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Cluster Report 5: Mobility Management

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THE CIVITAS INITIATIVE
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1 Introduction

Mobility management is a new and growing area in planning for sustainable transport in cities. The measures here show some significant impacts from mobility schemes, especially where they are combined with the other measures in CIVITAS.

Of the 17 cities participating in CIVITAS II, 12 implemented mobility management measures. Thirty-five (35) measures are covered within this cluster, forming 4 main sub-groups:

- (a) Mobility agencies (3 measures)
- (b) Mobility plans (17 measures)
- (c) Mobility marketing (12 measures)
- (d) Eco-driving (3 measures)

The four sub-groups and their attendant measures are summarised in Table 1.1:

Table 1.1: Mobility management related measures

City	No.	Measure Title	Outline Description	Success of implementation ¹	Success of outcome ¹
(a) Mobility agencies					
Genoa	8.04	Mobility service agency	Mobility agency for intermediate shared new/flexible service	1	2
Odense	11.12	Mobility management service of Odense Harbour	Mobility agency for redevelopment area	1	2
Toulouse	11.03	Set-up of a mobility agency and customised services	Mobility agency as walk-in mobility house	3	3
(b) Mobility plans					
Debrecen	11.05	Sustainable city-traffic development plan	Mobility workgroup composed of experts and decision makers to develop a sustainable transport plan with stakeholders	2	2
Genoa	11.08	Integrated mobility plan for San Martino Hospital	Extends the Home-Work mobility plan to visitors to the hospital	1	1
Genoa	11.10	Integrated mobility strategy for trade fairs	Development of the employee mobility plan for trade fairs to visitors and tourists visiting the trade fairs	2	1
Krakow	11.09	Integrated mobility plan at university	Mobility plan for staff and students at the University	1	-
La Rochelle	11.02	Business travel plans	Extension of business travel plan to a wider area, with carpool service and late night transport	2	3
La Rochelle	11.03	Student travel plans	Information and incentives to encourage to switch mode for Home-to-School journeys	2	3
La Rochelle	12.01	Development of integrated transport management systems	To increase efficiency through improving political and technical common understanding, with implementation concentrated on the urban freight sector	1	2
Malmö	11.01	Managing mobility needs of citizens and business sector	Information and incentives to encourage modal shift	3	2
Norwich	11.03	Travel planning	Mobility plans for schools and businesses to encourage modal shift	3	3

City	No.	Measure Title	Outline Description	Success of implementation ¹	Success of outcome ¹
Norwich	11.05	Individual travel advice	Personalised travel planning to complement existing Travel Plan and promote behaviour change	2	1
Odense	9.05	Creating alternative mobility options for owners of older cars	Targeted marketing and advice to encourage marginal car users to switch to public transport and cycling	2	2
Potenza	11.06	Mobility management	Mobility centre, mobility offices and mobility plans	1	1
Preston	11.06	Personalised travel planning	Large scale, household-specific personalised travel information for behaviour change	3	3
Preston	11.07	Business travel plans	Business Travel Plan advisory service	1	2
Preston	11.08	School travel plans	Travel awareness, advice and information for schools, parents and children, to comply with a national target	1	3
Toulouse	6.03	Implementation of Urban Mobility Plan	Comprehensive mobility plan for soft modes, with parking plan implementation, to capitalise on the new tram system in Blagnac, suburban city of the Toulouse agglomeration	1	1
Toulouse	11.04	Company and administration mobility plans	Micro-mobility schemes to provide alternatives to the car for employees, visitors and stakeholders in business areas of sparse density and low public transport service	2	2
(c) Mobility marketing					
Burgos	8.07	New mobility services for visitors	Environmentally friendly travel choices information and guided itineraries for tourists	1	2
Burgos	11.02	Sustainable mobility marketing	Information and awareness campaign on sustainable travel choices for people and freight	3	3
Burgos	11.06	Mobility Forum	Structured consultation with wide range of stakeholders to generate ideas and commitment to delivery of mobility plans	1	2
Genoa	11.01	Sustainable mobility marketing and Ecopoints	New fare policy and customer loyalty scheme with associated marketing to encourage public transport use	2	1
Genoa	11.05	Mobility Forum	Stakeholder meetings, e-consultation, mobility bus and mobility office giving information and receiving comments	3	1
Krakow	11.03	Sustainable mobility marketing	Information seminars, incentives and a mobility education programme to encourage sustainable travel choices	2	-
Krakow	11.07	Mobility Forum	Stakeholder meetings among public and private sector to influence transport plans	1	-
Odense	11.11	Personal transport choice marketing	Direct personal individualised marketing of environmentally friendly travel	2	3
Preston	12.10	Information dissemination	Development of a web portal for real time, all modes travel information	3	3
Stuttgart	11.04	Sustainable mobility marketing	Mobility information centre, travel awareness campaign, support to carpooling development	-	-
Suceava	11.07	Information and awareness raising	Promotional materials, media communications and website launch, seminars, workshops and conferences	2	2
Toulouse	11.01	Awareness raising campaign	Impact assessment of combined personalised travel planning alongside a general public transport marketing campaign	3	3

City	No.	Measure Title	Outline Description	Success of implementation ¹	Success of outcome ¹
(d) Eco-driving					
Malmö	11.02	Eco-driving for municipal employees	Eco-driving training for 1000+ municipal employees in order to demonstrate benefits and provide civic leadership	1	1
Malmö	11.08	Eco-driving for hospital employees	Eco-driving training for staff undertaking patient transfers and other functions, with extension planned	1	1
Malmö	11.09	Heavy eco-driving	Combined eco-driving and road safety training for truck drivers employed by or contracted to the city	3	3

Note 1: Rating of success: 0=not successful, 1=moderately successful, 2=successful, 3=very successful

Table 1.1 also shows the ratings of success of the measures in relation to the implementation process and the outcome. The estimated ratings were made by the CIVITAS projects themselves and collected at the end of the project. In relation to other clusters, cluster 5, Mobility Management related measures is characterised by a very successful implementation process and an average success of the outcome.

2 Implementation

2.1 Mobility agencies

The following implementation steps can be identified, from the perspective of a mobility agency:

- Analysis of basic conditions and target groups' needs

Data regarding traffic conditions and mobility options need to be collected and analysed first. The needs and priorities of stakeholders have to be considered and can be revealed by surveys and/or roundtable discussions. Based on the results of the analysis, it is advisable to develop a mobility information plan to outline the agency framework for providing information.

- Elaboration of the agency framework

The definition of the agency framework is not only important to outline and develop a financial plan for the project but also for presenting the project to the public and the local authorities. This plan may need to be approved by the local decision-makers. A list ranking the measures should taking into account the results of the analysis of basic conditions and target groups' needs, as well as the scheduling of the projects.

- Political and legal approval

Mobility agencies tend to enjoy strong social acceptance. Public acceptance to improve information systems in the city is usually forthcoming. Nevertheless, the mobility agencies need political and legal approval as well. The concept of widespread mobility information is generally well-received; nevertheless, it is advisable to establish working groups and/or stakeholder meetings to put this issue on the agenda. It is essential to consult the local authorities for political approval from the very start of the project.

- Foci for the mobility agencies

Within CIVITAS II the following services were implemented by the mobility agencies:

- Management of on-demand bus service (Genoa),
- Service for mentally- and physically-challenged people: organisation of disability transportation services (Genoa),
- Design, development, communication/marketing campaigns for several projects, for example: car-sharing, car-pooling or shared taxis,
- Mobility management in general (Odense).

- Marketing and promotion

The agencies and their efforts can be promoted by material such as maps, leaflets and brochures, letters and/or awareness campaigns. The documents produced can provide information on the services offered by the mobility agency. It is also possible to promote and regularly update the progress of the project on an official website.

2.2 Mobility plans

- Preliminary studies on mobility conditions and target groups' needs

A good picture of present mobility in the city area needs to be established. A state-of-the-art analysis, including security aspects and environmental protection requirements, offers an overview of possible measures. Viewpoints of key stakeholders should be considered by defining communication channels for information transfer. This also enables interactive engagement and ensures feedback on the topics within the mobility plan. The collection of existing data and the analysis of factors provides important information for the improvement of mobility.

- Integration of data into GIS

The integration of available data into GIS to create thematic maps to support planning activities can be helpful as GIS allow a clear presentation of different aspects.

- Elaboration of a strategic mobility plan

The study should consider the available resources of the city and deal with alternative development options as well. The mobility plan has to be endorsed by political decision-makers.

Mobility management includes all modes of transport, as well as soft and hard measures, such as: the reduction of individual motorised car traffic, traffic calming, implementation of short-term parking zones and underground parking, investment in infrastructure for alternative transport modes, improved accessibility, pedestrian areas, etc. First of all, the geographic boundaries where mobility management measures should be implemented have to be identified. It is advised to establish working groups and/or stakeholder meetings to understand the different needs and requests.

- Elaboration of individually customised mobility plans

The following gives a short overview of potential uses and user groups of mobility plans:

- Mobility plans for certain areas
e.g., hospitals, exhibition centres (Genoa) or universities (Krakow)
- Mobility plans for certain user groups
e.g., students (Preston, La Rochelle), mentally- and physically-challenged people (Krakow), commuters mainly travelling by car (Malmö, Toulouse) and users of older cars (Odense).

For the last two user groups, specific measures promoting alternative transport options could be included in the mobility plan, such as displaying posters in the city, TV coverage, press releases and attracting target groups via special meetings and articles for different websites in cooperation with different enterprises. There is also the possibility of providing a campaign package consisting of – for instance – a free travel ticket on local city buses for a month, a free trial membership of a car sharing club, subsidised taxi trips, a rebate on the purchase of a bicycle.

Other options have included keeping participants in the mobility plan actively informed on alternative transport options via websites, newsletters, with information about sustainable transport, ideas for travel and holidays on bicycle, CIVITAS projects, health issues related to riding the bike, etc. For more in-depth understanding, participants have been asked to complete trip diaries which can be used for evaluation.

- Supporting measures

The improvement of the public transport system (higher frequency of buses, faster speed of buses, improving bus stops), investment in infrastructure for cycling and investment in additional offers like the development of amenities at public transport stations, as well as car-pooling and park-and-ride facilities, support the measure. Additionally, the measure could be supported by establishing a mobility manager forum in cooperation with big enterprises (Potenza).

- Political and legal approval

Like every project, mobility plans need political and legal approval. It is advisable to install working groups and/or stakeholder meetings to put this issue on the agenda. It is essential to consult local decision-makers for political approval from the very start of the project.

- Public involvement

The involvement of the public can take different forms and be undertaken at different stages of the project. They can participate actively in planning and decision-making or can attend public meetings and hearings. The involvement can prevent future delays due to a lack of support.

- Marketing and promotion activities

Leaflets can be produced as well as a contact point or another kind of front office connection. Educational campaigns and marketing promote the new mobility plan and tend to achieve higher social acceptance.

2.3 Mobility Marketing

- Identification of target groups' needs

Depending on the target groups (e.g. tourists, citizens, taxi companies, public transport users, etc.) different needs might be identified. Tourists, for example, need specific information and guidance through a city to find their way easily to important places, parking facilities and to learn conditions of public transport use. Companies operating car parks are interested in a maximum visibility of their facilities and hotel owners demand more information concerning the location of their hotels as well as means to access it. Only by knowing who the clients are, what they are buying and how, when and in which context they are consuming the products is it possible to provide the relevant mobility service for them (Toulouse). As a result of this assessment, different ideas such as e-tools (e.g., the interactive mobility e-consultation tool in Genoa), educational and awareness campaigns can also be implemented.

- Conducting group meetings of stakeholders

Stakeholders, within the context of mobility, are, for example, neighbourhood associations, bicycle

associations, disabled people associations, political parties, cultural associations, press, shopkeepers, hotel owners, goods distribution companies and public service bodies (police, fire fighters, ambulances) as well as the targeted travel group (commuters, children, students). By organising group meetings, different topics (e.g. access restriction, parking strategy, accessibility, safety, security and public transport) can be discussed from different points of view, helping to develop measures with practical input and support. (Burgos 11.6, right)

MEASURE /number of meetings	STAKEHOLDERS INVOLVED	STAKEHOLDER MANAGEMENT
Access Restriction / more than 50	Neighbourhood associations, shopkeepers, hotel owners, goods distribution companies, public bodies (police, fire fighters, ambulances)	Meetings focusing on specific groups of stakeholders to build together the strategy, hear suggestions for the system and involve them in the process of implementation
Parking Strategy / more than 10	Neighbourhoods associations, car park proprietors, city planners, police	Meetings to build the strategy, hear the suggestions and get a consensus concerning of the new off-street parking
Accessibility and Safety and Security/ more than 10	Neighbourhood Associations, Disabled People Associations, Police, Children representants, Elderly Associations	Meetings to hear suggestions, to build the new parking plan together and to involve them in some activities not initially planned as the accessibility office
Bicycle / more than 20	Bicycle associations, Neighbourhood associations	Meetings to hear suggestions concerning the bike rack and the loan system in order to build the final strategy together (note: the study of the racks as well as the survey of the bicycle user were done by the associations)
Public Transport / more than 20, more than 200 suggestions received via mail, email of Forum	Neighbourhood Associations, Disabled People Associations	Meetings to hear suggestions on the new buses and arrangements for Public Transport
General issues, 7 big meetings through invitation but mainly open to all the citizens if they wanted to participate	Neighbourhood associations, commerce associations, public bodies and departments, Disabled People Associations, Children representants, Elderly Associations, Workers Associations, Unions, Political Parties, Cultural Associations, Bicycle Associations, Press... more than 200 invitations sent.	The Forum organized some "big" meetings with all the stakeholders to show the measures and the action performed and to perform. The first one was developed in March 2005, and the others took place in May 2005, May 2006, June 2007, June 2008, October 2008 and April 2009. All the meetings were organized in the Council (Meeting Rooms).

- Providing printed information material and giveaways

The most obvious way of sharing information is to produce leaflets, brochures and fact sheets, as well as electronic boards and panels on the street, inside public transport vehicles and at stations. "Eco-route"-signs, stickers and slogans or a unique overall design to brand the mobility service can support this activity. Giveaways such as postcards, stickers, magnets, ballpoint pens, calendars, information bulletins and memory flash sticks (Suceava) raise the awareness of the project.

Complementary measures can be promoted through the mobility management campaign: a bike map and guide could be produced and distributed at bike shops and bike-rental stations; information material on car-pooling or on biodiesel use could be handed out on streets or could be provided at

companies and municipalities. Information about parking facilities and public transport could be provided at the tourist information centre and public institutions, cultural sites, etc.

- Installing a mobility forum supported by online services

A mobility forum, with a web-based component, can support the measure by providing information about public transport, local sustainable mobility opportunities, travel discounts in urban transport, travel passes, hotels, etc. (Burgos, Suceava). In general, web-based information facilities should be user-friendly and easily accessible (taking mobility-impaired people into account) as well as offering support, if needed.

Furthermore, there is the possibility to explore available mobile technology to deliver real-time public transport information via SMS (Preston).

The organisation team could also encourage discussion about specific mobility improvements (Krakow) to find common solutions and provide links to existing mobility platforms. In this context, for example, a new Charter for public transport passengers' rights could be developed.

- Arranging awareness-raising events and activities



An exhibition about the project can outline the most important goals (maybe already achieved) to allow interested people and stakeholders to follow the project's progress.

In Burgos, a competition was launched inviting people to submit sustainability ideas on pre-printed postcards (left) advertising sustainable mobility. The winners were rewarded with free tickets for events. The CIVITAS programme was also advertised by promotional gifts such as beach pillows, towels, sun visors and stickers for children.

The city of Genoa parked a hybrid info-mobility bus in front of a hospital, distributing information to visitors and medical staff, emphasising a future car-pooling service. European Mobility Week can be used to show how it is possible to use the bicycle as a daily mean of transport as an alternative to car and motorbike (Genoa).

Traffic for shows or fairs (e.g. the international boat show, Genoa), can provide additional information material at petrol stations or toll stations about the easiest way to reach the event, park-and-ride opportunities, and to promote other forms of mobility in parallel (for the next visit).

- Providing supportive infrastructure measures

Mobility marketing measures can include the provision of visitor bicycles, e.g. through an office to promote and rent bicycles; cooperation with taxi companies to promote special tourist taxi services; "info-mobility buses" as mobile information centres (Genoa). "Info-mobility buses" are also an opportunity to collect suggestions, needs and comments on public transport and mobility by citizens and visitors. In Burgos, the use of clean vehicles (using biodiesel) for transporting tourists was encouraged.

- Training sessions and workshops

When dealing with new technical devices, vehicles or new software it is advised to arrange training and knowledge transfer so the measure can realise its maximum potential. Educational training and training on new technical devices and systems should be mainly hands-on, differentiating between the target groups (e.g., workers, citizens, children, policemen, taxi drivers, etc.). Seminars on different topics could be linked with educational seminars for pupils and students (Krakow).

- Establishing face-to-face mobility information transfer

The city of Odense organised a face-to-face mobility information transfer by appointing students to visit peoples' homes to tell them about (within 3 to 5 minutes) alternative mobility options to the car. Citizens were notified of the visit in advance by a postcard so people knew about the visit and its content.

- Incentives and loyalty fares

The goal is to give new psychological and economic incentives for using sustainable mobility services through rewarding the use of public transport or other mobility services by, for example, collecting

“ecopoints” for loyal travellers. A different number of ecopoints could be earned with every trip dependent on the type of ticket or mobility service (example, right, Genoa). Ecopoints can be redeemed for rewards, which, in Genoa, included participation in a lottery with prizes from a voucher from IKEA valued at 300 € up to a 7 day-holiday in a health spa plus an annual public transport ticket. In Genoa, this measure is combined with the technical development of contactless card readers, though loyalty schemes can operate without smart cards. There are proposals for extending the scheme to goods distribution services.

Another idea is to allow people to bring their validated public transport tickets

to the municipality and to receive small gifts and gadgets for a certain number of tickets (Krakow).

- Dissemination of the results

Especially when stakeholders are directly involved in the process, it is vital to communicate project results. Moreover, it is important to be aware of the target group for the presentation of results and to concentrate on their main interests in the project outcome. When children are involved, there is the possibility to include music or games. When the results are to be presented to the press, it is important to focus on the main achievements and to provide an official press release.

2.3.1.1.1.1.1.1 Titles admitted and the relevant rules		No. of Ecopoints
AMT tickets		
AMT annual tickets (full fare, under 26, over 65, business)		300 points for ticket
4 consecutive AMT monthly tickets full fare		100 points
4 consecutive AMT monthly tickets reduced fare		75 points
8 consecutive AMT weekly tickets		50 points
Partner's products/services		
Genova Car Sharing subscription		100 points (only one subscription admitted)
Ikea Family Card		100 points (only one Card admitted)
2.3.1.1.1.1.1.1.1 Bonus to add to the Ecopoints tallying		
AMT annual tickets (full fare and under 26) purchased on-line		an additional 100 points for each ticket
Transferring from a reduced fare/special price ticket (i.e under 26 annual ticket) to a yearly ticket full fare		an additional 100 points for each ticket

2.4 Eco driving

Within CIVITAS II, only the City of Malmö implemented measures within this sub-cluster, but in three variations:

- Eco-driving for municipal employees,
- Eco-driving for hospital employees, and
- Heavy eco-driving.

The following implementation steps can be identified:

- Provision of eco-driving training

As a first step, driver education schools have to be contacted to find out who currently offers or might offer eco-driving training. The training sessions could be arranged at several different periods in time so people can arrange their schedule. The training can also be combined with education in the fields of road safety and health, consisting of theoretical and practical training assisted by an instructor.

- Promotion of eco-driving training

Eco-driving training was implemented in this cluster largely by municipal administrations providing training to their own and other public sector employees and contractors. This was intended both to improve driving standards internally and to set a leadership example in the community. Marketing measures for this kind of project mainly consist of a combination of active efforts from measure leaders and participants of the training as well as word-of-mouth marketing.

3 Drivers and Strategies to overcome barriers

The tables below show, by sub-cluster, the drivers (Table 3.1) and barriers (Table 3.2) encountered, as reported by the individual project teams.

3.1 Drivers

Drivers were asked about in an open question format. They were asked to be reported only if they were recognized as being more than what would normally be expected. To give a better overview and to compare the different measures with each other, categories have been created. A tick mark indicates that the specific driver was indicated at least once in the evaluation for the measure.

3.1.1 Mobility agencies

There are different drivers that pushed the mobility agencies. However, the success of the measures mainly profited from the awareness of a pressing need to improve the existing situation, which resulted in engagement of important stakeholders and public support.

- Stakeholder commitment

The concept of mobility agencies, where information is pooled, is generally well received. There are increasing expectations among all the players for continuous development and integration of additional systems and services.

- Public support

In CIVITAS II cities, the public has responded positively to the mobility agencies for providing greater access to a wide range of information, provided it is accurate, reliable and accessible.

3.1.2 Mobility plans

Measures dealing with mobility plans profited from the engagement and political commitment of important stakeholders, as the measures addressed current demands and needs.

- Pressure groups

Within CIVITAS II there are measures with a strong social acceptance. The public acceptance and political commitment to solve traffic problems, to reduce emissions and to improve safety for pedestrians and cyclists is usually given as the reasoning. Sometimes pressure of interest groups encourages the implementation of mobility plans.

- Project partners

Project partners (bus operators, companies, project partners for marketing) are generally interested in a successful implementation and therefore ownership of and responsibility to the measure is above average.

- Public involvement and media

Cooperation and maintaining open dialogue with the public using different media, personal meetings or roundtable discussions can help to meet the goals of the project and can avoid negative or unjustified media reporting. High publicity events can raise public awareness and they are a good starting point for consultations.

- Alternatives for owners of old cars (Odense)

Coverage by local TV throughout the project period can raise public awareness. The participants can talk about their experiences, frustrations and successes with the new ways of transport. By telling the

story of “real people” the issue of changing transport habits can become more present and easier to relate to.

3.1.3 Mobility Marketing

Mobility marketing measures were particularly supported by the fact that they are meeting current demands and interests.

- Existing interests and awareness

There is significant public interest in measures dealing with the reduction of travel costs and travel time, so that the installation of a mobility information platform is of great interest. Public awareness of environmental problems and the negative impacts of car use on the environment already exists, so measures dealing with these problems are usually very much appreciated. There is also a growing understanding that businesses, governments and NGOs need to contribute in the process of changing mobility into being more sustainable.

- Providing different means for participation

Not everyone is interested in expressing their needs and experiences in public, so the provision of different forms of participation (internet forum, on-line questionnaire, stakeholder meetings, postal questionnaire, on-street interviews, etc.) is a good way of reaching a broad audience.

Sometimes specific topics mainly interest one specific audience (e.g. night bus lines interest younger people), so it is important to provide different user groups the relevant information and give them the possibility to provide their opinion and contribute their experiences.

3.1.4 Eco driving

Eco driving particularly profited from the engagement of different stakeholders throughout the process as well as the positive image and effects of the measure.

- Cost efficiency and effectiveness

Eco-driving is a way of reducing fuel consumption and emissions and it improves the environmental performance with no further investment required. It is, therefore, a very attractive measure for the municipality to send a positive message to the public and its employees.

Cost benefits through eco-driving could be a very strong driver for fleet owners to send their drivers to such eco-driving classes.

- Existing demands and requirements for eco-driving

Transport operators or hauliers were increasingly asked to have eco-driving licences. The societal pressure and the political willingness to reduce fuel consumption and emission levels is an important driver for this measure and can act as good marketing for wider adoption of eco-driving.

Table 3.1: Drivers

City	Measure	Driver related to above expected...				
		engagement / commitment of organisation or persons involved	experience and know-how of persons involved	support from outside the project team to implement measure	good structures / cooperation / management within project team	unsatisfying situation before and/or need to improve the situation
(a) Mobility agencies						
Genoa	Mobility service agency (08.04 & 08.09)			✓		✓
Odense	Mobility management service of Odense Harbour (11.12)	✓				
Toulouse	Set-up of a mobility agency and customised services (11.03)					✓
(b) Mobility plans						
Debrecen	Sustainable city-traffic development plan (11.06)	✓				
Genoa	Integrated mobility plan for the San Martino Hospital (11.08)	✓		✓		
Genoa	Integrated mobility strategy for trade fairs (11.10)			✓		✓
Krakow	Integrated mobility plan (11.09)				✓	
La Rochelle	Business travel plan (11.02)	✓				
La Rochelle	Students travel plan (11.03)				✓	
La Rochelle	Development of integrated transport management systems (12.1)	✓				
Malmö	Managing mobility needs of private persons and business sector (11.01)		✓	✓		
Norwich	Travel Planning (11.03)	✓		✓	✓	
Norwich	Individual travel advice (11.05)					✓
Odense	Creating alternative mobility options for owners of old cars (09.05)			✓		
Potenza	Mobility Management (11.06)	✓				
Preston	Personalised travel planning (11.06)			✓		
Preston	Business travel plans (11.07)			✓		✓
Preston	School travel plans (11.08)	✓		✓		
Toulouse	Implementation of the Urban Mobility Plan (06.03)	✓				✓
Toulouse	Commuter and school mobility plans (11.04)				✓	
(c) Mobility Marketing						
Burgos	New mobility services for visitors (8.7)		✓		✓	
Burgos	Sustainable mobility marketing (11.2)	✓		✓	✓	
Burgos	Mobility Forum (11.6)	✓		✓	✓	
Genoa	Sustainable mobility marketing and Ecopoints (11.01)	✓				

City	Measure	Driver related to above expected...				
		engagement / commitment of organisation or persons involved	experience and know-how of persons involved	support from outside the project team to implement measure	good structures / cooperation / management within project team	unsatisfying situation before and/or need to improve the situation
Genoa	Mobility Forum (11.05)	✓				
Krakow	Sustainable mobility marketing (11.03)			✓		✓
Krakow	Mobility Forum (11.07)			✓		
Odense	Personal transport choice marketing (11.11)			✓		
Preston	Information dissemination (12.10)		✓	✓		
Suceava	Information and awareness raising (11.10)	✓		✓		
Toulouse	Awareness raising campaign for changing mobility behaviour (11.01)				✓	
(d) Eco-driving						
Malmö	Eco-driving for municipal employees (11.02)	✓		✓		
Malmö	Eco-driving for hospital employees (11.08)				✓	
Malmö	Heavy eco-driving (11.09)	✓				

3.2 Strategies to overcome barriers

3.2.1 Mobility agencies

Measures dealing with mobility agencies and services very often dealt with organisational barriers as well as acceptance problems (refer to Table 3.2), so the following strategies to overcome these barriers were identified:

- Cost

Where a mobility agency deals with demand responsive services (Genoa), the high cost of managing many-to-many services can be reduced by ensuring that the Agency operates the call centre for many services, thus bringing efficiencies.

- Involvement of the decision-makers

It was reported that the liaison between the municipality and the responsible companies best suitable to implement car-pooling was weak and could have been improved. Better cooperation and a communication campaign focused on individual participant needs could have improved the success of this aspect (Genoa).

- Regular Roundtable discussions and stakeholder meetings

Responsible non profit organisations were not ready to outsource mobility services for mentally- and physically-challenged people (Genoa) and this created an acceptance barrier. Meetings, visits and negotiations were instituted to find a solution, as different views and opinions were discussed. Similarly, close working with taxi-agencies helped break down barriers to consolidating the booking system for flexible taxi services.

In order to keep the process alive and to ensure participation it is important to schedule regular meetings with fixed dates (Krakow).

- Adjustment and flexibility of the time schedule

It is advised to be flexible by making adjustments to the time schedule without risking the project's success as a whole.

- Keeping the overview

Some projects demand the involvement of many people, so it can be hard to coordinate the coherence of actions in general and in terms of time. It is therefore important to maintain an overview of all the people involved (especially concerning the decision process in the public sector) by delegating specific coordination responsibilities to appropriate people involved.

3.2.2 Mobility plans

Measures concerning the development and implementation of mobility plans, in particular, faced acceptance as well as organisational problems. Therefore, the following strategies to overcome these barriers were identified:

- Roundtable discussions and stakeholder meetings

Some measures within the mobility plans, such as parking restrictions, can seem too controversial to be accepted and timescales have to be agreed on in order to get political and stakeholder support. Meetings and roundtable discussions can lead to consensus and an agreement.

- Knowledge of the specific legal framework

Road and traffic management systems and the resultant legal framework have developed over a long period of time, often without consideration of alternative modes to private car traffic. Therefore, it is important to clarify the legal requirements and competences as an early part of the project and to arrange new institutional processes for some intended measures.

- Financial restrictions

Some measures require high investments. Careful planning assures good stewardship of the dedicated financial resources. If substantial costs increase for major components, the budget has to be modified in cooperation with the local authorities. Otherwise, the budget shortfall will result in political controversy. Timescales have to be agreed on by all participants in order to get political and stakeholder support.

3.2.3 Mobility Marketing

Measures dealing with mobility marketing, in particular, faced organisational barriers as well as acceptance barriers, so the following strategies to overcome these barriers have been identified:

- Clear responsibilities

To avoid project delays it is important to ensure clear and well-defined responsibilities for tasks and coordinating functions between the different project partners (in particular municipal departments). This is also important to avoid delays, as consecutive steps can be coordinated in advance and unintended dependencies can be avoided.

- Stringent contractual conditions and financial control units

In order to avoid financial problems due to changes within the project's lifetime, a control unit should be established in combination with a contingency plan.

- Bringing the information to the customers

Instead of waiting for the customers to complain about services or to express their need for something it is advisable to be proactive and bring the information about current and new services to the customers. This can give a modern image to the service and improve its attractiveness.

3.2.4 Eco driving

Eco driving measures mainly faced acceptance barriers due to the lack of visible effects and profits for participants, so the following strategies to overcome these barriers have been identified:

- Refreshing knowledge by continuous training

The studies showed benefits from eco-driving training, but some expressed concerns that the improvement in driving and efficiency might diminish at some point after the training. Two strategies for overcoming this barrier to success are, first, to give drivers real incentives to motivate drivers to maintain their eco-driving skills. The second is to offer "refresher courses" on the principles learned in the training, after an adequate period of time.

- Provision of technical assets to show the effects of eco-driving

The actual benefits of eco-driving could be shown by devices installed at the vehicles. The knowledge of the individual reductions of fuel, CO₂ and other emission data is a strong driver for the participants to continue eco-driving.

Table 3.2: Barriers

City	Measure	acceptance barrier	delays during the project	financial barrier	institutional barrier	lack of labour resources	legal barrier	management barrier	market barrier	organisational barrier	political barrier	spatial barrier	technical barrier
(a) Mobility agencies													
Genoa	Mobility service agency (08.04 & 08.09)	✓		✓					✓	✓			
Odense	Mobility management service of Odense Harbour (11.12)	✓				✓				✓	✓		
Toulouse	Set-up of a mobility agency and customised services (11.03)			✓						✓			
(b) Mobility plans													
Debrecen	Sustainable city-traffic development plan (11.06)		✓								✓		
Genoa	Integrated mobility plan for the San Martino Hospital (11.08)	✓											✓
Genoa	Integrated mobility strategy for trade fairs (11.10)												✓
Krakow	Integrated mobility plan (11.09)									✓	✓		
La Rochelle	Business travel plan (11.02)	✓						✓			✓		
La Rochelle	Students travel plan (11.03)							✓		✓			
La Rochelle	Development of integrated transport management systems (12.01)					✓		✓					✓
Malmö	Managing mobility needs of private persons and business sector (11.01)		✓							✓			✓
Norwich	Travel Planning (11.03)	✓			✓								
Norwich	Individual travel advice (11.05)					✓			✓	✓			✓
Odense	Creating alternative mobility options for owners of old cars (09.05)									✓	✓		
Potenza	Mobility Management (11.06)	✓											
Preston	Personalised travel planning (11.06)			✓					✓				✓
Preston	Business travel plans (11.07)									✓			
Preston	School travel plans (11.08)	✓											
Toulouse	Implementation of the Urban Mobility Plan (06.03)	✓			✓					✓			
Toulouse	Commuter and school mobility plans (11.04)	✓								✓	✓		

City	Measure	acceptance barrier	delays during the project	financial barrier	institutional barrier	lack of labour resources	legal barrier	management barrier	market barrier	organisational barrier	political barrier	spatial barrier	technical barrier
(c) Mobility Marketing													
Burgos	New mobility services for visitors (8.07)			✓	✓								
Burgos	Sustainable mobility marketing (11.02)				✓					✓			
Burgos	Mobility Forum (11.06)				✓					✓			
Genoa	Sustainable mobility marketing and Ecopoints (11.01)												
Genoa	Mobility Forum (11.05)							✓					
Krakow	Sustainable mobility marketing (11.03)										✓		
Krakow	Mobility Forum (11.07)									✓			
Odense	Personal transport choice marketing (11.11)	✓				✓			✓	✓			
Preston	Information dissemination (12.10)							✓					✓
Suceava	Information and awareness raising (11.7)												
Toulouse	Awareness raising campaign for changing mobility behaviour (11.01)			✓	✓			✓		✓			✓
(d) Eco-driving													
Malmö	Eco-driving for municipal employees (11.02)	✓		✓						✓			
Malmö	Eco-driving for hospital employees (11.08)		✓										
Malmö	Heavy eco-driving (11.09)	✓											

4 Impacts

4.1 Mobility Agencies

Three cities organised new mobility agencies which provide services or information on services, with the long term objective of travel behaviour change. Some agencies are targeted at specific areas of the city and others provide city-wide, all modes advice. In all cases, the impetus was to fill a gap in mobility services. A summary of the outputs and impacts is given in Table 4.1.

Table 4.1: Achieved Outputs and Impacts for mobility agencies

City (No.)	Outputs	Economy Energy Environment	Transport	Society
Genoa (8.04)	Mobility Agency formed to plan and implement 9 flexible services (mostly demand responsive) for various target groups	<p><i>Economy</i></p> <ul style="list-style-type: none"> primary service (Drinbus) saw revenues increase 75% for a 12% increase in costs efficiency savings in operating social services <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <ul style="list-style-type: none"> Not measured, though car use reduction implies some savings 	<ul style="list-style-type: none"> Use of flexible services grew by a third (from 78,000/yr to 105,000) 237,000 users including mobility and mentally impaired 79% of Drinbus users reduced their car use 	<ul style="list-style-type: none"> 70-75% of residents were aware of flexible services 93-98% of users satisfied with the service
Odense (11.12)	<ul style="list-style-type: none"> From the intention to develop a mobility plan for the harbour area, a wider city planning process has evolved, engaging stakeholders and citizens development of a cycle traffic model 6 public bike pumps website for cycling route demand: 3,000 cycle trips drawn on the site public hearings and stakeholder engagement; working groups of citizens and stakeholders on specific streets, sites and problems 	<p><i>Economy</i></p> <p>Not measured</p> <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <p>Not measured</p>	Planning measure only	Planning measure only
Toulouse (11.3)	<ul style="list-style-type: none"> Created new mobility house from partnership of municipal association, PT operator and carpool group mobility house offers information, PT tickets, bike rental, individual advice and company consulting 	<p><i>Economy</i></p> <ul style="list-style-type: none"> Annual cost of mobility house €103,000 (2008) <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <p>Not measured</p>	<ul style="list-style-type: none"> 80% increase in bike rental (164 bike days per month), though relatively low by comparison with new provision website has around 800 hits per month 230 companies contacted, 66 meetings held 	<ul style="list-style-type: none"> 24%-60% of people surveyed are aware of mobility house, depending on survey group once aware, 80% think the mobility house is a good idea individual follow-up blocked by data protection

Mobility agencies in CIVITAS took two forms. In Toulouse and Odense, the intention was to provide an innovative one-stop source of information and access to all modes of transport. In Toulouse, this

included car pooling and bike hire as well as public transport services. In Genoa, the focus was on a management agency for all flexible public transport.

These measures involved new organisational responses to a perceived need to expand mobility management services. Some of the specific services implemented, such as flexible public transport services or carpool services are included in other cluster reports.

Genoa extended the concept of a mobility agency to provide design, management and booking services for a range of existing and new services, covering all intermediate modes between private car/taxi and bus/rail (see box, right). The delivery mechanism in Genoa included the provision of additional flexible services and the incorporation of special needs travel into one agency.

In Toulouse, a consortium of suburban municipalities and the public transport authority joined forces with a carpooling association to create a “Mobility House” serving a wide area. Its features typify the mobility agency concept: first, it provides information and advice on public transport routes, timetables and tickets, bicycle routes, pedestrian paths and car pooling. Secondly, it offers cycles for hire. Importantly, it also provides mobility advice to individuals and companies, through campaigns and corporate or personal journey planning. This service has been in demand by companies all over the conurbation.

Genoa mobility agency scope:

Bus/minibus “on demand” services, implemented in the local public transport network with similar fares to other public transport services (therefore generally subsidised). Particularly suitable where there is a limited mobility demand and a significant “network effect”.

Collective “door to door” taxi services, with much lower fares than the traditional taxi, possibly with a fixed fare, known in advance by the user. The mobility demand generated by the reduced fares should make the system economically sustainable: this is suitable for fast and medium-length trips (between districts).

Minibus fast services at fixed fare with seat booking, economically sustainable and useful to rapidly connect distant city areas, without providing a “door to door” service.

Specific services for particular transport needs or specific targets: people with reduced mobility, house-work trips, transport services for large mobility attractors such as hospitals, commercial centres, etc., where economic sustainability can be achieved through the stakeholders’ involvement.

In Odense, the impetus for mobility management came from an aspiration to link the redeveloping harbour area into the city centre transport plans. Although the only implementation in Odense was the introduction of cycle pumps (pictured, left) as part of encouragement to cycle in the city, a wide plan was developed.



An important feature in Odense was citizen and stakeholder engagement, with a number of meetings and a “stand on the town square in front of the city hall where people could meet the traffic planners and see materials and films about the traffic and mobility plan”. This engagement work extended to forming working groups of citizens and stakeholders to develop specific solutions for problem sites and areas. This is a useful way to resolve conflicting priorities and interests. Marketing and press activities were important in all the mobility agencies.

An important feature in Odense was citizen and stakeholder engagement, with a number of meetings and a “stand on the town square in front of the city hall where people could meet the traffic planners and see materials and films about the traffic and mobility plan”. This engagement work



Results

The quantifiable impacts of mobility agencies are difficult to evaluate independently from the services they provide. Service utilisation grew during the demonstration period, as evidenced by a one-third growth in demand-responsive public transport services in Genoa and an 80% increase in bike rental use from the mobility house in Toulouse.

There is a high level of awareness of the mobility agency activities and a good take-up of services. Therefore, even with a lack of impact data in terms of mode shift, energy or environmental benefits, the mobility agencies demonstrated that they serve a crucial role in bringing new travel options to outlying areas and integrating their delivery, promotion and/or administration under one roof.

4.2 Mobility Plans

The greatest number of measures in the mobility management cluster was mobility plans – the development and implementation of mobility services at trip generators, be they companies, hospitals, schools, an entire area, or even large-scale events, and the development of personal mobility plans for individuals and households. These are summarised in Table 4.2.

Table 4.2 Achieved Outputs and Impacts for Mobility Plans

City (No.)	Specifics of Measure	Economy Energy Environment	Transport	Society
Debrecen (11.5)	Establishment of city mobility workgroup and development of Sustainable city-traffic development plan approved by city general assembly	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured		<ul style="list-style-type: none"> • Main indicator of success was willingness of all stakeholders to work together toward sustainable transport plan and system
Genoa (11.08)	<ul style="list-style-type: none"> • Mobility plan at hospitals including: carpooling, reorganisation of bus within grounds, collective taxi and car sharing, electric vehicles, and infomobility platform • integration of transport and personal travel data into GIS to support planning activity • training workshop, notice boards and intranet advertising to communicate with staff 	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> On the main road near the hospital: <ul style="list-style-type: none"> • CO down from 2.41 to 1.73 mg/mc • NOx from 102.19 to 83.8 ppb • particulates broadly stable 	<ul style="list-style-type: none"> • Decrease in private car use among employees from 42.3% to 39.7% while walking doubled • public transport and carpool shares did not change • traffic counts show reduction from west 	<ul style="list-style-type: none"> • Perceptions of public transport service quality went down (from 44% to 16% satisfied) during the demonstration period as a result of fare increases and service changes outside of CIVITAS • in the after survey, 42% said accessibility to hospital was good and 20% felt it was better than before
Genoa (11.10)	Mobility plan for large event: parking and traffic management, integrated tickets, information, carpooling, pedestrian priority and PT improvements	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> • Significantly reduced the growth in traffic experienced during the event as compared to other years (traffic grew by almost 8% in 2005 and decreased by 0,4% in 2008) • a substantial shift to walking • PT and carpooling did not increase 	<ul style="list-style-type: none"> • Four out of ten visitors to the event felt that accessibility had been approved from earlier years • residents were more likely to report improved conditions than non-residents • improvements in PT service quality were not achieved

City (No.)	Specifics of Measure	Economy Energy Environment	Transport	Society
Krakow (11.09)	Integrated mobility plan for campuses of university, including: establishing mobility consultant position, better PT connection, a carpooling system, parking policy, and bike path connections between campuses (incomplete) <ul style="list-style-type: none"> increase in secure cycle parking spaces from 60 to 160 	<p><i>Economy</i> Not measured</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> Not measured, though the reduction in car use would imply some benefits</p>	<ul style="list-style-type: none"> Car trips decreased 4% for employees and 20% for extramural students walk trips increased by 1% carpooling trips increased by 4-16% by target group parking demand decreased 	<ul style="list-style-type: none"> Interest in getting information about sustainable modes grew among employees (4%), full time students (6%) and extramural students (7%)
La Rochelle (11.2)	Business travel plan extended to all employees in city centre and carpool service	<p><i>Economy</i> • Annual net present cost = €37,400</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> • carpooling reduced car trips by 65,000 to 85,000, equating to 125,000-180,000 litres of fuel savings per year; 480 – 635 tonnes of CO₂/yr</p>	<ul style="list-style-type: none"> Carpool trips have increased from 200 to over 1800 per day the frequency of carpooling has also increased, with over half of carpoolers now sharing a ride every workday estimated half of working commuters now use public transport 	<ul style="list-style-type: none"> The main reasons given for carpooling was to save money and to be more environmentally-conscious 71% of carpoolers considered the arrangements “satisfactory” 88% of residents think the service is a good idea, and about 37% knew of it before the survey
La Rochelle (11.3)	Student travel planning and special student annual multimodal pass	<p><i>Economy</i> • Annual net present cost = €11,500</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> No results attributed to this measure alone</p>	<ul style="list-style-type: none"> Number of student pass users was 1,377, exceeding goals 21%-54% used pass for shuttle boat or bike rental estimated 4% shift to PT 1/3 of users new to PT 	<ul style="list-style-type: none"> 2/3 of students are aware of new pass; 20% use it the main source of information is flyers developed by the program 96% of students are satisfied with the pass
La Rochelle (12.1)	A study of ‘interoperability’ concepts from other management systems, in order to integrate at a policy and delivery level rather than thinking of modes and operators as separate	<p><i>Economy</i> Not measured</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> Not measured</p>	Study only	<ul style="list-style-type: none"> The nature of research and study did not include nor influence the public
Malmö (11.1)	Implementation of soft MM (Mobility Management) measures targeted four groups: companies, the public, the municipality and employees in private companies (individualised marketing)	<p><i>Economy</i> • City-run campaigns cost €1.8M</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> • The bicycle and school campaigns are estimated to have led to an annual CO₂ of 46.7 tonnes</p> <p>• individualised advice may have cut CO₂ emissions by about 16%</p>	<ul style="list-style-type: none"> Individualised marketing realised a general reduction in car use (from 50% to 44%) through increases in walking and cycling special target group (test travellers who used car as their sole mode before the measure) saw a far more dramatic shift, with car from 96% to 67% and bus from 2% to 25% bus use up 25% in the city, following revision of services and the campaigns 	<ul style="list-style-type: none"> MM campaigns run by the city met most of their targets, in terms of participation general awareness of the campaigns was about 20% of residents, with a range of estimates for behaviour change from 2-5% to 19.6%

City (No.)	Specifics of Measure	Economy Energy Environment	Transport	Society
Norwich (11.3)	Travel plans for schools and companies in a specific corridor using an online tool which enables schools and companies to carry out surveys and produce travel plans electronically	<p><i>Economy</i></p> <ul style="list-style-type: none"> Travel planning software cut participants' start-up and advice costs <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <ul style="list-style-type: none"> school plans have saved a total of 600 litres of petrol per day CO₂ reductions estimated at 600 tonnes since implementation 	<ul style="list-style-type: none"> Travel plans resulted in a reduction of 600 car trips per day attributed to a shift to public transport and carpooling single occupant use reduced by almost 18% at companies shift to walking and cycling was less than anticipated 	<ul style="list-style-type: none"> 100% of schools in the area developed and implemented travel plans, meeting national objectives goal of 30 plans was exceeded with 88 school plans and 20 worksite plans almost 50,000 travellers were included in the plans health benefits of sustainable modes was emphasised
Norwich (11.5)	Expansion of Mobility Plan to include personalised travel planning at university and its extension to residents	<p><i>Economy</i></p> <p>Not measured</p> <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <p>Not measured</p>	<ul style="list-style-type: none"> 1% shift from single occupancy between 50-70% of those receiving personalised advice tried a sustainable mode 80% of "try-before-you-buy" cyclists bought bikes and continue to cycle residential program did not alter travel behaviour 	<ul style="list-style-type: none"> Residential program increased awareness of options, but did not change behaviour 82% of participants were satisfied with the information they received
Odense (9.05)	Mobility initiative to induce owners of older cars to try to use sustainable modes; participating families received one month free bus use, membership in car share club, taxi payment scheme, 25% rebate on bicycle purchase	<p><i>Economy</i></p> <p>Not measured</p> <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <p>Not measured</p>	<ul style="list-style-type: none"> 160 families joined no measurable reduction in car use or change in bike use bus and train use increased (given one month free bus pass) 	<ul style="list-style-type: none"> Participants reported that their weight was less participants felt they were better off (9% improvement)
Potenza (11.6)	<ul style="list-style-type: none"> Citywide Mobility centre information on public transport, parking, events, road closures, car pooling and new Demand Responsive Transport (DRT) consulting service and four mobility offices at major employers to develop mobility plans citizen and stakeholder engagement, events and consultation 	<p>Modelled from stated preference surveys:</p> <p><i>Economy</i></p> <ul style="list-style-type: none"> projected individual saving of €219/yr <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <ul style="list-style-type: none"> combining car and bus emissions, 11% CO₂ and energy use reduction 	<ul style="list-style-type: none"> Stated behaviour survey used to project that PT use would increase from 2% to 27% and car use decrease from 95% to 69.5% 	<ul style="list-style-type: none"> One clear justification for the mobility centre and offices is the fact that 41% of residents feel that currently information on PT is insufficient, with only 37% feeling it was sufficient
Preston (11.6)	Personalised travel planning in the form of individualised marketing covering 25,000 households in 3 areas, one covering a network of rural villages	<p><i>Economy</i></p> <ul style="list-style-type: none"> Annual net present cost €170,843 <p><i>Energy</i></p> <p>Not measured</p> <p><i>Environment</i></p> <ul style="list-style-type: none"> CO₂ reduction of 3,800 tonnes/yr 	<ul style="list-style-type: none"> Car use down 10-13% sustainable mode use up 11-36%, mainly to walking, plus cycling and PT use participants increased the time walking and cycling by 8% annual VKT reduction of 18M km 	<ul style="list-style-type: none"> Estimated that 28% of car trips made could be made by sustainable modes as personal objections are largely subjective

City (No.)	Specifics of Measure	Economy Energy Environment	Transport	Society
		(emission reductions based on 18M km saved)		
Preston (11.7)	<ul style="list-style-type: none"> Business travel plan officer and advisers, with liaison officers at work and a Travel Planners' Network for support strong direct marketing campaign, stressing the parking, operating costs recruitment benefits of travel plans awareness events for employees new information sources, grants to businesses, cycle parking facilities at work 17 companies in the network 	<p><i>Economy</i> NPV cost est. £21,189 p.a. over the four years of the plan</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> Not measured</p>	<ul style="list-style-type: none"> Travel impacts based on survey of local authority staff only, who had free parking available mode shift changes were largely marginal driving alone for shorter trips was reduced 	<ul style="list-style-type: none"> Awareness of the county council's carpool website was above 60% (among employees) and increased slightly from 2007 to 2008
Preston (11.8)	School travel planning initiative reached all schools in the area, including assistance from advisor and workshops	<p><i>Economy</i> Not measured</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> <ul style="list-style-type: none"> estimated 13% reduction in pollutants as a result of mode shift due to plans </p>	<ul style="list-style-type: none"> In one target area, walking to primary schools increased from 44% to 56% and solo car use fell from 47% to 38% in the other target area, no mode shift occurred cycle use increased in secondary schools in both areas in one set of secondary schools, walking decreased while cycling and bus use increased 	<ul style="list-style-type: none"> Almost 100 more school travel plans were developed than targeted, largely through workshops
Toulouse (6.03)	<ul style="list-style-type: none"> Implementation of local urban mobility plan in city centre in anticipation of employment growth and new tram line implemented parking management scheme to increase turnover and reduce traffic 	<p><i>Economy</i> <ul style="list-style-type: none"> Installation of parking management system cost €24,000; annual operation cost €68,200 </p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> Not measured</p>	<ul style="list-style-type: none"> Parking turnover increased 80% (from 3.2 parkers to 5.5 parkers during the day) with more people parking short and medium-term parking demand was more evenly distributed access to city centre was improved mode shift was not achieved 	<ul style="list-style-type: none"> 18% of parkers do so illegally, so some do not respect the parking scheme stakeholder attitudes are mixed, with some liking the greater turnover for shopping, but others perceive parking shortages
Toulouse (11.4)	<ul style="list-style-type: none"> Comprehensive review of commuter location and travel behaviour company and administration mobility plans for four employment areas and for the city of Blagnac 17 plans developed (25 more intended) and 5 sector plans for groups of companies formed a generic method for developing plans 	<p><i>Economy</i> Not measured</p> <p><i>Energy</i> Not measured</p> <p><i>Environment</i> Not measured</p>	<ul style="list-style-type: none"> 60 organisations in line to implement mobility plans 3% average reduction in car trips among 4 companies evaluated 1% increase in carpooling; 10% decrease in car use at administrative office 	<ul style="list-style-type: none"> 88% of plans are still active 59% of plans are private companies 41% government administrative offices

Mobility plans tended to be implemented in four forms: company travel plans to influence commuters, school travel plans to influence students and workers, personalised travel planning with individuals, and city-wide mobility plans. In general, the objective was to identify and implement strategies to induce a shift in travel behaviour to more sustainable modes. While this often meant an increase in public transport use, it also resulted in a shift to walking and bicycling. Sometimes the mobility planning activities required the creation of new organisational arrangements, such as a mobility work group or mobility centre. Two cases involve special target markets, visitors to a large-scale event in Genoa and owners of older cars in Odense. The project in Toulouse followed the implementation of parking management in the city centre to discourage long-term parking and induce a shift to PT, which itself followed the opening of new Metro lines.

Company travel plans

Five measures introduced travel plans for companies or attractors. In Genoa, the mobility plan at the hospitals sought to influence both staff and patient travel, with innovative use of GIS to map personal travel data and support travel planning and car pooling services.

Toulouse introduced an innovative comprehensive approach to business travel plans. First, the city mapped and analysed commuter location, activity and travel choices. From this, a generic method was developed which provided mobility planning for four employment areas and for one of the conurbations high-employment cities. Mobility plans were developed for 17 organisations, plus five ‘sector plans’ covering several employers, and up to 60 plans are considered likely.

Norwich also used a large-scale approach, with online software enabling companies to produce surveys and travel plans electronically. 20 worksite plans were produced this way.

La Rochelle built on an existing business travel planning knowledge base to extend the service to all employees in the city centre. The intention was, in particular, to create a wider base for car pooling.

Preston’s approach included a supportive ‘social network’ for travel planners working in the companies which joined the scheme. They were encouraged to share each others’ travel plans and ideas and questions. The picture, right, shows an awareness day in Preston at one of the businesses developing a travel plan: the bike powers a ‘smoothie’ drinks maker, drawing attention to the information stand.



School travel plans

Schools travel is one of the classic areas for travel planning. Especially at younger ages, many pupils



live close to the school, so alternative modes to the car appear in a positive light. As children grow older, they value independence and therefore are often keen not to be driven to school. In CIVITAS, some projects promoted mobility plans to schools within a wider planning envelope (as in Potenza, where the “Move with a smile” schools event is pictured, left) whilst others targeted a specific school or university travel plans. A strong driver for travel planning can be national policy: in England, all schools are required to produce a travel plan and therefore welcome the support of the city.

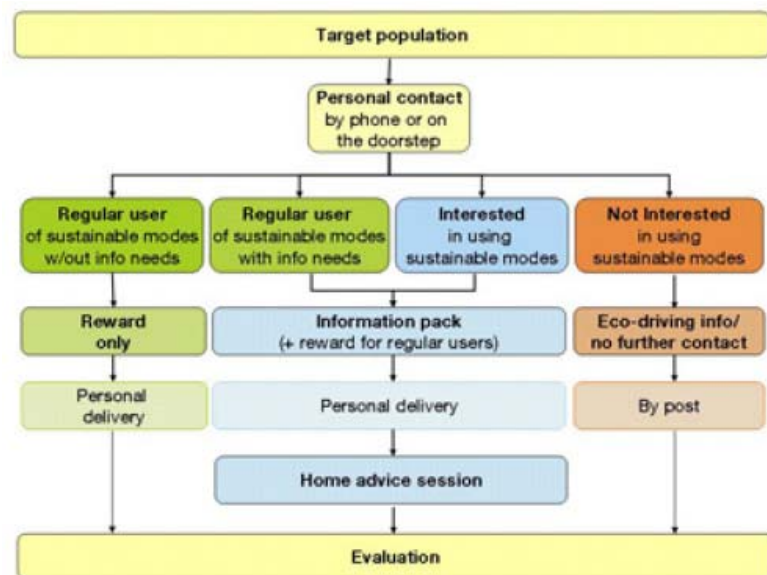
Krakow's university travel plan also reviewed bike paths between campuses, as well as the conventional elements of public transport connections and car pooling. The La Rochelle student travel scheme focused on an annual multimodal travel pass, with travel advice and flyers.

Norwich and Preston both benefited from the UK policy that all schools should develop a travel plan. Nonetheless, this presents its own difficulties of caseload management. Norwich developed travel planning software which helps manage surveys and produces travel plans electronically from the results. Preston tackled the problem of large numbers by holding travel planning workshops, with over 100 schools producing travel plans in the CIVITAS period.

Personalised travel planning

The concept of individual or household marketing rests on understanding that many people's travel patterns are habitual; at some point, they will have been a logical choice, based on the alternatives available, but over time the attributes of the alternatives may change without people's knowledge and assessment changing. Individualised marketing aims to push that change in knowledge. The significant policy and service changes brought about in CIVITAS creates an environment in which citizens see the benefit of re-assessing their options.

The process for individualised marketing is described clearly in the Preston 11.6 measure report. The flow chart (right) shows the sequential steps to achieve the connection with potential clients for sustainable marketing, then to encourage them to switch, then to measure the outcome.



One element which is stressed in Preston is that individualised marketing was built upon changes to the transport offer.

In Norwich, the university mobility plan was extended to give personalised travel planning at the university and to nearby residents. In Malmö, personalised travel planning was one aspect of business travel planning, so is reported in that section.

City-wide or area-wide travel plans

Malmö introduced a city wide approach to mobility plans, targeting companies, the public, the municipality and individual employees through personalised marketing. This enabled the different marketing campaigns to reinforce each other.

In Potenza, a citywide Mobility Centre was introduced, giving full multi-modal information. This was well received and led to the development of a consulting service to develop company mobility plans.

Debrecen also introduced a city mobility working group. This brought stakeholders together to develop a sustainable city traffic development plan.

Results

The results are discussed both within and across the four elements of mobility planning. First, we look at common themes: cost, environment, etc. Secondly, we show the results obtained from certain individual measures. There were real success stories in this sub-cluster, which should prove useful to other cities when planning sustainable transport.

Projects in La Rochelle and Preston estimated the annual net present cost of their efforts and this figure varied considerably, with individualised marketing being among the costliest measures.

Seven of 17 cases measured environmental impacts. This was largely due to mode shift and was as high as a 16% reduction in CO₂ in the case of individualised marketing in Malmö. Energy savings, in terms of less fuel consumed due to a mode shift from car use, was estimated for three sites and was as high as 125,000 – 180,000 litres of petrol annually for the business plan measure in La Rochelle, largely due to the success of a carpool scheme. In Preston, the personalised travel marketing project was estimated to have led to an 18M reduction in vehicle km, with a corresponding emissions saving.

Company travel plans

In Genoa, the hospitals travel plan reduced employee car mode share from 42.3% to 39.7% and doubled walking. In Toulouse, the travel plans came on stream at different times so were not all available for analysis, but initial results from 4 companies showed a 3% average reduction in car trips and up to 10% at administrative offices.

The company travel plans in Norwich reduced single occupancy car trips by almost 18%. In La Rochelle, the extension of business travel planning to all employees in the city centre resulted in a rise in carpool trips from 200 to over 1800 per day, and half of all commuters are now using public transport. Preston did not have evaluation results for companies other than the municipality, where all employees had free car parking, and these results showed very slight change.

School travel plans

Krakow used a valuable form of analysis, separating out the data on extra-mural students. This is a break from the trend of measuring 'students' and 'staff' and shows that the highest impact group are the extra-mural students, whose car trips fell by 20% through the mobility plan. Staff car trips fell 4% and there was a small increase in walking and a 4-16% in car pooling. Cycling did not increase as not all the cycling measures were completed before the evaluation.

The student travel scheme in La Rochelle brought an estimated 4% shift to public transport. Two thirds of students knew of the dedicated student travel pass and 20% used it.

Travel planning efforts exceeded goals in several cities as more schools than the target desired to develop and implement mobility plans, as in Preston and Norwich, which benefitted from national campaigns. In Norwich, the school travel plans covered almost 50,000 people with an estimated mode shift around 10.9%. The results in Preston were more mixed: one target area evaluation showed an increase in walking to school from 44% to 56% and a fall in solo car use from 47% to 38%, whilst another showed no mode shift and secondary schools showed an increase in cycling.

Personalised travel planning

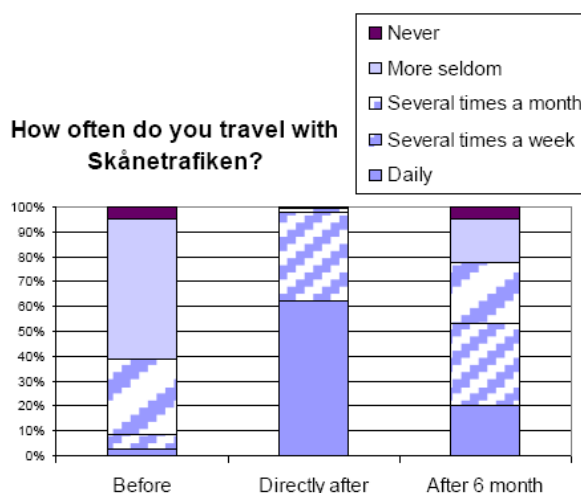
The general results for personalised travel planning are very good. Preston showed results consistent with this, with a 10-13% fall in car use, and sustainable transport up 11-36%. In Norwich, this level of response was not achieved, though 80% of 'try-before-you-buy' cyclists bought bikes and continued to cycle.

City-wide and area plans

Awareness and acceptance by the general public of mobility plan efforts grew during the project period, through marketing and communications campaigns. In La Rochelle, 40% of residents were aware of the carpool scheme and 88% of the residents thought that the carpool service was a good idea once they learned of it. General awareness of travel planning activities in Malmö was 20% among all residents.

Malmö provides an interesting measurement of the impact of mobility planning over the longer run. A core group of around 200 “test travellers” formed a panel which completed surveys before the mobility planning exercise, shortly after and six months after.

The resulting analysis (right) shows the unsurprising result that the immediate response to the campaign was stronger than the long-run response. Nonetheless, behaviour had changed significantly even when patterns settled after six months. Given that this group was selected from people whose main mode was car before CIVITAS, the results of a shift from 96% car use to 67% and 2% bus use to 25% are particularly impressive.



Sometimes, the perception of public transport can be rather negative, as in the two Italian cases, Genoa and Potenza. This created an even greater challenge for mobility planning to overcome. Nonetheless, the forecast in Potenza was for public transport use to increase from 2% to up to 27% (through a stated intentions survey: the ‘after’ evaluation was not completed in time for this report).

4.3 Mobility Marketing

12 cities initiated marketing campaigns aimed at the general public, at key target groups, or to individual travellers. Two cases involved the creation of mobility centres and three involved the formation of Mobility Forums to spread the word about mobility management. A summary of the outputs and impacts is given in Table 4.3.

Table 4.3: Achieved Outputs and Impacts for Mobility Marketing Measures

City (No.)	Specific of Measure	Economy Energy Environment	Transport	Society
Burgos (8.07)	New mobility services for visitors: traveller information improvements, promotion of bike loan scheme to tourists, and tourist taxi system	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> • Much higher bicycle share among tourists (15% vs 3%) and lower car share (10% down to 4%) although this might be due in part to pilgrimages in 2008 	<ul style="list-style-type: none"> • Awareness of tourist mobility service increased from 15%-27% • 97% of tourist taxi users rated it good/very good • the quality of PT service perceived by visitors is mixed, due to factors such as changes to the PT system, fares and drivers

City (No.)	Specific of Measure	Economy Energy Environment	Transport	Society
Burgos (11.02)	Sustainable mobility marketing in the form of a publicity campaign called La Niña Caravel promoting alternative modes, alternative fuels and accessibility/safety	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> Driving share was reduced from 37% to about 31% while PT increased from 10% to 18% and cycling from about 2% to 10% walking, however, decreased from 51% to 41% 58% - 78% of alternative mode users felt the campaign had influenced their choice 	<ul style="list-style-type: none"> 49% to 63% of residents were aware of the publicity campaign, with the lower proportion among drivers acceptance of the campaign and its message was 48% - 71%, with the highest opinion among cyclists
Burgos (11.06)	Mobility Forum to engage and inform stakeholders of all the MM measures implemented in Burgos as part of CIVITAS	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> While no transport impacts were attributed to the forum (as a coordination mechanism), it was viewed as instrumental in the transport impacts reported for the various measures 	<ul style="list-style-type: none"> While few residents were aware of the forum (7%-11%), a vast majority saw a need for dissemination participants in workshops, training and coordination meetings were very positive on the experience
Genoa (11.01)	Sustainable mobility marketing to promote new, market segmented fare structure and new ticketing media (smartcards) with targeted campaigns and an "ecopoints" customer loyalty programme	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> PT ridership increased by 6.5% annual ticket holders more than doubled (to 48,000) transit patrons use PT more frequently 	<ul style="list-style-type: none"> About 25% of households with annual PT tickets participate in ecopoints, the average holding two annual tickets
Genoa (11.05)	Mobility Forum to coordinate MM activities, including workshops, special events, an infobus and on-line consultation tool	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> While no transport impacts were attributed to this coordination mechanism, it was viewed as instrumental in the transport impacts reported for the various measures 	<ul style="list-style-type: none"> The Infomobility Bus was very well received at events, with 2,900 visitors in the top month 65,000 hits on website in the top month (01/09)
Krakow (11.3)	<ul style="list-style-type: none"> Sustainable mobility marketing, including special events, loyalty program for PT users, and mobility education program for schools and companies goal to establish "mobility culture" 	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> PT use is the most preferred means of travel within Krakow, with bus travel becoming more popular than trams during CIVITAS 	<ul style="list-style-type: none"> Awareness of CIVITAS grew from 28% to 47% students were most receptive unfortunately, a significant proportion of residents view PT as having a negative influence on the environment
Krakow (11.7)	<ul style="list-style-type: none"> Mobility Forum to share information on MM, including the extensive involvement of citizens developed charter for PT passenger rights 	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> While no transport impacts were attributed to this coordination mechanism, it was viewed as instrumental in the transport impacts reported for the various measures 	<ul style="list-style-type: none"> Awareness of the forum was rather low (16%), but increased in the 2nd year (27%) over 90% of citizens support the idea of the forum
Odense (11.11)	Individualised marketing among 7,000 households, travel cost calculator website and testing of bicycle trailer	<i>Economy</i> <ul style="list-style-type: none"> Est. that eliminating car can save residents circa 	<ul style="list-style-type: none"> Met goal of reaching 25,000 residents car trips reduced by 9% among target group 1,500 users of 	<ul style="list-style-type: none"> Personal contact with 7,000 households and 25,000 residents (15% of population) to

City (No.)	Specific of Measure	Economy Energy Environment	Transport	Society
		€10,000/year <i>Energy</i> • 5% energy saving estimated from mode shift <i>Environment</i> Not measured	transport cost calculator website	spread the word about travel options
Preston (12.10)	Information dissemination via new integrated website	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	• Transport impacts not estimated as website is not yet fully functional	• Input from in-house test users only (and what did they say?)
Stuttgart (11.4)	Sustainable mobility marketing via Mobility Information Centre at tourist office to promote PT, carpooling, fuel-saving driving courses, and personalised travel planning	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> • Requests for information on eco-compatible behaviours increased consistently (to 21,000 in 2007) • public transport information requests grew from 18,000 in 2005 to 27,500 in 2007 • there is a waiting list for new bike lockers • 100,000 unique views have been registered on carpool website 	<ul style="list-style-type: none"> • Most information request are made in person • the range of information requests mirrors the wide range of eco-compatible services offered
Suceava (11.07)	Information and awareness raising at Mobility Centre to promote improvements in PT services and information	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	<ul style="list-style-type: none"> • Transport impacts measured via vehicle occupancy • bus occupancy tripled from an average 9 to 28 riders (not only due to this measure) • car occupancy fell from 3.0 to 2.4 	<ul style="list-style-type: none"> • 88% of residents aware of PT measures implemented • 79% found the measures acceptable • perceptions of PT service quality improved
Toulouse (11.01)	<ul style="list-style-type: none"> • Review panel of 1,000 non- and occasional PT users (originally planned as individualised marketing) • changes in ticketing, incentives and information were tested with panel 	<i>Economy</i> Not measured <i>Energy</i> Not measured <i>Environment</i> Not measured	• Evaluation was not focused on transport impacts, but on awareness and acceptance of new initiatives	<ul style="list-style-type: none"> • Panel was used to test reaction to specific changes in PT information, fare incentives, services, etc. • provided input to a range of initiatives

The schemes related to mobility marketing largely involve the coordination of promotional activities and information campaigns to spread the word on mobility options and their benefits. In two cities, Genoa and Krakow, these efforts included loyalty programmes providing a lottery for sustainable mode users. In Genoa, the ‘ecopoints’ could also be earned with programme partners, including Ikea and Genova Car Sharing, and the lottery prizes include holidays and sustainable travel prizes. In Burgos, separate marketing mobility services were developed for visitors and for local people.

In Odense, resources saved during the project were used to develop a cycle trailer for childcare (pictured).



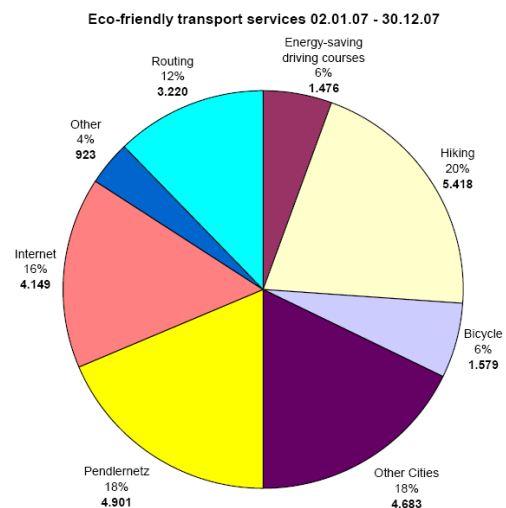
Krakov developed the slogan “*Ecologically mobile, city-friendly*” to show that people are not being asked to stop travelling but to travel in sustainable ways. Other innovative aspects of mobility marketing include a new animated character in Burgos (a little girl) and the use of an Infomobility bus and on-street advice and promotion in Genoa (pictured, below). Genoa and Krakow both developed an extensive range of marketing tools and events. In Toulouse, a panel of public transport occasional and non-riders was used to test reactions to new initiatives.



Results

Given the coordination and promotional nature of many of the marketing measures, energy and environmental impacts were not estimated as it would be difficult to separate the effects of the campaign from the mobility marketing measures themselves. However, some overall transport impacts were reported, such as a tripling of PT occupancy in Suceava, partially as a result of a new mobility centre promotion of PT. Almost 90% of residents were aware of public transport initiatives and almost 80% found them acceptable, perhaps providing the reason for the tripling of PT occupancy levels. In Odense, an individualised marketing programme led to a 9% reduction in car use.

In terms of information and unique services, the mobility centre in Stuttgart realised significant increases in information requests from visitors, has a waiting list for bike lockers, and has seen growth in the popularity of its new carpool website, with 100,000 unique views in one month. The range of requests for “eco-friendly” transport services is shown in the diagram, right.



The promotion of new fare media and “ecopoints” system in Genoa resulted in a 6.5% increase in PT use and a doubling of use in annual PT tickets. The promotional campaigns in Burgos resulted in an increase in cycling among tourists and visitors and a decrease in car use. Half to three-quarters of sustainable mode users cited the campaign as having influenced their mode shift. Among residents of Burgos, 15%-27% were aware of the tourist mobility campaign and 49% to 63% were aware of promotions for residents and the majority said these had affected their behaviour; driving mode share fell from 37% to 31% (not only due to this measure).

4.4 Eco-driving

Eco-driving was tested in Malmö with three traveller markets, municipal workers, hospital workers, and drivers of heavy-duty vehicles. These measures are presented in Table 4.4.

Table 4.4: Achieved Outputs and Impacts for Eco-driving

City	No.	Specifics of Measure	Economy Energy Environment	Transport	Society
Malmö	11.02	<ul style="list-style-type: none"> Eco-driving training for municipal employees 	<p><i>Economy</i></p> <ul style="list-style-type: none"> Cost per person trained = €200 <p><i>Energy</i></p> <ul style="list-style-type: none"> training results in a 10% reduction in fuel consumption, at least for six months results in 0.001 MJ/VKT <p><i>Environment</i></p> <ul style="list-style-type: none"> equates to 0.47% reduction in emissions (CO₂,NO_x and PM₁₀) 	Not measured	Not measured
Malmö	11.08	<ul style="list-style-type: none"> Eco-driving training for 100 hospital employees who drive more than 5,000 km per year (about 5%) 	<p><i>Economy</i></p> <ul style="list-style-type: none"> Training program cost SEK200,000 <p><i>Energy</i></p> <ul style="list-style-type: none"> Estimated fuel savings of 0.009 litres/km or about 5% <p><i>Environment</i></p> <ul style="list-style-type: none"> energy reduction equates to emission reduction of 4,389 kg of emissions 	Not measured	<ul style="list-style-type: none"> Hospital employees aware, but not very accepting, based on low participation rates
Malmö	11.09	<ul style="list-style-type: none"> Eco-driving training for heavy vehicle drivers of carriage company with 250 vehicles and 300 drivers 139 drivers trained 	<p><i>Economy</i></p> <ul style="list-style-type: none"> Cost of program (€145,000) less than half of cost savings from reduced fuel consumption (€314,000) <p><i>Energy</i></p> <ul style="list-style-type: none"> fuel reduction of 9% equates to 216,000 litres <p><i>Environment</i></p> <ul style="list-style-type: none"> reduction in CO₂ of 633,000kg 	<ul style="list-style-type: none"> Eco-driving seen to be safer and lead to fewer accidents and damaged cargo 	<ul style="list-style-type: none"> Company owners and drivers were very accepting of measure for fuel savings potential

The objective of eco-driving is to reduce fuel consumption, and therefore cut emissions and save the traveller costs. Anticipated fuel savings were not realised, but the reductions were still substantial. The average fuel saving among municipal and hospital was around 5% with a corresponding reduction in emissions and fuel cost savings for users. Eco-driving can produce energy and environmental benefits without changing the primary travel mode of users, which is predominately driving alone. In the case of heavy-duty vehicle drivers, the fuel savings realised were more than twice the cost of the program, making ownership and drivers very happy.

5 Upscaling and Transferability

A summary of the potential for upscaling and transferability of the Mobility Management measures is provided in Table 5.1.

5.1 Mobility Agencies

Upscaling

The mobility agencies in Genoa and Toulouse were implemented in suburban areas to fill needed gaps in mobility services and to increase travel choices among residents. The Toulouse Mobility House was purposely implemented in one sub-area of the city in order to test its acceptance and effectiveness for eventual implementation citywide. Upscaling is planned through a chain of sub-area mobility offices instead of through one larger agency.

Transferability

The establishment of mobility agencies and plans for a specific sub-area or suburban area are readily transferable to other locations. The agencies fulfilled a perceived gap in mobility services in a certain area. However, if these are areas not well served by conventional public transport, then there can be high costs of providing flexible mobility services through the Agency, as concluded by the Genoa project. The traffic and mobility plan in Odense included planning and modelling improvements to include bicycle demand in traffic analysis. This could be applied to any geographic area for which traffic simulation is performed and where cycling is an important mode.

5.2 Mobility Plans

Upscaling

The upscaling of mobility plans is largely based on expanding efforts to more businesses, hospitals or schools in new target areas or even the national adoption of mobility planning initiatives. In some cases, such as integrated traffic management planning, upscaling is not applicable as the measures were already citywide. Personalised travel planning is being considered for wider application, both within the cities generally and also targeted at specific institutions outside the CIVITAS cities, such as universities and hospitals. Business and school travel planning continue to be expanded, though the reasons for low uptake in some areas are not clear.

Transferability

Travel planning is widely accepted and growing in application across Europe. Therefore, it is transferable to new and wider areas. It has great potential in new member states as these economies grow and travellers demand new options. Key to the success of widespread adoption was

- 1) the offer of workshops to inform and train staff;
- 2) the establishment of networks of in-house travel plan coordinators, and
- 3) web-based tools to help survey travellers and to develop and monitor mobility plans.

5.3 Mobility Marketing

Upscaling

Expanding promotional efforts citywide or to additional target markets is the primary means of upscaling. One form of upscaling is increasing the frequency of marketing campaign initiatives and events, as was posited for Krakow.

Transferability

Marketing campaigns are important promotional components of an integrated urban mobility system, but require sound sustainable travel options available to travellers. Campaigns promoted to specific target groups can be transferable to other areas, as long as the characteristics of the travel market are well understood.

5.4 Eco-driving

Upscaling

Upscaling has tremendous potential as the measure was only applied to three groups, local authority employees, hospital workers, and truck drivers. The upscaling potential can be viewed on three levels: more travel markets, citywide and even nation-wide.

Transferability

Eco-driving is very transferable as it can apply to all drivers and does not require the implementation or maintenance of new sustainable travel options. The training itself is individualised, but can be accomplished in a workshop setting or as part of required driver training.

Table 5.1: Upscaling and Transferability possibilities

City	Measure	Upscaling	Transferability
(a) Mobility Agencies			
Genoa (8.04)	Expansion of flexible services	<ul style="list-style-type: none"> • Demand responsive services can be expanded to new areas hard to serve with conventional PT • carpooling and services for mobility and mentally impaired can be expanded to entire city 	<ul style="list-style-type: none"> • Genoa exported know-how on flexible on-demand PT services to Krakow during CIVITAS • careful feasibility studies are needed to assess new markets given relatively high operating costs
Odense (11.12)	Traffic and mobility plan	<ul style="list-style-type: none"> • The plan includes all the city and the harbour redevelopment area; it will be implemented over time 	<ul style="list-style-type: none"> • Inclusion of cycle mode in city traffic model is an innovation that other cities could use
Toulouse (11.3)	Mobility agency and customised services	<ul style="list-style-type: none"> • Project involved expansion of mobility agency to entire agglomeration; decision made to implement many subarea centres, not one regional centre 	<ul style="list-style-type: none"> • Mobility agencies can be an effective means to consolidate and integrate information and action across all modes
(b) Mobility Plans (MPs)			
Debrecen (11.5)	Sustainable city-traffic development plan	<ul style="list-style-type: none"> • Plan encompasses entire urban area, so upscaling not considered • many measures included in the plan will be phased in over time 	<ul style="list-style-type: none"> • A mobility working group that seeks a consensus on a sustainable transport future is a concept widely transferable to other accession countries and to cities throughout Europe, especially where the concept of sustainable transport is relatively new
Genoa (11.08)	MP for hospital	<ul style="list-style-type: none"> • Could be readily applied to three other large hospitals in the region, as well as large business centre and shopping centre 	<ul style="list-style-type: none"> • The process shown here for designing and implementing a plan and the innovative activities and options promoted are highly transferable
Genoa (11.10)	MP for large, annual event	<ul style="list-style-type: none"> • Basic principles of plan and process can be applied to other large trade shows and events in Genoa 	<ul style="list-style-type: none"> • While PT objectives were not achieved, the traffic reduction benefits of integrating MM and traffic management can be realised elsewhere
Krakow (11.09)	MP plan for technical university	<ul style="list-style-type: none"> • Invited football club, municipality, marshall's office and 5 largest universities to consider mobility plans; municipality has initiated planning activities 	<ul style="list-style-type: none"> • Mobility plans for universities show that the measure can be quite transferable to other large employers, but that impacts are different for employees than for students

City	Measure	Upscaling	Transferability
La Rochelle (11.02)	Business Travel Plan and carpool service	<ul style="list-style-type: none"> Expansion of business travel planning services to all commuters to the city centre and the offer of carpool services 	<ul style="list-style-type: none"> The success of the carpool program targeted to a major employment destination and the increase in carpool frequencies demonstrates the potential for this underutilised commute option
La Rochelle (11.03)	School travel plan and multimodal pass	<ul style="list-style-type: none"> Upscaling assessed as penetrating student market unaware of pass with 30% market penetration, estimated additional 12.5% of students could be enticed to use pass 	<ul style="list-style-type: none"> Multimodal PT pass, that includes bikesharing, provides a broader set of options to travellers and allows for use during commuter (school) trips as well as leisure trips, increasing overall use of PT, could be transferred to educational institutions in other cities and countries the success of flyers as a marketing tool is encouraging for all cities, since student populations are frequently renewed, so word of mouth might have less influence than in other populations
La Rochelle (12.01)	Interoperability of urban transport management	<ul style="list-style-type: none"> Interoperability was studied citywide, so upscaling was deemed inapplicable 	<ul style="list-style-type: none"> At a conceptual level, the application of interoperability diagnostic tools is quite promising
Malmö (11.01)	Implementation of soft MM measures targeted to four groups	<ul style="list-style-type: none"> The individualised marketing could easily be expanded to more commuters and school travellers information and communication campaigns can be extended to adjacent cities and short-term campaigns can be repeated 	<ul style="list-style-type: none"> The Malmö project provides a good example of implementation of soft measures to a wide set of target groups, but it also reveals the complexity of evaluating so many measures at once
Norwich (11.03)	School and Company MPs	<ul style="list-style-type: none"> Upscaling is possible by expanding the number of companies and school, offering the possibility of creating support networks publicly operated mobility services also may need to be expanded 	<ul style="list-style-type: none"> The travel planning survey software made the development of travel plans easier and faster – this aspect is very transferable, but would have to be tailored to the national and local framework condition
Norwich (11.05)	Personalised travel planning	<ul style="list-style-type: none"> University personalised travel planning was replicated in residential area with less success association of university environmental programs is interested in results to promulgate to other universities 	<ul style="list-style-type: none"> Personalised travel advice can be effective where effective alternatives exist to driving university campuses are a particularly good application given the different target groups, mobility plans, and options to driving to campus
Odense (9.05)	Options for owners of older cars	<ul style="list-style-type: none"> No impact on car use 	<ul style="list-style-type: none"> No impact on car use
Potenza (11.06)	Mobility centre and mobility offices	<ul style="list-style-type: none"> Additional companies have been invited to participate and prepare MPs 	<ul style="list-style-type: none"> Centralisation and staffing of mobility services into municipality and establishment of on-site mobility offices at major worksites provides an ongoing presence and can be key to MP success
Preston (11.06)	Personalised travel planning in three areas	<ul style="list-style-type: none"> Upscaling was estimated assuming application of individualised marketing to the entire county this would cost £12 M and reduce about 1.1M kg of CO₂ 	<ul style="list-style-type: none"> Transferability of personalised travel advice (individualised marketing) is well documented in this measure, many of the areas are very rural, which shows that the technique transfers to sparsely populated areas results from Preston are consistent with results from 10 other sites in the UK, with car use reduction around 10 - 14%
Preston (11.07)	Business travel plans	<ul style="list-style-type: none"> Business travel plans could be adopted by more companies in the county as the services and information sharing networks are now in 	<ul style="list-style-type: none"> Transferability of travel planning for companies is well-known; this project also showed benefit of corridor-focused outreach and networks of on-site officers grants to business to implement MM

City	Measure	Upscaling	Transferability
		place	initiatives were not taken up, though business participation was still high <ul style="list-style-type: none"> the evaluation does not transfer well, as it was carried out with only one employee group which had free parking
Preston (11.08)	School travel plans	<ul style="list-style-type: none"> Upscaling not assessed as travel plans are a national mandate and the project was to engage all schools 	<ul style="list-style-type: none"> School travel plans are quite well established, but part of the success of this project was attributed to effective workshops to help a large number of schools complete plans each year
Toulouse (6.03)	Local MP with parking management	<ul style="list-style-type: none"> Toulouse is considering extending to other areas 	<ul style="list-style-type: none"> The system of display wheels to show parking time limits is not new and is used extensively throughout Europe including it as part of a more integrated local urban mobility plan is transferable
Toulouse (11.04)	Company and administration MPs	<ul style="list-style-type: none"> Plans developed for four high employment areas, but could be upscaled to all larger employers and more employers in target area 	<ul style="list-style-type: none"> Local PT provider developed a generic method for designing commuter plans which enhanced adoption and could be transferred to other cities
(c) Mobility Marketing			
Burgos (8.07)	New mobility services for tourists	<ul style="list-style-type: none"> As tourism and tourist sites grow in Burgos, mobility services can be extended to new locations and target markets 	<ul style="list-style-type: none"> Proactive mobility services and information for tourists, unfamiliar with a city, can be an effective way to address traffic in congested areas and to influence people before they make travel choices
Burgos (11.02)	Sustainable mobility marketing	<ul style="list-style-type: none"> Publicity campaigns can expand residents' appreciation of sustainable modes and make future measures more effective when implemented 	<ul style="list-style-type: none"> Publicity campaigns are only as effective as the MM measures they promote, but they can expand the market for these measures and, therefore, can be transferable to similar settings
Burgos (11.06)	Mobility Forum	<ul style="list-style-type: none"> Some of the functions of the forum, in terms of coordination and training, have been maintained as a city function 	<ul style="list-style-type: none"> Coordination activities, although not widely known by the travelling public and not directly measurable in terms of impacts, are necessary and very transferable
Genoa (11.01)	Sustainable mobility marketing for PT and ecopoints	<ul style="list-style-type: none"> PT enhancements and information campaign offered to all customers in city 	<ul style="list-style-type: none"> New PT fare media targeted to specific user groups (e.g. young adults) and loyalty programs (with lottery) were shown to be effective means to increase ridership
Genoa (11.05)	Mobility Forum	<ul style="list-style-type: none"> Since the initiative was citywide, upscaling was not considered 	<ul style="list-style-type: none"> The innovations of an Infomobility bus and website with consultative tools are transferable to other locales with integrated MM initiatives
Krakow (11.03)	Sustainable mobility marketing	<ul style="list-style-type: none"> Upscaling was posited for future annual events to sustain momentum as well as to other Polish cities 	<ul style="list-style-type: none"> Events, incentives and education concepts, bound into a more holistic approach, could be transferable to other cities, especially in accession states
Krakow (11.07)	Mobility Forum	<ul style="list-style-type: none"> Frequency of forum was increased from semi-annual to every two months 	<ul style="list-style-type: none"> Involvement of citizens as PT users was instrumental in garnering support for CIVITAS measures and may be a positive path toward more positive attitudes toward options to the car
Odense (11.11)	Individualised marketing	<ul style="list-style-type: none"> The project affected about 20% of residents, upscaling could expand this to all households cycle trailer loan program could be expanded to all young child care centres 	<ul style="list-style-type: none"> The transferability of individualised marketing is well known; the results exhibited in Odense are similar to international experience in terms of reduced car use
Preston (12.10)	Information Dissemination	<ul style="list-style-type: none"> Website will be citywide 	<ul style="list-style-type: none"> Integrated, user friendly websites for all MM services and sustainable modes is transferable to other areas with comprehensive travel options

City	Measure	Upscaling	Transferability
Stuttgart (11.04)	Sustainable mobility marketing at Mobility Information Centre	<ul style="list-style-type: none"> • Demand for eco-compatible services indicates potential for many of the services, such as carpool matching, which is slated to go nation-wide in 2015 	<ul style="list-style-type: none"> • Conveniently-located, staffed mobility centres can provide personalised advice to residents and visitors alike and this can be replicated in other cities with a variety of sustainable transport services
Suceava (11.07)	Information and awareness raising	<ul style="list-style-type: none"> • Upscaling was not assessed 	<ul style="list-style-type: none"> • Active promotion of PT improvements via a centralised program and input from citizens as users is transferable to other cities, especially in accession member states
Toulouse (11.01)	Awareness raising campaign for changing mobility behaviour using panel	Panel seen as precursor to full individualised marketing, which would constitute upscaling	<ul style="list-style-type: none"> • Panel viewed as a cost efficient means to test acceptance and use of innovative PT initiatives
(d) Eco-driving			
Malmö (11.02)	Eco-driving for municipal employees	<ul style="list-style-type: none"> • Upscaling considered for all municipal employees and expansion to all large organisations with MM programs; being implemented in national driving training 	<ul style="list-style-type: none"> • While impacts are modest, eco-driving provides a means to reduce energy and emissions without mode shift; including it as standard in driver training could be widely useful
Malmö (11.08)	Eco-driving for hospital employees	<ul style="list-style-type: none"> • Only 100 employees participated in training, so upscaling would involve fulfilment of target (300) 	<ul style="list-style-type: none"> • Eco-driving is effective, but not widely accepted, so transferability may face similar challenges
Malmö (11.09)	Eco-driving for heavy-duty vehicle operators	<ul style="list-style-type: none"> • Upscaling could be applied to all company drivers, to all heavy duty vehicles in city or at national level 	<ul style="list-style-type: none"> • Evidence and potential for fuel savings make eco-driving for heavy vehicles very transferable to other areas

6 Conclusions and Recommendations

6.1 Conclusions

Mobility management is largely focused on communicating and promoting the use of more sustainable urban travel modes, especially public transport, car-pooling and non-motorised travel (e.g. cycling and walking). The CIVITAS II initiative demonstrated travellers' reactions to several mechanisms for inducing the use of these sustainable modes, including mobility agencies, mobility plans, mobility marketing and eco-driving.

1. Overall, the mobility management schemes had a marked and often measurable impact. These measures are often viewed by cities as helpful add-ons to the business of improving transport, but the work here shows that they have significant added value.
2. The three mobility agency measures were assessed to have made substantial increases in awareness of sustainable transport issues and in associated behavioural changes.
3. Introducing new on-demand services (as in Genoa) can create a public transport demand base in sparsely populated areas, and users are willing to pay higher fares.
4. A very wide range of measures which fell under the general heading of mobility plans were successful in reducing private car trips. However, several of the plan measures were related to other application measures and the proportion of the impacts derived from the mobility plans themselves could not be clearly identified. That the benefits come from some combinations of activities rather than a single measure makes them nonetheless real and valuable.
5. The shifts away from private car were particularly successful when mobility plans were targeted at specific groups, such as tourists, employees, participants in special events, and travellers to specific geographic locations. Shifts were recorded to public transport, but also to cycling and car-pooling.
6. Mobility marketing again overlapped with other measures, but was considered to be very effective in modifying behaviour towards more sustainable decisions.
7. The three eco-driving measures were all based in Malmö and generally proved successful with significant short term savings.
8. In general, the more successful measures were accompanied by improvements to the non-car offer and often by parallel projects which made car less attractive (e.g. parking charges or access restrictions).
9. Facilitating behaviour change were several drivers of the overall implementation process, including inclusion of key stakeholders, a common understanding of the need to solve traffic and air quality problems, and a well-planned implementation process.

6.2 Recommendations

1. Many of the measures implemented could be upscaled to the entire city or to larger target markets, although in some places, the measures already covered all travellers within a given travel market. Most of the concepts were transferable to other cities, other countries and other situations as the measures focused on better communication and outreach and not on specific technologies or infrastructure designs.

2. Where cities are introducing changes to encourage sustainable travel, mobility management measures are recommended to support behaviour change.
3. Eco-driving is a useful concept to include in national driver training standards. Drivers must, however, be motivated to save fuel: if the fuel savings accrue to the employer and not the driver, then some other incentive should be used.
4. In all these measures, ongoing evaluation is necessary to show the lasting effects of the interventions and at what timing points the message requires to be refreshed.