

**CiViTAS**  
Cleaner and better transport in cities

**ARCHIMEDES**

AALBORG • BRIGHTON & HOVE • DONOSTIA-SAN SEBASTIÁN • IASI • MONZA • ÚSTÍ NAD LABEM

## **D4.1 – Development and Experience of Travel Behaviour and Travel Plan Demonstrations in ARCHIMEDES**

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<b>Author</b>	Søren Staal
<b>Quality Control</b>	Alan Lewis
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## 1. Introduction

### 1.1 Background CIVITAS

CIVITAS - cleaner and better transport in cities - stands for City-VITALity-Sustainability. With the CIVITAS Initiative, the EC aims to generate a decisive breakthrough by supporting and evaluating the implementation of ambitious integrated sustainable urban transport strategies that should make a real difference for the welfare of the European citizen.

**CIVITAS I** started in early 2002 (within the 5th Framework Research Programme);  
**CIVITAS II** started in early 2005 (within the 6th Framework Research Programme) and  
**CIVITAS** started in late 2008 (within the 7th Framework Research Programme).

The objective of CIVITAS-Plus is to test and increase the understanding of the frameworks, processes and packaging required to successfully introduce bold, integrated and innovative strategies for clean and sustainable urban transport that address concerns related to energy-efficiency, transport policy and road safety, alternative fuels and the environment.

Within CIVITAS I (2002-2006) there were 19 cities clustered in 4 demonstration projects, within CIVITAS II (2005-2009) 17 cities in 4 demonstration projects, whilst within CIVITAS (2008-2012) 25 cities in 5 demonstration projects are taking part. These demonstration cities all over Europe are funded by the European Commission.

#### Objectives:

- to promote and implement sustainable, clean and (energy) efficient urban transport measures
- to implement integrated packages of technology and policy measures in the field of energy and transport in 8 categories of measures
- to build up critical mass and markets for innovation

#### Horizontal projects support the CIVITAS demonstration projects & cities by:

- Cross-site evaluation and Europe wide dissemination in co-operation with the demonstration projects
- The organisation of the annual meeting of CIVITAS Forum members
- Providing the Secretariat for the Political Advisory Committee (PAC)
- Development of policy recommendations for a long-term multiplier effect of CIVITAS

#### Key elements of CIVITAS

- CIVITAS is co-ordinated by cities: it is a programme “of cities for cities”
- Cities are in the heart of local public private partnerships
- Political commitment is a basic requirement
- Cities are living ‘Laboratories’ for learning and evaluating

### 1.2 Background ARCHIMEDES

ARCHIMEDES is an integrating project, bringing together 6 European cities to address problems and opportunities for creating environmentally sustainable, safe and energy efficient transport systems in medium sized urban areas.

The objective of ARCHIMEDES is to introduce innovative, integrated and ambitious strategies for clean, energy-efficient, sustainable urban transport to achieve significant impacts in the policy fields of energy, transport, and environmental sustainability. An ambitious blend of policy tools and measures will increase energy-efficiency in transport, provide safer and more convenient travel for all, using a higher share of clean engine technology and fuels, resulting in an enhanced urban environment (including reduced noise and air pollution). Visible and measurable impacts will result from significantly sized measures in specific innovation areas. Demonstrations of innovative transport technologies, policy measures and partnership working, combined with targeted research, will verify the best frameworks, processes and packaging required to successfully transfer the strategies to other cities.

Influencing travel behaviour is one of the eight workpackages within CIVITAS ARCHIMEDES. CIVITAS cities try to influence travel behaviour through mobility management, which includes marketing, communication, education and information campaigns. The aim of mobility management is to change attitudes and travel behaviour with the ultimate goal to create a new mobility culture. Initiatives include mobility management plans for companies to get employees to travel to work using sustainable modes of transport, and awareness-raising campaigns and educational programmes at schools.

Mobility management is an innovative, demand-oriented approach to enhance and promote sustainable mobility. It is based on information, co-ordination and motivation. It involves a variety of measures, including new trip planning tools on the internet and new ways of marketing public transport.

Mobility management can be a tool for changing travel patterns:

- School-based awareness campaigns help raise awareness of not just students but also parents and teachers.
- By setting good examples, city administrations can also work to convince private companies to get involved in mobility management.
- Other mobility management measures involve providing better information to the public on public transport routes, schedules and for journey planning.

Daily journeys between home and the workplace or school constitute a significant part of urban transport. These journeys are also made during the same time periods (morning and evening peak periods) leading to excessive demand on the road network leading to congestion. The rapid increase of car ownership and its associated convenience over the use of collective modes of transport has increased the severity of this problem. To change behaviour a proactive approach is required to educate people as to why they should use collective modes of transport for these important journeys and what personal and society benefits this brings. The increased use of collective and active modes of transport would dramatically reduce this demand, and it is therefore important to seek ways of affecting modal choice for these journeys.

The objectives of this workpackage are to:

- Promote sustainable transport through mobility management plans and initiatives;
- Offer customised and personalised travel information to support citizens (particularly employees and students) in making environmentally sustainable travel choices;
- Increase quality of service to all citizens through the opening of communication channels between operators, planners and the public;
- Reduce the number of people commuting by single occupancy vehicle and maximise take-up of the available collective and shared modes;
- Reduce the number of children being driven to school;
- Decrease CO<sub>2</sub> and local pollutant emissions from transport.

## 2 Participant Cities

The ARCHIMEDES project focuses on activities in specific innovation areas of each city, known as the ARCHIMEDES corridor or zone (depending on shape and geography). These innovation areas extend to the peri-urban fringe and the administrative boundaries of regional authorities and neighbouring administrations.

The two Learning cities, to which experience and best-practice will be transferred, are Monza (Italy) and Ústí nad Labem (Czech Republic). The strategy for the project is to ensure that the tools and measures developed have the widest application throughout Europe, tested via the Learning Cities' activities and interaction with the Lead City partners.

### 2.1 Leading City Innovation Areas

The four Leading cities in the ARCHIMEDES project are:

- Aalborg (Denmark);
- Brighton & Hove (UK);
- Donostia-San Sebastián (Spain); and
- Iasi (Romania).

Together the Lead Cities in ARCHIMEDES cover different geographic parts of Europe. They have the full support of the relevant political representatives for the project, and are well able to implement the innovative range of demonstration activities.

The Lead Cities are joined in their local projects by a small number of key partners that show a high level of commitment to the project objectives of energy-efficient urban transportation. In all cases the public transport company features as a partner in the proposed project.

### 2.2 Aalborg

The City of Aalborg, with extensive experience of European cooperation and having previously participated in CIVITAS I (VIVALDI) as a 'follower' city, is coordinating the consortium and ensures high quality management of the project. The City has the regional public transport authority (NT) as a local partner, and framework agreements with various stakeholder organisations.

Aalborg operates in a corridor implementing eight different categories of measures ranging from changing fuels in vehicles to promoting and marketing the use of soft measures. The city of Aalborg has successfully developed similar tools and measures through various initiatives, like the CIVITAS-VIVALDI and MIDAS projects. In ARCHIMEDES, Aalborg aims to build on this work, tackling innovative subjects and combining with what has been learned from other cities in Europe. The result is an increased understanding and experience, in order to then share with other Leading cities and Learning cities.

Aalborg has recently expanded its size by the inclusion of neighbouring municipalities outside the peri-urban fringe. The Municipality of Aalborg has a population of some 194,149, and the urban area a population of some 121,540. The ARCHIMEDES corridor runs from the city centre to the eastern urban areas of the municipality and forms an ideal trial area for demonstrating how to deal with traffic and mobility issues in inner urban areas and outskirts of the municipality. University faculties are situated at 3 sites in the corridor (including the main university site). The area covers about 53 square kilometres, which is approximately 5 % of the total area of the municipality of Aalborg. The innovation corridor includes different aspects of transport in the urban environment, including schools, public transport, commuting, goods distribution and traffic safety. The implementation of measures and tools fit into the framework of the urban transport Plan adopted by the Municipality.



Figure 1 - The Archimedes Corridor in Aalborg

## 2.3 Brighton & Hove

Brighton & Hove is an historic city, in the south-east of England, known internationally for its abundant Regency and Victorian architecture. It is also a seaside tourist destination, with over 11km of seafront attracting eight million visitors a year.

In addition, it is a leading European Conference destination; home to two leading universities, a major regional shopping centre, and home to some of the area's major employers. All of this, especially when set against the background of continuing economic growth, major developments across the city and a growing population, has led the city council to adopt a vision for the city as a place with a co-ordinated transport system that balances the needs of all users and minimises damage to the environment.

The sustainable transport strategy that will help deliver this vision has been developed within the framework of a Local Transport Plan, following national UK guidelines. The ARCHIMEDES measures also support the vision, which enables the city to propose innovative tools and approaches to increase the energy-efficiency and reduce the environmental impact of urban transport.

## 2.4 Donostia - San Sebastián

The city of Donostia -San Sebastián overlooks the sea and, with a bit more than 180,000 inhabitants, keeps a human scale. Some people consider the balanced combination of small mountains, manor buildings, and sea as the setting for one of the most beautiful cities in the world. They have a tradition in favouring pedestrians, cyclists and public transport.

For about twenty years, the city has been enforcing a strong integrated policy in favour of pedestrians, bicycles and public transport. Considering walking and cycling as modes of transport, has led to the building of a non-motorised transport network for promoting this type of mobility around the city.

Likewise, the city has extended its network of bus lanes. The city holds one of the higher bus-riding rates, with around 150 trips per person per year.

The CIVITAS project is being used as the perfect opportunity to expand Donostia -San Sebastián's Sustainable Urban Transport Strategy. With the package of CIVITAS measures Donostia-San Sebastián will:

- Increase the number of public transport users
- Decrease the number of cars entering in the city centre
- Increase the use of the bicycle as a normal mode of transport
- Maintain the high modal share of walking
- Reduce the number of fatal accidents and accidents with heavy injuries
- Reduce the use of fossil fuels in public transport.

## 2.5 Iasi

The City of Iasi is located in north-eastern Romania and is the second largest Romanian city, after Bucharest, with a population of 366,000 inhabitants. It is also the centre of a metropolitan area, which occupies a surface of 787.87 square kilometres, encompassing a total population of 398,000 inhabitants.

The city has five universities with approximately 50,000 students, the second largest in Romania. The universities and their campuses are located in the central and semi-central area of the city. In the same area, there are also a large number of kindergartens, schools and high schools with approximately 10,000 pupils. This creates a large number of routes along the main corridor, served by the public transport (PT) service number "8" (Complex Tudor Vladimirescu - Copou) with an approximate length of 10 km. The City of Iasi will implement its integrated measures in this area to be known as the "CIVITAS+Corridor".

The city's objectives in CIVITAS - ARCHIMEDES are based on the existing plans related to transport, Local Agenda 21, approved in 2002, and the Sustainable Social-Economic Development Strategy for City of Iasi. The CIVITAS objectives will be integrated in the Strategy for metropolitan development which was finalized in October 2009.

## 2.6 Monza

Monza is a city on the river Lambro, a tributary of the Po, in the Lombardy region of Italy, some 15km north-northeast of Milan. It is the third-largest city of Lombardy and the most important economic, industrial and administrative centre of the Brianza area, supporting a textile industry and a publishing trade. It is best known for its Grand Prix.

The City of Monza, with approximately 121,000 inhabitants, is located 15 km north of Milan, which is the centre of the Lombardia area. This area is one of the engines of the Italian economy; the number of companies is 58,500, i.e. a company for every 13 inhabitants.

Monza is affected by a huge amount of traffic that crosses the city to reach Milan and the highways nodes located between Monza and Milan. It is also an important node in the Railways network, crossed by routes connecting Milan with Como and Switzerland, Lecco and Sondrio, Bergamo and Brianza. "Regione Lombardia", which in the new devolution framework started in 1998, has full responsibility for establishing the Local Public Transportation System (trains, coaches and buses) and has created a new approach for urban rail routes using an approach similar to the German S-Line or Paris RER.

Monza has recently become the head of the new "Monza and Brianza" province, with approximately 750,000 inhabitants, so will gain the full range of administration functions by 2009. Plan-making responsibilities and an influence over peri-urban areas will require the city to develop new competencies.



In this context, the objective of the City of Monza in participating in CIVITAS as a Learning City is to set up an Urban Mobility System where the impact of private traffic can be reduced, creating a new mobility offer, where alternative modes become increasingly significant, leading to improvements to the urban environment and a reduction in energy consumption (and concurrent pollution).

## 2.7 Ústí nad Labem

Ústí nad Labem is situated in the north of the Czech Republic, about 20 km from the German border. Thanks to its location in the beautiful valley of the largest Czech river Labe (Elbe) and the surrounding Central Bohemian Massive, it is sometimes called 'the Gateway to Bohemia'. Ústí is an industrial, business and cultural centre of the Ústí region.

Ústí nad Labem is an important industrial centre of north-west Bohemia. The city's population is 93,859, living in an area of 93.95km<sup>2</sup>. The city is also home to the Jan Evangelista Purkyně University with eight faculties and large student population. The city used to be a base for a large range of heavy industry, causing damage to the natural environment. This is now a major focus for improvement and care.

The Transport Master Plan, to be adopted in its first form in 2007, will be the basic transport document for the development of a new urban plan (2011), which must be developed by the City subject to the provisions of the newly adopted Building Act. This will characterise the development of transport in the city for the next 15 years, and so the opportunity to integrate Sustainable Urban Transport Planning best practices into plan development during the project means an ideal match of timing between city policy frameworks and the ARCHIMEDES project.

The project's main objective is to propose transport organisation in the city, depending on the urban form, transport intensity, development of public transport, and the need for access. The process, running until 2011, will include improving the digital model of city transport that Ústí currently has at its disposal. The plan will have to deal with the fact (and mitigate against unwanted effects that could otherwise arise), that from 2010, the city will be fully connected to the D8 motorway, running from Prague to Dresden.

## 3. Background to the Deliverable

This deliverable summarises the research and demonstration activities conducted in relation to work-package 4 of the CIVITAS ARCHIMEDES project – Influencing travel behaviour.

### 3.1 Introduction to the Measures

Research and demonstration activities in respect of influencing travel behaviour have been conducted in all six of the ARCHIMEDES cities, namely Aalborg, Brighton, Donostia - San Sebastián, Iasi, Ústí nad Labem and Monza, in the form of measures 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 and 83. These measures are introduced in the following sections.

The results from the individual measures are reported in detail as follows:

**Table 1: Overview of travel behaviour measures**

Measure No:	Research Deliverables	Implementation Deliverables
29		T29.1
30		T30.1
31	R31.1	T31.1
32		T32.1 T32.2
33	R33.1 R33.2	T33.1 T33.2
34	R34.1	T34.1
35		T35.1
36		T36.1
37		T37.1
38		T38.1
39	R39.1	T39.1
40		T40.1
41	R41.1	T41.1
83		T83.1

This deliverable draws together the experiences gained from the individual measures, and presents the common issues and conclusions that can be drawn at the workpackage level. Further information and outcomes of the measures can be found in D10.3 Final Evaluation Report and D12.4 Final version of measure level result templates.

### Measure 29: School Cycling Campaigns in Aalborg

The City of Aalborg has implemented a cycling campaign that seeks to find new ways of communicating with schoolchildren through mobile phones and the Internet together with more traditional campaigning elements.

In order to motivate and engage the target group, the campaign was built around a range of characters and a number of riddles related to the bike. The schools competed against each other to solve the riddles and win the competition. The campaign was implemented first in the period August-October 2010 and then again during the same period in 2011.

The implementation of the measure was organised in cooperation between The Technical and Environmental Department and The Department of Education and Cultural Affairs within The City of Aalborg.

### Measure 30: Commuter Travel Plans in Aalborg

Commuter travel plans have been created by the City of Aalborg for public and private organisations in the ARCHIMEDES corridor. The green commuter travel plans were implemented at 7 companies that in total employ approximately 20,000 people.

Commuter travel plans are a way of working to deliver behavioural changes in a positive and informative way. Commuter travel plans focus at the daily commuting to/from a workplace and work with tailored information and initiatives to make this behaviour greener and more sustainable. No company in Aalborg had previously developed a CTP. Therefore, the CTP concept is unfamiliar to companies in Aalborg.

### **Measure 31: Personalised Travel Plans in Brighton & Hove**

Brighton & Hove City Council have been implementing a traditional Personalised Travel Planning (PTP) scheme, involving doorstep interviews since 2006.

This measure comprised a research study to review and assess previous PTP interventions and theoretical concepts and identify alternative applications of behavioural change to inform future PTP studies. This knowledge was then utilized to implement a better PTP programme with a more innovative approach was introduced alongside the traditional PTP, to engage with other parts of the community.

Brighton & Hove's existing PTP project was expanded from 10,000 to 20,000 households per year in 2010 (5,000 of which were part of the CIVITAS measure).

### **Measure 32: Travel Plans in Brighton & Hove**

In this measure Brighton & Hove worked together with businesses and schools to help them develop Travel Plans which detailed a range of measures to encourage more employees, children and parents to walk, cycle, use public transport or car share. Some schools and nurseries were also offered the opportunity to be involved in a range of sustainable travel initiatives. All schools were invited to use a web-based route planner that promoted more sustainable journeys. Some businesses were also offered the opportunity to be involved in a range of sustainable travel initiatives and to monitor travel plans using a computer software package called iTRACE.

Both initiatives aimed to yield an important learning experience. They represented an opportunity to learn about approaches to travel planning and community engagement, and to develop best practice. This is in addition to seeing actual modal shift.

### **Measure 33: Travel Plans in Donostia - San Sebastián**

This measure explored travel plans in Donostia - San Sebastián and was divided into two sub-measures that addressed respectively School Travel Plans and Commuting Travel Plans.

The Camino Escolar (Way to School) project developed and up-scaled a pilot School Mobility project already implemented in one Donostia - San Sebastian district before the CIVITAS project started. The project consisted of infrastructure improvements to promote changes in mobility behaviour in the family environment and informing teachers and parents' associations of the need to promote a behavioural change in school-based mobility.

The Commuter Travel Plan project comprised a comprehensive research phase aimed at the understanding of travel behaviour in each of five business areas, particularly the high incidence of car use and the reasons behind such car dependency levels. Commuter Travel Plans identifying actions to reduce car use, the promotion of cycling and walking and the introduction of programmes for car-pooling and car-sharing were implemented together with an effective monitoring and evaluation plan.

### **Measure 34: Personalised Travel Plans in Donostia - San Sebastián**

In this measure, the Municipality of Donostia - San Sebastián developed over 200 PTP interventions within the main housing districts of the CIVITAS corridor. Visits to households provided targeted information on sustainable travel modes. The focus was to explore the possibilities that public transport offered for specific trips and what the difference in costs and travel time would be compared with current mode use. Special attention was given to multi-modal trips.

The households whose members declared interest in exploring alternatives were offered a free public transport pass for 3 months to try out the service. This pass also included free access to the public bike hire scheme developed as part of ARCHIMEDES.

### **Measure 35: Education and Promotion Programme in Iasi**

This measure introduced a promotional campaign through media and on public transport routes to demonstrate the benefits of using sustainable transport modes. Marketing specialists were commissioned in June 2010 to develop campaign and promotional material to encourage the uptake of sustainable travel through public transport. The promotional campaign for public transport was launched to accurately and quickly inform the public about the ARCHIMEDES measures in Iasi. The target audience was students in particular and inhabitants of Iasi in general.

Before the ARCHIMEDES project, Iasi faced a gap between the general awareness of environmental problems - greenhouse effect, air quality problems, noise etc. - and travellers' recognition of their contribution to these problems. By educating people about the benefits of sustainable transport and encouraging them to think about their transport habits, the aim was to make it easier to promote sustainable transport.

To evaluate the social impact of these promotional campaigns, surveys have been carried out before and after the measure's implementation.

### **Measure 36: Public Transport User Forum in Iasi**

Before the ARCHIMEDES project there was no formal channel for two way communication and exchange of information between providers and users of public transport in Iasi. This measure established a new means of communication between passengers and transport companies in the form of a website forum.

This forum was designed to encourage feedback from users, thus providing transport companies with a simple and efficient way to interact with the users. The forum developed discussions on various topics related to public transport in Iasi, e.g. the quality of transport, facilities granted to travellers according to age (pensioners, students, persons with disabilities). This communication is important in adapting and developing PT services in conformity with users' requests.

### **Measure 37: School Travel Plans in Iasi**

Peak hour journeys between home and the workplace or school constitute a significant part of congestion problems in Iasi. To limit growth in car traffic it is important to build a preference towards public transport and other sustainable modes among young people. This measure therefore aimed at affecting the modal choice of school children and students in Iasi, which has never been attempted before.

Within this measure, pupils and students have been informed about the benefits of a sustainable transport system and encouraged to reflect on their own transport habits through promotional campaigns. After surveys have been carried out, to understand better students' travel behavior and preferences regarding transport from home to educational institute, three School Travel Plans were created, each for a different category; elementary school, secondary school and high schools and universities.

### **Measure 38: Travel Information Telephone Service in Iasi**

This measure involved the implementation of a telephone hotline, where citizens could contact the travel information centre, in order to obtain free transport information. Before ARCHIMEDES there was no direct way for passengers to seek out local public transport information before or during their journey. Limited knowledge of transport options and schedules was seen as a hindrance to the use of public transport.

Public Transport Iasi (PTI) established a "telverde" (free telephone line) that provided the opportunity to connect citizens with the PTI travel information centre offering information about PT services and

journey planning. Also passengers could make complaints for different problems encountered during the journey. This helps PTI to improve the quality of services and to achieve a better connection with passengers and their needs.

### **Measure 39: Public Transport Promotion Campaign in Ústí nad Labem**

This measure comprised the design and implementation of a Public Transport Promotion Campaign in Ústí nad Labem.

Results of a research study of the use of the Public Transport system served as a general input towards future improvements of public transport in Ústí nad Labem, for preparation of the promotion campaign and for development of a Sustainable Urban Transport Plan of Ústí nad Labem. Based on the research findings and best practice from other cities, the publicity campaign was designed and held in the city to increase awareness about PT services, promote use of urban public transport, and encourage modal shift from individual motor transport to public transport.

### **Measure 40: Drive Safely Campaign in Ústí nad Labem**

This measure comprised the design and implementation of a Drive Safely Campaign for residents in Ústí nad Labem as part of a wider scale traffic safety project. The campaign aimed at safe behaviour of road users and raising awareness about road safety issues.

Based on research on successfully implemented campaigns with similar topics in the Czech Republic and abroad, the Drive Safely campaign was designed in various forms. The municipality produced promotional materials and educational brochures to support the activities. Ústí nad Labem organised promotional activities to raise awareness about causes and consequences of traffic accidents through public events, workshops, traffic training for children, and promotion in the local media. An international conference on safe transport infrastructure and traffic education was organised.

### **Measure 41: School Travel Plans in Monza**

This measure covered two corresponding tasks comprising the development of a walking bus (PEDIBUS) service with a defined route, stops and timetable for the four major primary schools within the municipality of Monza. Teachers, pupils and parents were actively involved in the planning process through workshops and school visits.

After conducting a study aimed at designing the scheme of pedestrian paths acting like a public transport line for children to walk to school, participatory workshops were activated in seven pilot classes in order to offer children a better knowledge of the territory where schools are located, to design the Walking Bus routes. After a communication campaign created by children, in April 2011 ten walking bus lines have been activated in four primary schools of the city. After a first implementation stage of 35 days, the Walking Bus started again at the beginning of the school year 2011/12, being operational for the whole school year.

### **Measure 83: Mobility management for University Campus in Donostia - San Sebastián**

This measure developed and implemented a Mobility Management Plan for the Ibaeta campus of the Universidad del País Vasco (University of the Basque Country, UPV). The UPV set up a Mobility Management Team to promote changes in the organisational model of the University, to make the use of collective transport and other energy-saving transport easier.

UPV organised yearly awareness raising campaigns for the community to communicate the plan in general and specific measures to change habits towards more sustainable transport modes and more responsible, efficient car driving.

An important element of this measure was the setting up of the collaborative 'Observatory for Mobility

Management'. This was a space for common work, exchanging experiences and monitoring mobility management measures. It was an expression of the political, financial and social will from local and regional administrations, as well as local Non-Governmental Organisations (NGOs) to foster the process of elaborating and implementing the Mobility Management Plan, and the possibility of extending it to get other transport plans off the ground. Invitations to participate were given to different public institutions, private entities and NGOs with an interest in the subject.

## 4. Analysis

### 4.1 Comparison of Measures

#### 4.1.1 Objectives

The measures within travel behaviour cover three main themes:

- 1) Mobility Management in workplaces and schools
- 2) PTP focusing on a higher use of sustainable transport
- 3) Information and education campaigns.

#### Mobility Management in workplaces and schools

Seven measures covered a special transport segment focusing on daily journeys to and from schools and workplaces. The main objectives within this area were to:

- To make home to school journeys safe;
- To create a long term behavioural change in favour of sustainable modes;
- Highlight problems and alternative options with regards to lowering car use;
- Create and utilize corporate responsibility for using sustainable transport modes;
- Create and utilize a positive competition spirit towards using sustainable transport modes.

The first objective of the **School Cycling Campaigns in Aalborg (M29)** was to encourage children (especially aged 11-13) to cycle to school to reduce numbers driven to school. The second objective was to test new ways of communicating with the target group combined with more traditional campaigning elements. A longer term aim was to encourage continuing use of sustainable transport by children.

The objective of the **School Travel Plans in Iasi (M37)** was to educate pupils and students on the benefits of a sustainable transport system, to encourage them to reflect on their own transport habits and elaborating and promoting Travel Plans for pupils and students in Iasi. The aim was to increase pupils' and students' use of public and soft modes of transport to the schools and Universities.

The main objective of the **School Travel Plans in Monza (M41)** was to reduce congestion in streets surrounding primary schools by reducing the number of children driven to school. This objective was to be met by raising awareness of travel behaviour for journeys to school and to encourage pedestrian mobility among pupils and their teachers and parents at four primary schools.

The main objective of the **Mobility management scheme for the University Campus in Donostia - San Sebastián (M83)** was to reduce the level of private car use to and from the University campus by elaborating a Mobility Management Plan for the University campus of Ibaeta and promoting sustainable transport modes for the university community taking into account the needs of the user of the campus.

The main objective of the **Travel Plans in Brighton & Hove (M32)** was to reduce the number of single car journeys by employees travelling to and from work, and to reduce the impact of the parents

driving their children to and from school, so as to achieve a sustained increase in the number of safe sustainable journeys to and from school. These aims were to be achieved by working with businesses and schools to help them develop Travel Plans which detailed a range of measures to encourage more employees/children & parents to walk, cycle, use public transport or car share.

The main objective of the **Travel Plans in Donostia - San Sebastián (M33)** was to reduce congestion and pollution by reducing car use through an increase walking and cycling, and to develop a strategy for increasing the use of sustainable modes of transport to and from educational institutions and business areas. One part of the measure focused on raising awareness about sustainable transport among pupils, parents and teachers at 10 schools, aiming to promote a behavioural change, under the premises of a quality and safety improvement for children and their families on their trips to school, whilst the other part of the measure focused on developing a mobility plan for 3 business areas.

The main objective of the **Commuter Travel Plans in Aalborg (M30)** was to reduce pollution in the city by increasing the use of public transport, cycling, walking and car pooling. This objective would met by implementing a series of commuter travel plans and by encouraging target groups (i.e. students at Aalborg University and employees at the participating companies) to use more sustainable means of transport.

### PTP

Three measures comprised individual travel planning and services, aiming to increase the use of sustainable transport modes and improving PT services.

The main objective of **PTP in Brighton & Hove (M31)** was to offer customised and personalised travel information to support citizens in making environmentally sustainable travel choices. This would support the general transport objectives of Brighton & Hove which since 2000 have led to a 10 % reduction in cars entering the city centre, 5 million more bus passengers per annum and a 50 % increase in cycling levels. The measure objective would be met by engaging with about 5,000 households per year, targeted at those who did not travel sustainably but might be open to doing so to achieve measurable mode shift and utilising new marketing techniques and methodologies (social media campaigns and community participation projects to reach new audiences not normally targeted by traditional PTP projects).

The main objective of **PTP in Donostia - San Sebastián (M34)** was to develop PTP for at least 200 households along the CIVITAS corridor with a view to changing the travel behaviour of these citizens and hence to reduce car use and increase public transport and multi-modal trips. The aim was to explore the possibilities that Public Transport offers for their specific trips and what the difference in costs and travel time would be compared to the current situation.

The main objective of **Travel Information Telephone Service in Iasi (M38)** was to create a telephone service between PT passengers and the PTI travel information centre as part of a general improvement of PT services and through this information channel enhance passenger's knowledge on PT routes and thus their perception on the quality of PT.

### Information and Education Campaigns

Four measures focused on creating educational and informational channels between public transport users and public transport authorities. The aim was to increase knowledge of the benefits of using public transport and of user needs, aiming to increase perceived attractiveness of public transport. Campaigning was also undertaken to increase awareness of road safety.

The main objective of the **Public Transport User Forum in Iasi (M36)** was to establish a communication channel between passengers and transport companies from Iasi by creating a web-based public

transport forum. By obtaining feedback from users, the transport company would have an efficient way to get information from customers.

The main objective of the **Public Transport Promotion Campaign in Ústí nad Labem (M39)** was aimed at increasing the reputation of public transport in the city, attracting passengers and strengthening its usage through the launch of a PT promotion campaign. Based on results of a research study, including a user survey, a PT promotion campaign suitable was designed and implemented.

The objective of the **Education and Promotion Programme in Iasi (M35)** was to educate people, especially pupils at schools, colleges and Universities, about the benefits of sustainable transport and encourage this user group to reconsider their transport habits.

The **Drive Safely Campaign in Ústí nad Labem (M40)** acted as a support to measure 49 "Road Safety Measure in Ustí nad Labem" and aimed at influencing the behaviour of road users and raising awareness about road safety issues as a part of an overall objective of reducing the number of deaths and serious injuries in road traffic accidents. The campaign focused on users of road transport in the municipality district, especially on vulnerable road users (cyclists and pedestrians) and individual car users.

## 4.2 Differences in Approach

### Mobility Management in workplaces and schools

The seven measures that focused on Mobility Management to and from workplaces and schools comprised different approaches towards changing travel behaviour of commuting employees and students.

A common approach for the measures focusing on the travel behaviour at schools was to educate school children, students, teachers and parents of the advantages of sustainable transport through innovative campaigns. For most measures this approach was combined with the elaboration of school travel plans or introducing "Walking Bus" routes, where children walk in a line together with some adults, typically parents of some of the children. Whilst the main focus was towards elementary schools, a Mobility Management Plan for the University campus of Ibaeta in Donostia - San Sebastián was implemented. Also in Iasi, School Travel Plans were elaborated for elementary schools, secondary schools, high schools and universities.

Monza is the Italian coordinator for the "I Walk to School" international organisation, since it was the first city in Italy to organize Walk to School Events in 2001. Since then, every year in Monza there is a Walk to School week, at the end of which five schools (one for each town district) are rewarded for the sustainable behaviour of their pupils in their home-school journey. In order to increase awareness about positive effects of children's walking, some schools in Monza encourage sustainable mobility and particularly walking buses.

After initially conducting a study within the **School Travel Plans scheme in Monza (M41)** aimed at designing the scheme of pedestrian paths acting like a public transport line for children to walk to school, participatory workshops were activated in seven pilot classes in order to offer children a better knowledge of the territory where schools are located, to design the Walking Bus routes. Stops and timetables were defined and agreed with the parents of the children involved. Key stakeholders such as the local police, teachers and school managers were consulted to coordinate the scheme with school timetables, and to discuss security. Using such a service allows pursuit of multiple objectives:

- Breaking old habits of going to school by private cars, thus generating less traffic congestion;



- Giving the students independence and socialisation;
- Giving education on road rules, better orientation skills and knowledge of the area;
- Developing a network for the families involved in the project.

After a communication campaign created by children, in April 2011 ten walking bus lines have been activated at four primary schools of the city. After a first implementation stage of 35 days, the Walking Bus started again at the beginning of the school year 2011/12, being operational for the whole school year. At the end of the school year, a guide to make a good "Walking Bus" was elaborated and presented by children to the Mayor.

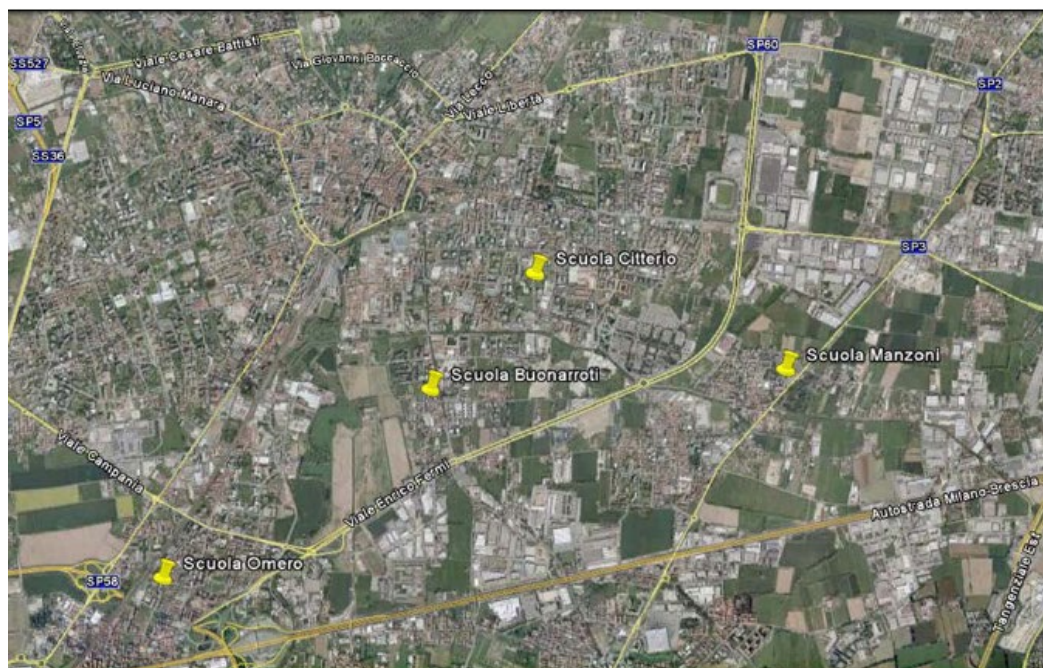


Figure 2 - Location of the four schools involved in the School Travel Plans project in Monza

Whereas the above mentioned initiatives focused on children within the age group 6-10 years, the focus in the **School Cycling Campaigns in Aalborg (M29)** was on older children in the age group 11-13 years and on cycling instead of walking. A cycling campaign was implemented seeking to find new ways of communicating with school children through mobile phones and the Internet together with more traditional campaigning elements.

During winter 2010 a working group consisting of representatives from both The Technical and Environmental Department and The Department of Education and Cultural Affairs was formed. The Department of Education and Cultural Affairs had overall responsibility for public schools and was therefore both a strategic and practical partner in terms of communication. Furthermore, they also possessed knowledge about how to engage with school children as a target group. An advertising agency was also engaged in order to develop the concept and technical solutions for the campaign.

Building the campaign around a storyline and a range of characters was a new way of presenting the message about cycling without lecturing or preaching to the children. Instead, the campaign communicated to the children in their terms, and at their level. Furthermore, the riddle element was included to motivate the children to be active in the campaign.

The campaign ran for a period of approximately two months from the school start date in August 2010 covering 63 % of the schools located in Aalborg. The campaign was reintroduced at the start of school year in August 2011. The reintroduction was built on the same campaigning elements (riddles, compe-

tion between schools, internet based and use of mobile phone) and a reintroduction was intended to strengthen the effect of the campaign and further reinforce the use of the bike by this target group.

**School Travel Plans in Brighton & Hove, Donostia - San Sebastián and Iasi (M32, M33 and M37)** provide a written framework within which schools or universities can develop ways of promoting sustainable travel to and from school, including walking, cycling and greater use of public transport. A typical plan contains a survey of travel habits of both pupils and staff, issues that the school or university community face that might be a barrier to safe, sustainable travel options, as well as what the school is doing to promote use of sustainable transport modes.

The approach in developing the travel plans in Brighton & Hove was to build on the work of the School Travel Team and has focused on implementing actions within a School Travel Plan e.g. by offering a school the opportunity to take part in a Walking Initiative. Some of these initiatives have been in a competition form such as the Walk to School Week Pedometer Challenge (children used pedometers to measure their walking journeys) and the Golden Flip-Flop Initiative (competing for the greatest number of school journeys). Besides walking they also trained children in using a non-motorized scooter as a mode of transport.

Whilst the focus in Brighton & Hove was on primary and nursery schools, three types of travel plans in Iasi were elaborated and distributed in schools and universities. Based on the travel habit survey differentiated travel plans were developed for pupils/students in three different age categories; 7-11 years, 11-15 years and 15-23 years.



**Figure 3 - Coldean Primary School - Winners of the Golden Flip-Flop Challenge (to the left) and Scooter training with Nursery-age children which was observed by staff from a number of nurseries (to the right) at the Travel Plans project in Brighton & Hove.**

In Donostia - San Sebastián a comprehensive research on travel behaviour and its associated factors among the different groups who travel to school every day was conducted to identify the main barriers to sustainable mobility in school-based mobility, as well as to get a clear picture of the potential impact of the measure. At first 10 schools were invited to participate in the project. But during the implementation of the measure the coordinated work was extended to 24 schools in the city, with different levels of development.

A specialised company was subcontracted to organise awareness raising events for children and parents. In particular, 60 workshops in 24 public and private schools within the city were held. Ideas collected led to physical interventions to increase safety conditions around the schools as a key factor to promote sustainable modes of transport, namely non-motorized mobility. The municipality was responsible for the logistics and monitoring of these awareness actions at schools.

A series of activities were presented and implemented at the participating schools, including:

- The way-to-school: constitution of walking and cycling groups;
- Road safety programme: plan, design and implement physical interventions to improve traffic safety around schools, based, among other criteria, on suggestions made by pupils;
- Cycling promotion: training and examination of cycling skills and traffic behaviour;
- Information and promotion campaign for the opening of the new Morlans cycling tunnel.

In addition, several pilot projects were also developed, aiming to help citizens to visualize other realities for their daily mobility habits, providing technical support, material, advice, assistance, etc. to highlight the fact that these alternative realities are feasible. Citizens were encouraged to take part in the gradual improvement of the city. The most frequently used pilot project was "Oinez eskolara" - "Walk to School" which consists in the analysis of the different possible paths to school from the surrounding areas in a participatory way with parents, teachers, students, technicians, residents and associations, etc., in order to define safer pedestrian routes and identify, if any, the potentially unsafe points for children walking alone.



Figure 4 - Examples of initiatives from the Road Safety Programme in Donostia - San Sebastián.

In Donostia - San Sebastián a **Mobility management for University Campus in Donostia - San Sebastián (M83)** has been defined for the university campus of Ibaeta. In the framework of this Plan, UPV/EHU has organised awareness raising campaigns for the University community to communicate the definition of the plan in general and some other specific measures. The Universidad of the País

Vasco (UPV/EHU) has formed a Mobility Management Team with the aim to promote changes in the organisational model of the University, wherever possible, in order to ease the use of collective transport and other energy-saving transport means. Also, an Observatory for Mobility Management has been set up. This is a space for common work where experiences can be exchanged and mobility management measures monitored.



**Figure 5 - Awareness campaign at the Mobility management project for University Campus in Donostia - San Sebastián.**

The developed **Commuter Travel Plans in Aalborg, Brighton & Hove and Donostia - San Sebastián (M30, M32 and M33)** all provide a written framework within which businesses can develop ways of promoting sustainable travel to and from work, including walking, cycling and the use of public transport. Whilst Commuter Travel Plans were mainly unfamiliar to companies in Aalborg and Donostia - San Sebastián, compulsory Travel Plans are developed as part of the planning agreement towards expanding organisations or businesses in Brighton & Hove.

In 2007 a Commuter Travel Plan Officer was appointed in Brighton & Hove. His main role was to develop compulsory Travel Plans. It was at this stage that the City started to investigate the possibility of working in partnership with businesses on developing Voluntary Travel Plans. One of the main ways of doing this was to establish a Business Travel Plan Partnership which is still running to date and brings together a number of local key businesses and organisations within the City to discuss, promote and explore innovative ways of promoting sustainable travel to and from the workplace. The role of the CIVITAS Project was to focus and build on the Voluntary Travel Plan partnerships by supporting existing businesses to implement the sustainable travel elements of their Travel Plans. It also opened up opportunities to work with new businesses in the same way.

The approach in Brighton & Hove has therefore been to build on the work of the existing Commuter Travel Officer and has focused on implementing actions within existing Travel Plans and developing new Travel Plans. Much of this work has been carried out through working with members of the Brighton and Hove Business Travel Plan Partnership.

Commuter Travel Plans were developed with 17 out of an anticipated 20 employers in Brighton and Hove. The plans detailed a range of measures to encourage more employees to walk, cycle use public transport or car share. Together with businesses a number of sustainable travel initiatives were developed as part of the Travel Planning process. These included Bike to Work Week (June 2010) and Walk to Work Week (May 2011). I-Trace has been used as a Travel Planning monitoring tool to measure mode of travel for workplace staff in as many of the 20 employers as possible.

The municipality of Donostia – San Sebastián (ADS) has developed Commuter Travel Plans for five employment/business areas at the peri-urban fringe of the CIVITAS Plus corridor (Zuatzu, Miramón, Igara, Poligono 27 and Belartza). Based on a comprehensive research phase aimed at the understanding of travel behaviour in each business area, particularly the high incidence of car use and the

reasons behind such car dependency levels, Commuter Travel Plans identify actions to reduce car use, the promotion of cycling and walking and the introduction of programmes for car-pooling and car-sharing, together with an effective monitoring and evaluation plan.

Currently, all five Commuter Travel Plans are implementing their Action Plans. While all of these Action Plans have been presented and discussed with stakeholders, unfortunately, the current financial crisis has delayed the implementation of most of the initiatives which require any kind of investment.

Workshops were held in all business areas to present in detail the objectives and actions within the measure and specific brochures reporting on the provision of public transport specifically to each business area, and informing about the benefits of using the public transport in relation to private vehicle in both economic and environmental terms were distributed.

Finally, Aalborg worked together with the University and seven companies in order to develop commuter travel plans. Originally 10 companies were involved, but only 7 implemented travel plans. Experience shows that the companies which established a working-group for implementing the plan as a strategic document in the organisation and specific initiatives for employees, managed to activate the plan, and raise awareness and potential for change in travel behaviour. This indicates that the implementation of the plan and initiatives requires active involvement from both the municipal side and the company. The set up of a working group at each company was an important part of securing involvement. Furthermore, leaflets were handed out at Aalborg University to new students.

The implemented initiatives differ among the companies but include information campaigns, trial periods with electric bicycles, car-pooling and improved facilities for cyclists. At each of the companies an 'after' survey was carried out to assess the impacts of the plan and its related initiatives.



**Figure 6 - Electrical bikes for loan at one of the companies involved in the Commuter Travel Plans project in Aalborg.**

### PTP

The **PTP schemes in Brighton and Donostia - San Sebastián (M31 and M34)** focused on PTP for commuters to and from educational institutions and workplaces. Brighton & Hove had prior experience of PTP whilst Donostia - San Sebastián was a newcomer. Therefore the approach for the two sites was different.

Brighton & Hove explored the effects of expanding its existing PTP project from 10,000 to 20,000 households per year in 2010 (5,000 of which were part of the CIVITAS measure). The main distinction between the 'CIVITAS' and 'non-CIVITAS' interventions was geographic. However, the CIVITAS corridor was also the focus for the additional innovative approaches to engaging new audiences involving

social media and community engagement. The aim of these interventions was to reach new audiences who are not picked up through the door knocking campaign which has in turn become known as 'traditional' PTP. These methods were devised using research from the disciplines of social marketing, community participation and psychology.

The research study conducted found that 'traditional' PTP provides a range of individualised, tailored information and incentives to encourage travel behaviour change. It involves making initial contact with individuals via doorstep interviews. 'Traditional' PTP schemes have achieved an average of 10 % reduction in car trips. This method of providing information is therefore an extremely cost effective way of reducing traffic levels, especially when compared with infrastructure costs of tackling congestion. However, 'traditional' PTP has some major drawbacks - e.g. the person answering the door may not have been supportive of the project meaning that the entire household is 'lost'.

Furthermore, the research study explored innovative approaches aimed at reaching some of these people and increasing participation rates. These involve interacting with communities in different ways and engaging a wider part of these communities. As a result, two approaches were conceived, one focusing on social media and the other on community participation. It was felt that the older community would be more likely to respond to the community participation (offline) element and younger people more likely to become involved in the social media campaigns (online element). As such, these new community based techniques involved creating a 'buzz' about particular topics to generate conversation between peer groups in the hope of encouraging more sustainable transport use by word of mouth.

The implementation of PTP for the 5,000 households was resource intensive over a short period over the summer months in 2009-11, which has required the employment of a Travel Advisor team of staff over a short-term contract, who are charged with undertaking the doorstep interviews. In addition the market segmentation exercise identified groups not engaged via the household project and sought to recruit individuals through either the social marketing campaign or the community participation programme.



**Figure 7 - Picture of the Travel Advisors in the Personalised Travel Plans project in Brighton & Hove**

The Municipality of Donostia- San Sebastián has developed over 200 PTPs in the main housing districts of the CIVITAS corridor. To do so, the city has undertaken a programme of over 300 house-visits to households in the main housing districts of the CIVITAS Plus corridor, to provide targeted information on sustainable travel modes, i.e. they were informed about the different sustainable means of transport they can use as an alternative to their private vehicle. Incentives to shift to any of these options were also provided (a free Public Transport pass for 3 months to try out the service, including free access to the public bike scheme).

Co-operation with CTSS-DBUS (the bus operator in Donostia-San Sebastián) was required to explain the measure's long term, provide attractive public transport solutions and incentives such as a discounted public transport pass. Research on travel behaviour and modal choice was needed to develop a programme of house-visits to households in the CIVITAS corridors. In order to secure public involvement, marketing efforts were developed to ensure continuous awareness. Also, follow-up activities were carried out to encourage participation in the measure.

asi also worked with individual transport planning by implementing a **Travel Information Telephone Service (M38)**. This connects citizens with the PTI travel information centre offering information about PT services, such as what route choice and timing. Also passengers can make complaints for different problems that appear during the journey.



**Figure 8 - Picture of a phone used in the Travel Information Telephone Service in Iasi**

### Information and Education Campaigns

Four measures had an informational and educational scope regarding public transport and its benefits, individual public transport planning and traffic safety. The measures had different approaches with campaigning being a general used tool.

In Iasi a **Public Transport User Forum (M36)** created a formal channel for two way communication and exchange of information between providers and users of public transport. To inform people about this forum, after the measure was implemented, Iasi Municipality used radio, TV spots and press releases. Also, meetings were held with schools and Universities located on the CIVITAS Corridor.

Iasi municipality has developed the forum with the help of a consulting contractor that was procured through a formal tender process. Work in developing the forum has been conducted as a collaborative project involving a team of three consultants from the contractor and five specialists from Iasi municipality.

The final structure chosen for the Forum includes four categories, their main purpose being direct communication with the citizens. Categories (or pages) on the forum provide information about:

- Forum rules;
- Public transport infrastructure in Iasi (vehicles, investments in modernization, network contacts, the tread and evolution);

- Public transportation in the metropolitan area (routes, interaction with public transport in the city, charging);
- Information about ticketing.



Figure 9 - Front page of the Public transport user forum in Iasi.

**PT promotion campaigns (M35 and M39)** were designed and implemented in Iasi and Usti nad Labem. To promote a sustainable transport within the city, Iasi Municipality, together with a specialized marketing company and Public Transport Company specialists, organized meetings at schools, colleges and universities, attended by over 1,000 pupils and students. They have been educated on the benefits of sustainable transport and encouraged to think about their transport habits. Promotion campaigns were also addressed to all citizens who have been informed about sustainable transport through flyers, green maps, TV and radio spots, newspaper promotional layouts, etc.



Figure 10 - Street distribution of promotional materials (to the left) and Meeting with students at a university (to the right) at the Education and Promotion Programme in Iasi.

In Usti nad Labem a PT promotion campaign suitable for local conditions was based on results of the research study. The research study monitored public transport services in Usti nad Labem, including



its historical development, functions of the system, the tariff and dispatch system, and customer satisfaction. During the surveys, the transport demand was mapped out for all lines, based on transfers of passengers on all stations and the number of passengers on-board on sections in-between (during both peak and off-peak periods). The survey of directional relationships and transfer links was realised by questioning passengers waiting on public transport stations or travelling on less frequented routes (directly in a vehicle).

The PT promotion campaign was aimed at building reputation of public transport in the city, attracting passengers and strengthening its usage. Requirements of individual target groups were surveyed and addressed in the campaign. The basic objectives of public transport promotion included:

- Highlighting advantages of public transport compared to individual motor transport;
- Attracting new passengers while keeping the existing ones;
- Improving provision of information about transport services;
- Increasing awareness about public transport and ITS;
- Improving accessibility of services by providing targeted information to passengers; and
- Supplying favourable services, such as time coupons and SMS tickets.

Within the campaign, several public events were organised. During these events, people were able to compare PT services provided in the past and in the present. They participated in knowledge and effort competitions for prizes, discussions and workshops about PT services. Important information, promotional and education materials, which have been missing in the city so far, have been produced, distributed to residents and handed over to the PT Company of Ústí nad Labem, which will continue in the initiated activities. Two PT vehicles were equipped with free internet connection for passengers and decorated by thematic pictures in order to attract attention and welcome customers. Campaign activities were promoted in local media and on the city website.

The other measure in Ústí nad Labem aimed at implementing a **Drive Safely Campaign (M40)** for residents. The Drive Safely campaign was held in various forms, including public events on main squares in the city centre, workshops focusing on safe traffic behaviour of young and elderly drivers and training of children on the traffic court, for which a classroom was equipped within the measure and which was then operated by the Municipal Police. Information brochures with road safety tips for drivers, cyclists, pedestrians and PT users were produced and were available at the Information Centre of Ústí nad Labem or at the Municipality.

Also a new website dedicated to road safety in the city was launched on [www.bezpecnepousti.cz](http://www.bezpecnepousti.cz). The website includes individual sections with advice and recommendations for safe behaviour of drivers, pedestrians and cyclists. It also contains an interactive map of dangerous locations in the city with safety warnings and videos. Specific sections are devoted to accident rate in the city, traffic intensity on individual roads, traffic control and traffic training.

## 4.3 Problems Encountered & Solutions Attempted

### 4.3.1 Technical Issues

#### Mobility Management in workplaces and schools

Generally, most of the Mobility Management schemes have been running without any technical problems.

Within the **School Travel Plans in Monza (M41)**, problems with the "Walking Bus" routes were experienced with regards to traffic flows and violation of traffic rules. Road works on a section of a "Walking Bus" route were found to be an important barrier for participation and parents of school children

living on the opposite side of a major road from the school opted to drive their children to school. Several violations of parking rules and antisocial parking behaviour were experienced around the school entrances which made access on foot difficult and potentially dangerous.

Also problems with heavy rucksacks and the visibility of the children were experienced. Heavy rucksacks often represent a deterrent to take part in walking bus. There is a parent who has offered to transport, by car, children's rucksacks for a whole line. To promote children's visibility, parents of the Citterio School made coloured traffic bibs for subscribers so they could be more visible. The distribution of these small items also helped increase children's sense of belonging to the group.

Furthermore there was lack of parental interest as parents who enrolled their children in the walking bus think that its positive effects are not fully clear. Furthermore, there was a need to recruit more parents to operate the walking buses. In some cases the entire demonstration has relied on the availability of a few parents. As a result a number of walking bus lines could not be continued in the same way as the participating children moved on to more senior classes. Efforts were made to activate more parents, i.e. those who already walk to school who might join the walking bus groups.

Physical location was an important barrier for the change in modal split for some companies in the **Commuter Travel Plan scheme in Aalborg (M30)**. Facilitating potential for change might involve new physical infrastructures, meaning more long-term municipal prioritisation of e.g. bike lanes and public transport infrastructures. This goes beyond the company's scope.

#### PTP

There were no major technical problems within the PTP schemes in Brighton, Donostia - San Sebastián and Iasi. Though in the **PTP scheme in Brighton (M31)** the iTRACE School Travel Planning software package was not used to monitor school travel plans. Following further investigation of its capabilities at an early stage, it was decided that the package did not meet the needs of Brighton & Hove.

#### Information and Education Campaigns

There were no major technical problems within the Information and Education campaigns in Iasi and Usti nad Labem.

### **4.3.1 Process Issues**

#### Mobility Management in workplaces and schools

Many of the process related issues in the Mobility Management schemes related to a lack of activity and engagement from participants or key stakeholders. In Donostia - San Sebastián, the financial situation and a new parking policy also affected implementation of two measures.

Within the **School Travel Plans in Monza (M41)**, many doubts were clarified during meetings and logistic details of the service were carefully planned. A good network for the communication and collaboration among parents who attend the walking bus was created, allowing parents to safely manage small problems occurring during the routes, like managing troubled children, timetable modifications, shifts of accompanying parents and communicating to parents of children enrolled. In the future it will be necessary to improve communication (especially to parents of future first classes) of the effects and benefits that this measure can bring, e.g. socialization, autonomy, exercise.

Two problems were experienced within the **School Cycling Campaign in Aalborg (M29)**. Firstly, the school children were less active initially than expected. Due to the slow start, extra flyers and information for teachers responsible for road safety education were sent out. After this, an increased activity

of school children was registered on the homepage. It was found that, once a handful of children at each school were active, this seemed to spread quickly to a lot of children at the school. Obtaining this initial 'handful' was the hard part though. Secondly, Aalborg experienced that schools and teachers were under pressure from different interests that take time away from education. Therefore, they have to choose and prioritise what they engage with. Consequently, it was chosen to put as little workload on the schools and instead engage with the children directly.

In Donostia - San Sebastián, the relationship with the ten schools involved in the research survey on travel behaviour for the **School Travel Plan scheme (M33)** was not as fluid as initially expected and the evaluation work was initially focused on 3 of the represented schools before expanding the coordinated work within School Travel Plans to 24 schools in the city.

In the **Mobility management scheme for the University Campus in Donostia - San Sebastián (M83)**, the controversial implementation of a new parking policy counteracted on the shift towards sustainable mobility within the University community and lead to students' reacting against the mobility management strategy as a whole. To overcome this, yearly awareness campaigns were organised.

Brighton & Hove experienced a top-down apathy as there was a lack of shared urgency among key stakeholders for the **Travel Plan Scheme (M32)**. Heads of schools and directors of businesses were often not engaged in the travel planning partnership and this can spread apathy toward travel plans amongst employees. Furthermore, Brighton & Hove experienced that there was too much dependency on public funds. In some cases, particularly with businesses, Brighton & Hove tried to secure some financial commitment to support the implementation of a travel plan by offering a range of incentives to businesses to engage in travel planning. This included financial support in terms of paid time for travel co-ordinators, and in future consideration will be given to offering prize draw incentives to encourage survey completion. There was a lack of support from business senior managers because they perceived no proven financial gain in implementing travel plans, and businesses are looking for financial gains in this climate. For businesses where the economic downturn has affected their ability to take part in travel planning, they have been put 'on hold' until their situation improves.

In Aalborg it was difficult to find companies who were willing to participate in the **Commuter Travel Plans (M30)**. This was partly due to lack of knowledge about the measure and partly due to the financial situation. In general the financial situation has forced companies to focus on "core business" alone. Implementation of suggested initiatives in the commuter travel plans has proven to depend on the companies' engagement and willingness. Many of the participating companies already had a 'green' commuting profile, which is positive and important to maintain. However, the potential for change could be higher at companies that did not have this green profile.

The current financial situation in Donostia - San Sebastián has delayed most of the initiatives within the **Commuter Travel Plan scheme (M33)** that require any kind of investment.

## PTP

The innovative nature of part of the **PTP scheme in Brighton & Hove (M31)** measure meant it was constantly changing; yet administrative procedures meant that agreement to change management of PTP delivery could not occur as fluidly as desired.

Within the **PTP scheme in Donostia - San Sebastián (M34)** there was a lack of interest by citizens to engage in a long term measure like the PTP scheme. During the mailing campaign, most people had not even opened the envelope. None of them completed the initial survey on travel behaviour by themselves, but needed help from travel advisors. Those who had tried to complete the survey on their own found it too technical and complex. This could partly be due to the survey design. Travel advisors therefore had to perform extra work, not only gathering surveys, but also explaining the sur-

vey and its objectives and assisting people with completion. The limited success of the survey was partly because it contained questions about personal data (address, phone, etc.). However, travel advisors informed people about how data was used and that the Data Protection Act that protected them. During the last visits for distributing personal travel proposals, travel advisors had to call repeatedly to contact survey participants.

The municipality of Donostia - San Sebastián realised that it was of high importance to stay in regular contact with participants in the PTP scheme as lack of contact contributed to lack of interest by participants. News about the development of the project was published on the municipal website during periods when there was no personal contact from travel advisors.

Also, there was a possibility that households were only interested in taking advantage of Public Transport pass discounts and were likely to return to previous travel behaviour once these discounts ended. Continuous marketing efforts may be required.

Finally, it was seen that there was a percentage of people who left the programme during different phases. Therefore, this should be taken into account in the design phase of the project, especially if a target is established regarding number of participants. To reduce those drop-outs, regular contact with participants should be maintained and the time between stages should be reduced to the minimum.

The **Travel Information Telephone Service in Iasi (M38)** has been running without any major problems.

#### Information and Education Campaigns

Prior to the **Education and Promotion Programme in Iasi (M35)**, there was little or no activity to encourage people to travel in a more sustainable way or to promote alternatives to private car use. People, particularly students, did not understand the connection between their contributions to environmental problems and the promotion of the sustainable transport. The campaign was delayed by the need to repeat the initial survey due to lack of interest of city residents.

The **Public Transport Promotion Campaign in Usti nad Labem (M39)** was delayed by the need to repeat the initial survey due to lack of interest of city residents.

The **Public Transport User Forum in Iasi (M36)** has been running without any major problems.

## 4.4 Main Outcomes & Results

### 4.4.1 Impacts

The evaluation strategy of the majority of the measures sought to focus on a number of indicators across the areas of economy, energy, environment, transport and society. Before and after surveys were carried out at schools, institutions and companies to assess the impacts of the plan and its related initiatives. Questionnaires aimed at evaluating the awareness of the initiatives implemented and the potential change in modal split that these initiatives had caused.

#### Mobility Management in workplaces and schools

The main outcomes from the Mobility Management schemes are:

- It is possible to positively influence perception of sustainable transport and hence travel behaviour through information and education campaigns to increase awareness of sustainable transport and challenge people's transport habits;
- Involvement and communication is generally stressed as a key element in these campaigning measures;

- Implementing commuter plans has in many cases changed modal split towards greener modes - including increases in car-pooling and cycling;
- The timeframe is important when implementing initiatives and seeing their effect. Many initiatives were suggested in the commuter travel plans but not all were implemented. Experience showed that it takes time to implement initiatives, and some companies found some initiatives more or less relevant for their organisation. Therefore, the commuter travel plan should be seen as a strategic document that continuously should be fitted to the actual situation and needs at the company. Thus the period for evaluating effects of these commuter travel plans should have a longer perspective than available within ARCHIMEDES;
- Due to the financial crisis it proved difficult to find companies who were willing to participate in Commuter Travel Plans. According to Aalborg this was also in part due to lack of knowledge about the measure. In Brighton & Hove it was noted that because there was no proven financial gain there was a lack of support from senior managers within businesses. This led Brighton & Hove to offer a range of incentives (e.g. financial support), revise their approach regarding incentives offered and delay some businesses' involvement in travel plans.

The evaluation strategy for the **School Travel Plans in Monza (M41)** included consideration of results concerning participation in the walking bus and traffic reduction around the four schools involved. 15 % of the children participated in the walking bus which the municipality of Monza assesses as a good result, considering that this kind of measure was aimed at changing mobility habits. The walking bus was activated 161 out of the 200 fixed by Italian law. This is a very important result in terms of continuity: parents are more confident to enroll their children in a walking bus if they know that it is operational during the whole school year.

It was estimated that the measure achieved the following fuel savings (corresponding emissions reductions shown in brackets); 274 litres (588 kg CO<sub>2</sub>) from April to June 2011, 764 litres (1,637 kg CO<sub>2</sub>) from October 2011 to June 2012. There was an average 8.34 % reduction of car traffic by the four schools involved.

Surveys of families (both participants and non-participants) show a good level of awareness of the measure, in addition to the perception that the walking bus is “useful and interesting”, “convenient for families”, and it has a positive impact on children (on socialization and autonomy above all) and in reducing pollution. The decision to contribute with a voucher of 20 € to families' expenses for school supplies has been welcomed by headmasters, teachers and families of children involved in the demonstration.

Over 75 % of the children in the target group of school children with the age of 11-13 years at 17 schools within the CIVITA corridor for the **School Cycling Campaign in Aalborg (M29)** were aware of the campaign and about 23 % stated that they participated actively. On average, people visited the homepage of the campaign for around 4 minutes 30 seconds and they went on to visit almost 11 pages on average. The visit time was relatively long for a homepage. Together with the increasing number of visits through the campaigning period, this indicates that children were engaged in the campaign and eager to start solving each new challenge.

In 2010 and 2011, 64 % and 63 % respectively of school children stated that it had been fun to participate in the campaign. In both years the parts of the campaign where children had to go out on their bikes or upload photos to the internet were rated particularly positive. The riddles where children had to go out on a treasure hunt on their bikes seem to have had a positive effect on participation.

Overall, the campaign had a positive impact on the attitude towards cycling among school children and on their stated actual behaviour. In both 2010 and 2011 about 22 % of the children stated that the campaign positively affected their desire to cycle and around 18% stated that they cycled more after

the campaign. On the other hand around 7 % of the children stated in both 2010 and 2011 that the campaign had negatively affected their desire to cycle and 11 % stated that they cycled less than before the campaign.

The overall impact of the modal split among the targeted school children was hard to determine because of seasonal variations in the before and after data. Taking weather conditions into account the after survey indicates that the number of children that still bike during winter is increased. And finally nearly 20 % stated both years that they bike more after the campaign.

The awareness level assessment for the **School Travel Plans in Iasi (M37)** showed that the percentage of passengers (mainly pupils and students) who knew about school travel plans implemented through ARCHIMEDES increased to 47 % in 2012, compared to 37 % in 2011.

The perceived positive impact on passengers from the implementation of school travel plans increased from 63 % in 2011 to 72 % in 2012. The perception of the accessibility of PT services increased among citizens, from 51 % in 2011 to 60 % in 2012.

Iasi considers this measure to have been successfully implemented based on the positive evolution of the above indicators and the high number of persons involved: Iasi and PTI specialists, and pupils, students and teachers.

The evaluation of **Travel Plans in Brighton & Hove (M32)** focused on assessing modal shift. This was mainly done using 'Hands-Up' surveys for schools and iTRACE surveys for businesses. It also looked at the impact of individual initiatives at specific schools and businesses. Because there is no guarantee that businesses will take part in future travel surveys (as they are voluntary plans), quantitative evaluation could prove problematic. Within the 20 businesses that are currently engaged with the travel plan monitoring tool, the response rate has varied, between 1.7 % and 90 % of employees.

It was found that the percentage share of car trips to and from schools within the CIVITAS corridor reduced from 32 % to 19 % during the lifetime of the measure, compared to a reduction from 32 % to 24 % in schools outside of the corridor. This represents a 5 % saving in car trips.

In one of the businesses (Brighton & Hove Bus and Coach Company) the percentage share of car trips to and from their Conway Street depot reduced from 32 % in 2010 to 26 % in 2011. Their Whitehawk Road depot saw a 14 % reduction in the share of car trips.

The mobility survey conducted in the participating schools in the **Travel Plan scheme in Donostia - San Sebastián (M33)** revealed how walking levels significantly increased after the implementation of the measure (from 63 % to 73 % of all trips to school). Other modes declined in use; for cars and motorbikes there was over 2 % reduction in both cases (cars from 19 % to 16 % and motorbikes from 3 % to 0.5 %). Also public transport use decreased by 1 % in favour of walking (from 10 % to 9 %). A small reduction in cycling was also experienced (from 2 % to 1 %).

The modal shift away from car, together with physical improvements in the surroundings of the schools, prompted an important increase in the perception of good security, which reached 78 % (a 25 % increase compared with the situation before the measure started).

As for the acceptance of the measure, initially it was very high (87 % of the school community showed interest in the measure and took part in the surveys). However, there was a decrease in the level of acceptance among all target groups after implementation (64 %). This lack of acceptance was more significant among parents (from 84 % to 46 %), who seem to be more sceptical about the transforming potential of the initiative. This is a significant barrier for the measure's success, considering that parents influence the mobility of their children and the behavioural change required. Acceptance levels do

not clearly correspond with awareness levels regarding mobility issues in schools. The share of people participating in the school travel plan activities, taken as a gauge of practical acceptance, is significantly lower (39 %) than the acceptance level declared by the different target groups.

Since the implementation of Commuter Travel Plans in Donostia - San Sebastián has been delayed there are no results to be highlighted yet.

Surveys show that within all passenger trips accessing campus the modal share of cycling significantly increased (3.3 %) after the implementation of the **Mobility management for University Campus in Donostia - San Sebastián (M83)**, while walking levels slightly decreased (-1.3 %). Also, the number of trips made by car and motorbike decreased (7.2 % and 3.3 % respectively), while carpooling, which represented 1.3% of all passenger trips accessing the campus in 2010-2011, currently accounts for 25.3% of all such trips. This result shows that the carpooling scheme implemented is widely used by students and staff. As a consequence, average occupancy rate for cars has increased from 1.3 to 1.6 occupants per car. The changes in mobility behaviour in the campus resulted in an estimated saving of over 300 tonnes of CO<sub>2</sub> emissions annually.

From a public perception perspective, the most remarkable result is the increased accessibility and security perceived by cyclists resulting from the changes in campus accessibility and mobility patterns.

The most remarkable consequence of the measure was the impact that it has had in the internal policy of the UPV. It has started to incorporate sustainable mobility in its political and general planning agenda, by including it in one of the reference documents for the future of UPV, which is the Sustainability and Innovation Strategy for Basque Campuses-EUSKOCANPUS.

Because of differences in response rates between before and after data and different impacts in different companies, it was not possible to draw overall quantitative conclusions for the 7 companies involved in the **Commuter Travel Plans in Aalborg (M30)**. Even so, interesting results were reached at the level of the individual companies:

- The campaign and the tool provided to enhance carpooling at Siemens Windpower has had a positive effect at the administrative level. The modal share of car pooling has increased by 13 %.
- A 13 % increase in modal share of cycling trips by employees of Alfa Laval, after trials with electric bicycles and provision of new bike sheds and showers for cyclists.
- A 7 % increase in public transport use among employees of the Municipality Department of Health and Sustainable Development Company SBU.
- Average increase in the modal share for bikes at the seven companies, however not all companies experienced an increase in bike use after the implementation of commuter plans. SBU, with a high share of cyclists had the most remarkable decrease in bike-use (6 %), while Alfa Laval experienced the highest increase with 13 %.
- The average share of car-pooling remained almost stable with notable variations between the companies. At SBU the modal share of car-pooling (Car with passenger and car passenger) decreased by 11 % while the car alone increased by 8 %. Post Danmark experienced the highest increase of car-pooling by 3 %, whereas the car alone decreased by 8 %.

The number and type of initiatives implemented at each company varied. As expected, employees of companies that implemented many hands-on initiatives (e.g. lending of electric bikes, bike sheds, and bicycle repair services) had higher awareness of the travel plans.

### PTP

The main outcomes from the PTP schemes are:

- Research shows that traditional PTP schemes achieve in average a 10 % reduction in car trips. This reduction has been achieved in both districts among participants in the PTP initiative in Donostia - San Sebastián;
- It takes time to change social norms and therefore PTP should be seen as an initiative with a long time-span. This could make it challenging to engage citizens as experienced in Donostia - San Sebastián, whilst the knowledge of PTP already existed in Brighton & Hove;
- In Brighton there were questions of whether the size of the control group in the 'before' and 'after' surveys undertaken to measure the impact of measure is statistically significant. According to the academic reviewers, a sample of 2,200 individuals is needed to detect a 10 % reduction in car driver trips from a before and after survey with a one-day travel diary. This survey size is therefore something that needs to be addressed in future years of PTP in order to provide more statistically significant results and a return to the larger survey size of previous years is recommended;
- Whilst the response rate in the PTP scheme in Brighton & Hove was above average, consideration will be given to further improving this in future years. This may include changing the doorknocking hours (currently 11:00 – 19:00 on weekdays) to include later into the evenings and weekends to hopefully catch more people when they are home from work.
- Having a free telephone line open to the public 24 hours a day proved very helpful for the public transport company of Iasi, currently undergoing sustained technological development. However, it may not be needed in transport companies who have traditionally met high standards of service.

The evaluation of technical aspects of the **PTP in Brighton & Hove (M31)** focused on before and after awareness and acceptance/behavioural surveys. In 2009 and 2010, 92% and 86% respectively felt happy about being visited at home by a travel advisor. In 2009 and 2010, 88% and 87% respectively were either very satisfied or satisfied with the level of service from the travel advisors. The most positive comments about the travel advisors were that they were polite, friendly, enthusiastic, pleasant, approachable, and offered a personal touch. Their visit was considered informative, useful and helpful, and some respondents said that the visit gave them a chance to offload and discuss transport issues.

Furthermore, it was found that in 2009 walking and cycling decreased by respectively 0.5 % and 4.5 %, while car use increased by 6 %. In 2010 it was found that walking and cycling increased by respectively 1 % and 2 %, while bus use decreased by 4 %. There was no information on car use in 2010.

Within the area there are 'before' and 'after' surveys undertaken to measure the impact of measures. However, there is a question over whether the size of the control group is statistically significant. This year the 'before' surveys accounted for around 1,000 households, whereas this has been 2,000 households previously. According to our academic reviewers, a sample of 2,200 individuals is needed to detect a 10 % reduction in car driver trips from a before and after survey with a one-day travel diary. This survey size is therefore something that needs to be addressed in future years of PTP in order to provide more statistically significant results and a return to the larger survey size of previous years is recommended.

Whilst the response rate in the PTP scheme is above average, consideration will be given to further improving this in future years. This may include changing the doorknocking hours (currently 11:00 – 19:00 on weekdays) to include later into the evenings and weekends to hopefully catch more people when they are home from work.

A qualitative result was that the project facilitated open communication and consultation with the public. Also, the project had the unexpected and interesting effect of positively impacting on individuals



outside of the target area, including the sub-consultants who worked on the project and their peer groups.

Although 96 participants decided not to continue with the **PTP scheme in Donostia - San Sebastián M34** programme after the incentive phase (nearly 30 % of all participants), evaluation results revealed significant success in changing travel behaviour. One year after the three months trial period finished 82 participants remained using the alternative option provided by the PTP (six months after the trial period started the number of participants who changed their transport habits was 102). This has a significant effect on modal split distribution and transport related emissions.

Car usage has considerably decreased among participants in the PTP initiative (12 % in Amara and 8 % in Antiguo districts), accounting for over 30.000 kg/year CO<sub>2</sub> savings. The acceptance of the initiative is above 96 % of survey respondents from both districts and there is a general will towards making a small sacrifice if alternative transport was more sustainable.

The evaluation of the **Travel Information Telephone Service in Iasi (M38)** showed an increase in the proportion of citizens who were satisfied with the service, from 10 % in 2011, to 21 % in 2012.

The awareness level indicator increased to 31 % in 2012, compared to 20 % in 2011. Surveys also revealed that 39 % of citizens used the “toll-free” telephone service in 2012, compared to 26 % registered in 2011.

According to the company who provide the telephone service, there were a high number of calls each year; 7,212 in 2010, 6,944 in 2011 and 3,006 in January-June 2012.

The results of the information services in Iasi indirectly show a positive effect on the use of public transport.

### Information and Education Campaigns

The main outcomes from the Information and Education Campaigns are:

- The education and promotion campaigns towards public transport and sustainable transport in general all contributed to raise the awareness towards these transport modes and their benefits;
- The surveys undertaken in Iasi show an increase in people's willingness to use more sustainable transport modes and an improved perception of accessibility to a modern PT service;
- In Ústí nad Labem a survey helped reveal that the majority of respondents required improvements of the existing services rather than establishing new ones. In general, residents were satisfied with public transport but demanded improvements in service quality to justify fare prices. As a result most connections were optimised and operating times adjusted to correspond with schools, opening hours of businesses, and arrivals and departures of trains;
- In Iasi a public transport user forum proved a successful way of obtaining formal communication and information line between public transport providers and users, with rising numbers of users of the forum;
- The activities within the Drive Safely Campaign in Ústí nad Labem were primarily focused on short-term events and actions, which can be repeated and have bigger impact on local people. The campaign and website activities have helped to highlight traffic safety issues to residents, but have not yet fully been followed by measures to reduce serious injuries.

The **Public transport user forum in Iasi (M36)** was implemented successfully from an operational perspective. According to surveys, an increasing percentage of people heard about the measure, from 20 % in 2011 to 51 % in 2012. Acceptance levels were also obtained from the surveys. The percent-

age of people who used the website forum to communicate with the public transport company increased from 7 % in 2011 to 26 % in 2012.

The forum website registers all accesses by citizens and it was found that on average monthly visits increased from 4,747 in 2010 to 5,842 in 2011 (23% increase from 2010) and 6,235 in 2012 (31% increase from 2010).

Surveys within the **Education and Promotion Programme in Iasi (M35)** showed a rise in the perception of sustainable transport benefits and a rise in willingness to increase use of sustainable transport modes. The surveys also covered the perception of negative effects of heavy traffic on the environment, perception of the positive effect of public transport on pollution, and perception of accessibility to a modern PT service. Some of the main survey results were:

- The percentage of people aware of the sustainable transport benefits increased after promotional campaigns to 50 % in 2012 compared to 26 % in 2009;
- Citizens' acceptance level, regarding the negative effects that heavy traffic has on environment, increased from 67 % in 2009 to 77 % in 2011 and 87 % in 2012;
- People accepted that using PT vehicles, instead of personal cars, help create a cleaner, less polluted city, with an increase percentage of 77 % in 2012, compared to 47 % in 2009;
- The acceptance level indicator concentrated on using bicycle for daily trips, in case of a proper bicycle lane infrastructure, showed that the percentage of citizens willing to use this mean of transportation increased to 42 % in 2012, compared to 12 % in 2009;
- Passengers' perception regarding the accessibility to a modern public transport service increased from 25 % in 2009 to 47 % in 2012.

The **Public Transport Promotion Campaign in Ústí nad Labem (M39)** contributed to a prevailing positive acceptance level of local PT services and good image of public transport in the city. The campaign provided citizens with important information and training materials missing in the city so far and initiated activities promoting PT services. These will be continued by the Public Transport Company of Ústí nad Labem. Training of children in proper and safe usage of public transportation in the city was started and will be further carried out by the Municipal Police on the traffic court of the city.

A survey of customer satisfaction revealed that the majority of respondents required improvements of existing services rather than establishing new ones. They favoured purchase of new, modern low-floor buses and trolleybuses, better maintenance of vehicles and stations, and improved delivery of information. Residents also favoured calming the city centre, excluding traffic and establishing pedestrian zones. In general, residents were satisfied with public transport but demanded improvements in quality of services to justify fare prices. Other suggested improvements included provision of more complex information, optimisation of PT operation scheme and provision of guaranteed low-floor vehicles on specific lines marked in timetables.

Recently, the majority of the PT connections have been optimised. The operating times were adjusted to correspond with beginning and end times of schools, opening hours of offices, businesses and services, working hours in factories, and arrivals and departures of trains. Intervals of individual connections were set to better correspond with each other. Some lines were cancelled or replaced. Selected lines were guaranteed to operate by low-floor trolleybuses to enable transport of disabled passengers.

The **Drive Safely Campaign in Ústí nad Labem (M40)** campaign raised awareness about road safety issues and about causes and consequences of traffic accidents and helped to improve behaviour of road users. Traffic training of children became regular part of education of all primary children in the city and is available to all potential stakeholders in the city.

#### 4.4.2 Changes to Processes

The process changes that occurred during the demonstration projects within this workpackage were mainly due to lack of interest in participating in the commuter travel planning schemes and campaign work. Also the current financial in Donostia - San Sebastián has delayed implementation of initiatives that require investment.

##### Mobility Management in workplaces and schools

Initially the plan was to have only one campaign round in 2010 within the **School Cycling Campaign in Aalborg (M29)**. A reintroduction of the campaign was however chosen due to two different reasons. Firstly, repeating the campaign made it possible to learn from the experiences with the campaign in 2010. Secondly, having a second campaign where the message is repeated was perceived as a good way to improve the effect of the campaign.

Implementation of **Commuter Travel Plans in Aalborg (M30)** was initiated at 10 companies, however only 7 companies implemented the commuter travel plans. Experience gained through the work with implementing the commuter travel plans shows that the companies which established a working-group for implementing the plan as a strategic document in the organisation and implement specific initiatives towards the employees, have managed to activate the plan, cause awareness and potential for change in travel behaviour. This indicates that the implementation of the plan and initiatives requires involvement from both the municipal side (the ARCHIMEDES secretariat) and the company.

Also the **Commuter Travel Plan scheme in Brighton & Hove (M32)** was reduced early in the project from 28 to 20 businesses or organisations.

The implementation of the **Commuter Travel Plans in Donostia - San Sebastián (M33)** was delayed to the financial circumstances which mean that most of the initiatives which require any kind of investment have not been implemented. Consequently the second field data collection round, including a second survey to employees and companies, was cancelled.

No major changes were experienced within **School Travel Plans in Iasi (M37)**, **School Travel Plans and in Monza (M41)** and **Mobility management for University Campus in Donostia - San Sebastián (M83)**.

##### PTP

No major changes to the three measures within this category - **PTP in Brighton & Hove (M31)**, **PTP in Donostia - San Sebastián (M34)** and **Travel Information Telephone Service in Iasi (M38)** were experienced.

##### Information and Education Campaigns

The **Public Transport Promotion Campaign in Ústí nad Labem (M39)** was initially delayed as it was necessary to repeat the initial survey due to lack of interest of city residents.

No major changes were experienced within **Education and Promotion Programme in Iasi (M35)**, **Public transport user forum in Iasi (M36)**, and **Drive Safely Campaign in Ústí nad Labem (M40)**.

## 4.5 Future Plans

##### Mobility Management in workplaces and schools

For **School Travel Plans in Monza (M41)**, the aim is the development of communication aspects and of documentation to promote local experiences: the experience of the four schools involved will be exploited for other schools of the city with the aim of having even more children walking to school and less traffic during peak hours. Unfortunately, the strong request from teachers and pupils to establish direct contact and exchange of information, ideas and measures with children of other European cities involved in ARCHIMEDES was not achieved. This is due to problems in obtaining authorization to use web platforms allowing contact and exchange of real-time information (e-mail, Skype), and in using a foreign language.

After the success achieved for the entire school year, demonstration of walking bus services will continue, with the expectation that an increasing number of parents will get involved. This is also thanks to results of a learning history workshop and to the Mayor's assurances about the continuation of the measure. Exploiting the experience of pilot classes, new subscriptions of children entering the first year of primary schools will be gained. The city will also try to recruit new parents who will participate actively in the demonstration stage, showing them the good results of this first period of implementation. Moreover, new schools will be approached to start the upscaling of the experience of the pilot schools to the whole city.

With regards to the **School Cycling Campaigns in Aalborg (M29)**, the City of Aalborg will continue the work with improving and facilitating secure school roads. This work includes leaflets for all the schools within the municipality giving directions on the safest way to specific schools. When planning future campaigns for school children the experiences with the ARCHIMEDES campaigns will be taken into account. In addition, school road analyses have resulted in a number of infrastructure projects being implemented at the schools in 2012 and more are planned for the coming years.

Iasi will continue to maintain the school travel plans and contact with the schools and universities that are already involved in the **School Travel Plans measure (M37)**.

As a consequence of the **Mobility management scheme for University Campus in Donostia - San Sebastián (M83)**, the creation of a new permanent job in the UPV structure to deal with mobility management is being considered, beyond the temporary nature of a 4-year project such as ARCHIMEDES. That is, of course, a good sign although a firm decision has not been taken yet.

The Vice-Chancellorship for University Quality has prepared some diagnosis studies on the mobility situation, which will probably result in further corrective measures. This has already occurred at Ibaeta Campus and in respect of the parking space commission, a permanent office of the Vice-Chancellorship Governing Board of Ibaeta Campus, that will be kept permanently for the systematized management of this issue, linking it directly with the car-pooling programs and their encouragement.

The parking space commission has also committed to consider issues such as improving cycling policies integrally and systematically (encouragement of bicycle use, parking provision, surveillance, information through the campus web page, TV screens in the educational centres, and other awareness raising campaigns). Most probably they will try to encourage and keep the eco-driving classes in co-operation with Ente Vasco de la Energia (Basque Energy Agency).

In connection with educational and curricular issues, the preparations of doctoral theses researching sustainable mobility issues are being encouraged.

The Travel Plan Partnership within the **Travel Plan scheme in Brighton (M32)** will continue to meet on a regular basis and create links with new and existing businesses. The School Travel Team are continuing to deliver the Scooter Training in schools across Brighton and Hove and are continuing to support schools with their Travel Plans and other walking and cycling initiatives.

With regards to the **Travel Plans in Donostia - San Sebastián (M33)**, the Municipality will gradually introduce Mobility Plans for all schools in the city. It is intended to develop a specific methodology to help incorporate the use of cycle routes to school, especially at the stage of secondary education. It is also intended to incorporate the use of public transport to and from school more intensively.

In the **Commuter Travel Plan scheme in Aalborg (M30)** the time frame is important in regards to implementing initiatives and seeing the effect of these initiatives. Many initiatives were suggested in the commuter travel plans in each company addressed on behalf of the travel behaviour among the employees. However, not all initiatives were implemented. The experience is that it takes time to implement initiatives, and in some cases the companies find some initiatives more or less relevant for their organisation. Therefore, the commuter travel plan should be seen as a strategic document that continuously should be fitted to the actual situation and needs at the company. Hereby, the period for evaluating the effects of these commuter travel plans should have a longer perspective than what is available within the ARCHIMEDES project.

Many of the companies in the Commuter Travel Plan scheme indicate that they will use the commuter travel plan to continue existing initiatives (e.g. improved bike facilities, car-sharing etc). They will also implement further initiatives to change employee travel behaviour towards greener modes. The documents have status as a strategic tool to keep focus on encouraging use of sustainable modes. Some companies indicate that they are especially interested in a second round of tests with electric bikes, which were a great success in several companies. It is not stated whether the Municipality has plans to introduce travel plans with more companies.

## PTP

Any future activities relating to the **PTP scheme in Brighton & Hove (M31)** are dependent upon funding. The intention is to continue delivering PTP each year, covering different parts of Brighton & Hove and trialling new ways of contacting residents. It is also possible that previous intervention areas will be returned to for follow-up surveys.

Due to its promising results, the **PTP scheme in Donostia - San Sebastián (M34)** will be repeated if funds are available in the future. However, there is not a specific plan for it so far.

Iasi will continue to use the **Travel Information Telephone Service (M38)** after the project ends. It will permanently maintain communication with citizens about improving the quality of PT services.

## Information and Education Campaigns

Iasi will continue to use the **Public transport user forum site (M36)** after the ARCHIMEDES project ends. Also, they will keep communicating with citizens for improving the quality of PT services and possibly make these services more attractive for all people.

Future activities within the **Public Transport Promotion Campaign in Ústí nad Labem (M39)** will mainly be continued by the Public Transport Company of Ústí nad Labem, while training will be performed by the Municipal Police. Existing information and training materials will be further distributed and utilised.

Solutions will be incorporated into the Action Plan for Public Transport Improvements within the SUTP. This will be submitted to city authorities for approval and implementation. Solutions include primarily future modernisation, renewal of vehicle fleet and equipment, gradual improvement of quality of provided services and implementation of an integrated transport scheme.

With regards to the **Education and Promotion Programme in Iasi (M35)** Iasi will continue to maintain the webpage informing citizens about all the green events planned in Iasi. Also the promotional material used inside and on public transport vehicles will continue to be used after the ARCHIMEDES project.

For the **Drive Safely Campaign in Ústí nad Labem (M40)** results and recommendations for road safety improvements were incorporated into the SUTP.

## 5 Conclusions and Recommendations

Workpackage 4 focuses on influencing travel behaviour within the areas of school transport, commuting, PTP, public transport and education. The main aim of this workpackage is to encourage citizens to use sustainable transport modes, by informing and educating the citizens about their use and benefits, and helping citizens plan sustainable transport journeys.

This section summarises results, conclusions and recommendations regarding the different projects within this workpackage.

### 5.1 Conclusions

#### Mobility Management in workplaces and schools

The experiences regarding Mobility Management in workplaces and schools are that:

- Influencing the transport habits of school children and other people at a young age has a long-term perspective;
- It is possible to influence perception of sustainable transport and hence travel behaviour through information and education campaigns to increase awareness of sustainable transport and challenge people's transport habits;
- Involvement and communication is generally stressed as a key element in these campaigning measures. It has been very important to develop strong information campaigns and identify suitable target groups and drivers to implement the measures. In both Monza and Iasi the involvement of both teachers and parents was vital, as they have an important role in teaching children and stimulating their participation;
- In Aalborg it was found that school children perceive cycling as fun and positive. Therefore, a campaign was built on their eagerness to go out on their bikes. Furthermore, using the internet and the mobile phone made the campaign more accessible to children. Creating a competition element proved a good way to motivate children. In addition, competition between classes also improved cohesion in classes;
- Implementing commuter plans has in many cases changed modal split towards greener modes - including increases in car-pooling and cycling. Some of the change may be due to many of the participating companies already having a relatively 'green' commuting behaviour. Among all companies in the Aalborg scheme there was a higher awareness around the 'physical' initiatives such as electric bikes, company bikes and bike pump stations than the information campaigns. The electric bike initiative proved to be especially successful, but not many employees have had the chance to try these bikes - there could be a potential for further modal shift;
- The timeframe is important when implementing initiatives and seeing their effect. Many initiatives were suggested in the commuter travel plans but not all were implemented. Experience showed that it takes time to implement initiatives, and some companies found some initiatives more or less relevant for their organisation. Therefore, the commuter travel plan should be seen as a strategic document that continuously should be fitted to the actual situation and needs at the company. Thus the period for evaluating effects of these commuter travel plans should have a longer perspective than available within ARCHIMEDES;

- Due to the financial crisis it proved difficult to find companies who were willing to participate in Commuter Travel Plans. According to Aalborg this was also in part due to lack of knowledge about the measure. In Brighton & Hove it was noted that because there was no proven financial gain there was a lack of support from senior managers within businesses. This led Brighton & Hove to offer a range of incentives (e.g. financial support), revise their approach regarding incentives offered and delay some businesses' involvement in travel plans.

### PTP

The experiences regarding PTP are that:

- Research shows that traditional PTP schemes achieve in average a 10 % reduction in car trips. This reduction has been achieved in both districts among participants in the PTP initiative in Donostia - San Sebastián;
- It takes time to change social norms and therefore PTP should be seen as an initiative with a long time-span. This could make it challenging to engage citizens as experienced in Donostia - San Sebastián, whilst the knowledge of PTP already existed in Brighton & Hove;
- In Brighton there were questions of whether the size of the control group in the 'before' and 'after' surveys undertaken to measure the impact of measure is statistically significant. According to the academic reviewers, a sample of 2,200 individuals is needed to detect a 10 % reduction in car driver trips from a before and after survey with a one-day travel diary. This survey size is therefore something that needs to be addressed in future years of PTP in order to provide more statistically significant results and a return to the larger survey size of previous years is recommended;
- The approach of providing an individual travel advisor service at home was generally positively received. The most positive comments about the travel advisors in Brighton & Hove were that the travel advisors were polite, friendly, enthusiastic, pleasant, approachable, and offered a personal touch. Their visit was considered informative and helpful, and some participants said it gave them a chance to offload and discuss transport issues;
- Whilst the response rate in the PTP scheme in Brighton & Hove was above average, consideration will be given to further improving this in future years. This may include changing the doorknocking hours (currently 11:00-19:00 on weekdays) to include later into the evenings and weekends to hopefully catch more people when they are home from work.
- Having a free telephone line open to the public 24 hours a day proved very helpful for the public transport company of Iasi, currently undergoing sustained technological development. However, it may not be needed in transport companies who have traditionally met high standards of service.

### Information and Education Campaigns

The experiences regarding information and education are that:

- The education and promotion campaigns towards public transport and sustainable transport in general all contributed to raise the awareness towards these transport modes and their benefits;
- The surveys undertaken in Iasi show an increase in people's willingness to use more sustainable transport modes and an improved perception of accessibility to a modern PT service;
- In Ústí nad Labem a survey helped reveal that the majority of respondents required improvements of the existing services rather than establishing new ones. In general, residents were satisfied with public transport but demanded improvements in service quality to justify fare prices. As a result most connections were optimised and operating times adjusted to correspond with schools, opening hours of businesses, and arrivals and departures of trains;
- In Iasi a public transport user forum proved a successful way of obtaining formal communication and information line between public transport providers and users, with rising numbers of users of the forum;

- The activities within the Drive Safely Campaign in Ústí nad Labem were primarily focused on short-term events and actions, which can be repeated and have bigger impact on local people. The campaign and website activities have helped to highlight traffic safety issues to residents, but have not yet fully been followed by measures to reduce serious injuries.

## 5.2 Recommendations

For future projects regarding the implementation of Mobility Management initiatives at workplaces and schools, the following points should be considered:

- Communication and engagement is crucial both at the start of and throughout the initiative. Intense communication at the start is important to get the children engaged. Communication of the effects and benefits that mobility management can bring is also important.
- A way to engage children could be to ensure that there are pupils working as "ambassadors" for the campaign at each school;
- The approach towards influencing transport behaviour should be tailored to the target group. Children and younger adults should have their thoughts and interests stimulated or be challenged by competition to ensure their involvement;
- When working with universities, a degree of political involvement as well as resource allocation must initially be assured. It is important to set up a research/working team very much focused on measure adoption, guaranteeing clear and strong leadership with capacity to influence the governing board;
- The best results are achieved by means of dialogue. School children and students should be guided towards reaching the right conclusions themselves, with little perceivable help from the persons trying to raise their awareness on global environmental problems. Teachers and parents should also be heavily involved to develop strategies for how to continue to educate their students and children;
- To ensure long term benefits for a mobility management project it is essential to implement a system so it achieves permanence within the city administration. Within the overall structure, mobility management is best implemented at a smaller scale than the city level.
- It is important to create ownership in companies, both by ensuring the travel plan document has a status as a strategic tool in a city policy document and by making sure that the employees are informed and engaged;
- One way of getting employees' attention is to test 'new' technologies such as electric bikes, as this was associated with high awareness levels. Furthermore, legislative requirements (e.g. number of parking spaces available) and continuous dialogue between the company and the municipality are important when developing and implementing the plan;
- Financial incentives could also increase the attention and involvement of employees;
- In order to replicate the measure to other organisations it is important to have a key person supporting it in the management team of each new organisation with a key person delivering it on the ground;
- It is important to link delivery to targets that organisations need to achieve (e.g. health targets, reducing carbon emissions).

For future projects regarding PTP, the following points should be considered:

- PTP should be tailored towards those who mainly use private car since energy and environmental savings will be more relevant if the modal shift proposals are accepted. A modal shift proposal from bus to bicycle or walking would not result in as many benefits;
- A continuous effort of promoting and informing about PTP, and regular interaction with participants is necessary, to keep existing participants engaged to the initiative, and to expand it to new participants;



- Consider the use of innovative engagement methods targeted at different segments of the population to enhance awareness and knowledge of PTP and sustainable transport, i.e. social media (younger people) and community participation (older community);
- When conducting traditional PTP, it should be considered how to deal with the number of unanswered 'door knocks'. Changing the doorknocking hours to include later into the evenings and weekends could catch more people when they are home from work;
- It is important to obtain control data and to have an adequate sample size for baseline surveys to evaluate the effect of the intervention. Control data is, however, complicated because online interventions may affect the behaviour of the control group as well;
- To reduce drop-outs during a PTP scheme, regular contact with participants should be maintained and the time between stages should be reduced to the minimum;
- It is advisable to train people working at a telephone service hotline beforehand, so that they have some patterns to follow when answering questions, demands, complaints, praises and also verbal abuses.

For future projects regarding information and education campaigning, the following points should be considered:

- At a basic level, information and education campaigns should be used to provide background awareness and support for scheme aimed at increasing the use of sustainable transport or improving traffic safety will raise awareness levels towards the scheme;
- Information and education campaigns should be tailored to local conditions, e.g. conducting field surveys, and cooperating with local public operators and other stakeholders;
- Since campaigns address different target groups, specialized personnel should be involved in their preparation;
- As internet is accessible to many citizens, a forum website can be created by other European cities in order to improve communication with citizens. The development of the internet medium and its wide accessibility facilitates publicising the forum's existence among potential users. The content of a forum website should be diverse and coherent but also concise. A forum has a greater degree of complexity than just establishing its main topics. The beneficiary has to know exactly what to ask the developer to ensure future ease of operation both for users and administrators.