanding of the implementation process. Tramline extensions are major projects, which affect the mobility patterns of many people and which also have various consequences for those concerned. They are very expensive and therefore they rely heavily on financing by the national state. They are controversial and they require political legitimacy and the acceptance of the citizens affected. The concrete alignments of new tramlines are a particular matter of dispute. These characteristics often cause a long lasting planning, participation and implementation phase, which can be seen as a barrier to realisation but also as necessary steps for a well accepted transport measure.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	648: Urban Transport	649: Urban sustainable cities and rational resource management		

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Fact sheet	Demonstrator fact sheet: Planning of tram extension as tram-train: intermodal use of infrastructure in Bremen (English)	PU
Fact Sheet	Strassenbahnverlaengerung auf Bahngleisen: Planung einer multimodalen Nutzung vorhandener Infrastruktur (German)	PU
A comprehensive report on the impacts of the new tram line 4 is available in German language.	This report (62 p.) covers more tables and context information. It can be downloaded from http://www.forstar.uni-bremen.de/Gutachten%20Nr-1.pdf.	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport				

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :		
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		28000 residents (2009)
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	6	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

Knowledge exchange on all aspects of public transport planning, esp. tram planning process;
Modern methods of participation processes in tram planning

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Knowledge exchange on all aspects of public transport planning, esp. tram planning process;
Exchange on modern methods of participation processes in tram planning
Technical experience with mixed operation of tram and heavy rail

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Volker Arndt**

Date: 27/01/2006 **Organisation: BSAG**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
5	PT and Car Sharing in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Kerstin Homrighausen
Position	Managing Director
Organisation	Cambio StadtAuto Bremen GmbH
Address	Humboldstr. 131 – 137
Telephone	+49.421.7927015
Fax	+49.421.74465
E-mail	Kerstin.homrighausen@cambiocar.com
URL	http://www.cambio-carsharing.de/
Specific Result URL	http://www.cambio-carsharing.de/cambio/carsharing/de/1/stdws_info/stationen.html

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description
This measure is about integrating Public Transport and Car-Sharing by developing, launching and promoting a combined offer for those who use both modes of transportation. The combined offer has a financial and a technical aspect: PT-users get an attractive tariff when using the cars of the CS company. In technical terms the access to both mobility providers is enabled by an intermodal smartcard. The integration is further underlined by establishing common mobility centres (e.g. ITIC) in which the combined offer can be bought and information about other services of the mobility providers is available.

The new cards "AutoCard" and "Bremer Karte Plus" have been quite successful. In total, 625 cards have been sold since Aug. 2002. This makes up a proportion of 32.3% of all contracts with customers who joined cambio since then.

Regarding the enlargement of cambio to Oldenburg the objective was to keep most of the 200 existing customers of the previous CSO. Moreover the "AutoCard" should be sold at the new location. Most of the former customers were kept and in total 30 new contracts have been agreed with PT users (with new joint cooperation with the local PT-operator– the relatively small growth is due to the fact that in smaller cities like Oldenburg you have (absolutely and relatively) less PT users and particularly less regular PT users.

Who are the end-users of this result?
PT-users & Car-Sharing customers.

Main innovative features/benefits (technical/commercial success factors)

The most innovative aspect of this measure is the development of a single double mode smartcard combining the PT smartcard electronic ticketing (contact smartcard) with the car sharing electronic car-key (contactless smart-card) - which is in fact a world first. In terms of the common tariff, the user groups of the combined offer are extended to students and irregular PT users. In terms of marketing, the co-operation of PT and car sharing has been advertised more intensively in the region to encourage commuters to change their mobility behaviour.

Market or application sectors & possible applications
Car-Sharing and Public Transport have a lot of synergies, especially in urban areas. Car-Sharing is one of the few measures which address car-ownership in particular and thus has an impact on the demand for parking. Even though the success of further common products and marketing activities seems to be limited, in the long run measures of this kind cannot be underestimated. They underline the idea that a cooperation of different mobility providers can succeed in being a real alternative to private car use. For that reason they should be resumed.

The largest potential for Car-Sharing is in the urban areas, where in general we can find a good provision of Public Transport, and normally also good networks for walking and cycling. The development of Car-Sharing in the periphery and in the region needs special attention to user-needs and the conditions for cost-effective operation of Car-Sharing.

Potential barriers
This measure requires from the beginning the cooperation of two independent mobility providers and the City of Bremen. This is a potential conflict but in the course of VIVALDI the partners realised that they are in a win-win situation.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: transport Telematics

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report		PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Website	www.cambio-car.de	PU
Fact Sheet	"Mobilpunkt": Interchanges between Car-Sharing, Public Transport and Cycling	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	35 (VBN & Cambio)	
of which : number of SMEs :	33	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	At least all season ticket clients (appr. 40'000)	
# of S&T publications (referenced publications only)	No	
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

Local and regional promotion of cooperation in Car-Sharing and Public Transport ;
Sharing of experiences in progressing Co-operation of Public Transport and Car-Sharing in peri-urban regions, larger and smaller cities,
National and international knowledge transfer on Co-operation of Public Transport and Car-Sharing in theory and practise continuing,
Participation in supportive partnerships

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Sharing of experiences in progressing Co-operation of Public Transport and Car-Sharing in peri-urban regions, larger and smaller cities,
request for partnership and supportive consulting concerning co-operation in Public Transport & Car-Sharing
Mutual effort for advertising, using same media channels.

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Kerstin Homrighausen**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
6	Clean fleet vehicles in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Andreas Lieberum
Position	Managing Director
Organisation	ECOLO - Ecology and Communication (Sub contracted to FHB)
Address	Parkallee 14, D 28209 Bremen
Telephone	+49 421 23001113
Fax	+49 421 23001118
E-mail	Andreas.lieberum@ecolo-bremen.de
URL	www.ecolo-bremen.de
Specific Result URL	www.bremer-erdgasfahrzeug.info

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The main objective of this measure is to reduce pollution, especially in urban areas, by supporting and promoting CNG as an alternative fuel for vehicles. The awareness of CNG cars should be raised and the market for CNG cars stimulated through various activities and incentives.
Specific targets have been set against these objectives. 200 to 250 CNG vehicles should be brought on the streets (through private households, companies and fleet-operators). Awareness campaigns were launched for various target groups. A strong network has been established in particular with *car traders*, who are very important opinion makers by transferring their knowledge about CNG cars to prospective buyers. Further focus has been set towards *fleet managers* and *residents* living next to the CNG fuelling stations.

The campaign succeeded in supporting the purchase of 250 CNG cars in Bremen in the VIVALDI project. Until October 2005 the local gas provider received more than 300 applications for the allowance to the purchase of a CNG car. 297 were approved. 231 were from commercial users, and 66 from private users. It was not intended to have a balance towards companies rather than private users, but it is probably due to the fact that businesses receive a much higher allowance (2,500 €). The campaigners justify the unbalanced support by arguing that business cars have a higher mileage, which makes them a better advertising medium and means that they have a greater impact on the improvement of the urban environment. (The buyers of a car are obliged to show a CNG label on both sides of the car).
Unfortunately, not everyone whose application for the incentive was approved has acted on it, as only 70% of the approved applicants bought a CNG car. In total 160 vehicles have been purchased. The rest of the buyers either have to wait for their purchase, as several manufacturers have already long waiting times for delivery of their vehicles, or have eventually decided to buy another car type.

It was also planned to support the purchase of 4 CNG freighters. This scheme failed. The motor industry is offering such vehicles (e.g. DaimlerChrysler/Iveco) but was either not able to deliver them or the prices were too high for running them in the real market.

Who are the end-users of this result?

CNG-vehicles for private households and corporate users: Within VIVALDI, the awareness of CNG as an alternative propulsion technology could be increased (meanwhile more than 25 % of the Bremen population know about the campaign and availability of CNG cars. One focus will be private households, which represent a target group with approximately 18,500 new registered cars per year in Bremen and Bremerhaven.
Clean freighters: Freight operators and courier services especially for smaller companies with light trucks up to 3.5 t.

Main innovative features/benefits (technical/commercial success factors)

CNG is an alternative gas with low emission and public support is necessary to introduce this technology in the transport sector because purchasing costs are still higher than for conventional vehicles by up to 10%. The campaigning addresses different target groups: not only private and commercial potential users, but also car traders, taxi organisations, maintenance garages and driving schools. A support network of various partners was established in order to improve actions for stimulating the CNG market and to launch joint actions.

Market or application sectors & possible applications

On the whole the campaigning measures have proven to be very successful. The aim of winning 250 applicants for financially supported CNG vehicles within VIVALDI was reached before the end of the project. The measures which should stimulate the market were (and still are) necessary in order to meet the demand for information and incentives regarding CNG Cars. This is especially the casfe with target oriented campaign activities and the creation of local networks, which are very useful steps to develop the market (also without European funding).

Potential barriers

The stimulation of the market for CNG vehicles are highly dependent on actors, which can only partially be addressed by a campaign. Future development mainly depends on the actions of the big players as the motor industry and the energy providers as well as on national policy. However, the evaluation shows that the campaign was successful. This was also recognised by the experts who agreed that campaigning is a crucial condition for the growth of the CNG market. Experts believed that further campaigning would double the number of CNG cars in the next five years compared to a situation without campaigning.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report (English)	PU
Implementation Report 1	D5 Implementation report (English)	PU
Upscaling report	Report on future exploitation of measures based on expert questionnaire (English)	PU
Fact sheet	Car Sharing in Bremen: a success story to be extended (English)	PU
Website	www.bremer-erdgasfahrzeug.info (German)	PU

Comprehensive reports on the before, intermediate and after results are available in German language	Albers/Kählert (02/2003): "Ergebnisse der Befragungen der Ziel-Öffentlichkeit, Fahrzeughändler und Flottenbetreiber im Rahmen der Evaluation zur Kampagne „Bremer Offensive – Das Erdgasfahrzeug" Albers/Kählert (10/2003): Ergebnisse der zweiten Befragung der Flottenbetreiber Albers/Kählert (10/2004): Ergebnisse der zweiten Befragung der Fahrzeughändler und der dritten Befragung der Flottenbetreiber. Albers/Koch (08/2005): Ergebnisse zum Kenntnisstand von Erdgasfahrzeugen und von der Kampagne „Bremer Offensive – Das Erdgasfahrzeug" in der Stadt Bremen. Albers/Kählert (10/2005): Ergebnisse der ersten und zweiten Befragung der Nutzer von Erdgasfahrzeugen Schäfer-Breede/Kählert (10/2005): Abschlussbericht des Begleitmonitoring (confidential) These reports cover tables, some context information and the questionnaires. If required mail to Henning Koch henkoch@uni-bremen.de .	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	3 (swb Vertrieb GmbH, Bremer Energie-Konsens GmbH and City of Bremen)	
of which : number of SMEs :	1	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	630'000 (Bremen and Bremerhaven)	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	6	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	■
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

The success of this project convinced the management board of the local Energy provider swb Vertrieb GmbH to further invest in improvement of infrastructure and continue with the incentive programme and campaign until summer 2007. This was also the case for the involved energy agency Bremer Energie-Konsens.

The cooperation between energy provider and energy agency proved to be very fruitful for both sides.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

The close cooperation between campaigning agencies and the stakeholders for clean vehicles (especially car dealers) brought a high level of confidence between the partners. The campaign could show that a joint effort of all partners leads to the benefit of all.
We strongly recommend to include the car-affine group already in the planning phase. The continuation of the campaign is based on this partnership.

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Andreas Lieberum**

Date: 27/01/2006 **Organisation: FHB**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
7	City logistics scheme/freight village in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Lars Lange
Position	Managing Director
Organisation	GVZ-City Logistik Bremen GmbH
Address	Ludwig-Erhard-Str. 6, D-28197 Bremen
Telephone	+49 (0421) 5498705
Fax	+49 (0421) 5498721
E-mail	lange@city-logistik-bremen.com
URL	
Specific Result URL	

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result Description

According to the contract amendment, the following tasks should be performed:

- Testing and implementation of efficient city logistics goods distribution with two low emission trucks (CNG and bio diesel; see also WP 5.2)
- Optimizing routes by using modernized IT-communication equipment;
- Bundling of delivery trips to big shopping malls and testing a new city-centre oriented concept;
- Negotiations with shop keepers for a demonstration on a delivery service from Point-of-Sale to Delivery Points (e.g. garages) or home delivery.

In the initial measure template the implementation of four low emission vehicles (7.5 to – 12 to) for City Logistics delivery was intended.
4 routes were set up for bundling transports inside and outside of Bremen. (Dodenhof, Edeka, Daimler Chrysler, Metro).
It was impossible to purchase a CNG-truck of size 7.5to - 12.0to gross weight due to non-delivery or too high purchasing costs. Nevertheless City logistics bought a bio-diesel truck to assess the economic and ecological impacts and to test the new online telematics systems.
City Logistik does not use the developed telematics system, which optimises different routes, because the company does not need it for their new transport concept.

Who are the end-users of this result?

Freight operators in the Central Business District of the Bremen inner city and shopping centres in the suburban area as well as in the region (Weserpark and Dodenhof in the East of Bremen).

Main innovative features/benefits (technical/commercial success factors)

Since 2000/2001 a strong increase of courier, express and parcel services occurred, as well as more efficient logistics concepts within the German retail sector. As a result, economic groupage-transports into the city centre of Bremen could not be increased, only stabilised. Against this background, groupage-transports into the urban fringe of Bremen were successfully strengthened, building a core element of the economic basis of *CL*-activities in Bremen.

Market or application sectors & possible applications

To provide more efficient and cleaner transport to key target areas such as city centres or regional shopping centres remains a difficult task

Potential barriers

City logistics have to deal with several structural problems and developments. The following list gives an overview of different barriers for a growth of city logistics:

- The CL service usually only includes transport services (value-added- services are often missing)
- Fluctuation/variation of the sending quantity / low level of „classic“ CL-goods (approx. 20% market share)
- Cooperation-structure of City-Logistics (almost no retailers but only forwarders) - high intensity of competition
- Telematics problems: Exchange of data, collecting activity, different interfaces
- Corporate identity problematic
- Missing regulatory political preference of the CL vehicles
- Atomisation of the sending-sizes (more and smaller shipments - the grouping of the goods is difficult) with very small courier services (often offered from free-lancers)
- Intense growth of the courier-, express- and parcel-services („ebay-sation“) -
- Economic problems after ending the model of financial support, for example the high costs of the grouping of the goods endangers the economic success

A city logistics company which is fixed on delivering to the city centre is not viable. Successful companies make most of their profit by serving clients with special needs and by delivering to other “problem areas”. In order to sustain city logistic companies, regulatory policy support is needed. Some kind of prioritisation in terms of delivery times or exclusive access is also required.
Regarding the use of CNG trucks, the situation is even worse. The vehicle manufacturers are obviously not taking the risk to push CNG in road freight transport. As stated in the implementation report: “Promising advertising of CNG trucks from car manufacturers always ended up with disappointing offers. Announcements of the new DING-technology (direct-injection natural gas engines) are only running as field tests with one truck and will not be on the market before 2006. Volvo will produce a new diesel truck, which will fulfil EURO V standards in late 2004 and totally abandoned the CNG-programme. Mercedes will not produce 7.5 to 12.0 to CNG trucks, because the research department is focusing on fuel cell and hydrogen technology.” The plan to buy at least one vehicle at the end of the *VIVALDI* project failed in June 2005, because a promised and advertised truck (IVECO EUROCARGO 12.0 to CNG) has not been delivered due to a sudden management decision.

Please categorise the result using codes from Annex 1

Subject descriptors codes	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Fact Sheet	City-Logisitcs in Bremen	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport				

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	1	
of which : number of SMEs :	1	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	30-40	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	4	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

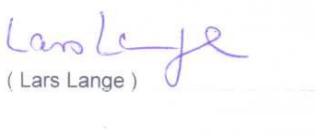
The new concept on bundling transport systems created a new market oriented service for City Logistics. This will continue and give space for new approaches for the city centre.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

With DHL the project won a new partner who joined in with seven CNG Light Duty Vehicles (5 tons) (Iveco Daily) for inner city delivery. This concept lead to a new LIFE proposal to investigate so called green logistic points for EEVs in the inner city area. Bremen became one of the five pilot cities for DHL because of the high appreciation of clean vehicle policy.

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.



Signature: **Name: Lars Lange**

Date: 27/01/2006 **Organisation: GVZ**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
8	Travel information centre in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Michael Wehmer
Position	Contact for Marketing Activities
Organisation	Bremer Strassenbahn AG - BSAG
Address	Flughafendamm 12, 28199 Bremen
Telephone	+49(0)421-5596-633
Fax	+49(0)421-5596-8633
E-mail	MichaelWehmer@bsag.de
URL	www.bsag.de
Specific Result URL	

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Good information on alternatives to private car use is essential for environmentally friendly choices of travel modes. New customers can be won by improved information about public transport services. The intermodal travel information centre combines several intermodal services for old and new customers.

The intermodal information service has been implemented as planned. The Intermodal Travel Information Centre (ITIC) is operated by the local public transport operator BSAG in the city centre. The ITIC opened in November 2002 and replaced a smaller centre that was mainly used for selling tickets. The ITIC combines several BSAG services (sales and distribution, annual subscription, timetable and fare information) in a single place. It also includes information about cambio, the local Car-Sharing organisation. Visitors to the centre can join cambio on site. Cambio cars are available in the garage in the same building. Regarding telematics, the existing intermodal Internet information platform is improved to give better passenger/customer information. This platform is not only available for the customers via the staff but also at a self-service terminal. Another terminal is installed which can be used for electronic ticketing. In comparison to the old customer centre, the holding area has been enlarged (from 58m2 to 214m2) in the ITIC .Additional staff were employed. The ITIC centralizes a lot of functions in the PT operator's workflow: it houses several departments and has a lounge for bus and tram drivers, all improving working conditions for the staff.

The evaluation results indicate that the ITIC had the outcomes as planned:

- there is a change in the target group towards more non-regular PT-users
- the new ITIC is clearly more attractive than the old centre
- small changes towards a higher PT usage are likely but not measurable
- intermodal information, particularly on regional PT, was integrated
- information on car sharing is available but there is room for improvements

Who are the end-users of this result?

The main target users for the Intermodal Travel Information Centre are citizens who are not frequent PT customers, to provide them with easy to access and reliable public transport information.

Main innovative features/benefits (technical/commercial success factors)

Multi-modal information centre and barrier-free access to websites (intermodal journey planner) providing information for all urban and peri-urban PT operators (35 in the region) including DB, car sharing, Taxi, bike etc.
Close cooperation between two mobility providers, namely the *BSAG* and *cambio*, in terms of:

- promoting and selling a common product *Bremer Karte Plus* and *AutoCard*
- using the same building for their services
- agreeing on common marketing campaign for their common offers.

Market or application sectors & possible applications

The ITIC is a very good example bringing all relevant local and regional public transport information to the customer at a central spot. Telematics are used in combination with personal face-to-face contact. At a time when the use of information technology is becoming more and more an anonymous, self dependent task for the user, this combination of personal support and telematics improves the customer relationship significantly. It is strongly recommended to introduce ITICs in other cities; the acquired knowledge of the Bremen ITIC could assist with this.

Potential barriers

The ITIC is a centre operated by the BSAG for their customers, but it also offers the services of other mobility providers *(VBN, cambio, Deutsche Bahn*). It is a first step towards a mobility centre in Bremen. *Intermodality* requires cooperation between the organisations and companies. Despite it being generally agreed that cooperation is needed in order to establish a comprehensive alternative to the car, the implementation of this measure had to overcome problems specifically arising from the different organisational and legal structures of the participating public and private companies.
During the course of the VIVALDI project, cooperation between *cambio* and the *BSAG* improved continuously. There was a change towards a more informal and efficient cooperation of the practitioners in terms of exchanging relevant information and common marketing activities. Moreover, some BSAG staff were re-trained by *cambio* in order to enhance the quality of the *cambio* related services on the ITIC.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: Transport Telematics

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Fact sheet	Demonstrator fact sheet: Intermodal Travel Information centre (English)	PU
Comprehensive report on the ITIC measures is available in German	This report covers tables and context information on the pre- (old ITIC) and after (New ITIC) evaluation. If required mail to Henning Koch henkoch@uni-bremen.de	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	37 (VBN=35 including BSAG + Cambio + StadtAuto)	
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*

[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

Integration of further services, e.g. as special tours and excursion trips with tram vehicles,
Exchange on experiences and progress

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Knowledge exchange on structure, experiences and progress in ITICs

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Michael Wehmer**

Date: 27/01/2006 **Organisation: BSAG**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
9	Walking and cycling measures in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Wilhelm Hamburger
Position	Transport Planning Officer
Organisation	The Senate for Construction, Environment and Transport,
Address	Ansgaritorstr. 2, D-28195 Bremen
Telephone	+49 421 361 10244
Fax	+49 421 361 10875
E-mail	Wilhelm.Hamburger@umwelt.bremen.de
URL	
Specific Result URL	

SUMMARY *(200 words maximum)* ***Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.***

Result description

To maintain and raise the comparatively high modal share of over 20% of trips in Bremen by bicycles, the cycle network requires improvements through closing certain gaps and more unconventional solutions which may include restricting car use. The "Zielplanung Rad" (Targeted Plan for Cycling) has been approved and some significant elements of it are implemented in the suburb of Neustadt within the VIVALDI project:

A contraflow lane (marking and signposting) for cyclists was set up in the 'Lahnstraße' to improve the physical safety of cyclists. A set of traffic lights were installed at a crossing and small construction measures.

Road space was reallocated in the `Hohentorsheerstraße' a through road in the northern part of the Neustadt area. The width of the road lane has been reduced, new cycle paths have been built and a roundabout has been set up in order to improve the physical safety and convenience of cycling.

Road space was reallocated in Langemarckstraße, one of Neustadt's main shopping and main traffic streets. Over the course of the large construction works (from 5/2004 to 12/2005) the road lane has been renewed, new rails and stops have been set up for the tram, vegetation and trees have been planted and new cycle tracks, cycle stands and walking paths have been built. Waiting areas at PT stops and cycle paths have been strictly separated. Pedestrians, cyclists and PT users now have better and safer conditions to travel, particularly in comparison to car users. Potential conflicts between road users have been minimised.

The closing of the gap in the cycle network (Senator-Apelt Str.) has not been evaluated because the measure has only recently been implemented and does not show any impacts yet. As this cycle path is mainly used for long distance leisure purposes, measurable impacts are very likely to occur in summer 2006.

The strongest improvements apparently happened in the Langemarckstraße, where the before situation has been assessed by a third of the respondents as "very unsafe". New cycling regulations in the Lahnstraße also have a clear positive impact, even though they are not of the size as those for the Langemarckstraße. The cyclists considered the new measure in the Hohentorsheerstraße less positive with regards to safety, as nearly 30% don't feel safe when cycling there. This is likely to be due to the new roundabout. Cyclists believe that car drivers frequently either do not realize or accept the priority given to cyclists at this roundabout.

More than 10% of the respondents stated that they would cycle more frequently because of the new cycle paths.

Even though the construction work has not been finished in some parts of the Langemarckstraße, the majority of the residents stated that the look of the street has been (or will be) improved and that quality of life has become (or will be) more attractive due to the measures.

The respondents could also make free statements to open-end questions concerning the pros and cons of the measures. 110 positive and 104 negative statements have been given. The appearance of the street and the new vegetation has been appreciated the most followed by the measures dedicated to cyclists, pedestrians, PT users and car drivers.

Most criticism relates to the side-effects of the construction works. Half of the negative statements are complaints about the construction works and a fifth are by those not satisfied with the new road and the offer of parking spaces.

In general, shopkeepers' acceptance of the measures is in line with that of the residents.

Who are the end-users of this result?

Target users are Neustadt citizens of all ages as well as visitors and people passing through the suburb.

Main innovative features/benefits (technical/commercial success factors)

Bridging gaps in the cycle network through unconventional measures: Contra-flow cycling on one-way streets (also for collective streets); integration into access management (reduction of car spaces) and PT improvements (extended kerbstone at stops).

Market or application sectors & possible applications

The composition of this workpackage changed a lot during VIVALDI. Some of the initially proposed elements had to be delivered at other locations in the VIVALDI corridor. However, these elements were not abandoned, only postponed. In addition, two new elements (*Langemarckstr.*, Sen. *Apeltstr.*) have been integrated. The change is mainly caused by other priorities in the planning department. For example, bringing forward the construction works and the reconstruction of rails caused the delay of the measure elements concerning the Leibnizplatz, the Tiefer and Buntentorsteinweg.

The achievements in restricting car use by introducing 30 km speed zones and one-way road networks are an essential precondition for the growth of cycling and walking in urban areas.

Even small measures such as those at Lahnstraße can cause significant changes for cyclists in Bremen.

Potential barriers

Evaluation has shown that there has been hardly any opposition to the walking and cycling measures by the users. Except for the disturbances caused by the construction works, all measures have been well accepted. The driving force for this measure is the Bremen Senate for building, environment and traffic (SBUV). It is aiming to establish a cycle-network, to improve the safety of cyclists and to integrate the measures for cyclists into other projects by making schemes transparent within the administration and integrating new partners (i.e. chamber of commerce).

Please categorise the result using codes from Annex 1

Subject descriptors codes	648: Urban Transport	649: Urban sustainable cities and rational resource management			

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report	D9 Evaluation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Walking and cycling measures	PU
Fact sheet	Flächenhafte Verkehrsberuhigung in Bremen: Radfahrerfreundliche Quartiere und Beschränkung im	PU
Fact sheet	Access management in Bremen: Cycle-friendly neighbourhoods-avoiding through traffic (English)	PU
Concept Summary Report - Paper version and website	Senator für Bau, Umwelt und Verkehr: Bremen fährt Rad! – Zielplanung Fahrrad Kurzfassung, Bremen 2003 (German) www.bauumwelt.bremen.de/Kap5/bremen_faehrt_rad/index.html and http://verkehrsinfo.bremen.de/sixcms/detail.php?id=1132	PU
Concept Summary Report – website	Senator für Bau, Umwelt und Verkehr: , Bremen 2003 (English) www.bauumwelt.bremen.de/kap5/bremen_faehrt_rad_/index_en.html verkehrsinfo.bremen.de/sixcms/detail.php?id=1132	PU
Website	Verkehrsinfo Bremen – Fahrrad – website (mostly German) http://verkehrsinfo.bremen.de/sixcms/detail.php?id=576	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	1 (City of Bremen)	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	540.000 citizens	540.000 citizens
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	8	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

It is politically approved that all infrastructure elements of cycling concept "Zielplanung Rad" should be completely implemented until 2009.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Frequent local information and communication on cycling measures;
Regular consultation of regional established NGOs (e.g. Cyclist Federation ADFC) in planning and implementing process of the City transport and cycle path planning;
Department of Transport is interested in national and international ongoing knowledge exchange;
Participation in other European projects

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Wilhelm Hamburger**

Date: 27/01/2006 **Organisation: FHB**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
10	Car Sharing/ City Car club development in Bremen (Germany)

CONTACT PERSON FOR THIS RESULT

Name	Kerstin Homrighausen
Position	Managing Director
Organisation	Cambio Stadtauto Bremen GmbH
Address	Humboldstr. 131-137, D-28203 Bremen
Telephone	+49 421792700
Fax	+49 421 74465
E-mail	Kerstin.homrighausen@cambio-car-sharing.de
URL	www.cambio-carsharing.de
Specific Result URL	

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Before CIVITAS there were no Car-Sharing stations in the city centre (old town) and no products/services specific to business clients. There have been trials to establish Car-Sharing in peri-urban areas, but they failed because of lack of demand.

By this measure, new Car-Sharing services and products have been introduced. 9 new locations with 33 vehicles have been set up in the laboratory site. Car-Sharing has also been expanded to more peripheral areas, which previously have not been target areas. The idea was to raise demand for Car-Sharing by installing high quality stations with at least 2 cars. In Vegesack (2002) and in Borgfeld (7/2005), both districts at the very edge of Bremen, this concept was delivered – although it was not profitable.

To open the scheme to new target groups such as business people, cyclists and commuters is another element of this measure. A completely new product for business users has been developed. It consists of the following three core elements: an additional tariff that makes it easier for fleet managers to compare fees to those from conventional car rentals; the offer of business adequate car types and the set up of Car-Sharing stations in the city centre.

In total, there is a growth of more than 42% of Car-Sharing users (actually more than 3,500).

Who are the end-users of this result?

Within the framework of the VIVALDI project, the following target groups are to be addressed:

- companies with vehicle fleets - to partly or completely replace their fleet with Car-Sharing;
- service providers dependent on transport to reach their customers (e.g. nursing services for private households, company representatives), as a substitute when a fleet car is out of order;
- residents of the peripheral area as an alternative to owning a second car;
- working people who commute between the peripheral areas and a central public transport station by car and use public transport to reach the city (share and go for PT).

Main innovative features/benefits (technical/commercial success factors)

Car-Sharing has existed in Bremen for 15 years and still has a growth in membership. However, for further growth and for a more balanced use of vehicles over time it is necessary to gain new target groups. The two main groups that *cambio* addresses in *VIVALDI* are public transport users (see also related measure level results) and business users, by means of custom-tailored advertisement, tariffs and stations. Another strategy for Car-Sharing growth is to extend it into the more car-dependent suburban areas with a stronger focus on families.

Market or application sectors & possible applications

The example of the business tariff shows that Car-Sharing organisations can win new costumers if they target enterprises. By this strategy it is possible to raise the number of clients and gain a more balanced utilisation of the fleet of shared cars. It is recommended to replicate this strategy, although experiences from another project (*moses*) indicate that a new Car-Sharing business should rely not too heavily on business clients. The conventional city dweller is required for the growth of Car-Sharing, particularly in its starting phase.

Potential barriers

Economic restrictions deter people from driving. There has been a huge increase in membership, but in total there is no significant growth in the volume of traffic (driven mileage) by Car-Sharing. This is good for the environment but is not good for the Car-Sharing business.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: transport Telematics

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Fact sheet	Car sharing in Bremen: a success story to be extended Car sharing in Bremen	PU
website	www.cambio-carsharing.de	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2 (Cambio Mobilitätsservice GmbH & CoKG and cambio StadtAuto Bremen GmbH)	
of which : number of SMEs :	2	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	Whole population (630'000) >3500 clients	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.1.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

Sharing of experiences in Car-Sharing,
National and international knowledge transfer on Car-Sharing in theory and practise continuing,
Participation in supportive partnerships

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

Local and regional promotion of Car-Sharing services ongoing;
Creation of new consultancy services for international partners.

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Kerstin Homrighausen**

Date: 27/01/2006 **Organisation: StadtAuto**

2.9.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
11	Promoting clean and efficient vehicles in Bristol (UK)

CONTACT PERSON FOR THIS RESULT

Name	Lauren West
Position	Transport Planner
Organisation	Bristol City Council, Planning, Transport and Sustainable Development
Address	Transport Initiatives Group, Floor 1, Wilder House, Wilder Street, Bristol. BS2 8PH
Telephone	+44 (0)117 9036573
Fax	+44 (0)117 9036540
E-mail	Transport_initiatives@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

73 LPG vehicles have been introduced in the Council fleet. These include 5 G-Wiz electric cars, a hybrid Toyota Prius and 5 LPG accessible minibuses that have been successfully operated in Council and Bristol Dial-a-Ride fleets.
Work through the local service supply network has been completed, achieving its target of generating 50 LPG conversions amongst 4 sectors (3 small local businesses, 11 taxis/private hire vehicles, 9 Council employees and 27 members of the Bristol public). A web portal provides a directory with a range of information about local converters and suppliers and a set of individual case studies has been produced to promote further take up of LPG beyond the project.
58 buses in the First, First Somerset and Avon, and South Gloucestershire Bus and Coach fleets have been retrofitted with exhaust treatment equipment including particulate traps that are capable of removing over 90% of particulate matter, hydrocarbons and carbon monoxide.
A total of 50 solar powered 'wig-wag' school warning signs have been installed across 21 locations in Bristol. Power savings at each site have been calculated for a 3-year post-implementation period and have shown a saving of 42,573.6MJ (11,826 KWh) over the period.
The implementation of the Flywheel Powered Tram was abandoned. This measure aimed to develop an Ultra Light Rail (ULR) route linking the city centre with an office development. The proposed ULR route would provide a service between the Industrial Museum and the CREATE Centre (some 1.8km), with the aim of providing a workable public transport service in addition to a test-bed for new technology. This was proposed as a short-medium term solution with the opportunity for future conversion to more conventional Rapid Transit, and further assessment of the scope for subsequent extension.

Who are the end-users of this result?

Clean and Efficient Buses:
Citizens of Bristol

Clean Fleet Vehicles:
The target users will be the operators and users of the Council's municipal fleet. The vehicle fleet is operated with the primary purposes of providing home to school trips, meeting the special travel requirements of the Social Services Department and procuring pool vehicles for other Departments within the Council.

Fuel Supply Infrastructure and Local Network:
Drivers of LPG vehicles.

Renewable Energy Supply:
Work focuses upon the generation and procurement of renewable electricity to recharge electric vehicles or power transport infrastructure. The electric cars will provide pool vehicles for use by city centre based City Council staff. Renewable powered transport infrastructure will be used by the travelling public, and operated by the City Council or contractors working on the highway.

Main innovative features/benefits (technical/commercial success factors)

Clean & Efficient Buses
The works under this measure aimed to utilise the best available clean fuel technology.
The hybrid vehicle is one of two vehicles in the UK, which will be within the first wave of practical application of hybrid technology into inner city shuttle buses.
The hybrid bus is also the first in the UK to receive the status of Low Carbon Bus from the national government based upon its low level of emissions.
The development and trial of the hybrid bus may also assist in stimulating a sustainable market for clean and efficient vehicles throughout the UK.
The measure also aims to assist the integration of clean buses into the city centre Clear Zone, helping Bristol to reach its air quality targets.

Clean Fleet Vehicles
- Utilising the best available clean fuel vehicle technology.
- Assist in stimulating a sustainable market for clean and efficient vehicles.
- Integration of clean vehicles into the city centre Clear Zone.

Development of Fuel Supply & Local Service Supply Network
To aid the further take up of clean vehicles amongst partner fleets and other targeted groups in the city through the provision of information, facilities, technical support and financial incentives.

Renewable Energy Supply:
- Encourage greater use of renewable energy by green procurement to stimulate additional supply capacity.
- Use of renewable energy sources for clean fuel vehicles.

Market or application sectors & possible applications

Clean & Efficient Buses
It is preferable to procure LPG/Petrol vehicles direct from a manufacturer as a complete package, rather than them being retrofitted.
The Council had to register the Hybrid bus (not normally a task undertaken by the Council), which proved to be a long process to complete. This was complicated by the fact that the vehicle was shown as new but had completed 5,000 miles during testing. As a consequence it had to be registered as a used vehicle.

Clean Fleet Vehicles
Aside from LPG it is clear that the state of market readiness of the clean fuel technology chosen requires further development by manufacturers and suppliers. The implementation of both the battery electric and hybrid vehicles was restricted by the relatively small number of vehicle models available. The development of the hybrid minibus further illustrates that developing a robust technology, which can be implemented to programme, remains a challenge.

Development of Fuel Supply & Local Service Supply Network
The development of the Clean Fuel Network has illustrated that by providing a package of information and support, the take up of clean fuel vehicles can be increased. However, it was also clear that to achieve this requires the allocation of

skilled resource with a customer facing approach in order to translate the relatively high levels of interest in the concept through to LPG conversions on the ground.

Renewable Energy Supply

The key lesson learned from the investigation and implementation of renewable energy powered transport applications is that although the market is growing, many products are not well developed and/or suffer from operational drawbacks over conventionally powered equivalents. The exception is highway signs, where the Bristol experience suggests that solar power operation can not only reduce energy use and operational cost, but can also avoid time consuming and potentially costly installation of a conventional wired power supply.

Flywheel Powered Tram

As a useful outcome of this measure, the Council has negotiated a new procedure with the Strategic Rail Authority whereby the social benefits (e.g. modal shift, reduced parking area requirements, improved public transport access levels and enhanced redevelopment opportunity) of continued or renewed rail use can be used to justify a reduction in the cost of the land transfer to the Council.

Potential barriers

The schemes in this integrated package are heavily reliant upon the availability of suitable vehicles and technology and the level of confidence of users and operators in the deployment process. The measures have been tailored to spread the risk between a number of clean vehicle solutions, and the use of both reasonably established and highly innovative technologies. The success of this package will be judged not only on the level of deployment of the vehicles and supporting facilities, but also the degree to which this has resulted in a stronger market for clean vehicles and positive experiences from users, combined with a willingness to continue and expand these initiatives. It is hoped that the work on the creation of support services (both infrastructure and cooperative arrangements) will strongly assist the deployment of vehicles and increase operator confidence, reducing the associated risks.

Clean & Efficient Buses

There was a delay in delivery of the LPG minibus of 6-7 months, in BDAR's experience caused by the LPG vehicle being retrofitted rather than coming direct from the manufacturer's production line. Dealing with several parties in the supply of the vehicle was thought to have complicated the process as it was felt that when things go wrong, people could try to shift the responsibility onto another party. BDAR were fortunate in that they had a spare back up vehicle which could be used in the short term so that they did not have to delay the operational start date.

The network to support LPG use in Bristol is lacking, particularly in terms of LPG refuelling facilities and garages that will service the vehicles. BDAR had hoped that more LPG outlets would open during the course of the VIVALDI project but this has not occurred at the scale anticipated.

BDAR identified a number of issues regarding LPG refuelling. This includes:

- The variation in systems from vehicle to vehicle and the different types of nozzle at the fuelling stations.
- Overspill from the system when refuelling can go over clothing and hands.
- Refuelling using LPG can take roughly twice the time to refuel with petrol. Further time can be lost if the driver has to get into two queues, one for petrol and then again for LPG.

The delivery of the hybrid was delayed. Eneco gave regular progress updates but were unwilling to release their vehicle until they thought that it would work as expected. This met with the Council's view that it was critical to get a vehicle that worked.

The hybrid bus has yet to complete a satisfactory period of problem-free operation, which has eroded the confidence of the bus operator in the hybrid technology. The operator also feels let down on promises made regarding the responsiveness of the manufacturer to fix problems as they arise.

Clean Fleet Vehicles

Aside from technological issues, other barriers to implementation include perception, risk and cost. LPG has the advantage of being better established in the UK context and also of attracting less fuel duty which can provide a payback in operating terms to offset the additional cost of the conversion.

Development of Fuel Supply & Local Service Supply Network

- Take up amongst SME group fairly low – most likely due to complications with fleet finance arrangements, the grant window not coinciding with businesses' plans to renew/replace vehicles and the large take up of diesel vehicles amongst fleet managers
- Fairly slow start to the scheme with little take up of grants – for most users the cost of conversion is something that needs to be anticipated and carefully considered
-

Renewable Energy Supply

The need for all equipment used on the highway to obtain UK type approval is a potential deterrent to early adopters of new technology, as they inevitably have to carry some of the risk, particularly in terms of timescales as this process is outside the control of both the contractor and the body commissioning the equipment.

Flywheel Powered Tram
Given that this service was planned to operate on disused railway tracks, the scheme was wholly reliant on access to this infrastructure.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	246: Fuels: Alternative fuels in transport

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	- Clean & Efficient Buses - Clean Fleet Vehicles - Development of Fuel Supply & Local Service - Supply Network - Renewable Energy Supply - Flywheel Powered Tram	PU
Fact sheet	Demonstrator fact sheet: Clean fuel vehicles in Bristol	PU
Project Booklet	VIVALDI Project in Bristol	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	11 (Bristol City Council, Energy Savings Trust, First, South Glos Bus and Coach, First Somerset and Avon, The Greenfuel Company, Goingreen, Eminox, Buglers, Eneco, JSPR).	
of which : number of SMEs :	5 (The Greenfuel Company, Eneco, Buglers, JSPR and Goingreen).	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	55 owners or vehicle fleet operators 20,000 bus users	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	10	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.9.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Lauren West**

Date: 27/01/2006	Organisation: BCC

2.10.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
12	The City Centre Clear Zone in Bristol

CONTACT PERSON FOR THIS RESULT

Name	Pete Davis
Position	Team Manager Transport Initiatives
Organisation	Bristol City Council, Planning, Transport and Sustainable Development
Address	Transport Initiatives Group, Floor 1, Wilder House, Wilder Street, Bristol. BS2 8PH
Telephone	+44 117 903 6705
Fax	+44 117 903 6540
E-mail	Pete_davis@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Clean vehicles: this has included 84 new clean vehicles in the Council and Dial-a-Ride fleets, and also the retrofitting of exhaust treatment equipment to 63 diesel buses.

Access control and management systems: this has included 3 new bus priority measures, a bus lane enforcement trial and the investigation of new access management measures.

New orbital bus service: formally launched in June 2005, this provides an improved frequency, accessible, high quality service linking key city centre sites.

Cycle Resource Centre: opened in December 2004 providing secure parking, showers, lockers, cycle repair/maintenance and information.

Freight Consolidation Scheme: commenced operation in May 2004 and has progressively grown in scale to include over 50 retailers with an encouraging reduction in the number of delivery trips.

Travel Plans for city centre leisure sites:
The development of the Travel Plans has been supported by on and off-site measures including new cycle parking and lockers for staff, a cross harbour ferry service which commenced in July 2004 and improved pedestrian signing and route finding.

New TravelBristol Info Centre:
Opened in November 2004 with operator First providing information and ticketing for commercial bus services, and the Council providing a range of other travel and transport information.

Travel Information:
A number of city centre events have been supported by the mobile information vehicle the Info Bus which was launched in December 2003, whilst on-trip information has been provided through I+ information kiosks and real time bus information displays.

Who are the end-users of this result?

Freight Consolidation Scheme:
The City Logistics Scheme serves retailers within the City Centre Clear Zone. The initial pilot scheme has grown progressively from the original handful of early adopters to involve over 40 city centre retail outlets in the Broadmead and Galleries shopping areas.

Access Management and Bus Priority Systems:
The access management and bus priority systems seek to reduce the impact of motor vehicles (particularly through traffic) and to increase the attractiveness of public transport services. The measures therefore impact upon both car drivers and bus passengers travelling to and within the city centre.

Clear Zones Orbital Bus Service
This measure has involved the upgrading of the Baltic Wharf Loop (service 500) which operates around the city centre serving commercial, residential and retail locations poorly linked by public transport. Service improvements have included an increased service frequency and modifications to the route. These changes have been accompanied by improvements including real time information, improved waiting facilities and promotional initiatives.

Travel Plans:
For a number of years the Council has been working with major employers to encourage the development of Travel Plans. However, limited work has been undertaken for sites which generate significant trips by visitors. The aim through VIVALDI was to bring together the major leisure and tourism destinations on Bristol's Harbourside (an area to the western edge of the Clear Zone) to improve access and travel choices for visitors, and to help reduce traffic congestion in the city, through the development and implementation of a joint visitor travel plan.

TravelBristol Info Centre:
The 'TravelBristol Info Centre' is a high profile city centre location providing a range of transport services. Given the breadth of services the implementation and operation of this measure involved a range of stakeholders, and has impacted upon the way in which the Council, bus operator First and other organisations provide transport information.

Main innovative features/benefits (technical/commercial success factors)

Freight Consolidation Scheme:
Development of a cooperative city logistics scheme to increase the efficiency of the goods distribution network, reduce traffic impacts and provide an improved delivery service to retailers. The scheme is the first of its type in the UK serving an urban centre. This measure has been supported by guidance and signing targeted specifically at goods vehicles to increase operational efficiency and keep heavy vehicles on appropriate routes.

Travel Plans:
The project involved bringing together a number of the leisure sites on Bristol's Harbourside to work together to achieve common goals of improving levels of sustainable transport to both the sites themselves and the area as a whole, where previously sites were working on an individual basis and at a lower intensity. The process was supported by free consultancy advice for the core group of sites secured through the UK Government's Transport Energy Best Practice Programme.

TravelBristol Info Centre:
Provision of high profile city centre one-stop-shop providing a broad range of travel and transport information and services. The scheme was developed through a partnership approach with local bus operator First, Bristol's tourism organisation 'Visit Bristol' and the Bristol Legible City initiative. The electronic information provided through interactive

terminals and display screens in the Centre (complementing the staff presence and paper-based materials) was supported by work to integrate Intelligent Transport Systems using the common database approach (eg open formats, data sharing, central communication hub). This enabled the dissemination of consistent and accurate information through a variety of output media (eg internet, Info Centre, Info Bus, display screens, kiosks).

Access Management Systems:
Introduction of technology-based bus priority measures to improve the journey times and reliability of public transport. Three city centre bus pre-signals were introduced to prioritise public transport over other vehicles. This is one of a package of measures to support the city centre Clear Zone and Air Quality Management Area.

Clear Zone Orbital Bus:
This measure aims to assist the integration of clean buses into the city centre Clear Zone, helping Bristol to reach its air quality targets. The hybrid vehicle is one of two vehicles in the UK, providing the first wave of practical application of hybrid technology to inner city shuttle buses.

Development of a Clear Zones Strategy for the City Centre:
Introduction of a package of complementary measures aimed at environmental improvement. Integrating these Clear Zone measures with the emerging Air Quality Action Plan.

Market or application sectors & possible applications

Freight Consolidation Scheme:
In terms of its positive transport impact this measure could clearly benefit many European cities. The issue to address is the apportionment of operating costs across the beneficiaries, including the city authority, retailer, logistics providers and landlords. This is particularly true in the initial phase of a scheme where the emphasis is on recruiting a critical mass of retailers, and where existing logistics arrangements are in place, reducing opportunities for retailers to negotiate cost savings with hauliers. In this regard the use of VIVALDI funding support was vital in allowing the scheme to be piloted at no cost to the retailers giving them the chance to assess the benefits it could provide and for new logistics arrangements, which could provide them with a return, to develop.

Key aspects of a successful implementation include:
- Engagement of stakeholders at an early stage, and their continual inclusion in development and operation;
- Work to ensure that the scheme supports the requirements of retailers, unless this reduces consolidation benefits, and provides a reliable and if possible improved level of service;
- Seek to develop support tools to the consolidation scheme such as preferential access or loading arrangements.

Freight Loading / Signing Strategies:
The VMS project has showed that it is worth exploring existing infrastructure and equipment before purchasing new. The communications network that has been improved as part of this project has provided scope for future initiatives at little cost. The project has also shown an initial positive effect of providing the public with information. The Council's traffic control centre has received fewer complaints as a result of the signs being introduced.

Travel Plans
There was a problem with participation of some of the sites after the initial work was completed. Although this stemmed from time constraints for the representatives of the attractions and the need to prioritise their core business, perhaps better participation may have been achieved by asking sites to sign a memorandum of understanding or similar at project inception.

TravelBristol Info Centre:
Partnership working offers both advantages and disadvantages in developing a travel information centre, and these should be considered in detail prior to starting the project. In particular, the need to discuss the expectations and standards of all parties involved to ensure the final facility meets the needs of all stakeholders.
No amount of traditional or electronic information, using a variety of presentation media, can alone form an adequate substitute for the service offered by a member of staff.

A high profile location, and a reason for visitors to enter the premise, is essential to attract customers and form an audience for the information provided and awareness campaigns/initiatives being promoted. It is important to set clear roles and responsibilities when several project partners are involved. It is also important to establish good lines of communication and establish a strong partnership at the outset.

The project manager can get pulled into having to make a number of design and technical decisions across a range of fields within which they have varying experience. Having a project manager who is less involved on the ground, e.g. the specifics of the design, would have made the implementation easier to manage.

Access Management Systems:
Bus Lane Enforcement
- Site locations need to be carefully investigated and evaluated before installation.
- Equipment technology must fulfil the requirements of the trial/system.
- Data collection should be carried out remotely (eg via an ISDN line) especially if there are numerous sites.
- The 'non violator' list must be up to date and ideally be regularly remotely updated at each site when new vehicles are added.
- Decryption of data should be less time consuming.
- Specifications of on site equipment must be sufficient to avoid system failure.

Clear Zone Orbital:
The purchase of the three buses was an unusual step for the council. Through the project the Council has established the legal status for the purchase of the three buses and their lease back to the service operator. In this case the Council found justification because the scheme, with its clean fuel dimension, matched several plan objectives and had pilot project status. Other UK Councils have also followed a similar approach to reduce the revenue costs of contracted bus services. However, Bristol City Council's legal position is that this is not something that they can do on a regular basis or undertake on a larger scale. It is therefore unlikely that the Council will purchase more buses under similar arrangements with operators unless there are changes to the law.

The Council had to register the vehicle, which proved to be a long process to complete. This was complicated by the fact that the vehicle had shown as new but completed 5,000 miles in testing. As a consequence it had to be registered as a used vehicle.

The adoption of the Clear Zones Strategy assisted the implementation of the measures by providing the policy framework. The designation of the Air Quality Management Area also highlighted the need to take action to reduce traffic related air pollution in the city centre and endorsed the approach of integrated packages of measures as subsequently adopted in the Air Quality Action Plan.

Potential barriers

Freight Consolidation Scheme:
The Broadmead target area for the consolidation scheme sits within Bristol's Air Quality Management Area and Clear Zone strategy area and this policy framework reinforced the benefits of such an initiative. The Broadmead shopping area is also set to expand, with an increase of 40% in retail floorspace over the next 4 years. This has heightened the issue of effectively managing deliveries, both in terms of this larger shopping centre and during the disruption of the construction phase.

The development of this scheme was greatly assisted by the support of key local and national stakeholders together with strong local political support. Another positive driver post implementation was the positive way that the consolidation centre was received by the media and the retailers themselves, which assisted its growth. The scheme seeks to provide a solution which, as far as possible, suits the retailer including an often improved level of service eg delivery to stockroom rather than back door.

The key barrier to the development of the scheme was the absence of a UK model to apply which resulted in a lack of understanding, and perhaps scepticism, amongst stakeholders and retailers. The learning of the implementation team was assisted by drawing on experiences from other European cities where such schemes have previously been successfully implemented. The lack of availability of clean fuel vehicles (owing to vehicle type and the duration of the originally contracted operation) has prevented their use on the consolidation scheme to date. However, this remains an aspiration and this issue will be revisited.

Freight Loading / Signing Strategies

Although the installation of the signs was basic in civil engineering terms, the project had the challenge of enabling the equipment to successfully communicate. The project had to ensure that the signal levels were correct and that the cables were properly connected and the successful end result was achieved to some degree through a trial and error process.

Travel Plans

A major barrier to the progression of the project was the varying level of commitment to the regular meeting process. Once the initial travel plan and audit work had been completed, many of the meetings were often not well attended by the sites involved and it was often difficult to ensure that the communication flow was kept going. Greater participation by the sites may have allowed some sites to gain more from the travel plan process.

Additionally, some of the sites felt that the quality of the free Travel Plan work secured through the UK Government's Transport Energy Best Practice Programme was mediocre. Coming at an early stage in the process, this may have had a demotivating effect and contributed in part to lower levels of participation than were originally hoped for.

TravelBristol Info Centre:

The equal partnership with First resulted in two procedures to follow for design, specification, approval etc., which introduced delays and complications, particularly with the difference between the motivations of the partners. First and Bristol City Council's difference in motivation for the development of the info centre resulted in challenges regarding expectations and standards of design. This caused some delay as details were negotiated and approved during the design process.

This scheme required the creation of a multi-disciplinary team within the City Council, involving Groups not usually involved or consulted in transport projects, for example, Property Services. Differing priorities of these Groups, and varying work practices, caused some time delays and confusion in securing agreement for different aspects of the project. For example, agreeing the license to occupy the premise with First without being named leaseholders on the legal documentation. Some aspects of the project did not conform to standard corporate approaches, and thus incurred delay, particularly in the fields of IT, communications and property.

The refit contract was let by First and not on a joint basis with the Council. This detracted from the Council's ability to ensure that standards of work were met and that all items were listed in the specification.

Members of the public have been using the centre to surf the Internet and check emails, which was not intended. As a result Internet access has had to be further restricted to relevant transport sites.

Access Management Systems:
The Bus Lane Enforcement trial encountered many barriers and obstacles during the initial installation phase and also during the data collection phase:
- Locating cameras was problematic due to the size of the poles needed and also due to the lack of space available in the pavement owing to services.
- Data collection is carried out 24 hours a day. Bath Road is only a peak period bus lane and therefore created large amounts of erroneous data which was time consuming to manually remove.
- Transfer of data on site is time consuming and could be resolved if files were transported automatically using ISDN lines.
- The non-violator list was not complete and contained large gaps in information. Many vehicles were recorded which should not have been. This could be resolved by improving the updating of the lists from the relevant bodies.
- Due to strict formatting requirements of the non-violator list all vehicles were recorded initially.
- Decrypting files to .txt and image files is time consuming (around 5-10 minutes for each day). This had to be carried out for each day and for each site (a total of 306 days across both sites).
- There were major issues relating to data capture at the Bath Road site. On many occasions towards the end of the trial the equipment failed to work and capture any records. These issues were attributed to insufficient processing power of the on site computer, which was being reused and was originally designed for another purpose.

Clear Zone Orbital Bus:

Delivery of the measure was delayed and took 12 months longer than envisaged at the outset. This was in part owing to delays in the delivery of the hybrid bus as the Council wanted to avoid starting the new contract until the hybrid bus was fully operational. Eneco gave regular progress updates but were unwilling to release their vehicle until they thought it would work as expected. This met with the Council's view that it was critical to get a vehicle that was operationally robust.

The bus has yet to complete a satisfactory period of problem-free operation although the provision of a spare diesel vehicle has minimised the impact on the ability of the operator to run the service. The hybrid bus failures have to some degree eroded the confidence of the bus operator in the hybrid technology and the supplier.

Please categorise the result using codes from Annex 1

Subject descriptors codes	649: Urban sustainable cities and rational resource management	630: Transport Information systems, Fleet Management	648: Urban Transport	244: Freight Transport

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	- City Logistics Scheme/Clean Goods - Freight Loading / Signing Strategies - Travel Plans - City Centre Info Shop - Development of City Centre Clear Zone - Access Management Systems - Clear Zone Orbital	PU
Fact sheet	- Harbourside Travel Plans, Freight Consolidation Scheme, TravelBristol Info Bus, TravelBristol Info Centre, Cycle Resource Centre, Clean Vehicles	PU
Information document	Commercial Vehicle Drivers' Atlas, Bristol and neighbouring Authorities freight quality Partnerships	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	14 (Bristol City Council, Sustrans, Buglers, Mud Dock Café, Varitext, Siemens, Harbourside attractions, IBI Group, First, Exel)	20
of which : number of SMEs :	3 (Sustrans, Buglers, Mud Dock Café)	5
of which : number of entities in third countries (outside EU) :	0	0
Targeted user audience: # of reachable people	?	?
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	11	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.10.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Pete Davis**

Date: 27/01/2006 **Organisation: BCC**

2.11.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
13	Access and safety in an inner city area in Bristol (UK)

CONTACT PERSON FOR THIS RESULT

Name	Jonathon Sawyer
Position	Traffic Management - Senior Engineer
Organisation	Bristol City Council
Address	Traffic Management, Floor 1, Wilder House, Wilder St, Bristol. BS2 8PH
Telephone	0117 9036541
Fax	0117 9036540
E-mail	jonathon_sawyer@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The seven streets comprising the **Dings Home Zone,** namely Oxford Street, Barton Road, Union Road, Dings Walk, Birkin Street, Tyler Street and Barton Vale, were comprehensively redesigned using best international practice. Residents have been involved throughout the whole process, working with project partners to inform all decisions made. The Home Zone has changed the balance of use of the street from being vehicle dominated to a more equitable social space, completely open to pedestrians and other non-motorised users.

Two **Community Travel Workers** (CTWs) from SUSTRANS have been recruited and worked in the Dings Home Zone area of Bristol, and on travel awareness and marketing campaigns in other targeted areas.

Walking and Cycling infrastructure is improved in targeted areas and corridors. Linking of provision to other project measures e.g. integration of corridors to Home Zones and Clear Zones. Six schemes have been successfully implemented including the extended Bristol-Bath railway path, integrating the path within the Dings Home Zone, and Crox Bottom linking with the Showcase bus corridor.

Who are the end-users of this result?
The residents of the Dings Home Zone are the main end-users benefiting from the new Home Zone environment.
All local residents near the new cycle/walking routes will also benefit, as well as other city residents who can use them for utility or leisure purposes.

Main innovative features/benefits (technical/commercial success factors)

Use of innovative approaches to design and implement the Home Zone include:-

Sustainable Urban Drainage System (SUDS):
Sustainable Urban Drainage System (SUDS), a permeable paving system, has been used to construct the Home Zone in 3 of the inner core streets. This type of paving allows rainwater falling on the highway surface to follow its natural course and drain into the sub grade and not into a piped sewer system. This reduces the volume of water that enters the full sewer system and ultimately requires treatment before discharge. The Dings scheme is one of the first and also the largest areas of permeable paving SUDS in the adopted highway in the United Kingdom and is the first area that the Highway Authority has been prepared to adopt and maintain in Bristol.
Members of the project team from both Sustrans and BCC have assisted the paving manufacturer (Formpave) to develop literature promoting the experience of installing and the benefits of SUDS using the Dings as a case study. This should assist in encouraging developments both within Bristol and nationally to consider this system or a similar system using paving supplied by other manufacturers.

Dings Home Zone Artwork:
Through the leadership of SUSTRANS and the Home Zone Team, the project has seen the development of community artwork that has been approved for installation in the adopted highway. The Dings scheme incorporates public artwork both 'text' and 'structural' based. The 'text' based artwork by the appointed artist Teucer Wilson is in the form of plaques and medallions, which reflect the thoughts and history of the Dings community. The 'structural' based artwork has been designed by appointed artist Walter Jack, which with their considerable stature will enhance the streetscape, identity and community ownership of the Home Zone.

In progressing the development of both the artwork and the SUDS system (referred to above) the partners involved learnt the value of having individuals to 'Champion' specific issues leading them through negotiations with other stakeholders to enable final acceptance and approval to proceed.

Residents Parking Scheme Consultation:
The proposal for a permit controlled parking regime that does not rely on enforcement by visible lines showing where vehicles cannot be parked is a new concept for the UK. Much work has been carried out by the Council's Parking Services team in seeking approval from the Department of Transport to proceed with a system that uses distinct parking bays and signage to tell drivers where they can park. Public Consultation towards a possible Residents Parking scheme commenced in November 2005. Residents were provided with a Residents Parking consultation pack, including a letter, consultation leaflet (including a Frequently Asked Questions section) and a 'Your Say' questionnaire for residents to return in order for BCC to determine the level of support towards a Residents Parking Scheme at The Dings Home Zone. Two 'Walk-In' surgeries were also held at the local Seymours Family Club where residents could raise queries with BCC and SUSTRANS officers.

Annual Environmental Award for Dings Walk Home Zone: In September 2005 the Dings Home Zone won a Bristol Civic Society Annual Environmental Award for the Dings Walk element of the scheme (completed in 2004). This Dings project was one of the 8 winners (out of 23 nominees) and was also the only highway related scheme to receive an award. An Award Ceremony took place at Bristol Cathedral in November 2005 where the Chair of the Dings Residents Association collected the Civic Society plaque and certificate. The plaque is to be erected at a suitable location at the Dings once consultation has taken place with residents.

Lighting and Crime Prevention: The completed phases of the Home Zone works have seen the installation of new Street Lighting Equipment. The Avon and Somerset Police Architectural Liaison officer and the BCC Public Lighting Team have contributed significantly towards the design of this new streetscape. This has resulted in residents participating in the choice of new lighting columns and lanterns fitted with lamps producing white light, providing clearer colour recognition to assist crime detection.
The new Home Zone layout includes a row of trees in the centre of what previously had been carriageway. Police concerns that the trees could create areas affecting the light coverage were solved by installing low power lighting using 24-watt LED up-lighters in the highway surface.

Community Travel Workers (CTW):
The aims of SUSTRANS CTWs working in the Dings Home Zone were:

1. Generating bottom-up approaches to project measures;
2. Responding to residents concerns about issues such as the effects of commuter parking to develop innovative positive parking schemes to compliment a residents parking scheme;
3. Promoting the package of complementary demonstration activities within the targeted areas.
4. Providing a continuous 2-way conduit between residents and the other stakeholders, especially during the detailed design phase.

The Walking and Cycling measures:

1. Incorporate walking and cycling measures as complementary initiatives within targeted demonstration areas.
2. Introduce measures to give priority to cycling and pedestrian movements.

Market or application sectors & Possible applications

The Home Zone concept has been implemented in other parts of Europe, but several aspects of The Dings Home Zone make it a good model for future work in other cities:-

Community Involvement: The community involvement process has helped to demonstrate the positive impact residents can have on local transport projects and has increased the enthusiasm they have for helping to improve their local environment. Allowing residents to lead involvement on a number of art installations in the forms of plaques recording memories of the Dings and gateway sculptures has helped to strengthen the local identity of the Dings.
Working with Royal Mail the Dings Home Zone project has also seen the installation of anew letterbox at an area known as 'the hub' (a central location at the junction of Birkin Street and Barton Vale). This facility will not only be of benefit for the existing community but will also hopefully bring the residents from the new housing development into contact with the existing Dings neighbourhood. There was no letter box in the centre of The Dings previously.

Sustainable Urban Drainage System: The Environmental Performance Team at Bristol City Council propose to promote the use of the permeable paving - Sustainable Urban Drainage System (SUDS) in new developments by using The Dings Home Zone as a case study. Developments submitted for planning approval are being encouraged to install SUDS where seen as an appropriate solution for drainage of the urban environment. Project team members have also met fellow professionals working on other developments in other parts of the country to share the experience learnt on the Dings and enable SUDS to be considered on those projects.

Safety and the 'shared-surface' environment: The project has also shown that streets can be designed with non-conventional street features without compromising safety. The new layouts create a unique local environment that not only keep cars moving slowly, but give equal priority to motor vehicles, cyclists and pedestrians, and include many of the ideas from residents reflecting their environment in the process. This unique character is created via the use of a 'shared-surface' environment – where vehicles, pedestrians and cyclists all travel at one level and the separation between the old carriageway and footway is removed. The ethos behind this is that the driver is made to feel like a 'guest' in this new shared surface environment and so would drive with more care than in an area with traditional carriageway and footway.
The use of the SUDS paving system made this possible without the use of surface drainage channels that could be barriers to disabled, elderly or young users.

Community Travel Workers (CTW): On the whole, the SUSTRANS CTWs were received very well by local residents and other project partners and helped to facilitate communication as well as acting as a central point of contact for information on all aspects of the project. By encouraging resident's participation at all levels and on all advisory groups, the CTWs helped to ensure that their input had a direct impact on all decisions that were made. The involvement of a trusted independent third party (Community Travel Workers) enabled strong lines of communication to form between residents and all partners involved in the project. Strong clear communications also helped overcome and avoid misinformation and resolve quickly any conflicts if and when they occurred. The development of a respected working relationship between residents, SUSTRANS, Bristol City Council and other partners on the project led to a clearer more holistic approach to the development of the Home Zone. Utilising expertise from all partners has led to more sustainable travel options to be promoted and incorporated throughout the design and implementation process. This measure provides a good model for how difficult decisions relating to local transport issues can be resolved through a meaningful consultation process.

Walking and cycling: All the improvements in the walking and cycling scheme were soundly based on strategic policy. With the regular challenges of consultation whether with residents, community groups or internally, it was vital that the schemes were founded on this. This also allowed match funded schemes to be matched with capital from the Local Transport Plan.
Qualitative analysis as done for the Bristol-Bath Railway Path extension (opinions) is better than quantitative analysis as the latter can be easily influenced by external factors such as the weather.

Potential barriers

The Dings Home Zone:

1. Complex legal matters relating to Traffic Regulation Orders both the temporary orders required to enable the road closures that facilitated construction of the works and the permanent orders to regulate the use of the adopted highway that is the completed scheme.
2. Liaison with all utility providers in the area regarding schedules of major maintenance work
3. Location of both existing over ground and underground public utility plant. This has restricted possible layouts of the streetscape and required diversion works have significantly affected delivery programme and available

budget. Each utility has their own restrictions on alterations to the streetscape that might prejudice access and the cost of working on their plant should maintenance be required.

4. Resolving future maintenance issues with local authority departments especially those traditionally looking after the adopted highway.
5. Technical issues related to the use and adoption of new types of material in the public highway.
6. Parking provision is a key issue in the development of Home Zones. Lack of resource or community consensus required to develop the proposed controlled parking zone (or resident's parking scheme), which could endanger the effectiveness of the innovative positive parking design of the Home Zone. A parking scheme without using permit control would manage the scheme but on going conflict over parking may result in a negative impact on the quality of the life that the Home Zone sought to improve.
7. Need to source additional capital funding to enable more of the masterplan to be completed.
8. Minimising disruption, parking displacement and maintaining vehicular access to core residential streets during the construction phases. Also during the construction phases being unable to control and legally enforce available parking in favour of local residents.
9. The impact of new property developments that were initialised, designed and constructed during or after the masterplan had been developed. This affected both the final layout and construction programme that could be undertaken.
10. The long gestation period from concept to design and the design to full construction was affected by natural turn over of residents. As the Temple Quarter was under complete redevelopment some of the new arrivals or more entrepreneurial residents may have aspirations or requirements that impacted on the masterplan and thus the wishes of existing stakeholders. For example residents exercising their right of access to create off street parking with new access points off of the public highway. Alterations to electrical supplies were affected by change of ownership of houses that had communal cable systems running across the frontage i.e. new residents did not want the existing cable network to be maintained serving houses in their block. This caused frustration for residents who had been involved in the process from the outset.

Community Travel Workers (CTW): The project of the CTWs was fortunate to have a very low staff turn-over rate in one of the two posts, which allowed the residents to get to know and trust one individual, helping to foster further support and participation in the process. There were several staff changes in the other post over the course of the project – without the consistency in the other post, this could have negatively affected results as residents would not have had a single, trusted point of contact.

Walking and cycling: Within the walking & cycling project, land procurement took longer than envisaged, particularly with the Dings Railway Path (Bristol-Bath Railway Path Extension) and the transfer of Kingsland Road Bridge from the Rail Property Board to the Council. This process took almost 3 years.

Please categorise the result using codes from Annex 1

Subject descriptors codes	122 : Community Development, Community Studies	347: Land Use Planning/ Landscape/ Landscape Architecture	648: Urban Transport	649: Urban sustainable cities and rational resource management	650: Urban Technologies for the Built Environment

CURRENT STAGE OF DEVELOPMENT

Please tick one category only

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluaton Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	-Community Travel Workers -Walking & Cycling -Home Zones	PU
Fact Sheet	-Demonstrator Fact Sheet : Residential Traffic -Management (Home Zone) -Demonstrator Fact Sheet : Community Travel Workers	PU
Information Sheet Website Journal/Magazine	-Dings Home Zone information sheet (Sustrans Publication). -Sustrans website (www.sustrans.org.uk) - "Mixing it: a new approach to highway design" (Dings case study, published in Proceedings of the Institution of Civil Engineers, September 2005).	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	32 (Bristol City Council, University	50
of which : number of SMEs :	14 (RP Bartlett, Walter Jack, Teucer Wilson, Local Businesses, Sustrans)	20
of which : number of entities in third countries (outside EU) :	0	0
Targeted user audience: # of reachable people	206 (Residents of Home Zone streets) 10,000 (Users of Walking & Cycling routes)	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	11	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.11.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Jonathon Sawyer**

Date: 27/01/2006	Organisation: BCC

2.12.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
14	Social inclusion in an edge of city community in Bristol (UK)

CONTACT PERSON FOR THIS RESULT

Name	Helen Minnery
Position	Transport Planner
Organisation	Bristol City Council, Planning, Transport and Sustainable Development
Address	Transport Initiatives Group, Floor 1, Wilder House, Wilder Street, Bristol BS2 8PH
Telephone	+44 (0)117 9036131
Fax	+44 (0)117 9036540
E-mail	Transport_initiatives@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result, which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The results for the Community Delivery Points and Home Shopping Trials have shown that there has been a reduction in car trips as a result of the two schemes, but it has not been possible to state any quantified effect towards the Integrated Package targets. However, it should be stated that both schemes, and in particular the Home Shopping Trial, have provided social benefits to the end users.

Travel Awareness/Marketing:

TravelSmart 1 – Bishopsworth and Hartcliffe

The Individualised Travel Marketing campaign was conducted in two phases: Bishopsworth in Autumn 2002 (Phase 1) and Hartcliffe in Autumn 2003 (Phase 2). This coincided with the upgrade of the local bus corridor through the measure 'new public transport contracts'. The Individualised Travel Marketing campaigns resulted in substantial increases in walking, cycling and use of public transport, leading to relative reductions in car trips of 9% in Bishopsworth and 12% in Hartcliffe. This contributes towards the VT8 target and positively impacts on the VT23, 18 and 19 targets.

TravelSmart 2 – Bishopston

The second TravelSmart programme conducted in Bishopston during 2003-04 was successful in achieving significant changes in travel behaviour amongst the target population of nearly 2,000 households. The Individualised Travel Marketing campaign resulted in substantial increases in walking, cycling and use of public transport, leading to relative reductions in car trips of 11%, and in car distances travelled of 13% (a net saving of 1.7 million car kilometres per year

among the target population). This significantly contributes to the VT8 target. Walking was increased by 5% and cycling by 42%, contributing towards VT19 and VT18 respectively. Public transport use was increased by 15%, contributing towards the VT23 target.

TravelSmart 3 – Southville, Bedminster and Windmill Hill
The third TravelSmart programme conducted in the Southville, Bedminster and Windmill Hill areas of Bristol during May 2005 was successful in achieving a shift towards more sustainable travel modes among a target population of 2,275 households. The campaign resulted in relative increases in walking trips of 7%, cycling trips (22%) and public transport trips (18%), contributing towards the VT19, VT18 and VT23 targets respectively. The campaign involved making contact with 2,275 households with publicly available telephone numbers in the target area. A total of 90% of households responded, and 70% of this population were interested in the offer of local travel information and advice through the TravelSmart campaign. In total, personalised information packs were delivered to a total of 963 households in the target area, and more than 11,500 items of information and incentives were distributed during the campaign, an average of 9 per participating household.

Information Kiosk / Advice Screens
10 IPlus kiosks were installed in Bristol through the VIVALDI project, with new transport information content introduced on these 10 and the existing 18 kiosks. The evaluation has shown that on average the Bristol Travel Channel (BTC) is used 6 times a day on IPlus kiosks and has shown that the public will use on-street kiosks for information. This suggests that there may be a sustained set of users of the kiosks and regular users of the BTC.

Centres for E-working, commerce and learning
The Widening Access scheme has 40 members in total. The results of a user survey showed high levels of satisfaction with the service and that 25% of users wanted to use their PCs to complete on-line training and 13% wanted to be able to work from home. In total, 39% of the sample stated that the use of a PC at home has reduced their need to travel.

Who are the end-users of this result?

Community Delivery Points
The recent growth in new forms of retailing, moving away from the "customer visits store and takes away goods" approach, have provided the potential to make better and more efficient use of transport resources. This is particularly true of on-line shopping where there is scope to reduce vehicle travel and its impact. However, this can only be achieved if systems operate efficiently and use appropriate vehicles

Travel Awareness/Marketing
The key focus of this measure is the TravelSmart project, which uses Individualised Travel Marketing to generate greater interest in walking and cycling and help promote the use of public transport as an alternative to the car. The scheme works by contacting people in their households and aims to quickly identify those who are likely to change their travel behaviour and then provide information and follow-up action to enable changes in travel patterns to occur.

Information Kiosk / Advice Screens
As part of a previous project called Bristol Legible City, 20 I+ Information Kiosks have been installed over the last two years, predominantly in the city centre. The kiosks enable users to access information, for example, employment, council information, free email and are well used (averaging some 1,600 users per month). To continue improvements to information provision, 10 additional on-street information kiosks are being introduced as part of VIVALDI. Sites have been chosen within designated VIVALDI areas/corridors, both to help serve a wider section of the population (targeting areas of social need) and to focus on public transport interchange sites.

Centres for E-working, commerce and learning:
A wireless hotspot was implemented in south Bristol to enable residents to access learning, shopping travel information and other services over the Internet. This was supported by the refurbishment and distribution of old personal computers.

Main innovative features/benefits (technical/commercial success factors)

Community Delivery Points
The introduction of the locker banks enabled the delivery of goods to be made to a location where the recipient did not have to be in attendance and could pick up the package at a convenient time.

Home Shopping Trial
The Home Shopping trial was conducted using the "Companion", a new type of technology that was developed with the aim of enabling elderly and disabled people to live independently in their homes.

Travel Awareness/Marketing:

- A powerful and innovative marketing and awareness campaign to promote project measures and encourage positive behaviour.
- Customised information about alternatives to car travel was provided.

Information Kiosk / Advice Screens

The aim was to introduce new kiosks in the VIVALDI targeted areas and demonstration corridors – these are along strategic transport corridors and within areas of social deprivation. Previous installation of the kiosks in Bristol through the Legible City project had focused on commercially driven mostly central locations, with good transport access and high footfall. The addition of new transport channels increased access to information for people in areas of deprivation and aid journey planning and access to employment and services.

Centres for E-working, commerce and learning:

Enhanced access to services - working, commerce and learning – through provision of new electronic systems and equipment aimed at reducing the need to travel.

The project provides an integrated package of measures in a targeted demonstration area to maximise the benefits.

Market or application sectors & possible applications

Community Delivery Points:

The trial was thought to be extremely successful and has been adopted as a standard way of working by Parcelforce Worldwide.

Home Shopping Trial:

- The scheme has been a good way of promoting independence. These are vulnerable members of the community who need particular, often individual attention, but this should not exclude them from having and making choices.
- It enables the providers, social services, and the skills they can offer to be utilised in a more productive and efficient way. The project frees up carers from doing shopping so that they can get on with other work, things they are trained to do.
- There has been a reduced need for car travel both with users and in the number of trips that are made by carers doing shopping trips for individuals.
- It has highlighted the possibility of other applications for the Companion. For example in terms of monitoring the use of medication by individuals. Misuse of medication is very prevalent amongst older people. It could be used to identify medicine and send messages to a pharmacist when more medicine is required. It may also be developed to use to monitor visits from homecare assistants. The Companion could be used to log carers coming in and out of the user's home. This would be useful for the personal security of both parties as well as ensuring that users are charged correctly for the time the carer has been with the client.
- The success of the trial has resulted in Somerfield putting home delivery for older people as an action point in their business plan.
- It has been proven that there is a critical mass of the elderly population who make this type of shopping viable to the supermarket. Somerfield do not currently charge for order picking because it's not something they normally do. If the trial were to expand they might charge £3.50 per delivery. Most people in the Companion trial say they would be prepared to pay up to £5, which is comparable to the cost of online internet shopping.

As a result of this trial, several other local authorities and other organisations have expressed an interest in utilising the Companion technology, subject to funding.

Travel Awareness/Marketing:

The TravelSmart method has already been successful applied in other parts of Europe, but its successful application in the UK proves its versatility across different regions. Sustrans and Socialdata suggest the following issues should be examined in order to facilitate the scaling up of TravelSmart in Bristol and elsewhere:

- Successful communication within local authorities, regional and national government and partner organisations of the benefit-costs of the approach, which has been promoted through the UK Department for Transport 'Smarter Choices' report;
- Gaining acceptance of TravelSmart as a capital investment alongside other major schemes, eg in Local Transport Plans;
- The development of a typography of TravelSmart project areas and predicted outcomes based on an analysis of the results of TravelSmart projects to date. This could help reduce the need for project evaluation and increase the budget available for Individualised Marketing;
- Increased resources within local authorities and public transport operators to develop innovative local travel information materials. Alternatively, if increased resources are not available, Bristol City Council believe it may be worthwhile to trial an Individualised Marketing intervention without some of these new materials;

- Development of new techniques to adapt the TravelSmart process to different settings eg new housing developments as a component of residential travel plans;
- The availability of local networks of skilled community travel advisers to undertake TravelSmart home visits on a large scale;
- Further evaluation of the long-term effects of TravelSmart on travel behaviour together with an independent audit of outcomes to date;
- Aggregate impacts appear to be similar across areas in differing socio-economic groups assessed within Bristol, suggesting that there are balancing factors in different contexts;
- Owing to data previously collected, future Individualised Travel Marketing projects can be implemented without the need to always undertake the detailed monitoring used for TravelSmart 1 and 2;
- There is potential to address other aspects of travel behaviour e.g. driving styles impact on air quality.

Information Kiosk / Advice Screens

The VIVALDI project formed an ITS technical working group consisting of members of the Council's public transport, planning, traffic signals and traffic management teams, with local partner Sustrans. This group was consulted and recommended what and how much can be included (there is a limit of information that can be included on the screen due to font size and printing (limited amount of space) and as people are on street they do not have as much time as they would have at home or at work on the internet). The group decided that information on community transport, public transport (P&R and buses) walking & cycling as alternatives to the car and road works information (schedules for road works that is from the same database as provided to radio stations on a daily basis) should be included on the Travel Channel.

Centres for E-working, commerce and learning

The key to the successful implementation of the wireless hotspot was the engagement and close interaction with members of the local community from the outset of the project. It is essential to make sure that the community are included in the development of a project of this type so that they gain a sense of ownership.

Potential barriers

Community Delivery Points

- A key barrier in the design stage of the process was the nature of the market for supermarket home deliveries. Home shopping played a smaller role in overall sales than had been anticipated, which meant that supermarkets did not have the incentive to change their working practices on the scale required.
- The trial has required quite intensive one-to-one assistance in some cases. For example, one user has dementia, which meant that specific instructions had to be created to enable the user to use the Companion.
- There are cost implications for the planned 'next step', which is to issue 100-200 people with Companions.
- Funding is a major challenge for the future, beyond the lifetime of the VIVALDI programme. Funding has been secured to continue the trial for a period of 12 months.
- The partnership has worked well, but different partners have placed varying levels of priority on the scheme which has resulted in some problems and delays being encountered. This is probably not unique to this demonstration scheme.

Travel Awareness/Marketing

A low-proportion of non-telephone households required additional contact by mail (Phase 1 - Bishopsworth). As an alternative, door-to-door contact was used during Phase 2 (Hartcliffe). This approach resulted in field staff being more visible in the target area and therefore at greater risk from interference by anti-social elements within the local community. This resulted in a number of reported incidents where young adults targeted field staff during the delivery operation with harassment, intimidation and theft of personal property.

A review of the convincing phase highlighted a drop-off between the numbers of people requesting personal advice on walking, cycling and public transport and actual home visit appointments booked. Occasions were also identified where households failed to make appointments/late cancellation. The following areas have been identified to address such problems:

- The point at which the 'further service' incentive (public transport test ticket, cycle trip computer or step-o-meter) is provided to the household;
- Telephone dialogues used by staff at the point of booking a home visit; and
- The level of trust involved in receiving a home visit and the potential for 'well-known' community groups to provide home visits.

There is a current lack of resource within local authorities and public transport operators for the development of information materials and support during the preparation of the marketing campaign.

The percentage of households with publicly available telephone details has decreased, necessitating the development of new, more resource-intensive contact methods.

Information Kiosk / Advice Screens

- There were objections received about one kiosk that was placed on university grounds (it was located outside the student union). The university objected to advertising on the kiosks and this led to the team having to draw up a legal agreement with the university.
- The ITS technical working group wanted to provide access to the trip planner on the kiosk to include walking and cycling as well as public transport info. This would have required a conversion of the trip planner software. The software would have had to be re-designed specifically for the I+ kiosks, which was too complex and expensive to achieve.

Centres for E-working, commerce and learning

As many initiatives have been directed at deprived communities, the mechanisms selected needed to ensure clarity and completeness of provision in order to maximize participation and resulting benefits to the e-excluded and e-learner. In some areas this is becoming an increasingly difficult task as the accumulated effects of continuous initiatives has resulted in complex and comprehensive provision with limited connectivity between stakeholders, such as providers, learners, potential learners, e-excluded people and government organisations.

Please categorise the result using codes from Annex 1

Subject descriptors codes	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: Transport Telematics

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	-Community Delivery Points -Travel Awareness/Marketing -Information Kiosk / Advice Screens -Centres for E-working, commerce and learning	PU
Fact Sheet	- Demonstrator fact sheet: Widening Access in Bristol - Demonstrator fact sheet: TravelSmart	PU
Project Booklet	VIVALDI Project in Bristol	

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	10 (BristolCity Council, Sustrans, Socialdata, Somerfield, Brunel University, the Dolphin Society, Avon & Somerset Constabulary, Royal Mail, First, Cityspace)	12
of which : number of SMEs :	3 (Sustrans, Socialdata, the Dolphin Society)	4
of which : number of entities in third countries (outside EU) :	0	0
Targeted user audience: # of reachable people	13,500 (people involved in TravelSmart), 48,000 (information kiosk users), 41,000 (users of Community Delivery Points)	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	9	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.12.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Helen Minnery**

Date: 27/01/2006	Organisation: BCC

2.13.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
15	Improving public transport in Bristol (UK)

CONTACT PERSON FOR THIS RESULT

Name	Helen Minnery
Position	Transport Planner
Organisation	Bristol City Council, Planning, Transport and Sustainable Development
Address	Transport Initiatives Group, Floor 1, Wilder House, Wilder Street, Bristol BS2 8PH
Telephone	+44 (0)117 9036131
Fax	+44 (0)117 9036540
E-mail	Transport_initiatives@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

City Navigators (Info Bus)
The Info Bus has attended 16 events in Bristol. The bus attracts a lot of attention at the events it attends; a log of users at one event in 2005 revealed that between the hours of 10:00 – 17:00 an estimated 735 visitors visited the Info Bus.

Trip Planner Development
The Intermodal Trip Planner (ITP) promotes the use of non-car modes by providing door-to-door journey plans for bus, walking and cycling trips within the city. Between July 2003 and March 2005, the bus trip planner received 5,902 hits while the walking and cycling planners received 3,005 and 2,012 hits respectively. The ITP has received an average of 600 journey requests per month, in total receiving 10,919 hits with 6,505 completed journey requests made.

Integrated Pricing & Electronic Payment
The scheme has not yet been launched to the public.

New PT Contracts/Bus Priority and Real Time Info
Improved public transport

Bus priority and RTI provision have been extended through VIVALDI to complement the upgrade of the first Showcase Bus Route. 2.6 kilometres of bus lanes and / or pre-signals have been implemented on the Showcase route including bus pre-signals at Redcliff Hill, Redcliffe Way and Lewins Mead, three key city centre locations (see 6.2). The buses also benefit from Intelligent Bus Priority at ten key junctions along the route. This means that only late running buses are detected and given priority at the junction, rather than priority being given to all buses automatically.

Cleaner vehicles
A new clean vehicle component was added to local bus contract tender details, allowing bus companies to quote a separate price for the operation of the service using cleaner buses (i.e. retrofitted or clean fuelled vehicles). However, none of the tenders returned offered this option, and it is clear that to pursue clean tendering it will be necessary to include it as a requirement rather than an option.

Two buses operated by South Gloucestershire Bus and Coach Company were fitted with particulate filters in January 2003, reducing Hydrocarbons and Carbon Monoxide by a minimum of 50% and Particulate Matter by up to 90%. 22 First in Avon and Somerset buses were fitted with particulate traps during January and February 2005 (see 5.1). The particulate traps use self-cleaning technology which enables the carbon element of the particulate technology to be burnt off at typical exhaust gas temperatures – the system is capable of removing over 90% of particulate matter, hydrocarbons and carbon monoxide.

Real Time Information on the web
In addition to the extension through VIVALDI of the on-street RTI system to include 75 bus stops on the 76/77 route and on-bus audio and visual information on the Portway Park & Ride, this information and that of additional routes is also available over the internet. The website can be accessed directly from ACIS' national Real Time Information website, but in Bristol it is also made available through the more high profile www.travelbristol.org website (see 12.7). The website displays exactly the same information as is displayed on-street. The system is fully expandable at no additional cost and could include all GPS equipped buses and on-street displays as these are rolled out. In total the project took 18 months to implement.

Interchange Facilities
This measure aims to improve facilities and services for travel by and transfer between a range of non-car modes including bus-rail, bus-bus, and Park & Ride. Southmead Hospital has been the focus for implementing a range of access and interchange improvements to make it easier for people to access the site using non-car modes and to travel around the site more easily. The improvements at the Southmead Interchange resulted in a change in its accessibility audit rating from below average to good. In addition, several facilities were upgraded at Clifton Down, a key site for interchange between transport modes.

Park & Ride
The evaluation results have shown that there has been a high increase in the number of passengers using the Park & Ride (P&R) services over the VIVALDI project timescale. The Portway 902 P&R service patronage has increased by 82.8% over the evaluation period. On-bus surveys for both P&R services have shown that passengers value the information provided and in particular the audio and visual on-board stop announcements on the new 902 P&R service.

Taxi / Public Transport Integration
A Taxi-Sharing service was implemented in an area of Bristol that was poorly served by conventional public transport services. It provides low-cost travel for local residents wishing to connect with bus or rail services or access local services. The scheme has proved successful in attracting a large membership base. After 6 months the scheme had 125 members.

Intermodal integration - Walk and Ride, Bike and Ride
The Council formed a partnership with the Mud Dock Café/Cycleworks with the intention of improving the facilities available to existing cyclists, particularly commuters, entering the central area. The Cycle Resource Centre offers a range of services including secure attendant cycle parking, lockers, shower/changing facilities, café/refreshments, notice board/local cycling and transport information, and repairs/service/workshop facilities. Other measures to improve facilities for bike/walk and ride include improvements to facilities for pedestrians and cyclists at Clifton Down and Southmead Hospital (described in 8.7 Interchange Facilities) and as part of the 76/77 Showcase bus route initiative (see 8.6).

Who are the end-users of this result?

The overall objectives for this measure are to provide quality public transport alternatives to the private vehicle and to reduce the environmental impact of buses to ensure that the transport system complements health and well being for all citizens. The use of Real Time Information (RTI) and bus priority measures aims to help encourage the use of bus services through improved service reliability and information provision, and also to foster a culture receptive to this mode

through use of high profile telematics systems. The benefits of the measures are experienced by existing users of the bus services fitted with RTI and subject to the bus priority measures.

Main innovative features/benefits (technical/commercial success factors)

City Navigators (Info Bus)

- Providing a mobile transport information facility at key sites to give information and advice to the public and organisations, particularly focused around events.
- Providing staff with access to a range of output media – paper-based, interactive terminals, display screens – to support the supply of location or topic specific information.

Intermodal Trip Planner (ITP) Development

- The ITP provides information on public transport (bus, local rail and ferry), cycling and walking from a common point of journey enquiry, allowing users to compare solutions and travel options.
- It is the first UK journey planner to provide integrated cycling solutions in an urban context.
- It provides information that can be customised to the users' individual travel requirements.

Integrated Pricing & Electronic Payment

- The development of an integrated pricing strategy between modes and operators is a novel approach in the UK where deregulation has resulted in an increase in the number of operators.
- Taking forward the pricing strategy to implementation on a smartcard platform, which has received a lot of attention in the UK and Europe but only a small number of real-life implementation.

New PT Contracts/Bus Priority and Real Time Info

Cleaner Vehicles

The introduction of 'clean vehicle' requirements into bus service procurement process.

Showcase routes

Building upon Quality Partnership Agreements to provide packaged improvements to vehicle specification, accessibility and information provision.

Real time information on the web

To allow access to real time bus information for both new showcase and other routes from internet-enabled PCs, whether at home or at work, to allow people to better plan their journeys, and also to increase confidence in use of the real time system.

Interchange Facilities

- Overcoming barriers to sustainable travel and interchange at major travel destinations.
- Allowing informed travel decisions by providing transport information for various modes and routes in an integrated manner.

Park & Ride

New Portway Park & Ride site and dedicated bus service, and package of measures to improve the usage and attractiveness of this and an existing site on the A4 Bath Road.

Taxi / Public Transport Integration

- The Taxi-Sharing service enables residents in an area poorly served by conventional public transport to travel within their local area, either to link up with frequent bus and rail services for onward travel or to access local services.
- Taxi-Sharing is a new type of public transport service. To use it, journeys must be booked three hours in advance of travel. Residents are given approximate times that the service will be in their area but are asked to be flexible to enable the operator to match up people's journey requests. Taxi-Sharing therefore combines the flexibility of a demand responsive service with the efficiency of shared journeys and as such, is the first service of its kind to operate in an urban area.

Intermodal integration - Walk and Ride, Bike and Ride

- Implementation of the UK's first purpose-built Cycle Resource Centre.
- Pioneering working with private business through combining a range of services at one location.

Market or application sectors & possible applications

City Navigators (Info Bus)

The scheme needs a greater level of ongoing staff support than was envisaged. This could include someone who's duties are to support the use of the vehicle and include driving the bus, setting up the facilities, keeping the information up to date, and marketing the vehicle as a resource.

The type of vehicle and technology employed within the bus can act as a barrier to its use.

Intermodal Trip Planner Development

The development of the ITP has informed national research into the concept of internet cycle planning. The approach has proved that it is challenging to produce an application that meets all the needs of the user, e.g. cyclists have different abilities / route preferences. The development of the ITP has also highlighted the problems created by incomplete or inaccurate data sets, and that there is a need to regularly maintain and correct the data used by the trip planner to maintain its appropriateness for use by the public. Given improvements in data availability and accuracy, and technical developments in the field of trip planner design and development, it is felt that it would now be much easier to develop a similar system. It is also recognised that the current system could be improved using the latest data and available software developments.

Integrated Pricing & Electronic Payment

This project has proved that there is no problem with the technology for implementing smartcard payment for bus/Park & Ride services; the problems that we have faced have been in terms of support and response from the supplier. It would be a recommendation from our experiences that the procurement of different parts of such a scheme is not split: although there are no companies that provide the entire range of necessary products, from cards to readers to back office, there are many that can be taken on to deliver an integrated smartcard project. Using one company to manage scheme integration, and thereby acting as one point of contact, would have been more convenient, faster and more secure for this scheme.

New PT Contracts/Bus Priority and Real Time Info

The second Showcase Bus Route (the A420/A431) will be introduced in Bristol shortly and a more holistic approach will be taken using the lessons learnt from this demonstration. The project team has the support of the local traders and they have been able to secure objective II match funding to improve their shop frontages and the public areas as a result. This project has demonstrated that Showcase Bus Routes can enhance trade for local shops.

Interchange Facilities

This measure demonstrated that close partnership working is needed to develop and implement access and interchange improvements focused on a particular site, in this case Southmead Hospital.

Park & Ride

The key lessons learned from the implementation of the Park & Ride scheme are that with major works of this type there is a need for thorough planning and strong project management. Even with these in place unforeseen occurrences such as the presence of Japanese Knotweed can put pressure on timescales and budgets.

Taxi / Public Transport Integration

The process of introducing this scheme has shown that taxi operators and users are cautious about participating in a new type of transport scheme. To implement a similar scheme, the local authority concerned would need to build an on-going dialogue with local operators from the outset, so that they are fully aware of the scheme's objectives. This could involve face-to-face meetings or attending a taxi operators' forum. It is also evident that the scheme required a targeted and coordinated marketing campaign. Engaging people is key, to make them aware of the scheme in the first place, to clearly set out how the service can be used and to further encourage people to do so.

Intermodal integration - Walk and Ride, Bike and Ride

The Mud Dock Cafe, which operates the CRC, is a private organisation, which meant that the cost of designing and running the centre needed to be commercially viable. The project has shown that it is not commercially viable to implement a CRC on its own. The Bristol CRC has the support of the surrounding businesses (café, bike shop and workshop). The pricing structure for the centre is important to ensure that the correct balance is made to attract users to the centre whilst ensuring that it does not run at a significant loss. Although the CRC is relatively early on in its development, the way it is operated may need to be changed to find an optimum solution.

Potential barriers

City Navigators (Info Bus)

- Some of the characteristics of the delivered vehicle have been a barrier to its use. The bus is left-hand drive, there is a need to tow a trailer and the procedure involved in starting up the info bus for use on site is complex. Users have also been unwilling to refuel the generator with LPG. This has meant that an agreement has had to be put in place to agree that BCC fleet services who maintain the vehicle and prepare it for events also refuel the generator.
- Staffing the bus can be problematic as many of the events that people identified that they would attend with the bus fall outside regular working hours, mainly at the weekends. Staff availability at these times has constrained the use of the bus.

- The public have been less keen to interact with the technology than anticipated. Some people prefer to take away leaflets rather than learning how to use the trip planner etc.
- Securing expensive computer equipment such as Plasma screens etc was an important consideration. IBI were invaluable in recommending and advising on potential solutions, and delivering equipment that allowed all items to be locked down but maintainable.
- The vehicle requires a connection to a 32-amp socket instead of the conventional 13-amp socket. Not many of these sockets are available at venues. It had been planned that if regularly visiting the same location a connection would be installed for the bus at that location, thereby not requiring it to be connected to the generator. Unfortunately, use of the bus has not been sufficient to justify the installation costs.

Trip Planner Development

A number of barriers were identified during implementation. These include:

- A lack of raw data such as incomplete electronic bus timetable information and incomplete walking and cycling networks;
- Not being able to host the ITP on the Council website, because of Council firewall regulations;
- The ITP does not cater for journeys across other local authority boundaries, particularly those to key trip generators on the urban fringe. The ITP would have been more successful if it covered the wider Bristol area; however, the other local authorities were unable to support its development.
- At the time of development there was no suitable map base containing the required transport information. This created more work as a database of one-way streets and banned turns had to be created manually. Ordnance Survey have since produced an Integrated Transport Network layer which includes this data.
- The ITP was the first of its kind in the UK, so a number of technical and other barriers had to be overcome including the views and aspirations of users and stakeholders.
- The data used by the ITP needs regularly updating and data errors corrected to maintain its usefulness to the user. The availability of on-going funding can be restrictive to this process.
- The ITP after the development phase should be the responsibility of a dedicated team who should maintain the system, however this transfer of ownership remains to be fully completed.

Integrated Pricing & Electronic Payment

The main barriers to implementing the smartcard scheme as part of VIVALDI were flawed consultancy advice regarding procurement and insufficient resources for the supplier to give the small Bristol scheme the necessary level of support and assist the development of the parking element of the project.

Politics proved to be a barrier to the implementation of the road pricing element of the integrated pricing package. A change in the Council in 2003 meant that there was less agreement within the Council about how to progress such a scheme.

New PT Contracts / Bus Priority and Real Time Info

- Increases in patronage on the Showcase Bus Route may have created a capacity problem on the route. In the peak periods it is thought that the service is filling up at either end of the route as it travels into Bristol. It is then full and not taking passengers when it gets closer into Bristol.
- Some of the Gloucester Road Traders were opposed to the scheme, because they were concerned about that the parking restrictions might have on their trade. The Council is currently undertaking a retail study to determine the impacts that the scheme has had on local retailers.
- The mapping for the Real Time Information on the website was a crucial element of the project, which took time to get right. The use of national Ordnance Survey maps by the Council is under an OS licence agreement – the use of the maps in this context was negotiated with Ordnance Survey via the Councils mapping team before work to incorporate them could commence.

Interchange Facilities

The implementation of the new pedestrian crossing required a statutory consultation process with local residents. This extended the timescale for this element of the project, which was also delayed by the need to relocate a bus stop. The implementation of the information screens also took longer than anticipated, due to a lengthy negotiating phase with the suppliers.

Park & Ride

Major barriers during the scheme implementation phase were a number of difficulties with the planning process, land acquisition and the presence of Japanese knotweed at the site, a very aggressive invasive plant that out-competes native flora. In order to deal with this, species approval had to be gained from the UK Environment Agency regarding the contractors method statement. Japanese Knotweed can propagate from any cutting of its stem so if any fragment of the

stem gets into a water-course it can spread downstream and establish on the river bank. The roots had to be excavated and all the cuttings burnt on site. This was expensive and time-consuming.

Taxi / Public Transport Integration

- The Taxi-Sharing scheme is the first of its kind in an urban area in the UK. The fact that it is a new type of service caused confusion regarding booking arrangements and use of the service.
- The innovative nature of the scheme proved to be a barrier to its implementation, in that it deterred private hire operators from tendering for the contract.
- The scheme has no visual presence in the area, as the taxis are not dedicated vehicles, so are unrecognisable from standard Swiftline vehicles.

Intermodal integration - Walk and Ride, Bike and Ride

Barriers:

- The owner of the CRC has recommended that anyone considering developing a similar scheme should ensure a design and build contract at a fixed price that has a partnership agreement made to ensure collective responsibility. A packaged rather than a piecemeal approach will lead to greater ownership of the project and reduce problems caused by contractors protecting their own interests at the expense of the project.
- There is plenty of free bicycle parking in Bristol and bike racks located outside the Mud Dock are always full. However, it is thought that the majority of these cyclists do not leave their bikes in the racks for more than a few hours and are not potential CRC users. It should also be noted that the bike racks in Bristol do not offer security and bike theft is a particular problem in Bristol.
- The CRC owner underestimated the impact that the construction of the CRC would have on his business. In addition to part-funding the construction of the CRC, the income from the businesses on-site was reduced. This problem was worsened by the delays in the construction of the centre.
- The Mud Dock is adjacent to a 200 vehicle car park and the proposed site of the CRC was in the position of some parking spaces. The project had to fund the relocation of these spaces to another area and fund the loss parking revenues while this activity was being carried out.
- It is thought that the cost associated with using the CRC is a barrier to cyclists using the centre. Cyclists are not used to paying for facilities, whereas car drivers are used to paying for parking and budget for it.
- Many cyclists secure their bikes very close to the entrances of their place of work. It is also thought that the extra time needed to walk to work from the CRC and the extra time taken to have a shower will deter people from joining the scheme.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630: Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report		PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	1. City Navigators (Info Bus) 2. Trip Planner Development 3. Integrated Pricing & Electronic Payment 4. New PT Contracts/Bus Priority and Real Time Info 5. Interchange Facilities 6. Park & Ride 7. Taxi / Public Transport Integration 8. Intermodal integration - Walk and Ride, Bike and Ride	PU
Fact Sheet	Demonstrator Fact Sheets: City Navigators (InfoBus) in Bristol; Intermodal Trip Planner in Bristol; Taxi-Sharing; Southmead Interchange Project; Bristol Cycle Resource Centre.	PU
Project Booklet	VIVALDI Project in Bristol	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	10 (Bristol City Council, First, IBI Group, Mud Dock Café, Department for Transport, North Bristol NHS Trust, Swift Line Taxis, ACIS, Wayfarer, ESP Systex)	15
of which : number of SMEs :	2 (Mud Dock Café, Swift Line Taxis)	3
of which : number of entities in third countries (outside EU) :	0	0
Targeted user audience: # of reachable people	2.9 million (Park & Ride passenger trips)	3 million (Park & Ride passenger trips)
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	12	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.13.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Helen Minnery**

Date: 27/01/2006 **Organisation: BCC**

2.14.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
16	Developing new travel services in Bristol (UK)

CONTACT PERSON FOR THIS RESULT

Name	Lauren West
Position	Transport Planner
Organisation	Bristol City Council, Planning, Transport and Sustainable Development
Address	Transport Initiatives Group, Floor 1, Wilder House, Wilder Street, Bristol BS2 8PH
Telephone	+44 (0)117 9036573
Fax	+44 (0)117 9036540
E-mail	Transport_initiatives@bristol-city.gov.uk
URL	www.bristol-city.gov.uk/europeantransport
Specific Result URL	

SUMMARY

Provide an overview of the result, which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Bristol City Car Club was officially re-launched on 5 February 2003 and now has over 250 members, a fleet of 25 vehicles and operates in eight city districts. A system has been introduced which allows members to book the car via the Internet or telephone and the Car Club's control centre sends details of the booking to the car's onboard computer via GSM mobile phone. The Council has implemented 19 on-street parking bays for Car Club vehicles in a number of clusters around the city centre. At Southmead and Frenchay hospitals the Car Club operator has provided a car as part of the Travel Plan to encourage greater use of sustainable modes. There are signed planning agreements with developers in place to support the development of the Car Club scheme through the introduction of new vehicles, payment of membership for residents or provision of parking schemes in association with 7 new housing developments. Car Club membership was marketed to people who were considering buying a property in one of the new housing developments, so that they would be aware of the scheme and its benefits from the outset.
In addition, incentives for public transport use have been provided by First, whereby all Car Club members are offered season tickets at a discounted rate. In addition the complementary nature of the Car Club and public transport was reinforced by the use of on-bus internal advertising for a 6-month period in 2004.

The works completed under VIVALDI for Bristol Dial-a-Ride included:

- The expansion of the Bristol Dial-a-Ride service into the previously unserved area of Westbury-on-Trym, Henleaze and Stoke Bishop wards to the north of the City (area K9); and
- Operating area K9 with a new fully accessible LPG vehicle and the wider deployment of such vehicles.

- Pilot of a new booking and scheduling system.

Who are the end-users of this result?

The development of the city Car Club is aimed at people who only need access to a car for a short period of time or when a car is the most viable option, for any journeys that cannot be covered by walking, cycling or public transport.

Bristol Dial-a-Ride is a charitable not-for-profit organisation which provides a demand responsive transport service for people with disabilities.

Main innovative features/benefits (technical/commercial success factors)

Car Club:
- Extend operation of initial scheme to new city areas including clean vehicles.
- Use of technology to improve booking, vehicle access and security.
- Implementation of Car Club schemes associated with new housing developments and regeneration sites.
- Controls on the level of private car parking provisions provided in a new residential development.
- New integrated tariff structures to promote linkages between public transport and car sharing.

Bristol Dial-a-Ride:
- Utilise best available clean fuel technology.
- Introduce a demand responsive transport service into a previously unserved city area and widen membership.
- Upgrade new booking software to improve flexibility, operational efficiency and service responsiveness.

Market or application sectors & possible applications
Appropriate marketing and awareness campaigns have been successful in increasing membership of the Car Club. New tariff structures were introduced at the beginning of April 2003 to address the issue of how longer bookings are charged.
Increased internal effectiveness – SmartMoves has restructured with some of the responsibilities of the Bristol office transferring to a central head office. This has enabled the Bristol City Car Club operatives to focus more on the promotion of the club and member recruitment. A support team at SmartMoves' head office has been created to liaise with developers and improve the partnership with BCC. The advent of on-street parking is advantageous to the Car Club. Vehicles can now be sited more conveniently for members and have greater visibility.

Bristol Dial-a-Ride identified several lessons that as an organisation they had learnt through their involvement in the VIVALDI project. These are:
- It is recommended that companies and organisations consult passengers at the outset and throughout the process to identify service users' needs and make necessary adjustments as the project continues to gain the maximum benefit from European initiatives.
- If the project includes recruitment and marketing, these activities should be timed to ensure that they are completed in time for the intended start date but not so far in advance that resources are not used effectively
- Try to get LPG/Petrol vehicles direct from a manufacturer as a complete package, rather than being retrofitted.
- Think about the back-up and servicing arrangements and availability of fuel when considering opting for a clean fuelled vehicle.
- Consider the benefits of having an LPG refuelling system on site if at all possible to cut down on dead mileage and downtime.
- Bristol Dial-a-Ride have learnt some important lessons about upgrading software packages. These include:
  - Visit current users to talk to the operators and observe the system in use;
  - Minimise staff disruption by ensuring that all the preparatory work is completed before testing the system;
  - Be clear with staff and involve them throughout the process;
  - Arrange for adequate blocks of training for key staff and refreshers as necessary;
  - Ensure that staff from the software company are in the office for the "go live" week; and
  - Ensure that on going support and upgrades are included as part of the contract package.

The pilot application of the new booking and scheduling system provided valuable experience and insight into the complexities of introducing such an application into a fully demand responsive service. The lessons learned through the pilot system has enabled Bristol Dial-a-Ride to engage another contractor (outside of the VIVALDI funding) to provide a fully functioning system which is enabling the move to citywide, rather than area based, booking and scheduling with improved utilisation and efficiency.

Potential barriers

The following implementation barriers have been identified for the City Car Club:

- Delay in obtaining on-street parking. Although the first set of parking bays has now been implemented, this was delayed until September 2003. However, once initial issues were overcome implementation has been smoother with 2 further sets of bays subsequently introduced (an additional 15 bays) with more planned for the near future.
- Limited availability of off-street parking facilities. Off-street parking is available in certain areas of Bristol, although these are the areas with less parking and congestion problems deemed ideal for Car Club purposes.
- Implementation and development of electronic booking, on-board booking systems and reporting structures was more labour intensive than first anticipated.
- Changes in personnel within the Bristol SmartMoves office and Bristol City Council (BCC). At the beginning of 2003, new working relationships had to be developed. All parties are now settled within their areas of competency.

Obstacles for Bristol Dial-a-Ride:

- There was a delay in vehicle delivery of 6-7 months, in Bristol Dial-a-Ride's experience caused by the LPG vehicle being retrofitted rather than coming direct from the manufacturer's production line. Dealing with several parties in the supply of the vehicle was thought to have complicated the process as it was felt that when things go wrong, people could try to shift the responsibility onto another party. BDAR were fortunate in that they had a spare back-up vehicle which could be used in the short term to meet the operational start date.
- The network to support LPG use in Bristol is lacking, particularly in terms of LPG refuelling facilities and garages that will service the vehicles. Bristol Dial-a-Ride had hoped that more LPG outlets would open during the course of the VIVALDI project but this has not occurred as anticipated.
- A number of issues regarding refuelling were identified. These included:
  - The variation in systems from vehicle to vehicle and the different types of nozzle at the fuelling stations.
  - Overspill from the system when refuelling can go over clothing and hands.
  - Refuelling using LPG can take roughly twice the time to refuel with petrol. Further time can be lost if the driver has to get into two queues, one for petrol and another for LPG.
- The contract for the new booking software package system was cancelled after 22 months of development and trials.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465: Passenger transport	630: Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	City Car Club Development DRTS routes and technology Multi-modal Scheduling	PU
Local project website	http://www.bristoldialaride.org.uk/	PU
Factsheet	Demonstrator Factsheet: Bristol Dial a Ride Service expansion and development of clean vehicles	PU
Project Booklet	VIVALDI project in Bristol	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	7 (Bristol Dial-a-Ride, EST, First, Bristol City Council, Mobisoft, Smart Moves Ltd, Sustrans.)	
of which : number of SMEs :	3 (Bristol Dial-a-Ride, Mobisoft, Smart Moves)	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	14,150 members of BDAR >250 Car club Membership	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	8	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.14.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Lauren West**

Date: 27/01/2006	Organisation: BCC

2.4.1. Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
17	Promoting a new clean public transport fleet in Nantes (France)

CONTACT PERSON FOR THIS RESULT

Name	Philippe Begue
Position	Bus fleet and bus maintenance manager
Organisation	SEMITAN
Address	3 rue Bellier BP64605 44046 NANTES Cedex 1 France
Telephone	00 33 2 51 81 77 00
Fax	
E-mail	pbegue@tan.fr
URL	www.tan.fr
Specific Result URL	www.nantesmetropole.fr/

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

New CNG buses operating and purchased through the VIVALDI project:
HEULIEZ GX317 CNG standard buses

- 2nd semester 2002: 92
- 2nd semester 2003: 33
- 1st semester 2004: 5

VOLVO 7000 CNG articulated buses

- 2nd semester 2003: 21

At the end of 2004, the SEMITAN fleet comprised 191 CNG buses out of a total of 304 buses.
CNG bus fleet:

- Average fleet age: from 9.8 years in 2001 to 5.5 years in 2004.
- Urban network patronage increased by 15.7% during the project.
- Between 2001 and 2004, patronage increased by 7.2% on the 27 routes operated with CNG buses in 2004, when overall patronage on bus routes was decreasing (-1,4%).
- 81% of the customers are transported with clean fuels (electricity for tram and CNG for buses).

- 55% of the overall number of kilometres run on the Tan network is operated with clean fuels (electricity for tram and CNG for buses).
- The pollution emitted by the bus fleet (CNG + diesel) compared with a full diesel bus fleet ("do nothing scenario"): - Carbon monoxide (CO) decreases: - 5%
  - Non-Methanic Hydrocarbons decrease: - 27%
  - NOx decrease: - 23%
  - Particles decrease: - 42%
  - Globally, the corresponding social cost decreases: - 24%

A new gas power station and adapted south depot operate since June 2003. The comparison between a scenario without the building of a gas station owned by Nantes Métropole (i.e. with a GnVert contract) and the current situation is in favour of the latter.
Difference for 2004 energy cost of CNG bus fleet: - 4%
Difference for 2004 energy cost of the all fleet: - 1.3%

Who are the end-users of this result?
Target users are:
Local authority - new elements are provided concerning the choice of large scale implementation in terms of clean fuels
Citizens are the end users of a city with less emissions
Current and potential public transport users. Environmental sustainability can be used to support existing PT users and convince non-users to modify their behaviour.
Other important end users are Semitan internal publics (maintenance staff, drivers, fleet manager).

Main innovative features/benefits (technical/commercial success factors)
Internal design specifications were developed before the technical ones. In early 2001, Semitan described its marketing objectives to the designer, who proposed three different options in terms of lay out, information displays, handles, lighting and colours. A prototype bus was made in autumn 2001 and displayed at the GART congress in November 2001 after the agreement of the design by SEMITAN's management committee and marketing department.

"Homemade" fuelling station, built and owned by Nantes Métropole, in contrary to the first station, which had been built by and belongs to GnVert, sister company of the national company Gaz de France.
Enabling to proceed to call for tenders among CNG providers, instead of being obliged to purchase the fuel only to Gaz de France that is the case with the station implemented through previous project.
CNG purchase at cheaper costs than for the first fuelling station. (Cheaper operational costs).
SEMITAN staff gain real expertise in terms of managing CNG.

Market or application sectors & possible applications
Effects on the bus network enhancement, especially when implementing a "Chronobus" route - a direct link with the CEN quality process, for which one of the requirements is to use CNG buses on these particular routes.
Drivers:
- Strong political willingness to develop clean fleet.
- Financial support from European projects.
- Less reluctance from maintenance staff and drivers, due to the experience gained within previous EU projects.
- Good acceptation by the public and customers, already measured through previous EU projects.
- Help to enhance the image of the bus compared to that of the tram in the eyes of the public.

Potential barriers
Difficulties on probation processes.
- Initially, 50 HEULIEZ GX317 CNG buses should have been delivered between April and July 2002 and 42 more between December and October. The first buses were ready in April but not fully approved. They were finally delivered in August and put into operation in September 2002. In December 2002, among the CNG standard buses ordered, 67 were delivered to SEMITAN. Among these 67 buses, 62 were commissioned and put in service (the commissioning has been agreed from a

technical point of view). However, taking into account problems encountered with this new rolling stock, 5 of the 67 buses have been postponed. And finally, for the same reason, SEMITAN was required to stop the delivery of the remaining order planned for 2002 (25 CNG buses).

- The 30 articulated VOLVO 7000 CNG buses ordered by SEMITAN were still waiting to be delivered in February 2003. The decision concerning the official probation by French Ministry was a very long process. Vehicles were manufactured and were stored in Poland. The French office for homologation (DRIRE, part of French Ministry of Industry) had still not given their approval to operate these vehicles in France, whereas TÜV has done so in Germany. They were put in operation on the 15th July 2003.

Lack of visibility of the overall economical efficiency due to the relative short-term experience at that stage (i.e. CNG bottles maintenance).

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Promoting a new clean Public Transport fleet	PU
Fact sheet	Demonstrator fact sheet: a new clean, low floor public transport bus fleet in Nantes	PU
Fact sheet	Demonstrator fact sheet: Implementation of a compressed gas station	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	5	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Philippe Begue**

Date: 27/01/2006 **Organisation: Semitan**

2.4.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
18	Improving the use of public transport and soft modes in Nantes (France)

CONTACT PERSON FOR THIS RESULT

Name	Eric Chevalier, Head of Public transport and parking department And Dominique Godineau, Head of Mobility Department
Position	
Organisation	Nantes Métropole Urban council
Address	2 cours du champs de mars 44923 Nantes Cedex 9 France
Telephone	00 33 2 40 99 48 48
Fax	00 33 2 40 99 48 00
E-mail	Eric.chevalier@nantesmetropole.fr / dominique.godineau@nantesmetropole.fr
URL	www.nantesmetropole.fr
Specific Result URL	www.nantesmetropole.fr/

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

All of the measures of this package aim to increase the use of collective modes and, for some of them, the use of soft modes.

New "PassCampus" P.T. annual fare has meant that numbers of student fares have started increasing again.

Two bus routes (nr 25 and nr 32) modified under the new "Chronobus" concept have increased their patronage, respectively by 7% and 25%, between 2001 and 2004. The corresponding increase is about 560 000 trips by year.

Nantes Métropole travel plan signed early 2004 has generated an increase in P.T. annual fare holders by half between May 2004 and May 2005.

Between the end of 2003 and January 2006, 19 company mobility plans, representing close to 19,500 employees, have been signed. The corresponding P.T. annual fare holders have increased by almost 4 ,000 between early 2004 and January 2006.

Among Nantes City P.T. annual fare holders, 22% were previously only car users.

Parking policy based on reducing street parking spaces, extending pay street parking areas, creating enclosed outdoor pay parking, increased police control in the city centre and increased Park and Ride spaces along tramlines, has managed:

- to increase parking turnover (about 20% of street parking spaces always free in the city centre),
- to increase revenue from parking spaces (multiplied by 3 in 4 years),
- to increase P+R frequentation and P.T. use to go to city centre.

Fare integration between regional rail services and urban P.T. network has multiplied by 4 the patronage on rail stations in Nantes Métropole area.
With 250 to 300 daily connections, the new information service MOBITRANS has creeated a new useful way to get real time information about urban P.T. time tables or disrupted services.

Who are the end-users of this result?
Public transport promotion campaigns: The target users are students, commuters and residentsattracted by new fares and the new bus route concept "Chronobus".
New SEMITAN quality contracts and improvement of public transport perceived quality: Public transport users are the target group. New quality standards will increase confidence in the transport system and usage will increase.
Park, walk, cycle and ride measures – Rent a bike service: All users, especially residents of and visitors and commuters to, the centre of Nantes
Implementation of UCN travel plan and promotion of company travel plans: 2,200 UCN employees
Promotion of company travel plans: Employees of the main companies and institutions in the Nantes urban area and also shop keepers and small and medium size companies in the centre of Nantes.
New parking policy and strategy: Residents, visitors and commuters in the centre of Nantes
Multimodal information and telematic: Public transport users and commuters living within the urban area or at the edge of Nantes UC perimeter.
Bus priority and RTPI: People who are both public transport and mobile phone users, with an interest in new information technology. People's expectations of receiving real-time information in times of service disruption are increasing, particularly following the implementation of such systems at tram stations. Bus users have requested this service on their bus routes. User needs have been identified through surveys of their perceptions of public transport.

Main innovative features/benefits (technical/commercial success factors)
Public transport promotion campaigns - Launch of a new student annual fare: the "PassCampus":

- Individualized customer-marketing relationship.
- Future electronic ticketing system will be based upon identified customer needs, and from the consumer point of view .
- PT fares distribution channels diversification, new jobs creation for PT operator

Creation of a new bus route concept: "Chronobus": Implementation of the new kind of high performance and high quality bus route, intermediate between ordinary bus routes and protected reserved lanes.
New SEMITAN quality contracts and improvement of PT perceived quality: To have certified bus routes under a NF standard that ensures that welcome service, comfort, equipments availability, information, facilities cleanliness, bus and tram cleanliness, services regularity and punctuality, control and safety, all things under scheduled audit by an external official institution: AFAQ / AFNOR CERTIFICATION.
Park, walk, cycle and ride measures - Rent a bike service: Development of new bike services in Nantes
Implementation of Nantes Métropole travel plan: Implementation of company travel plans.
Promotion of company travel plans: New style of Public Private Partnership in mobility management area.
New parking policy and strategy Global parking policy management
Bus priority and RTPI: Development a new product for targeted people at the crossroads of public transport users and mobile phones users, with a developed taste for new information technologies.

Market or application sectors & possible applications
Public transport promotion campaigns - Launch of a new student annual fare: the "PassCampus":

- PassCampus was the first experience that permit to launch one year later (2003) other annual fares: PassPrimo for pupils, PassRapido for highschool scholars, PassPartout for everybody in particular commuters, and two years later (2004) PassDiamant for elderly people.
- Annual fares are an efficient way to limit fare evasion among younger population and invite to more frequent a usage for leisure trips.

Creation of a new bus route concept: "Chronobus": Nantes Métropole is studying an extension of this concept to 5 other main bus routes, facing the success of the measure.
New SEMITAN quality contracts and improvement of PT perceived quality: Replication possible under local standards.
Park, walk, cycle and ride measures - Rent a bike service: Necessity to continue promoting soft modes like cycling
Implementation of Nantes Métropole mobility plan & Promotion of company travel plans

- Strong will from the political power to obtain employees' agreement.
- Positive social dialogue instituted by the political power.
- Incentive propositions to compensate advantage losses for both employers and employees.
- Employees become aware of the necessity to develop a positive citizen attitude.

New parking policy and strategy: Strong political will is needed.
Bus priority and RTPI: Necessity to have very coherent and very good quality database (AVL, bus stops, time tables...)

Potential barriers
Public transport promotion campaigns - Launch of a new student annual fare: the "PassCampus":

- Fear to create new production costs while implementing a new distribution system.
- Reaction from retailers who saw their annual revenue decreasing with SEMITAN monthly tickets.

Creation of a new bus route concept: "Chronobus": The need to reserve some public space for P.T. usage in constrained urban spaces is always very hard to negotiate with other public space users and side activities. However, it could be reached with a strong political will and constant listening to citizens' comments.
Park, walk, cycle and ride measures - Rent a bike service:

- French attitude with cycling mode (currently changing).
- Renting system not visible and too complicated.

Implementation of Nantes Métropole travel plan:

- Resistance to change habits.
- Considering that employee advantages, like free parking spaces disposal, couldn't be changed

Promotion of company travel plans

- Resistance to change habits.
- Considering that employees advantages, like free parking spaces disposal, couldn't be changed.
- French State attitude, doesn't want to give to its local civil servants advantages with the signature of a company travel plan.

New parking policy and strategy:

- Resistance from retailers of the city centre who have to be convinced that the new parking policy is not against their business.
- Resistance from residents and commuters to change their habits.
- Resistance from real estate builders or investors.

Bus priority and RTPI: Customers fears in front of mobile phone operators practices and the opacity of WAP fees.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Improving the use of Public Transport and soft modes	PU
Fact sheet	Demonstrator fact sheet: UCN's company travel plan	PU
Website	www.nantesmetropole.fr	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	5	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature:  **Name: Eric Chevalier**

Date: 27/01/2006	Organisation: UCN

2.6.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
19	Implementation of a large scale sustainable transport strategy for the southeast of Nantes (france)

CONTACT PERSON FOR THIS RESULT

Name	Eric Chevalier, Head of Public transport department
Position	Head of Public transport and parking department
Organisation	Nantes Métropole Urban council
Address	2 cours du champs de mars 44923 Nantes Cedex 9 France
Telephone	00 33 2 40 99 48 48
Fax	00 33 2 40 99 48 00
E-mail	Eric.chevalier@nantesmetropole.fr
URL	www.nantesmetropole.fr
Specific Result URL	www.nantesmetropole.fr/44755099/1/fiche___pagelibre/

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The main objective for the southeast urban area is to improve and promote new public transport facilities, alternatives to car use and less dependency on the car. The target users are particularly the commuters from south suburban areas and southeast inhabitants, that had a poor use of Public Transport. It combines:

- The creation of a new railway link between the cities of Vertou, St Sebastien and Nantes with the creation of new railway stations, Park and Ride and connections with the bicycle network,
- The remodelling of RN801 motorway, a large urban-through highway located in an urban area inside the ring road, linking it to the "Isle of Nantes". The project includes restriction of the number of car lanes, speed limitation and the creation of new inter-district links.
- It is linked to the creation, on the RN801 space, of a new concept for the 4th major P.T. route of the urban network: the BusWay.

RN801 remodelling is still under implementation with BusWay works and will be fully available in September 2006. Car traffic on RN801 has decreased by half.

Two new stations have been created between Nantes and Vertou, with 360 parking spaces in Park and Ride and parking spaces for cycles. 19 round trips each day have been operating on the rail link since the end of 2003. Patronage has been growing very strongly since this date. Patronage on railway stations in Vertou and St Sébastien has tripled in one year and is still growing with a higher rate recently. Park and Ride services are overcrowded due to the effectiveness of car traffic restrictions on RN 801 (since April 2005). Bus stops, combined with train stations on the Nantes-Vertou railway link, have stopped their losses and seen their patronage increase again.

Who are the end-users of this result?
The creation of a new railway link between the communities of Vertou, St Sébastien and Nantes: Visitors and commuters from south suburban areas and south-east sector inhabitants (Vertou, Saint Sébastien, Basse Goulaine).

The remodelling of RN801 motorway and linked public transport projects (guided bus corridor (route 4), connection with tram route 3, Park and Ride): Visitors, commuters, children and teenagers from south suburban areas and south sector residents (Vertou, Saint Sébastien, Rezé) are the target users.

Main innovative features/benefits (technical/commercial success factors)
- An urban P.T. project is developed on national rail tracks network (new railway link between the towns of Vertou, St Sébastien and Nantes).
- Remodelling of a motorway for P.T. route implementation and car access restrictions (Remodelling of RN801 motorway and P.T. projects)

Market or application sectors & possible applications
Important conditions for successful implementation of the new railway link between the towns of Vertou, St Sébastien and Nantes are:
- Strong will of political powers.
- Strong willingness and positive attitude from technicians from all parts involved.

Also for the Remodelling of RN801 motorway and P.T. projects, a strong political power is needed.

Potential barriers
Bus-tram material
Guided bus-tram is not a common mode of public transport. It aims to offer the same comfort, reliability and safety as a classical tram but without the rail track infrastructure and is less expensive.
The market to provide this mode is unclear. The first UCN call for tender to choose a manufacturer was unsuccessful, so UCN has launched a new call for tender. Due to safety regulations decided by the French State, the driver needs a corridor wider than the guide-way to correct the bus-tram's trajectory. Therefore, UCN has to build a wider reserved corridor than necessary. Route 4 will be launched, even if the guided section is not complete.

Works time
South-east inhabitants and commuters experience difficulties during the works:
- the number of car lanes will be restricted and the RN801 cannot be closed during the works because there are not many alternatives to cross the Loire river;
- there will also be works on the ring road bridge crossing the Loire river (Pont de Bellevue). These works have already begun.

UCN had to explain the works and promote alternative modes of transport:

- use of tram route 2 (Pirmil connecting points and park and ride);
- launch of the Nantes-Vertou rail link in November 2003;
- bus reserved corridor on RN801 (depending on the works) and boulevard Charles de Gaulle with Park and Ride facilities (the first works were done in spring 2003 to increase bus regularity and efficiency).

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Implementation of a large scale sustainable transport strategy for the southeast	PU
Website	http://www.nantesmetropole.fr/1087889781644/0/fiche___document/ http://www.nantesmetropole.fr/91199763/0/fiche___pagelibre/	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	8	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	4	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*

[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature:  **Name: Eric Chevalier**

Date: 27/01/2006	Organisation: UCN

2.7.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
20	New mobility concept for the Tertre Campus site in Nantes (France)

CONTACT PERSON FOR THIS RESULT

Name	Olivier Sorin
Position	Project officer, Mobility Department
Organisation	Nantes Métropole Urban council
Address	2 cours du champs de mars 44923 Nantes Cedex 9 France
Telephone	00 33 2 40 99 48 48
Fax	00 33 2 40 99 48 00
E-mail	Olivier.sorin@nantesmetropole.fr
URL	www.nantesmetropole.fr
Specific Result URL	www.nantesmetropole.fr/44755099/1/fiche___pagelibre/

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

New layouts of Tertre Campus site have modified the use of the space, with less cars and more pedestrians, but P.T. use has decreased on tramline 2. The students' population structure is one of the possible causes of this. It's remarkable to note that "Chronobus" route 25 has increase its patronage by 23% on bus stops on the campus site. The new waterbus has also been a success even though its time table is not so attractive.
Numbers of pedestrians and cyclists are growing in the campus area. Student association initiatives for the promotion of cycling and carpooling have had quite a good response from students and need to be encouraged.
Many quantifiable targets are fixed to 2012, so it's difficult today to say if they are achievable.

Who are the end-users of this result?

The remodelling of the university campus site, according to the travel policy: Students, teachers and employees of the Nantes University in the site of the Tertre.
New shuttle boat serivice: Erdre campus students and workers are the main targets for this service, but also all people travelling between the main railway station and the city centre or the edges of the Erdre River.
Incentives car-pooling – launch of www.illicovoiturage.com: Students who come by car to the Tertre campus site and other University sites.
Vélocampus actions: Nantes Students
New student services centre with travel services: Nantes Students and student associations

Main innovative features/benefits (technical/commercial success factors)

- New parking standards for new buildings
- New shuttle boat service
- Use of new Internet technologies for promoting carpooling
- First bike renting service on the University campus

Potential barriers

The main task in the campus area is to coordinate all the projects together, promoting alternatives to the car whilst reducing the offer of car parking spaces (but not too quickly). These are the main barriers:

Parking policy
The number of parking spaces must be reduced progressively but the construction of new university buildings will remove too many spaces. Therefore, UCN will need to create a temporary 300 space car park in 2006.
With the decrease of the car's usage rate, the temporary car park will be removed progressively between 2007 and 2012.
To build the temporary car park, UCN need to buy land owned by a religious congregation which is near the campus site. UCN also needs a right of way in another congregation property to create the pedestrian and bicycle links between the Tertre site and the sciences campus site. UCN is negotiating with this congregation.
To avoid parking problems in the neighbourhood streets of the campus due to car access restriction in the Tertre site, the idea could be to introduce a new regulation in the area. This regulation would aim to protect residents.

Vélocampus
Since its creation, Vélocampus has been given financial assistance by the French State to pay the two employees' salaries. The State aims to reduce its subsidies over the years. UCN has to balance this reduction and Vélocampus must find other ways to earn money. The Vélocampus services are very successful.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: *PU*=Public *CO*=Confidential
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	New mobility concept for the Tertre Campus site	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	UCN, AURAN, Town of Nantes, University of Nantes, and the Education Ministry Delegation	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	3	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Olivier Sorin**

Date: 27/01/2006 **Organisation: UCN**

2.8.1. : Description of the result(s), one form per result

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
21	Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area in Nantes (France)

CONTACT PERSON FOR THIS RESULT

Name	Jean-Claude Porez
Position	Project Manager, Public transport Department Manuel Fernandez, Roads Department
Organisation	Nantes Métropole Urban council
Address	2 cours du champs de mars 44923 Nantes Cedex 9 France
Telephone	00 33 2 40 99 48 48
Fax	00 33 2 40 99 48 00
E-mail	Jean-claude.porez@nantesmetropole.fr Manuel fernandez@nantesmetropole.fr
URL	www.nantesmetropole.fr
Specific Result URL	www.nantesmetropole.fr/44755099/1/fiche___pagelibre/

SUMMARY

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The project for remodelling the Vannes Road involves an historical axis (about 3.7 km long) from the city centre towards Brittany, which is now a broad shopping avenue inside the ring road (shopping surface about 127 000 m2).

This project includes:

- The road remodelling programme of the Vannes Road itself, divided into 3 phases,
- An extension of tramline 3 towards the Northwest (not included in VIVALDI Project), tramline 3 has been put in service in September 2000
- Linked with the two projects above, a multi-modal station has been set up at the junction of tramline 3 and the Vannes road, and includes a 300 places park and ride car park, a single-ticket bus-tram interchange and a ground-level car park with 90 places.

In the part that will be remodelled, car traffic has decreased by about 20%. Works are always progressing, and it is too early to make a good evaluation of the new layouts.

Works are still progressing on Vannes Road, so it is too early to make an evaluation of the remodelling, in particular the use of the shopping area and the behaviour of customers.

The patronage of tramline 3 is still increasing, as the use of the Orvault Morlière Park and Ride.

Who are the end-users of this result?

Integration and rehabilitation program of Vannes road (commercial zone): Inhabitants of and visitors to the commercial area and commuters are the target users.

The multi-modal station at the junction of line 3 and the Vannes road: Commuters, inhabitants and visitors in the commercial area.

Main innovative features/benefits (technical/commercial success factors)

Integration and rehabilitation program of Vannes road (commercial zone): Remodelling of a through highway road like a broad shopping centre, involving side activities.

Multi-Modal station at the junction of the tramline 3 and Vannes Road: Private Public Partnership for Park and Ride implementation.

Market or application sectors & possible applications

Integration and rehabilitation program of Vannes road (commercial zone) & Multi-Modal station at the junction of the tramline 3 and Vannes Road are still under construction, so it is too early to draw definitive conclusions about this measure.

Potential barriers

Administrative and legal problems:

The main obstacle to the Vannes road project is the issue of road property. As the French state is the owner of the phase 3 sector (as a part of the national road network), the first public survey on the overall project was cancelled. UCN has to organise a new public survey only on its own part of the Vannes road (phase 1 sector). Another public survey will be organised by DDE44 later, when the modified phase 3 sector draft project will be completed.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaulation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area	PU

INTELLECTUAL PROPERTY RIGHTS (Not applicable)

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	7	
of which : number of SMEs :	0	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	3	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Jean-Claude Porez**

Date: 27/01/2006	Organisation: UCN

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
22	Implementing a new ticketing system in Kaunas (Lithuania)

CONTACT PERSON FOR THIS RESULT

Name	Mindaugas Kucinovas
Position	Senior Technical Transport Specialist
Organisation	Kaunas City Municipality Transport Division
Address	Sv. Gertrudos g.7, Kaunas, LT 44290, Lithuania
Telephone	++37037 20 00 21
Fax	++370 37 20 00 09
E-mail	mindaugasku@kaunas.sav.lt
URL	www.kaunas.lt/transportas
Specific Result URL	n/a

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Electronic ticket marking machines are installed in almost all of the auto and trolley buses, with 309 installed in Kaunas buses and 460 installed in trolleybuses.

All single tickets are validated on public transport once they have been marked in this machine. The ticket is marked with the year, month, day, hour, minute and ticketing machine number and the name of the stop where the trip was started. The ticketing machine functions automatically when the ticket is placed inside a narrow slot and in each vehicle, each single machine is managed from a central unit and has a compulsory blocking system which renders it impossible to mark a ticket in the machine. The ticketing machines are turned on and off from the general management unit, which has a time clock. In some of the new Solaris buses, the ticket machines are operated and controlled by a central computer in the driver's cab that also operates the electronic information and direction screens.

It was initially a difficult task to justify the purchase of new ticket validating machines but clearly the old ones were out of date and not suitable for current situation. Also, the new machines were less likely to be open to cheating and misuse by passengers. The cost of the new ones was justified by the fact that we could use these new machines in line with our e-ticketing plans for the future as well as them giving us many more possibilities in terms of ticket diversity (time tickets).

The machines currently used on all trolley and autobuses for issuing tickets on-board the vehicle are also being phased in as standard equipment on all new microbuses. Where they are not currently in use on these vehicles, this is due to some microbus companies still being under old contracts and therefore the municipality has no jurisdiction to enforce new equipment upon them. However, under the terms of re-tendering old contracts that come up for renewal, the municipality is pushing through a range of requirements that microbuses have to fulfil before being awarded a new contract – including improvements in air emissions, passenger comfort and safety, and ticketing (which will be as it is on the auto and trolley buses – apart from the price per trip which is almost fifty per cent more expensive per trip.

Who are the end-users of this result?

The new systems engage with a large percentage of the population of public transport users in Kaunas – almost 64% of the population of Kaunas City.
The most common reason for using public transport is for the daily return journey to and from work. This represents approximately 40% of users with the most common route being between the inner districts and the city centre.

Main innovative features/benefits (technical/commercial success factors)

Innovation is in many cases relative, and so for Kaunas what is innovative here may be common practice in a partner's country. Therefore for this project, when we set out to plan our project outputs, the areas of innovation were the:

- Introduction of fixed-date tickets;
- introduction of electronic tickets.

Market or application sectors & potential applications

Not really an applicable question for this particular activity; the ticket machine is a simple machine that has been tailored for the needs of Kaunas city public transport users.

Potential barriers

Barriers here are clearly the ability to implement technological improvements on a public that are not always sure of the benefits. We have embarked on a plan of action to work with better equipped external marketing companies to ensure that we deliver a good compromise.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	648: Urban Transport	649: Urban sustainable cities and rational resource management	637: Transport Telematics	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	X
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report (English)	PU
Implementation Report 1	D5 Implementation report (English)	PU
Templates (annex to evaluation report)	Integrated Public Transport Ticketing System (English)	PU
Public Transport website	www.kaunas.lt/transportas	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2 x public service companies; 60 x private service operators	Aim is to reduce the number of private operators – no figures currently available
of which : number of SMEs :	It can be said that the 60 private operators are SMEs.	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	PT users (per year for all 3 forms of public transport based on journeys is approx. 80 million; based on approx 64 percent of population it would be 235,000 actual passengers)	
# of S&T publications (referenced publications only)	Article due to go into " ITS International" magazine" in February 2006.	
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	4	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*

[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Mindaugas Kucinovas**

Date: 27/01/2006	Organisation: Kaunas

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
23	New public transport services in Kaunas (Lithuania)

CONTACT PERSON FOR THIS RESULT

Name	Mindaugas Kucinovas
Position	Senior Technical Transport Specialist
Organisation	Kaunas City Municipality Transport Division
Address	Sv. Gertrudos g.7, Kaunas, LT 44290, Lithuania
Telephone	++37037 20 00 21
Fax	++370 37 20 00 09
E-mail	mindaugasku@kaunas.sav.lt
URL	www.kaunas.lt/transportas
Specific Result URL	n/a

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The main measures undertaken to improve public transport services are:

Creation of a new city public transport route and schedule databases through the implementation of the "PIKAS" software programme system.

Study of passenger flows in the city public transport system (changes caused by decrease and increase of passenger flows influenced by new location of attraction centres or moving out of old one).

Improvement of organisation and quality of public transport services with emphasis on social and environmental concerns of citizens.

Who are the end-users of this result?

The users of public transport.

Main innovative features/benefits (technical/commercial success factors)

The PIKAS system for traffic planning and management has a digital map editor that can directly register on the map not only all bus stops, crossroads and segments of streets, but also the capacity of crossroads in the course of a day during different weekdays and seasons. A key advantage is its ease of usage for the transport specialists, for example any data displayed in tables of the main "Pikas" program can be copied to Windows Clipboard and pasted to other Windows programs.

Market or application sectors & potential applications

Possible Market? – PIKAS is a private company product and as such the Kaunas City Municipality has no power or role to play in promoting or sponsoring further market coverage for the product. PIKAS is already successfully operating in other Baltic cities.

Public transport routes have been managed in such a way that they better reflect their usage. There is also now a clear line of feedback from the passenger to the transport division at the City municipality and this aids the constant monitoring and evaluation of the PIKAS management system. However, we were not prepared for the amount of feedback that we receive from the public and we have needed to revise our internal administrative process to ensure that we satisfactorily reply to these comments and suggestions.

Car usage – we have not made any real impact here, apart from some decrease in air pollution perhaps on car-free day in Kaunas as part of the EU Mobility Week; and perhaps we should have been a bit more realistic. We will, however, persevere and continue to make public transport the most attractive form of city transport for our citizens.

Potential barriers

The original PIKAS system contract was negotiated without an inclusive annual update as part of the package. This meant that when we had been using the system for a year, the makers decided that our '2000' system was no longer compatible with the PIKAS support structure and therefore we needed to update our system to a PIKAS 2002 model. This in turn meant finding additional funds to complete this service update. The outcome was that we are now contracted with the PIKAS support staff to complete updates automatically as part of the new negotiated contract.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	■
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	New public transport services	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2 public, over 60 small private	
of which : number of SMEs :	60	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	PT users (per year for all 3 forms of public transport based on journeys is approx. 80 million; based on approx 64 percent of population it would be 235,000 actual passengers)	
# of S&T publications (referenced publications only)	Article due to go into " ITS International" magazine" in February 2006.	
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	3	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Mindaugas Kucinovas**

Date: 27/01/2006 **Organisation: Kaunas**

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
24	Access and security in Kaunas (Lithuania)

CONTACT PERSON FOR THIS RESULT

Name	Mindaugas Kucinovas
Position	Senior Technical Transport Specialist
Organisation	Kaunas City Municipality Transport Division
Address	Sv. Gertrudos g.7, Kaunas, LT 44290, Lithuania
Telephone	++37037 20 00 21
Fax	++370 37 20 00 09
E-mail	mindaugasku@kaunas.sav.lt
URL	www.kaunas.lt/transportas
Specific Result URL	n/a

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

The measure concentrated on the provision of public transport information, including a website and improvements to stops and shelters.

During the implementation of the project, 367 new bus shelters were provided in Kaunas and approximately 1300 cylinder type cases for public transport timetables. All newly implemented bus shelters have information stands for Kaunas public transport route maps.

Public information took many forms, although we were particularly proud of the innovative 'Transport Routes and Tourism Sites' map we produced. This proved to be so successful with tourists and visitors that we ordered extra copies for inclusion in a glossy Kaunas Tourist Book and advertised the fact on the front cover! We are also pleased with the colour route map installed on all buses and trolleybuses, with public comments posted on the website particularly welcoming this innovation. Other formats included stickers on buses and trolley buses advertising the public transport website and the production of a CD promoting the improvements to our public services throughout the VIVALDI years – this was used at an international business expo in Kaunas in the summer of 2005.

Public transport website pages (www.kaunas.lt/transportas) on Kaunas public transport were created and are updated (technically through the PIKAS system, and in other ways through public feedback on its usefulness and relevance). The new website was launched in May 2005 and has since generated around 130,000 hits – this equates to approximately 700 hits per day, over 5,000 per week and some 21,000 per month. It became possible to obtain information on public transport by SMS message from spring 2005, however there is currently no statistical data on the number of people using this service.

Who are the end-users of this result?
All users of the public transport, but with a particular emphasis on disabled users.

Main innovative features/benefits (technical/commercial success factors)

- PIKAS public transport management system and the way in which it produces easy accessible timetable information that can be directly linked to the public transport services information website.
- Circular information holders designed for the information provided by the PIKAS system
- Transport route map with key tourist sites of interest on it – a first for Lithuania!

Market or application sectors & potential applications

Access and Security Improvements are closely connected to the 'New Public Transport Services' measure via the PIKAS system, which is the traffic management programme. The PIKAS system allows better coordination of public transport services. In highlighting gaps in service provision, it helps to provide information that is used to improve public transport services. It is also an integral part of our commitment to improved communication with the public through the 'real time' timetable information on the website.

The project has focused us to explain to external designers and marketing companies exactly what message we would like to communicate to the public in new sources of information and in the production of our Transport Services promotional CD.

Future plans involve increasing our public transport information services through the mobile telephone network by improving the provision of SMS information service.

Potential barriers
VIVALDI helped to obtain other EU funding through the EBRD for the purchase of a new fleet of SOLARIS Euro III auto buses for the city. These buses have drop floors and ramps to allow easier access for disabled users as well as for people with pushchairs or prams and elderly people. The buses also use low emission fuel (euro 3) and are much more comfortable for the users (and drivers!).

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	X
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Access and Security Improvements	PU
Public Transport website	www.kaunas.lt/transportas	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	1 – Kaunas City Municipality	
of which : number of SMEs :	n/a	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	At least 235,000 passengers – based on approx 64 percent of population being PT users)	
# of S&T publications (referenced publications only)	Article due to go into " ITS International" magazine" in February 2006.	
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	4	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*

[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Mindaugas Kucinovas**

Date: 27/01/2006	Organisation: Kaunas

No. & TITLE OF RESULT (same as in table 1.2)

No.	Self-descriptive title of the result
25	Microbus integration in Kaunas (Lithuania)

CONTACT PERSON FOR THIS RESULT

Name	Mindaugas Kucinovas
Position	Senior Technical Transport Specialist
Organisation	Kaunas City Municipality Transport Division
Address	Sv. Gertrudos g.7, Kaunas, LT 44290, Lithuania
Telephone	++37037 20 00 21
Fax	++370 37 20 00 09
E-mail	mindaugasku@kaunas.sav.lt
URL	www.kaunas.lt/transportas
Specific Result URL	n/a

SUMMARY *(200 words maximum)*

Provide an overview of the result which gives the reader an immediate impression of the nature of the result, its relevance and its potential; Briefly describe the current status/applications of the result (if appropriate) with non confidential information on entities potentially involved.

Result description

Integration of micro-bus services with the main bus and trolley bus services using a tendering process. The aim of taxi/micro-bus integration is an increase in public transport reliability, accessibility and attractiveness. The wider issues that it aims to solve are related to the chaotic development of city transport. It is hoped that a satisfactory compromise for a role for private companies in a common PT system can be achieved.

So far this has been achieved:

- Increase of nearly 30 percent in the number of new, high quality minibuses in the city.
- Considerable reduction in the concentrations of some air pollutants (e.g. concentrations of nitrogen oxide in the city centre were reduced by almost 50% in years 2001-2002).
- This has been the result of:
- Decrease in the number of minibuses by more than 18 percent;
- Decrease in the number of minibus routes in Kaunas by almost 30 percent;
- Slight decrease in the length of minibus routes, based on 2004 figures;
- Amount of fuel (buses) and electricity (trolleybuses) used depends on the length of routes and the number of public transport units in use. From 2002 to 2004, the amount of electricity used by trolleybuses decreased by about 4 percent. The amount of fuel used by buses increased by almost 57 percent
- Kaunas is the first city in Lithuania to present timetables of minibus taxis together with timetables of buses and trolleybuses on the public transport website pages.

Who are the end-users of this result?

The large percentage of the population of public transport users in Kaunas – almost 64% of the population of Kaunas City. The most common reason for using public transport is for the daily return journey to and from work. This represents approximately 40% of users with the most common route being between the inner districts and the city centre.

Main innovative features/benefits (technical/commercial success factors)

Improved ecological situation and safer traffic conditions.

Market or application sectors & potential applications

It was a struggle to get the necessary rules and regulations changed because the companies running the private minibuses were very good at harnessing political will to support their interests. This meant that proceedings took much longer than expected.

Also we need to bear in mind that minibuses are a popular form of 'public' transport in Kaunas and that any attempt to curtail their growth or to regulate or restrict the way they operate perhaps needs greater public discussion before decisions are made.

Potential barriers

The implementation of some measures has proved more complex than initially foreseen from a technical, contractual, organisational, political, financial, institutional and juridical perspective. If measures are seen as restrictive, there are relevant political and psychological barriers.

Please categorise the result using codes from Annex 1

Subject descriptors codes	465:Passenger transport	630 : Transport Information systems, Fleet Management	648: Urban Transport	649: Urban sustainable cities and rational resource management	

CURRENT STAGE OF DEVELOPMENT

Please tick one category only 4

Scientific and/or Technical knowledge (Basic research)	☐
Guidelines, methodologies, technical drawings	☐
Software code	☐
Experimental development stage (laboratory prototype)	☐
Prototype/demonstrator available for testing	☐
Results of demonstration trials available	X
Other (please specify.):	☐

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	**Details (Title, ref. number, general description, language)**	**Status: *PU*=Public *CO*=Confidential**
Evaluation Report	D9 Evaluation Report	PU
Implementation Report 1	D5 Implementation report	PU
Templates (annex to evaluation report)	Integration of taxi-microbuses into PT services	PU
Other? – public transport website	www.kaunas.lt/transportas	PU

INTELLECTUAL PROPERTY RIGHTS

Type of IPR	**KNOWLEDGE:** **Tick a box and give the corresponding details (reference numbers, etc) if appropriate**					**Pre-existing know-how** **Tick a box and give the corresponding details(reference numbers, etc) if appropriate**	
	Current				**Foreseen**	**Tick**	**Details**
	Tick	**NoP [1)]**	**NoI [2)]**	**Details**	**Tick**		
Patent applied for	☐				☐	☐	
Patent granted	☐				☐	☐	
Patent search carried out	☐				☐	☐	
Registered design	☐				☐	☐	
Trademark applications	☐				☐	☐	
Copyrights	☐				☐	☐	
Secret know-how	☐				☐	☐	
Other - please specify :	☐				☐	☐	

1) Number of **P**riority (national) applications/patents
2) Number of **I**nternationally extended applications/patents

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market application sectors	60: Land transport	63.4: Activities of other transport agencies			

2.2. Quantified data about the result

Items (about the results)	**Actual current quantity [a]**	**Estimated (or future) quantity [b]**
Time to application / market (in months from the end of the research project)		
Number of (public or private) entities potentially involved in the implementation of the result :	2 public entities plus at least 60 private	
of which : number of SMEs :	60	
of which : number of entities in third countries (outside EU) :	0	
Targeted user audience: # of reachable people	At least 235,000 passengers – based on approx 64 percent of population being PT users)	
# of S&T publications (referenced publications only)		
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	4	
# of publications addressing decision takers / public authorities / etc.	VIVALDI reports	
Visibility for the general public	Yes	

[a] *Actual current quantity = the number of items already achieved to date.*

[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.*

2.3. Further collaboration, dissemination and use of the result

(Optional; to be completed if partner is willing to set up new collaborations, and seeking dissemination support from the CORDIS services.)

COLLABORATIONS SOUGHT

Please tick appropriate boxes (4) corresponding to your needs.

R&D	Further research or development	☐	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange	☐
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

I confirm the information contained in part 2 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: **Name: Mindaugas Kucinovas**

Date: 27/01/2006 **Organisation: Kaunas**

Part 3 Description of the intentions by each partner

This part 3 must be completed by each partner who is essential for the dissemination and use (i.e. result owners and/or major project contributors and/or major dissemination and use contributors). Each will detail its own use and dissemination intentions concerning the result(s) they are involved with. This description must be made result by result.

These different parts may be transmitted to the Commission either assembled at the consortium level, or individually by each partner to safeguard confidential matters if necessary (through any appropriate media). Obviously, when all partners are implementing a single dissemination and use scheme all together, a single part 3 is needed.

PARTS 3 WILL ALWAYS BE KEPT CONFIDENTIAL BY THE COMMISSION

3.1.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	**GRD1/2001/40060**
PARTNER's NAME :	**Aalborg Kommune**

CONTACT PERSON(S):

Name	Mr. Kurt Markworth
Position/Title	VIVALDI Site Manager Aalborg
Organisation	Aalborg Kommune
Address	City of Aalborg, Technical Department, P.O.Box 462, 9100 Aalborg Denmark
Telephone	+45 99 31 23 00
Fax	+45 99 31 23 14
E-mail	khm-teknik@aalborg.dk

No, TITLE AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	Implementation of a public private Car Sharing Scheme Aalborg introduced a combined private/public car sharing scheme in order to address the increase in private car ownership and the corresponding increase in modal share of the private car. Individual citizen memberships are combined with private company and public institution memberships to make the utilisation of the vehicles over the day as efficient as possible, and to enhance the opportunities of an economically successful scheme.
2	Implementation of Bus priority and Real Time Passenger Information (RTPI) The ITS system allows Public Transport vehicles to gain priority at intersections and is used for real-time passenger information at primary transfer points. Existing services on the Internet were expanded (www.aalborg-trafikinfo.dk). The system is designed to open up possibilities for future services via SMS etc. A Travel Information Centre with on-line information and travel plans at the coach-terminal was another specific action, which improves the quality and image of Public Transport services.

FOR EACH MAIN RESULT:

TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

1. Implementation of a public private Car Sharing Scheme

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	After closure of the VIVALDI project the car sharing scheme will continue. The scheme has increased continuously since the opening in January 2004. Expansion of the scheme depends on demand.	
Dissemination of results	To disseminate the experiences there is a local project website, as well as dissemination through key European networks (POLIS, Car Free Cities, UITP etc), at national conferences (Trafikdage, Vejforum, TøF etc.) and other local dissemination activities.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

2. Implementation of Bus Priority and Real Time Passenger Information (RTPI)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	After the VIVALDI project, the Telematics project will continue. It is planned that RTPI will be implemented in other parts of the city to improve the service level in the remaining part of the route network in Public Transport. Finally the measure will be further integrated in future projects to improve the environment in the urban areas. The plans are: The number of RTPI signs will be up-scaled from 32 to 46 in 2006. The number of bus computers will increase from 209 to 254 in 2006 – they are ordered. Then all buses will be equipped with computers.	
Dissemination of results	To disseminate the experiences there is a local project website, as well as information through key European networks (POLIS, Car Free Cities, UITP etc), at national conferences (Trafikdage, Vejforum, TØF etc.) and other local dissemination activities.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

3.1.2 : Quantified data for each partner's main result

Items	Currently achieved quantity [a]	Estimated future quantity [b]
Economic impacts (in EURO)		
# of licenses issued (within EU)		
# of licenses issued (outside EU)		
Total value of licenses (in EURO)		
# of entrepreneurial actions (start-up company, joint ventures…)		
# of direct jobs created [c]		
# of direct jobs safeguarded [c]		
# of direct jobs lost		

[a] *The added value or the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).*
[c] *"Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*
 # = number of ...

I confirm the information contained in part 3 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name: Kurt Markworth

Date: 27/01/2006

3.1.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	**GRD1/2001/40060**
PARTNER's NAME :	**Freie Hansestadt Bremen fur Bau und Umwelt**

CONTACT PERSON(S):

Name	Mr. Michael Glotz-Richter
Position/Title	VIVALDI Site Manager Bremen
Organisation	Freie Hansestadt Bremen
Address	The Senate for Construction, Environment and Transport, Ansgaritorstr. 2, D-28195 Bremen
Telephone	+49 421 361 6703
Fax	+49 421 361 10875
E-mail	VIVALDI@umwelt.bremen.de

No, TITLE AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	Integrated transport pricing system Based on the standards of the GeldKarte (BankCard) in the German credit services sector, a chip card was launched in 6/2005. It is a kind of debit card for the user's PT journeys. It was named BoB-ticket which stands for "**B**equem **o**hne **B**argeld" (convenient without cash). This electronic ticket is a post-paid ticket that allows the customer to easily access public transport without prepaid tickets, prepaid electronic cash or hard cash. The passenger uses public transport then pays later. The customer registers once at one of the three involved public transport operators in Bremen, Oldenburg, and Bremerhaven. When entering the PT vehicle, the customer electronically books in the destination and (when not travelling alone) the number of passengers for his journey. The information is stored on the registered smartcard and transferred to a main database for the monthly bill; the user's bank account is billed at the end of the month. Customers doing several journeys a day are charged for the cheaper day ticket rather than several single trip tickets. Integrating regional and peri-urban commuters, the BOB-ticket started in Bremen at *BSAG* and two other public transport operators in the region. The BOB-ticket was introduced to the public in May 2005. Within one month, more than 5,000 citizens were registered as BOB-ticket-holders. At the end of 2005, exactly 12.952 BoB-Ticket-holders were registered.
2	(Hybrid) tram The integration of an existing rail track allows the continuation of the existing freight services (thus reducing freight transport on the road) whilst offering new attractive regional tram services for citizens in the peri-urban area. The construction phase for tramlines (tram-traintrack) 1 and 8 is now scheduled for 2009. This delay is partly due to the long debate on the appropriate route that the forthcoming tram is to take. The delay may be caused in some degree by political obstructionism. The 2nd construction phase of the new tramline 4 was finished in Dec. 2002. This line also serves as a reference line for lines 1 and 8. It opened as scheduled. Evaluation shows that the new tramline 4 attracts significantly more residents than the bus. This means that residents who have never used buses in the before situation now get on the tram.
3	PT and Car Sharing This measure is about the integration of Public Transport with Car-Sharing (and vice versa) by developing, launching and promoting a combined offer for those who use both modes of transportation. The combined offer has a price and a technical aspect: PT users get an attractive tariff when using the cars of the CS company and in technical terms the access to both mobility providers is enabled by an intermodal smartcard. The integration is further underlined by establishing common mobility centres in which the combined offer can be

	bought and information about the operators' other services is provided.
4	Clean fleet vehicles The main objective of this measure is to reduce pollution, especially in urban areas, by supporting and promoting CNG as an alternative fuel for vehicles. The awareness of CNG cars should be raised and the market for CNG cars stimulated through various activities and incentives. Specific targets have been set against these objectives. 200 to 250 CNG vehicles should be brought on the streets (through private households, companies and fleet-operators). Awareness campaigns were launched for various target groups. A strong network has been established in particular with car traders, who are very important opinion makers by transferring the knowledge about CNG cars to prospective buyers. Further focus has been set towards fleet managers and residents living next to the CNG fuelling stations. The campaign succeeded in supporting the purchase of 250 CNG cars in Bremen in the VIVALDI project. Until October 2005 the local gas provider received more than 300 applications for the allowance to the purchase of a CNG car. 297 were approved, 231 of which came from commercial users and 66 from private users. It was not intended to have a balance towards companies rather than private users; this is probably due to the fact that enterprises receive a much higher allowance (2,500 €). The campaigners justify the unbalanced support by arguing that business cars have a higher mileage, which makes them a better advertising medium. (The buyers of a car are obliged to show a CNG label on both sides of the car). Unfortunately, not everyone whose allowance has been approved called on it, as only 70% of the approved applicants bought a CNG car. In total, 160 vehicles have been purchased. The rest of the buyers either have to wait with the purchase because several manufacturers have long waiting times for the delivery of their vehicles, or have eventually decided to buy another car type. It was also planned to support the purchase of 4 CNG freighters. This scheme failed. The motor industry is offering such vehicles (e.g. DaimlerChrysler/Iveco) but was either not able to deliver them or prices were too high for running them in the real market.
5	City logistic scheme/freight village 4 routes were set up for combining freight transport inside and outside Bremen. (Dodenhof, Edeka, Daimler Chrysler, Metro). It was impossible to purchase a CNG-truck of size 7.5to - 12.0to gross weight. Nevertheless, City logistics bought a bio-diesel truck to assess the economic and ecological impacts and to test the new online telematics systems. City Logistik does not use the developed telematics system, which optimises different routes, because the company does not need it for their transport.
6	Travel information centre An intermodal travel information centre (ITIC) was introduced using telematics as a tool for better provision of public transport information of all different types as well as other mobility services and general information on urban mobility. Intensive customer training with electronic ticketing equipment is given by the staff. Car-Sharing is also integrated into the ITIC.
7	Walking and cycling measures Significant improvements have been made to the cycle network in the suburb of Neustadt to raise the quality of the cycling infrastructure. These activities are in line with "Zielplanung Rad", the basic concept for cycling improvements in Bremen. A contraflow lane (marking and signposting) for cyclists was set up in the 'Lahnstraße' to improve the physical safety of cyclists, a set of traffic lights was installed at a crossing and small construction measures were implemented. Road space was reallocated in the `Hohentorsheerstraße', a through road in the northern part of the Neustadt area. The width of the road lane has been reduced, new cycle paths have been built and a roundabout has been set up in order to improve the physical safety and convenience of cycling. Road space was reallocated in Langemarckstraße, one of Neustadt' main shopping and traffic streets. In course of large construction works (from 5/2004 to 12/2005) the road lane has been renewed, new rails and stops have been set up for the tram, trees have been planted and new cycle tracks, cycle stands and walking paths with have been built. Waiting areas at PT stops and cycle paths have been strictly separated. Pedestrians, cyclists and PT users should have better and safer conditions to travel, particularly in comparison to car users. Potential conflicts between road users should be minimised. The closing of the gap in the cycle network (Senator-Apelt Str.) has not been evaluated, because the measure has only recently been implemented and cannot show any stronger impacts yet. As this cycle path is mainly used for long distance leisure purposes, measurable impacts are likely to occur in summer 2006.

8	Car-Sharing/City car club development New Car-Sharing services and products have been introduced. 9 new locations with 33 vehicles have been set up in the test site. Car-Sharing has also been expanded to more peripheral areas, which previously have not been a market area. The idea was to raise demand for Car-Sharing by installing high quality stations with at least 2 cars. In Vegesack (2002) and in Borgfeld (7/2005), both districts at the very edge of Bremen, this concept was realised. To open the scheme to new target groups such as business people, cyclists and commuters is another element of this measure. A completely new product for business users has been developed. It consists of the following three core elements: an additional tariff that makes it easier for fleet managers to compare fees to those from conventional car rentals; the offer of business car types and the set up of Car-Sharing stations in the city centre. In total, there is a growth of more than 50% of Car-Sharing users (actually more than 3600 in January 2006).

FOR EACH MAIN RESULT:

TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

1. Integrated transport pricing system

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Raising figures of registered BOB-Ticket holders (Post-paid for non-frequent public transport customers); Equipment, software and handling procedures for the prepaid electronic cash card and the post-paid BOB-Ticket will be implemented at all regional public transport operators; BOB-Ticket extended for bicycles in Public Transport and other customer requests; Customer acceptance analysis in 2006	Ongoing process
Dissemination of results	Local and regional dissemination of post-paid BOB-Ticket and prepaid electronic ticketing to the public continues by BSAG and all other public transport operators that are represented by VBN; Participation in national and international knowledge exchange.	Ongoing process

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

2. (Hybrid) tram

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Technical plans are drawn up, participation process with residents continues for further details of implementation and process for line no 4 extensions.. Construction of lines 1 and 8 is scheduled for 2009.	Approx. 40 months
Dissemination of results	Further dissemination to the results of the planning procedures, construction and opening of the tram line extension.	Approx. 48 months

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

3. PT and Car-Sharing

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Joint cooperation between Car-Sharing operator and PT operator will continue. Growth rates are estimated at 10 % per year. Business approach will be enlarged.	Ongoing progress
Dissemination of results	Local and regional promotion; All material produced through European funding will be disseminated; continuous advertising is foreseen. Knowledge transfer and Consultancy available.	Ongoing progress

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

4. Clean fleet vehicles

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	The great success of the campaign convinced the management board of both companies (swb Vertrieb GmbH and Bremer Energie-Konsens GmbH) to continue with the campaign. The incentive programme for private and corporate users will be adapted to requirements. A new infrastructure programme was decided which will bring three more fuelling stations onto the market. Successful cooperation with stakeholders will continue.	Until June 2007
Dissemination of results	All future marketing material will be based on the CI of the VIVALDI campaign to allow high brand recognition	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	■	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

1. City logistic scheme/freight village

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Bundling system will be extended. A second Bio-diesel truck has been purchased.	Ongoing
Dissemination of results	ISL (Institut für Seeverkehrswirtschaft- und Logistik) refers to experiences and results in ongoing research & development of logistics in urban regions.	Ongoing

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

6. Travel Information Centre

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Continuity of existing ITIC services and website information for local and regional public transport. Additional services (e.g. special tours, events and excursions with tram vehicles) are integrated; more experience in customer services.	Ongoing
Dissemination of results	Information exchange.	Ongoing

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

7. Walking and cycling measures

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Concept of bicycle infrastructure improvements is politically approved and will be fully implemented till 2007. Cycling measures will further be integrated with almost any roadwork.	24 months
Dissemination of results	Local and regional promotion of progress and further results; Information exchange	Ongoing activity

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

8. Car-Sharing/City car club development

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Car-Sharing is a regular business offer in Bremen and will continue. VIVALDI demonstrated that services in lower density areas in the suburbs are very hard to establish. Only with good growth factors in the pure urban area could this offer continue.	Ongoing
Dissemination of results	Local and regional promotion to (potential) customers. Information transfer and consulting on request.	Ongoing

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	■
			Other	(please specify)	☐

3.2 : Quantified data

Items	Currently achieved quantity [a]	Estimated future quantity [b]
Economic impacts (in EURO)		
# of licenses issued (within EU)		
# of licenses issued (outside EU)		
Total value of licenses (in EURO)		
# of entrepreneurial actions (start-up company, joint ventures…)		
# of direct jobs created [c]		
# of direct jobs safeguarded [c]		
# of direct jobs lost		

[a] *The added value or the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).*
[c] *"Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*
 # = number of ...

I confirm the information contained in part 3 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature: **Name:**
Michael Glotz-Richter

Date: 27/01/2006

3.3.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	**GRD1/2001/40060**
PARTNER's NAME :	**Bristol City Council (BCC)**

CONTACT PERSON(S):

Name	Mr. Pete Davis
Position/Title	VIVALDI Site Manager Bristol
Organisation	Bristol City Council
Address	Department of Planning, Transport & Sustainable Development, Transport Initiatives Group, Floor 1, Wilder House, Wilder St, Bristol. BS2 8PH
Telephone	+44 (0) 117 9036705
Fax	+44 (0)117 9036540
E-mail	pete_davis@bristol-city.gov.uk

No, TITLE AND BRIEF DESCRIPTION OF MAIN RESULT(S)

11	Promoting Clean and Efficient Vehicles in Bristol (UK) 73 LPG vehicles have been introduced in the Council's fleet. 5 G-Wiz electric cars, a hybrid Toyota Prius and 5 LPG accessible minibuses have been successfully operated in Council and Bristol Dial-a-Ride fleets. In addition, work through the local service supply network has generated 50 LPG conversions amongst 4 sectors (3 small local businesses, 11 taxis/private hire vehicles, 9 Council employees, and 27 members of the Bristol public). 58 buses in the First, First Somerset and Avon, and South Gloucestershire Bus and Coach fleets have been retrofitted with exhaust treatment equipment including particulate traps that are capable of removing over 90% of particulate matter, hydrocarbons and carbon monoxide. 50 solar powered 'wig-wag' school warning signs have been installed across 21 locations in Bristol. Power Savings at each site have been calculated for a 3-year post implementation period and have shown a saving of 42,573.6MJ (11,826 KWh) over the period.
12	The City Centre Clear Zone in Bristol (UK) Access control and management systems: this has included 3 new bus priority measures, a bus lane enforcement trial and the investigation of new access management measures. New orbital bus service: formally launched in June 2005 this provides an improved frequency, accessible and high quality service linking key city centre sites. Cycle Resource Centre: opened in December 2004 providing secure parking, showers, lockers, cycle repair/maintenance and information. Freight Consolidation Scheme: commenced operation in May 2004 and has progressively grown in scale to include over 40 retailers with an encouraging reduction in the number of delivery trips. Travel Plans for city centre leisure sites: The development of the Travel Plans has been supported by on and off-site measures including new cycle parking and lockers for staff, a cross harbour ferry service which commenced in July 2004 and improved pedestrian signing and route finding.

	New TravelBristol Info Centre: Opened in November 2004 with operator First providing information and ticketing for commercial bus services, and the Council providing a range of other travel and transport information. Travel Information: A number of city centre events have been supported by the mobile information vehicle the Info Bus which was launched in December 2003, whilst on-trip information has been provided through I+ information kiosks and real time bus information displays.
13	Access and Safety in an Inner City Area in Bristol (UK) The seven streets comprising the Dings Home Zone have been comprehensively redesigned, using best international practice. Residents have been involved through the whole process, working with project partners to inform all decisions made. The Home Zone has changed the balance of use of the street from being vehicle dominated to a more equitable social space, completely open to pedestrians and other non-motorised users. Two Community Travel Workers (CTWs) from SUSTRANS have been recruited and worked in the Dings Home-Zone area of Bristol, and on travel awareness and marketing campaigns in targeted areas. Walking and Cycling infrastructure is improved in targeted areas and corridors. Linking of provision to other project measures e.g. integration of corridors to Home Zones and Clear Zones. Six schemes have been successfully implemented including the extended Bristol-Bath railway path, integrating the path within the Dings Home Zone, and Crox Bottom linking the Showcase bus corridor.
14	Social Inclusion in an Edge of City Community in Bristol (UK) The results for the Community Delivery Points and Home Shopping Trials have shown that there has been a reduction in car trips as a result of the two schemes, but it has not been possible to state any quantified effect towards the Integrated Package targets. However, it should be stated that both schemes, and in particular the Home Shopping Trial, have provided social benefits to the end users. Travel Awareness/Marketing: *TravelSmart 1 – Bishopsworth and Hartcliffe* The Individualised Travel Marketing campaign was conducted in two phases: Bishopsworth in Autumn 2002 (Phase 1) and Hartcliffe in Autumn 2003 (Phase 2). This coincided with the upgrade of the local bus corridor through the measure 'new public transport contracts'. The campaigns resulted in substantial increases in walking, cycling and use of public transport. *TravelSmart 2 – Bishopston* The second TravelSmart programme conducted in Bishopston during 2003-04 was successful in achieving significant changes in travel behaviour amongst the target population of nearly 2,000 households. *TravelSmart 3 – Southville, Bedminster and Windmill Hill* The third TravelSmart programme conducted in the Southville, Bedminster and Windmill Hill areas of Bristol during May 2005 was successful in achieving a shift towards more sustainable travel modes among a target population of 2,275 households. The campaign resulted in relative increases in walking trips of 7%, cycling trips (22%) and public transport trips (18%), contributing towards the VT19, VT18 and VT23 targets respectively. Information Kiosk / Advice Screens 10 IPlus kiosks were installed in Bristol through the VIVALDI project, with new transport information content introduced on these 10 and the existing 18 kiosks. The evaluation has shown that on average the Bristol Travel Channel is used 6 times a day on IPlus kiosks and has shown that the public will use on-street kiosks for information. This suggests that there may be a sustained set of users of the kiosks and regular users of the BTC. Centres for E-working, commerce and learning The Widening Access scheme has 40 members in total. The results of a users survey showed high levels of satisfaction with the service and that 25% of users wanted to use their PCs to complete on-line training and 13% wanted to be able to work from home. In total, 39% of the sample stated that the use of a PC at home has reduced their need to travel.

15	Improving Public Transport in Bristol (UK) City Navigators (Info Bus) The Info Bus has attended 16 events in Bristol. The bus attracts a lot of attention at the events it attends; a log of users at one event in 2005 revealed that between the hours of 10:00 – 17:00 an estimated 735 visitors visited the Info Bus. Trip Planner Development The Intermodal Trip Planner (ITP) promotes the use of non-car modes by providing door-to-door journey plans for bus, walking and cycling trips within the city. Between July 2003 and March 2005, the bus trip planner received 5,902 hits while the walking and cycling planners received 3,005 and 2,012 hits respectively. The ITP has received an average of 600 journey requests per month, in total receiving 10,919 hits with 6,505 completed journey requests made. Integrated Pricing & Electronic Payment The scheme has not yet been launched to the public. New PT Contracts/Bus Priority and Real Time Info *Improved public transport* Bus priority and RTI provision have been extended through VIVALDI to complement the upgrade of the first Showcase Bus Route. 2.6 kilometres of bus lanes and / or pre-signals have been implemented on the Showcase route including bus pre-signals at Redcliff Hill, Redcliffe Way and Lewins Mead, three key city centre locations (see 6.2). The buses also benefit from Intelligent Bus Priority at ten key junctions along the route. This means that only late running buses are detected and given priority at the junction, rather than priority being given to all buses automatically. *Cleaner vehicles* A new clean vehicle component was added to local bus contract tender details, allowing bus companies to quote a separate price for the operation of the service using cleaner buses (i.e. retrofitted or clean fuelled vehicles). However, none of the tenders returned offered this option, and it is clear that to pursue clean tendering it will be necessary to include it as a requirement rather than an option. Two buses operated by South Gloucestershire Bus and Coach Company were fitted with particulate filters in January 2003, reducing Hydrocarbons and Carbon Monoxide by a minimum of 50% and Particulate Matter by up to 90%. 22 First in Avon and Somerset buses were fitted with particulate traps during January and February 2005 (see 5.1). The particulate traps use self-cleaning technology which enables the carbon element of the particulate technology to be burnt off at typical exhaust gas temperatures – the system is capable of removing over 90% of particulate matter, hydrocarbons and carbon monoxide. *Real Time Information on the web* In addition to the extension through VIVALDI of the on-street RTI system to include 75 bus stops on the 76/77 route and on-bus audio and visual information on the Portway Park & Ride, this information and that of additional routes is also available over the internet. The website can be accessed directly from ACIS' national Real Time Information website, but in Bristol it is also made available through the more high profile www.travelbristol.org website (see 12.7). The website displays exactly the same information as is displayed on-street. The system is fully expandable at no additional cost and could include all GPS equipped buses and on-street displays as these are rolled out. In total the project took 18 months to implement. Interchange Facilities This measure aims to improve facilities and services for travel by and transfer between a range of non-car modes including bus-rail, bus-bus, and Park & Ride. Southmead Hospital has been the focus for implementing a range of access and interchange improvements to make it easier for people to access the site using non-car modes and to travel around the site more easily. The improvements at the Southmead Interchange resulted in a change in its accessibility audit rating from below average to good. In addition, several facilities were upgraded at Clifton Down, a key site for interchange between transport modes. Park & Ride The evaluation results have shown that there has been a high increase in the number of passengers using the Park & Ride (P&R) services over the VIVALDI project timescale. The Portway 902 P&R service patronage has increased by 82.8% over the evaluation period. On-bus surveys for both P&R services have shown that passengers value the information provided and in particular the audio and visual on-board stop announcements on the new 902 P&R service. Taxi / Public Transport Integration A Taxi-Sharing service was implemented in an area of Bristol that was poorly served by conventional public transport services. It provides low-cost travel for local residents wishing to connect with bus or rail services or

	access local services. The scheme has proved successful in attracting a large membership base. After 6 months the scheme had 125 members. Intermodal integration - Walk and Ride, Bike and Ride The Council formed a partnership with the Mud Dock Café/Cycleworks with the intention of improving the facilities available to existing cyclists, particularly commuters, entering the central area. The Cycle Resource Centre offers a range of services including secure attendant cycle parking, lockers, shower/changing facilities, café/refreshments, notice board/local cycling and transport information, and repairs/service/workshop facilities. Other measures to improve facilities for bike/walk and ride include improvements to facilities for pedestrians and cyclists at Clifton Down and Southmead Hospital (described in 8.7 Interchange Facilities) and as part of the 76/77 Showcase bus route initiative (see 8.6).
16	Developing New Travel Services in Bristol (UK) Bristol City Car Club was officially re-launched on 5 February 2003 and now has over 250 members, a fleet of 25 vehicles and operates in eight city districts. A system has been introduced which allows members to book the car via the Internet or telephone and the car club's control centre sends details of the booking to the cars onboard computer via GSM mobile phone. The Council has implemented 19 on-street parking bays for car club vehicles in a number of clusters around the city centre. In addition, a car has been provided at Southmead and Frenchay hospitals and there are signed planning agreements with developers in place to support the development of the scheme in association with 7 new housing developments. Public transport incentives have also been provided to all Car Club members. The works completed under VIVALDI for Bristol Dial-a-Ride included: – The expansion of the Bristol Dial-a-Ride service into the previously unserved area of Westbury-on-Trym, Henleaze and Stoke Bishop wards to the north of the City (area K9); and – Operating area K9 with a new fully accessible LPG vehicle and the wider deployment of such vehicles. – Pilot a new booking and scheduling system.

FOR EACH MAIN RESULT:

TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

11. Promoting Clean and Efficient Vehicles in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	BDAR remain committed to using alternative fuels and have embraced LPG as an organisation but would be hesitant to further increase the number of LPG vehicles in their fleet due to concerns regarding, for example, vehicle depreciation. The trialling of the demonstration Hybrid bus will continue and if successful the two diesel buses purchased to operate alongside it on the 500 service will also be converted. The Hybrid needs a longer period in sustained operation before its performance can be effectively assessed. The Hybrid Toyota Prius will continue to be operated by the Environmental Quality Team as part of BCC's fleet of council vehicles. The G-Wiz cars have been leased for three years and will be returned after this period. If the vehicles prove operationally successful, other departments of the Council may procure some for use in their own fleet. The Council's fleet has a rolling vehicle replacement programme and clean fuels will continue to be pursued as part of this process. The experiences of the Clean Fuel Network indicate that an approach focused on target groups can be successful in increasing the take up of clean fuel vehicles. It is possible that a similar approach may be used in the future, in particular to target vehicles making a large proportion of journeys in the Air Quality Management Area such as taxis/private hire vehicles. Following successful operation of the school warning signs, the use of solar power will be the technology of choice to be deployed for all new appropriate highway signs. Beyond VIVALDI, 20 solar powered speed advisory signs have already been implemented in 2005. It remains an aspiration to trial solar powered lighting at bus stops when an opportunity arises to introduce new bus shelters. The promoters of ULR have used the time to develop their ideas and technology further. It is not yet clear what role, if any, ULR can play in an urban public transport system, but it has the potential to play a useful role, subject to appraisal in comparison with other public transport options. The promoters of the scheme still wish to use the available railway line to operate a service, though this requires modest capital investment. The Council has made progress in acquiring the railway track for future transport use. The potential future use of this route will require assessment in the context of the future transport needs of the city, particularly in relation to any development in the south west of Bristol.	

Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

12.The City Centre Clear Zone in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**

Up-scaling & Continuation	A business plan has been developed for the consolidation scheme that seeks to secure an increasing proportion of the operating cost from the participating retailers. A case for ongoing funding for a 3 year period while the business model matures has been produced for consideration by Council Members. The scheme has been recognised as producing both transport benefits and supporting economic vitality in a more sustainable way and has therefore been embraced in the emerging Joint Local Transport Plan, which also recommends the investigation of the consolidation concept for other retail centres in the sub-region. The Council aims to expand the static VMS system and order more signs. There are plans for signs near the Harbourside development and three more on Jacob's Wells Road. The Council will also work with neighbouring authorities, linking new signs for people coming into the area from places outside the city. Hydrogen Fuel cylinders will be installed at the depot where the Mobile VMS will be stored. The long delay before Highways Agency Type approval was obtained so that the sign could be used on the highway was extremely frustrating as there has been a high demand for its use. It is planned to carry on initiatives developed under the 'Travel Plans' measure by continuing to work with the sites and by exploring options for involving new sites/transport operators in the travel plans group meetings. The action plan developed under VIVALDI will be treated as a living document and will continue to be updated and used as a tool for monitoring progress, and also in extending the travel plans work, both for the individual sites and the area as a whole. The sites will be encouraged to continue the progress made under VIVALDI. The Harbourside map may well be updated and reprinted as appropriate in future. The website will also be monitored and updated as necessary. Both the Council and partners First are committed to a 5 year trial of the TravelBristol Info Centre. The Council will evaluate the centre at the end of this period although First has a longer lease on the premises. Discussions are continuing within the Council to resource a member of staff from the Public Transport Group to be based at the centre to support the staff from First currently staffing the centre. Bus Lane Enforcement is beginning to take a high profile within local authorities and associated equipment suppliers due to the impending commencement of the Traffic Management Act 2004. It has been identified in the Joint Local Transport Plan for the Greater Bristol area due for publication in early 2006, and as part of a Major Scheme Bid submitted to UK government in July 2005, which would help to provide funding for a further, more extensive trial and possible full implementation. The immediate next steps for the 500 service are to complete all of the bus stop upgrades and install the real time information points along the route. An important step in the delivery of real time information on this route is to install compatible ticket machines on the buses which could also tie in with Smartcard development. It is the intension to complete these works by April 2006. The ongoing 'Clear Zones' branding of schemes such as those described is uncertain. However, the Air Quality Action Plan includes many of the schemes within the Clear Zones measure and the future implementation of a package of city centre schemes through this initiative is expected including the ongoing support, development or expansion of the VIVALDI schemes.	
Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

13. Access and Safety in an Inner City Area in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	The use of Community Travel Workers has provided a valuable model which could be employed in the future by the Council in developing major schemes, particularly those which are likely to be innovative or contentious, where information exchange and involvement of residents or other effected groups will be vital to successful implementation.	
Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

14. Social Inclusion in an Edge of City Community in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	**Community Delivery Points** Following the success of the Royal Mail convenient delivery trial, this has been rolled out as an optional value-added service for commercial customers nationwide. **Home Shopping Trial** The Home Shopping trial was the first trial of the Companion technology. As a result of this trial, other local authorities are interested in utilising the technology for various purposes, subject to funding. **Travel Awareness/Marketing** The four local authorities in the Greater Bristol area are preparing a 'Smarter Choices' strategy within which an ongoing programme of Individualised Travel Marketing is likely to be a significant element. It is therefore expected that Individualised Travel Marketing will be embedded in the Joint Local Transport Plan for the 2006-2011 period. A new project is being prepared for 2005/06 focusing on the Easton area. This includes elements of marketing aimed at improving driver styles, and increasing Car Club membership, as well as improving air quality in this area (which forms part of the Air Quality Management Area). **Information Kiosks** The Council has a 10 year contract with CitySpace including maintenance of the kiosk content and hardware. After overcoming technical issues the journey planner was added to the kiosk content in December 2005.Future aspirations include adapting the kiosks to enable people to recharge Smartcards for Public Transport and also allow people to pay bills and council tax. New technology, such as card readers or kiosk upgrades, will be introduced as part of the contract. The Council would also like to include more localised information relating to the position of each kiosk.	
Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

15. Improving Public Transport in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**

Up-scaling & Continuation	Responsibility for the ongoing management and development of the trip planner needs to pass to an established team within the City Council so that it can be regularly updated and maintained. The current system was produced as a snapshot of the time and would need redesigning so that it could be more easily updated, possibly automating this process. On a positive note, meetings have been held with organisations undertaking scoping work for the development of UK cycle journey planners. Their aspiration is to develop a model which could be applied to a number of other locations, probably cities in the first instance. The experiences with developing the Bristol ITP have assisted this scoping work, and should this initiative progress as planned it is hoped Bristol will provide a valuable template for this work and a means to continue the development of the local application. During the delivery of the Park & Ride smartcard project, a number of automatic smartcard recharging machines were ordered; however, the delivery of these was greatly delayed as a result of changing regulations governing the use of credit/debit cards in non-manned locations (chip and PIN). These are still on order, although the timescale for delivery is not currently known, and an on-line recharging solution is being pursued as an interim measure. Integrating this with parking will be further in the future, but remains an aspiration for the Council. Local transport planning is now carried out by Bristol City Council in partnership with its 3 neighbouring authorities – Bath and North East Somerset, North Somerset, and South Gloucestershire. This means that any road pricing investigated in the sub-region will not necessarily focus on the city centre of Bristol, and has caused another rethink in the development of pricing initiatives that has kept this element out of further discussions on the integration of pricing measures in Bristol. There are moves in the UK to increase the take-up of smartcards both in the field of transport and in local government, into both of which the Council falls. The Park & Ride scheme will be the first experience of this in the Bristol region, and successful operation will encourage further use of smart technology in the region. A number of teams within the Council have an interest in smartcards, and may be accommodated as added services on the Park and Ride cards in due course. It is also hoped that successful operation will encourage the main bus operator in Bristol that smartcards would are a workable technology for a citywide ticketing scheme. The Council is currently working on the second Showcase Bus Route in Bristol. The Joint Local Transport Plan also has plans to implement a further programme of 12-13 showcase routes. It is intended to develop Park & Ride facilities on all the major radial routes into Bristol where demand can be shown. The Taxi-Sharing scheme will continue to operate at least until the end of the existing contract in February 2007. The Council is closely looking at the scheme to see if can be rolled out into other areas of the city including consideration as to whether the scheme could replace the provision of existing supported bus services. The Cycle Resource Centre (CRC) will seek to further develop usage through publicity. A promo leaflet will be produced in a format that can be wrapped around the frame or handle bars of bicycles parked within a half mile radius of the CRC. The CRC will also revise its pricing structure based on results of the survey and discussions with local businesses. The CRC may also carry out some research on this matter. The CRC is also considering removing the showers to provide more space for lockers and cycle storage.	

Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

16. Developing New Travel Services in Bristol (UK)

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Bristol Dial-a-Ride now has 16 years of experience providing inclusive, accessible affordable and safe door-to-door transport for older and disabled people in Bristol. The organisation continues to display a willingness to embrace new concepts and ideas, such as the launch of two new initiatives under the Department for Transport's Urban Bus Challenge programme. Bristol Dial-a-Ride continues to look to the future and to improve the service on offer to its members. The upgrade to the existing booking and scheduling system allows a move away from the area-based system and the allocation of vehicles more efficiently across the city as a whole. Bristol Dial-a-Ride's five year business plan 2001-2006 also expresses the need to extend the service hours of operation and recognises evenings and weekends as gaps that area currently not provided for. Bristol Dial-a-Ride remain committed to using alternative fuels and have embraced LPG as an organisation but would be hesitant to further increase the number of LPG vehicles in their fleet at present due to concerns regarding, for example, vehicle depreciation. BDAR would like to carry on being involved in European Projects where they fit with their long term goals and Business plans. A recent report by the Department for Transport (DfT, 2004) investigating alternative modes to the car commented on the Bristol City Car Club: "The Bristol City Car Club is the second largest car club in the UK. The club plans to expand to 1000 members and 50 cars by 2006, and although this has been delayed by some problems, there is public interest in the club and expansion is planned in response to calls from neighbourhoods for new car stations. The many other transport initiatives underway in Bristol complement the car club, as joining the club requires members to assess the other options available to them for getting around."	
Dissemination of results	The results are disseminated through the Bristol partners' websites, local factsheets, the "VIVALDI Project in Bristol" brochure and a local evaluation report. In addition, dissemination occurs through presentations at national conferences and through European networks.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

3.3.2 : Quantified data whenever possible

Items	Currently achieved quantity [a]	Estimated future quantity [b]
Economic impacts (in EURO)		
# of licenses issued (within EU)		
# of licenses issued (outside EU)		
Total value of licenses (in EURO)		
# of entrepreneurial actions (start-up company, joint ventures…)		
# of direct jobs created [c]		
# of direct jobs safeguarded [c]		
# of direct jobs lost		

[a] *The added value or the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).*
[c] *"Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*
 # = number of ...

I confirm the information contained in part 3 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:Pete Davis

Date: 27/01/2006

3.4.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	**GRD1/2001/40060**
PARTNER's NAME :	**Communauté Urbaine de Nantes**

CONTACT PERSON(S):

Name	Mr. Olivier Sorin
Position/Title	Project officer
Organisation	Communauté Urbaine de Nantes
Address	Communauté urbaine de Nantes Mission des Mobilités 2 cours du champ de Mars, 44923 Nantes cedex 9, France
Telephone	+33 (0)2 40 99 52 22
Fax	+33(0)2 40 99 49 16
E-mail	olivier.sorin@nantesmetropole.fr

No, TITLE AND BRIEF DESCRIPTION OF MAIN RESULT(S)

17	Promoting a new clean public transport fleet New CNG buses operating and purchased under VIVALDI project: HEULIEZ GX317 CNG standard buses - 2nd semester 2002: 92 - 2nd semester 2003: 33 - 1st semester 2004: 5 VOLVO 7000 CNG articulated buses - 2nd semester 2003: 21 At the end of 2004, SEMITAN fleet comprised 191 CNG buses into a total of 304 buses. A new gas power station and adapted south depot operate since June 2003
18	Improving the use of Public Transport and soft modes All the measures of this package aim to increase the use of collective modes and, for some of them, the use of soft modes. New "PassCampus" P.T. annual fare has meant that numbers of student fares have started increasing again. Two bus routes (nr 25 and nr 32) modified under the new "Chronobus" concept have increased their patronage, respectively by 7% and 25%, between 2001 and 2004. The corresponding increase is about 560 000 trips by year. Nantes Métropole travel plan signed early 2004 has permitted to increase P.T. annual fare holders by half between May 2004 and May 2005. Between the end of 2003 and January 2006, 19 company mobility plans, representing close to 19 500 employees, have been signed. The corresponding P.T. annual fare holders have increased close to 4 000 between early 2004 and January 2006. Among Nantes City P.T. annual fare holders, 22% were previously only car users. Parking policy based on reducing street parking spaces, extending pay street parking areas, creating enclosed outdoor pay parking, increase police control in the city centre and increase Park and Ride spaces along tramlines, has managed:

	- to increase parking turnover (about 20% of street parking spaces always free in the city centre), - to increase revenue from parking spaces (multiplied by 3 in 4 years), - to increase P+R frequentation and P.T. use to go to city centre. Fare integration between regional rail services and urban P.T. network has multiplied by 4 the patronage on rail stations in Nantes Métropole area. With 250 to 300 daily connections, the new information service MOBITRANS has clearly bring a new useful mean to get real time information about urban P.T. time tables or disrupted services.
19	<u>Implementation of a large scale sustainable transport strategy for the southeast</u> The main objective for the southeast urban area is to improve and promote new public transport facilities, alternatives to car use and less dependency on the car. The targets are especially the commuters from south suburban areas and southeast inhabitants, that have a poor use of Public Transport. It combines: - The creation of a new railway link between the cities of Vertou, St Sebastien and Nantes with the creation of new railway stations, Park and Ride and connections with the bicycle network, - The remodelling of RN801 motorway, large urban-through highway located into an urban part inside the ring road, linking this one to the "Isle of Nantes". The project is including restriction of number of car lanes, speed limitation, and the creation of new inter-district links. - And is linked to the creation, on the RN801 space, of a new concept for the 4th major P.T. route of the urban network: the BusWay. RN801 remodelling is still under implementation with BusWay works and will be fully available in September 2006. Car traffic on RN801 has decreased by half. Two new stations have been created between Nantes and Vertou, with 360 parking spaces in Park and Ride and parking spaces for cycles. 19 round trips each day are operated on the rail link since the end of 2003. Patronage is growing very strongly since this date. Patronage on railway stations in Vertou and St Sébastien has tripled in one year and is still growing with a higher rate recently. Park and Ride are overcrowded since the car traffic restrictions on RN 801 are really effective (since April 2005). Bus stops, combined to train stations on Nantes-Vertou railway link, have stopped their losses and seen their patronage increase again.
20	<u>New mobility concept for the Tertre Campus site</u> New layouts of Tertre Campus site have modified the use of the space. Less cars and more pedestrians. But P.T. use has decreased on tramline 2. Students population structure is one of the possible causes. It's remarkable to note that "Chronobus" route 25 has increase its patronage by 23% on bus stops on the campus site. And the new waterbus has a good success even its time table is not so attractive. Pedestrians and cycling are growing in campus area. Student association initiatives for the promotion of cycling and carpooling have a quite good response from students and need to be comforted. Many quantifiable targets are fixed to 2012, so its difficult today to say if they are achievable.
21	<u>Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area</u> The project for remodelling the Vannes Road, concern an historical axis (about 3.7 km long), from the city centre towards Brittany, which is now a broad shopping avenue inside the ring road (shopping surface about 127 000 m2). This project is including - The road remodelling programme of the Vannes Road itself, divided in 3 phases, - An extension of tramline 3 towards Northwest (not included in VIVALDI Project), tramline 3 that has been put in service in September 2000 - Linked with the two projects above, a multi-modal station has been set up at the junction of

	the tramline 3 and the Vannes road, and includes a 300 places park and ride car park, a single-ticket bus-tram interchange and a ground-level car park with 90 places. In the part that will be remodelled, car traffic has decrease by about 20%. But works are always progressing, and it is too early to make a good evaluation of the new layouts. Works are still progressing on Vannes Road, so it is too early to make an evaluation of the remodelling, in particular about the use of the shopping area and the behaviour of customers. The patronage of the tramline 3 is still increasing, as the use of the Orvault Morlière park and Ride.

FOR EACH MAIN RESULT:

TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

17. Promoting a new clean public transport fleet

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Purchase of new CNG buses, both standard and articulated, instead of the former diesel buses of the PT fleet.	
Dissemination of results	Results are on the website of the Communauté urbaine de Nantes in French and English: VIVALDI final brochure, Policy recommendation report, Evaluation report, videos. Due to the number and diversity of questions and populations interested by the CNG buses implementation, Semitan will produce a didactic brochure in 2006, answering 80% of frequently asked questions on this issue.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

18. Improving the use of Public Transport and soft modes

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	▪ New company travel plans, ▪ Extension of the bicycle network, ▪ Mobility management and awareness campaigns, ▪ Continuation of the strong parking policy, ▪ Certification of PT routes.	
Dissemination of results	Results are on the website of the Communauté urbaine de Nantes in French and English: VIVALDI final brochure, Policy recommendation report, Evaluation report, videos.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

19. Implementation of a large scale sustainable transport strategy for the southeast

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	End of works on RN801 and launch of lane 4 busway service at the end of 2006.	
Dissemination of results	Results are on the website of the Communauté urbaine de Nantes in French and English: VIVALDI final brochure, Policy recommendation report, Evaluation report, videos.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

20. New mobility concept for the Tertre Campus site

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	Planning of a soft modes path from the Tertre campus to the Sciences campus in the south and the build of new University premises at the place of car park areas and with revised parking standards.	
Dissemination of results	Results are on the website of the Communauté urbaine de Nantes in French and English: VIVALDI final brochure, Policy recommendation report, Evaluation report, videos.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

21. Integration and rehabilitation program of Vannes Road (commercial zone) and Public Transport development on the northwest of urban area

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	End of works on Vannes road and new extension of tram lane 3 north to connect the ring road	
Dissemination of results	Results are on the website of the Communauté urbaine de Nantes in French and English: VIVALDI final brochure, Policy recommendation report, Evaluation report, videos.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

3.4.2 : Quantified data for each partner's main result

Items	Currently achieved quantity [a]	Estimated future quantity [b]
Economic impacts (in EURO)		
# of licenses issued (within EU)		
# of licenses issued (outside EU)		
Total value of licenses (in EURO)		
# of entrepreneurial actions (start-up company, joint ventures…)		
# of direct jobs created [c]		
# of direct jobs safeguarded [c]		
# of direct jobs lost		

[a] *The added value or the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).*
[c] *"Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*
 # = number of ...

I confirm the information contained in part 3 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature: 

Name: Olivier Sorin

Date: 27/01/2006

3.5.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	GRD1/2001/400060
PARTNER's NAME :	Kaunas City Municipality

CONTACT PERSON(S):

Name	Mr. James McGeever
Position/Title	VIVALDI Site Manager Kaunas
Organisation	Kaunas City Municipality
Address	Economic Development and Investment Department, L. Sapiegos g, LT-44251, Kaunas, LITHUANIA
Telephone	+370 37 42 29 83
Fax	+370 37 42 34 52
E-mail	jamesm@kaunas.sav.lt

No, TITLE AND BRIEF DESCRIPTION OF MAIN RESULT(S)

22	Implementing a new ticketing system The aim is to produce a viable system for putting in place a unification of the single and monthly bus and trolley journey tickets; ticket marking machines, and ticket vending machines. The main measures undertaken to implement new public transport pricing include the following: ❑ Development of a common ticket format; ❑ Introduction of new ticket validating machines ❑ Introduction of fixed term tickets; ❑ Implementation of flexible tariff structure; ❑ Revision of ticket distribution and sale procedures.
23	New public transport services For this measure level though, we have concentrated on the impact of the modification of the public transport route system and in particular on the reduction of some routes; better management of others; a little about the methods of attracting new passengers; and finally what affect this has had on the number of cars in the city. Creation of new city public transport route and schedule databases – through the implementation of the "PIKAS" software programme system. Study of passenger flows in the city public transport system (changes caused by decrease and increase of passenger flows influenced by new location of attraction centres or moving out of old one) Improvement of organisation and quality of public transport services with emphasis on social and environmental concerns of citizens
24	Access and security The activities implemented as part of this measure included the following: ❑ provision of new formats of timetables at bus stops and bus shelters in Kaunas City; ❑ provision of new forms of timetable holders that suited and fitted the PIKAS generated formats of timetables; ❑ design and production of new forms of public transport information – to include paper and electronic; ❑ new ways of attracting passengers to the public transport services by better promotion of public transport; ❑ passengers better acquainted with the possibilities of giving us their feedback on services and for us to be able to make improvements based on their comments and suggestions.
25	Microbus integration Much of the work related to this measure was political, and concentrated on activities based around negotiation and changing administrative processes. The main measures undertaken to integrate taxi/micro-bus include the following:

	❑ preparation of terms of reference on the basis of optimised and co-ordinated traffic schedule and passenger flows; ❑ gradual integration procedures of taxi/micro-buses into general public transport system; ❑ installation of information facilities in the city stops providing schedules and route plans.

FOR EACH MAIN RESULT:

TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

22. Implementing a new ticketing system

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	The new monthly tickets will be kept in place after the VIVALDI project finishes and we will develop a comprehensive marketing campaign to promote them. The extension of the measure will work in a slightly different way in that we have started to already develop an e-ticketing system that we hope to implement in the first few months of 2006. This may be a targeted launch aimed at a specific audience and we have to ensure that the launch goes well.	
Dissemination of results	In order for us to ensure an effective implementation of the e-ticketing system, we hope to be working with several partners – including our VIVALDI partner Bremen – on an INTERREG III project called MoCuBa that if successful will start in 2006. Also, as part of our Union of Baltic Cities Award for Best Environmental Practice in Baltic Cities 2005, we also received a cheque for 5,000 euros to invest in the development of ideas that are important to us and we will consider using some of this money for an exchange trip to a city already working successfully with e-ticketing system.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

23. New public transport services

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	As mentioned here previously, although the purchase of new buses is not a direct result of the VIVALDI project, it is linked through the raised awareness of new modes of transport, energy and environmentally efficient models, and through using some of the reports and studies we made for VIVALDI as part of our application for funds from the EBRD. A big part of the continuation of this measure is related to the purchase of additional buses to replace the old fleet. This process of replacement was started in 2004 and will continue into 2006 until we have a complete new fleet of autobuses. We will also be looking to replace a number of the trolley buses. The PIKAS System is now an integral part of our transport system – there is not really an up-scaling process that can occur; we will automatically receive updates on the system as and when it is revised, and of course the operators who manage the system will feed their improvement ideas to the System engineers as and when they have them. KAUNAS will participate in the BUSTRIP – baltic urban sustainable transport implementation plan - Interreg IIIB project (with partners from Bremen), which will concentrate on continued interaction with major transport and environmental actors in Kaunas. It will help to deliver a final single Sustainable Urban Transport Plan that will bring together a lot of the research and reports that were produced during the VIVALDI years…	
Dissemination of results	Continuation will be potentially be through the use of the UBC money to share our experiences with other interested cities – and following our UBC award – and later the CIVITAS Award – we have had quite a few interested cities wishing to know more about our public transport services and the way in which we manage them. Because the PIKAS System is an integral part of the whole VIVALDI project in Kaunas, it naturally follows that continuation elements in other measures will automatically include some element of the PIKAS System for sure.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

24. Access and security

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	As mentioned above, we are embarking on a process of working with an external marketing company to design and implement a public transport promotion campaign, highlighting the benefits of travelling on public transport (to include cost, environmental impact, social and energy efficiency). Some of the public research we carried out as part of our evaluation gave some clear indications as to which groups of public users we need to attract more of and which we need to engage with to keep using public transport. The improvement of public transport information will continue as well as the access equipment for disabled groups – to include continuation of the 'hard-of-hearing' equipment on buses.	
Dissemination of results	The only real dissemination aspects of this will be as part of the other measures, but primarily we will be benchmarking other cities - and working with Bremen on designing the e-ticketing campaign and associated information formats. The website will almost develop itself through the feedback we receive from users – over 500 per day on average currently. We need to improve our ability to offer a satisfactory level of response to enquiries that we receive and to be aware of the need for continual assessment of this service.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (4) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

25. Microbus integration

Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale		
Activity	**Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 2.2 and 3.2).**	**Timescale (months)**
Up-scaling & Continuation	We have probably got as far with this measure as we are likely to get. It is a highly charged and highly political issue and one that will probably become more difficult to work with over the next year due to elections taking place at the end of 2006. There is not much more to achieve here than we have achieved already. We will continue to try to implement our plan of a public transport scheme that works with the microbuses operating on the outer periphery of the city centre, but as these routes are not as lucrative as the city centre routes, we do not feel that we will be successful in achieving this.	
Dissemination of results	Again, the only chance of further dissemination of this measure will be as part of a package of issues that other cities may be interested to know about if we link up with other cities as part of spending the UBC award money on a good practice exchange programme.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (■) corresponding to your most probable follow-up.

R&D	Further research or development	■	**FIN**	Financial support	☐
LIC	Licence agreement	☐	**VC**	Venture capital/spin-off funding	☐
MAN	Manufacturing agreement	☐	**PPP**	Private-public partnership	☐
MKT	Marketing agreement/Franchising	☐	**INFO**	Information exchange, training	■
JV	Joint venture	☐	**CONS**	Available for consultancy	☐
			Other	(please specify)	☐

3.5.2 : Quantified data for each partner's main result

Items	Currently achieved quantity [a]	Estimated future quantity [b]
Economic impacts (in EURO)		
# of licenses issued (within EU)		
# of licenses issued (outside EU)		
Total value of licenses (in EURO)		
# of entrepreneurial actions (start-up company, joint ventures…)		
# of direct jobs created [c]		
# of direct jobs safeguarded [c]		
# of direct jobs lost		

[a] *The added value or the number of items already achieved to date.*
[b] *Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).*
[c] *"Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*
 # = number of ...

I confirm the information contained in part 3 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature: **Name: James McGeever**

Date: 27/01/2006

ANNEX 1: SUBJECT DESCRIPTOR CODES

1 ACARIANS
2 ACCIDENTOLOGY
3 ACCOUNTING
4 ACOUSTICS
5 ADMINISTRATIVE SCIENCES, ADMINISTRATION
6 ADULT EDUCATION, PERMANENT EDUCATION
7 AERONAUTICS
8 AGEING
9 AGRICULTURAL CHEMISTRY
10 AGRICULTURAL ECONOMICS
11 AGRICULTURAL ENGINEERING/TECHNOLOGY
12 AGRICULTURAL MARKETING/TRADE
13 AGRICULTURAL PRODUCTION SYSTEMS
14 AGRICULTURAL SCIENCES, AGRICULTURE
15 AGRI-FOOD, AGRI-ENVIRONMENT
16 AGRONOMY
17 AIR TRAFFIC CONTROL OPERATIONS/PROCEDURES/SLOT ALLOCATION
18 AIR TRAFFIC MANAGEMENT/FLOW MANAGEMENT
19 AIR TRANSPORT TECHNOLOGY
20 AIRCRAFT
21 AIRPORT OPERATIONS/PROCEDURES
22 ALGAE
23 ALGEBRA
24 ALGEBRAIC TOPOLOGY
25 ALGORITHMS AND COMPLEXITY
26 ALLERGOLOGY
27 ALTERNATIVE PROPULSION SYSTEMS
28 ANALYTICAL CHEMISTRY
29 ANIMAL BANKS AND REPOSITORIES
30 ANIMAL BIOTECHNOLOGY
31 ANIMAL BREEDING/REPRODUCTION/NUTRITION
32 ANIMAL FEED, ANIMAL PRODUCTION
33 ANIMAL HEALTH, ANIMAL WELFARE
34 ANIMAL PARASITIC DISEASES
35 ANIMAL PHYSIOLOGY
36 ANIMAL PRODUCTS
37 ANTHROPOGENIC IMPACT ON ECOSYSTEMS
38 ANTHROPOLOGY
39 ANTIBIOTICS
40 ANTICANCER THERAPIES
41 ANTI-FRAUD
42 APPLIED MATHEMATICS
43 APPLIED PHYSICS
44 AQUACULTURE, AQUACULTURE TECHNOLOGY
45 ARCHIVISTICS/DOCUMENTATION/TECHNICAL DOCUMENTATION
46 ARCTIC ENVIRONMENT
47 ARTIFICIAL INTELLIGENCE
48 ARTS
49 ASSESSMENT AND MANAGEMENT OF LIVING RESOURCES
50 ASTRONOMY
51 ASTROPHYSICS/PLANETARY GEOLOGY
52 ATOMIC AND MOLECULAR PHYSICS
53 AUDIOVISUAL COMMUNICATION
54 AUTOMATION, ROBOTIC CONTROL SYSTEMS
55 BACTERIOLOGY
56 BANKING
57 BENCHMARKING TECHNIQUES
58 BIOASSAYS
59 BIOCATALYSTS
60 BIOCHEMICAL TECHNOLOGY
61 BIOCHEMISTRY, METABOLISM
62 BIOCOMPUTING, MEDICAL INFORMATICS, BIOMATHEMATICS, BIOMETRICS
63 BIODEGRADATION
64 BIODIVERSITY
65 BIOFERTILIZERS
66 BIOGAS PRODUCTION
67 BIOLOGICAL COLLECTIONS: MUSEA AND RELATED INFORMATION RESOURCES
68 BIOLOGICAL ENGINEERING
69 BIOLOGICAL MONITORING/RISK FACTORS AND ASSESSMENT
70 BIOLOGICAL SCIENCES, BIOLOGY
71 BIOMASS PROCESS INTEGRATION AND ENVIRONMENTAL IMPACTS
72 BIOMECHANICS, BIOMEDICAL ENGINEERING
73 BIOMEDICAL ETHICS
74 BIOMEDICAL SCIENCES
75 BIOMOLECULES, BIOPLASTICS, BIOPOLYMERS
76 BIOPHYSICS, MEDICAL PHYSICS
77 BIOREACTORS
78 BIOREMEDIATION
79 BIOSAFETY
80 BIOSENSORS
81 BIOTECHNOLOGY, BIOENGINEERING
82 BIOTRANSFORMATION
83 BOREAL FOREST
84 BRAIN DEVELOPMENT
85 BRAIN THEORY, BRAIN MAPPING
86 BROADBAND TECHNOLOGIES
87 BROADCASTING
88 BROKERAGE SERVICES
89 BUILDING CONSTRUCTION, SHELL SUSTAINABILITY
90 BUSINESS COMMUNICATION
91 BUSINESS ECONOMICS/STUDIES, ORGANISATION AND PROCESSES
92 CARBOCHEMISTRY, PETROCHEMISTRY, FUELS AND EXPLOSIVES TECHNOLOGY
93 CARBOHYDRATES AND OTHER MACROMOLECULES METABOLISM
94 CARBON DIOXIDE CAPTURE/STORAGE/DISPOSAL
95 CARDIOVASCULAR SYSTEM
96 CARE AND HEALTH SERVICES, HELP TO THE HANDICAPPED
97 CELL COMMUNICATION
98 CENTRAL AND EASTERN EUROPEAN COUNTRIES
99 CERAMIC MATERIALS AND POWDERS
100 CERTIFICATION
101 CHEMICAL METROLOGY
102 CHEMICAL TECHNOLOGY AND ENGINEERING
103 CHEMISTRY/HOMOGENEOUS AND HETEROGENEOUS CATALYSIS/THEORETICAL/NANOCHEMISTRY
104 CHRONOLOGY, DATATION TECHNOLOGY
105 CIVIL ENGINEERING (INCL PAVEMENTS AND STRUCTURES)
106 CLINICAL GENETICS, BIOLOGY
107 CLINICAL PHYSICS, RADIOLOGY, TOMOGRAPHY, MEDICAL INSTRUMENTATION, MEDICAL IMAGING
108 CLINICAL RESEARCH, CLINICAL TRIALS, COMPUTERISED CLINICAL SYSTEMS
109 COAL MINING TECHNOLOGIES
110 COASTAL MORPHOLOGICAL CHANGES AND COASTAL DEFENSE MECHANISMS
111 COASTAL ZONE ECOSYSTEMS AND MANAGEMENT
112 COATS AND SURFACE TREATMENT
113 COGNITIVE SCIENCE
114 COLLOIDS
115 COMBINATORIAL CHEMISTRY
116 COMBINED HEAT AND POWER SYSTEMS
117 COMBUSTION BASICS AND EFFICIENCY
118 COMMERCIAL AND INDUSTRIAL ECONOMICS
119 COMMON AGRICULTURAL POLICY
120 COMMUNICATION ENGINEERING/TECHNOLOGY
121 COMMUNICATION SCIENCES/HUMAN COMPUTER INTERACTIONS
122 COMMUNITY DEVELOPMENT, COMMUNITY STUDIES
123 COMPANY RE-ENGINEERING/ORGANISATIONAL DEVELOPMENT
124 COMPOSITE MATERIALS
125 COMPUTATIONAL BIOLOGY
126 COMPUTATIONAL CHEMISTRY AND MODELING
127 COMPUTATIONAL MATHEMATICS/DISCRETE MATHEMATICS
128 COMPUTATIONAL PHYSICS
129 COMPUTER SCIENCE/ENGINEERING, NUMERICAL ANALYSIS, SYSTEMS, CONTROL
130 COMPUTER TECHNOLOGY/GRAPHICS, META COMPUTING
131 COMPUTER-BASED TRAINING
132 CONDENSED MATTER: ELECTRONIC, MAGNETIC AND SUPERCONDUCTIVE PROPERTIES
133 CONDENSED MATTER: MECHANICAL AND THERMAL PROPERTIES
134 CONDENSED MATTER: OPTICAL AND DIELECTRIC PROPERTIES

135 CONDENSED MATTER: SOFT MATTER AND POLYMER PHYSICS
136 CONSUMER SCIENCES, CONSUMERS' RIGHTS
137 CONTROL ENGINEERING
138 COOPERATIVE WORKING
139 CORROSION
140 COSMOLOGY
141 CRIMINOLOGY
142 CROP, CROP INPUTS/MANAGEMENT/YIELD ESTIMATION
143 CULTURAL HERITAGE: PRESERVATION AND RESTORATION/CULTURAL STUDIES
144 CULTURE COLLECTIONS: MICROBIAL, CELL, TISSUE, GERMPLASM
145 CURRICULUM STUDIES
146 CYBERNETICS
147 CYTOGENETICS
148 CYTOLOGY, CANCEROLOGY, ONCOLOGY
149 DATA PROTECTION, STORAGE TECHNOLOGY, CRYPTOGRAPHY
150 DATABASES, DATABASE MANAGEMENT, DATA MINING
151 DECENTRALISED GENERATION OF ELECTRICITY/HEAT
152 DECISION SUPPORT TOOLS
153 DEEP WATER EXPLOITATION
154 DEMOGRAPHY
155 DESIGN, DESIGN ENGINEERING
156 DEVELOPMENT OF CLEAN FUELS FOR TRANSPORT
157 DEVELOPMENT POLICIES AND STUDIES
158 DEVELOPMENT TECHNOLOGY, ANIMAL GROWTH, ONTOLOGY, EMBRYOLOGY
159 DIAGNOSTICS, DIAGNOSIS
160 DIGITAL SYSTEMS, DIGITAL REPRESENTATION
161 DISABILITIES, HANDICAPS AND HANDICAPPED
162 DISEASES: RARE/CHRONIC/DEGENERATIVE, ETIOLOGIC FACTORS
163 DIVERSIFICATION IN AGRICULTURE/FORESTRY
164 DNA CHIP
165 DNA THERAPIES
166 DOWNSTREAM PROCESSING
167 "DRILLING TECHNOLOGY; DEEP DRILLING"
168 DRUG ABUSE, ADDICTION
169 DRUG DISCOVERY, PROFILING, TARGETING
170 DRYLAND AND ARID ZONE ECOSYSTEMS
171 EARTH OBSERVATION APPLICATIONS AND POLICY
172 EARTH OBSERVATION TECHNOLOGY AND INFORMATION EXTRACTION
173 EARTH SCIENCE, EARTH OBSERVATION/STRATIGRAPHY/SEDIMENTARY PROCESSES
174 EARTH SCIENCES FOR CLIMATE RESEARCH
175 ECOLOGY, ECOSYSTEMS, ECOLOGICAL EVOLUTION/DYNAMICS
176 ECONOMIC AND ENVIRONMENT IMPACTS
177 ECONOMIC AND SOCIAL SCIENCES
178 ECONOMICS IN AGRICULTURE/FORESTRY/RURAL DEVELOPMENT
179 ECONOMICS OF DEVELOPMENT/GROWTH/INNOVATION
180 ECONOMICS, ECONOMIC PLANNING
181 ECOSYSTEM RESEARCH AND CONSERVATION
182 ECOTOXICOLOGY
183 EDUCATION AND TRAINING, LIFELONG LEARNING, REMOTE LEARNING
184 EDUCATIONAL MULTIMEDIA
185 EDUCATIONAL SCIENCES
186 ELECTRICAL ENGINEERING/TECHNOLOGY
187 ELECTROMAGNETISM
188 ELECTRONIC COMMERCE, ELECTRONIC PAYMENT, ELECTRONIC SIGNATURE
189 ELECTRONIC DATA INTERCHANGE
190 ELECTRONIC HEALTH RECORDS
191 ELECTRONIC PUBLISHING, AUTHORING TOOLS
192 ELECTRONICS, ELECTRONIC ENGINEERING
193 EMERGENCY MANAGEMENT
194 EMISSION
195 EMPLOYMENT STUDIES
196 ENDOCRINOLOGY, SECRETING SYSTEMS, DIABETOLOGY
197 ENERGY AND CLIMATE CHANGE
198 ENERGY CONVERSION PROCESSES OR CYCLES/CONVERSION FROM COAL
199 ENERGY MANAGEMENT SYSTEM
200 ENERGY MARKET ANALYSIS
201 ENERGY PRODUCTION FROM BIOMASS / WASTE
202 ENERGY RESEARCH/RTD POLICY
203 ENERGY, RENEWABLE ENERGIES, ELECTRICITY STORAGE
204 ENGINEERING, CONCURRENT ENGINEERING
205 ENTOMOLOGY, PLANT PARASITOLOGY
206 ENTREPRENEURSHIP, SPIN OFFS, NEW TECHNOLOGY BASED BUSINESS
207 ENVIRONMENT, ENVIRONMENTAL SCIENCE
208 ENVIRONMENTAL ECONOMICS/NATURAL RESOURCES ECONOMICS
209 ENVIRONMENTAL HEALTH
210 ENVIRONMENTAL IMPACTS/INTERACTIONS
211 ENVIRONMENTAL INDICATORS/MONITORING/RISK ASSESSMENT
212 ENVIRONMENTAL LAW/TREATIES/POLICY
213 ENVIRONMENTAL TECHNOLOGY/ENGINEERING, POLLUTION CONTROL
214 EPIDEMIOLOGY
215 ERGONOMICS
216 EROSION
217 EUROPEAN INTEGRATION
218 EUROPEAN LAW
219 EUROPEAN STUDIES
220 EVALUATION
221 EXPLOITATION OF RESEARCH RESULTS
222 EXTENSIFICATION
223 EXTERNALITIES
224 FARMHOUSE CONSTRUCTION
225 FARMING SYSTEMS
226 FERMENTATION
227 FINANCIAL SCIENCE, FINANCE
228 FINE CHEMICALS, DYES AND INKS
229 FISH/FISHERIES
230 FISHING METHODOLOGIES/SELECTIVITY
231 FOOD AND DRINK TECHNOLOGY
232 FOOD CHEMISTRY, FOOD INGREDIENTS
233 FOOD MICROBIOLOGY
234 FOOD PROCESSING/PACKAGING
235 FOOD QUALITY MANAGEMENT/POLICY/LABELLING
236 FOOD TOXICOLOGY
237 FOREST ECOSYSTEMS
238 FOREST GENETICS
239 FOREST PHYSIOLOGY AND PATHOLOGY
240 FOREST POLICY, FOREST MANAGEMENT
241 FOREST PROTECTION
242 FOREST SCIENCES
243 FORMAL SAFETY AND ENVIRONMENTAL ASSESSMENT
244 FREIGHT TRANSPORT
245 FUEL CELLS
246 FUELS: ALTERNATIVE FUELS IN TRANSPORTS
247 FUNCTIONAL FOODS
248 FUNGI
249 FUTURE AND EMERGING TECHNOLOGIES
250 GAS CONVERSION
251 GAS TURBINES FOR ENERGY CONVERSION
252 GASES, FLUID DYNAMICS, PLASMAS/ELECTRIC DISCHARGES
253 GASTRO-ENTEROLOGY
254 GENDER ISSUES, GENDER STUDIES
255 GENE THERAPY
256 GENERAL PATHOLOGY, PATHALOGICAL ANATOMY
257 GENETIC COMPARATIVE ANALYSIS
258 GENETIC ENGINEERING
259 GENETIC MAPPING, GENE SEQUENCE
260 GENETIC RESISTANCE
261 GENETIC SELECTION
262 GENETICALLY MODIFIED ORGANISMS
263 GENETICS
264 GENOMES, GENOMICS
265 GEOGRAPHIC INFORMATION SYSTEMS
266 GEOGRAPHY
267 GEOLOGICAL ENGINEERING/GEOTECHNICS
268 GEOMETRY/TOPOLOGY
269 GEOPHYSICS, PHYSICAL OCEANOGRAPHY, METEOROLOGY, GEOCHEMISTRY, TECTONICS
270 GERONTOLOGY AND GERIATRICS
271 GLOBAL CHANGE: BIOGEOCHEMICAL AND HYDROLOGICAL CYCLES
272 GLOBAL CHANGE: CLIMATE CHANGE
273 GLOBAL CHANGE: HUMAN HEALTH
274 GLOBAL CHANGE: LAND COVER AND DEGRADATION
275 GLOBAL CHANGE: OZONE AND ATMOSPHERIC COMPOSITION
276 GLOBAL CYCLES OF ENERGY AND MATTER

277 GREEN TECHNOLOGIES/CHEMICALS
278 GRID CONNECTION
279 HAZARDS: INDUSTRIAL
280 HAZARDS: NATURAL
281 HEALTH AND POPULATION, HEALTH EDUCATION
282 HEALTH FINANCING / ECONOMICS
283 HEALTH RISK EVALUATION
284 HEALTH SCIENCES/POLICIES/LAW
285 HEALTH SERVICE MANAGEMENT
286 HEALTH SYSTEMS RESEARCH
287 HEALTH, HEALTH PHYSICS
288 HETEROGENEOUS CATALYSIS
289 HIGH CONTAINMENT, HIGHT CONTAINMENT FACILITIES
290 HIGH FREQUENCY TECHNOLOGY, MICROWAVES
291 HIGH-THROUGHPUT SCREENING
292 HISTOLOGY, CYTOCHEMISTRY, HISTOCHEMISTRY, TISSUE CULTURE
293 HISTORY
294 HISTORY AND PHILOSOPHY OF SCIENCE AND MEDICINE
295 HOME SYSTEMS
296 HORMONES
297 HORTICULTURE, ORNAMENTAL PLANTS
298 HUMAN FACTORS IN TRANSPORT
299 HUMAN GENETICS
300 HUMAN RIGHTS
301 HUMAN SCIENCES, HUMANITIES
302 HVAC SYSTEMS AND MANAGEMENT
303 HYBRID AND ELECTRIC VEHICLES
304 HYDROBIOLOGY, MARINE BIOLOGY, AQUATIC ECOLOGY, LIMMOLOGY
305 HYDROCARBONS EXPLORATION AND PRODUCTION
306 HYDROELECTRICITY/SMALL HYDRO/HYDROPOWER
307 HYDROGEN
308 HYDROGEOLOGY, GEOGRAPHICAL AND GEOLOGICAL ENGINEERING
309 IDENTIFICATION SYSTEMS
310 IMAGING, IMAGE PROCESSING
311 IMMUNOLOGY, IMMUNOTHERAPY, IMMUNOASSAYS
312 IN VITRO TESTING/TRIAL METHODS
313 INDUSTRIAL ENGINEERING
314 INDUSTRIAL POLICY/RELATIONS
315 INDUSTRIAL PSYCHOLOGY/SOCIOLOGY
316 INDUSTRIAL TECHNOLOGY/ECONOMICS
317 INFECTIONS
318 INFORMATICS
319 INFORMATICS LAW
320 INFORMATION MANAGEMENT
321 INFORMATION TECHNOLOGY/SCIENCE
322 INFRASTRUCTURE MANAGEMENT
323 INLAND NAVIGATION
324 INNOVATION ASSISTANCE
325 INNOVATION FINANCE
326 INNOVATION MONITORING
327 INNOVATION POLICY/STUDIES
328 INNOVATION TRAINING
329 INORGANIC CHEMISTRY
330 INSECTS
331 INSTRUMENTATION TECHNOLOGY
332 INTANGIBLE INVESTMENTS
333 INTEGRATED ENVIRONMENTAL ASSESSMENT
334 INTEGRATED GLOBAL SAFETY
335 INTEGRATION OF RENEWABLE ENERGY SYSTEMS
336 INTELLECTUAL PROPERTY
337 INTELLIGENT AGENTS
338 INTELLIGENT VEHICLES AND WATERBORNE TRANSPORT SYSTEMS
339 INTERMODAL TRANSPORT
340 INTERNATIONAL COMMERCE/ECONOMICS
341 INTERNATIONAL TREATIES / MULTILATERAL AGREEMENTS
342 INTERNET TECHNOLOGIES
343 INVERTEBRATES
344 JOURNALISM
345 KNOWLEDGE ENGINEERING
346 LABOUR MARKET STUDIES/ECONOMICS
347 LAND USE PLANNING/LANDSCAPE/LANDSCAPE ARCHITECTURE
348 LANGUAGE SCIENCES/ENGINEERING/TECHNOLOGY, LINGUISTICS
349 LARGE SCALE GENERATION OF ELECTRICITY/HEAT
350 LASER TECHNOLOGY
351 LAW: INTERNATIONAL / PRIVATE / PUBLIC
352 LEARNING MECHANISMS
353 LIBRARY SCIENCE/SYSTEMS
354 LIFE CYCLE MANAGEMENT
355 LIPIDS, STEROIDS, MEMBRANES
356 LIQUID BIOFUELS
357 LOGISTICS
358 LOW INPUT PRODUCTION
359 MACROECONOMICS (INCL. MONETARY ECONOMICS)
360 MACROMOLECULAR CHEMISTRY/NEW MATERIAL/SUPRAMOLECULAR STRUCTURES
361 MACROSOCIOLOGY
362 MAINTENANCE MANAGEMENT
363 MANAGEMENT OF ENTERPRISES
364 MANAGEMENT OF URBAN AREAS
365 MANAGEMENT STUDIES
366 MARINE ECOSYSTEMS
367 MARINE SCIENCES/MARITIME STUDIES
368 MARINE: INSTRUMENTATION AND UNDERWATER TECHNOLOGY
369 MARINE: OCEANOGRAPHY (PHYSICAL AND OPERATIONAL)
370 MARITIME SAFETY
371 MARKET ANALYSIS/ECONOMICS/QUANTITATIVE METHODS
372 MARKET STUDY, MARKETING
373 MATERIALS TECHNOLOGY/ENGINEERING
374 MATHEMATICAL ANALYSIS/PARTIAL DIFFERENTIAL EQUATIONS
375 MATHEMATICAL LOGIC: SET THEORY, COMBINATORICS/SEMANTICS
376 MATHEMATICAL PHYSICS
377 MATHEMATICS
378 MECHANICAL ENGINEERING, HYDRAULICS, VIBRATION AND ACOUSTIC ENGINEERING
379 MEDIA STUDIES/LAW/MASS COMMUNICATIONS
380 MEDICAL ANTHROPOLOGY
381 MEDICAL SCIENCES/RESEARCH
382 MEDICAL TECHNOLOGY
383 MEDICINAL CHEMISTRY
384 MEDICINE (HUMAN AND VERTEBRATES)
385 MEMBRANE TECHNOLOGY
386 MENTAL STRESS
387 METABOLIC REGULATION AND SIGNAL TRANSDUCTION
388 METAL TECHNOLOGY AND METAL PRODUCTS
389 METALLURGY
390 METROLOGY, PHYSICAL INSTRUMENTATION
391 MICROBIAL BIOTECHNOLOGY, MICROBIAL MODELLING
392 MICROBIAL SYSTEMATICS/DIVERSITY
393 MICROBIOLOGY
394 MICROECONOMICS (THEORETICAL AND APPLIED)
395 MICROELECTRONICS
396 MICROENGINEERING, MICROMACHINING
397 MICROSYSTEMS
398 MINING
399 MOBILE COMMUNICATIONS
400 MODELLING/MODELLING TOOLS, 3-D MODELLING
401 MOLECULAR BIOLOGY
402 MOLECULAR BIOPHYSICS
403 MOLECULAR DESIGN, DE NOVO DESIGN
404 MOLECULAR EVOLUTION
405 MOLECULAR GENETICS
406 MOLECULAR MARKERS AND RECOGNITION
407 MONOCLONAL ANTIBODIES
408 MOTHER AND CHILD HEALTH
409 MOTORS AND PROPULSION SYSTEMS
410 MOUNTAIN AND HIGHLAND ECOSYSTEMS
411 MULTIMEDIA
412 MULTISENSORY TECHNOLOGY, MULTI-SENSING
413 MUSEUM SCIENCE
414 MYCOLOGY
415 NANOBIOTECHNOLOGY
416 NANOFABRICATION, NANOTECHNOLOGY
417 NARROW BAND TECHNOLOGIES
418 NATURAL GAS
419 NATURAL HISTORY OF DISEASES
420 NATURAL OILS, FATS AND WAXES
421 NATURAL RESOURCES EXPLORATION
422 NATURAL SCIENCES
423 NEMATODS
424 NETWORK TECHNOLOGY, NETWORK SECURITY
425 NETWORKED ORGANISATIONS

426 NEUROBIOLOGY, NEUROCHEMISTRY, NEUROLOGY, NEUROPSYCHOLOGY, NEUROPHYSIOLOGY
427 NEUROINFORMATICS
428 NEUTRON PHYSICS
429 NEW MEANS OF TRANSPORT
430 NITROGEN FIXATION
431 NOISE AND VIBRATIONS
432 NON-COMMUNICABLE DISEASES
433 NON-LINEAR DYNAMICS AND CHAOS THEORY
434 NON-METALLIC MINERAL TECHNOLOGY
435 NUCLEAR CHEMISTRY
436 NUCLEAR ENGINEERING AND TECHNOLOGY
437 NUCLEAR MEDICINE, RADIOBIOLOGY
438 NUCLEAR PHYSICS
439 NUCLEIC ACID METABOLISM
440 NUCLEIC ACIDS, POLYNUCLEAOTIDES, PROTEIN SYNTHESIS
441 NUMBER THEORY, FIELD THEORY, ALGEBRAIC GEOMETRY, GROUP THEORY
442 NUTRITION
443 OBSERVATION SYSTEMS / CAPACITY / DATASETS / INDICATORS
444 OCCUPATIONAL HEALTH, INDUSTRIAL MEDICINE
445 OCEAN / ENERGY
446 ODONTOLOGY, STOMATOLOGY
447 OFFSHORE TECHNOLOGY, SOIL MECHANICS, HYDRAULIC ENGINEERING
448 ON-LINE INFORMATION SERVICES, ON-LINE DEMOCRATY, ON-LINE BUSINESS
449 OPERATIONS RESEARCH, ACTUARIAL MATHEMATICS
450 OPTICAL MATERIALS
451 OPTICS
452 OPTRONICS
453 ORGANIC CHEMISTRY
454 ORGANIC FARMING
455 ORGANIC WASTE
456 ORGANOMETALLIC CHEMISTRY
457 ORPHAN DRUGS
458 OTHER RENEWABLE ENERGY OPTIONS
459 OTORHINOLARYNGOLOGY, AUDIOLOGY, AUDITIVE SYSTEM AND SPEECH
460 PALEOCLIMATOLOGY
461 PALEONTOLOGY/PALEOECOLOGY
462 PAPER TECHNOLOGY, RECYCLING
463 PARASITOLOGY (HUMAN AND ANIMAL)
464 PARTICLE PHYSICS/FIELDS THEORY
465 PASSENGER TRANSPORT
466 PATENTS, COPYRIGHTS, TRADEMARKS
467 PATHOLOGY
468 PATHOPHYSIOLOGY
469 PERIPHERALS TECHNOLOGIES (MASS DATA STORAGE, DISPLAY TECHNOLOGIES)
470 PERI-URBAN AGRICULTURE
471 PESTICIDES, BIOPESTICIDES
472 PETROCHEMISTRY, PETROLEUM ENGINEERING
473 PETROLOGY, MINERALOGY, GEOCHEMISTRY
474 PHARMACEUTICALS AND RELATED TECHNOLOGIES
475 PHARMACOLOGICAL SCIENCES, PHARMACOGNOSY, TOXICOLOGY
476 PHOTONIC NETWORKS
477 PHOTOVOLTAIC SYSTEMS, CELLS AND MODULES MANUFACTURING, TECHNOLOGY DEVELOPMENT
478 PHYSICAL CHEMISTRY/SOFT MATTER
479 PHYSICAL GEOGRAPHY, CARTOGRAPHY, CLIMATOLOGY
480 PHYSICAL MEDICINE, KINESITHERAPY, REVALIDATION, REHABILITATION
481 PHYSICAL SCIENCES
482 PHYSICAL STRESS
483 PHYSICS OF FLUIDS
484 PHYSIOLOGICAL DISORDERS
485 PHYSIOLOGY
486 PHYTOREMEDIATION
487 PHYTOTECHNOLOGY, PHYTOPATHOLOGY, CROP PROTECTION
488 PIPELINE TECHNOLOGY
489 PLANT AND ASSOCIATED MICROORGANISM BIOTECHNOLOGY
490 PLANT BIOCHEMISTRY
491 PLANT BIOLOGY
492 PLANT GENETICS/SELECTION/BREEDING
493 PLANT HEALTH/PROTECTION
494 PLANT INPUTS/NUTRITION/PRODUCTION
495 PLANT PHYSIOLOGY
496 PLANT PRODUCTS
497 POLITICAL SCIENCES/THEORY/ECONOMY/COMPARATIVE POLITICS
498 POLYMER TECHNOLOGY, BIOPOLYMERS
499 POPULATION GENETICS
500 PORT MANAGEMENT
501 POSITIONING AND GUIDANCE SYSTEMS
502 POST HARVEST TREATMENT - FOOD
503 POST HARVEST TREATMENT - NON-FOOD
504 PRECISION ENGINEERING
505 PRION DISEASES
506 PROBABILITY THEORY
507 PROCESS EFFICIENCY
508 PROCESS ENGINEERING
509 PRODUCTION TECHNOLOGY
510 PROGRAMMING/INFORMATION SYSTEMS
511 PROJECT ENGINEERING
512 PROTEINS, ENZYMOLOGY, PROTEIN ENGINEERING
513 PROTEOMES, PROTEOMICS
514 PSYCHIATRY, MEDICAL PSYCHOLOGY, PSYCHOSOMATICS
515 PSYCHOLOGICAL SCIENCES, PSYCHOLOGY
516 PUBLIC ADMINISTRATION
517 PUBLIC HEALTH
518 PUBLIC PERCEPTION, PUBLIC RELATIONS
519 PUBLIC POLICY STUDIES
520 PUBLISHING
521 PULP TECHNOLOGY
522 QUALITY, QUALITY CONTROL, TRACEABILITY
523 QUANTUM INFORMATION PHYSICS
524 QUANTUM MECHANICS
525 QUANTUM TECHNOLOGY
526 R&D POLICY AND PROGRAMME EVALUATION AND IMPACT ASSESSMENT
527 RADIODIAGNOSTICS, RADATION BIOLOGY
528 RADIOECOLOGY
529 RAILWAY TRANSPORT TECHNOLOGY
530 REACTION MECHANISMS AND DYNAMICS
531 REACTOR SAFETY
532 REFERENCE MATERIALS/METHODS
533 REFRIGERATION AND COOLING
534 REGIONAL ECONOMICS/STUDIES/DEVELOPMENT
535 REHABILITATION SYSTEMS
536 REMOTE SENSING
537 REPRODUCTIVE HEALTH
538 REPRODUCTIVE MECHANISMS
539 RESEARCH METHODOLOGY IN SCIENCE
540 RESEARCH NETWORKING
541 RESEARCH POLICY
542 RESERVOIR CHARACTERISATION AND MONITORING
543 RESIDUES
544 RESPIRATORY SYSTEM
545 RE-STRUCTURING OF PUBLIC ADMINISTRATIONS
546 ROAD SAFETY
547 ROAD TRANSPORT TECHNOLOGY
548 RTD SYSTEMS AND POLICIES AND THEIR INTERACTION WITH OTHER RELATED POLICIES
549 RURAL DEVELOPMENT, RURAL SOCIOLOGY AND SOCIO-ECONOMICS
550 SAFETY TECHNOLOGY
551 SAMPLE BANKS
552 SATELLITE (TECHNOLOGY, SYSTEMS, POSITIONING, COMMUNICATION)
553 SCIENCE AND TECHNOLOGY INDICATORS
554 SCIENCE POLICY
555 SCIENCE, TECHNOLOGY AND THE MEDIA
556 SEA FOOD
557 SEARCH AND RESCUE
558 SECURITY SYSTEMS
559 SEMICONDUCTOR PHYSICS AND TECHNOLOGIES
560 SENSORY SCIENCE, SENSORS, INSTRUMENTATION
561 SEROLOGY AND TRANSPLANTATION
562 SET ASIDE
563 SIGNAL PROCESSING
564 SILVICULTURE, FORESTRY, FOREST TECHNOLOGY
565 SIMULATION, SIMULATION ENGINEERING
566 SIMULATOR TRAINING
567 SKELETON, MUSCLE SYSTEM, RHEUMATOLOGY, LOCOMOTION
568 SMART CARDS
569 SOCIAL ECONOMICS
570 SOCIAL LAW

571 SOCIAL MEDICINE
572 SOCIAL SHAPING OF TECHNOLOGY
573 SOCIETAL BEHAVIOUR
574 SOCIO-ECONOMIC ASPECTS OF ENVIRONMENTAL CHANGE
575 SOCIO-ECONOMIC RESEARCH
576 SOCIO-ECONOMICAL IMPACTS IN AGRICULTURE/FORESTRY/RURAL DEVELOPMENT
577 SOCIO-ECONOMICS
578 SOCIOLOGY
579 SOFTWARE ENGINEERING, MIDDLEWARE, GROUPWARE
580 SOIL SCIENCE, AGRICULTURAL HYDROLOGY, WATER PROCESSES
581 SOLAR CONCENTRATING TECHNOLOGIES AND APPLICATIONS
582 SOLID STATE PHYSICS
583 SOUND ENGINEERING/TECHNOLOGY
584 SPACE TECHNOLOGY
585 SPATIAL INTEGRATION IN BUILT ENVIRONMENT
586 SPEECH COMMUNICATION
587 SPEECH PROCESSING/TECHNOLOGY
588 STANDARDISATION, STANDARDISATION OF NEW TECHNOLOGIES
589 STATISTICAL PHYSICS
590 STATISTICS
591 STRUCTURAL BIOLOGY/DETERMINATION/FUNCTION
592 SUPERCONDUCTORS
593 SURFACE CHEMISTRY
594 SURFACE PHYSICS
595 SURVEILLANCE
596 SURVEYING
597 SYNTHESIS AND NEW MOLECULES
598 SYSTEMS ANALYSIS AND MODELS DEVELOPMENT
599 SYSTEMS DESIGN/THEORY
600 SYSTEMS ENGINEERING
601 SYSTEMS, CONTROL, MODELLING, AND NEURAL NETWORKS
602 TECHNOLOGICAL SCIENCES
603 TECHNOLOGY ACCEPTABILITY
604 TECHNOLOGY ASSESSMENT AND FORESIGHT
605 TECHNOLOGY EVALUATION/MANAGEMENT
606 TECHNOLOGY POLICY
607 TECHNOLOGY TRANSFER
608 TECHNOLOGY WATCH/VALIDATION
609 TELECOMMUNICATION ENGINEERING/TECHNOLOGY
610 TELESERVICES, TELE-WORKING, TELE-PAYMENT, TELE-MEDICINE
611 TESTING, CONFORMANCE TESTING
612 TEXTILES TECHNOLOGY
613 THERAPEUTIC SUBSTANCES
614 THERMAL ENGINEERING, APPLIED THERMODYNAMICS
615 THERMODYNAMICS
616 TIMBER ENGINEERING
617 TISSUE BANKS/ENGINEERING
618 TOTAL QUALITY MANAGEMENT
619 TOWN AND COUNTRY PLANNING
620 TOXICITY AND TOXINOLOGY
621 TRACTION/PROPULSION SYSTEMS
622 TRAFFIC CONTROL SYSTEMS
623 TRAFFIC ENGINEERING/INFRASTRUCTURE/MANAGEMENT SYSTEMS
624 TRANSACTION SYSTEMS
625 TRANSGENE EXPRESSION
626 TRANSGENIC CROP PLANT
627 TRANSHIPMENT SYSTEMS
628 TRANSPORT DEMAND MANAGEMENT
629 TRANSPORT ECONOMICS
630 TRANSPORT INFORMATION SYSTEMS, FLEET MANAGEMENT
631 TRANSPORT INFRASTRUCTURE/MANAGEMENT SERVICES
632 TRANSPORT MODELLING/SCENARIOS
633 TRANSPORT OF GAS AND LIQUID FUELS
634 TRANSPORT POLICY/LAW
635 TRANSPORT SAFETY/SECURITY
636 TRANSPORT TECHNOLOGY/ENGINEERING
637 TRANSPORT TELEMATICS
638 TRANSPORT, TRANSMISSION AND DISTRIBUTION OF ELECTRICITY
639 TROPICAL AGRICULTURE
640 TROPICAL ECOSYSTEMS
641 TROPICAL FORESTRY
642 TROPICAL MEDICINE
643 URBAN DEVELOPMENT/ECONOMICS
644 URBAN FORESTRY
645 URBAN GOVERNANCE AND DECISION MAKING
646 URBAN QUALITY OF LIFE
647 URBAN SOCIOLOGY
648 URBAN TRANSPORT
649 URBAN: SUSTAINABLE CITIES AND RATIONAL RESOURCE MANAGEMENT
650 URBAN: TECHNOLOGIES FOR THE BUILT ENVIRONMENT
651 UROLOGY, NEPHROLOGY
652 USER CENTRED DESIGN, USABILITY
653 USER MODELLING
654 VACCINES
655 VACUUM/HIGH VACUUM TECHNOLOGY
656 VEHICLE TECHNOLOGY
657 VENTURE CAPITAL
658 VESSEL TRAFFIC MANAGEMENT
659 VETERINARY MEDICINE
660 VIRTUAL ORGANISATIONS
661 VIRTUAL REALITY
662 VIRUS, VIROLOGY
663 VULCANOLOGY/SEISMOLOGY
664 WASTE BIOTREATMENT
665 WASTE MANAGEMENT/RECYCLING
666 WATER RESOURCE MANAGEMENT/ENGINEERING
667 WATER TRANSPORT TECHNOLOGY, SHIPBUILDING
668 WATER: FRESH WATER ECOSYSTEMS
669 WATER: HYDROLOGY
670 WATER: MONITORING / QUALITY / TREATMENT
671 WATER: RATIONAL AND EFFICIENT USE
672 WATERBORNE TRANSPORT
673 WAVE/TIDAL ENERGY
674 WEEDS
675 WELFARE STUDIES
676 WETLAND ECOSYSTEMS
677 WIND ENERGY MANUFACTURING/TECHNOLOGIES
678 WIND TURBINE ENVIRONMENTAL IMPACT
679 WIRELESS SYSTEMS, RADIO TECHNOLOGY
680 WOMEN'S STUDIES
681 WOOD ENGINEERED PRODUCTS, PARTICLE AND FIBRE BOARDS
682 WOOD PROCESSING BY MECHANICAL MEANS
683 WORLD TRADE ORGANISATION

ANNEX 2:

NACE codes for business activities

Division	Description
Section A	*Agriculture, hunting and forestry*
01	Agriculture, hunting and related service activities
02	Forestry, logging and related service activities
Section B	*Fishing*
05	Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
Section C	*Mining and quarrying*
10	Mining of coal and lignite; extraction of peat
11	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
12	Mining of uranium and thorium ores
13	Mining of metal ores
14	Other mining and quarrying
Section D	*Manufacturing*
15	Manufacture of food products and beverages
16	Manufacture of tobacco products
17	Manufacture of textiles
18	Manufacture of wearing apparel; dressing and dyeing of fur
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
21	Manufacture of pulp, paper and paper products
22	Publishing, printing and reproduction of recorded media
23	Manufacture of coke, refined petroleum products and nuclear fuel
24	Manufacture of chemicals and chemical products
25	Manufacture of rubber and plastic products
26	Manufacture of other non-metallic mineral products
27	Manufacture of basic metals
28	Manufacture of fabricated metal products, except machinery and equipment
29	Manufacture of machinery and equipment n.e.c.
30	Manufacture of office machinery and computers
31	Manufacture of electrical machinery and apparatus n.e.c.
32	Manufacture of radio, television and communication equipment and apparatus
33	Manufacture of medical, precision and optical instruments, watches and clocks
34	Manufacture of motor vehicles, trailers and semi-trailers
35	Manufacture of other transport equipment
35.1	Building and repairing of ships and boats
35.2	Manufacture of railway and tramway locomotives and rolling stock
35.3	Manufacture of aircraft and spacecraft
a	*Manufacture of helicopter*
b	*Manufacture of aeroplanes for the transport of goods or passengers, for use by the defence forces, for sports or other purposes*
c[1]	*Manufacture of parts and accessories of the aircraft of this class*

[1] Includes: major assemblies such as fuselages, wings, doors, control surfaces, landing gear, fuel tanks, nacelles, airscrews, helicopter rotors and propelled rotor blades, motors and engines of a kind typically found on aircraft, parts of turbojets and turbopropellers

Division	Description
d[2]	*Others*
36	Manufacture of furniture; manufacturing n.e.c.
37	Recycling
Section E	*Electricity, gas and water supply*
40	Electricity, gas, steam and hot water supply
41	Collection, purification and distribution of water
Section F	*Construction*
45	Construction
Section G	*Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods*
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
Section H	*Hotels and restaurants*
55	Hotels and restaurants
Section I	*Transport, storage and communication*
60	Land transport; transport via pipelines
61	Water transport
61.1	Sea and coastal water transport
e	*Transport of passenger or freight over water*
f	*Operation of excursion, cruse or sightseeing boats*
g	*Operation of ferries, water taxis, etc.*
62	Air transport
h	*Transport of passenger or freight by airlines*
63	Supporting and auxiliary transport activities; activities of travel agencies
63.1	*Cargo handling and storage*
63.2	*Other supporting transport activities*
i	*Operation of terminal facilities such as harbours and piers, waterway locks etc.*
j	*Airport and air-traffic control activities*
63.3	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.
63.4	Activities of other transport agencies
k	*Forwarding of freight*
64	Post and telecommunications
Section J	*Financial intermediation*
65	Financial intermediation, except insurance and pension funding
66	Insurance and pension funding, except compulsory social security
67	Activities auxiliary to financial intermediation
Section K	*Real estate, renting and business activities*
70	Real estate activities

[2] This includes: manufacture of gliders, hang-gliders, manufacture of dirigibles and balloons, manufacture of spacecraft and spacecraft launch vehicles, satellites, planetary probes, orbital stations, shuttles, manufacture of aircraft launching gear, deck arresters, etc. manufacture of ground flying trainers However 35.3 should **exclude**:manufacture of parachutes, military ballistic missiles, ignition parts and other electrical parts for internal combustion engines, instruments used on aircraft, and air navigation systems.

Division	Description
71	Renting of machinery and equipment without operator and of personal and households goods
72	Computer and related activities
73	Research and development
l	*Research and experimental development on natural sciences and engineering*
m	*Research and experimental development on social sciences and humanities*
74	Other business activities
Section L	*Public administration and defence; compulsory social security*
75	Public administration and defence; compulsory social security
Section M	*Education*
80	Education
Section N	*Health and social work*
85	Health and social work
Section O	*Other community, social and personal service activities*
90	Sewage and refuse disposal, sanitation and similar activities
91	Activities of membership organisations n.e.c.
92	Recreational, cultural and sporting activities
93	Other service activities
Section P	*Private households with employed persons*
95	Private households with employed persons
Section Q	*Extra-territorial organisations and bodies*
99	Extra-territorial organisations and bodies